



Keller Crossing Specific Plan

TRAFFIC STUDY

COUNTY OF RIVERSIDE

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CA MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
DIF	Development Impact Fee
EAP	Existing Plus Ambient Growth Plus Project
EAPC	Existing Plus Ambient Growth Plus Cumulative Plus Project
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
NCHRP	National Cooperative Highway Research Program
OPR	Office of Planning and Research
PHF	Peak Hour Factor
Project	Keller Crossing Specific Plan
RBBD	Road and Bridge Benefit District
RCTC	Riverside County Transportation Commission
RIVTAM	Riverside County Transportation Analysis Model
RTA	Riverside Transit Agency
RTP	Regional Transportation Plan
SB 743	Senate Bill 743
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategies
SHS	State Highway System
SR	State Route
TS	Traffic Study
TUMF	Transportation Uniform Mitigation Fee
WRCOG	Western Riverside Council of Governments
V/C	Volume to Capacity
VMT	Vehicle Miles Traveled

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1 INTRODUCTION

This report presents the results of the traffic study (TS) for the proposed Keller Crossing Specific Plan (Specific Plan No. 380, Amendment No. 1) development (“Project”), which is located on the northwest corner of Winchester Road (SR-79) and Keller Road in the County of Riverside, as shown on Exhibit 1-1.

The purpose of this TS is to evaluate the potential deficiencies related to traffic, identify circulation system deficiencies that may result from the development of the proposed Project, and to recommend improvements to resolve identified deficiencies in order to achieve acceptable operational conditions at study area intersections and ensure consistency with the County’s General Plan. This TS has been prepared in accordance with the County of Riverside’s Transportation Analysis Guidelines for Level of Service and Vehicle Miles Traveled (December 2020) and through consultation with County of Riverside staff during the scoping process. (1) The Project traffic study scoping agreement is provided in Appendix 1.1 of this TS, which has been reviewed and approved by the County of Riverside.

1.1 SUMMARY OF FINDINGS

The Project is to construct the following improvements as design features in conjunction with development of the site for Phase 1:

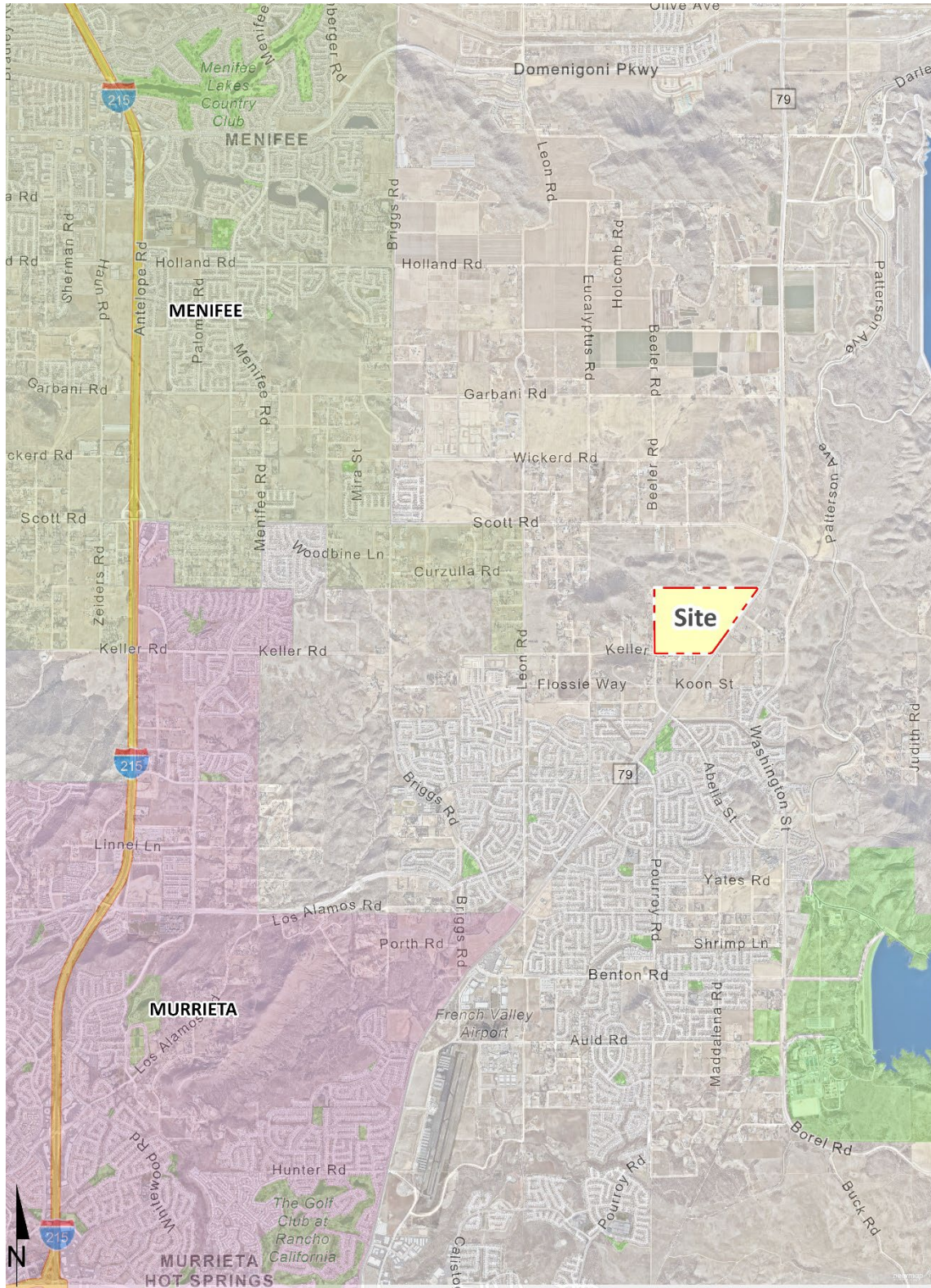
- Project to construct Keller Road at its ultimate full-width as a Secondary (100-foot right-of-way) from Pourroy Road to Winchester Road (SR-79) consistent with the County’s standards.

The Project is to construct the following improvements as design features in conjunction with development of the site for Phase 2:

- Project to construct Winchester Road (SR-79) at its ultimate half-width as an Expressway (220-foot right-of-way) from Keller Road to the northern Project boundary consistent with the County’s standards.

Additional details and intersection lane geometrics are provided in Section 1.6 *Recommendations* of this report. The proposed Project is anticipated to require the construction of any off-site improvements for Project Buildout conditions only, in conjunction with improvement needs identified at off-site intersections for future cumulative traffic study scenarios. As such, the Project Applicant’s responsibility for the Project’s contributions towards deficient off-site intersections is fulfilled through construction of improvements (for Project Buildout) and payment of fair share and/or payment into pre-existing fee programs (if applicable) that would be assigned to the future construction of the identified recommended improvements.

EXHIBIT 1-1: LOCATION MAP



The Project Applicant would be required to pay requisite fees and/or fair share contributions consistent with the County's requirements (see Section 10 *Local and Regional Funding Mechanisms*).

1.2 PROJECT OVERVIEW

A preliminary land use plan for the proposed Project is shown on Exhibit 1-2. The Project is proposing to amend the Specific Plan with a mix of residential and commercial uses, as described below:

- Phase 1 (Opening Year of 2023) is anticipated to include the development of 195 single family detached residential dwelling units.
- Project Buildout (Buildout year of 2028) is anticipated to include a total of 356 single family detached residential dwelling units, 80 attached senior housing units, a 6.5-acre sports park/active park, and 176,000 square feet of commercial retail uses. For the purposes of the calculating and evaluating a conservative trip generation, the commercial retail area is proposed to include a 50,000 square foot supermarket, 14,000 square foot pharmacy, 101,500 square feet of commercial retail uses, and 10,500 square feet of fast-food restaurant with drive-through window use. The commercial area land use assumptions are an estimation of the types of uses that could be developed within this area of the Specific Plan.

As indicated on Exhibit 1-2, vehicular access will be provided via the following driveways:

- Keller Road via Street A – full access
- Keller Road via Street B – full access
- Keller Road via Driveway 1 – right-in/right-out only
- Winchester Road (SR-79) via Driveway 2 – right-in/right-out only (alternative access only)

Regional access to the Project site is available from the I-215 Freeway via Scott Road and Clinton Keith Road interchanges. Exhibit 1-3 depicts the location of the proposed Project in relation to the existing roadway network and the study area intersections.

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017) for the following land use codes (2):

- Single Family Detached Housing (ITE Land Use Code 210)
- Senior Housing – Attached (ITE Land Use Code 252)
- Supermarket (ITE Land Use Code 850)
- Pharmacy with Drive-Thru Window (ITE Land Use Code 881)
- Shopping Center (ITE Land Use Code 820) – Based on Regression Equation for 101,500 SF
- Fast-food Restaurant with Drive-Thru Window (ITE Land Use Code 934)
- Sports Park/Active Park (Source: San Diego Municipal Code Land Development Code Trip Generation Manual) (3)

EXHIBIT 1-2: PRELIMINARY LAND USE PLAN

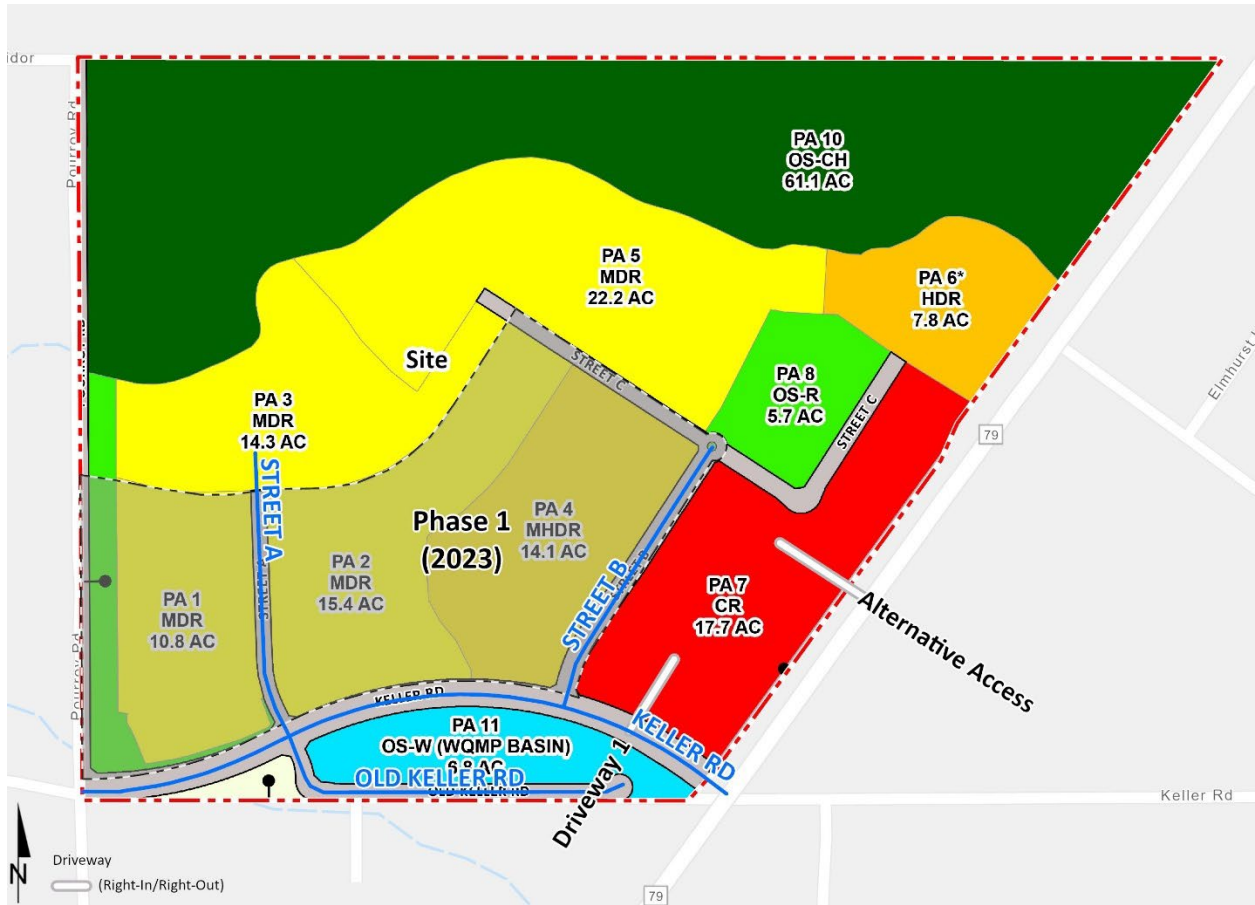
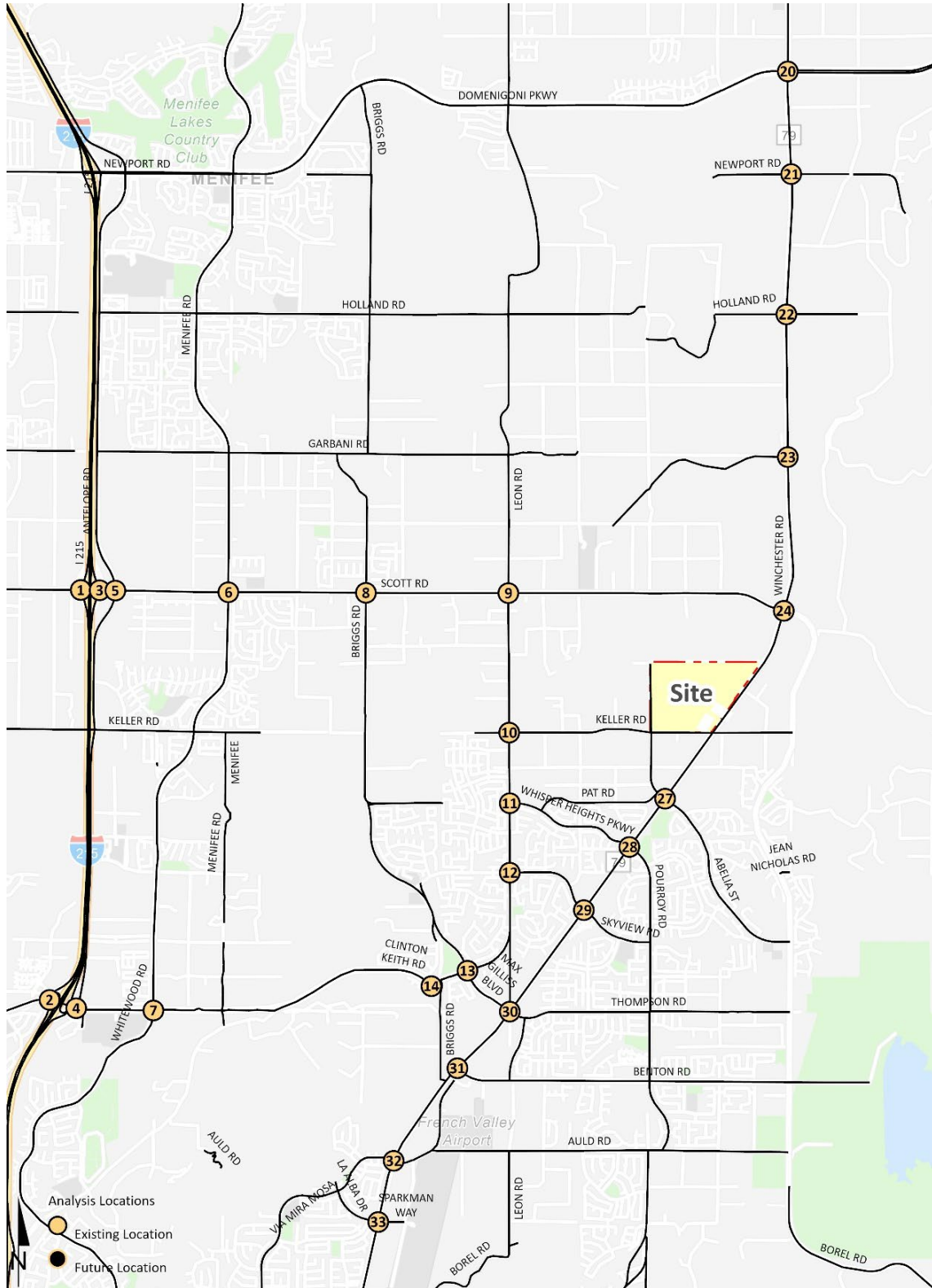
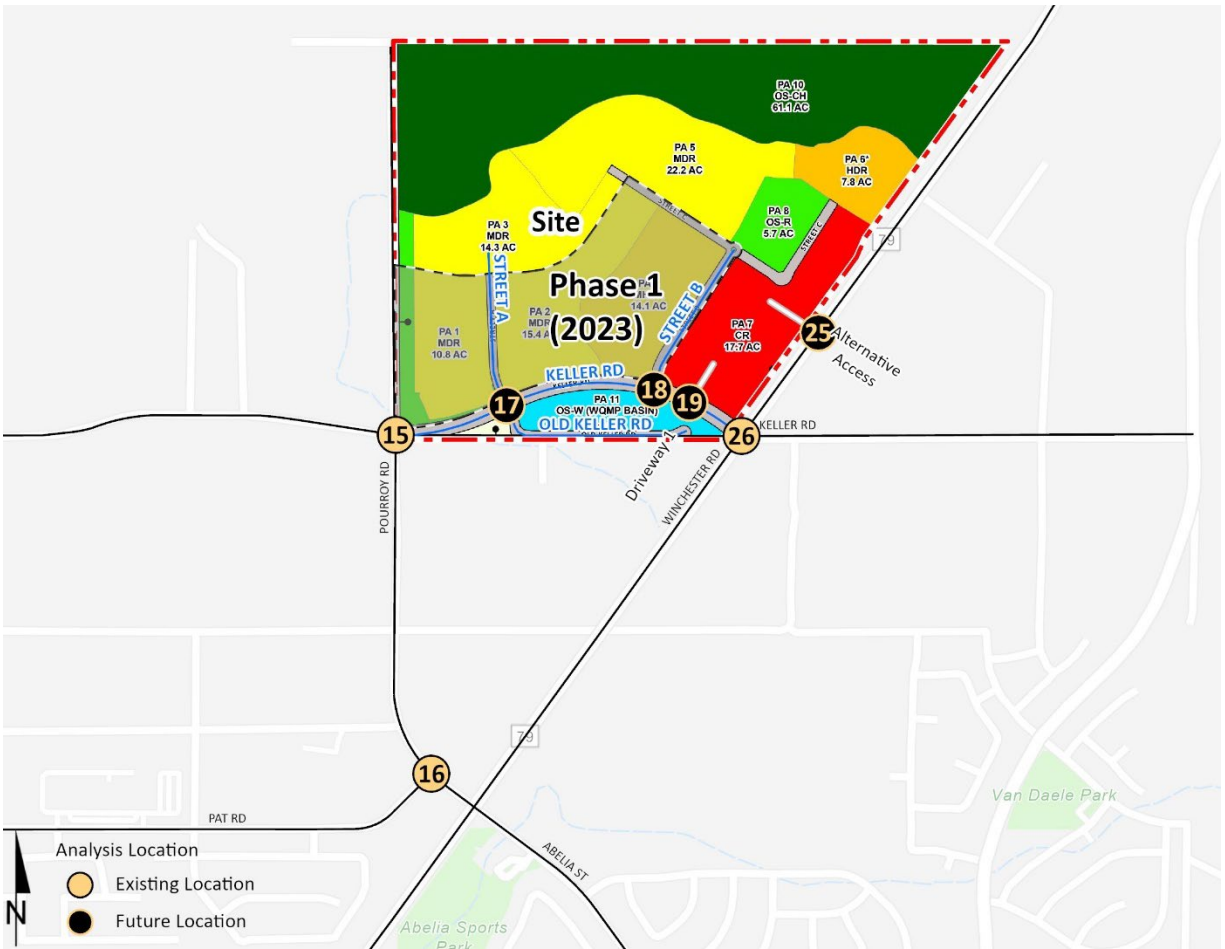


EXHIBIT 1-3: STUDY AREA (PAGE 1 OF 2)





The Project is anticipated to generate a net total of 6,298 trip-ends per day with 646 AM peak hour trips and 573 PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2021) Conditions
- Existing plus Ambient Growth plus Project (EAP) (2023) Conditions (Phase 1)
- Existing plus Ambient Growth plus Project (EAP) (2028) Conditions (Project Buildout)
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2023) Conditions (Phase 1)
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2028) Conditions (Project Buildout)
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Project (Project Buildout)

An alternative access scenario will be evaluated for With Project (Project Buildout) conditions only, which assumes a right-in/right-out access driveway along Winchester Road (SR-79) to Planning Area 7.

1.3.1 EXISTING (2021) CONDITIONS

Information for Existing (2021) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. Due to the currently ongoing COVID-19 pandemic, schools and businesses within the study area were closed or operating at less than full capacity at the time this study was prepared. As such, historic traffic counts from 2018 were utilized in conjunction with a 2% per year, compounded annually, growth rate to develop traffic volumes for 2021 conditions. For those intersections where historic data was not readily available, 2021 traffic counts have been collected in order to compare and develop an adjustment factor based on a comparison to historic 2018 traffic count data to the recently collected 2021 traffic count data. This adjustment factor has been applied to the 2021 traffic count data to reflect non-COVID traffic conditions. For a detailed discussion on the existing traffic counts, see Section 3.6 *Existing Traffic Counts*.

1.3.2 EAP (2023 & 2028) CONDITIONS

The EAP (2023) and EAP (2028) conditions analyses determines the potential circulation system deficiencies based on a comparison of the EAP traffic conditions to Existing conditions. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. To account for background traffic growth, an ambient growth factor from Existing (2021) conditions of 4.04% (2 percent per year, compounded over 2 years) is included for EAP (2023) traffic conditions and 14.87% (2 percent per year, compounded over 7 years) is included

for EAP (2028) traffic conditions. The assumed ambient growth factor is based on the requirements per the County of Riverside traffic study guidelines. Consistent with Riverside County traffic study guidelines, the EAP analysis is intended to identify “Opening Year” deficiencies associated with the development of the proposed Project based on the expected background growth within the study area.

1.3.3 EAPC (2023 & 2028) CONDITIONS

The EAPC (2023) and EAPC (2028) traffic conditions analysis determines the potential near-term cumulative circulation system deficiencies. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. To account for background traffic growth, an ambient growth factor from Existing (2021) conditions of 4.04% (2 percent per year, compounded over 2 years) is included for EAPC (2023) traffic conditions and 14.87% (2 percent per year, compounded over 7 years) is included for EAPC (2028) traffic conditions.

Conservatively, this TS estimates the area ambient traffic growth and then adds traffic generated by other known or probable related projects. These related projects are at least in part already accounted for in the assumed ambient growth rates; and some of these related projects may not be implemented and operational within the 2023 and 2028 Opening Year time frame assumed for the Project. The resulting traffic growth utilized in the TS (ambient growth factor plus traffic generated by related projects) would therefore tend to overstate rather than understate background cumulative traffic deficiencies under 2023 and 2028 conditions.

1.3.4 HORIZON YEAR (2040) CONDITIONS

Traffic projections for Horizon Year (2040) conditions were derived from the County of Riverside refined version of the Riverside County Transportation Analysis Model (RivTAM) using accepted procedures for model forecast refinement and smoothing. The Horizon Year conditions analysis will be utilized to determine if improvements funded through regional transportation mitigation fee programs, such as the Transportation Uniform Mitigation Fee (TUMF) program, can accommodate the long-range cumulative traffic at the target Level of Service (LOS) identified in the County of Riverside (lead agency) General Plan. (4) Each of these regional transportation fee programs are discussed in more detail in Section 10 *Local and Regional Funding Mechanisms*.

1.4 STUDY AREA

To ensure that this TS satisfies the County of Riverside’s traffic study requirements, Urban Crossroads, Inc. prepared a Project traffic study scoping package for review by County of Riverside staff prior to the preparation of this report. This agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology. The agreement approved by the County of Riverside is included in Appendix 1.1 of this TS.

The 33 study area intersections shown on Exhibit 1-3 and listed in Table 1-1 were selected for evaluation in this TS based on consultation with County of Riverside staff. The study area includes intersections where the Project is anticipated to contribute 50 or more peak hour trips per the County of Riverside’s traffic study guidelines. (1) The “50 peak hour trip” criterion represents a minimum number of trips at which a typical intersection would have the potential to be

substantively affected by a given development proposal. The 50 peak hour trip criterion is a traffic engineering rule of thumb that is accepted and widely used within Riverside County for estimating a potential area of influence (i.e., study area).

The intent of a Congestion Management Program (CMP) is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. The County of Riverside CMP became effective with the passage of Proposition 111 in 1990 and updated most recently updated in 2011. The Riverside County Transportation Commission (RCTC) adopted the 2011 CMP for the County of Riverside in December 2011. (5) There are no study area intersections identified as a Riverside County CMP intersection.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction	CMP?
1	I-215 SB Ramps & Scott Rd.	Menifee, Caltrans	No
2	I-215 SB Ramps & Clinton Keith Rd.	Murrieta, Caltrans	No
3	I-215 NB Ramps & Scott Rd.	Menifee, Murrieta, Caltrans	No
4	I-215 NB Ramps & Clinton Keith Rd.	Murrieta, Caltrans	No
5	Antelope Rd. & Scott Rd.	Menifee, Murrieta	No
6	Menifee Rd. & Scott Rd.	Menifee, County of Riverside	No
7	Whitewood Rd. & Clinton Keith Rd.	Murrieta	No
8	Briggs Rd. & Scott Rd.	Menifee, County of Riverside	No
9	Leon Rd. & Scott Rd.	Menifee, County of Riverside	No
10	Leon Rd. & Keller Rd.	County of Riverside	No
11	Leon Rd. & Whisper Heights Pkwy.	County of Riverside	No
12	Leon Rd. & Jean Nicholas Rd.	County of Riverside	No
13	Briggs Rd. & Leon Rd.	County of Riverside	No
14	Leon Rd. & Clinton Keith Rd.	County of Riverside	No
15	Pourroy Rd. & Keller Rd.	County of Riverside	No
16	Pourroy Rd. & Pat Rd.	County of Riverside	No
17	Street A & Keller Rd. - Future Intersection	County of Riverside	No
18	Street B & Keller Rd. - Future Intersection	County of Riverside	No
19	Driveway 1 & Keller Rd. - Future Intersection	County of Riverside	No
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.	County of Riverside	No
21	Winchester Rd. (SR-79) & Newport Rd.	County of Riverside	No
22	Winchester Rd. (SR-79) & Holland Rd.	County of Riverside	No
23	Winchester Rd. (SR-79) & Garbani Rd.	County of Riverside	No
24	Winchester Rd. (SR-79) & Scott Rd.	County of Riverside	No

ID	Intersection Location	Jurisdiction	CMP?
25	Winchester Rd. (SR-79) & Driveway 2 - Future Intersection	County of Riverside	No
26	Winchester Rd. (SR-79) & Keller Rd.	County of Riverside	No
27	Winchester Rd. (SR-79) & Abelia St.	County of Riverside	No
28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	County of Riverside	No
29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	County of Riverside	No
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	County of Riverside, Murrieta	No
31	Winchester Rd. (SR-79) & Benton Rd.	County of Riverside, Murrieta	No
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	County of Riverside, Murrieta	No
33	Winchester Rd. (SR-79) & La Alba Dr./Winchester Rd.	County of Riverside, Murrieta	No

1.5 DEFICIENCIES

This section provides a summary of deficiencies by analysis scenario. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 5 *EAP (2023) Traffic Conditions*, Section 6 *EAP (2028) Traffic Conditions*, Section 7 *EAPC (2023) Traffic Conditions*, Section 8 *EAPC (2028) Traffic Conditions*, and Section 9 *Horizon Year (2040) Traffic Conditions* includes the detailed analysis. A summary of LOS results for all analysis scenarios is presented on Table 1-2.

1.5.1 EXISTING (2021) CONDITIONS

Intersections

The following study area intersections are currently operating at an unacceptable LOS during the peak hours:

- Whitewood Road & Clinton Keith Road (#7) – LOS E PM peak hour only
- Winchester Road (SR-79) & Domenigoni Parkway (#20) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Scott Road (#24) – LOS E PM peak hour only
- Winchester Road (SR-79) & Max Gilliss Boulevard/Thompson Road (#30) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Benton Road (#31) – LOS E PM peak hour only
- Winchester Road (SR-79) & Via Mira Mosa/Auld Road (#32) – LOS E AM and PM peak hours

Queues

There are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows.

TABLE 1-2: SUMMARY OF LOS

#	Intersection	Existing (2021)		EAP (2023)		EAP (2028)		EAPC (2023)		EAPC (2028)		2040 NP		2040 WP	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	I-215 SB Ramps & Scott Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2	I-215 SB Ramps & Clinton Keith Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3	I-215 NB Ramps & Scott Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
4	I-215 NB Ramps & Clinton Keith Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
5	Antelope Rd. & Scott Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
6	Menifee Rd. & Scott Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
7	Whitewood Rd. & Clinton Keith Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
8	Briggs Rd. & Scott Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
9	Leon Rd. & Scott Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
10	Leon Rd. & Keller Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
11	Leon Rd. & Whisper Heights Pkwy.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
12	Leon Rd. & Jean Nicholas Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
13	Briggs Rd. & Leon Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
14	Leon Rd. & Clinton Keith Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
15	Pourroy Rd. & Keller Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
16	Pourroy Rd. & Pat Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
17	Old Keller Rd./Street A & Keller Rd.	N/A	N/A	●	●	●	●	●	●	●	●	N/A	N/A	●	●
18	Street B & Keller Rd.	N/A	N/A	●	●	●	●	●	●	●	●	N/A	N/A	●	●
19	Driveway 1 & Keller Rd.	N/A	N/A	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
21	Winchester Rd. (SR-79) & Newport Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
22	Winchester Rd. (SR-79) & Holland Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
23	Winchester Rd. (SR-79) & Garbani Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
24	Winchester Rd. (SR-79) & Scott Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
25	Winchester Rd. (SR-79) & Driveway 2	N/A	N/A	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
26	Winchester Rd. (SR-79) & Keller Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
27	Winchester Rd. (SR-79) & Abelia St.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd	●	●	●	●	●	●	●	●	●	●	●	●	●	●
29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
31	Winchester Rd. (SR-79) & Benton Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	●	●	●	●	●	●	●	●	●	●	●	●	●	●
33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	●	●	●	●	●	●	●	●	●	●	●	●	●	●

● = A - D ● = E ● = F

1.5.2 EAP (2023) CONDITIONS

Intersections

There are no additional study area intersections that are anticipated to operate at an unacceptable LOS under EAP (2023) traffic conditions with the addition of Project Phase 1 traffic, in addition to the intersections previously identified under Existing (2021) traffic conditions.

Queues

There are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project (Phase 1) traffic.

1.5.3 EAP (2028) CONDITIONS

Intersections

The following additional study area intersections are anticipated to operate at an unacceptable LOS under EAP (2028) traffic conditions with the addition of Project Buildout traffic, in addition to the intersections previously identified under Existing (2021) traffic conditions:

- Leon Road & Scott Road (#9) – LOS F AM and PM peak hours
- Briggs Road & Leon Road (#13) – LOS E AM peak hour only
- Winchester Road (SR-79) & La Alba Drive/Winchester Road (#33) – LOS F AM peak hour; LOS E PM peak hour

Queues

There are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project (Project Buildout) traffic.

1.5.4 EAPC (2023) CONDITIONS

Intersections

the following study area intersections are anticipated to operate at an unacceptable LOS under EAPC (2023) traffic conditions:

- Antelope Road & Scott Road (#5) – LOS E PM peak hour only
- Menifee Road & Scott Road (#6) – LOS F PM peak hour only
- Whitewood Road & Clinton Keith Road (#7) – LOS E AM peak hour; LOS F PM peak hour
- Briggs Road & Scott Road (#8) – LOS E AM peak hour only
- Leon Road & Scott Road (#9) – LOS F AM and PM peak hours
- Briggs Road & Leon Road (#13) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Domenigoni Parkway (#20) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Scott Road (#24) – LOS F PM peak hour only

- Winchester Road (SR-79) & Max Gilliss Boulevard/Thompson Road (#30) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Benton Road (#31) – LOS F PM peak hour only
- Winchester Road (SR-79) & Via Mira Mosa/Auld Road (#32) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & La Alba Drive (#33) – LOS E AM and PM peak hours

Queues

There are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows.

1.5.5 EAPC (2028) CONDITIONS

Intersections

The following study area intersections are anticipated to operate at an unacceptable LOS under EAPC (2023) traffic conditions:

- I-215 NB Ramps & Scott Road (#3) – LOS E PM peak hour only
- Antelope Road & Scott Road (#5) – LOS E AM peak hour; LOS F PM peak hour
- Menifee Road & Scott Road (#6) – LOS F AM and PM peak hours
- Whitewood Road & Clinton Keith Road (#7) – LOS F AM and PM peak hours
- Briggs Road & Scott Road (#8) – LOS F AM and PM peak hours
- Leon Road & Scott Road (#9) – LOS F AM and PM peak hours
- Leon Road & Keller Road (#10) – LOS F AM and PM peak hours
- Leon Road & Whisper Heights Parkway (#11) – LOS F AM and PM peak hours
- Briggs Road & Leon Road (#13) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Domenigoni Parkway (#20) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Holland Road (#22) – LOS E PM peak hour only
- Winchester Road (SR-79) & Scott Road (#24) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Driveway 2 (#25) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Keller Road (#26) – LOS E AM and PM peak hours
- Winchester Road (SR-79) & Abelia Street (#27) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Whisper Heights Parkway/Pourroy Road (#28) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Jean Nicholas Road/Skyview Road (#29) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Max Gilliss Boulevard/Thompson Road (#30) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Benton Road (#31) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Via Mira Mosa/Auld Road (#32) – LOS F AM and PM peak hours

- Winchester Road (SR-79) & La Alba Drive (#33) – LOS F AM and PM peak hours

Queues

There are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows.

1.5.6 HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS

Intersections

The following study area intersections are anticipated to operate at an unacceptable LOS under Horizon Year (2040) Without Project traffic conditions:

- I-215 NB Ramps & Scott Road (#3) – LOS E AM peak hour; LOS F PM peak hour
- Antelope Road & Scott Road (#5) – LOS F AM and PM peak hours
- Menifee Road & Scott Road (#6) – LOS F AM and PM peak hours
- Whitewood Road & Clinton Keith Road (#7) – LOS F AM and PM peak hours
- Briggs Road & Scott Road (#8) – LOS F AM and PM peak hours
- Leon Road & Scott Road (#9) – LOS F AM and PM peak hours
- Leon Road & Keller Road (#10) – LOS F AM and PM peak hours
- Leon Road & Whisper Heights Parkway (#11) – LOS F AM and PM peak hours
- Briggs Road & Leon Road (#13) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Domenigoni Parkway (#20) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Holland Road (#22) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Garbani Road (#23) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Scott Road (#24) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Driveway 2 (#25) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Keller Road (#26) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Abelia Street (#27) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Whisper Heights Parkway/Pourroy Road (#28) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Jean Nicholas Road/Skyview Road (#29) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Max Gilliss Boulevard/Thompson Road (#30) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Benton Road (#31) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Via Mira Mosa/Auld Road (#32) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & La Alba Drive (#33) – LOS F AM and PM peak hours

Queues

There are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows.

1.5.7 HORIZON YEAR (2040) WITH PROJECT CONDITIONS

Intersections

There are no additional study area intersections anticipated to operate at a deficient LOS during one or both peak hours for Horizon Year (2040) With Project traffic conditions, in addition to the locations identified above for Horizon Year (2040) Without Project traffic conditions.

Queues

There are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows.

1.6 RECOMMENDATIONS

1.6.1 SITE ADJACENT AND SITE ACCESS RECOMMENDATIONS

Phase 1

The following recommendations are based on the minimum improvements needed to accommodate site access and maintain acceptable peak hour operations for Phase 1. The site adjacent recommendations are shown on Exhibits 1-4. The site adjacent queuing analysis worksheets are provided in Appendix 1.2.

Recommendation 1 – Pourroy Road & Keller Road (#15) – The following improvement is necessary to accommodate site access:

- Project to construct a westbound left turn lane with a minimum of 100-feet of storage and a right turn lane (trap lane).

Recommendation 2 – Street A & Keller Road (#17) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach and a southbound shared left-right turn lane (Project Driveway).
- Project to construct an eastbound left turn lane with a minimum of 100-feet of storage and a 2nd through lane.
- Project to construct a 2nd westbound shared through-right turn lane.

EXHIBIT 1-4: SITE ADJACENT ROADWAY AND SITE ACCESS RECOMMENDATIONS FOR PHASE 1



15	17	18
<i>Pourroy Rd. & Keller Rd.</i>	<i>Street A / Old Keller Rd. & Keller Rd.</i>	<i>Street B & Keller Rd.</i>
<i>Dwy. 1 & Keller Rd.</i>	<i>Winchester Rd. (SR-79) & Dwy. 2</i>	<i>Winchester Rd. (SR-79) & Keller Rd.</i>
Future Intersection	Future Intersection	

- = Traffic Signal
- = All Way Stop
- = Stop Sign Improvement
- = Existing Lane
- = Lane Improvement
- TRAP** = Trap lane
- 100'** = Recommended Turn Pocket Length
- 100'** = Minimum Turn Pocket Length

Recommendation 3 – Street B & Keller Road (#18) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach and a southbound shared left-right turn lane (Project Driveway).
- Project to construct an eastbound left turn lane with a minimum of 100-feet of storage and a 2nd through lane.
- Project to construct a 2nd westbound shared through-right turn lane.

Recommendation 4 – Winchester Road (SR-79) & Keller Road (#26) – The following improvement is necessary to accommodate site access:

- Project to construct an eastbound left turn lane with a minimum of 300-feet of storage and a right turn lane with a minimum of 175-feet of storage.

Recommendation 5 – Keller Road is an east-west oriented roadway located on the Project's southern boundary. Project to construct Keller Road at its ultimate full-width as a Secondary (100-foot right-of-way) from Pourroy Road to Winchester Road (SR-79) consistent with the County's standards. Project is to improve Keller Road to accommodate a 2-lane roadway between Pourroy Road west to Leon Road for Project access from the west. A raised curbed median should be constructed between Street B and Winchester Road (SR-79) only in order to control the access to right-in/right-out only at Driveway 1 on Keller Road.

On-site traffic signing and striping should be implemented agreeable with the provisions of the California Manual on Uniform Traffic Control Devices (CA MUTCD) and in conjunction with detailed construction plans for the Project site.

Sight distance at each project access point should be reviewed with respect to standard Caltrans and County of Riverside sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

Phase 2

The following recommendations are based on the minimum improvements needed to accommodate site access and maintain acceptable peak hour operations for Phase 2 (Project Buildout). The site adjacent recommendations are shown on Exhibits 1-5.

Recommendation 6 – Driveway 1 & Keller Road (#19) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach and a southbound right turn lane (Project Driveway).
- Project to construct a 2nd eastbound through lane.
- Project to construct a 2nd westbound shared through-right turn lane.
- Project to restrict the driveway to right-in/right-out which will be physically restricted by a raised curbed median along Keller Road (between Street B and Winchester Road (SR-79) only).

EXHIBIT 1-5: SITE ADJACENT ROADWAY AND SITE ACCESS RECOMMENDATIONS FOR PROJECT BUILDOUT



15	17	18
Pourroy Rd. & Keller Rd.	Street A / Old Keller Rd. & Keller Rd.	Street B & Keller Rd.
19	25	26
Dwy. 1 & Keller Rd.	Winchester Rd. (SR-79) & Dwy. 2	Winchester Rd. (SR-79) & Keller Rd.
	<p>Future Intersection</p>	

- = Traffic Signal
- = All Way Stop
- = Stop Sign
- = Stop Sign Improvement
- = Existing Lane
- = Lane Improvement
- = Previous Phase Improvement
- TRAP** = Trap Lane
- 100'** = Minimum Turn Pocket Length
- 100'** = Minimum Turn Pocket Length

Recommendation 7 – Winchester Road is a north-south oriented roadway located on the Project’s eastern boundary. Project to construct Winchester Road (SR-79) at its ultimate half-width as an Expressway (220-foot right-of-way) from Keller Road to the northern Project boundary consistent with the County’s standards. This includes the construction of raised median along Winchester Road (SR-79) as part of the half-width improvements.

On-site traffic signing and striping should be implemented agreeable with the provisions of the California Manual on Uniform Traffic Control Devices (CA MUTCD) and in conjunction with detailed construction plans for the Project site.

Sight distance at each project access point should be reviewed with respect to standard Caltrans and County of Riverside sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

Phase 2 – Alternative Access

The following recommendations are based on the minimum improvements needed to accommodate site access and maintain acceptable peak hour operations for Phase 2 (Project Buildout) for the alternative access scenario (in the event direct access to Winchester Road is permitted by Caltrans District 8). The site adjacent recommendations are shown on Exhibits 1-6. The site adjacent queuing analysis worksheets are provided in Appendix 1.3 for the alternative access conditions.

Recommendation 8 – Driveway 1 & Keller Road (#19) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach and a southbound right turn lane (Project Driveway).
- Project to construct a 2nd eastbound through lane.
- Project to construct a 2nd westbound shared through-right turn lane.
- Project to restrict the driveway to right-in/right-out which will be physically restricted by a raised curbed median along Keller Road (between Street B and Winchester Road (SR-79) only).

Recommendation 9 – Winchester Road (SR-79) & Driveway 2 (#25) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the eastbound approach and an eastbound right turn lane (Project Driveway).
- Project to construct a southbound right turn lane with a minimum of 300-feet of storage.
- Project to construct a 3rd southbound through lane, to be striped at such time in the future when Winchester Road (SR-79) is widened to the south of Keller Road with an additional receiving lane.
- Project to restrict the driveway to right-in/right-out which will be physically restricted by a raised median along Winchester Road (SR-79) along the Project’s frontage.

EXHIBIT 1-6: SITE ADJACENT ROADWAY AND SITE ACCESS RECOMMENDATIONS FOR PROJECT BUILDOUT - ALTERNATIVE ACCESS



15	17	18
<i>Pourroy Rd. & Keller Rd.</i>	<i>Street A / Old Keller Rd. & Keller Rd.</i>	<i>Street B & Keller Rd.</i>
19	25	26
<i>Dwy. 1 & Keller Rd.</i>	<i>Winchester Rd. (SR-79) & Dwy. 2</i>	<i>Winchester Rd. (SR-79) & Keller Rd.</i>

- = Traffic Signal
- = All Way Stop
- = Stop Sign
- = Stop Sign Improvement
- = Existing Lane
- = Lane Improvement
- = Previous Phase Improvement
- TRAP** = Trap Lane
- 100'** = Recommended Turn Pocket Length
- 100'** = Minimum Turn Pocket Length

Recommendation 10 – Winchester Road is a north-south oriented roadway located on the Project’s eastern boundary. Project to construct Winchester Road (SR-79) at its ultimate half-width as an Expressway (220-foot right-of-way) from Keller Road to the northern Project boundary consistent with the County’s standards. This includes the construction of raised median along Winchester Road (SR-79) as part of the half-width improvements.

On-site traffic signing and striping should be implemented agreeable with the provisions of the California Manual on Uniform Traffic Control Devices (CA MUTCD) and in conjunction with detailed construction plans for the Project site.

Sight distance at each project access point should be reviewed with respect to standard Caltrans and County of Riverside sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

1.6.2 OFF-SITE RECOMMENDATIONS

The recommended improvements needed to address the cumulative deficiencies identified under Existing (2021), EAP (2023), EAP (2028), EAPC (2023), EAPC (2028), and Horizon Year (2040) traffic conditions are shown in Table 1-3. Improvements that appear under EAP (2023) and EAP (2028) that are not also identified for Existing (2021) traffic conditions would be the Project’s responsibility to construct to maintain acceptable LOS. For those improvements listed in Table 1-3 and not constructed as part of the Project, the Project Applicant’s responsibility for the Project’s contributions towards deficient intersections is fulfilled through payment of fair share that would be assigned to construction of the identified recommended improvements. The Project Applicant would be required to pay fair share fees consistent with the County’s requirements (see Section 10 *Local and Regional Funding Mechanisms*).

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TABLE 1-3: SUMMARY OF IMPROVEMENTS BY ANALYSIS SCENARIO

#	Intersection Location	Jurisdiction	Analysis Scenarios						Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements included in Fee Program? ¹	Mechanism for Mitigation ²	Fair Share % ³
			Existing (2021)	EAP (2023)	EAP (2028)	EAPC (2023)	EAPC (2028)						
3	I-215 NB Ramps & Scott Rd.	Menifee, Caltrans	None	None	None	None	Add NB through lane ⁴	Same	Same	Yes (TUMF)	Fees	--	
							Add 3rd EB through lane ⁴	Same	Same	Yes (TUMF)	Fees		
							Add 3rd WB through lane ⁴	Same	Same	Yes (TUMF)	Fees		
							Add 2nd EB left turn lane ⁴	Same	Same	Yes (TUMF)	Fees		
							Add 4th EB through lane ⁴	Same	Same	Yes (TUMF)	Fees		
							Add 4th WB through lane ⁴	Same	Same	Yes (TUMF)	Fees		
5	Antelope Rd. & Scott Rd.	Menifee, Murrieta	None	None	None	Add 3rd EB through lane ⁴	Same	Same	Same	Yes (TUMF)	Fees	--	
							Add 2nd SB left turn lane ⁴	Same	Same	Yes (TUMF)	Fees		
							Add 2nd SB through lane ⁴	Same	Same	Yes (TUMF)	Fees		
							Add 2nd SB right turn lane ⁴	Same	Same	Yes (TUMF)	Fees		
							Add 2nd EB right turn lane ⁴	Same	Same	Yes (TUMF)	Fees		
							Add 4th WB through lane ⁴	Same	Same	Yes (TUMF)	Fees		
6	Menifee Rd. & Scott Rd.	Menifee, County of Riverside	None	None	None	Add 3rd EB through lane	Same	Same	Same	No	Fair Share	4.1%	
						Add 3rd WB through lane	Same	Same	Same	No	Fair Share		
							Add 2nd SB left turn lane	Same	Same	No	Fair Share		
							Add 2nd EB left turn lane	Same	Same	No	Fair Share		
							Add 2nd WB left turn lane	Same	Same	No	Fair Share		
							Add WB right turn lane	Same	Same	No	Fair Share		
							Add 2nd NB through lane	Same	Same	Yes (TUMF)	Fees		
							Add 2nd SB through lane	Same	Same	Yes (TUMF)	Fees		
							Modify the traffic signal to implement overlap phasing for the NB right turn lane	Same	Same	No	Fair Share		
7	Whitewood Rd. & Clinton Keith Rd.	Murrieta	Add 2nd NB through lane Add 3rd EB through lane	Same Same	Same Same	Same Same	Same Same	Same Add 2nd NB left turn lane	Same Same	No Yes (TUMF)	Fair Share Fees	2.8%	
								Add 2nd SB left turn lane	Same	No	Fair Share		
								Add SB right turn lane	Same	No	Fair Share		
								Modify the traffic signal to implement overlap phasing for the SB right turn lane	Same	No	Fair Share		

#	Intersection Location	Jurisdiction	Existing (2021)	EAP (2023)	EAP (2028)	Analysis Scenarios		Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements included in Fee Program? ¹	Mechanism for Mitigation ²	Fair Share % ³
						EAPC (2023)	EAPC (2028)					
8	Briggs Rd. & Scott Rd.	Menifee, County of Riverside	None	None	None	Add 3rd EB through lane	Same	Same	Same	No	Fair Share	4.5%
						Add 3rd WB through lane	Same	Same	Yes (TUMF)	Fees		
						Add NB left turn lane	Same	Same	No	Fair Share		
						Restripe the SB right turn lane to a shared through-right turn lane	Same	Same	No	Fair Share		
						Add 2nd NB left turn lanes	Same	Same	No	Fair Share		
9	Leon Rd. & Scott Rd.	Menifee, County of Riverside	None	None	Install a traffic signal	Same	Same	Same	Same	Yes (DIF)	Fees	5.3%
						Add NB left turn lane	Same	Same	No	Fair Share		
						Add SB left turn lane	Same	Same	No	Fair Share		
						Add EB left turn lane	Same	Same	No	Fair Share		
						Add WB left turn lane	Same	Same	No	Fair Share		
						Add 2nd EB through lane	Same	Same	Yes (TUMF)	Fees		
						Add 3rd EB through lane	Same	Same	Yes (TUMF)	Fees		
						Add 2nd WB through lane	Same	Same	Yes (TUMF)	Fees		
						Add 3rd WB through lane	Same	Same	Yes (TUMF)	Fees		
						Add 2nd NB left turn lane	Same	Same	No	Fair Share		
						Modify the traffic signal to implement overlap phasing for the NB right turn lane	Same	Same	No	Fair Share		
					Add 2nd NB through lane	Same	Same	No	Fair Share			
					Add 2nd SB through lane	Same	Same	No	Fair Share			
10	Leon Rd. & Keller Rd.	Menifee, County of Riverside	None	None	None	None	Install a traffic signal	Same	Same	Yes (DIF)	Fees	20.3%
							Add NB left turn lane	Same	Same	No	Fair Share	
							Add SB left turn lane	Same	Same	No	Fair Share	
							Add 2nd NB through lane	Same	Same	No	Fair Share	
					Add 2nd SB through lane	Same	Same	No	Fair Share			
11	Leon Rd. & Whisper Heights Pkwy.	County of Riverside	None	None	None	None	Install a traffic signal	Same	Same	No	Fair Share	7.3%
14	Leon Rd. & Clinton Keith Rd.	County of Riverside	None	None	None	None	Install a traffic signal	Same	Same	Yes (DIF)	Fees	14.7%
							Add NB through lane	Same	Same	No	Fair Share	
							Add 2nd NB through lane	Same	Same	No	Fair Share	
							Add NB right turn lane	Same	Same	No	Fair Share	
							Add WB left turn lane	Same	Same	No	Fair Share	
							Add SB through lane	Same	Same	No	Fair Share	
					Add 2nd SB through lane	Same	Same	No	Fair Share			

#	Intersection Location	Jurisdiction	Existing (2021)	EAP (2023)	EAP (2028)	Analysis Scenarios		Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements included in Fee Program? ¹	Mechanism for Mitigation ²	Fair Share % ³
						EAPC (2023)	EAPC (2028)					
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.	County of Riverside	Add 3rd NB through lane Add 3rd SB through lane	Same Same	Same Same	Same Same	Same Same	No Longer Needed ⁵ No Longer Needed ⁵ Add 2nd NB left turn lane Add 2nd SB left turn lane	Same Same Same Same	Yes (TUMF) Yes (TUMF) No No	Fees Fees Fair Share Fair Share	4.5%
22	Winchester Rd. (SR-79) & Holland Rd.	County of Riverside	None	None	None	None	Add 3rd NB through lane Add 3rd SB through lane	Same Same Add 4th SB through lane	Same Same Same	Yes (TUMF) Yes (TUMF) No	Fees Fees Fair Share	1.9%
23	Winchester Rd. (SR-79) & Garbani Rd.	County of Riverside	None	None	None	None	None	Add 3rd NB through lane Add 3rd SB through lane Add 4th SB through lane	Same Same Same	Yes (TUMF) Yes (TUMF) No	Fees Fees Fair Share	1.9%
24	Winchester Rd. (SR-79) & Scott Rd.	County of Riverside	Add 2nd EB left turn lane	Same	Same	Same	Same Add 2nd NB left turn lane Add 2nd SB left turn lane Add 2nd EB through lane Add 2nd WB left turn lane Add 2nd WB through lane Add 2nd WB right turn lane Modify the traffic signal to implement overlap phasing for the WB right turn lane	Same Same Same Same Same Same Same Same Add 4th NB through lane Add 4th SB through lane	Same Same Same Same Same Same Same Same Same Same	No No No Yes (TUMF) No No No No No No	Fair Share Fair Share Fair Share Fees Fair Share Fair Share Fair Share Fair Share Fair Share Fair Share	1.9%
25	Winchester Rd. (SR-79) & Driveway 2	County of Riverside	None	Add SB right turn lane Add EB right turn lane	Same Same	Same Same	Same Same Add 3rd NB through lane Add 3rd SB through lane	Not Applicable Not Applicable Same Same Add 4th NB through lane Add 4th SB through lane	Same as EAP (2023) Same as EAP (2023) Same Same Same Same	No No Yes (TUMF) Yes (TUMF) No No	Construct Construct Fees Fees Fair Share Fair Share	7.0%
26	Winchester Rd. (SR-79) & Keller Rd.	County of Riverside	None	None	None	None	Add 3rd NB through lane Add 3rd SB through lane	Same Same	Same Same	Yes (TUMF) Yes (TUMF)	Fees Fees Fees	11.1%
27	Winchester Rd. (SR-79) & Abelia St.	County of Riverside	None	None	None	None	Add 3rd NB through lane Add 3rd SB through lane Restripe WB through lane to a 2nd left turn lane	Same Same Same Add 4th NB through lane Add 4th SB through lane	Same Same Same Same Same	Yes (TUMF) Yes (TUMF) No No No	Fees Fees Fair Share Fair Share Fair Share	6.3%

#	Intersection Location	Jurisdiction	Existing (2021)	EAP (2023)	EAP (2028)	Analysis Scenarios		Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements included in Fee Program? ¹	Mechanism for Mitigation ²	Fair Share % ³
						EAPC (2023)	EAPC (2028)					
28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	County of Riverside	None	None	None	None	Add 3rd NB through lane	Same	Same	Yes (TUMF)	Fees	6.2%
							Add 3rd SB through lane	Same	Same	Yes (TUMF)	Fees	
								Add 4th NB through lane	Same	No	Fair Share	
								Add 4th SB through lane	Same	No	Fair Share	
29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	County of Riverside	None	None	None	None	Add 3rd NB through lane	Same	Same	Yes (TUMF)	Fees	6.3%
							Add 3rd SB through lane	Same	Same	Yes (TUMF)	Fees	
								Add 4th NB through lane	Same	No	Fair Share	
								Add 4th SB through lane	Same	No	Fair Share	
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	County of Riverside, Murrieta	Add 2nd NB left turn lane	Same	Same	Same	Same	Same	Same	No	Fair Share	3.8%
			Add 3rd NB through lane	Same	Same	Same	Same	Same	Same	Yes (TUMF)	Fees	
			Add 3rd SB through lane	Same	Same	Same	Same	Same	Same	Yes (TUMF)	Fees	
						Add NB right turn lane	Same	Same	Same	No	Fair Share	
							Add 2nd SB left turn lane	Same	Same	No	Fair Share	
							Add 2nd EB left turn lane	Same	Same	No	Fair Share	
							Add 2nd EB through lane	Same	Same	No	Fair Share	
							Add 2nd WB left turn lane	Same	Same	No	Fair Share	
							Add 2nd WB through lane	Same	Same	No	Fair Share	
								Add 4th NB through lane	Same	No	Fair Share	
								Add 4th SB through lane	Same	No	Fair Share	
31	Winchester Rd. (SR-79) & Benton Rd.	County of Riverside, Murrieta	Add 2nd SB left turn lane	Same	Same	Same	Same	Same	Same	No	Fair Share	2.8%
			Add 3rd SB through lane	Same	Same	Same	Same	Same	Same	Yes (TUMF)	Fees	
							Add 4th NB through lane	Same	Same	No	Fair Share	
								Add 2nd NB left turn lane	Same	No	Fair Share	
								Add 4th SB through lane	Same	No	Fair Share	
								Add 2nd EB left turn lane	Same	No	Fair Share	
								Add 2nd EB through lane	Same	No	Fair Share	
								Add EB right turn lane	Same	No	Fair Share	
								Add 2nd WB through lane	Same	No	Fair Share	
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	County of Riverside, Murrieta	Add 3rd NB through lane	Same	Same	Same	Same	Same	Same	Yes (TUMF)	Fees	3.1%
			Add 3rd SB through lane	Same	Same	Same	Same	Same	Same	Yes (TUMF)	Fees	
							Add 4th NB through lane	Same	Same	No	Fair Share	
							Add 4th SB through lane	Same	Same	No	Fair Share	
								Add 2nd SB left turn lane	Same	No	Fair Share	
33	Winchester Rd. (SR-79) & La Alba Dr./Winchester Rd.	County of Riverside, Murrieta	None	None	Add 3rd NB through lane	Same	Same	Same	Same	Yes (TUMF)	Fees	3.2%
					Add 3rd SB through lane	Same	Same	Same	Same	Yes (TUMF)	Fees	
							Add 4th NB through lane	Same	Same	No	Fair Share	
							Add 4th SB through lane	Same	Same	No	Fair Share	

¹ Improvements are included in the County DIF program or WRCOG TUMF program.

² Identifies the Project's responsibility to construct an improvement or contribute fair share or fee payment towards the implementation of the improvements shown.

³ Program improvements constructed may be eligible for fee credit, at discretion of County. See Table 10-1 for Fair Share Calculations.

⁴ Improvements are consistent with the I-215 Freeway/Scott Road interchange project ultimate lane geometries.

⁵ The future SR-79 alignment will reduce NB/SB through volumes along Winchester Road, north of Newport Road. As such, additional through lanes are not needed under this scenario.

2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are generally consistent with the County of Riverside's traffic study guidelines. (1)

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (6) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The County of Riverside, City of Menifee, City of Murrieta, and California Department of Transportation (Caltrans) require signalized intersection operations analysis based on the methodology described in the HCM (6th Edition). Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections, LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1. Study area intersections have been evaluated using the Synchro (Version 10) analysis software package.

The traffic modeling and signal timing optimization software package Synchro (Version 10) is utilized to analyze signalized intersections within the study area. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C	F
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D	F
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths	80.01 and up	F	F

Source: HCM, 6th Edition

A saturation flow rate of 1900 has been utilized for all study area intersections located within the County of Riverside, City of Menifee, and City of Murrieta. The peak hour traffic volumes are adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g., $PHF = \frac{[Hourly Volume]}{[4 \times Peak\ 15\text{-minute\ Flow\ Rate}]}$). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (6)

California Department of Transportation (Caltrans)

Per Caltrans traffic study guidance, the traffic modeling and signal timing optimization software package Synchro (Version 10) has also been utilized to analyze signalized intersections under Caltrans' jurisdiction, which include interchange to arterial ramps (i.e., I-215 Freeway ramps at Scott Road and Clinton Keith Road). (7) Signal timing for the freeway arterial-to-ramp intersections have been obtained from Caltrans District 8 and were utilized for the purposes of this analysis.

2.2.2 UNSIGNALIZED INTERSECTIONS

The County of Riverside, City of Menifee, and City of Murrieta require the operations of unsignalized intersections be evaluated using the methodology described the HCM. (6) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delays.	0 to 10.00	A	F
Short traffic delays.	10.01 to 15.00	B	F
Average traffic delays.	15.01 to 25.00	C	F
Long traffic delays.	25.01 to 35.00	D	F
Very long traffic delays.	35.01 to 50.00	E	F
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F	F

Source: HCM, 6th Edition

At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Per the HCM, the highest delay and associated LOS on the minor approach is reported for two-way stop-controlled intersections. For all-way stop controlled intersections, LOS is computed for the intersection as a whole and the average delay is reported (similar to signalized intersections).

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by the Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TS uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (8)

The signal warrant criteria for Existing conditions are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The Caltrans CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (8) Specifically, this TS utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing study area intersections for all analysis scenarios. Warrant 3 is appropriate to use for this TS because it provides specialized warrant criteria for intersections with rural characteristics (e.g., located in communities with populations of less than 10,000 persons or with adjacent major streets operating above 40 miles per hour). For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection.

Traffic signal warrant analyses were performed for the following unsignalized study area intersection shown in Table 2-3:

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction
9	Leon Rd. & Scott Rd.	County of Riverside
10	Leon Rd. & Keller Rd.	County of Riverside
11	Leon Rd. & Whisper Heights Pkwy.	County of Riverside
15	Pourroy Rd. & Keller Rd.	County of Riverside
16	Pourroy Rd. & Pat Rd.	County of Riverside
17	Street A & Keller Rd. - Future Intersection	County of Riverside
18	Street B & Keller Rd. - Future Intersection	County of Riverside

Although Driveway 1 on Keller Road and Driveway 2 on Winchester Road (SR-79) are future unsignalized intersections, the intersections are proposed for restricted access (right-in/right-out only). As such, traffic signal warrant analysis has not been evaluated for Driveway 1 or Driveway 2 as the installation of a traffic signal at these locations is not feasible. The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *EAP (2023) Traffic Conditions*, Section 6 *EAP (2028) Traffic Conditions*, Section 7 *EAPC (2023) Traffic Conditions*, Section 8 *EAPC (2028) Traffic Conditions*, and Section 9 *Horizon Year (2040) Traffic Conditions* of this report.

It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 QUEUING ANALYSIS

Consistent with Caltrans requirements, the 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the freeway ramp intersections at the I-215 Freeway at the Scott Road and Clinton Keith Road interchanges. Specifically, the off-ramp queuing analysis is utilized to identify any potential queuing and “spill back” onto the I-215 Freeway mainline from the off-ramps. The 95th percentile queue has also been utilized to assess the queues at Keller Road to identify any potential queuing.

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the Synchro progression analysis. The footnote from the Synchro output sheets indicates if the 95th percentile cycle exceeds capacity. Traffic is

simulated for two complete cycles of the 95th percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95th percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The 95th percentile queue is derived from the average queue plus 1.65 standard deviations. The 95th percentile queue is not necessarily ever observed it is simply based on statistical calculations.

2.5 MINIMUM LEVEL OF SERVICE (LOS)

The definition of an intersection deficiency has been obtained from each of the applicable surrounding jurisdictions.

2.5.1 COUNTY OF RIVERSIDE

The definition of an intersection deficiency has been obtained from the County of Riverside General Plan. Riverside County General Plan Policy C 2.1 states that the County will maintain the following County-wide target LOS:

The following minimum target levels of service have been designated for the review of development proposals in the unincorporated areas of Riverside County with respect to transportation impacts on roadways designated in the Riverside County Circulation Plan which are currently County maintained, or are intended to be accepted into the County maintained roadway system:

- *LOS C shall apply to all development proposals in any area of the Riverside County not located within the boundaries of an Area Plan, as well as those areas located within the following Area Plans: REMAP, Eastern Coachella Valley, Desert Center, Palo Verde Valley, and those non-Community Development areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.*
- *LOS D shall apply to all development proposals located within any of the following Area Plans: Eastvale, Jurupa, Highgrove, Reche Canyon/Badlands, Lakeview/Nuevo, Sun City/Menifee Valley, Harvest Valley/Winchester, Southwest Area, The Pass, San Jacinto Valley, Western Coachella Valley and those Community Development Areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.*
- *LOS E may be allowed by the Board of Supervisors within designated areas where transit-oriented development and walkable communities are proposed.*

The applicable minimum LOS utilized for the purposes of this analysis is LOS D per the County-wide target LOS for projects located within the Southwest area plan.

2.5.2 CITY OF MURRIETA

Consistent with the City's traffic study Guidelines, the following criteria will be applied for the traffic analysis.

Signalized Intersection Operating Requirements

- Any signalized study intersection operating at an acceptable LOS D or better without project traffic in which the addition of project traffic causes the intersection to degrade to a LOS E or F shall identify improvements to improve operations to LOS D or better.
- Any signalized study intersection that is operating at LOS E or F without project traffic where the project increases delay by 5.0 or more seconds shall identify improvements to offset the increase in delay.

Unsignalized Intersection General Plan Consistency Requirements

An operational improvement would be required if the study determines that either section a) or both sections b) and c) occur:

- a) The addition of project related traffic causes the intersection to degrade from an acceptable LOS D or better to LOS E or F.
OR
- b) The project adds 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at a LOS E or F,
AND
- c) The intersection meets the peak hour traffic signal warrant after the addition of project traffic.

If the conditions above are satisfied, improvements should be identified that achieve the following:

- LOS D or better for case a) above or to pre-project LOS and delay for case b) above.

2.5.3 CITY OF MENIFEE

Per Policy C-1.2 of the City of Menifee General Plan, the following LOS will be utilized for study area intersections located within the City:

The City of Menifee has identified LOS D as the threshold for acceptable operating conditions for intersections except at constrained intersections and roadway segments in close proximity to I-215, where LOS E is accepted during peak hours.

Therefore, any intersection operating at LOS E or F will be considered deficient for the purposes of this analysis. (9)

2.5.4 CALTRANS

Senate Bill 743 (SB 743), approved in 2013, endeavors to change the way transportation impacts will be determined according to the California Environmental Quality Act (CEQA). The Office of Planning and Research (OPR) has recommended the use of vehicle miles traveled (VMT) as the

replacement for automobile delay-based LOS. Caltrans acknowledges automobile delay will no longer be considered a CEQA impact for development projects and will use VMT as the metric for determining impacts on the State Highway System (SHS). However, LOS D has been utilized as the target LOS for Caltrans facilities, consistent with the County of Riverside.

2.6 DEFICIENCY CRITERIA

This section outlines the methodology used in this analysis related to identifying circulation system deficiencies. The following deficiency criteria has been utilized for the County of Riverside. To determine whether the addition of project-related traffic at a study intersection would result in a deficiency, the following will be utilized:

- A deficiency occurs at study area intersections if the pre-Project condition is at or better than LOS D (i.e., acceptable LOS), and the addition of project trips causes the peak hour LOS of the study area intersection to operate at unacceptable LOS (i.e., LOS E or F). Per the County of Riverside traffic study guidelines, for intersections currently operating at unacceptable LOS (LOS E or F), a deficiency will occur if the Project contributes peak hour trips to pre-project traffic conditions.

2.7 PROJECT FAIR SHARE CALCULATION METHODOLOGY

Improvements found to be included in the County TUMF and/or DIF programs will be identified as such. For improvements that do not appear to be in either of the pre-existing fee programs, a fair share contribution based on the Project's proportional share may be imposed in order to address the Project's share of deficiencies in lieu of construction. It should be noted that fair share calculations are for informational purposes only and the County Traffic Engineer will determine the appropriate improvements to be implemented by a project (to be identified in the conditions of approval). The Project's fair share cost of improvements would be determined based on the following equation, which is the ratio of Project traffic to new traffic, where new traffic is total future traffic less existing baseline traffic:

$$\text{Project Fair Share \%} = \frac{\text{Project Traffic}}{(\text{Horizon Year (2040) Total Traffic} - \text{Existing (2021) Traffic})}$$

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3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the County of Riverside General Plan Circulation Network, and a review of existing peak hour intersection operations, traffic signal warrant, and off-ramp queuing analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the scoping agreement with County of Riverside staff (Appendix 1.1), the study area includes a total of 33 existing and future intersections as shown previously on Exhibit 1-2, where the Project is anticipated to contribute 50 or more peak hour trips. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 COUNTY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT

As noted previously, the Project site is located within the County of Riverside. The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on County of Riverside General Plan Circulation Element, are described subsequently. Exhibit 3-2 shows the County of Riverside General Plan Circulation Element and Exhibit 3-3 illustrates the County of Riverside General Plan roadway cross-sections.

Expressways are six-lane or eight-lane divided roadways (typically divided by a raised median or painted two-way turn-lane) with a 184-foot or 220-foot right-of-way and a 134-foot curb-to-curb measurement. These roadways primarily serve regional through-traffic and inter-city traffic and typically direct traffic onto and off-of the freeways. The following study area roadway within the County of Riverside is classified as an Urban Arterial:

- Winchester Road (SR-79)

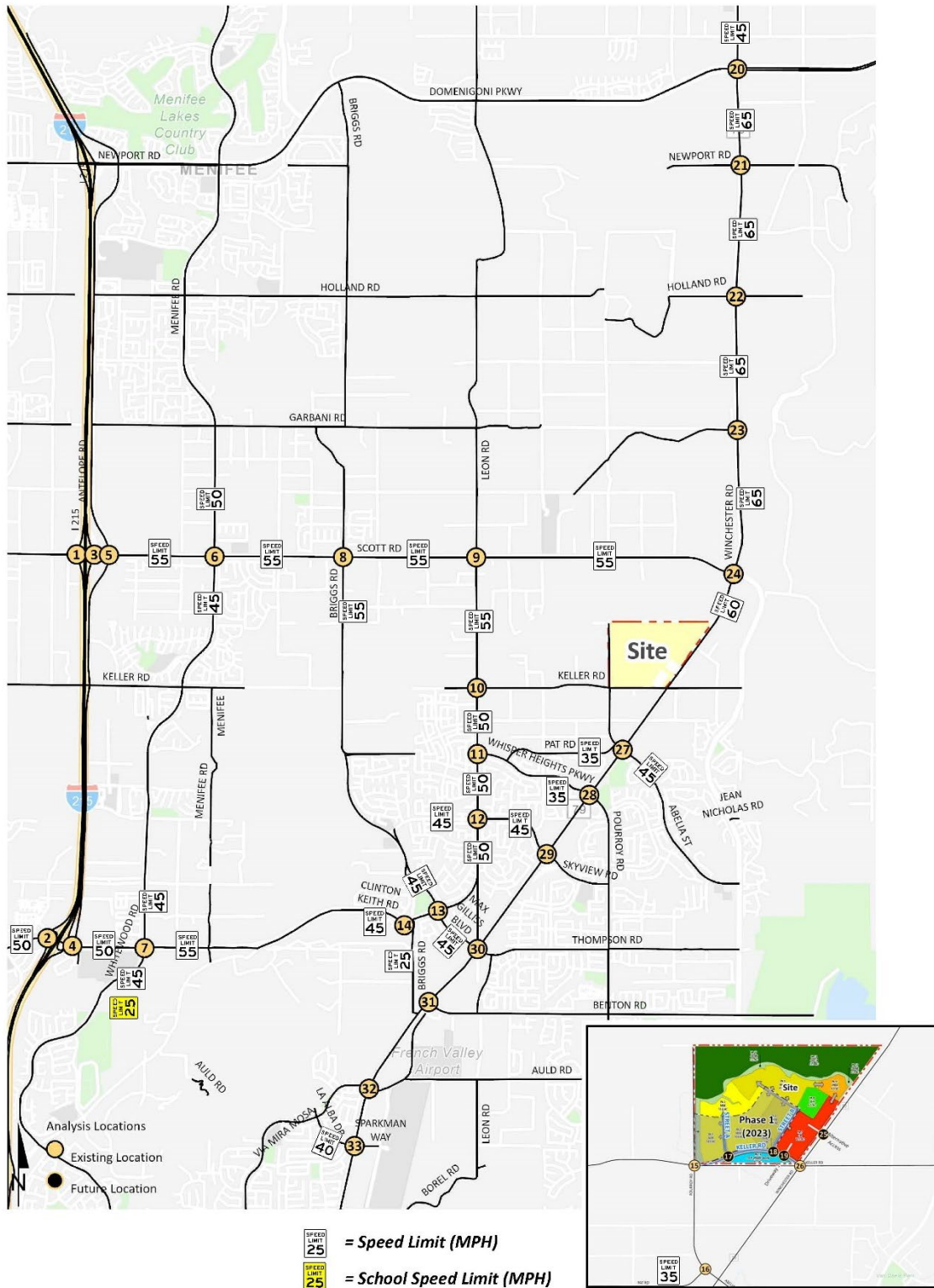
Urban Arterials are six-lane divided roadways (typically divided by a raised median or painted two-way turn-lane) with a 152-foot right-of-way and a 110-foot curb-to-curb measurement. These roadways serve both regional through-traffic and inter-city traffic and typically direct traffic onto and off-of the freeways. The following study area roadways within the County of Riverside are classified as an Urban Arterial:

- Scott Road
- Benton Road
- Clinton Keith Road

Major Roadways are four-lane roadways and may include a painted median. These roadways typically have a 118-foot right-of-way and a 76-foot curb-to-curb measurement. These roadways typically direct traffic through major development areas. The following study area roadways within the County of Riverside are classified as a Major Roadway:

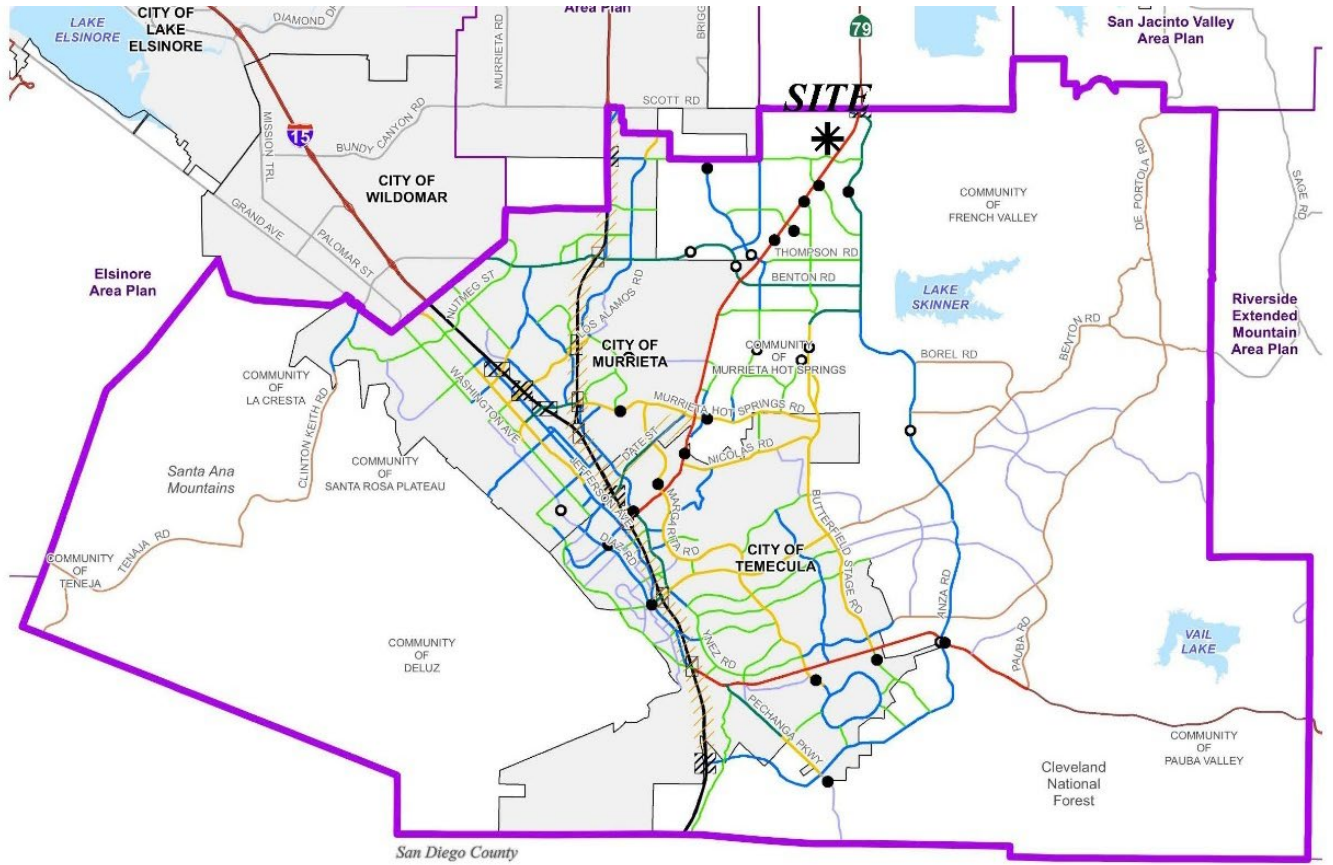
- Max Gilliss Boulevard
- Leon Road

EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS



1 <i>I-215 SB Ramps & Scott Rd.</i>	2 <i>I-215 SB Ramps & Clinton Keith Rd.</i>	3 <i>I-215 NB Ramps & Scott Rd.</i>	4 <i>I-215 SB Ramps & Clinton Keith Rd.</i>	5 <i>Antelope Rd. & Scott Rd.</i>	6 <i>Menifee Rd. & Scott Rd.</i>
7 <i>Whitewood Rd. & Clinton Keith Rd.</i>	8 <i>Briggs Rd. & Scott Rd.</i>	9 <i>Leon Rd. & Scott Rd.</i>	10 <i>Leon Rd. & Keller Rd.</i>	11 <i>Leon Rd. & Whisper Heights Pkwy.</i>	12 <i>Leon Rd. & Baxter Rd. / Jean Nicholas Rd.</i>
13 <i>Briggs Rd. / Max Gilliss Bl. & Leon Rd.</i>	14 <i>Clinton Keith Rd. & Leon Rd.</i>	15 <i>Pourroy Rd. & Keller Rd.</i>	16 <i>Pourroy Rd. & Pat Rd.</i>	17 <i>Street A & Keller Rd.</i>	18 <i>Street B & Keller Rd.</i>
				Future Intersection	Future Intersection
19 <i>Dwy. 1 & Keller Rd.</i>	20 <i>Winchester Rd. (SR-79) & Domengoni Pkwy.</i>	21 <i>Winchester Rd. (SR-79) & Newport Rd.</i>	22 <i>Winchester Rd. (SR-79) & Holland Rd.</i>	23 <i>Winchester Rd. (SR-79) & Garbini Rd.</i>	24 <i>Winchester Rd. (SR-79) & Scott Rd. / Washington St.</i>
Future Intersection					
25 <i>Winchester Rd. (SR-79) & Driveway 2</i>	26 <i>Winchester Rd. (SR-79) & Keller Rd.</i>	27 <i>Winchester Rd. (SR-79) & Pourroy Rd. / Abelia St.</i>	28 <i>Winchester Rd. (SR-79) & Whisper Heights Pkwy. / Pourroy Rd.</i>	29 <i>Winchester Rd. (SR-79) & Jean Nicholas Rd. / Skyview Rd.</i>	30 <i>Winchester Rd. (SR-79) & Max Gilliss Bl. / Thompson Rd.</i>
Future Intersection					
31 <i>Winchester Rd. (SR-79) & Benton St.</i>	32 <i>Winchester Rd. (SR-79) & Via Mira Mosa / Auld Rd.</i>	33 <i>Winchester Rd. (SR-79) & La Alba Dr. / Sparkman Wy.</i>			

EXHIBIT 3-2: COUNTY OF RIVERSIDE GENERAL PLAN ROADWAY NETWORK



Data Source: Riverside County Transportation

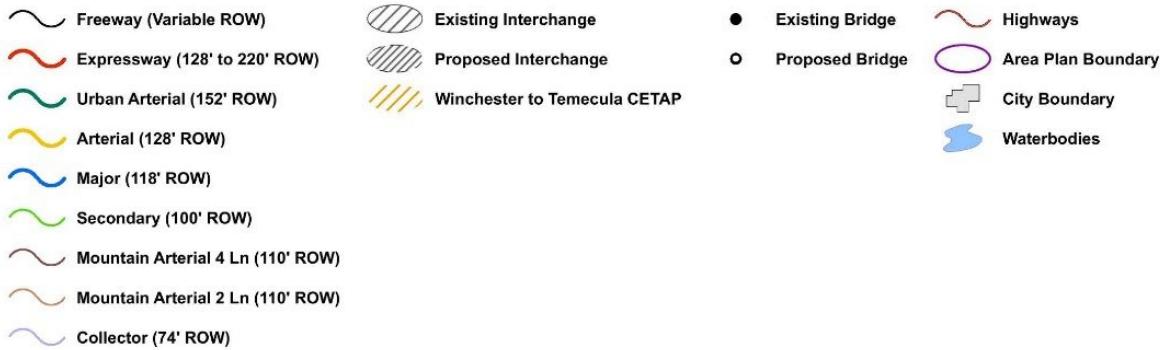
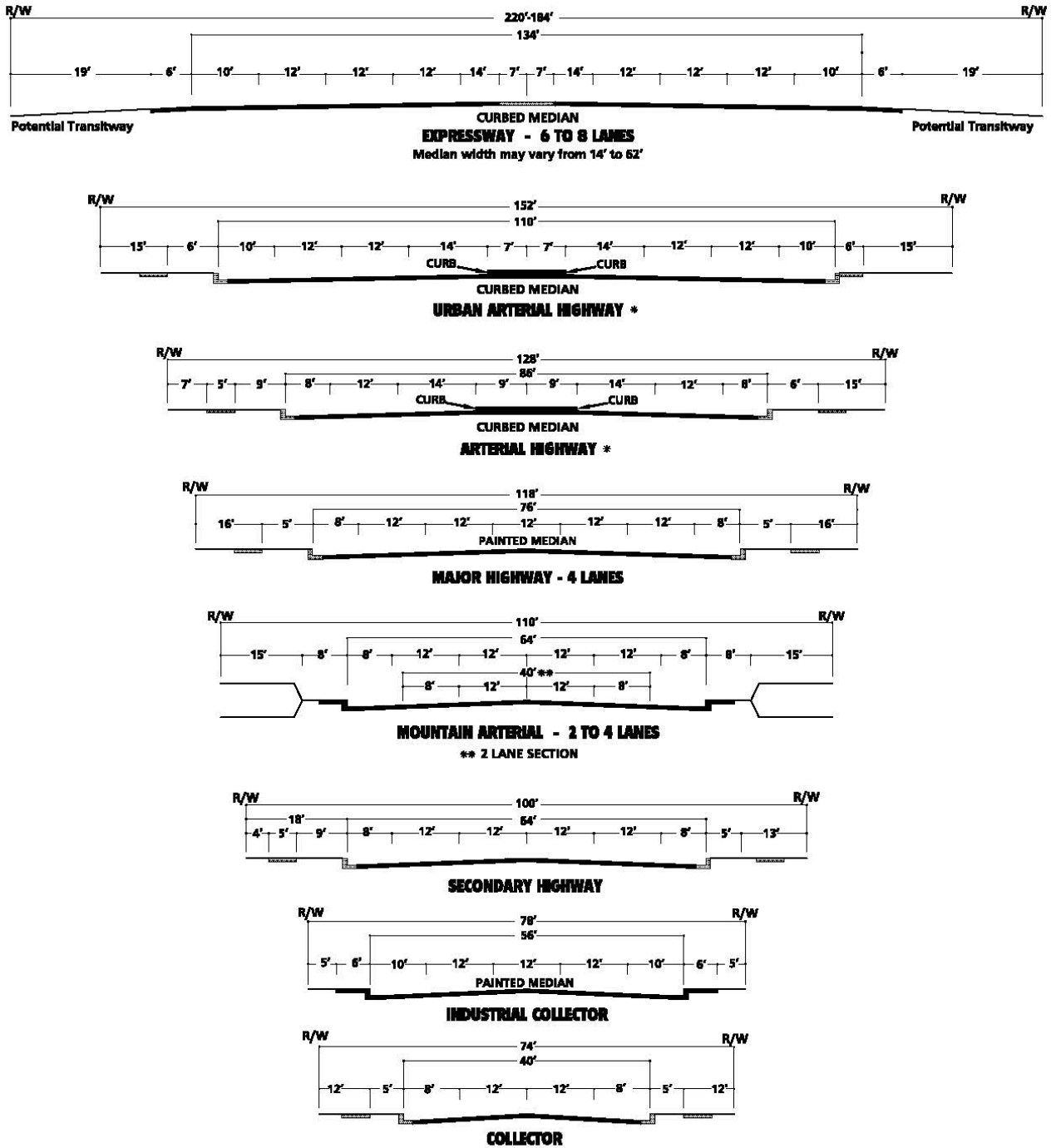


EXHIBIT 3-3: COUNTY OF RIVERSIDE GENERAL PLAN ROADWAY CROSS-SECTIONS



* IMPROVEMENTS MAY BE RECONFIGURED TO ACCOMMODATE EXCLUSIVE TRANSIT LANES OR ALTERNATIVE LANE ARRANGEMENTS ADDITIONAL RIGHT OF WAY MAY BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE ULTIMATE IMPROVEMENTS FOR STATE HIGHWAYS SHALL CONFORM TO CALTRANS DESIGN STANDARDS.

NOT TO SCALE

SOURCE: COUNTY OF RIVERSIDE
 July 7, 2020

Secondary Streets are four-lane roadways and may include a painted median. These roadways typically have a 100-foot right-of-way and a 64-foot curb-to-curb measurement. These roadways typically direct traffic through major development areas and a lesser capacity than Major Roadways. The following study area roadways within the County of Riverside are classified as a Secondary Street:

- Keller Road
- Pourroy Road
- Whispering Heights Parkway
- Thompson Road
- Auld Road

3.3 CITY OF MENIFEE AND CITY OF MURRIETA GENERAL PLAN CIRCULATION ELEMENT

Exhibits 3-4 and 3-5 show the City of Menifee General Plan Circulation Element and roadway cross-sections, respectively. Exhibits 3-6 and 3-7 show the City of Murrieta General Plan Circulation Element and roadway cross-sections, respectively.

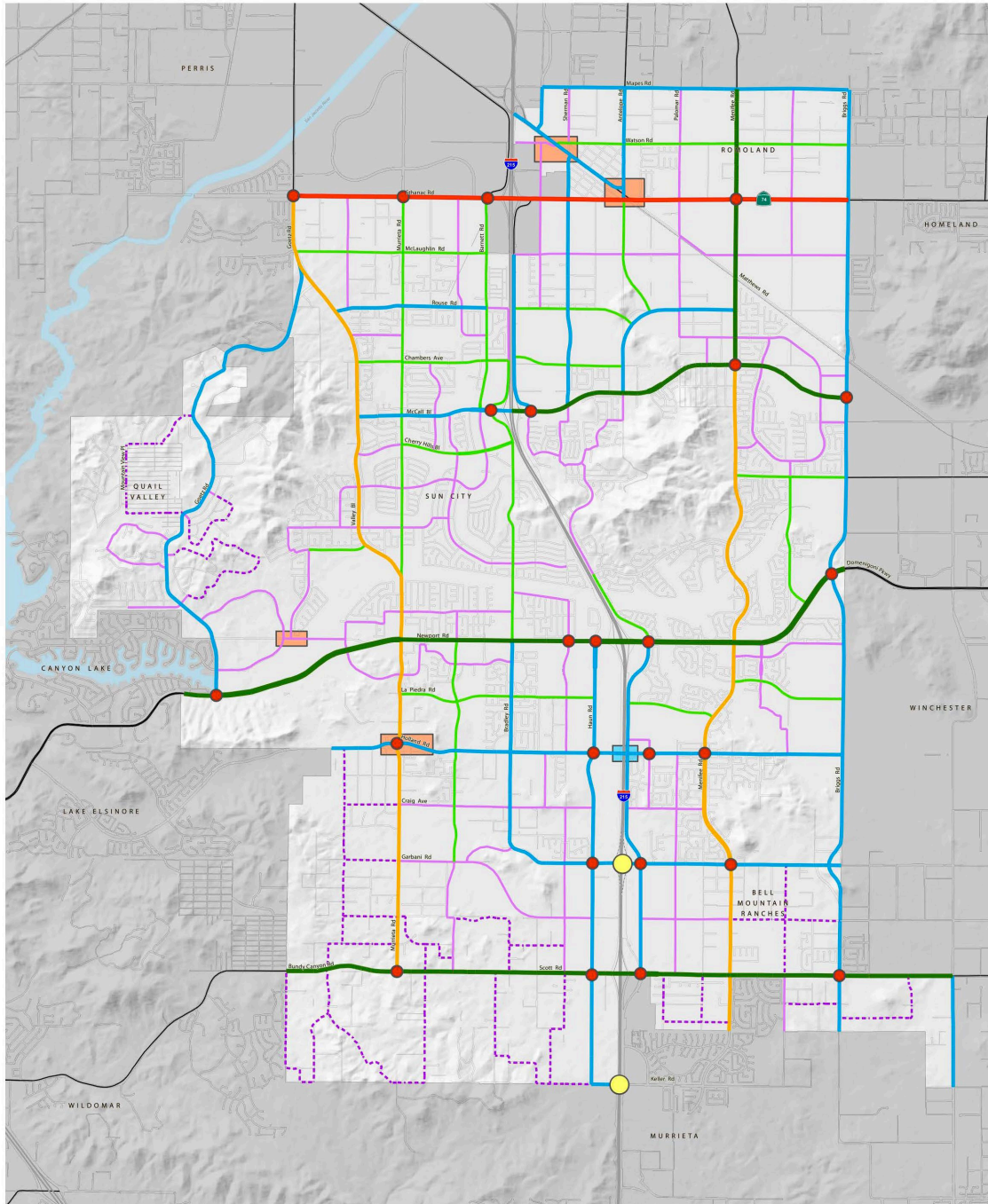
3.4 BICYCLE & PEDESTRIAN FACILITIES

The County of Riverside bike and community pedestrian networks are shown on Exhibit 3-8. There are proposed Community Trails along Leon Road, Keller Road, and Pourroy Road and a proposed regional trail along Abelia Street. Exhibit 3-9 illustrates the existing crosswalks while Exhibit 3-10 shows the existing sidewalks throughout the study area. As shown on Exhibit 3-9 and Exhibit 3-10, there are limited pedestrian facilities in the vicinity of the Project site. The City of Menifee bikeways map and City of Murrieta bikeways map are shown on Exhibits 3-11 and 3-12, respectively.

3.5 TRANSIT SERVICE

The study area is currently served by Riverside Transit Agency (RTA) with bus service along Winchester Road. RTA Route 79 runs along portions of Winchester Road. The transit services are illustrated on Exhibit 3-13. RTA Route 79 could potentially serve the Project. Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

EXHIBIT 3-4: CITY OF MENEFEE GENERAL PLAN ROADWAY NETWORK

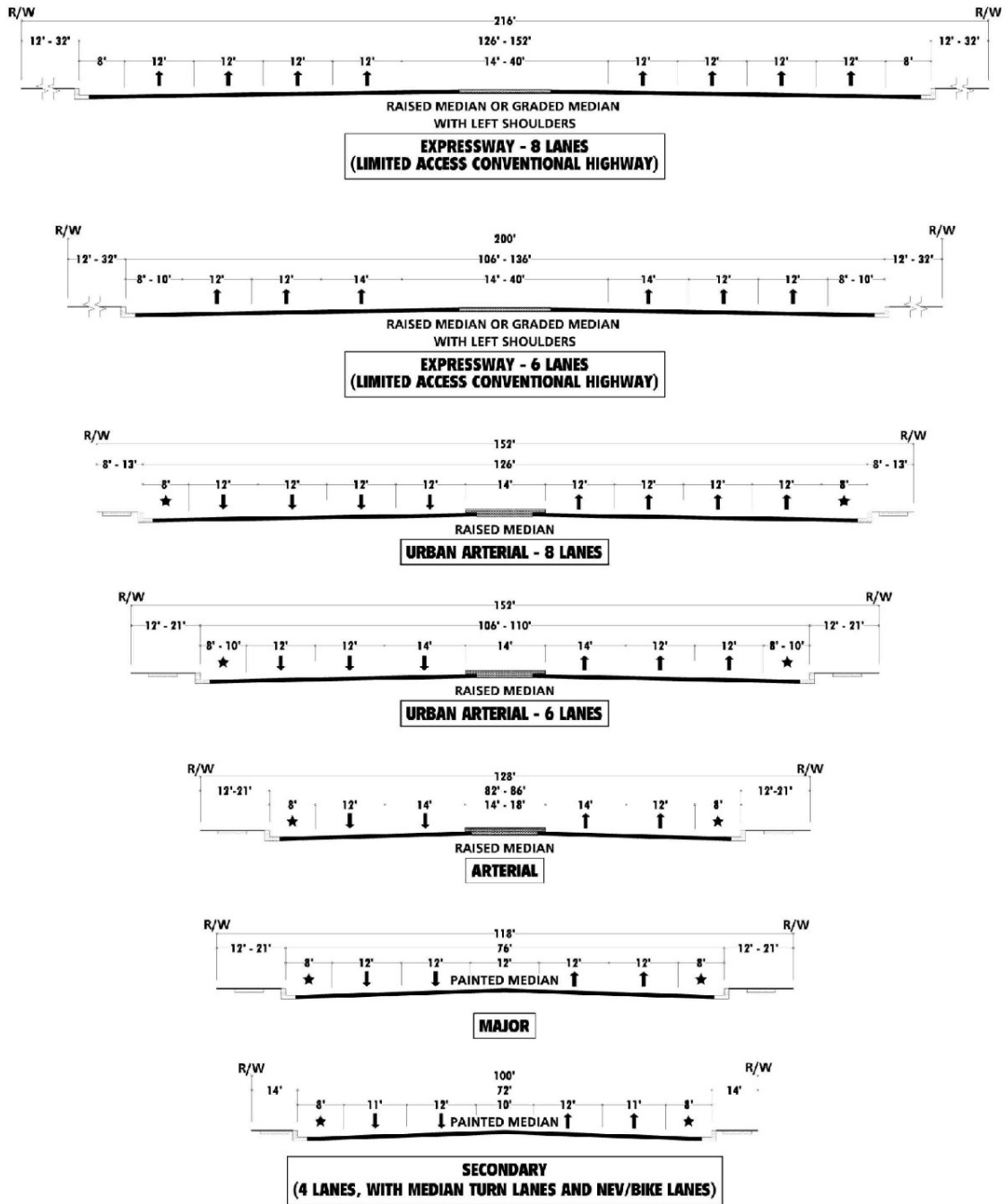


Source: Urban Crossroads, 2012

- | | | |
|------------------------------------|---|---|
| Expressway (6 to 8 Lanes, Divided) | Mountain Arterial (4 Lanes, Undivided) | Future Freeway Interchange |
| Urban Arterial (6 Lanes, Divided) | Secondary (4 Lanes, Undivided) | Connectivity Analysis Zone -
Roadway alignments, intersection
geometrics and traffic control features
subject to additional assessment |
| Arterial (4 Lanes, Divided) | Collector / Interconnected Local (2 Lanes) | Future Freeway Overcrossing |
| Major (4 Lanes, Divided) | Rural Collector / Interconnected Local
(2 Lanes) | Enhanced Intersection -
Additional lanes / Right-of-Way required
within 600 feet of the intersection |



EXHIBIT 3-5: CITY OF MENIFEE GENERAL PLAN ROADWAY CROSS-SECTIONS



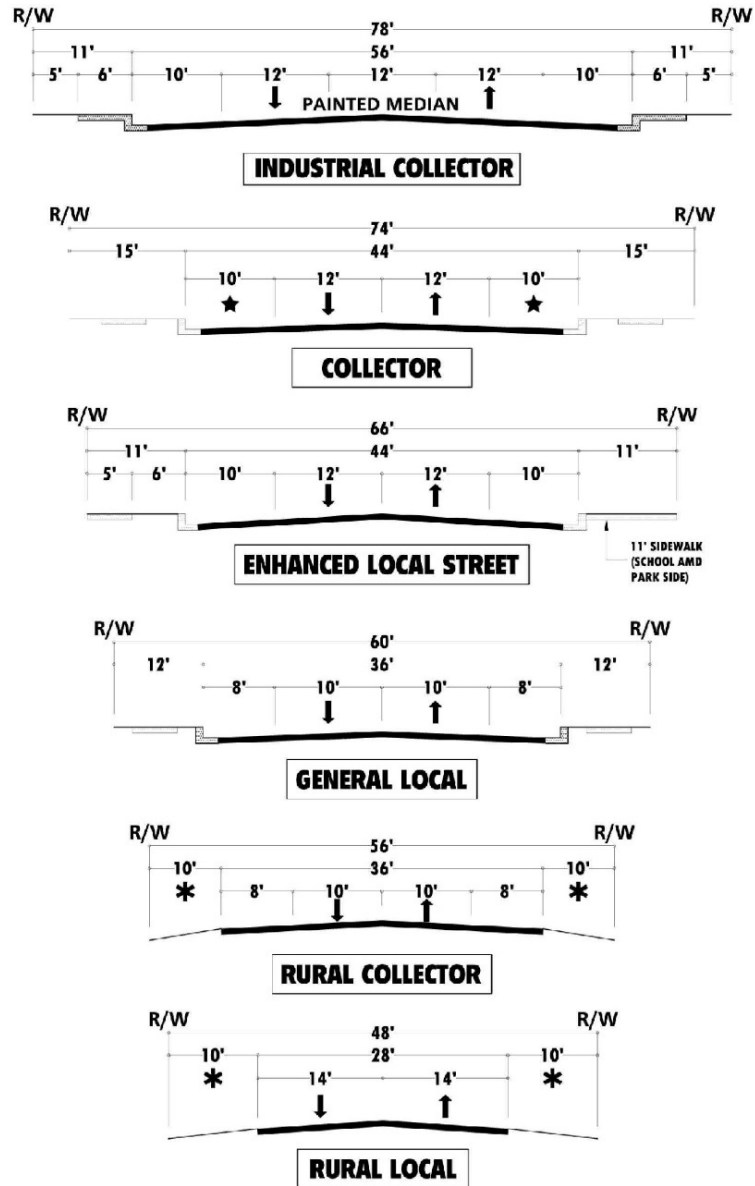
NOTES:

These standard sections are for typical roadway segments and may vary slightly based on intersection land requirements, physical site constraints, and/or environmental issues. Proposed roadway sections should always provide the greatest width possible. Any deviation from these sections is at the discretion of City Engineer.

Sidewalks may be curb-adjacent or separated from roadway by a landscaped parkway.

★ Shoulders may accommodate exclusive bike lanes, shared NEV/bike lanes, or on-street parking subject to approval by City Engineer.





NOTES:

These standard sections are for typical roadway segments and may vary slightly based on intersection land requirements, physical site constraints, and/or environmental issues. Proposed roadway sections should always provide the greatest width possible. Any deviation from these sections is at the discretion of City Engineer.

Sidewalks may be curb-adjacent or separated from roadway by a landscaped parkway.

★ Shoulders may accommodate exclusive bike lanes, shared NEV/bike lanes, or on-street parking subject to approval by City Engineer.

* Rural Parkways may accommodate pedestrian dirt paths and/or equestrian trails subject to approval by City Engineer.



EXHIBIT 3-7: CITY OF MURRIETA GENERAL PLAN ROADWAY CROSS-SECTIONS

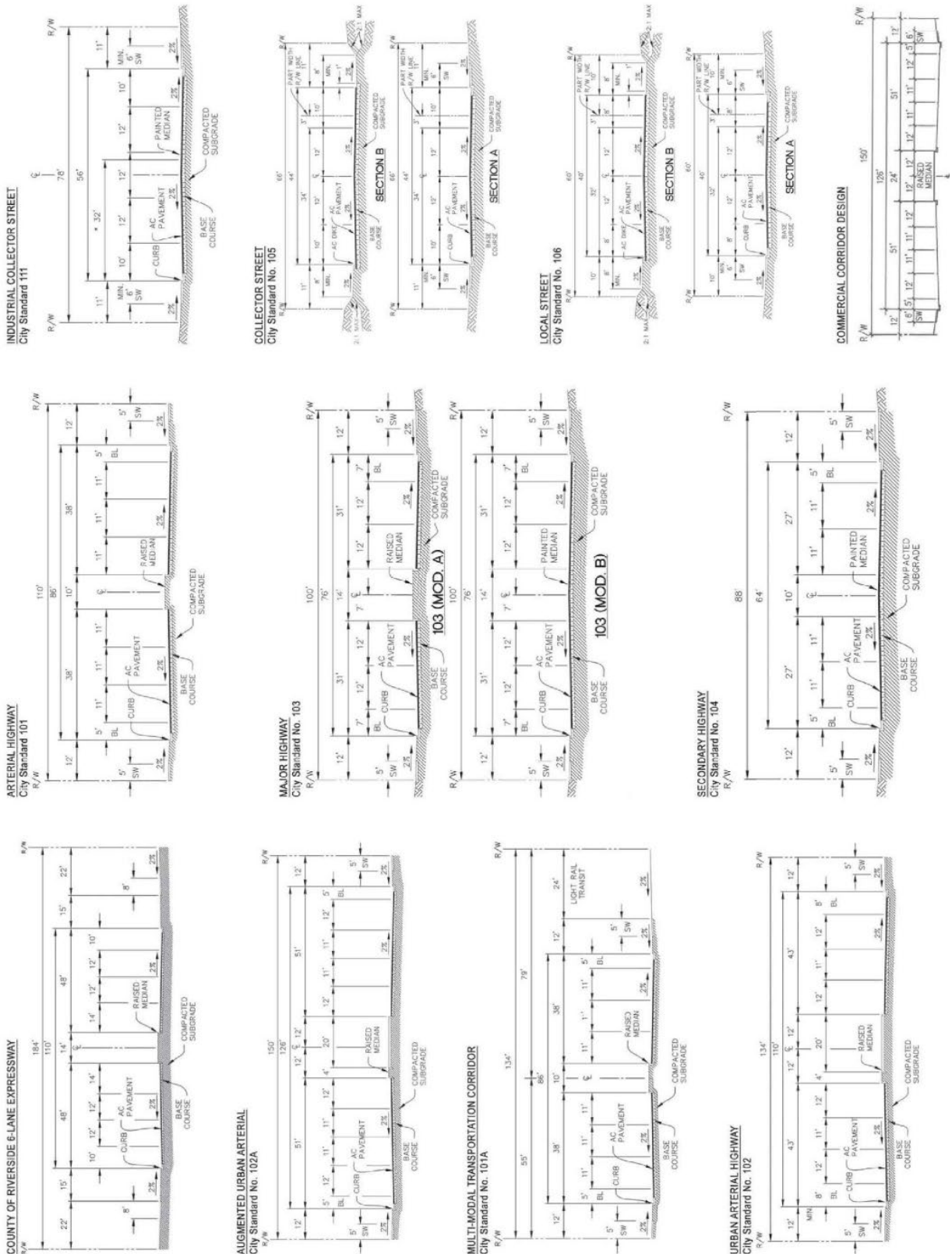
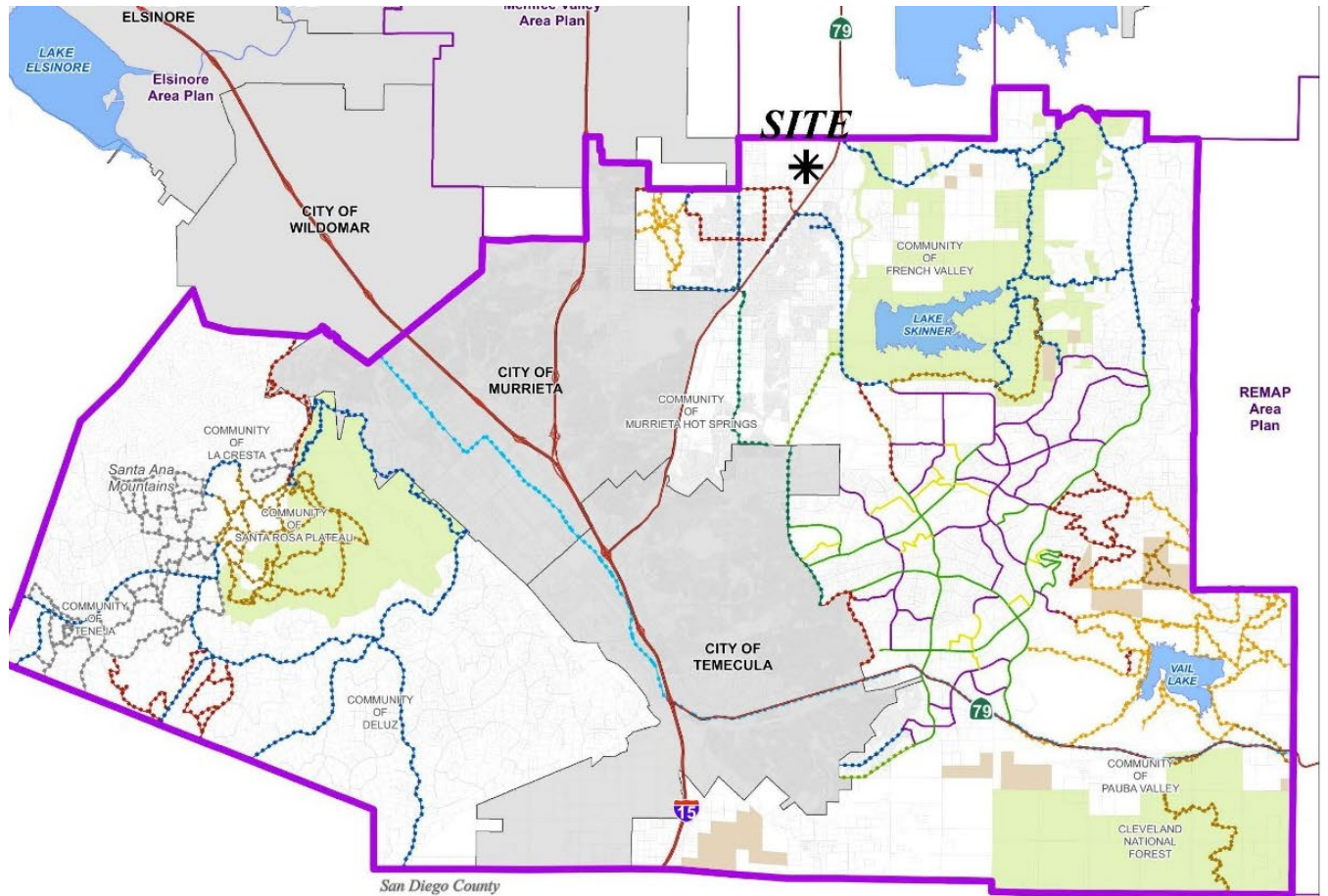


EXHIBIT 3-8: COUNTY OF RIVERSIDE BIKE AND PEDESTRIAN MAP



Data Source: Riverside County Parks

- Wine Country Connector Trails
- Regional Open Space Trail
- Wine Country Roadside Trail
- Regional Trail: Urban/Suburban
- Community Trail
- Combination Trail (Regional Trail/Class I Bike Path)
- Class I Bike Path
- Class II Bike Path
- Regional Trail: Open Space
- Design Guidelines Trail
- Historic Trail (Southern Immigrant Trail, Juan Bautista De Anza National Historic Trail)
- Non-County Trail (Public and Quasi-Public Lands)
- Private Trail
- Highways
- Area Plan Boundary
- Waterbodies
- City Boundary
- Miscellaneous Public Lands
- Bureau of Land Management (BLM) Lands

Note: Trails shown in non-county jurisdictions for informational/coordination purposes only.

Data Source: Primarily Riverside County Regional Park and Open Space District, with assistance from Riverside County TLMA/Transportation and Planning Departments, Riverside County Economic Development Agency, and other local, state, and federal recreational services agencies.

Note: Trails and bikeway maps are a graphic representation identifying the general location and classification of existing and proposed trails and bikeways in the unincorporated area of the County. All questions regarding precise alignment or improvement standards should be referred to the Riverside County Regional Park and Open Space District.

Note: Except for major regional facilities, trails and bikeways systems located within cities are generally not shown. Where trails and bikeways exist or are planned in the unincorporated area in such a manner that there are opportunities for connections with existing or planned trails and bikeways within adjacent cities, an arrow symbol is used to show the approximate location of the intended connection opportunity. The reader should contact the appropriate city for all information about that city's existing or planned trails and bikeways systems.

EXHIBIT 3-9: EXISTING CROSSWALKS

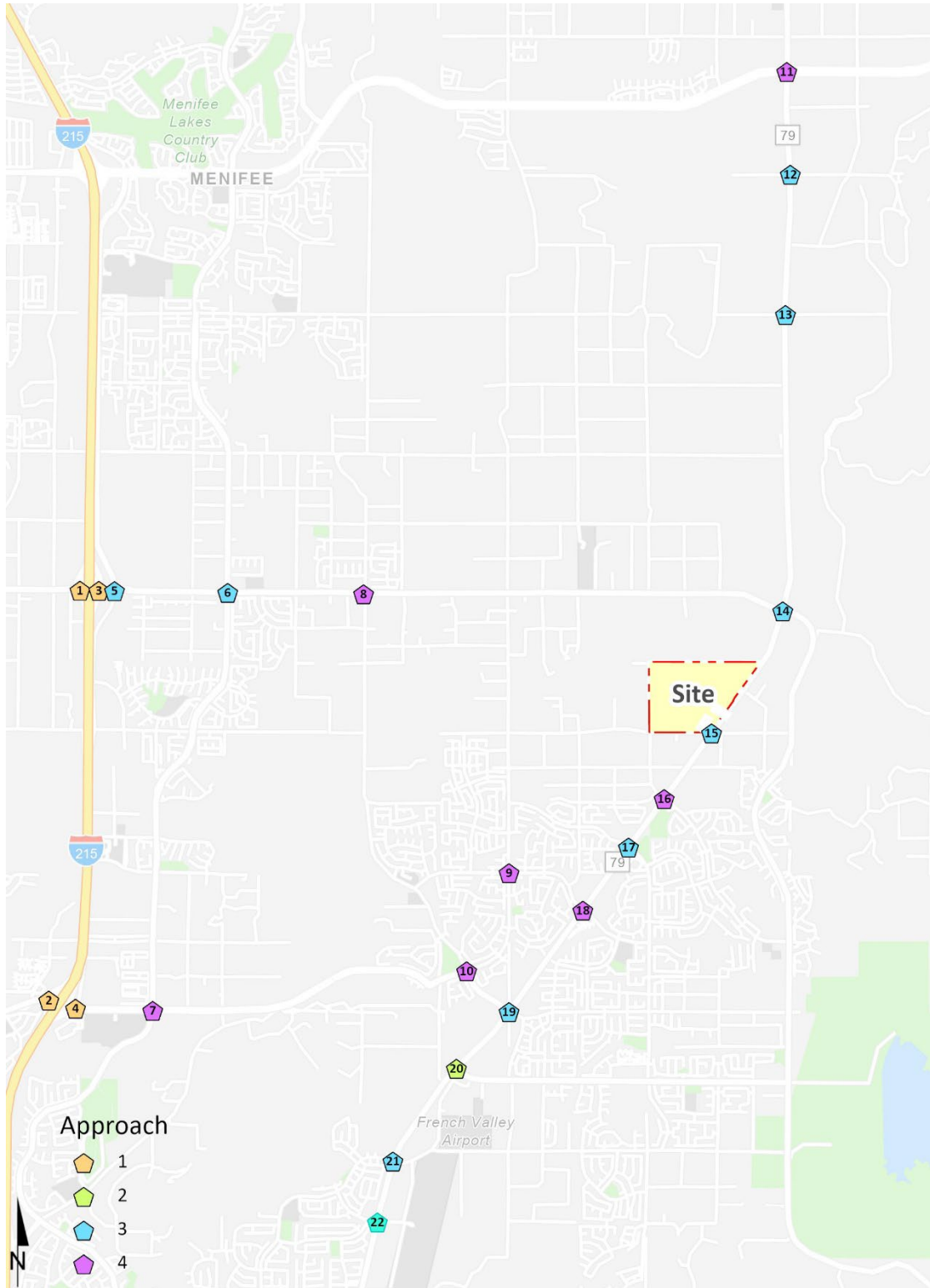


EXHIBIT 3-10: EXISTING SIDEWALKS

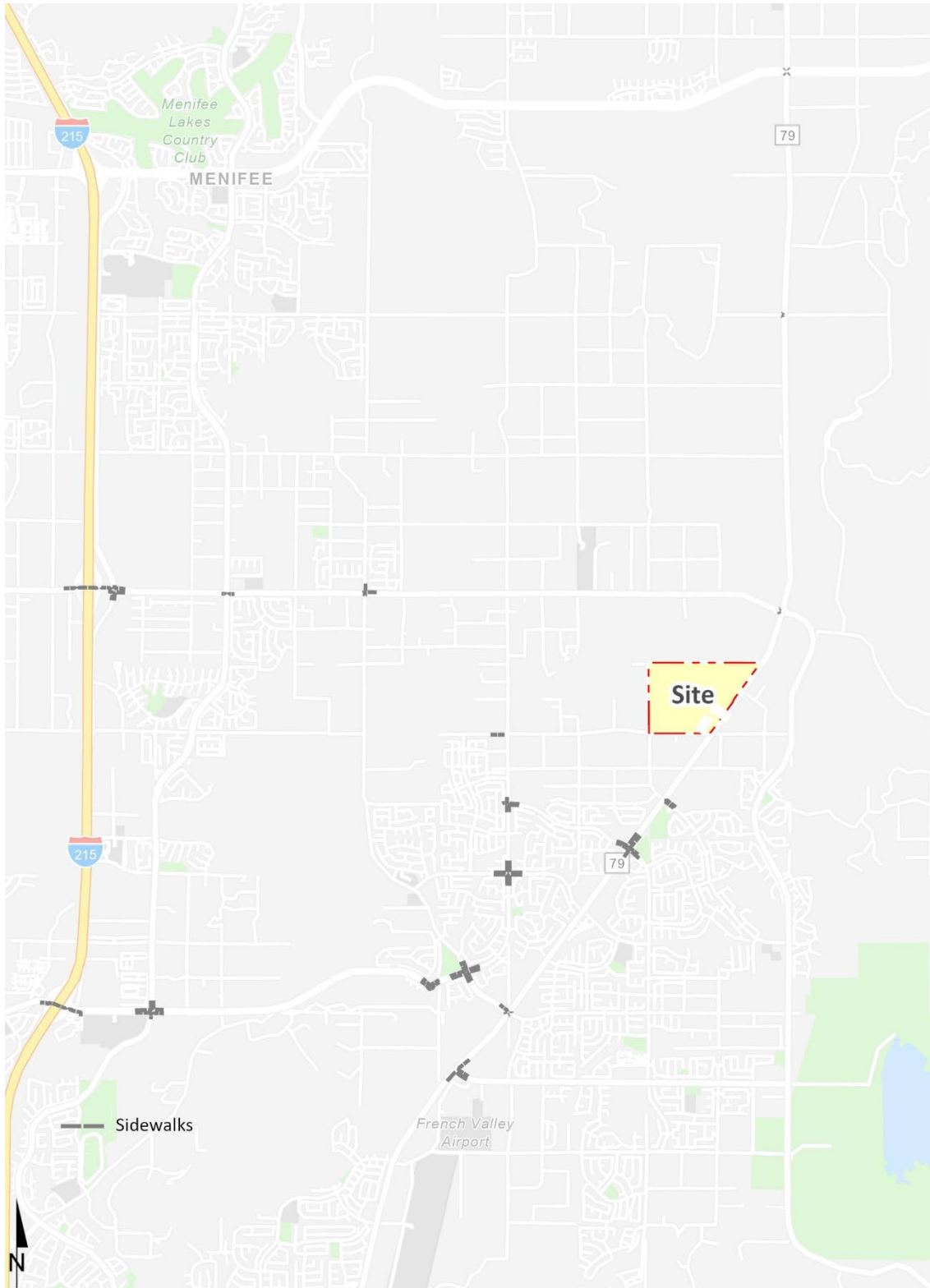
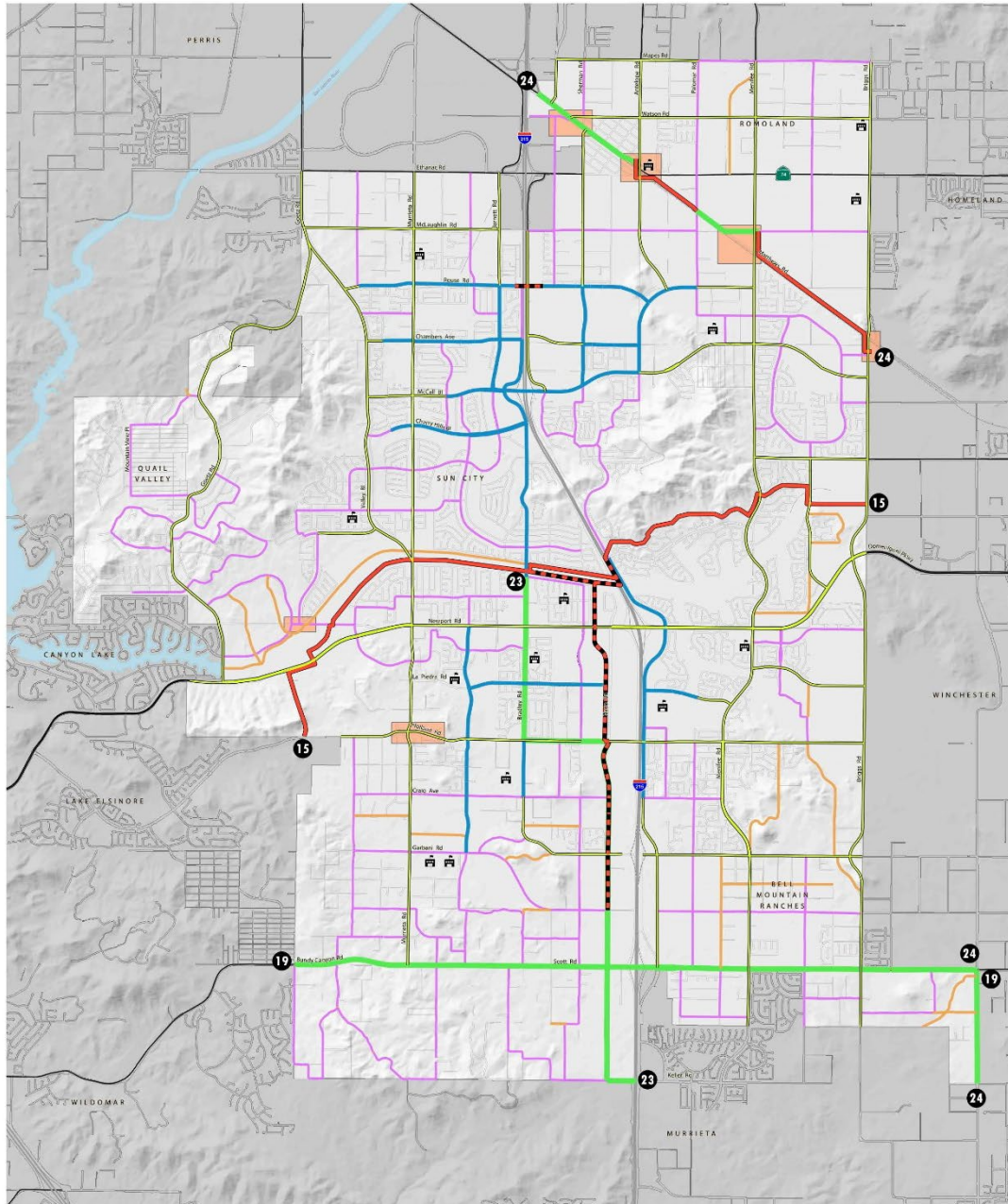


EXHIBIT 3-11: CITY OF MENIFEE BIKEWAYS MAP



- Subregional Route - Off-Road Bike Trail (Class I)
- Subregional Route - On-Street Bike Lanes (Class II)
- Community Off-Road Bike Trail (Class I)
- Community On-Street NEV/Bike Lanes (Class II)
- Community On-Street Bike Lanes (Class II)
- Community Hiking / Biking Trail Opportunity
- Class III Bike Routes
- Connectivity Analysis Zone - Trail alignments and traffic control features subject to additional assessment
- Existing Schools
- 24 Subregional Route Number (WRCOG Non-Motorized Transportation Plan)

EXHIBIT 3-12: CITY OF MURRIETA BIKEWAYS MAP

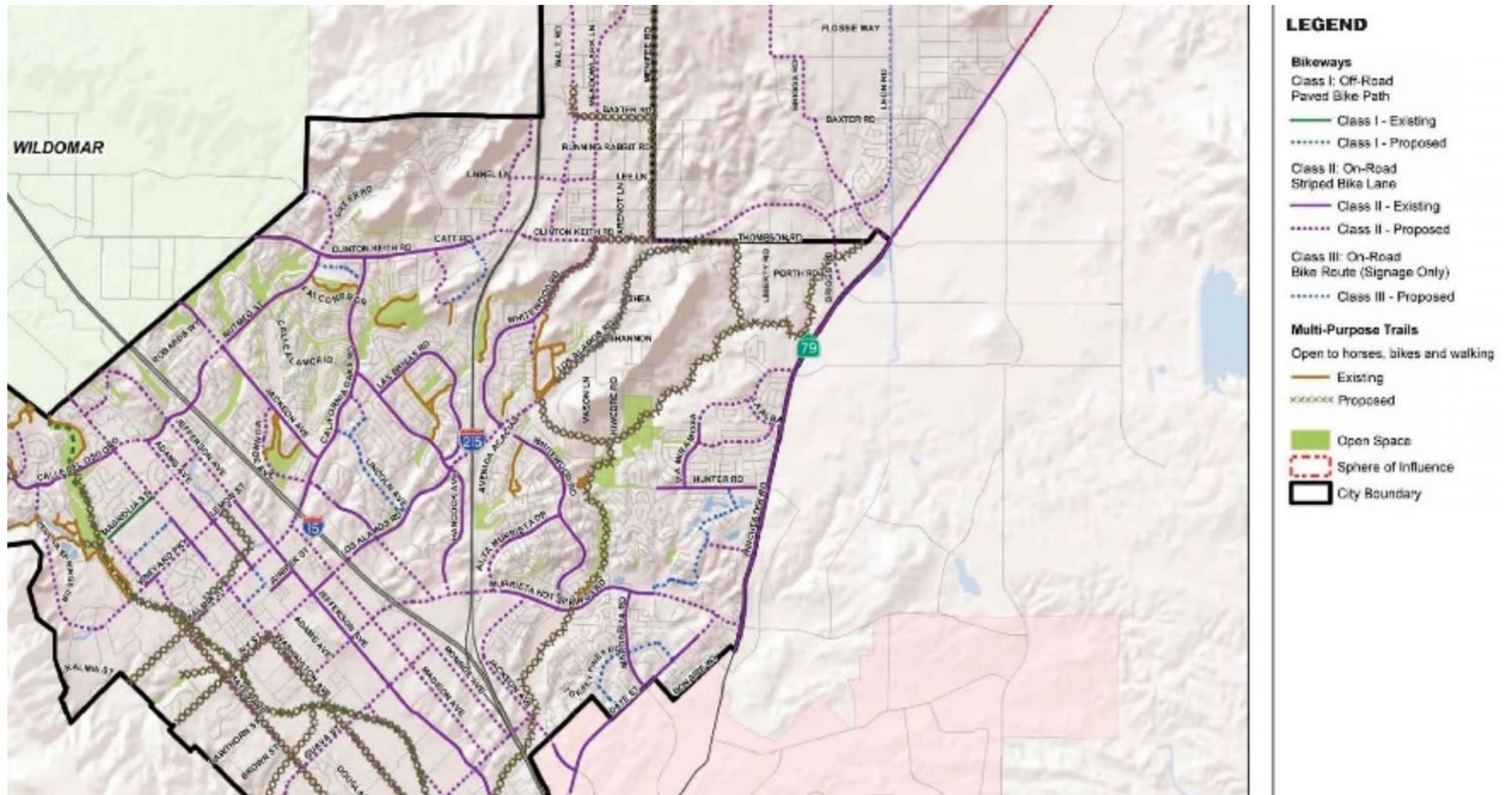
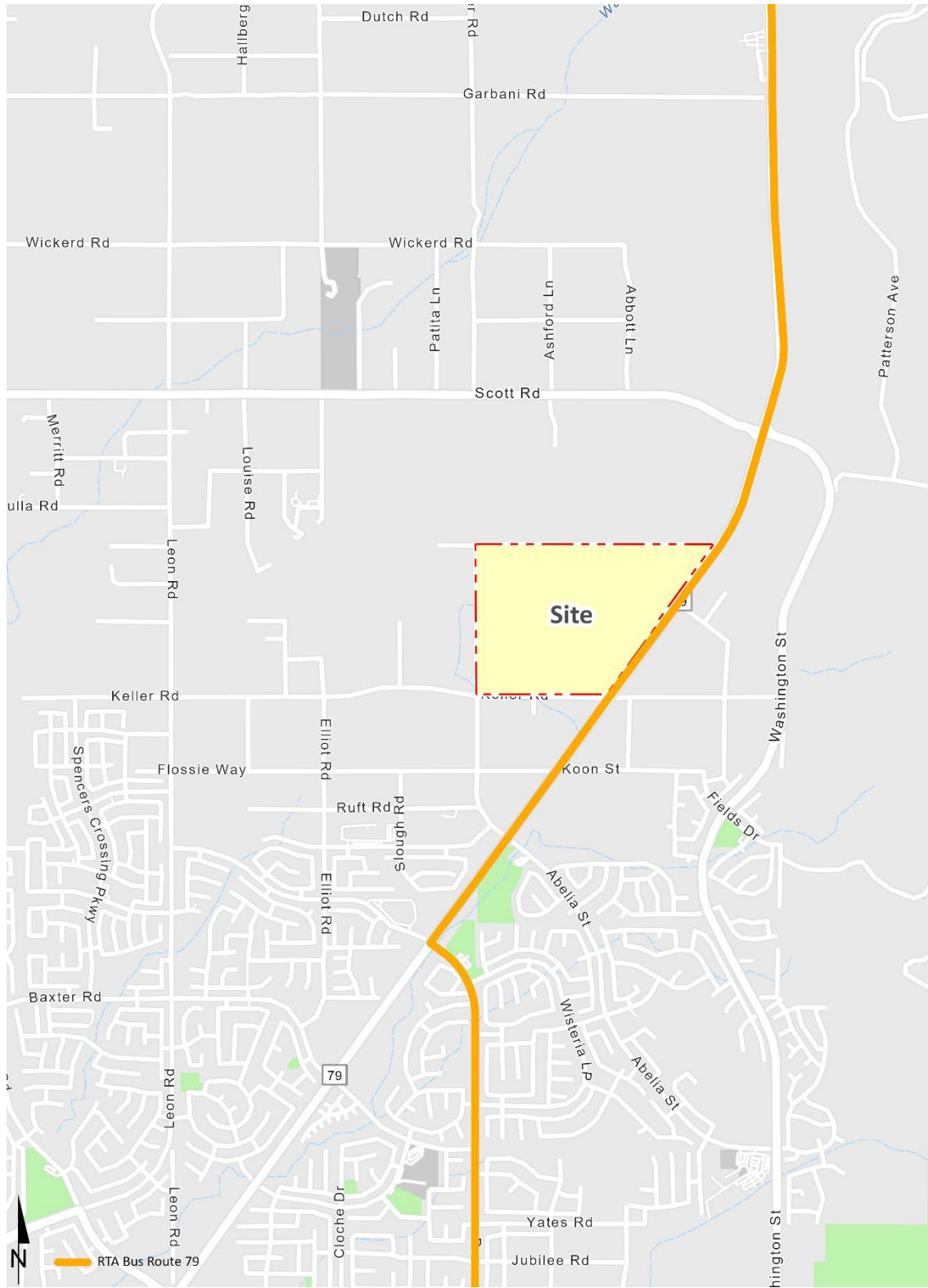


EXHIBIT 3-13: EXISTING TRANSIT ROUTES



3.6 EXISTING TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in 2018. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

Due to the currently ongoing COVID-19 pandemic, schools and businesses within the study area were closed or operating at less than full capacity at the time this study was prepared. As such, historic traffic counts from 2018 were utilized in conjunction with a 2% per year, compounded annually, growth rate to develop traffic volumes for 2021 conditions. The historic weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules.

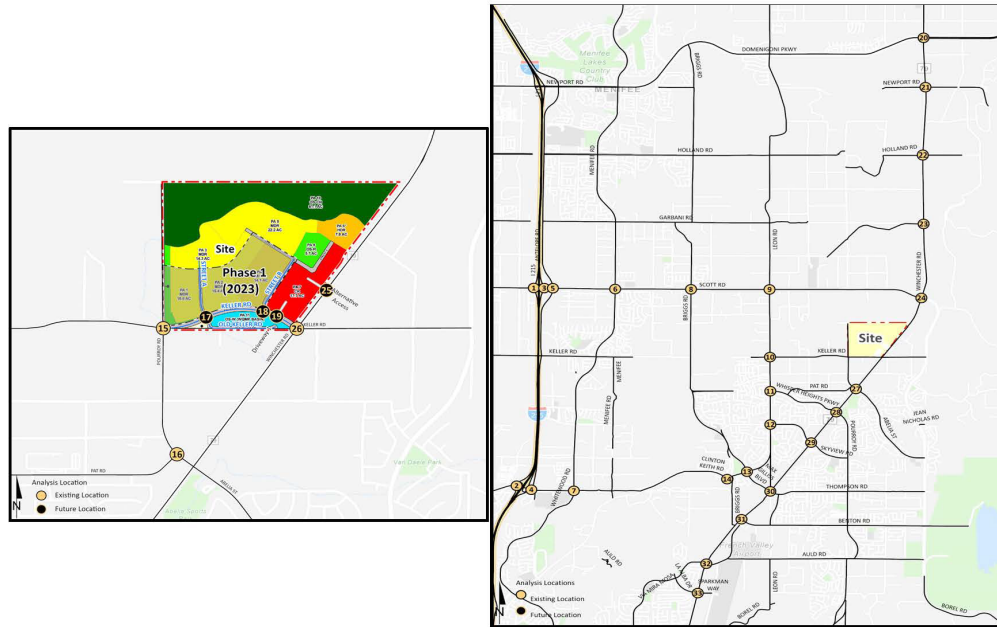
For those intersections where historic data was not readily available, 2021 traffic counts have been collected in order to compare and develop an adjustment factor based on a comparison to historic 2018 traffic count data to the recently collected 2021 traffic count data. This adjustment factor has been applied to the 2021 traffic count data to reflect non-COVID traffic conditions. Where applicable, traffic volumes have been flow conserved in order to not have any loss of vehicles. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

Existing weekday Average Daily Trip (ADT) volumes on arterial highways throughout the study area are shown on Exhibit 3-14. Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 12.37 = \text{Leg Volume}$$

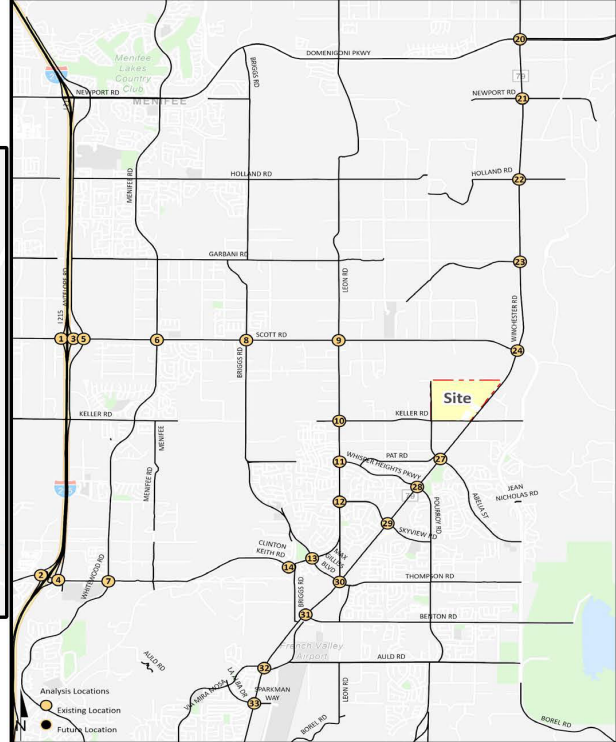
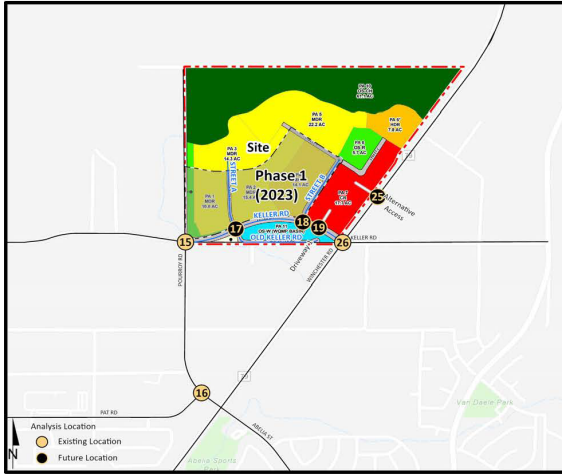
A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 8.08 percent. As such, the above equation utilizing a factor of 12.37 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 8.08 percent (i.e., $1/0.0808 = 12.37$) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. This factor is consistent with that used for other traffic studies within the study area. Existing weekday AM and weekday PM peak hour intersection volumes are shown on Exhibit 3-14.

EXHIBIT 3-14: EXISTING (2021) TRAFFIC VOLUMES



1	I-215 SB Ramps & Scott Rd.	2	I-215 SB Ramps & Clinton Keith Rd.	3	I-215 NB Ramps & Scott Rd.	4	I-215 NB Ramps & Clinton Keith Rd.	5	Antelope Rd. & Scott Rd.
14,450	41,250	16,600	38,900	17,350	45,400	1,600	34,600	14,650	27,850
↓ 227(265)	↑ 563(388)	↓ 763(668)	↑ 499(392)	↓ 262(672)	↑ 375(500)	↑ 881(1156)	↑ 225(130)	↓ 371(281)	↑ 18(40)
↓ 533(516)	↑ 782(1406)	↓ 227(280)	↑ 1154(1033)	↑ 181(231)	↑ 1081(1123)	↓ 639(565)	↑ 1369(1039)	↓ 133(120)	↑ 69(79)
607(1023) →		1280(1441) ↓		959(1308) →	253(740) ↑	207(385) ↓		123(495) ↓	↑ 753(809)
607(434) ↓		447(346) ↓				341(472) ↑		650(1113) ↓	41(205) ↓
38,700	5,350	43,150	4,300	41,250	9,150	38,900	17,600	45,400	19,050
6	Menifee Rd. & Scott Rd.	7	Whitewood Rd. & Clinton Keith Rd.	8	Briggs Rd. & Scott Rd.	9	Leon Rd. & Scott Rd.	10	Leon Rd. & Keller Rd.
11,000	23,750	25,700	27,100	850	13,400	1,400	8,350	5,700	1,200
↓ 72(86)	↑ 89(108)	↓ 369(270)	↑ 104(146)	↓ 19(24)	↑ 57(6)	↓ 8(17)	↑ 10(11)	↓ 11(0)	↑ 26(24)
↓ 222(116)	↑ 731(705)	↓ 348(217)	↑ 1043(705)	↓ 377(4)	↑ 357(512)	↓ 60(28)	↑ 278(313)	↓ 260(56)	↑ 0(3)
118(89)	221(115)	↑ 321(608)	230(132)	211(8)	342(7)	32(11)	21(15)	15(20)	26(15)
65(171) ↓	127(108) →	768(947)	118(176) ↓	26(18) ↓	178(6) ↓	10(14) ↓	37(34) →	3(4) ↓	1(0) →
584(706) ↓	101(319) →	144(146) ↓	1107(794) →	581(544) ↓	67(5) ↓	282(309) ↓	8(16) ↑	1(3) ↓	1(0) →
70(133) ↓	173(195) ↑		90(159) ↑	246(306) ↓	310(301) ↓	185(150) ↓		3(4) ↓	7(32) ↑
23,600	12,200	35,300	19,550	21,100	2,800	11,500	4,550	150	5,700
11	Leon Rd. & Whisper Heights Pkwy.	12	Leon Rd. & Jean Nicholas Rd.	13	Briggs Rd. & Leon Rd.	14	Leon Rd. & Clinton Keith Rd.	15	Pourroy Rd. & Keller Rd.
5,850	550	6,350	7,900	11,850	14,400	34,400	34,400		1,250
↓ 4(0)	↑ 12(13)	↓ 9(3)	↑ 74(129)	↓ 246(98)	↑ 19(11)	↓ 1084(1629)	↑ 1291(1152)		↑ 30(57)
↓ 204(187)	↑ 11(11)	↓ 243(215)	↑ 197(93)	↓ 581(266)	↑ 377(298)			↓ 1(0)	↑ 1(1)
18(8)	133(265) →	↓ 47(66)	↑ 119(128)	26(12)	211(183)			14(37) ↓	9(19) ↓
11(11)	7(12) ↑	14(8) ↓	107(54) ↓	310(168) ↓	707(811) ↓			15(16) ↓	3(5) ↑
		112(43) ↓	92(254) →	178(481) ↓	384(403) →				
		120(46) ↓	74(180) ↑	673(1029) ↓	57(177) ↑				
5,850	10,850	3,050	10,850	35,700	35,500			1,600	500
16	Pourroy Rd. & Pat Rd.	17	Street A & Keller Rd.	18	Street B & Keller Rd.	19	Driveway 1 & Keller Rd.	20	Winchester Rd. (SR-79) & Domenigoni Pkwy.
400		Future Intersection	Future Intersection	Future Intersection	Future Intersection	Future Intersection	Future Intersection	23,250	40,050
↓ 3(3)								↓ 226(163)	↑ 14(19)
↓ 11(15)								↓ 942(470)	↑ 815(785)
1(4) ↓								↓ 6(18)	↑ 815(646)
23(46) →								166(180) ↓	60(123) ↓
12(12) →								901(901) ↓	341(1029) →
								134(90) ↓	62(5(869)) ↑
1,000	1,250							27,750	39,950

##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips



21	Winchester Rd. (SR-79) & Newport Rd.	22	Winchester Rd. (SR-79) & Holland Rd.	23	Winchester Rd. (SR-79) & Garbani Rd.	24	Winchester Rd. (SR-79) & Scott Rd.	25	Winchester Rd. (SR-79) & Driveway 2																																																											
39,950	650	39,950	200	39,950		39,850	13,950		Not Evaluated in this Scenario																																																											
<table border="1"> <tr><td>↑ 2(4)</td><td>↑ 5(18)</td></tr> <tr><td>← 1882(1197)</td><td>↑ 0(1)</td></tr> <tr><td>↓ 8(5)</td><td>↑ 5(20)</td></tr> <tr><td>→ 1(4)</td><td>↑ 1020(1998)</td></tr> <tr><td>↓ 1(1)</td><td>↑ 0(10)</td></tr> </table>	↑ 2(4)	↑ 5(18)	← 1882(1197)	↑ 0(1)	↓ 8(5)	↑ 5(20)	→ 1(4)	↑ 1020(1998)	↓ 1(1)	↑ 0(10)		<table border="1"> <tr><td>↑ 3(6)</td><td>↑ 1(2)</td></tr> <tr><td>← 1884(1212)</td><td>↑ 3(2)</td></tr> <tr><td>↓ 1(0)</td><td>↑ 1(2)</td></tr> <tr><td>→ 1(5)</td><td>↑ 1020(1999)</td></tr> <tr><td>↓ 2(3)</td><td>↑ 0(3)</td></tr> <tr><td>0(6)</td><td></td></tr> </table>	↑ 3(6)	↑ 1(2)	← 1884(1212)	↑ 3(2)	↓ 1(0)	↑ 1(2)	→ 1(5)	↑ 1020(1999)	↓ 2(3)	↑ 0(3)	0(6)			<table border="1"> <tr><td>↑ 16(4)</td><td>↑ 18(1)</td></tr> <tr><td>← 1869(1217)</td><td>↑ 1013(2000)</td></tr> <tr><td>↓ 9(9)</td><td>↑ 19(1)</td></tr> </table>	↑ 16(4)	↑ 18(1)	← 1869(1217)	↑ 1013(2000)	↓ 9(9)	↑ 19(1)		<table border="1"> <tr><td>↑ 229(150)</td><td>↑ 180(533)</td></tr> <tr><td>← 1376(808)</td><td>↑ 94(150)</td></tr> <tr><td>↓ 282(260)</td><td>↑ 0(52)</td></tr> <tr><td>→ 142(256)</td><td>↑ 87(93)</td></tr> <tr><td>↓ 116(132)</td><td>↑ 707(1212)</td></tr> <tr><td>88(67)</td><td></td></tr> </table>	↑ 229(150)	↑ 180(533)	← 1376(808)	↑ 94(150)	↓ 282(260)	↑ 0(52)	→ 142(256)	↑ 87(93)	↓ 116(132)	↑ 707(1212)	88(67)																							
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150	39,950	350	39,950	200	39,850	10,500	27,600																																																													
26	Winchester Rd. (SR-79) & Keller Rd.	27	Winchester Rd. (SR-79) & Abelia St.	28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	30	Winchester Rd. (SR-79) & Max Gillis Bl./Thompson Rd.																																																											
27,650	1,700	28,950	3,000	28,950	4,650	29,050	600	38,900	13,450																																																											
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1,250	28,950	1,450	28,950	950	27,850	5,800	31,150	19,400	53,500																																																											
31	Winchester Rd. (SR-79) & Benton Rd.	32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.																																																															
53,500	24,250	48,300	9,100	51,850	1,800																																																															
<table border="1"> <tr><td>↑ 2119(1252)</td><td>↑ 319(682)</td></tr> <tr><td>← 434(509)</td><td>↑ 375(322)</td></tr> <tr><td>↓ 911(1881)</td><td>↑ 189(447)</td></tr> </table>	↑ 2119(1252)	↑ 319(682)	← 434(509)	↑ 375(322)	↓ 911(1881)	↑ 189(447)		<table border="1"> <tr><td>↑ 177(121)</td><td>↑ 5(81)</td></tr> <tr><td>← 2157(1394)</td><td>↑ 35(36)</td></tr> <tr><td>↓ 160(59)</td><td>↑ 283(277)</td></tr> <tr><td>→ 166(87)</td><td>↑ 929(2161)</td></tr> <tr><td>30(31)</td><td>↑ 276(251)</td></tr> <tr><td>42(50)</td><td></td></tr> </table>	↑ 177(121)	↑ 5(81)	← 2157(1394)	↑ 35(36)	↓ 160(59)	↑ 283(277)	→ 166(87)	↑ 929(2161)	30(31)	↑ 276(251)	42(50)			<table border="1"> <tr><td>↑ 58(105)</td><td>↑ 3(16)</td></tr> <tr><td>← 2414(1607)</td><td>↑ 1(4)</td></tr> <tr><td>↓ 9(8)</td><td>↑ 14(38)</td></tr> <tr><td>→ 111(81)</td><td>↑ 78(208)</td></tr> <tr><td>4(9)</td><td>↑ 1113(2374)</td></tr> <tr><td>174(124)</td><td>↑ 42(70)</td></tr> </table>	↑ 58(105)	↑ 3(16)	← 2414(1607)	↑ 1(4)	↓ 9(8)	↑ 14(38)	→ 111(81)	↑ 78(208)	4(9)	↑ 1113(2374)	174(124)	↑ 42(70)																																		
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48,300	4,750	48,300	6,550	51,850	54,700																																																															

##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

3.7 EXISTING (2021) INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1 which indicates that the following study area intersections are currently operating at an unacceptable LOS during the peak hours:

- Whitewood Road & Clinton Keith Road (#7) – LOS E PM peak hour only
- Winchester Road (SR-79) & Domenigoni Parkway (#20) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Scott Road (#24) – LOS E PM peak hour only
- Winchester Road (SR-79) & Max Gilliss Boulevard/Thompson Road (#30) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Benton Road (#31) – LOS E PM peak hour only
- Winchester Road (SR-79) & Via Mira Mosa/Auld Road (#32) – LOS E AM and PM peak hours

The intersection operations analysis worksheets are included in Appendix 3.2 of this TS.

3.8 EXISTING (2021) TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. The following unsignalized study area intersection currently meets a traffic signal for Existing (2021) traffic conditions (see Appendix 3.3):

- Leon Road & Scott Road (#9)

3.9 EXISTING (2021) QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the I-215 Freeway at the Scott Road and Clinton Keith Road interchanges and for the eastbound movements at the intersection of Winchester Road (SR-79) & Keller Road to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-215 Freeway mainline and to assess the eastbound turn pockets at Winchester Road (SR-79) and Keller Road. Queuing analysis findings are presented in Table 3-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 3-2, there are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows. Worksheets for Existing (2021) traffic conditions off-ramp queuing analysis are provided in Appendix 3.4.

TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2021) CONDITIONS

#	Intersection	Traffic Control ²	Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM
1	I-215 SB Ramps & Scott Rd.	TS	8.9	8.5	A	A
2	I-215 SB Ramps & Clinton Keith Rd.	TS	11.9	10.8	B	B
3	I-215 NB Ramps & Scott Rd.	TS	7.0	27.4	A	C
4	I-215 NB Ramps & Clinton Keith Rd.	TS	8.8	12.9	A	B
5	Antelope Rd. & Scott Rd.	TS	22.5	29.9	C	C
6	Menifee Rd. & Scott Rd.	TS	25.7	26.5	C	C
7	Whitewood Rd. & Clinton Keith Rd.	TS	32.5	62.2	C	E
8	Briggs Rd. & Scott Rd.	TS	21.9	14.1	C	B
9	Leon Rd. & Scott Rd.	AWS	19.9	16.5	C	C
10	Leon Rd. & Keller Rd.	CSS	12.1	11.9	B	B
11	Leon Rd. & Whisper Heights Pkwy.	CSS	10.5	11.3	B	B
12	Leon Rd. & Jean Nicholas Rd.	TS	30.8	27.5	C	C
13	Briggs Rd. & Leon Rd.	TS	50.8	33.5	D	C
14	Leon Rd. & Clinton Keith Rd.	TS	0.0	0.0	A	A
15	Pourroy Rd. & Keller Rd.	AWS	7.0	7.3	A	A
16	Pourroy Rd. & Pat Rd.	CSS	8.6	8.7	A	A
17	Old Keller Rd./Street A & Keller Rd.		Future Intersection			
18	Street B & Keller Rd.		Future Intersection			
19	Driveway 1 & Keller Rd.		Future Intersection			
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.	TS	115.9	92.3	F	F
21	Winchester Rd. (SR-79) & Newport Rd.	TS	4.8	6.0	A	A
22	Winchester Rd. (SR-79) & Holland Rd.	TS	11.1	7.8	B	A
23	Winchester Rd. (SR-79) & Garbani Rd.	TS	6.3	3.8	A	A
24	Winchester Rd. (SR-79) & Scott Rd.	TS	23.5	78.1	C	E
25	Winchester Rd. (SR-79) & Driveway 2		Future Intersection			
26	Winchester Rd. (SR-79) & Keller Rd.	TS	7.4	8.7	A	A
27	Winchester Rd. (SR-79) & Abelia St.	TS	22.4	16.8	C	B
28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	TS	19.9	18.4	B	B
29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	TS	19.7	19.0	B	B
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	TS	171.8	143.2	F	F
31	Winchester Rd. (SR-79) & Benton Rd.	TS	20.5	72.5	C	E
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	TS	71.9	57.1	E	E
33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	TS	34.4	26.6	C	C

* **BOLD** = Unacceptable LOS

¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

² CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal

TABLE 3-2: PEAK HOUR QUEUING SUMMARY FOR EXISTING (2021) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak	PM Peak	AM	PM
I-215 SB Ramps & Scott Rd. (#1)	SBL	1,470	156	220	Yes	Yes
	SBR	1,470	27	104	Yes	Yes
I-215 SB Ramps & Clinton Keith Rd. (#2)	SBL/T	1,900	96	230	Yes	Yes
	SBR	1,200	206	267	Yes	Yes
I-215 NB Ramps & Scott Rd. (#3)	NBR	1,425	16	327 ²	Yes	Yes
	SBR	1,750	43	325 ²	Yes	Yes
I-215 NB Ramps & Clinton Keith Rd. (#4)	NBL/R	1,920	198	337	Yes	Yes
	NBR	950	134	309	Yes	Yes
Winchester Rd. (SR-79) & Keller Rd. (#26)	EBL		Does Not Exist			
	EBR					

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

3.10 EXISTING DEFICIENCIES AND IMPROVEMENTS

Improvements needed to achieve acceptable LOS have been identified at intersections or roadway segments that are currently operating at a deficient LOS under Existing (2021) traffic conditions.

3.10.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Table 3-3 indicates the physical improvements needed to address LOS deficiencies at each of the study area intersections under Existing (2021) traffic conditions. The improvements have been identified to improve the Existing (2021) deficiencies back to acceptable levels. Intersection analysis worksheets for Existing (2021) traffic conditions, with improvements, are provided in Appendix 3.5.

TABLE 3-3: INTERSECTION ANALYSIS FOR EXISTING (2021) CONDITIONS WITH IMPROVEMENTS

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
7	Whitewood Rd. & Clinton Keith Rd.																	
	- Without Improvements	TS	1	1	1	1	2	0	2	2	1	2	3	1	32.5	62.2	C	E
	- With Improvements	TS	1	<u>2</u>	1	1	2	0	2	<u>3</u>	1	2	3	1	31.9	31.3	C	C
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.																	
	- Without Improvements	TS	1	2	1	1	2	1	2	2	1	2	3	1	115.9	92.3	F	F
	- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	1	2	2	1	2	3	1	32.4	41.1	C	D
24	Winchester Rd. (SR-79) & Scott Rd.																	
	- Without Improvements	TS	1	3	1	1	3	1	1	1	1	1	1	1	23.5	78.1	C	E
	- With Improvements	TS	1	3	1	1	3	1	<u>2</u>	1	1	1	1	1	23.1	24.4	C	C
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.																	
	- Without Improvements	TS	1	2	0	1	2	1	1	1	2	1	1	0	171.8	143.2	F	F
	- With Improvements	TS	<u>2</u>	<u>3</u>	0	1	<u>3</u>	1	1	1	2	1	1	0	32.5	32.6	C	C
31	Winchester Rd. (SR-79) & Benton Rd.																	
	- Without Improvements	TS	0	3	0	1	2	0	0	0	0	2	0	1>	20.5	72.5	C	E
	- With Improvements	TS	0	3	0	<u>2</u>	<u>3</u>	0	0	0	0	2	0	1>	15.8	13.9	B	B
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.																	
	- Without Improvements	TS	1	2	1	1	2	0	1	1	0	1	1	0	71.9	57.1	E	E
	- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	0	1	1	0	1	1	0	20.0	19.2	C	B

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
 L = Left; T = Through; R = Right; >= Right-Turn Overlap Phasing; 1 = Improvement

² Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ TS = Traffic Signal

3.10.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously in Table 3-2, there are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Existing (2021) traffic conditions. As such, no improvements have been identified.

4 PROJECTED FUTURE TRAFFIC

The Project is proposing to amend the Specific Plan with a mix of residential and commercial uses, as described below:

- Phase 1 (Opening Year of 2023) is anticipated to include the development of 195 single family detached residential dwelling units.
- Project Buildout (Buildout year of 2028) is anticipated to include a total of 356 single family detached residential dwelling units, 80 attached senior housing units, a 6.5-acre sports park/active park, and 176,000 square feet of commercial retail uses. For the purposes of the calculating and evaluating a conservative trip generation, the commercial retail area is proposed to include a 50,000 square foot supermarket, 14,000 square foot pharmacy, 101,500 square feet of commercial retail uses, and 10,500 square feet of fast-food restaurant with drive-through window use.

Vehicular access will be provided via the following driveways:

- Keller Road via Street A – full access
- Keller Road via Street B – full access
- Keller Road via Driveway 1 – right-in/right-out only
- Winchester Road (SR-79) via Driveway 2 – right-in/right-out only (alternative access only)

Regional access to the Project site is available from the I-215 Freeway via Scott Road and Clinton Keith Road interchanges.

4.1 PROJECT TRIP GENERATION

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the ITE Trip Generation Manual (10th Edition, 2017) for the following land use codes:

- Single Family Detached Housing (ITE Land Use Code 210)
- Senior Housing – Attached (ITE Land Use Code 252)
- Supermarket (ITE Land Use Code 850)
- Pharmacy with Drive-Thru Window (ITE Land Use Code 881)
- Shopping Center (ITE Land Use Code 820) – Based on Regression Equation for 101,500 SF
- Fast-food Restaurant with Drive-Thru Window (ITE Land Use Code 934)
- Sports Park/Active Park (Source: San Diego Municipal Code Land Development Code Trip Generation Manual) (3)

As the Project is proposed to include shopping center, restaurant, and other complementary uses, pass-by percentages have been obtained from the ITE Trip Generation Handbook (3rd Edition, 2017). (2) Patrons of the uses may also visit other uses on-site, including the restaurants, and retail uses, without leaving the site. The ITE Trip Generation Handbook has been utilized to determine the internal capture for the applicable mix of uses.

Internal capture is a percentage reduction that can be applied to the trip generation estimates for individual land uses to account for trips internal to the site. In other words, trips may be made between individual retail uses on-site and can be made either by walking or using internal roadways without using external streets. As the trip generation for the site was conservatively estimated based on individual land uses as opposed to the average ITE Shopping Center rate, an internal capture reduction was applied to recognize the interactions that would occur between the various complementary land uses. The internal capture is based on the National Cooperative Highway Research Program’s (NCHRP Report 684) internal capture trip capture estimation tool. These internal capture worksheets are attached to this scoping agreement.

The trip generation rates and trip generation summary for Phase 1 and Project Buildout are shown on Table 4-1 and 4-2, respectively. Phase 1 of the proposed Project is anticipated to generate a net total of 1,842 trip-ends per day with 144 AM peak hour trips and 193 PM peak hour trips, as shown on Table 4-1. The Buildout of the proposed Project is anticipated to generate a net total of 6,298 trip-ends per day with 646 AM peak hour trips and 573 PM peak hour trips, as shown on Table 4-2.

TABLE 4-1: PROJECT (PHASE 1) TRIP GENERATION SUMMARY

Land Use ¹	ITE Code	Units ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single Family Detached Residential	220	DU	0.19	0.56	0.74	0.62	0.37	0.99	9.44

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), *Trip Generation Manual*, Tenth Edition (2017).

² DU = dwelling units

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Single Family Detached Residential	195 DU	36	108	144	122	71	193	1,842

¹ DU = dwelling units

TABLE 4-2: PROJECT (PROJECT BUILDOUT) TRIP GENERATION SUMMARY

Land Use ¹	ITE Code	Units ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single Family Detached Residential	210	DU	0.19	0.56	0.74	0.62	0.37	0.99	9.44
Senior Housing - Attached	252	DU	0.07	0.13	0.20	0.14	0.12	0.26	3.70
Active Park/Sports Park	-- ³	AC	1.00	1.00	2.00	2.00	2.00	4.00	50.00
Shopping Center (Regression Equation)	820	TSF	1.24	0.76	2.00	2.60	2.81	5.41	59.83
Supermarket	850	TSF	2.29	1.53	3.82	4.71	4.53	9.24	106.78
Pharmacy with Drive-Thru Window	881	TSF	2.04	1.80	3.84	5.15	5.14	10.29	109.16
Fast-Food Restaurant with Drive-Thru	934	TSF	20.50	19.69	40.19	16.99	15.68	32.67	470.95

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), *Trip Generation Manual*, Tenth Edition (2017).

² DU = dwelling units; TSF = thousand square feet; AC = acres

³ Source: San Diego Municipal Code *Land Development Code Trip Generation Manual*, May 2003 (Park Land Use).

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Single Family Detached Residential	356 DU	66	198	264	222	130	352	3,362
Senior Housing - Attached	80 DU	6	10	16	11	9	20	296
Park	6.5 AC	7	7	14	13	13	26	326
Internal Capture:		-5	-44	-49	-137	-82	-219	-2,092
Residential Subtotal:		74	171	245	109	70	179	1,892
Commercial Retail	101.500 TSF	126	77	203	264	285	549	6,074
Internal Capture:		-9	-13	-22	-58	-84	-142	-1,572
Pass-by Reduction (34% PM/Daily):		0	0	0	-68	-68	-136	-1,532
Supermarket	50.000 TSF	115	76	191	236	226	462	5,340
Internal Capture:		-10	-10	-20	-51	-65	-116	-1,342
Pass-by Reduction (36% PM/Daily):		0	0	0	-58	-58	-116	-1,440
Pharmacy with Drive-Thru Window	14.000 TSF	28	25	53	72	72	144	1,528
Internal Capture:		-5	-1	-6	-16	-10	-26	-276
Pass-by Reduction (49% PM/Daily):		0	0	0	-27	-27	-54	-614
Fast-Food Restaurant with Drive-Thru	10.500 TSF	215	207	422	178	165	343	4,946
Internal Capture:		-65	-26	-91	-77	-98	-175	-2,524
Pass-by Reduction (49% AM; 50% PM/Daily):		-74	-74	-148	-34	-34	-68	-1,212
Commercial Retail Subtotal		204	197	401	223	171	394	4,406
Project Buildout Total:		278	368	646	332	241	573	6,298

¹ DU = dwelling units; TSF = thousand square feet; AC = acres

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered to identify the route where Project traffic would distribute. Long-range trip distribution patterns take into consideration the buildout of future roadway facilities that could likely be utilized by Project traffic. Each of the Project Buildout trip distributions includes an alternative that assumes the right-in/right-out access driveway along SR-79, which have been utilized for the alternative access scenarios only.

- **Exhibit 4-1:** Near-term trip distribution patterns for the residential use
- **Exhibit 4-2:** Near-term trip distribution patterns for the commercial retail use
- **Exhibit 4-3:** Long-range trip distribution patterns for the residential use
- **Exhibit 4-4:** Long-range trip distribution patterns for the commercial retail use

4.3 MODAL SPLIT

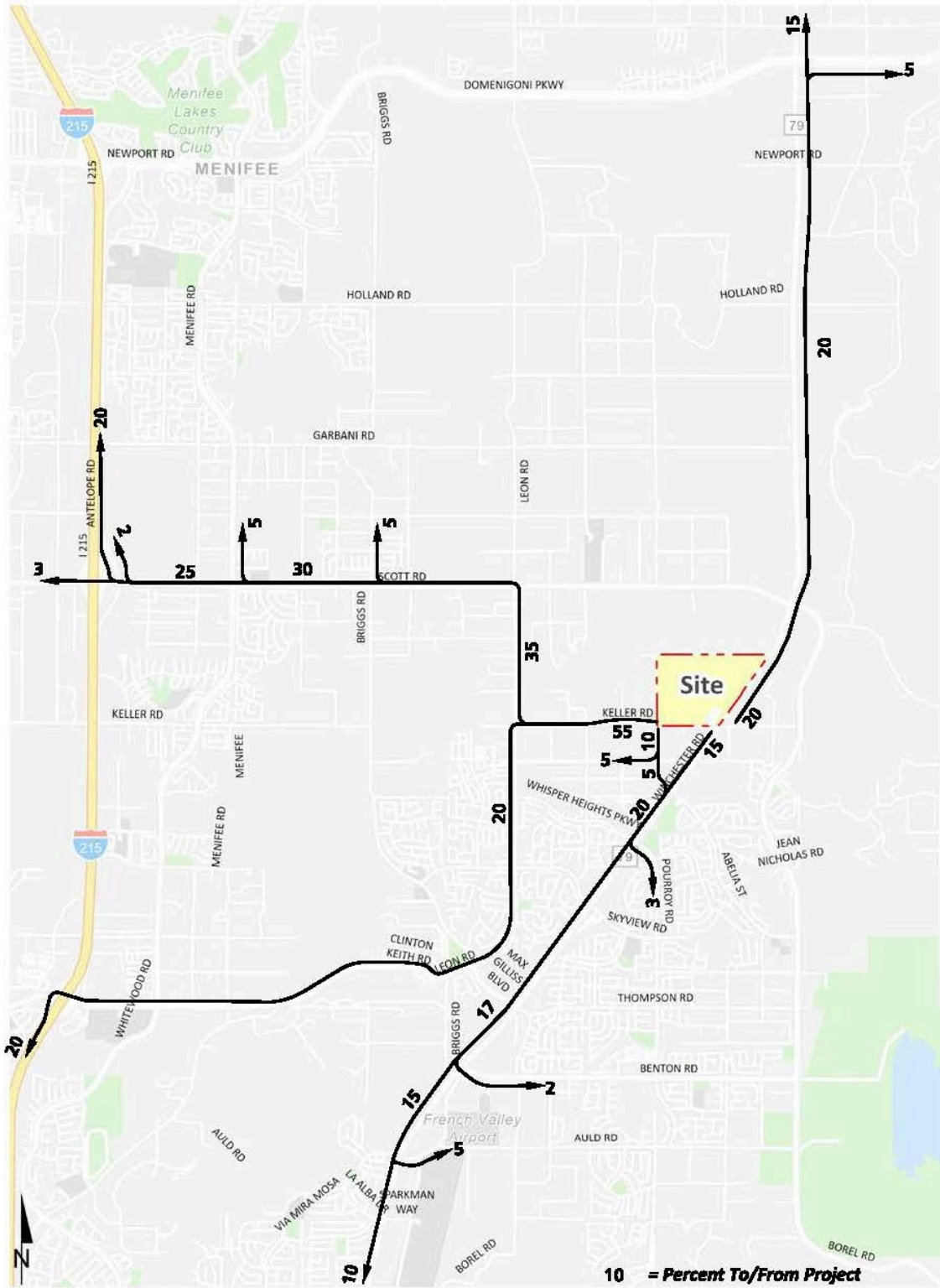
The traffic reducing potential of public transit, walking, or bicycling have not been considered in this TS. Essentially, the traffic projections are "conservative" in that these alternative travel modes might be able to reduce the forecasted traffic volumes.

4.4 PROJECT TRIP ASSIGNMENT

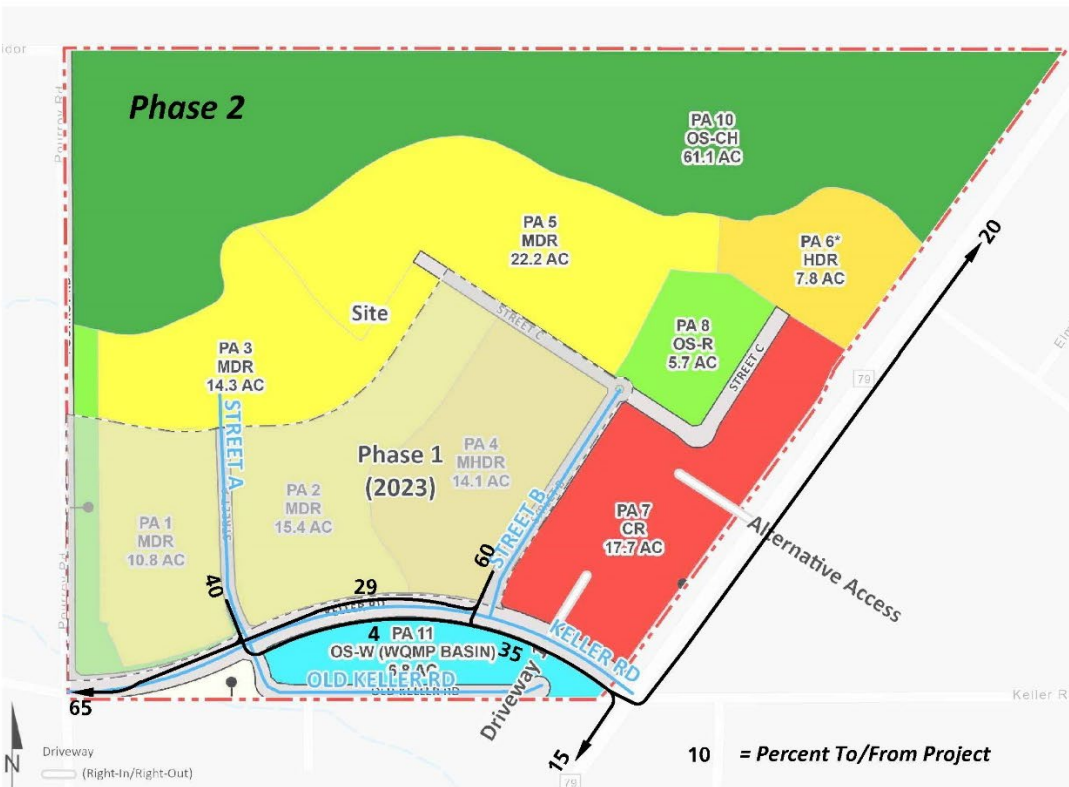
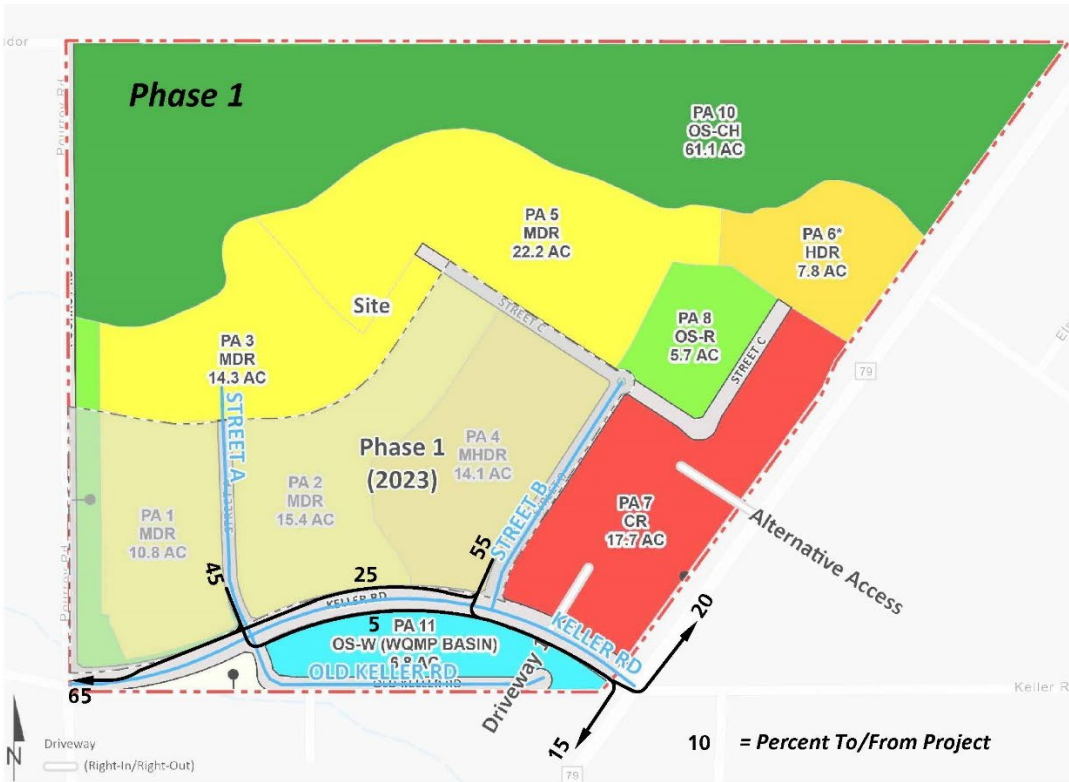
The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, the Project only ADT and peak hour intersection turning movement volumes are shown on the following exhibits:

- **Exhibit 4-5:** Project (Phase 1) traffic volumes
- **Exhibit 4-6:** Project (Project Buildout) traffic volumes
- **Exhibit 4-7:** Project (Project Buildout – Alternative Access) traffic volumes
- **Exhibit 4-8:** Project (Project Buildout Horizon Year) traffic volumes
- **Exhibit 4-9:** Project (Project Buildout Horizon Year – Alternative Access) traffic volumes

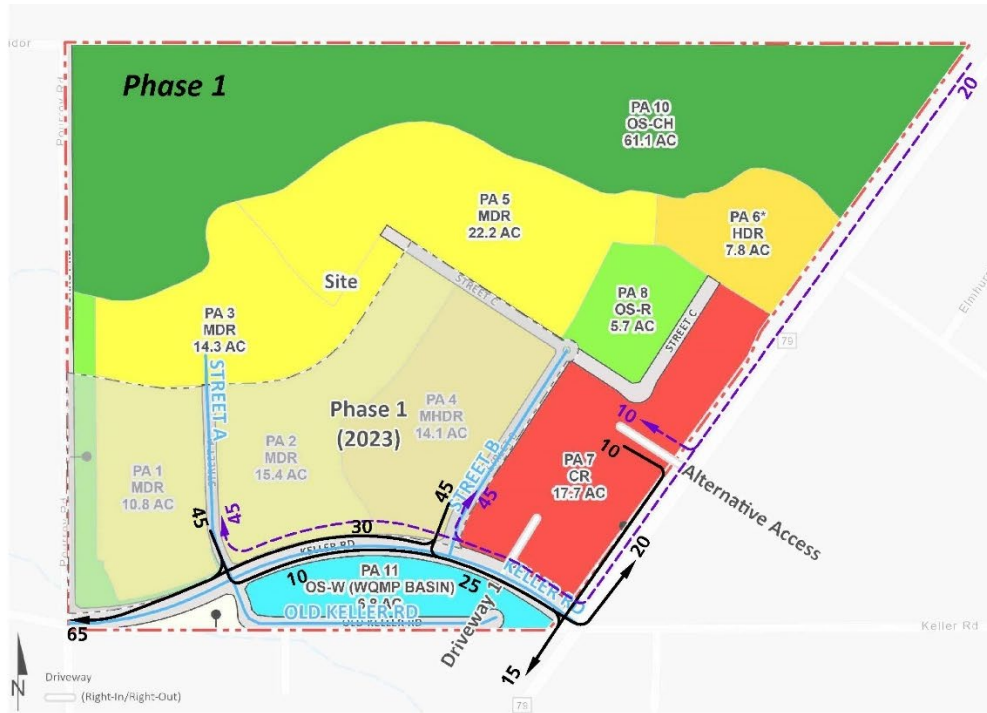
EXHIBIT 4-1: PROJECT (NEAR-TERM RESIDENTIAL) TRIP DISTRIBUTION



Near-Term Residential (Inset):

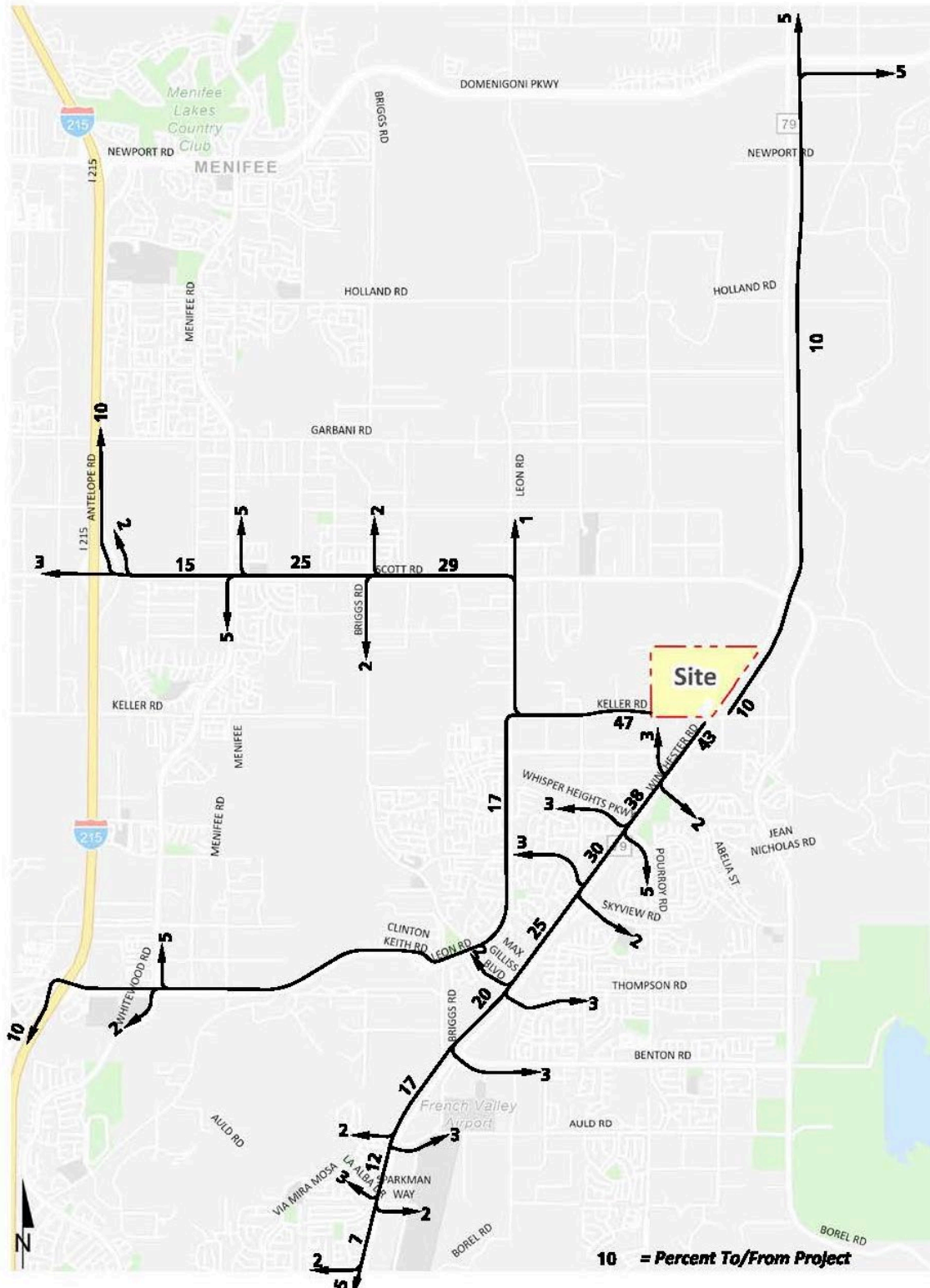


Near-Term Residential Alternative (Inset):

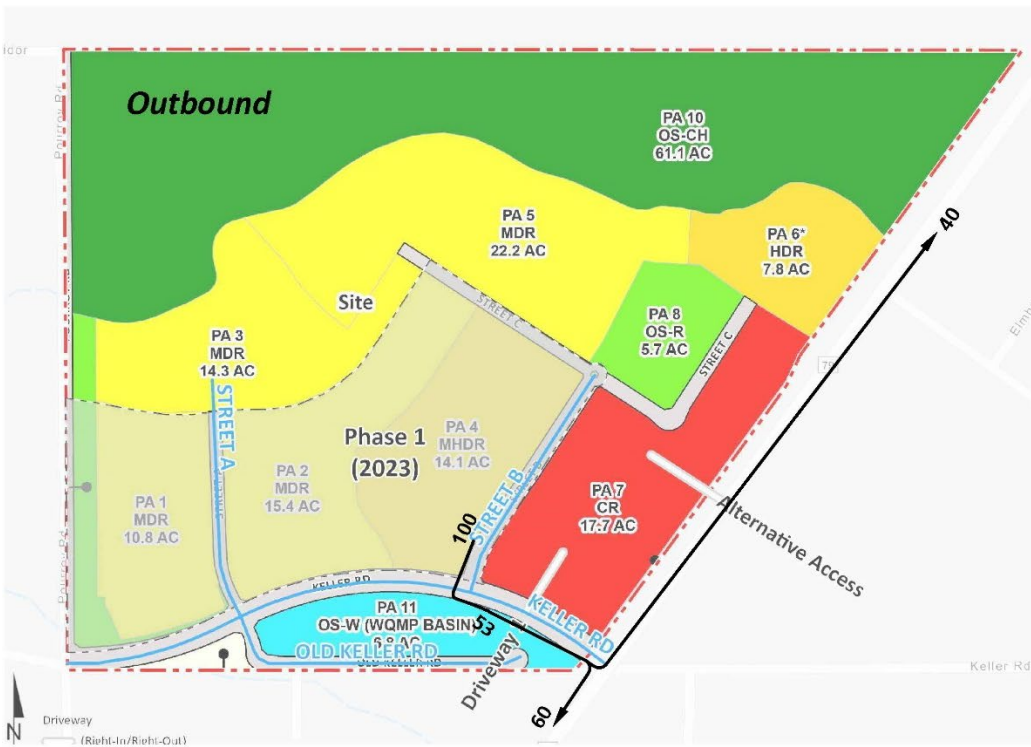


10 = Percent To/From Project
 ← = Outbound
 → = Inbound

EXHIBIT 4-2: PROJECT (NEAR-TERM COMMERCIAL) TRIP DISTRIBUTION



Near-Term Commercial (Inset):

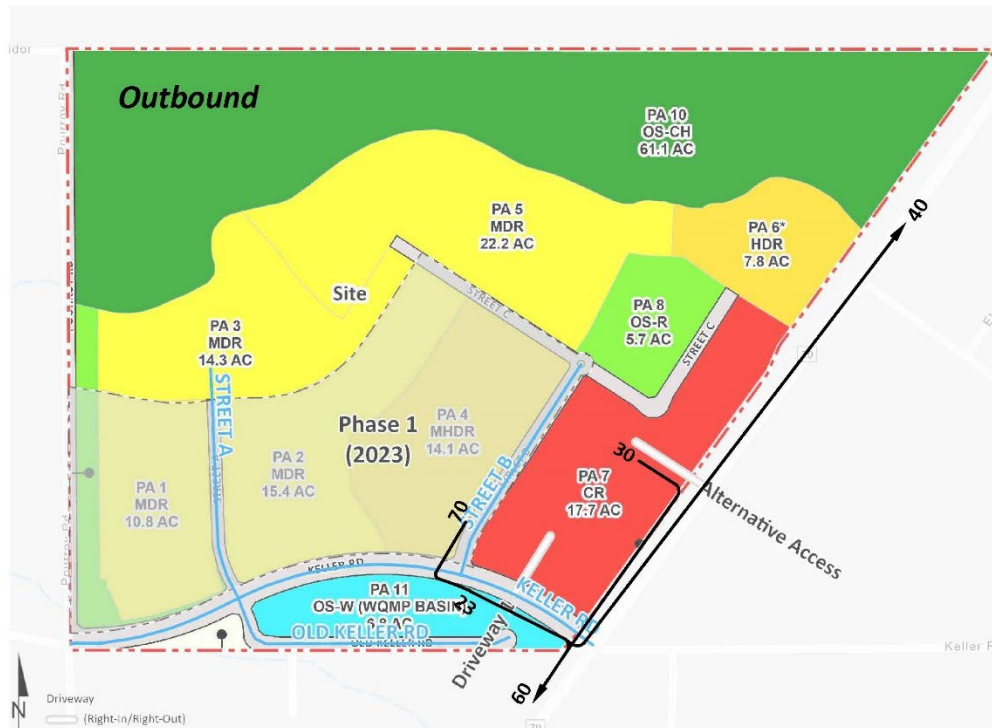
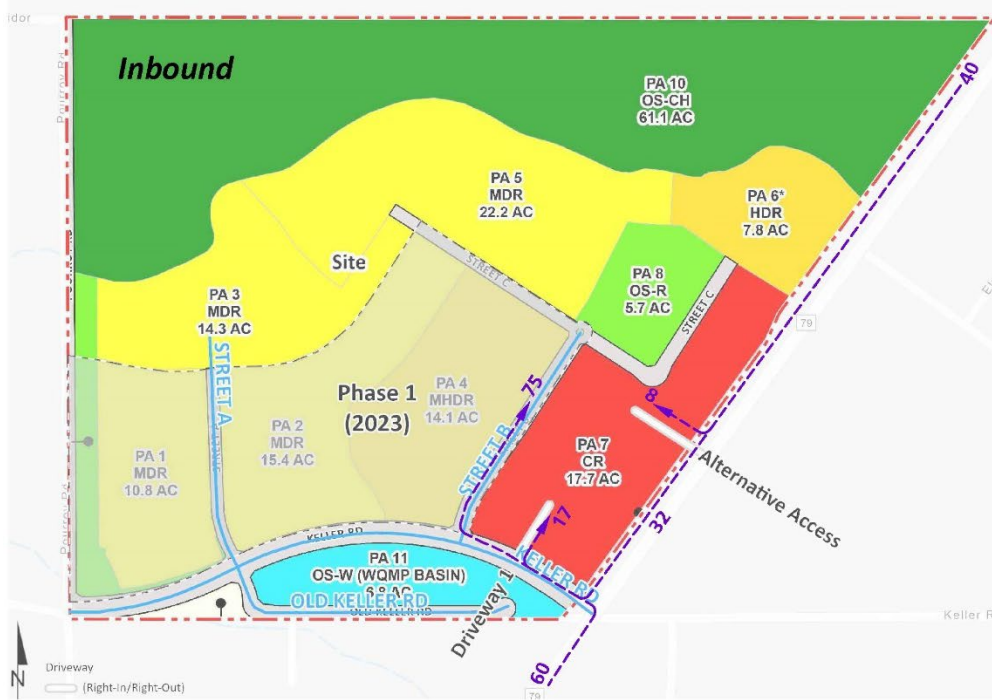


10 = Percent To/From Project

← = Outbound

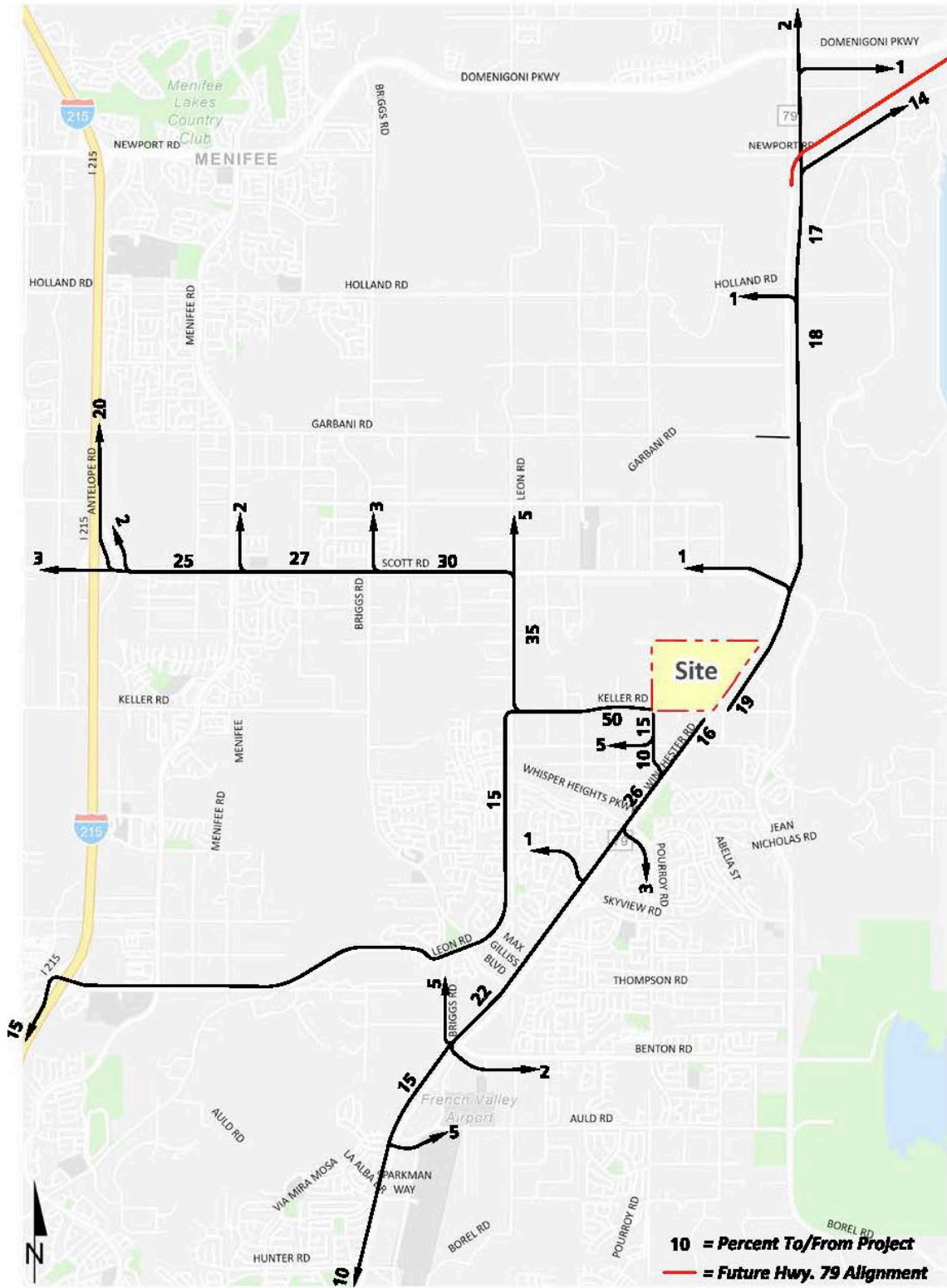
→ = Inbound

Near-Term Commercial Alternative (Inset):

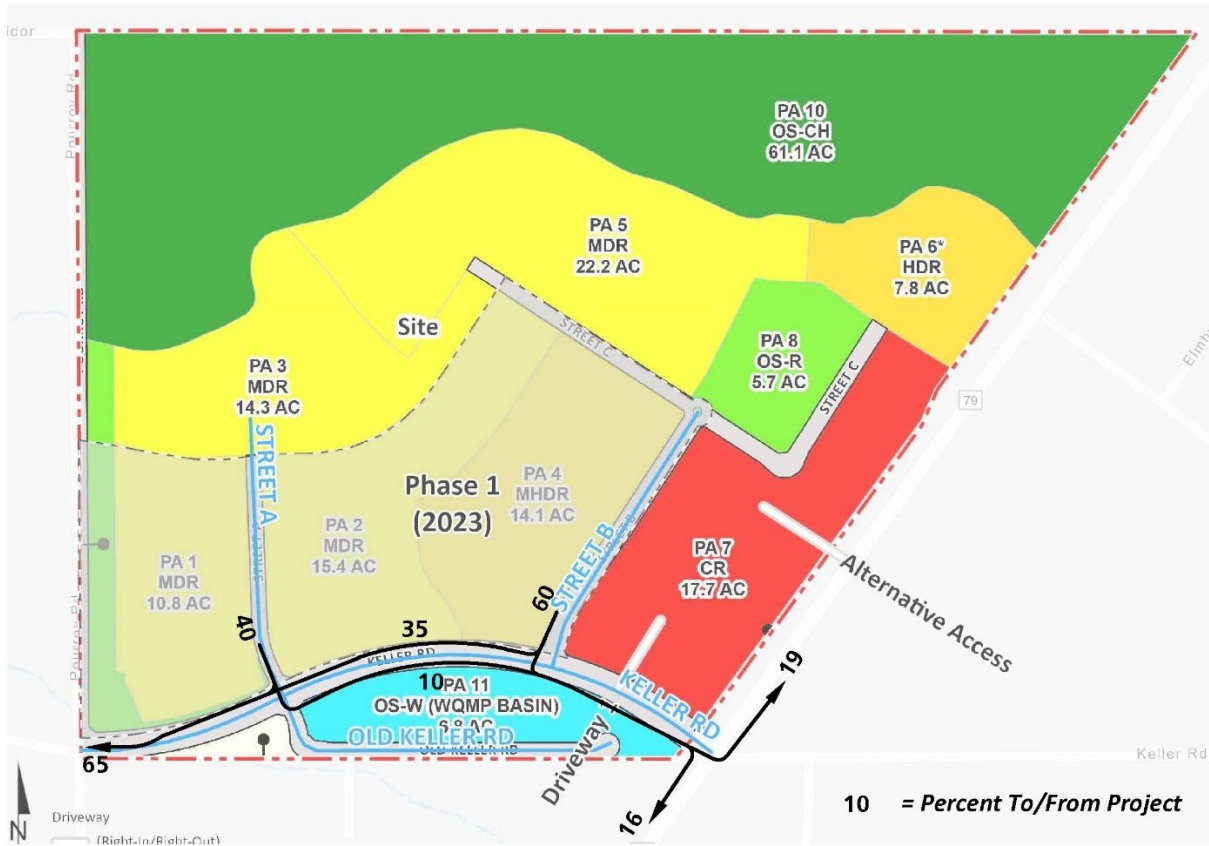


- 10 = Percent To/From Project
- = Outbound
- ← = Inbound

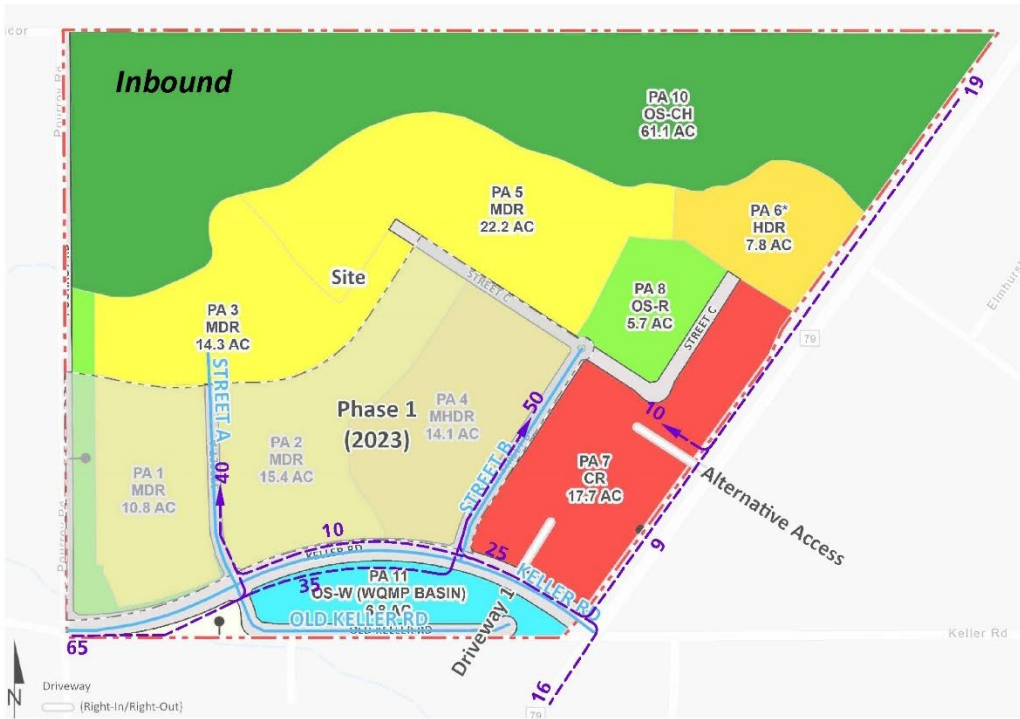
EXHIBIT 4-3: PROJECT (LONG-RANGE RESIDENTIAL) TRIP DISTRIBUTION



Long-Range Residential (Inset):

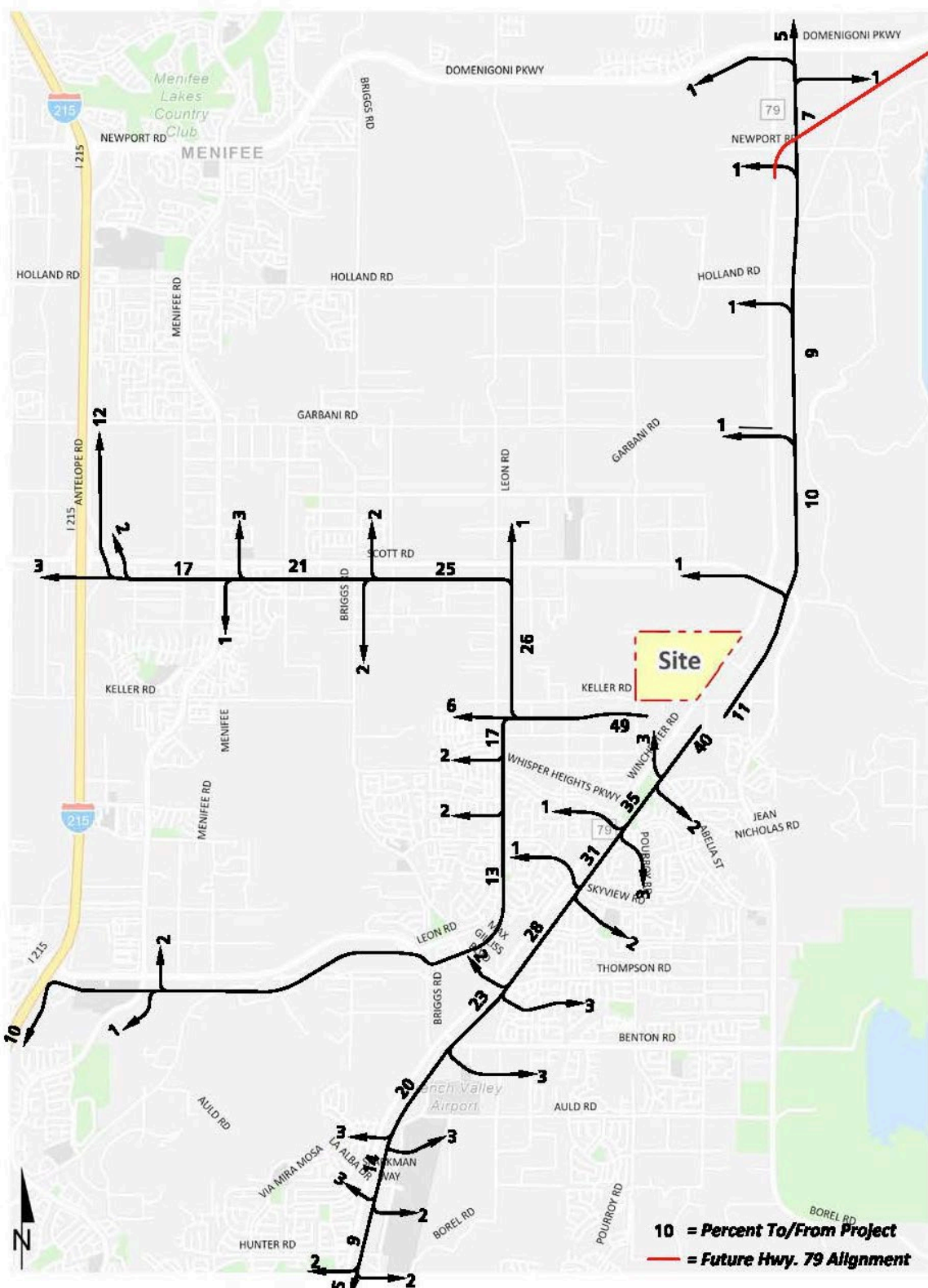


Long-Range Residential Alternative (Inset):



10 = Percent To/From Project
 ← = Outbound
 → = Inbound

EXHIBIT 4-4: PROJECT (LONG-RANGE COMMERCIAL) TRIP DISTRIBUTION



Long-Range Commercial (Inset):



- 10 = Percent To/From Project**
- ← = Outbound**
- ⇐ = Inbound**

Long-Range Commercial Alternative (Inset):

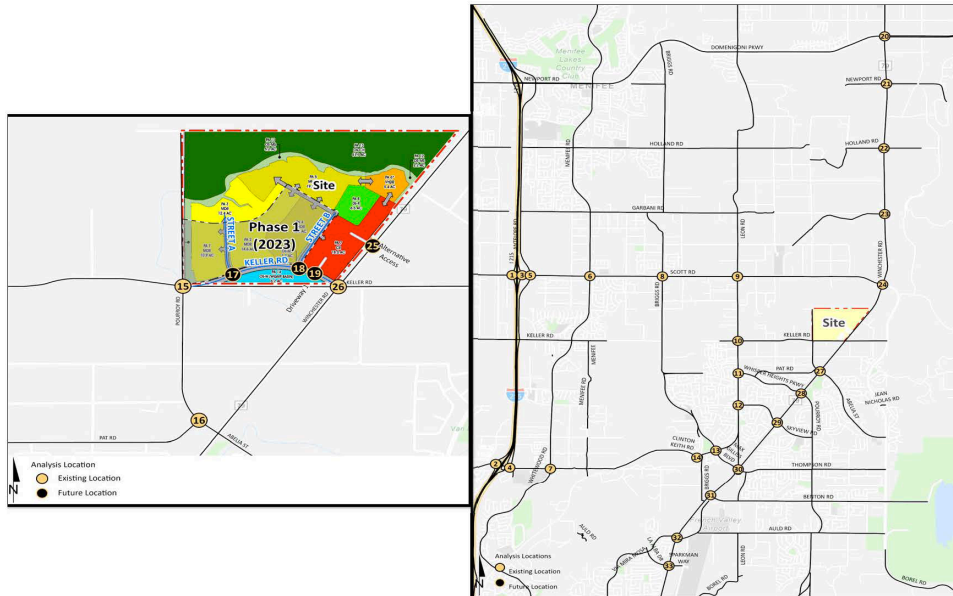


10 = Percent To/From Project

→ = Outbound

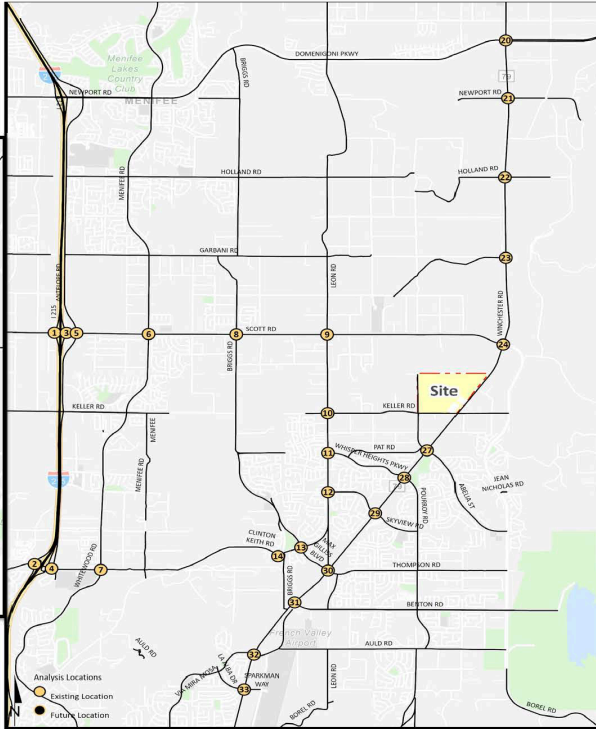
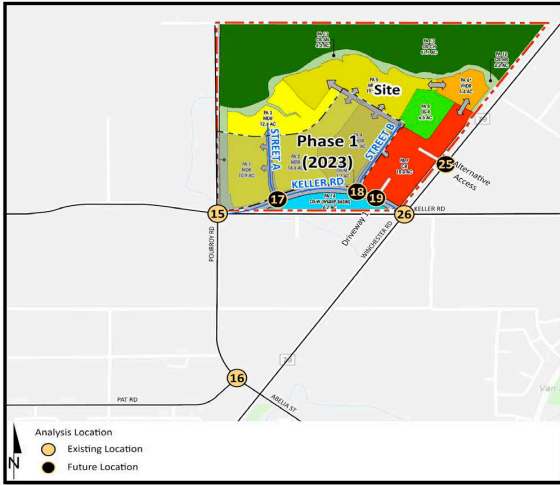
← = Inbound

EXHIBIT 4-5: PROJECT ONLY (PHASE 1) TRAFFIC VOLUMES



1	I-215 SB Ramps & Scott Rd.	2	I-215 SB Ramps & Clinton Keith Rd.	3	I-215 NB Ramps & Scott Rd.	4	I-215 NB Ramps & Clinton Keith Rd.	5	Antelope Rd. & Scott Rd.
200	250	200	200	200	400	350	Nominal	450	
Diagram: I-215 SB Ramps & Scott Rd. (Left: 7(24) up, 1(4) right; Right: 3(2) left)	Diagram: I-215 SB Ramps & Clinton Keith Rd. (Up: 22(14))	Diagram: I-215 NB Ramps & Scott Rd. (Left: 8(28) right)	Diagram: I-215 NB Ramps & Clinton Keith Rd. (Left: 22(14) up, 3(2) left)	Diagram: Antelope Rd. & Scott Rd. (Left: 4(2) up, 8(28) right; Right: 2(1) up, 25(16) right)	Diagram: Menifee Rd. & Scott Rd. (Left: 2(6) up, 9(31) right; Right: 5(4) up, 27(18) right)	Diagram: Whitewood Rd. & Clinton Keith Rd. (Left: 22(14) right)	Diagram: Briggs Rd. & Scott Rd. (Left: 2(6) up, 11(37) right; Right: 5(4) up, 32(21) right)	Diagram: Leon Rd. & Scott Rd. (Left: 13(43) down, 38(25) right)	Diagram: Leon Rd. & Keller Rd. (Left: 13(43) up, 38(25) right; Right: 22(14) up, 7(24) right)
Nominal		250	200	100	650	200	400	1,000	
6 <td>Menifee Rd. & Scott Rd.</td> <td>7 <td>Whitewood Rd. & Clinton Keith Rd.</td> <td>8 <td>Briggs Rd. & Scott Rd.</td> <td>9 <td>Leon Rd. & Scott Rd.</td> <td>10 <td>Leon Rd. & Keller Rd.</td> </td></td></td></td>	Menifee Rd. & Scott Rd.	7 <td>Whitewood Rd. & Clinton Keith Rd.</td> <td>8 <td>Briggs Rd. & Scott Rd.</td> <td>9 <td>Leon Rd. & Scott Rd.</td> <td>10 <td>Leon Rd. & Keller Rd.</td> </td></td></td>	Whitewood Rd. & Clinton Keith Rd.	8 <td>Briggs Rd. & Scott Rd.</td> <td>9 <td>Leon Rd. & Scott Rd.</td> <td>10 <td>Leon Rd. & Keller Rd.</td> </td></td>	Briggs Rd. & Scott Rd.	9 <td>Leon Rd. & Scott Rd.</td> <td>10 <td>Leon Rd. & Keller Rd.</td> </td>	Leon Rd. & Scott Rd.	10 <td>Leon Rd. & Keller Rd.</td>	Leon Rd. & Keller Rd.
100	550	350	100	650	650	650	650	350	
Diagram: Leon Rd. & Whisper Heights Pkwy. (Left: 22(14) left, 7(24) right)	Diagram: Leon Rd. & Jean Nicholas Rd. (Left: 22(14) left, 7(24) right)	Diagram: Briggs Rd. & Leon Rd. (Left: 22(14) left, 7(24) right)	Diagram: Leon Rd. & Clinton Keith Rd. (Left: 7(24) left, 22(14) right)	Diagram: Pourroy Rd. & Keller Rd. (Left: 59(39) up, 11(7) right; Right: 20(67) right, 4(12) right)					
350	350	350	350	350	350	350	350	1,200	
11 <td>Leon Rd. & Whisper Heights Pkwy.</td> <td>12 <td>Leon Rd. & Jean Nicholas Rd.</td> <td>13 <td>Briggs Rd. & Leon Rd.</td> <td>14 <td>Leon Rd. & Clinton Keith Rd.</td> <td>15 <td>Pourroy Rd. & Keller Rd.</td> </td></td></td></td>	Leon Rd. & Whisper Heights Pkwy.	12 <td>Leon Rd. & Jean Nicholas Rd.</td> <td>13 <td>Briggs Rd. & Leon Rd.</td> <td>14 <td>Leon Rd. & Clinton Keith Rd.</td> <td>15 <td>Pourroy Rd. & Keller Rd.</td> </td></td></td>	Leon Rd. & Jean Nicholas Rd.	13 <td>Briggs Rd. & Leon Rd.</td> <td>14 <td>Leon Rd. & Clinton Keith Rd.</td> <td>15 <td>Pourroy Rd. & Keller Rd.</td> </td></td>	Briggs Rd. & Leon Rd.	14 <td>Leon Rd. & Clinton Keith Rd.</td> <td>15 <td>Pourroy Rd. & Keller Rd.</td> </td>	Leon Rd. & Clinton Keith Rd.	15 <td>Pourroy Rd. & Keller Rd.</td>	Pourroy Rd. & Keller Rd.
350	350	350	350	350	350	350	350	1,200	
Diagram: Pourroy Rd. & Pat Rd. (Left: 5(4) left, 2(6) right)	Diagram: Street A & Keller Rd. (Left: 89(32) left, 16(55) down, 7(24) right; Right: 2(6) up, 22(14) up)	Diagram: Street B & Keller Rd. (Left: 22(14) left, 32(21) left; Right: 11(37) up, 2(6) right)	Diagram: Driveway 1 & Keller Rd. (Future Intersection)	Diagram: Winchester Rd. (SR-79) & Domenigoni Pkwy. (Left: 5(18) left; Right: 2(6) right)					
200	900	900	650		300	100	350		
16 <td>Pourroy Rd. & Pat Rd.</td> <td>17 <td>Street A & Keller Rd.</td> <td>18 <td>Street B & Keller Rd.</td> <td>19 <td>Driveway 1 & Keller Rd.</td> <td>20 <td>Winchester Rd. (SR-79) & Domenigoni Pkwy.</td> </td></td></td></td>	Pourroy Rd. & Pat Rd.	17 <td>Street A & Keller Rd.</td> <td>18 <td>Street B & Keller Rd.</td> <td>19 <td>Driveway 1 & Keller Rd.</td> <td>20 <td>Winchester Rd. (SR-79) & Domenigoni Pkwy.</td> </td></td></td>	Street A & Keller Rd.	18 <td>Street B & Keller Rd.</td> <td>19 <td>Driveway 1 & Keller Rd.</td> <td>20 <td>Winchester Rd. (SR-79) & Domenigoni Pkwy.</td> </td></td>	Street B & Keller Rd.	19 <td>Driveway 1 & Keller Rd.</td> <td>20 <td>Winchester Rd. (SR-79) & Domenigoni Pkwy.</td> </td>	Driveway 1 & Keller Rd.	20 <td>Winchester Rd. (SR-79) & Domenigoni Pkwy.</td>	Winchester Rd. (SR-79) & Domenigoni Pkwy.
100	1,200	450	450						

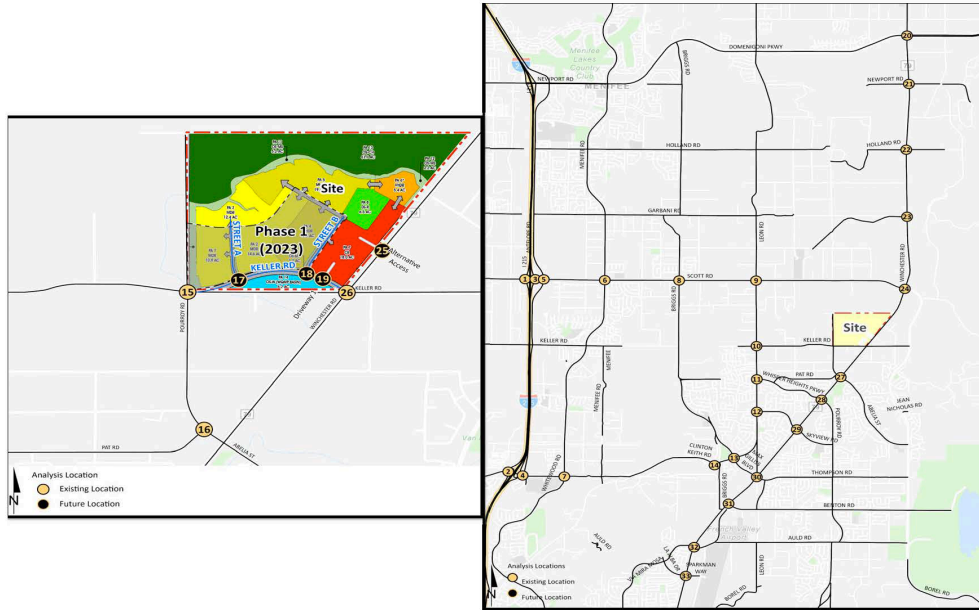
##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips



21	Winchester Rd. (SR-79) & Newport Rd.	22	Winchester Rd. (SR-79) & Holland Rd.	23	Winchester Rd. (SR-79) & Garbani Rd.	24	Winchester Rd. (SR-79) & Scott Rd.	25	Winchester Rd. (SR-79) & Driveway 2
350	← 7(24) 22(14) →	350	← 7(24) 22(14) →	350	← 7(24) 22(14) →	350	← 7(24) 22(14) →	350	Future Intersection
350	← 7(24) 22(14) → 16(11) ↓ 5(18) ↑	300	← 16(11) 5(4) ↓ 2(6) ↑ 5(18) →	350	← 18(12) 3(2) ↓ 1(4) ↑ 6(21) →	300	← 18(12) 6(21) →	300	← 18(12)
650	← 16(11) 2(1) ↓ 1(2) ↑ 5(18) →	300	← 11(7) 5(4) ↓ 2(6) ↑ 4(12) →	200	← 11(7) 4(12) →	300	← 16(11) 2(1) ↓ 1(2) ↑ 5(18) →	300	← 16(11) 2(1) ↓ 1(2) ↑ 5(18) →

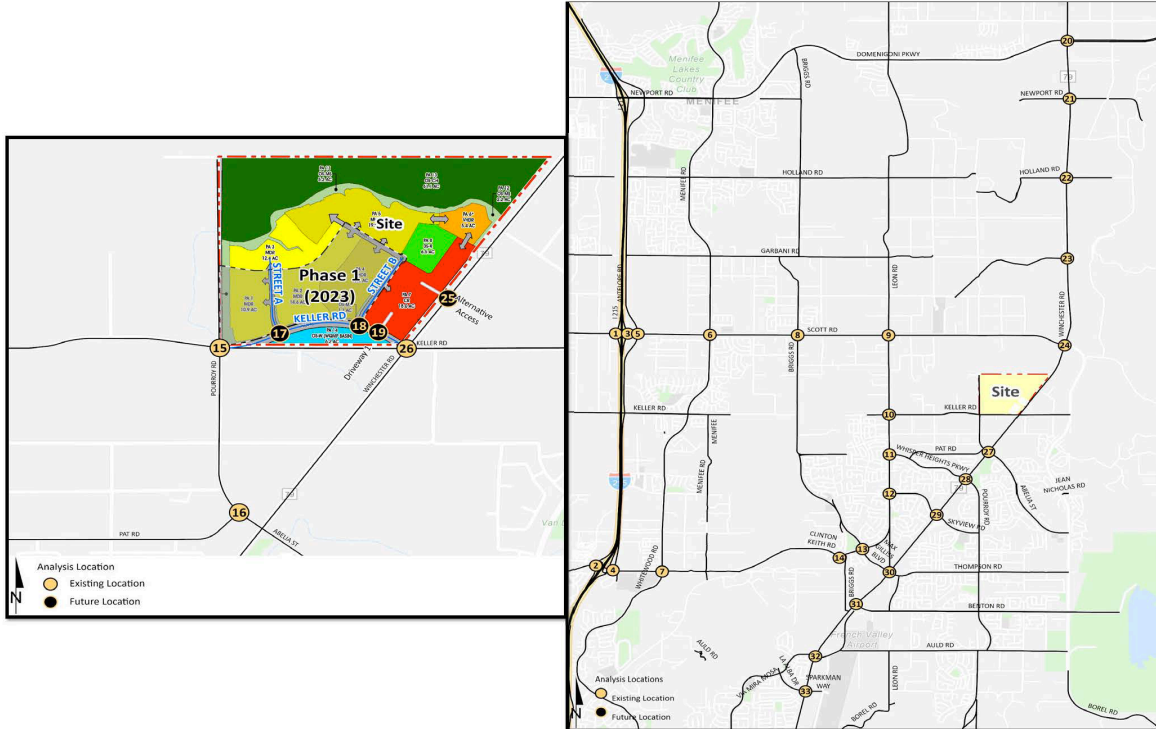
##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

EXHIBIT 4-6: PROJECT ONLY (PROJECT BUILDOUT) TRAFFIC VOLUMES



1	I-215 SB Ramps & Scott Rd.	2	I-215 SB Ramps & Clinton Keith Rd.	3	I-215 NB Ramps & Scott Rd.	4	I-215 NB Ramps & Clinton Keith Rd.	5	Antelope Rd. & Scott Rd.
400	600	400	400	400	1,000	800	150	1,150	
35(44) ← 11(7)		54(31)		54(31) ← 11(7)		54(31)	7(5) ← 65(38)		
8(10) →				44(54) →		35(44) →	44(54) →		
200					400	400	1,000		
6	Menifee Rd. & Scott Rd.	7	Whitewood Rd. & Clinton Keith Rd.	8	Briggs Rd. & Scott Rd.	9	Leon Rd. & Scott Rd.	10	Leon Rd. & Keller Rd.
300	1,650	200	1,150	200	1,950	Nominal	2,000	3,100	
14(17) ← 18(12) 72(43) 10(9)		10(11) ← 10(9) 54(31) 4(3)		8(10) ← 12(7) 101(64) 4(3)		2(2)	87(105) ← 119(76) 68(43)		
49(61) →	10(11) →	35(44) →	4(4) →	73(88) →	4(4) →	85(103) ↓	117(74) → 2(2) →	49(60) →	
1,150					100	1,950	2,000	1,150	
11	Leon Rd. & Whisper Heights Pkwy.	12	Leon Rd. & Jean Nicholas Rd.	13	Briggs Rd. & Leon Rd.	14	Leon Rd. & Clinton Keith Rd.	15	Pourroy Rd. & Keller Rd.
1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	3,300	
68(43) ←	68(43) ←	68(43) ←	49(60) →	68(43) ←	49(60) →	49(60) →	68(43) ←	187(119) ← 17(7)	
49(60) →								137(165) →	
								7(11) →	
16	Pourroy Rd. & Pat Rd.	17	Street A & Keller Rd.	18	Street B & Keller Rd.	19	Driveway 1 & Keller Rd.	20	Winchester Rd. (SR-79) & Domenigoni Pkwy.
200	750	2,700	4,450	3,000	5,900	7,800	500	300	
9(4) ← 9(4)	62(25) ← 7(3)	3(4) ← 142(101)	93(58) ← 231(299)	80(96) ← 52(47)	48(43) ← 125(243) 83(101)		21(28) ←	14(17) ←	
4(5) →	27(39) ← 117(136)	117(136) →	117(136) 7(3) →	238(302) →				36(19) → 18(12) →	
100	100	3,300	2,700	3,000	3,000	800			

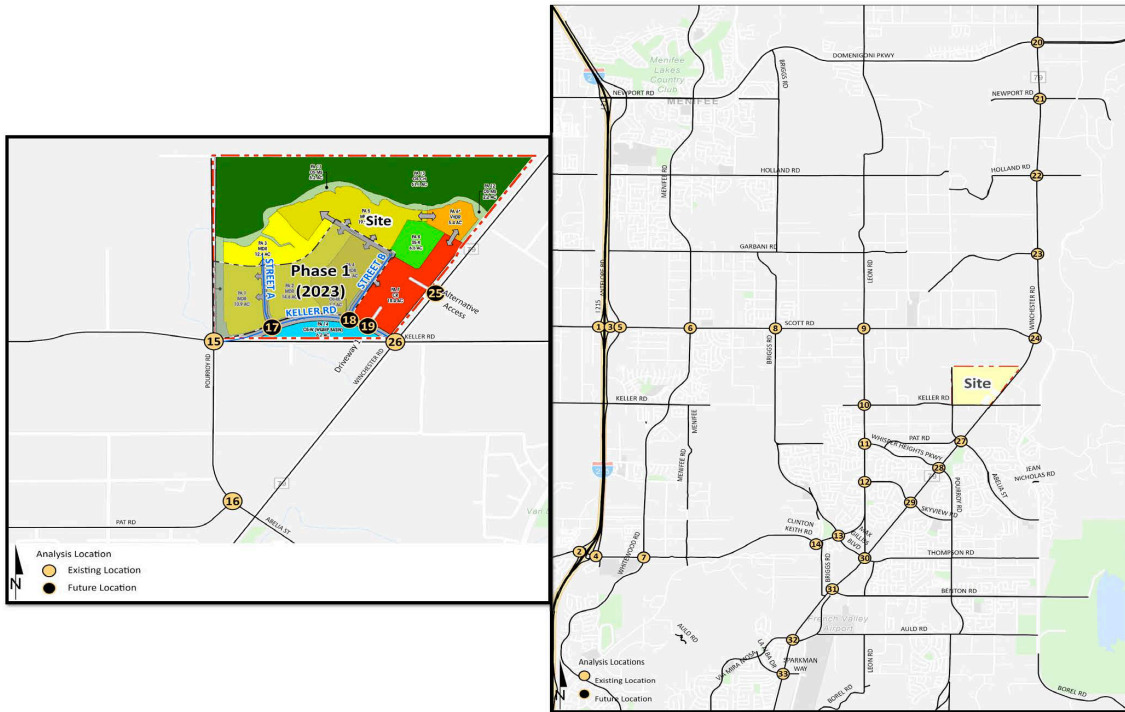
##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips



21	Winchester Rd. (SR-79) & Newport Rd.	22	Winchester Rd. (SR-79) & Holland Rd.	23	Winchester Rd. (SR-79) & Garbani Rd.	24	Winchester Rd. (SR-79) & Scott Rd.	25	Winchester Rd. (SR-79) & Driveway 2
800	← 35(44) 54(31) →	800	← 35(44) 54(31) →	800	← 35(44) 54(31) →	800	← 35(44) 54(31) →	Not Evaluated for this Scenario	
800	← 79(156) 84(106) → 154(196) ↓	2,200	← 6(5) 6(7) → 9(4) ↓ 101(75) 4(3) 4(4) 4(5) 89(101) →	2,050	← 6(5) 6(7) → 74(85) → 15(11) 12(14)	300	← 6(5) 6(7) → 64(74) → 78(55) 4(3) 4(4)	100	← 4(3) 4(4) → 6(7) 68(46) 6(5) 6(7)
7,800	31	Winchester Rd. (SR-79) & Benton Rd.	32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	1,650	1,400	1,200
1,200	← 59(40) 9(7) ↓ 8(9) ↑ 46(54) →	1,050	← 4(3) 4(4) → 4(4) ↓ 41(28) 14(9) 10(12) 32(38) →	700	← 6(5) 6(7) → 4(4) ↑ 31(19) 4(3) 22(27) →	150	100	500	

##(##) AM(PM) Peak Hour Intersection Volumes
Average Daily Trips

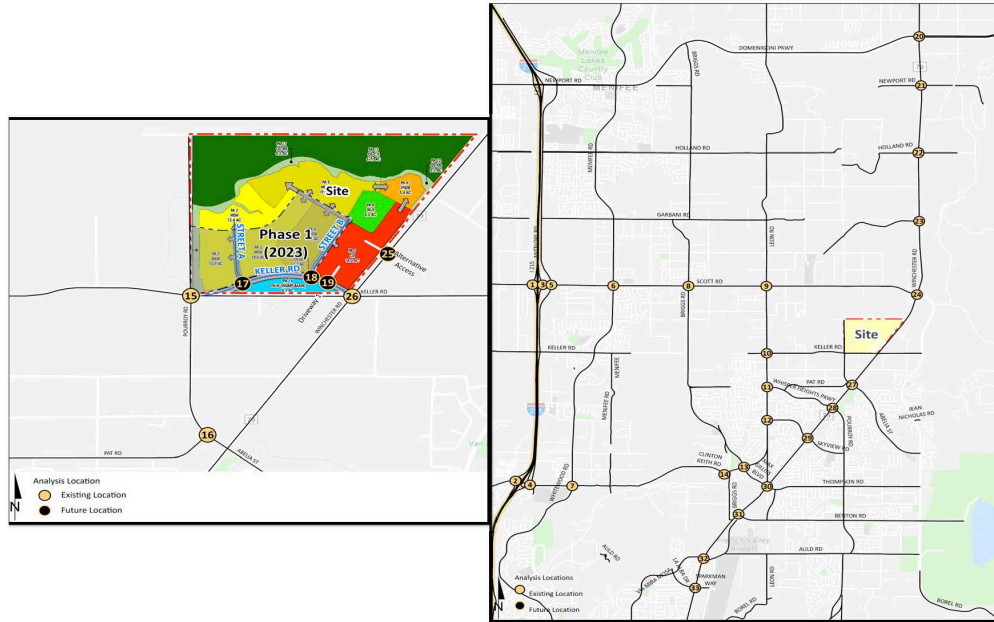
EXHIBIT 4-7: PROJECT ONLY (PROJECT BUILDOUT – ALTERNATIVE ACCESS) TRAFFIC VOLUMES



21	Winchester Rd. (SR-79) & Newport Rd.	22	Winchester Rd. (SR-79) & Holland Rd.	23	Winchester Rd. (SR-79) & Garbani Rd.	24	Winchester Rd. (SR-79) & Scott Rd.	25	Winchester Rd. (SR-79) & Driveway 2
800		800		800		800		800	
	← 35(44) 54(31) →		← 35(44) 54(31) →		← 35(44) 54(31) →		← 35(44) 54(31) →	68(141) ← -33(-97) 120(170) ↓ 54(31) →	
	800	800	800	800	800	800	800	1,300	
26	Winchester Rd. (SR-79) & Keller Rd.	27	Winchester Rd. (SR-79) & Abelia St.	28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	30	Winchester Rd. (SR-79) & Max Gillis Bl./Thompson Rd.
1,300		2,200		2,050		1,650		1,400	
← 11(15) ← 76(58) 54(106) → 78(26) ↓ 129(187) → -30(-75) →	6(5) ← 101(75) 6(7) ↓ 9(4) ↓ 4(5) → 89(101) →	6(5) ← 88(63) 6(7) ↓ 74(85) →	12(14) 4(4) 6(7) → 64(74) →	4(4) 4(3) 4(4) 4(4) ↓ 6(5) ↓ 6(7)					
4,350	2,200	250	2,050	300	1,650	100	1,400	150	
31	Winchester Rd. (SR-79) & Benton Rd.	32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.				
1,200		1,050		700		100		500	
← 59(40) ← 9(7) 46(54) →	4(3) ← 41(28) 4(4) → 37(38) →	6(5) ← 31(19) 6(7) → 22(27) →	4(4) 4(4) 4(4) 4(4)						
1,050	100	700	150	100				500	

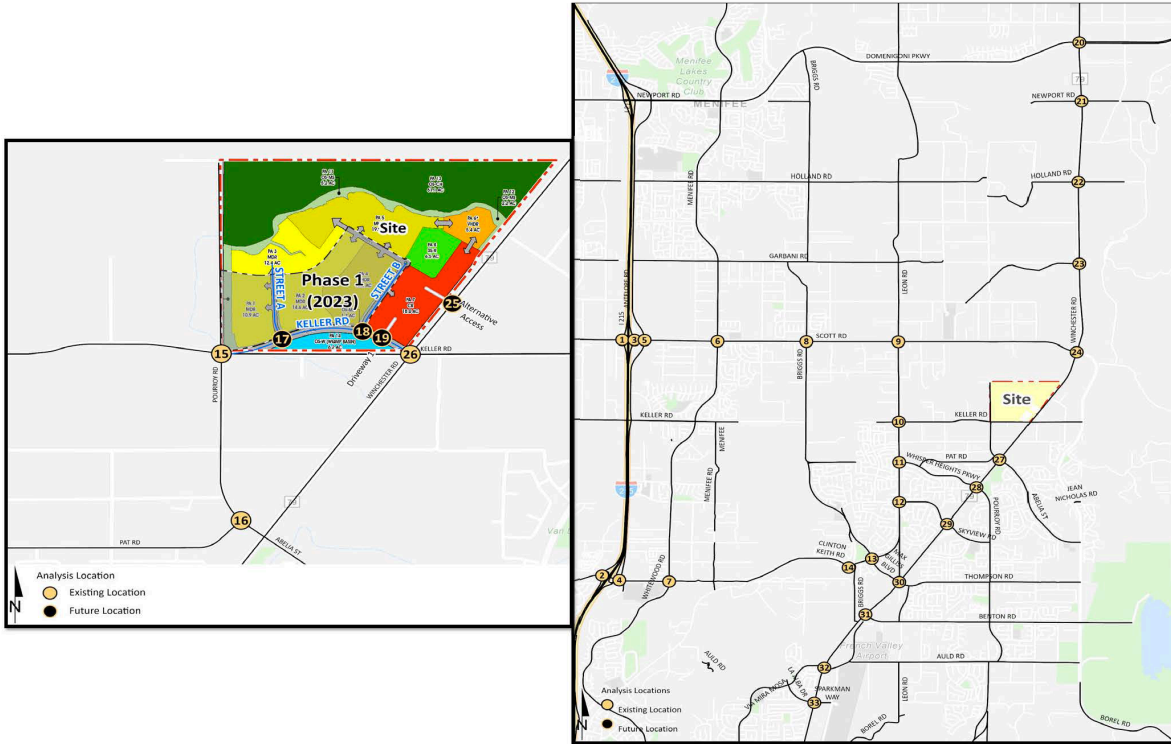
##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

EXHIBIT 4-8: PROJECT ONLY (PROJECT BUILDOUT HORIZON YEAR) TRAFFIC VOLUMES



1	2	3	4	5
I-215 SB Ramps & Scott Rd.	I-215 SB Ramps & Clinton Keith Rd.	I-215 NB Ramps & Scott Rd.	I-215 NB Ramps & Clinton Keith Rd.	Antelope Rd. & Scott Rd.
400 600 8(10) → ← 39(49) ← 11(7)	400 400 ← 45(28)	400 600 48(59) → ← 58(35) ← 11(7)	400 800 ← 45(28) 324(39) →	150 1,150 ← 6(7) ← 7(5) ← 69(42) 48(59) →
200				
6	7	8	9	10
Menifee Rd. & Scott Rd.	Whitewood Rd. & Clinton Keith Rd.	Briggs Rd. & Scott Rd.	Leon Rd. & Scott Rd.	Leon Rd. & Keller Rd.
300 1,650 53(65) → ← 8(9) ← 9(7) ← 76(47) ← 2(2)	200 1,150 32(39) → ← 4(4) ← 4(3) ← 45(28) ← 2(2)	200 1,950 63(76) → ← 6(8) ← 9(6) ← 88(55) ← 4(3)	Nominal 2,000 73(88) ↓ 101(64) → 11(5) →	1,000 3,100 12(13) → ← 79(96) ← 111(69) ← 12(10) ← 59(40) 46(54) →
1,150	200	1,650	1,950	1,150
11	12	13	14	15
Leon Rd. & Whisper Heights Pkwy.	Leon Rd. & Jean Nicholas Rd.	Briggs Rd. & Leon Rd.	Leon Rd. & Clinton Keith Rd.	Pourroy Rd. & Keller Rd.
1,150 4(4) ↓ ← 4(3) ← 55(26) 42(50) →	1,150 ← 51(33) 38(45) →	1,150 38(45) → ← 51(33)	1,150 38(45) ↓ 51(33) ↑	3,300 137(164) → ← 182(119) ← 26(11) 11(16) →
1,150	1,150	1,150	1,150	3,300
16	17	18	19	20
Pourroy Rd. & Pat Rd.	Street A & Keller Rd.	Street B & Keller Rd.	Driveway 1 & Keller Rd.	Winchester Rd. (SR-79) & Domenigoni Pkwy.
200 9(4) ↓ ← 17(7) 4(5) ↓ 7(11) →	750 2,700 51(21) ↓ ← 17(7) ← 7(11) ← 156(108) 22(33) ↓ 126(147) ↓	4,450 3,000 107(66) ↓ ← 217(292) ← 72(85) ← 57(54) 126(147) ↓ 17(7) →	5,900 7,800 49(43) ↓ ← 125(243) ← 79(96) 234(299) →	500 300 ← 12(13) 2(2) ↓ 2(2) → 3(3) → 13(10) → 4(2) →
100	100	2,700	3,000	800

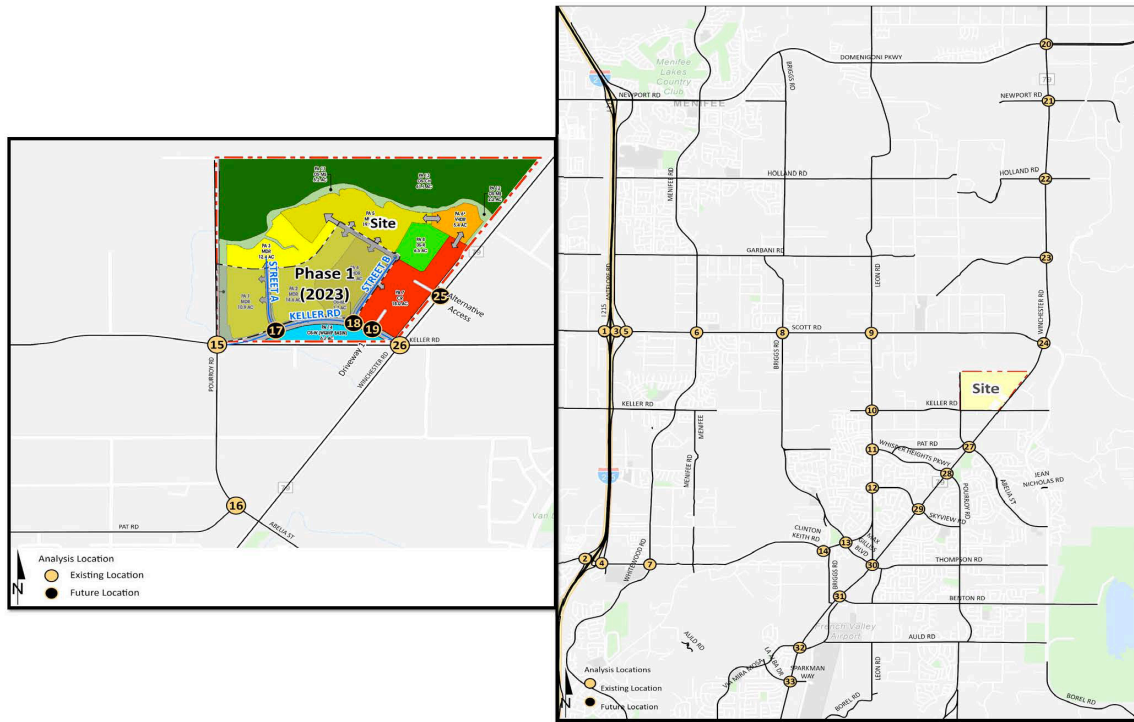
##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips



21	Winchester Rd. (SR-79) & Newport Rd.	22	Winchester Rd. (SR-79) & Holland Rd.	23	Winchester Rd. (SR-79) & Garbani Rd.	24	Winchester Rd. (SR-79) & Scott Rd.	25	Winchester Rd. (SR-79) & Driveway 2
<p>800</p> <p>← 16(19)</p> <p>2(2) ↓</p> <p>2(2) ↑</p> <p>19(14) →</p> <p>800</p>		<p>800</p> <p>← 29(36)</p> <p>3(3) ↓</p> <p>4(2) ↑</p> <p>45(26) →</p> <p>800</p>		<p>800</p> <p>← 32(40)</p> <p>2(2) ↓</p> <p>2(2) ↑</p> <p>49(28) →</p> <p>800</p>		<p>800</p> <p>← 34(42)</p> <p>3(3) ↓</p> <p>4(2) ↑</p> <p>50(30) →</p> <p>800</p>		<p>Not Evaluated for this Scenario</p>	
26	Winchester Rd. (SR-79) & Keller Rd.	27	Winchester Rd. (SR-79) & Abelia St.	28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	30	Winchester Rd. (SR-79) & Max Gillis Bl./Thompson Rd.
<p>800</p> <p>← 80(157)</p> <p>← 44(-112)</p> <p>84(107) →</p> <p>150(192) ↓</p> <p>123(182) ↑</p> <p>-30(-75) →</p> <p>2,200</p>		<p>2,200</p> <p>← 6(5)</p> <p>← 96(71)</p> <p>← 4(3)</p> <p>6(7) →</p> <p>17(7) ↓</p> <p>7(11) ↑</p> <p>83(95) →</p> <p>4(4)</p> <p>2,050</p>		<p>2,050</p> <p>← 2(2)</p> <p>← 100(69)</p> <p>← 11(7)</p> <p>2(2) →</p> <p>80(94) ↑</p> <p>8(10)</p> <p>150</p>		<p>300</p> <p>← 4(2)</p> <p>← 93(63)</p> <p>← 4(3)</p> <p>3(3) →</p> <p>73(86) ↑</p> <p>4(4)</p> <p>1,650</p>		<p>100</p> <p>← 4(3)</p> <p>← 83(55)</p> <p>← 6(5)</p> <p>4(4) →</p> <p>6(7)</p> <p>1,400</p>	
31	Winchester Rd. (SR-79) & Benton Rd.	32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.				
<p>1,200</p> <p>← 9(4)</p> <p>← 65(45)</p> <p>← 9(7)</p> <p>4(5) →</p> <p>52(61) ↑</p> <p>8(9)</p> <p>150</p>		<p>1,050</p> <p>← 6(5)</p> <p>← 45(31)</p> <p>← 14(9)</p> <p>6(7) →</p> <p>36(42) ↑</p> <p>10(12)</p> <p>250</p>		<p>700</p> <p>← 6(5)</p> <p>← 35(22)</p> <p>← 4(3)</p> <p>6(7) →</p> <p>26(31) ↑</p> <p>4(4)</p> <p>100</p>					

##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

EXHIBIT 4-9: PROJECT ONLY (PROJECT BUILDOUT HORIZON YEAR – ALTERNATIVE ACCESS) TRAFFIC VOLUMES



21	Winchester Rd. (SR-79) & Newport Rd.	22	Winchester Rd. (SR-79) & Holland Rd.	23	Winchester Rd. (SR-79) & Garbani Rd.	24	Winchester Rd. (SR-79) & Scott Rd.	25	Winchester Rd. (SR-79) & Driveway 2																																																														
800	<table border="1"> <tr><td>←</td><td>16(19)</td></tr> <tr><td>2(2)</td><td>↓</td></tr> <tr><td>2(2)</td><td>↑</td></tr> <tr><td>19(14)</td><td>→</td></tr> </table>	←	16(19)	2(2)	↓	2(2)	↑	19(14)	→	800	<table border="1"> <tr><td>←</td><td>29(36)</td></tr> <tr><td>3(3)</td><td>↓</td></tr> <tr><td>4(2)</td><td>↑</td></tr> <tr><td>45(26)</td><td>→</td></tr> </table>	←	29(36)	3(3)	↓	4(2)	↑	45(26)	→	800	<table border="1"> <tr><td>←</td><td>32(40)</td></tr> <tr><td>2(2)</td><td>↓</td></tr> <tr><td>2(2)</td><td>↑</td></tr> <tr><td>49(28)</td><td>→</td></tr> </table>	←	32(40)	2(2)	↓	2(2)	↑	49(28)	→	800	<table border="1"> <tr><td>←</td><td>34(42)</td></tr> <tr><td>3(3)</td><td>↓</td></tr> <tr><td>4(2)</td><td>↑</td></tr> <tr><td>50(30)</td><td>→</td></tr> </table>	←	34(42)	3(3)	↓	4(2)	↑	50(30)	→	800	<table border="1"> <tr><td>←</td><td>70(143)</td></tr> <tr><td>120(170)</td><td>↓</td></tr> <tr><td>33(98)</td><td>↑</td></tr> <tr><td>54(32)</td><td>→</td></tr> </table>	←	70(143)	120(170)	↓	33(98)	↑	54(32)	→																						
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1,300	<table border="1"> <tr><td>←</td><td>11(14)</td></tr> <tr><td>54(107)</td><td>↓</td></tr> <tr><td>74(21)</td><td>↑</td></tr> <tr><td>76(58)</td><td>→</td></tr> <tr><td>123(182)</td><td>↑</td></tr> <tr><td>-30(-75)</td><td>↓</td></tr> </table>	←	11(14)	54(107)	↓	74(21)	↑	76(58)	→	123(182)	↑	-30(-75)	↓	2,200	<table border="1"> <tr><td>←</td><td>6(5)</td></tr> <tr><td>6(7)</td><td>↓</td></tr> <tr><td>17(7)</td><td>↑</td></tr> <tr><td>96(71)</td><td>→</td></tr> <tr><td>4(3)</td><td>↑</td></tr> <tr><td>4(4)</td><td>↑</td></tr> <tr><td>7(11)</td><td>↑</td></tr> <tr><td>83(95)</td><td>→</td></tr> </table>	←	6(5)	6(7)	↓	17(7)	↑	96(71)	→	4(3)	↑	4(4)	↑	7(11)	↑	83(95)	→	2,050	<table border="1"> <tr><td>←</td><td>2(2)</td></tr> <tr><td>2(2)</td><td>↓</td></tr> <tr><td>80(94)</td><td>↑</td></tr> <tr><td>100(69)</td><td>↑</td></tr> <tr><td>11(7)</td><td>↑</td></tr> <tr><td>8(10)</td><td>↑</td></tr> </table>	←	2(2)	2(2)	↓	80(94)	↑	100(69)	↑	11(7)	↑	8(10)	↑	1,650	<table border="1"> <tr><td>←</td><td>4(2)</td></tr> <tr><td>3(3)</td><td>↓</td></tr> <tr><td>73(86)</td><td>↑</td></tr> <tr><td>93(63)</td><td>↑</td></tr> <tr><td>4(3)</td><td>↑</td></tr> <tr><td>4(4)</td><td>↑</td></tr> </table>	←	4(2)	3(3)	↓	73(86)	↑	93(63)	↑	4(3)	↑	4(4)	↑	3,450	<table border="1"> <tr><td>←</td><td>4(3)</td></tr> <tr><td>4(4)</td><td>↓</td></tr> <tr><td>6(7)</td><td>↑</td></tr> <tr><td>83(65)</td><td>↑</td></tr> <tr><td>6(5)</td><td>↑</td></tr> </table>	←	4(3)	4(4)	↓	6(7)	↑	83(65)	↑	6(5)	↑
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##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year, compounded annually, for 2023 and 2028 traffic conditions. The total ambient growth is 4.04% for 2023 traffic conditions (compounded growth of 2 percent per year over 2 years or 1.02^2 years) and 14.87% for 2028 traffic conditions (compounded growth of 2 percent per year over 7 years or 1.02^7 years). The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

The currently adopted Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (May 2020) growth forecasts for the County of Riverside identifies projected growth in population of 370,500 in 2016 to 525,600 in 2045, or a 41.9 percent increase over the 29-year period. (10) The change in population equates to roughly a 1.21 percent growth rate, compounded annually. Similarly, growth over the same 29-year period in households is projected to increase by 59.2 percent, or 1.62 percent annual growth rate. Finally, growth in employment over the same 29-year period is projected to increase by 83.4 percent, or a 2.11 percent annual growth rate. This results in an average of 1.65 percent annual growth rate. As such, the 2.0 percent per year ambient growth rate utilized in this TS would appear to conservatively estimate annual traffic growth and overstate as opposed to understate future traffic forecasts.

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the County of Riverside and City of Murrieta. The cumulative project list includes known and foreseeable projects that are anticipated to contribute traffic to the study area intersections.

Where applicable, cumulative projects anticipated to contribute measurable traffic (i.e., 50 or more peak hour trips) to study area intersections have been manually added to the study area network to generate EAPC forecasts. In other words, this list of cumulative development projects has been reviewed to determine which projects would likely contribute measurable traffic through the study area intersections (e.g., those cumulative projects in close proximity to the proposed Project). For the purposes of this analysis, the cumulative projects that were determined to affect one or more of the study area intersections are shown on Exhibit 4-10, listed in Table 4-3, and have been considered for inclusion. Any additional traffic generated by other projects not on the cumulative projects list is likely accounted for through background ambient growth factors that have been applied to the peak hour volumes at study area intersections as discussed in Section 4.5 *Background Traffic*.

It is unlikely that all the cumulative development projects shown in Exhibit 4-10 and listed in Table 4-3 will be constructed and occupied by the 2023 and 2028. As such, for the purposes of this analysis, a 30% absorption percentage for 2023 traffic conditions and a 70% absorption percentage for 2028 traffic conditions has been utilized. Cumulative Only (100%) ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-11.

4.7 NEAR-TERM TRAFFIC CONDITIONS

The “buildup” approach combines existing traffic counts with a background ambient growth factor to forecast EAP (2023), EAP (2028), EAPC (2023), and EAPC (2028) traffic conditions. An ambient growth factor accounts for background (area-wide) traffic increases that occur over time up to the year 2023 and 2028 from the year 2021. Traffic volumes generated by the Project are then added to assess the near-term traffic conditions. The 2023 and 2028 roadway network is similar to the Existing conditions roadway network, with the exception of future driveways proposed to be developed by the Project. The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- Existing Plus Ambient Growth Plus Project (2023)
 - Existing 2021 counts
 - Ambient growth traffic (4.04%)
 - Project (Phase 1) traffic

- Existing Plus Ambient Growth Plus Project (2028)
 - Existing 2021 counts
 - Ambient growth traffic (14.87%)
 - Project (Project Buildout) traffic

- Existing Plus Ambient Growth Plus Project Plus Cumulative (2023)
 - Existing 2021 counts
 - Ambient growth traffic (4.04%)
 - Cumulative Development traffic
 - Project (Phase 1) traffic

- Existing Plus Ambient Growth Plus Project Plus Cumulative (2028)
 - Existing 2021 counts
 - Ambient growth traffic (14.87%)
 - Cumulative Development traffic
 - Project (Project Buildout) traffic

EXHIBIT 4-10: CUMULATIVE DEVELOPMENT LOCATION MAP

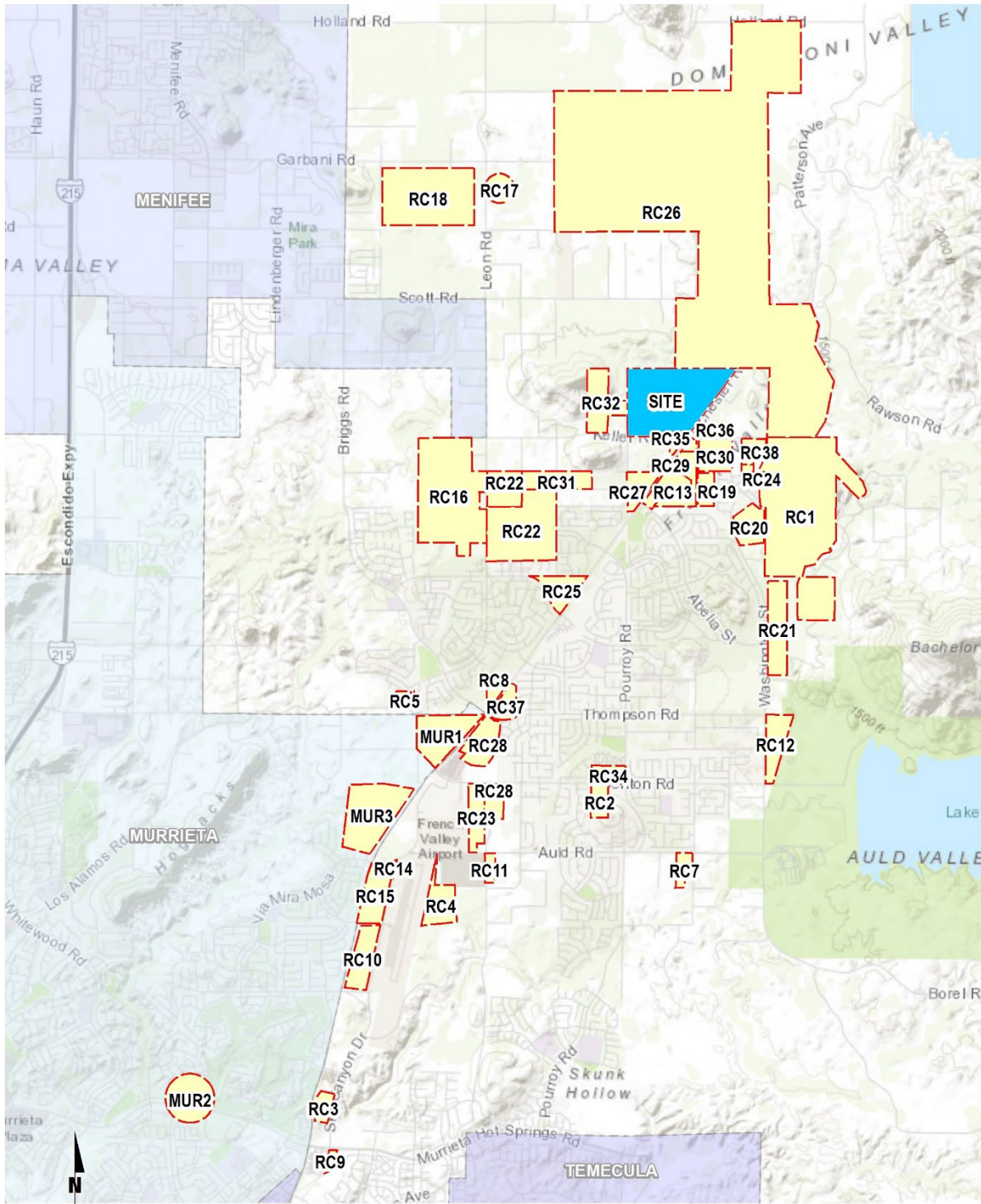
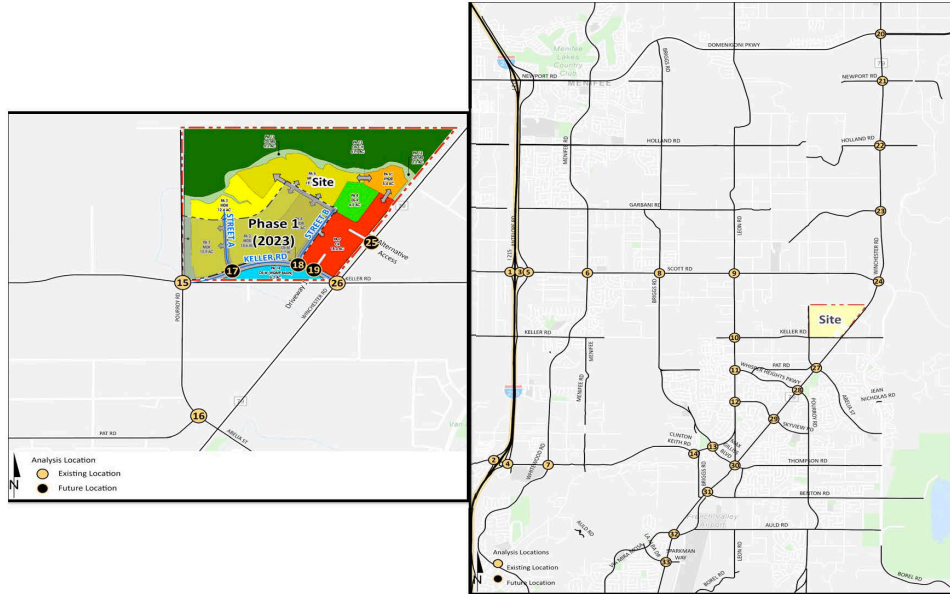
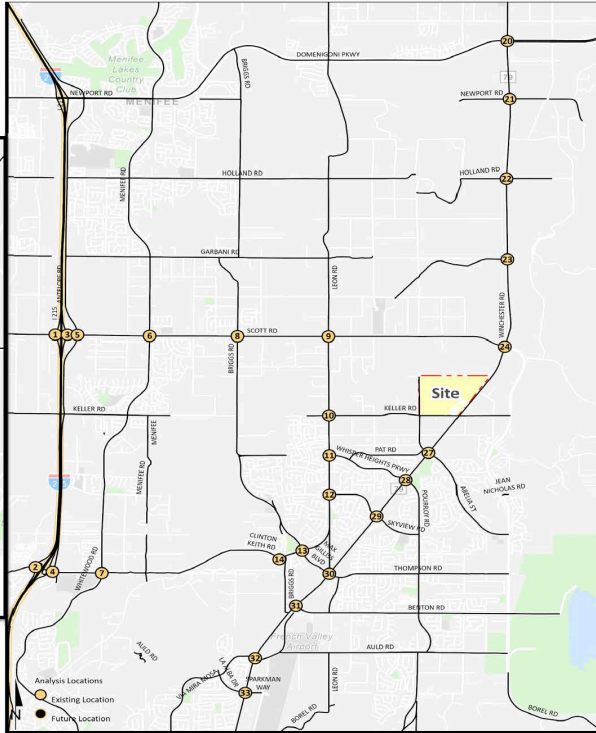
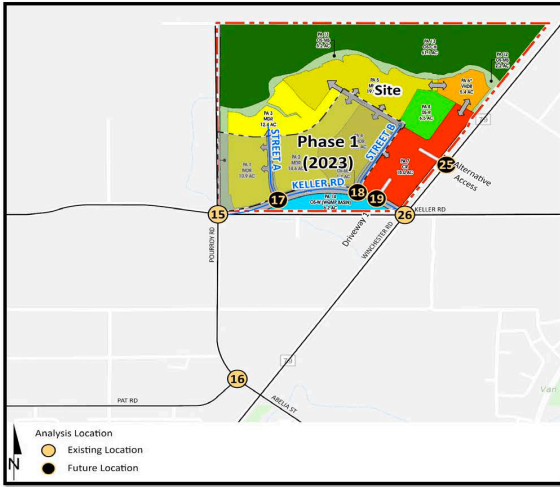


EXHIBIT 4-11: CUMULATIVE ONLY TRAFFIC VOLUMES



1	I-215 SB Ramps & Scott Rd.	2	I-215 SB Ramps & Clinton Keith Rd.	3	I-215 NB Ramps & Scott Rd.	4	I-215 NB Ramps & Clinton Keith Rd.	5	Antelope Rd. & Scott Rd.
14,100	19,800	13,300	24,150	9,650	33,900	3,700	35,150	2,550	36,900
↑ 387(1003) ↑ 359(284) ↑ 204(220)	↑ 56(0) ↑ 259(313) ↑ 695(546) ↑ 347(382) ↑ 0(174)	↑ 848(707) ↑ 563(504)	↑ 181(349) ↑ 956(1301)	↑ 76(126) ↑ 104(116) ↑ 1411(1211)	180(253) →	370(303) → 62(0) ↓	567(1296) → 141(432) ↓	585(669) → 44(65) ↓ 86(117) ↓ 519(884) ↓	708(1728) →
5,700	13,150	1,250	19,800	4,450	24,150	10,900	33,900		
6	Menifee Rd. & Scott Rd.	7	Whitewood Rd. & Clinton Keith Rd.	8	Briggs Rd. & Scott Rd.	9	Leon Rd. & Scott Rd.	10	Leon Rd. & Keller Rd.
8,200	51,250	12,600	32,050	5,150	59,100	11,100	38,650	19,150	4,450
↑ 208(379) ↑ 274(333) ↑ 1515(1328) ↑ 151(231)	↑ 138(319) ↑ 197(4) ↑ 167(226) ↑ 131(243) ↑ 883(1029) ↑ 43(83)	↑ 126(273) ↑ 220(206) ↑ 1941(1892) ↑ 63(106)	↑ 246(140) ↑ 116(69) ↑ 74(57) ↑ 31(88) ↑ 1331(1281)	↑ 476(705) ↑ 90(293) ↑ 265(175)	784(1864) →	213(225) → 241(220) ↓ 675(1140) ↓ 36(69) ↓ 113(126) → 65(49) ↓ 51(61) ↓	1206(2468) → 109(90) ↓	745(1698) ↓ 451(929) ↓ 647(783) ↓ 165(83) ↓	
36,900	61,150	5,050	51,250	2,700	59,100	19,150	14,700		
11	Leon Rd. & Whisper Heights Pkwy.	12	Leon Rd. & Jean Nicholas Rd.	13	Briggs Rd. & Leon Rd.	14	Leon Rd. & Clinton Keith Rd.	15	Pourroy Rd. & Keller Rd.
14,700	6,800	19,250	9,300	1,850	21,400	25,800	25,800	4,450	4,450
← 454(631) ← 22(73) ↑ 66(44) ↑ 306(231)	↑ 48(20) ↑ 667(695) ↑ 45(147) ↑ 132(88) ↑ 71(244)	← 41(42) ← 8(15) ↑ 5(17) ↑ 340(332) ↑ 375(625)	← 793(1145) ↑ 868(1088)	← 90(293)	481(647) → 115(358) ↓ 163(115) ↓ 159(180) → 366(898) →	208(437) → 585(708) ↓ 528(755) → 25(55) ↓ 304(657) ↓		265(175) →	
3,050	19,250	16,450	25,750	32,850	4,450				
16	Pourroy Rd. & Pat Rd.	17	Street A & Keller Rd.	18	Street B & Keller Rd.	19	Driveway 1 & Keller Rd.	20	Winchester Rd. (SR-79) & Domenigoni Pkwy.
159(101) ↓ 53(177) ↓	Future Intersection	Future Intersection	Future Intersection	Future Intersection	16,500	← 395(852)	703(637) → 295(354) ↓	224(402) ↓	8,850
3,050	3,050								25,400

##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips



21	Winchester Rd. (SR-79) & Newport Rd.	22	Winchester Rd. (SR-79) & Holland Rd.	23	Winchester Rd. (SR-79) & Garbani Rd.	24	Winchester Rd. (SR-79) & Scott Rd.	25	Winchester Rd. (SR-79) & Driveway 2
25,400	← 620(1254) 998(991) →	25,400	← 620(1254) 998(991) →	25,400	← 620(1254) 998(991) →	54,750 873(849) 741(1101) 82(141) 439(571) 177(344) 202(270)	7,900 118(93) 281(232) 208(288) 717(1135)	Future Intersection	
35,600	90(293) 854(1077) 265(175) → 660(1248) →	31,150 38(78) 813(988) 3(11) 5(10) 19(39) 340(288) 23(87) 11(44) 178(176) ↓ 86(242) 632(1151) 195(420)	8,950 18(16) 1223(1353) 90(83) 40(116) 8(23) 34(14) ↓ 12(85) 865(1674) →	40,250 56(108) 1198(1247) 3(11) 5(10) 48(113) → 238(166) ↓ 89(271) → 824(1586) →	2,400 38,200 8,350	39,050 238(281) 1130(907) 68(225) 195(139) 148(198) 227(234) 164(355) ↓ 78(245) ↓ 760(775) ↓ 471(988) → 471(988) → 118(293) →	13,450 54,850		
4,450	15,550 1523(1474) 565(298) 296(636) 10(6) 714(1936) → 6(11) →	37,600 40(106) 1243(1133) 249(242) 126(273) 15(56) 47(62) 49(100) → 56(18) ↓ 63(62) ↓ 26(82) → 545(1574) → 54(51) →	9,300 42(38) 763(679) 3(11) 5(10) 19(54) ↓ 378(940) →	31,750 19,100 17,800	31,750 19,100 17,800	31,750 19,100 17,800	31,750 19,100 17,800		
31	Winchester Rd. (SR-79) & Benton Rd.	32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.				
52,800	15,550 1523(1474) 565(298) 296(636) 10(6) 714(1936) → 6(11) →	37,600 40(106) 1243(1133) 249(242) 126(273) 15(56) 47(62) 49(100) → 56(18) ↓ 63(62) ↓ 26(82) → 545(1574) → 54(51) →	9,300 42(38) 763(679) 3(11) 5(10) 19(54) ↓ 378(940) →	31,750 19,100 17,800	31,750 19,100 17,800				

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

TABLE 4-3: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

#	Project Name	Land Use ¹	Quantity Units ²
County of Riverside:			
RC1	Belle Terre (SP 382)	Single Family Housing	1282 DU
RC2	TR 32323	Single Family Housing	38 DU
RC3	PP 22147	Medical Office	10.750 TSF
	PP 22352	Business Park	177.742 TSF
RC4	French Valley Airport	Business Park	694.629 TSF
		Apartments	240 DU
		Condominium	211 DU
RC5	PP 26249	SFDR	48 DU
RC6	TTM 37308	SFDR	8 DU
RC7	TTM 37418	SFDR	6 DU
RC8	CUP 03593	Gas Station	6.200 TSF
		Commercial Retail	26.500 TSF
		Storage	128.600 TSF
	TR 33751	Single Family Housing	11 DU
	PP 26212	Car Wash	30 STALLS
RC9	PP 20574	Medical Office	29.400 TSF
RC10	KTM HQ	Hotel	200 RM
		Fitness Club	20.000 TSF
		Medical Office	77.000 TSF
		Office	160.000 TSF
		Research & Development	188.000 TSF
		High-Turnover Restaurant	14.500 TSF
		Fast Food w/ Drive-Thru	8.000 TSF
RC11	CUP180023	Gas Station with Convenience Market	16 VFP
RC12	TTM No. 35770	Single Family Housing	156 DU
	TR 37028	Single Family Housing	133 DU
RC13	Sevilla	Multifamily Housing (Low-Rise)	180 DU
RC14	Fausto Office Building	Single Tenant Office Building	7.850 TSF
RC15	French Valley Walmart & Commercial/Business Center (PP 21750, PM 34669)	Free-Standing Discount Store/Superstore	205.000 TSF
		Shopping Center	113.300 TSF
		Bank with Drive-Thru	5.500 TSF
		High Turnover (Sit-Down) Restaurant	6.500 TSF
		Fast Food Restaurant w/ Drive-Thru	4.000 TSF
RC16	Spencer's Crossing (SP 312 A-1)	Single Family Housing	1,671 DU
		Parks	32.1 AC
RC17	Perris Union HSD High School	High School	2800 STU
RC18	La Ventana Ranch	Single Family Housing	535 DU
		Community Park	15.0 AC
		Passive Park	2.0 AC

#	Project Name	Land Use ¹	Quantity Units ²
County of Riverside:			
RC19	TR 36687	SFDR	71 DU
RC20	TR 33423	SFDR	134 DU
RC21	TR 30837	SFDR	320 DU
RC22	TR 32185	SFDR	426 DU
RC23	PM 29509	General Light Industrial	37.1 AC
RC24	TR 33303	SFDR	24 DU
RC25	TTM No. 37078	SFDR	164 DU
	PPT 170003	Condominium	168 DU
RC26	Domenigoni - Barton Properties (SP 310)	SFDR	2823 DU
		Mixed Use	200.8 AC
		Commercial Retail	42.4 AC
		Commercial Recreation	117.9 AC
		School	44.0 AC
	Passive Park	37.6 AC	
RC27	PP 24054	Commercial Retail	160.680 TSF
RC28	Quinto Do Lago (SP 284)	Business Park/Commercial	45.3 AC
		Industrial Park	38.8 AC
RC29	Winchester Village (SP 286A5)	SFDR	3912 DU
		Condominium	783 DU
		Commercial Retail	54.9 AC
		Commercial Recreation	36.7 AC
		Schools	55.0 AC
	Active Parks	58.4 AC	
RC30	TR 36722 (SP 286A6)	SFDR	146 DU
RC31	TR 34150	SFDR	82 DU
RC32	TR 37089	SFDR	21 DU
RC33	CUP 3700	Gas Station w/ Convenience Market	6 VFP
		Car Wash	0.800 TSF
		Commercial Retail	3.225 TSF
RC34	TTM No. 37715	SFDR	145 DU
RC35	CUP190012	Self-Storage	185.468 TSF
RC36	PP19442	Multifamily Housing	186 DU
RC37	PP26344	Shopping Center	133.877 TSF
RC38	TR31700	SFDR	64 DU
RC39	PAR210002	Single Family Housing	88 DU
RC40	PAR210022	Self-Storage/Office/RV Storage	128.928 TSF

#	Project Name	Land Use ¹	Quantity Units ²
RC41	SP0030A01	Single Family Housing	356 DU
		Age Qualified Housing	80 DU
		Commerical Land Use	18.0 AC
		Parks	6.5 AC
		Preservation	61.1 AC
RC42	TR37078	Condominium	154 DU
RC43	CUP03078R2	Shopping Center/Drive-Thru/Gas Station	302.881 TSF
City of Murrieta:			
MUR1	Murrieta Marketplace (DP-2011-3129)	Commercial Retail	548.055 TSF
MUR2	Murrieta 196 (DP2013-3335)	Apartments	196 DU
MUR3	Adobe Springs (Tentative Parcel Map No. 36)	SFDR	287 DU

¹ SFDR = Single Family Detached Residential

² AC = Acres; DU = Dwelling Units; TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions; STU = Students; RMS = Rooms

4.8 HORIZON YEAR (2040) CONDITIONS

“Buildout” traffic projections for Horizon Year conditions are based on traffic model forecasts and were derived from the Riverside County Transportation Analysis Model (RivTAM) using accepted procedures for model forecast refinement and smoothing for study area intersections located within the County of Riverside. The Horizon Year traffic conditions analyses was utilized to determine if improvements funded through regional transportation mitigation fee programs, such as the TUMF, can accommodate the long-range traffic at the target LOS identified in the County of Riverside General Plan.

The traffic forecasts reflect the area-wide growth anticipated between Existing (2021) conditions and Horizon Year (2040) traffic conditions. In most instances the traffic model zone structure is not designed to provide accurate turning movements along arterial roadways unless refinement and reasonableness checking is performed. Therefore, the Horizon Year peak hour forecasts were refined using the model derived long range forecasts, base (validation) year model forecasts, along with existing peak hour traffic count data collected at each analysis location. The RivTAM has a base (validation) year of 2016 and a horizon (future forecast) year of 2040. The RivTAM 2040 model utilized for the purposes of this analysis assumes buildout of the County of Riverside.

The refined future peak hour approach and departure volumes obtained from the model output data are then entered into a spreadsheet program consistent with the National Cooperative Highway Research Program (NCHRP Report 765), along with initial estimates of turning movement proportions. A linear programming algorithm is used to calculate individual turning movements which match the known directional roadway segment forecast volumes computed in the previous step. This program computes a likely set of intersection turning movements from intersection approach counts and the initial turning proportions from each approach leg.

The future Horizon Year (2040) Without Project peak hour turning movements were then reviewed by Urban Crossroads, Inc. for reasonableness, and in some cases, were adjusted to achieve flow conservation, reasonable growth, and reasonable diversion between parallel routes. Flow conservation checks ensure that traffic flow between two closely spaced intersections, such as two adjacent driveway locations, is verified in order to make certain that vehicles leaving one intersection are entering the adjacent intersection and that there is no unexplained loss of vehicles. The result of this traffic forecasting procedure is a series of traffic volumes which are suitable for traffic operations analysis. Post-processing worksheets for Horizon Year (2040) Without Project traffic conditions are provided in Appendix 4.1.

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5 EAP (2023) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAP (2023) conditions and the resulting intersection operations, traffic signal warrant, and queuing analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAP (2023) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAP (2023) conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).

5.2 EAP (2023) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2021) traffic volumes plus an ambient growth factor of 4.04% and the addition of Project (Phase 1) traffic. The weekday ADT volumes and peak hour volumes which can be expected for EAP (2023) traffic conditions are shown on Exhibits 5-1.

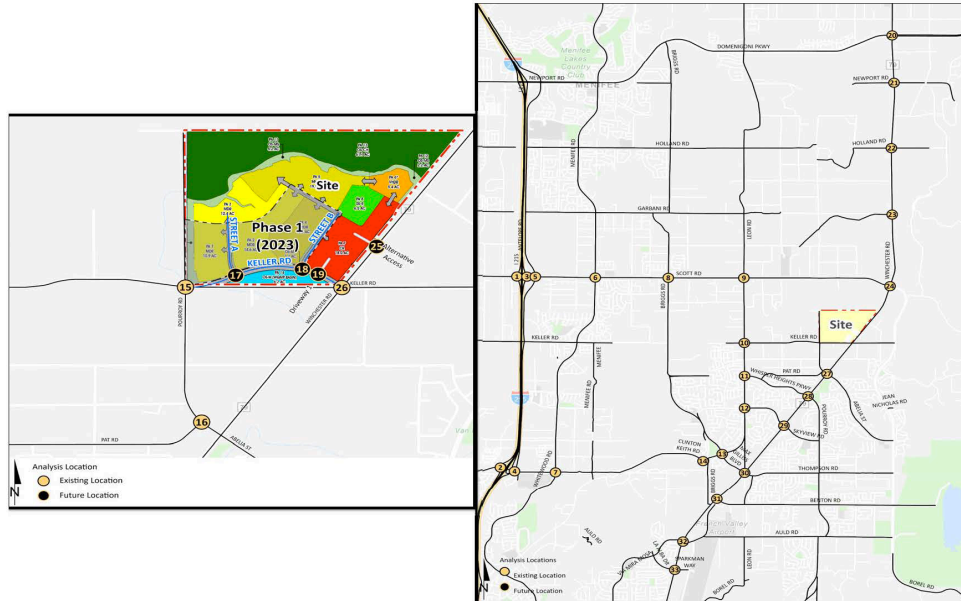
5.3 INTERSECTION OPERATIONS ANALYSIS

EAP (2023) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TS. The intersection analysis results are summarized on Table 5-1 for EAP (2023) traffic conditions, which indicate that there are no additional study area intersections that are anticipated to operate at an unacceptable LOS under EAP (2023) traffic conditions, in addition to the intersections previously identified under Existing (2021) traffic conditions. The intersection operations analysis worksheets for EAP (2023) traffic conditions are included in Appendix 5.1 of this TS.

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

There is no additional unsignalized study area intersections anticipated to meet a planning level volume-based (ADT) traffic signal warrant for EAP (2023) traffic conditions (see Appendix 5.2), in addition to the intersection previously identified under Existing (2021) traffic conditions.

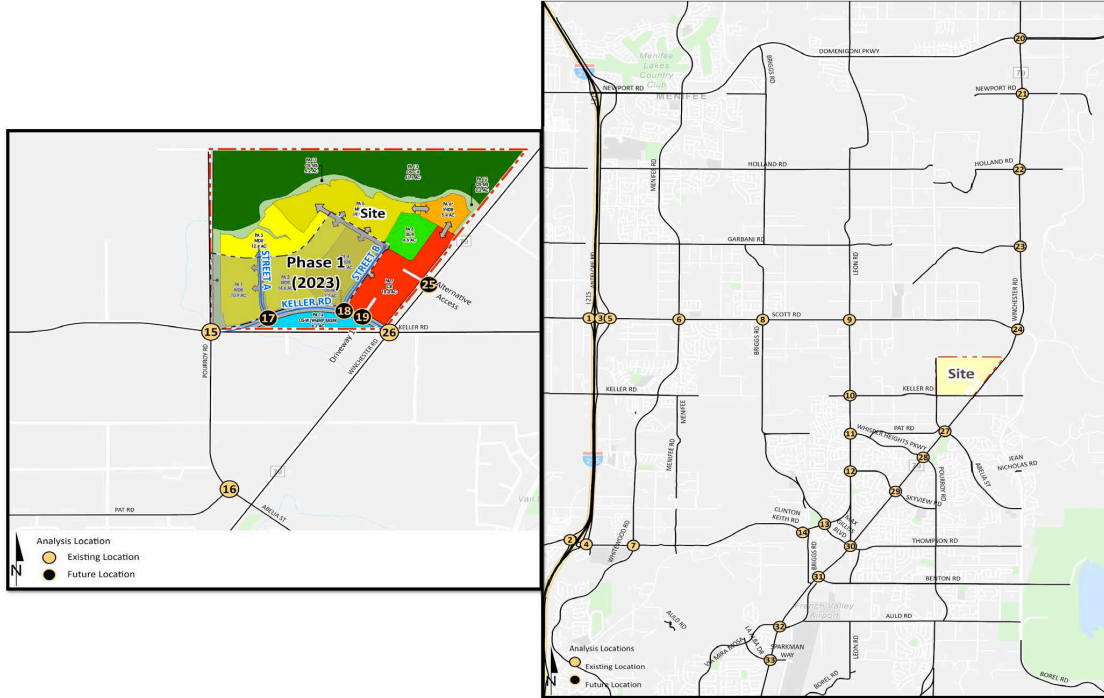
EXHIBIT 5-1: EAP (2023) TRAFFIC VOLUMES



1	2	3	4	5
I-215 SB Ramps & Scott Rd. 15,250 ↓ 236(275) ↑ 561(561) ↑ 585(404) ↓ 816(1465) 633(1068) ↓ 632(451) ↓ 40,300	I-215 SB Ramps & Clinton Keith Rd. 17,450 ↓ 793(695) ↑ 236(291) ↑ 541(422) ↓ 1201(1074) 1331(1499) ↓ 465(360) ↓ 44,900	I-215 NB Ramps & Scott Rd. 18,250 ↓ 273(699) ↑ 412(534) ↓ 1128(1170) 189(240) ↓ 1005(1389) ↓ 43,150	I-215 NB Ramps & Clinton Keith Rd. 1,650 ↑ 234(135) ↓ 1446(1095) 917(1203) ↓ 665(588) ↓ 40,650	Antelope Rd. & Scott Rd. 15,300 ↓ 385(292) ↓ 138(124) ↑ 38(48) ↑ 20(43) ↓ 808(858) 128(514) ↓ 684(1186) ↓ 456(459) ↓ 346(554) ↓ 42(214) ↓ 60(170) ↓ 19,850
Menifee Rd. & Scott Rd. 11,550 ↓ 75(89) ↓ 231(120) ↑ 125(99) ↑ 98(117) ↓ 788(751) ↓ 230(119) 67(178) ↓ 616(765) ↓ 73(138) ↓ 132(113) ↓ 106(332) ↓ 180(203) ↓ 25,250 12,700	Whitewood Rd. & Clinton Keith Rd. 26,750 ↓ 384(281) ↓ 362(226) ↑ 83(05) ↑ 108(152) ↓ 1107(747) ↓ 239(137) 334(632) ↓ 806(1009) ↓ 150(152) ↓ 123(184) ↓ 114(764) ↓ 94(165) ↓ 28,550 20,150	Briggs Rd. & Scott Rd. 950 ↓ 20(25) ↓ 393(4) ↓ 221(15) ↑ 64(11) ↓ 403(553) ↓ 356(8) 27(19) ↓ 616(603) ↓ 256(318) ↓ 322(314) ↓ 186(7) ↓ 70(16) ↓ 14,600 8,100	Leon Rd. & Scott Rd. 1,450 ↓ 8(18) ↓ 63(29) ↓ 33(11) ↑ 10(11) ↓ 289(326) ↓ 22(15) 10(14) ↓ 294(321) ↓ 205(199) ↓ 270(155) ↓ 39(95) ↓ 9(17) ↓ 8,700 5,350	Leon Rd. & Keller Rd. 6,550 ↓ 11(0) ↓ 270(162) ↓ 28(64) ↑ 65(50) ↓ 0(3) ↓ 49(29) 3(4) ↓ 1(3) ↓ 3(4) ↓ 10(0) ↓ 10(0) ↓ 14(58) ↓ 2,250 6,300
Leon Rd. & Whisper Heights Pkwy. 6,450 ↓ 4(0) ↓ 234(208) ↓ 18(8) ↑ 13(14) ↓ 11(11) 145(299) ↓ 7(13) ↓ 550 6,450	Leon Rd. & Jean Nicholas Rd. 9,050 ↓ 10(3) ↓ 275(238) ↓ 49(66) ↑ 77(134) ↓ 205(96) ↓ 124(133) 14(8) ↓ 117(45) ↓ 125(48) ↓ 111(56) ↓ 103(288) ↓ 77(187) ↓ 8,200 11,650	Briggs Rd. & Leon Rd. 12,350 ↓ 256(102) ↓ 606(277) ↓ 27(13) ↑ 20(11) ↓ 415(324) ↓ 219(190) 322(175) ↓ 193(524) ↓ 701(1070) ↓ 736(844) ↓ 400(419) ↓ 59(184) ↓ 15,300 36,950	Leon Rd. & Clinton Keith Rd. 36,200 ↓ 1135(1719) ↑ 1366(1213) 2,650	Pourroy Rd. & Keller Rd. 2,500 ↓ 1(0) ↑ 90(98) ↓ 12(8) 34(106) ↓ 15(17) ↓ 10(20) ↓ 7(18) ↓ 700
Pourroy Rd. & Pat Rd. 600 ↓ 8(7) ↓ 16(19) 3(10) ↓ 39(29) ↓ 24(48) ↓ 15(19) ↓ 1,150 1,400	Street A & Keller Rd. 900 ↓ 49(32) ↓ 5(4) ↑ 2(6) ↓ 54(74) 16(55) ↓ 25(68) ↓ 1,750 2,500	Street B & Keller Rd. 900 ↓ 22(14) ↓ 32(21) ↑ 11(37) ↓ 34(66) 7(24) ↓ 23(48) ↓ 1,750	Driveway 1 & Keller Rd. Future Intersection	Winchester Rd. (SR-79) & Domenigoni Pkwy. 24,500 ↓ 235(170) ↓ 985(607) ↓ 7(19) ↑ 14(20) ↓ 848(817) ↓ 850(678) 172(188) ↓ 937(937) ↓ 140(93) ↓ 62(28) ↓ 371(082) ↓ 656(908) ↓ 41,800 41,900

##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips





21 Winchester Rd. (SR-79) & Newport Rd. 41,900 700 150 41,950	22 Winchester Rd. (SR-79) & Holland Rd. 41,950 200 400 41,950	23 Winchester Rd. (SR-79) & Garbani Rd. 41,950 200 200 41,950	24 Winchester Rd. (SR-79) & Scott Rd. 41,800 14,500 10,900 29,100	25 Winchester Rd. (SR-79) & Driveway 2 Not Evaluated for this Scenario
26 Winchester Rd. (SR-79) & Keller Rd. 29,100 1,750 1,950 30,350	27 Winchester Rd. (SR-79) & Abelia St. 30,400 3,100 1,600 30,500	28 Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd. 30,500 4,900 1,000 29,300	29 Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd. 30,550 650 6,050 32,700	30 Winchester Rd. (SR-79) & Max Gillis Bl./Thompson Rd. 40,750 14,000 20,150 56,000
31 Winchester Rd. (SR-79) & Benton Rd. 56,000 25,250 50,500 4,950	32 Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd. 50,500 9,550 50,500 6,850	33 Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy. 54,150 1,850 57,100		

##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips



TABLE 5-1: INTERSECTION ANALYSIS FOR EAP (2023) CONDITIONS

#	Intersection	Traffic Control ²	Existing (2021)				EAP (2023)			
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	I-215 SB Ramps & Scott Rd.	TS	8.9	8.5	A	A	9.6	9.3	A	A
2	I-215 SB Ramps & Clinton Keith Rd.	TS	11.9	10.8	B	B	12.7	11.3	B	B
3	I-215 NB Ramps & Scott Rd.	TS	7.0	27.4	A	C	8.8	31.3	A	C
4	I-215 NB Ramps & Clinton Keith Rd.	TS	8.8	12.9	A	B	9.1	13.8	A	B
5	Antelope Rd. & Scott Rd.	TS	22.5	29.9	C	C	23.6	32.8	C	C
6	Meniffee Rd. & Scott Rd.	TS	25.7	26.5	C	C	27.1	29.0	C	C
7	Whitewood Rd. & Clinton Keith Rd.	TS	32.5	62.2	C	E	35.5	71.3	D	E
8	Briggs Rd. & Scott Rd.	TS	21.9	14.1	C	B	24.0	15.0	C	B
9	Leon Rd. & Scott Rd.	AWS	19.9	16.5	C	C	27.3	22.3	D	C
10	Leon Rd. & Keller Rd.	CSS	12.1	11.9	B	B	13.1	13.6	B	B
11	Leon Rd. & Whisper Heights Pkwy.	CSS	10.5	11.3	B	B	10.7	11.6	B	B
12	Leon Rd. & Jean Nicholas Rd.	TS	30.8	27.5	C	C	31.1	27.6	C	C
13	Briggs Rd. & Leon Rd.	TS	50.8	33.5	D	C	52.6	36.2	D	D
14	Leon Rd. & Clinton Keith Rd.	TS	0.0	0.0	A	A	0.0	0.0	A	A
15	Pourroy Rd. & Keller Rd.	AWS	7.0	7.3	A	A	7.8	8.4	A	A
16	Pourroy Rd. & Pat Rd.	CSS	8.6	8.7	A	A	8.7	9.0	A	A
17	Old Keller Rd./Street A & Keller Rd.	<u>CSS</u>	Future Intersection				8.8	10.5	A	B
18	Street B & Keller Rd.	<u>CSS</u>	Future Intersection				9.2	9.4	A	A
19	Driveway 1 & Keller Rd.	<u>CSS</u>	Future Intersection				Future Intersection			
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.	TS	115.9	92.3	F	F	128.9	103.8	F	F
21	Winchester Rd. (SR-79) & Newport Rd.	TS	4.8	6.0	A	A	5.2	6.1	A	A
22	Winchester Rd. (SR-79) & Holland Rd.	TS	11.1	7.8	B	A	12.1	8.5	B	A
23	Winchester Rd. (SR-79) & Garbani Rd.	TS	6.3	3.8	A	A	6.9	4.3	A	A
24	Winchester Rd. (SR-79) & Scott Rd.	TS	23.5	78.1	C	E	24.6	85.7	C	F
25	Winchester Rd. (SR-79) & Driveway 2		Future Intersection				Future Intersection			
26	Winchester Rd. (SR-79) & Keller Rd.	TS	7.4	8.7	A	A	8.9	9.9	A	A
27	Winchester Rd. (SR-79) & Abelia St.	TS	22.4	16.8	C	B	24.2	17.8	C	B
28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	TS	19.9	18.4	B	B	21.3	19.2	C	B
29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	TS	19.7	19.0	B	B	20.8	20.0	C	C
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	TS	171.8	143.2	F	F	194.3	163.8	F	F
31	Winchester Rd. (SR-79) & Benton Rd.	TS	20.5	72.5	C	E	23.2	85.4	C	F
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	TS	71.9	57.1	E	E	84.3	68.5	F	E
33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	TS	34.4	26.6	C	C	46.1	33.2	D	C

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or

² CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; TS = Improvement

5.5 QUEUING ANALYSIS

Queuing analysis findings for EAP (2023) are presented on Table 5-2. As shown on Table 5-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project (Phase 1) traffic. Worksheets for EAP (2023) traffic conditions queuing analysis are provided in Appendix 5.3.

TABLE 5-2: PEAK HOUR QUEUING SUMMARY FOR EAP (2023) CONDITIONS

Intersection	Movement ³	Available Stacking Distance (Feet) ³	Existing (2021)				EAP (2023)			
			95th Percentile Queue (Feet)		Acceptable? ¹		95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps & Scott Rd. (#1)	SBL	1,470	156	220	Yes	Yes	177	261	Yes	Yes
	SBR	1,470	27	104	Yes	Yes	35	121	Yes	Yes
I-215 SB Ramps & Clinton Keith Rd. (#2)	SBL/T	1,900	96	230	Yes	Yes	196	241	Yes	Yes
	SBR	1,200	206	267	Yes	Yes	367	287	Yes	Yes
I-215 NB Ramps & Scott Rd. (#3)	NBR	1,425	16	327 ²	Yes	Yes	28	492 ²	Yes	Yes
	SBR	1,750	43	325 ²	Yes	Yes	65	366 ²	Yes	Yes
I-215 NB Ramps & Clinton Keith Rd. (#4)	NBL/R	1,920	198	337	Yes	Yes	222	393	Yes	Yes
	NBR	950	134	309	Yes	Yes	161	367	Yes	Yes
Winchester Rd. (SR-79) & Keller Rd. (#26)	<u>EBL</u>	<u>300</u>	Does Not Exist				24	32	Yes	Yes
	<u>EBR</u>	<u>175</u>					15	8	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ EBL = Improvement; 100 = Improvement

5.6 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. Based on the County of Riverside deficiency criteria discussed in Section 2.6 *Deficiency Criteria*, roadway segments were found to be deficient. Improvements necessary to improve project-related traffic deficiencies are also discussed below.

5.6.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Table 5-3 indicates the physical improvements needed to address LOS deficiencies at each of the study area intersections under EAP (2023) traffic conditions. The improvements have been identified to improve the EAP (2023) deficiencies back to acceptable levels. Intersection analysis worksheets for EAP (2023) traffic conditions, with improvements, are provided in Appendix 5.4.

TABLE 5-3: INTERSECTION ANALYSIS FOR EAP (2023) CONDITIONS WITH IMPROVEMENTS

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
7	Whitewood Rd. & Clinton Keith Rd.																	
	- Without Improvements	TS	1	1	1	1	2	0	2	2	1	2	3	1	35.5	71.3	D	E
	- With Improvements	TS	1	<u>2</u>	1	1	2	0	2	<u>3</u>	1	2	3	1	34.6	33.7	C	C
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.																	
	- Without Improvements	TS	1	2	1	1	2	1	2	2	1	2	3	1	128.9	103.8	F	F
	- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	1	2	2	1	2	3	1	34.6	41.4	C	D
24	Winchester Rd. (SR-79) & Scott Rd.																	
	- Without Improvements	TS	1	3	1	1	3	1	1	1	1	1	1	1	24.6	85.7	C	F
	- With Improvements	TS	1	3	1	1	3	1	<u>2</u>	1	1	1	1	1	23.4	25.7	C	C
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.																	
	- Without Improvements	TS	1	2	0	1	2	1	1	1	2	1	1	0	194.3	163.8	F	F
	- With Improvements	TS	<u>2</u>	<u>3</u>	0	1	<u>3</u>	1	1	1	2	1	1	0	34.5	33.8	C	C
31	Winchester Rd. (SR-79) & Benton Rd.																	
	- Without Improvements	TS	0	3	0	1	2	0	0	0	0	2	0	1>	23.2	85.4	C	F
	- With Improvements	TS	0	3	0	<u>2</u>	<u>3</u>	0	0	0	0	2	0	1>	15.8	34.2	B	C
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.																	
	- Without Improvements	TS	1	2	1	1	2	0	1	1	0	1	1	0	84.3	68.5	F	E
	- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	0	1	1	0	1	1	0	20.9	20.0	C	B

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; 1 = Improvement

² Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ TS = Traffic Signal

5.6.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously in Table 5-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAP (2023) traffic conditions. As such, no improvements have been identified.

6 EAP (2028) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAP (2028) conditions and the resulting intersection operations, traffic signal warrant, and queuing analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAP (2028) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAP (2028) conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).

6.2 EAP (2028) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2021) traffic volumes plus an ambient growth factor of 14.87% and the addition of Project (Project Buildout) traffic. The weekday ADT volumes and peak hour volumes which can be expected for EAP (2028) traffic conditions are shown on Exhibits 6-1 and on Exhibit 6-2 assuming alternative access on Winchester Road (SR-79).

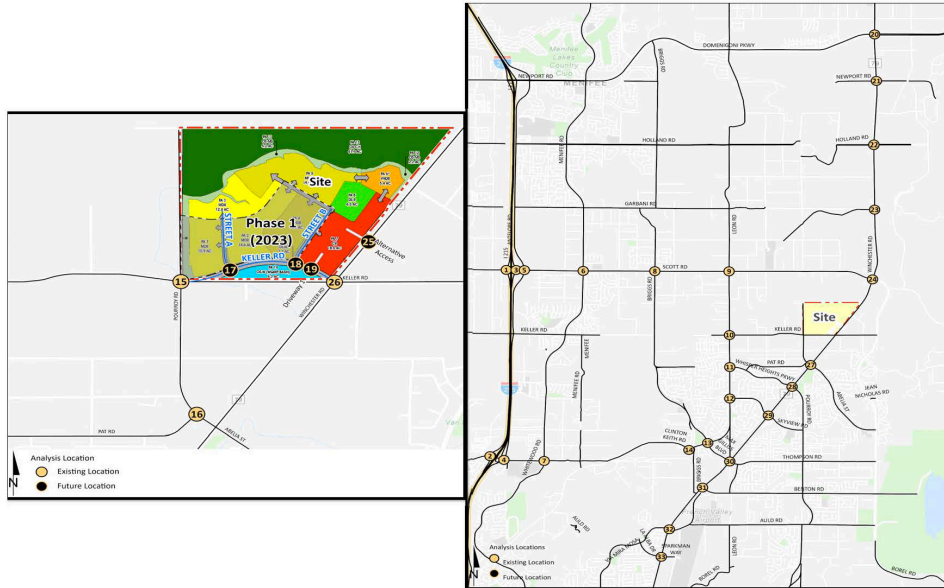
6.3 INTERSECTION OPERATIONS ANALYSIS

EAP (2028) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TS. The intersection analysis results are summarized on Table 6-1 for EAP (2028) traffic conditions, which indicate that the following additional study area intersections are anticipated to operate at an unacceptable LOS under EAP (2028) traffic conditions, in addition to the intersections previously identified under Existing (2021) traffic conditions:

- Leon Road & Scott Road (#9) – LOS F AM and PM peak hours
- Briggs Road & Leon Road (#13) – LOS E AM peak hour only
- Winchester Road (SR-79) & La Alba Drive/Winchester Road (#33) – LOS F AM peak hour; LOS E PM peak hour

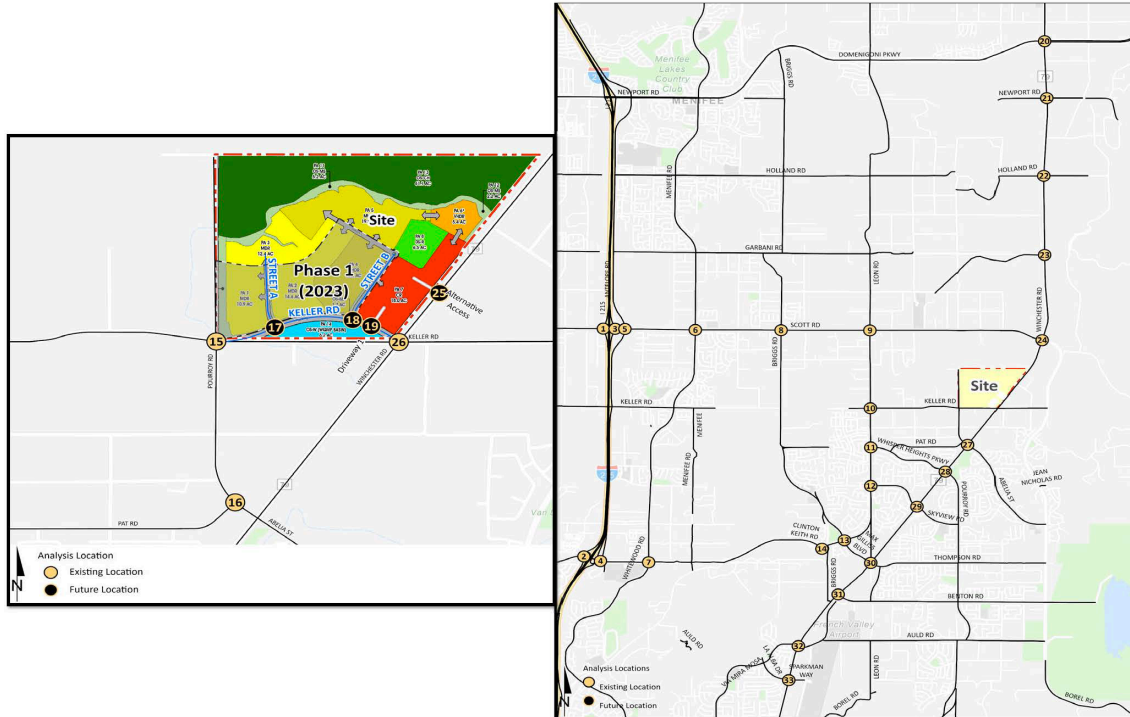
There are no additional deficiencies anticipated assuming alternative access conditions. The intersection operations analysis worksheets for EAP (2028) traffic conditions are included in Appendix 6.1 of this TS and Appendix 6.2 for the alternative access scenario.

EXHIBIT 6-1: EAP (2028) TRAFFIC VOLUMES



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
I-215 SB Ramps & Scott Rd.	I-215 SB Ramps & Clinton Keith Rd.	I-215 NB Ramps & Scott Rd.	I-215 NB Ramps & Clinton Keith Rd.	Antelope Rd. & Scott Rd.	Menifee Rd. & Scott Rd.	Whitewood Rd. & Clinton Keith Rd.	Briggs Rd. & Scott Rd.	Leon Rd. & Scott Rd.	Leon Rd. & Keller Rd.	Leon Rd. & Whisper Heights Pkwy.	Leon Rd. & Jean Nicholas Rd.	Briggs Rd. & Leon Rd.	Leon Rd. & Clinton Keith Rd.	Pourroy Rd. & Keller Rd.	Pourroy Rd. & Pat Rd.	Street A & Keller Rd.	Street B & Keller Rd.	Driveway 1 & Keller Rd.	Winchester Rd. (SR-79) & Domenigoni Pkwy.
17,050 47,950	19,450 45,100	20,350 53,200	1,850 40,550	16,950 33,100	12,950 28,950	29,750 32,250	1,150 17,350	1,650 9,600	8,500 4,500	7,850 650	10,700 9,050	13,600 17,650	40,650 40,650	4,750 4,750	650 1,250	750 4,750	4,450 4,450	5,900 9,250	27,250 46,350
261(304) 647(637) 646(446) 909(1622)	876(767) 261(322) 627(481) 1325(1186)	304(771) 484(605) 1253(1297)	258(149) 1626(1224)	426(322) 135(137) 141(568) 930(967) 791(1332) 503(506) 382(612) 67(188)	83(99) 255(133) 449(119) 120(136) 912(852) 264(141)	424(310) 400(246) 102(127) 129(177) 125(840) 268(154)	22(28) 43(45) 250(20) 77(14) 511(652) 397(12)	11(12) 319(360) 24(17)	12(0) 298(179) 104(128) 149(104) 0(3) 98(60)	5(0) 303(257) 20(9) 14(15) 12(12)	11(3) 348(290) 54(76) 85(148) 227(106) 137(147)	282(113) 668(305) 30(14) 22(12) 501(385) 242(210)	1295(1931) 1551(1367)	221(184) 19(9) 153(208) 17(19)	12(7) 21(21) 6(10) 43(32) 26(52) 18(19)	62(25) 7(3) 3(4) 178(168)	93(58) 231(299) 80(96) 88(114)	40(43) 125(243) 119(168)	260(188) 1103(568) 7(21) 190(207) 1035(1035) 154(103) 68(141) 428(1201) 736(1010)
44,650	49,550	48,000	45,100	53,200	28,250	41,350	25,900	15,100	200	7,850	3,500	42,150	40,800	4,950	1,550	4,750	4,150	4,450	31,850

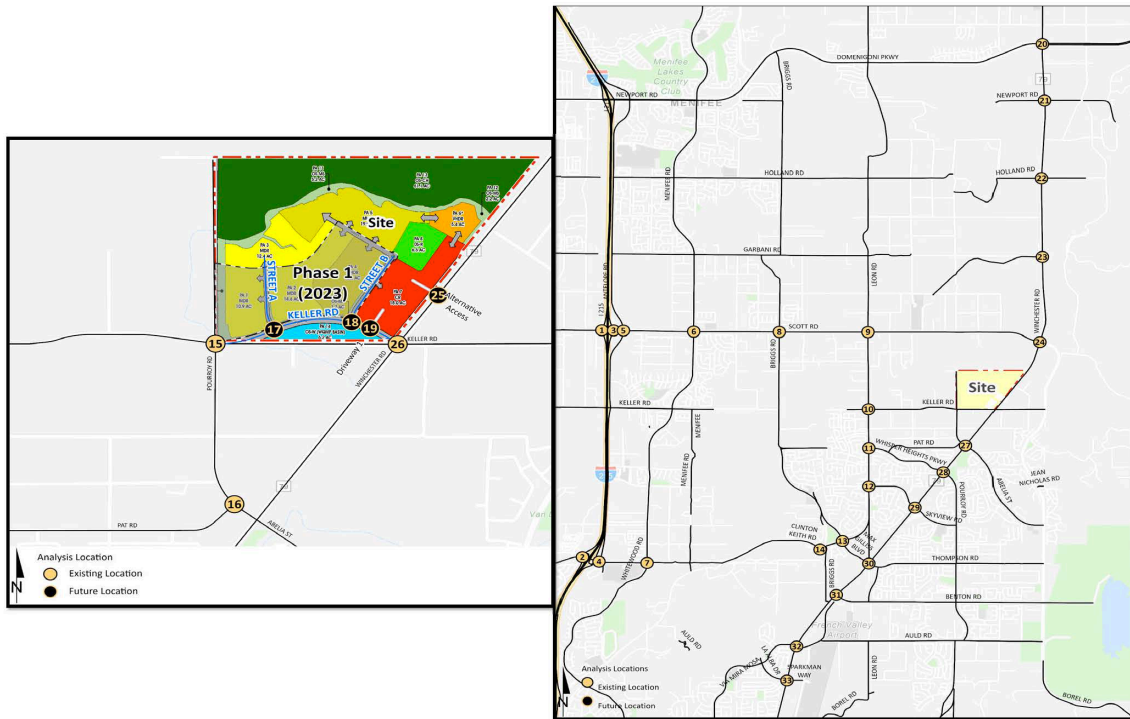
##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips



21	Winchester Rd. (SR-79) & Newport Rd.	22	Winchester Rd. (SR-79) & Holland Rd.	23	Winchester Rd. (SR-79) & Garbani Rd.	24	Winchester Rd. (SR-79) & Scott Rd.	25	Winchester Rd. (SR-79) & Driveway 2	
46,700	750	46,700	250	46,750		46,550	16,000		Not Evaluated for this Scenario	
2(5) ← 2197(1419) ↓ 10(6) ↑ 6(21) → 0(1) ↓ 6(23) ↑ 1(1) ↓ 1(2) ↑ 1225(2326) ↓ 0(11)	4(7) ← 2199(1437) ↓ 1(0) ↑ 0(6) → 4(2) ↓ 1(2) ↑ 2(7) ↑ 1225(2328) ↓ 0(4)	19(5) ← 2182(1442) ↓ 20(2) ↑ 1217(2328)	264(172) ← 1616(972) ↓ 324(299) ↑ 207(612) → 108(172) ↓ 0(60) ↑ 100(107) ↓ 866(1423)							
200	46,700	400	46,750	250	46,600	12,050	32,550			
26	Winchester Rd. (SR-79) & Keller Rd.	27	Winchester Rd. (SR-79) & Abelia St.	28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	30	Winchester Rd. (SR-79) & Max Gillis Bl./Thompson Rd.	
32,550	1,950	35,400	3,550	35,300	5,650	35,000	800	46,100	15,600	
99(173) ← 1619(930) ↓ 0(6) ↑ 0(9) → 1(21) ↓ 10(11) ↑ 84(115) ↓ 28(14) ↓ 182(222) ↑ 149(215) ↓ 883(1406) ↑ 11(98)	73(27) ← 1664(1061) ↓ 75(74) ↑ 78(77) → 10(13) ↓ 178(110) ↑ 43(24) ↓ 22(9) ↓ 50(41) ↑ 48(40) ↓ 922(1618) ↑ 10(2)	19(20) ← 1809(1047) ↓ 63(145) ↑ 130(131) → 18(22) ↓ 171(139) ↑ 33(12) ↓ 18(20) ↓ 21(12) ↑ 11(17) ↓ 815(1519) ↑ 0(1)	96(85) ← 1470(1024) ↓ 13(8) ↑ 16(20) → 6(6) ↓ 16(10) ↑ 101(95) ↓ 11(6) ↓ 167(122) ↑ 108(236) ↓ 797(1612) ↑ 4(15)	83(75) ← 1833(1289) ↓ 75(100) ↑ 39(31) → 355(286) ↓ 330(287) ↑ 45(114) ↓ 216(258) ↓ 836(494) ↑ 415(580) ↓ 415(300) ↑ 114(300)						
9,250	35,400	1,850	35,300	1,250	5,650	33,650	6,800	37,200	22,350	
31	Winchester Rd. (SR-79) & Benton Rd.	32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.					
62,700	28,050	56,500	10,650	60,300	2,150					
2489(1479) ← 508(592) ↓ 375(793) ↑ 430(369) ↓ 1093(2215) ↑ 217(514)	207(142) ← 2518(1629) ↓ 197(77) ↑ 16(105) → 40(42) ↓ 325(318) ↑ 195(104) ↓ 34(35) ↓ 48(57) ↑ 25(66) ↓ 1099(2520) ↑ 317(288)	73(125) ← 2804(1865) ↓ 15(12) ↑ 7(23) → 2(5) ↓ 16(43) ↑ 133(100) ↓ 5(11) ↓ 200(142) ↑ 90(239) ↓ 1300(2753) ↑ 48(80)								
56,500	56,500	60,300	60,300	63,300	63,300					

##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

EXHIBIT 6-2: EAP (2028) ALTERNATIVE ACCESS TRAFFIC VOLUMES



<p>21 Winchester Rd. (SR-79) & Newport Rd.</p> <p>46,700</p> <p>750</p> <p>46,700</p> <p>200</p>	<p>22 Winchester Rd. (SR-79) & Holland Rd.</p> <p>46,700</p> <p>250</p> <p>46,750</p> <p>400</p>	<p>23 Winchester Rd. (SR-79) & Garbani Rd.</p> <p>46,750</p> <p>250</p> <p>46,600</p> <p>250</p>	<p>24 Winchester Rd. (SR-79) & Scott Rd.</p> <p>46,550</p> <p>16,000</p> <p>46,600</p> <p>12,050</p>	<p>25 Winchester Rd. (SR-79) & Driveway 2</p> <p>32,550</p> <p>3,450</p> <p>32,550</p> <p>3,450</p>
<p>26 Winchester Rd. (SR-79) & Keller Rd.</p> <p>33,050</p> <p>1,950</p> <p>35,400</p> <p>5,800</p>	<p>27 Winchester Rd. (SR-79) & Abela St.</p> <p>35,400</p> <p>3,550</p> <p>35,300</p> <p>1,850</p>	<p>28 Winchester Rd. (SR-79) & Whispers Heights Pkwy./Pourroy Rd.</p> <p>35,300</p> <p>5,650</p> <p>33,650</p> <p>1,250</p>	<p>29 Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.</p> <p>35,000</p> <p>800</p> <p>37,200</p> <p>6,800</p>	<p>30 Winchester Rd. (SR-79) & Max Gillis Bl./Thompson Rd.</p> <p>46,400</p> <p>15,600</p> <p>22,350</p> <p>37,200</p>
<p>31 Winchester Rd. (SR-79) & Benton Rd.</p> <p>62,700</p> <p>28,050</p> <p>56,500</p> <p>5,550</p>	<p>32 Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.</p> <p>56,500</p> <p>10,650</p> <p>60,300</p> <p>7,650</p>	<p>33 Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.</p> <p>60,300</p> <p>2,150</p> <p>63,300</p>		

###(###) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

TABLE 6-1: INTERSECTION ANALYSIS FOR EAP (2028) CONDITIONS

#	Intersection	Traffic Control ²	Existing (2021)				EAP (2028)			
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	I-215 SB Ramps & Scott Rd.	TS	8.9	8.5	A	A	12.2	11.6	B	B
2	I-215 SB Ramps & Clinton Keith Rd.	TS	11.9	10.8	B	B	15.7	12.9	B	B
3	I-215 NB Ramps & Scott Rd.	TS	7.0	27.4	A	C	14.4	45.7	B	D
4	I-215 NB Ramps & Clinton Keith Rd.	TS	8.8	12.9	A	B	10.9	17.2	B	B
5	Antelope Rd. & Scott Rd.	TS	22.5	29.9	C	C	27.2	42.4	C	D
6	Menifee Rd. & Scott Rd.	TS	25.7	26.5	C	C	35.5	39.6	D	D
7	Whitewood Rd. & Clinton Keith Rd.	TS	32.5	62.2	C	E	47.1	96.9	D	F
8	Briggs Rd. & Scott Rd.	TS	21.9	14.1	C	B	38.7	17.5	D	B
9	Leon Rd. & Scott Rd.	AWS	19.9	16.5	C	C	90.0	60.3	F	F
10	Leon Rd. & Keller Rd.	CSS	12.1	11.9	B	B	31.1	21.2	D	C
11	Leon Rd. & Whisper Heights Pkwy.	CSS	10.5	11.3	B	B	11.4	12.4	B	B
12	Leon Rd. & Jean Nicholas Rd.	TS	30.8	27.5	C	C	32.1	28.1	C	C
13	Briggs Rd. & Leon Rd.	TS	50.8	33.5	D	C	72.3	47.8	E	D
14	Leon Rd. & Clinton Keith Rd.	TS	0.0	0.0	A	A	0.0	0.0	A	B
15	Pourroy Rd. & Keller Rd.	AWS	7.0	7.3	A	A	9.3	10.1	A	A
16	Pourroy Rd. & Pat Rd.	CSS	8.6	8.7	A	A	8.8	9.0	A	A
17	Old Keller Rd./Street A & Keller Rd.	CSS	Future Intersection				9.4	11.8	A	B
	-Alternative Access	CSS	Not Evaluated				9.8	11.8	A	B
18	Street B & Keller Rd.	CSS	Future Intersection				17.0	23.5	C	C
	-Alternative Access	CSS	Not Evaluated				13.8	19.0	B	C
19	Driveway 1 & Keller Rd.	CSS	Future Intersection				9.3	9.9	A	A
	-Alternative Access	CSS	Not Evaluated				9.2	9.8	A	A
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.	TS	115.9	92.3	F	F	164.9	132.6	F	F
21	Winchester Rd. (SR-79) & Newport Rd.	TS	4.8	6.0	A	A	6.2	6.6	A	A
22	Winchester Rd. (SR-79) & Holland Rd.	TS	11.1	7.8	B	A	17.7	11.3	B	B
23	Winchester Rd. (SR-79) & Garbani Rd.	TS	6.3	3.8	A	A	9.3	5.9	A	A
24	Winchester Rd. (SR-79) & Scott Rd.	TS	23.5	78.1	C	E	27.6	111.1	C	F
25	Winchester Rd. (SR-79) & Driveway 2	CSS	Future Intersection				Not Evaluated			
	-Alternative Access	CSS	Not Evaluated				28.1	16.5	D	C
26	Winchester Rd. (SR-79) & Keller Rd.	TS	7.4	8.7	A	A	26.3	28.3	C	C
	-Alternative Access	TS	Not Evaluated				25.4	25.0	C	C
27	Winchester Rd. (SR-79) & Abelia St.	TS	22.4	16.8	C	B	36.0	21.9	D	C
28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	TS	19.9	18.4	B	B	29.1	22.9	C	C
29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	TS	19.7	19.0	B	B	25.7	24.2	C	C
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	TS	171.8	143.2	F	F	>200.0	>200.0	F	F
31	Winchester Rd. (SR-79) & Benton Rd.	TS	20.5	72.5	C	E	35.5	122.2	D	F
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	TS	71.9	57.1	E	E	119.7	101.8	F	F
33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	TS	34.4	26.6	C	C	83.8	55.6	F	E

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or
² CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **TS** = Improvement

6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The following additional unsignalized study area intersections are anticipated to meet a planning level volume-based (ADT) traffic signal warrant for EAP (2028) traffic conditions (see Appendices 6.3 and 6.4), in addition to the intersection previously identified under Existing (2021) traffic conditions:

- Leon Road & Keller Road (#10)
- Street B & Keller Road (#18)

6.5 QUEUING ANALYSIS

Queuing analysis findings for EAP (2028) are presented on Table 6-2. As shown on Table 6-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project (Project Buildout) traffic. Worksheets for EAP (2028) traffic conditions queuing analysis are provided in Appendix 6.5 and Appendix 6.6 for alternative access conditions.

TABLE 6-2: PEAK HOUR QUEUING SUMMARY FOR EAP (2028) CONDITIONS

Intersection	Movement ³	Available Stacking Distance (Feet) ³	Existing (2021)				EAP (2028)			
			95th Percentile Queue (Feet)		Acceptable? ¹		95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps & Scott Rd. (#1)	SBL	1,470	156	220	Yes	Yes	247	301	Yes	Yes
	SBR	1,470	27	104	Yes	Yes	62	147	Yes	Yes
I-215 SB Ramps & Clinton Keith Rd. (#2)	SBL/T	1,900	96	230	Yes	Yes	217	266	Yes	Yes
	SBR	1,200	206	267	Yes	Yes	413	338	Yes	Yes
I-215 NB Ramps & Scott Rd. (#3)	NBR	1,425	16	327	Yes	Yes	80	597 ²	Yes	Yes
	SBR	1,750	43	325	Yes	Yes	111	471 ²	Yes	Yes
I-215 NB Ramps & Clinton Keith Rd. (#4)	NBL/R	1,920	198	337	Yes	Yes	312	471	Yes	Yes
	NBR	950	134	309	Yes	Yes	250	443	Yes	Yes
Winchester Rd. (SR-79) & Keller Rd. (#26) <i>-Alternative Access</i>	EBL	300	Does Not Exist				93	123	Yes	Yes
	EBR	175	Does Not Exist				121	121	Yes	Yes
	EBL	300	Does Not Exist				66	123	Yes	Yes
	EBR	175	Does Not Exist				58	22	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ **EBL** = Improvement; **100** = Improvement

6.6 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. Based on the County of Riverside deficiency criteria discussed in Section 2.6 *Deficiency Criteria*, roadway segments were found to be deficient. Improvements necessary to improve project-related traffic deficiencies are also discussed below.

6.6.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Table 6-3 indicates the improvements needed to address LOS deficiencies at each of the study area intersections under EAP (2028) traffic conditions. The improvements have been identified to improve the EAP (2028) deficiencies back to acceptable levels. The Project shall construct the improvements that are needed above and beyond those identified for Existing (2021) traffic conditions at the intersections of Leon Road at Scott Road and Winchester Road (SR-79) at La Alba Drive/Sparkman Way.

TABLE 6-3: INTERSECTION ANALYSIS FOR EAP (2028) CONDITIONS WITH IMPROVEMENTS

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service		
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM	
			L	T	R	L	T	R	L	T	R	L	T	R					
7	Whitewood Rd. & Clinton Keith Rd.																		
	- Without Improvements	TS	1	1	1	1	2	0	2	2	1	2	3	1	47.1	96.9	D	F	
	- With Improvements	TS	1	<u>2</u>	1	1	2	0	2	<u>3</u>	1	2	3	1	46.7	41.9	D	D	
9	Leon Rd. & Scott Rd.																		
	- Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	90.0	60.3	F	F	
	- With Improvements	<u>TS</u>	<u>1</u>	1	0	<u>1</u>	1	0	<u>1</u>	1	0	<u>1</u>	1	0	31.9	21.0	C	C	
13	Briggs Rd. & Leon Rd.																		
	- Without Improvements	TS	2	2	0	2	2	0	2	2	1>	2	2	0	72.3	47.8	E	D	
	- With Improvements		None ⁴																
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.																		
	- Without Improvements	TS	1	2	1	1	2	1	2	2	1	2	3	1	164.9	132.6	F	F	
	- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	1	2	2	1	2	3	1	41.6	42.6	D	D	
24	Winchester Rd. (SR-79) & Scott Rd.																		
	- Without Improvements	TS	1	3	1	1	3	1	1	1	1	1	1	1	27.6	111.1	C	F	
	- With Improvements	TS	1	3	1	1	3	1	<u>2</u>	1	1	1	1	1	25.0	32.2	C	C	
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.																		
	- Without Improvements	TS	1	2	0	1	2	1	1	1	2	1	1	0	>200.0	>200.0	F	F	
	- With Improvements	TS	<u>2</u>	<u>3</u>	0	1	<u>3</u>	1	1	1	2	1	1	0	40.6	39.3	D	D	
31	Winchester Rd. (SR-79) & Benton Rd.																		
	- Without Improvements	TS	0	3	0	1	2	0	0	0	0	2	0	1>	35.5	122.2	D	F	
	- With Improvements	TS	0	3	0	<u>2</u>	<u>3</u>	0	0	0	0	2	0	1>	15.8	38.7	B	D	
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.																		
	- Without Improvements	TS	1	2	1	1	2	0	1	1	0	1	1	0	119.7	101.8	F	F	
	- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	0	1	1	0	1	1	0	24.5	22.7	C	C	
33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.																		
	- Without Improvements	TS	1	2	0	1	2	1	1	1	1	0	1	0	83.8	55.6	F	E	
	- With Improvements	TS	1	<u>3</u>	0	1	<u>3</u>	1	1	1	1	0	1	0	16.6	14.3	B	B	

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; >=Right-Turn Overlap Phasing; 1 = Improvement

² Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ AWS = All-way Stop; TS = Traffic Signal; TS = Improvement

⁴ Although the intersection is anticipated to operate at an unacceptable LOS, the future extension of Clinton Keith Road is anticipated to reduce traffic volumes at this location and is anticipated to operate at an acceptable LOS under Horizon Year (2040) traffic conditions. Additionally, the intersection is built out to its ultimate and there are no feasible physical improvements. As such, no improvements have been identified at this location.

Although the intersection of Briggs Road and Leon Road is anticipated to operate at an unacceptable LOS, the planned future extension of Clinton Keith Road to the east to Winchester Road (SR-79) is anticipated to reduce traffic volumes at this location. As a result, the intersection is anticipated to operate at an acceptable LOS under Horizon Year (2040) traffic conditions. Additionally, it should be noted that the intersection is built out to its ultimate and there are no feasible physical improvements. As such, no improvements have been identified at the intersection of Briggs Road and Leon Road. Intersection analysis worksheets for EAP (2028) traffic conditions, with improvements, are provided in Appendix 6.7.

6.6.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously in Table 6-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAP (2028) traffic conditions. As such, no improvements have been identified.

7 EAPC (2023) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAPC (2023) conditions and the resulting intersection operations, traffic signal warrant, and queuing analyses.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAPC (2023) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAPC (2023) conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for EAPC (2023) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages).

7.2 EAPC (2023) TRAFFIC VOLUME FORECASTS

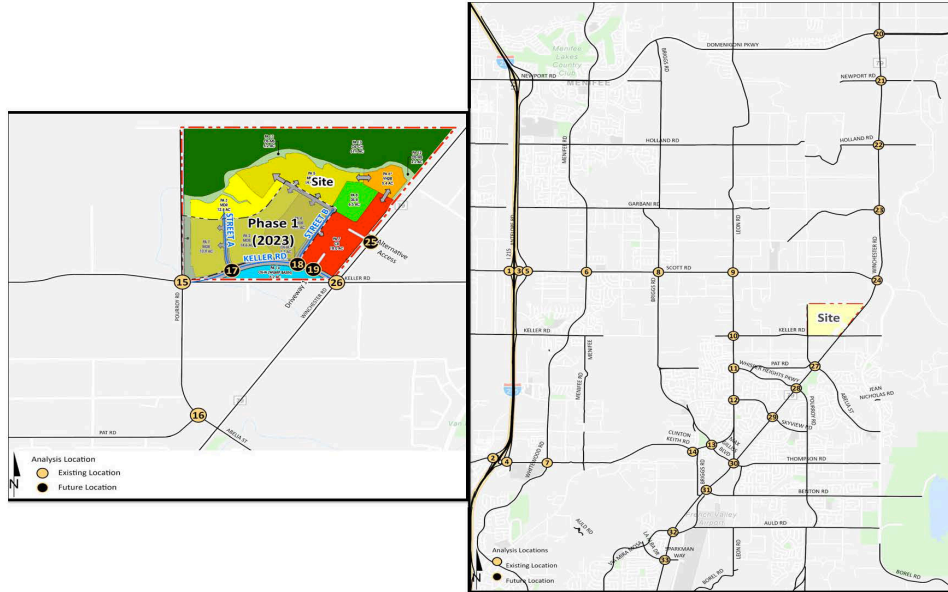
This scenario includes Existing (2021) traffic volumes plus an ambient growth factor of 4.04%, 30% of the traffic from pending and approved cumulative development projects, and the addition of Project (Phase 1) traffic. The weekday ADT volumes and peak hour volumes which can be expected for EAPC (2023) traffic conditions are shown on Exhibit 7-1.

7.3 INTERSECTION OPERATIONS ANALYSIS

EAPC (2023) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TS. The intersection analysis results are summarized on Table 7-1 for EAPC (2023) traffic conditions, which indicate that the following study area intersections are anticipated to operate at an unacceptable LOS under EAPC (2023) traffic conditions:

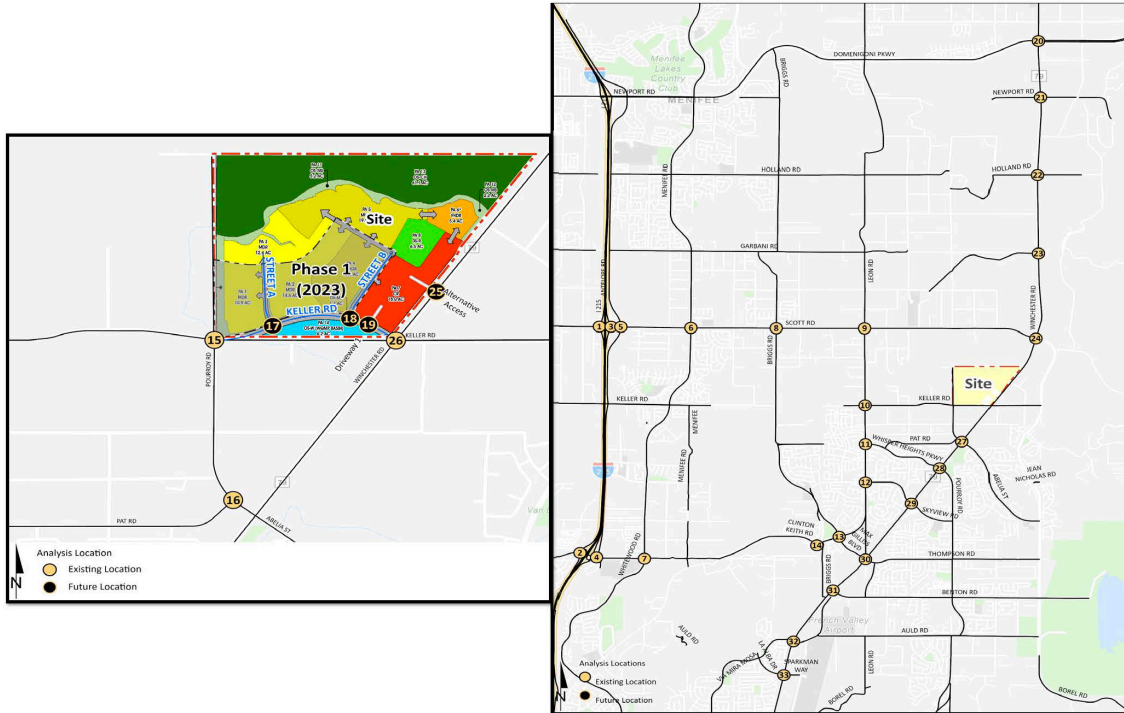
- Antelope Road & Scott Road (#5) – LOS E PM peak hour only
- Menifee Road & Scott Road (#6) – LOS F PM peak hour only
- Whitewood Road & Clinton Keith Road (#7) – LOS E AM peak hour; LOS F PM peak hour
- Briggs Road & Scott Road (#8) – LOS E AM peak hour only
- Leon Road & Scott Road (#9) – LOS F AM and PM peak hours
- Briggs Road & Leon Road (#13) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Domenigoni Parkway (#20) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Scott Road (#24) – LOS F PM peak hour only
- Winchester Road (SR-79) & Max Gilliss Boulevard/Thompson Road (#30) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Benton Road (#31) – LOS F PM peak hour only
- Winchester Road (SR-79) & Via Mira Mosa/Auld Road (#32) – LOS F AM and PM peak hours

EXHIBIT 7-1: EAPC (2023) TRAFFIC VOLUMES



1	I-215 SB Ramps & Scott Rd.	2	I-215 SB Ramps & Clinton Keith Rd.	3	I-215 NB Ramps & Scott Rd.	4	I-215 NB Ramps & Clinton Keith Rd.	5	Antelope Rd. & Scott Rd.
19,450	49,100	21,450	47,900	21,150	57,850	2,800	46,900	16,200	40,500
236(275)	677(874)	810(695)	749(586)	273(699)	666(746)		288(240)	385(292)	51(78)
	877(1531)	314(385)	1305(1189)	189(240)	1297(1321)		1733(1485)	138(124)	1232(1221)
687(1144)		483(360)	0(52)	1176(1778)			242(436)	60(89)	72(82)
632(451)				305(900)			517(790)	128(514)	42(214)
42,000	5,600	48,850	4,850	49,100	10,850	47,900	21,750	57,850	19,850
6	Menifee Rd. & Scott Rd.	7	Whitewood Rd. & Clinton Keith Rd.	8	Briggs Rd. & Scott Rd.	9	Leon Rd. & Scott Rd.	10	Leon Rd. & Keller Rd.
14,000	40,600	30,500	38,150	2,500	32,300	4,800	20,250	12,300	3,600
75(89)	187(212)	425(377)	147(225)	20(25)	130(72)	83(60)	19(37)	11(0)	144(103)
231(120)	275(189)	368(248)	1372(1056)	39(4)	986(1121)	98(49)	689(710)	413(374)	0(3)
67(178)		406(698)	252(162)	27(19)	375(40)	55(28)	22(15)	55(152)	49(29)
851(1324)	132(113)	1008(1351)	134(778)	978(1344)		84(76)		3(4)	1(3)
73(138)	105(332)	161(173)	109(184)	256(318)	322(314)	517(831)	464(300)	1(0)	1(0)
	244(271)				186(7)	340(477)	88(60)	14(58)	
	14,550	46,750	21,650	37,900	8,950	30,300	11,100	150	10,700
36,100									
11	Leon Rd. & Whisper Heights Pkwy.	12	Leon Rd. & Jean Nicholas Rd.	13	Briggs Rd. & Leon Rd.	14	Leon Rd. & Clinton Keith Rd.	15	Pourroy Rd. & Keller Rd.
10,850	2,600	14,850	11,000	12,800	21,750	43,900	43,900	3,850	
4(0)	32(27)	24(9)	117(161)	256(102)	21(16)				
371(398)		475(446)	227(170)	617(289)	517(424)	1373(2062)	1626(1539)		
25(30)	103(80)	63(43)	124(133)	29(17)	332(378)				
	289(493)	164(99)	111(56)	322(175)					
	42(120)	125(48)	212(557)	255(655)	407(436)				
			77(87)	876(1283)	150(382)				
	12,250	5,450	16,600	45,250	46,800				
16	Pourroy Rd. & Pat Rd.	17	Street A & Keller Rd.	18	Street B & Keller Rd.	19	Driveway 1 & Keller Rd.	20	Winchester Rd. (SR-79) & Domenigoni Pkwy.
600		900	3,100	900	3,300			29,450	44,450
8(7)		49(32)	2(6)	22(14)	11(37)			235(170)	14(20)
16(19)		5(4)	81(162)	7(24)	61(154)			1104(763)	848(817)
		16(55)		103(101)				7(19)	918(799)
3(10)		105(121)						172(188)	62(128)
87(60)								937(937)	582(1273)
								140(93)	744(1014)
2,050	2,300	3,850		3,100				28,850	46,550

##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips



21	Winchester Rd. (SR-79) & Newport Rd.	22	Winchester Rd. (SR-79) & Holland Rd.	23	Winchester Rd. (SR-79) & Garbani Rd.	24	Winchester Rd. (SR-79) & Scott Rd.	25	Winchester Rd. (SR-79) & Driveway 2	
49,550	700	49,550	200	49,550	49,550	58,200	16,850	Not Evaluated for this Scenario		
2(4) ← 2151(1646) ← 9(6) ← 6(19) ↑ 0(1) ↑ 6(21) ↑	1(4) → 1(2) → 1387(2390) → 0(10) →	3(7) ← 2153(1661) ← 1(0) ← 0(6) ↑ 3(2) ↑ 1(2) ↑	1(6) → 2(3) → 0(7) →	2(7) → 1387(2391) → 0(3) →	17(4) ← 2137(1666) ←	10(10) → 18(1) → 20(1) ↓	1375(2392) ↑	501(411) ← 1661(1195) ← 318(313) ← 223(582) ↑ 183(225) ↑ 0(54) ↑		
150	49,550	400	49,550	200	49,450	22,500	39,800			
26	Winchester Rd. (SR-79) & Keller Rd.	27	Winchester Rd. (SR-79) & Abelia St.	28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	30	Winchester Rd. (SR-79) & Max Gillis Bl./Thompson Rd.	
39,800	1,750	39,750	5,800	42,550	5,650	42,000	750	52,500	18,050	
52(128) ← 1762(1267) ← 0(6) ← 9(10) ↑ 0(8) ↑ 1(19) ↑ 9(10) ↑	102(75) → 25(13) → 41(34) →	72(43) ← 1675(1200) ← 65(67) ← 69(69) ↑ 15(24) ↑ 263(186) ↑	40(42) → 23(21) → 96(90) →	68(111) → 949(1737) → 67(128) →	18(18) ← 1944(1309) ← 73(148) ← 120(145) ↑ 17(20) ↑ 155(126) ↑	14(26) → 937(1822) → 0(1) →	99(105) ← 1638(1264) ← 9(8) ← 13(17) ↑ 6(6) ↑ 14(9) ↑	143(149) ← 1956(1410) ← 83(154) ← 88(64) ↑ 366(319) ↑ 367(330) ↑	87(206) → 219(308) → 985(679) ↓	
3,300	39,700	4,750	5,800	42,550	40,750	8,550	44,450	30,050	72,450	
31	Winchester Rd. (SR-79) & Benton Rd.	32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.					
71,850	29,950	61,800	12,350	59,850	2,000					
2677(1756) ← 623(620) ← 422(903) ↑ 393(336) ↑	1167(2556) → 199(469) →	196(158) ← 2628(1797) ← 246(138) ← 45(172) ↑ 41(55) ↑ 308(306) ↑	188(121) → 48(38) → 63(70) ↓	30(85) → 1134(2732) → 303(277) →	73(120) ← 2751(1883) ← 11(12) ← 4(20) ↑ 1(4) ↑ 14(39) ↑	82(217) → 1275(2763) → 44(73) →				
61,800	61,800	6,600	63,650	7,100	62,450					

##(###) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

TABLE 7-1: INTERSECTION ANALYSIS FOR EAPC (2023) CONDITIONS

#	Intersection	Traffic Control ²	EAPC (2023)			
			Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM
1	I-215 SB Ramps & Scott Rd.	TS	12.0	15.3	B	B
2	I-215 SB Ramps & Clinton Keith Rd.	TS	16.1	16.8	B	B
3	I-215 NB Ramps & Scott Rd.	TS	15.7	48.7	B	D
4	I-215 NB Ramps & Clinton Keith Rd.	TS	12.4	22.6	B	C
5	Antelope Rd. & Scott Rd.	TS	26.2	60.5	C	E
6	Meniffee Rd. & Scott Rd.	TS	44.2	93.2	D	F
7	Whitewood Rd. & Clinton Keith Rd.	TS	60.3	111.6	E	F
8	Briggs Rd. & Scott Rd.	TS	66.8	40.5	E	D
9	Leon Rd. & Scott Rd.	AWS	> 100.0	> 100.0	F	F
10	Leon Rd. & Keller Rd.	CSS	24.3	33.6	C	D
11	Leon Rd. & Whisper Heights Pkwy.	CSS	14.7	18.3	B	C
12	Leon Rd. & Jean Nicholas Rd.	TS	34.2	30.8	C	C
13	Briggs Rd. & Leon Rd.	TS	84.3	83.8	F	F
14	Leon Rd. & Clinton Keith Rd.	TS	0.0	0.0	A	A
15	Pourroy Rd. & Keller Rd.	AWS	8.3	9.5	A	A
16	Pourroy Rd. & Pat Rd.	CSS	8.9	9.1	A	A
17	Old Keller Rd./Street A & Keller Rd.	<u>CSS</u>	8.9	9.2	A	A
18	Street B & Keller Rd.	<u>CSS</u>	9.4	9.9	A	A
19	Driveway 1 & Keller Rd.	<u>CSS</u>	Future Intersection			
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.	TS	151.4	135.7	F	F
21	Winchester Rd. (SR-79) & Newport Rd.	TS	5.8	6.7	A	A
22	Winchester Rd. (SR-79) & Holland Rd.	TS	15.7	13.1	B	B
23	Winchester Rd. (SR-79) & Garbani Rd.	TS	8.1	6.3	A	A
24	Winchester Rd. (SR-79) & Scott Rd.	TS	43.5	137.8	D	F
25	Winchester Rd. (SR-79) & Driveway 2		Future Intersection			
26	Winchester Rd. (SR-79) & Keller Rd.	TS	11.0	11.3	B	B
27	Winchester Rd. (SR-79) & Abelia St.	TS	52.1	34.8	D	C
28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	TS	36.7	31.9	D	C
29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	TS	35.9	35.1	D	D
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	TS	> 200.0	> 200.0	F	F
31	Winchester Rd. (SR-79) & Benton Rd.	TS	49.9	156.1	D	F
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	TS	132.1	140.4	F	F
33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	TS	73.3	55.3	E	E

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay

² CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **TS** = Improvement

- Winchester Road (SR-79) & La Alba Drive (#33) – LOS E AM and PM peak hours

The intersection operations analysis worksheets for EAPC (2023) traffic conditions are included in Appendix 7.1 of this TS.

7.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The following additional unsignalized study area intersections anticipated to meet a planning level volume-based (ADT) traffic signal warrant for EAPC (2023) traffic conditions (see Appendix 7.2), in addition to the intersection previously identified under Existing (2021) and EAP (2023) traffic conditions:

- Leon Road & Whisper Heights Pkwy. (#11)

7.5 QUEUING ANALYSIS

Queuing analysis findings for EAPC (2023) are presented on Table 7-2. As shown on Table 7-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project (Phase 1) traffic. Worksheets for EAPC (2023) traffic conditions queuing analysis are provided in Appendix 7.3.

TABLE 7-2: PEAK HOUR QUEUING SUMMARY FOR EAPC (2023) CONDITIONS

Intersection	Movement ³	Available Stacking Distance (Feet) ³	EAPC (2023)		Acceptable? ¹	
			95th Percentile Queue (Feet)		AM	PM
			AM Peak Hour	PM Peak Hour		
I-215 SB Ramps & Scott Rd. (#1)	SBL	1,470	259	479 ²	Yes	Yes
	SBR	1,470	47	126	Yes	Yes
I-215 SB Ramps & Clinton Keith Rd. (#2)	SBL/T	1,900	266	328	Yes	Yes
	SBR	1,200	384	295	Yes	Yes
I-215 NB Ramps & Scott Rd. (#3)	NBR	1,425	95	670 ²	Yes	Yes
	SBR	1,750	102	406 ²	Yes	Yes
I-215 NB Ramps & Clinton Keith Rd. (#4)	NBL/R	1,920	392	662 ²	Yes	Yes
	NBR	950	337	628 ²	Yes	Yes
Winchester Rd. (SR-79) & Keller Rd. (#26)	EBL	300	111	86	Yes	Yes
	EBR	175	13	7	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ **EBL** = Improvement; **100** = Improvement

7.6 DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. Based on the County of Riverside deficiency criteria discussed in Section 2.6 *Deficiency Criteria*, roadway segments were found to be deficient. Improvements necessary to improve project-related traffic deficiencies are also discussed below.

7.6.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Table 7-3 indicates the physical improvements needed to address LOS deficiencies at each of the study area intersections under EAPC (2023) traffic conditions. The improvements have been identified to improve the EAPC (2023) deficiencies back to acceptable levels. Intersection analysis worksheets for EAPC (2023) traffic conditions, with improvements, are provided in Appendix 7.4.

TABLE 7-3: INTERSECTION ANALYSIS FOR EAPC (2023) CONDITIONS WITH IMPROVEMENTS

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service		
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM	
			L	T	R	L	T	R	L	T	R	L	T	R					
5	Antelope Rd. & Scott Rd.	- Without Improvements	TS	2	2	1>	1	1	1>	2	2	1	2	3	0	26.2	60.5	C	E
		- With Improvements	TS	2	2	1>	1	1	1>	2	<u>3</u>	1	2	3	0	25.2	38.0	C	D
6	Menifee Rd. & Scott Rd.	- Without Improvements	TS	1	1	1	1	1	0	1	2	0	1	2	0	44.2	93.2	D	F
		- With Improvements	TS	1	1	1	1	1	0	1	<u>3</u>	0	1	<u>3</u>	0	28.0	41.9	C	D
7	Whitewood Rd. & Clinton Keith Rd.	- Without Improvements	TS	1	1	1	1	2	0	2	2	1	2	3	1	60.3	111.6	E	F
		- With Improvements	TS	1	<u>2</u>	1	1	2	0	2	<u>3</u>	1	2	3	1	47.7	48.1	D	D
8	Briggs Rd. & Scott Rd.	- Without Improvements	TS	0	1	0	0	1	1	1	2	0	1	2	1	66.8	40.5	E	D
		- With Improvements	TS	<u>1</u>	1	0	<u>1</u>	1	<u>0</u>	1	<u>3</u>	0	1	<u>3</u>	1	33.1	23.5	C	C
9	Leon Rd. & Scott Rd.	- Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	> 100.0	> 100.0	F	F
		- With Improvements	<u>TS</u>	<u>1</u>	1	0	<u>1</u>	1	0	<u>1</u>	<u>3</u>	0	<u>1</u>	<u>3</u>	0	27.4	26.4	C	C
13	Briggs Rd. & Leon Rd.	- Without Improvements	TS	2	2	0	2	2	0	2	2	1>	2	2	0	84.3	83.8	F	F
		- With Improvements										None ⁴							
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.	- Without Improvements	TS	1	2	1	1	2	1	2	2	1	2	3	1	151.4	135.7	F	F
		- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	1	2	2	1	2	3	1	38.1	41.5	D	D
24	Winchester Rd. (SR-79) & Scott Rd.	- Without Improvements	TS	1	3	1	1	3	1	1	1	1	1	1	1	43.5	137.8	D	F
		- With Improvements	TS	1	3	1	1	3	1	<u>2</u>	1	1	1	1	1	30.3	52.5	C	D
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	- Without Improvements	TS	1	2	0	1	2	1	1	1	2	1	1	0	> 200.0	> 200.0	F	F
		- With Improvements	TS	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>	1	1	1	2	1	1	0	48.0	51.5	D	D
31	Winchester Rd. (SR-79) & Benton Rd.	- Without Improvements	TS	0	3	0	1	2	0	0	0	0	2	0	1>	49.9	156.1	D	F
		- With Improvements	TS	0	3	0	<u>2</u>	<u>3</u>	0	0	0	0	2	0	1>	14.8	52.0	B	D
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	- Without Improvements	TS	1	2	1	1	2	0	1	1	0	1	1	0	132.1	140.4	F	F
		- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	0	1	1	0	1	1	0	27.2	27.0	C	C
33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	- Without Improvements	TS	1	2	0	1	2	1	1	1	1	0	1	0	73.3	55.3	E	E
		- With Improvements	TS	1	<u>3</u>	0	1	<u>3</u>	1	1	1	1	0	1	0	14.5	13.7	B	B

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; >= Right-Turn Overlap Phasing; 1 = Improvement

² Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ AWS = All-way Stop; TS = Traffic Signal; TS = Improvement

⁴ Although the intersection is anticipated to operate at an unacceptable LOS, the future extension of Clinton Keith Road is anticipated to reduce traffic volumes at this location and is anticipated to operate at an acceptable LOS under Horizon Year (2040) traffic conditions. Additionally, the intersection is built out to its ultimate and there are no feasible physical improvements. As such, no improvements have been identified at this location.

7.6.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously in Table 7-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAPC (2023) traffic conditions. As such, no improvements have been identified.

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8 EAPC (2028) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAPC (2028) conditions and the resulting intersection operations, traffic signal warrant, and queuing analyses.

8.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAPC (2028) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAPC (2028) conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for EAPC (2028) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages).

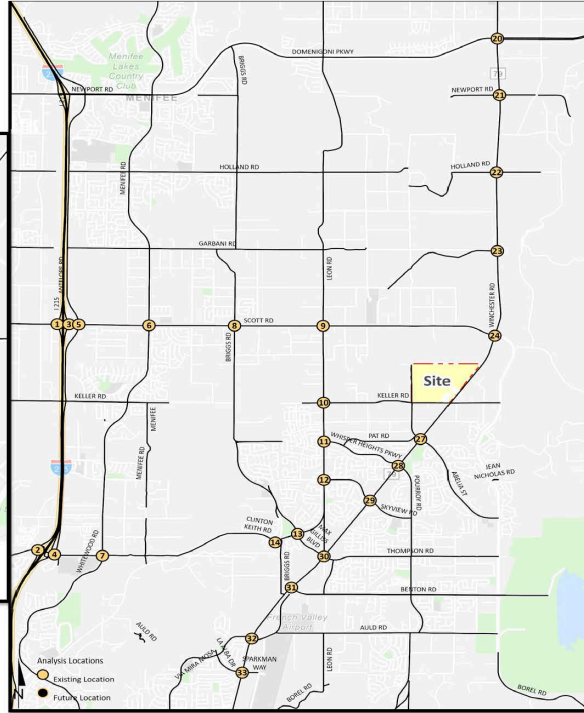
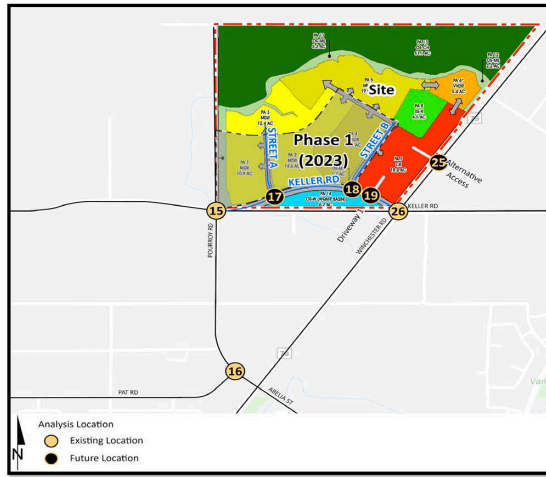
8.2 EAPC (2028) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2021) traffic volumes plus an ambient growth factor of 14.87%, 70% of the traffic from pending and approved cumulative development projects, and the addition of Project (Project Buildout) traffic. The weekday ADT volumes and peak hour volumes which can be expected for EAPC (2028) traffic conditions are shown on Exhibits 8-1 and on Exhibit 8-2 assuming alternative access on Winchester Road (SR-79).

8.3 INTERSECTION OPERATIONS ANALYSIS

EAPC (2028) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TS. The intersection analysis results are summarized on Table 8-1 for EAPC (2028) traffic conditions, which indicate that the following additional study area intersections are anticipated to operate at an unacceptable LOS under EAPC (2028) traffic conditions:

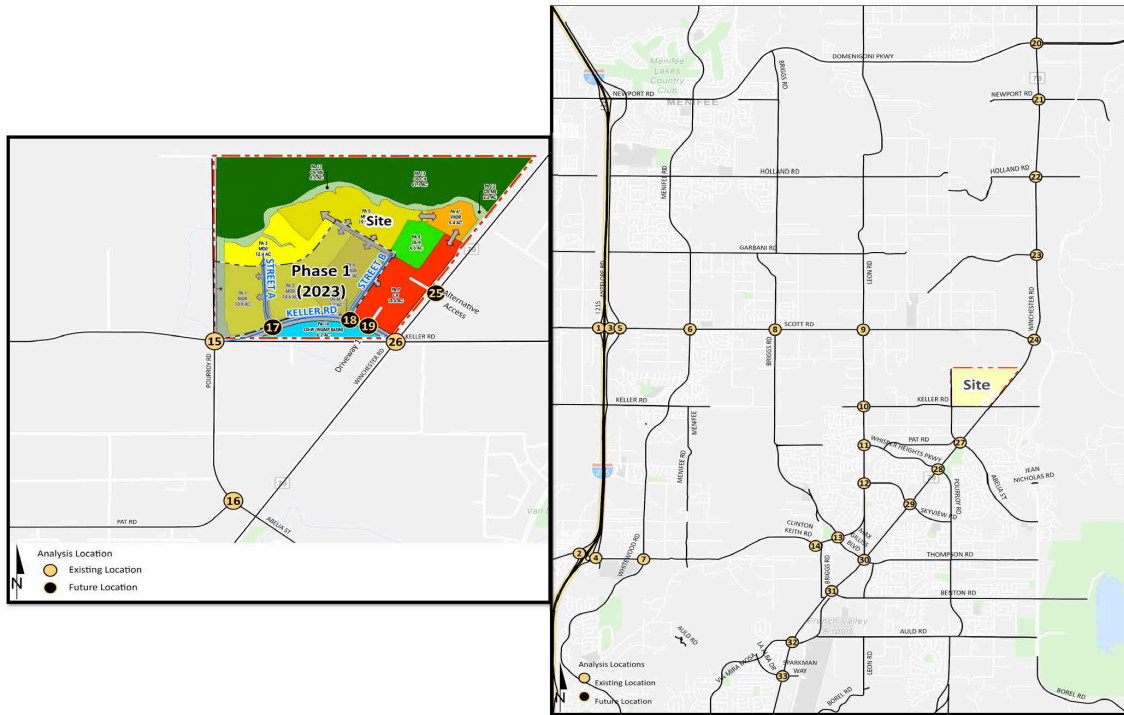
- I-215 NB Ramps & Scott Road (#3) – LOS E PM peak hour only
- Antelope Road & Scott Road (#5) – LOS E AM peak hour; LOS F PM peak hour
- Menifee Road & Scott Road (#6) – LOS F AM and PM peak hours
- Whitewood Road & Clinton Keith Road (#7) – LOS F AM and PM peak hours
- Briggs Road & Scott Road (#8) – LOS F AM and PM peak hours
- Leon Road & Scott Road (#9) – LOS F AM and PM peak hours
- Leon Road & Keller Road (#10) – LOS F AM and PM peak hours
- Leon Road & Whisper Heights Parkway (#11) – LOS F AM and PM peak hours
- Briggs Road & Leon Road (#13) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Domenigoni Parkway (#20) – LOS F AM and PM peak hours



21	Winchester Rd. (SR-79) & Newport Rd.	22	Winchester Rd. (SR-79) & Holland Rd.	23	Winchester Rd. (SR-79) & Garbani Rd.	24	Winchester Rd. (SR-79) & Scott Rd.	25	Winchester Rd. (SR-79) & Driveway 2
64,450	750	64,500	250	64,500	64,500	84,900	21,500	Not Evaluated for this Scenario	
2(5) 2631(2297) 10(6) 6(21) 0(1) 6(23) 1(2) 1924(3020) 0(11)	4(7) 2633(2314) 1(0) 0(6) 4(2) 1(2) 1924(3021) 0(4)	19(5) 2616(2320) 11(11) 20(2) 1916(3022) 1916(3022)	875(766) 2135(1743) 381(397) 290(677) 305(334) 0(60) 471(694) 257(392) 243(266) 246(309) 1368(2218)						
200	64,500	400	64,500	250	64,350	39,100	57,500		
26	Winchester Rd. (SR-79) & Keller Rd.	27	Winchester Rd. (SR-79) & Abella St.	28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	30	Winchester Rd. (SR-79) & Max Gillis Bl./Thompson Rd.
57,500	1,950	57,200	9,800	63,500	7,350	61,750	1,100	73,400	25,000
162(379) 2217(1684) 0(6) 0(9) 1(21) 10(11) 270(238) 28(14) 182(222) 149(215) 1345(2280) 11(98)	100(82) 2233(1753) 77(81) 82(84) 23(41) 416(311) 59(85) 30(39) 175(164) 108(210) 1364(2424) 146(296)	32(31) 2665(1994) 126(203) 158(212) 18(22) 171(139) 38(28) 18(20) 45(22) 19(42) 1421(2690) 0(1)	135(161) 2309(1887) 15(16) 20(27) 6(6) 16(10) 135(174) 11(6) 334(238) 171(426) 1373(2723) 4(15)	250(272) 2624(1924) 123(258) 175(129) 458(425) 489(451) 160(362) 270(430) 1368(1036) 745(1271) 745(1271) 197(505)					
12,350	57,200	9,300	63,450	2,050	60,400	12,650	64,550	45,350	101,050
31	Winchester Rd. (SR-79) & Benton Rd.	32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.				
99,650	38,900	82,850	17,150	73,650	2,450				
3559(2510) 903(800) 582(1238) 437(374) 1593(3570) 222(522)	235(216) 3388(2422) 372(246) 104(296) 51(81) 358(361) 229(174) 73(48) 92(100) 43(124) 1480(3622) 355(324)	102(152) 3338(2340) 17(20) 11(30) 2(5) 16(43) 147(137) 5(11) 200(142) 90(239) 1565(3411) 48(80)							
82,850	82,850	82,500	8,300	75,800					

##(###) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

EXHIBIT 8-2: EAPC (2028) ALTERNATIVE ACCESS TRAFFIC VOLUMES



<p>21 Winchester Rd. (SR-79) & Newport Rd.</p> <p>64,450</p> <p>750</p> <p>64,500</p> <p>200</p>	<p>22 Winchester Rd. (SR-79) & Holland Rd.</p> <p>64,500</p> <p>250</p> <p>64,500</p> <p>400</p>	<p>23 Winchester Rd. (SR-79) & Garbani Rd.</p> <p>64,500</p> <p>250</p> <p>64,500</p> <p>250</p>	<p>24 Winchester Rd. (SR-79) & Scott Rd.</p> <p>84,900</p> <p>21,500</p> <p>39,100</p> <p>64,350</p>	<p>25 Winchester Rd. (SR-79) & Driveway 2</p> <p>57,500</p> <p>3,450</p> <p>57,500</p> <p>57,950</p>
<p>26 Winchester Rd. (SR-79) & Keller Rd.</p> <p>57,950</p> <p>1,950</p> <p>57,200</p> <p>8,950</p>	<p>27 Winchester Rd. (SR-79) & Abelia St.</p> <p>57,200</p> <p>9,800</p> <p>9,300</p> <p>57,200</p>	<p>28 Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.</p> <p>65,500</p> <p>7,350</p> <p>2,050</p> <p>60,400</p>	<p>29 Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.</p> <p>61,750</p> <p>1,100</p> <p>12,650</p> <p>64,550</p>	<p>30 Winchester Rd. (SR-79) & Max Gillis Bl./Thompson Rd.</p> <p>73,400</p> <p>25,000</p> <p>45,350</p> <p>64,550</p>
<p>31 Winchester Rd. (SR-79) & Benton Rd.</p> <p>99,650</p> <p>38,900</p> <p>82,850</p> <p>82,850</p>	<p>32 Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.</p> <p>82,850</p> <p>17,150</p> <p>9,450</p> <p>82,850</p>	<p>33 Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.</p> <p>73,650</p> <p>2,450</p> <p>8,300</p> <p>75,800</p>		

##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

TABLE 8-1: INTERSECTION ANALYSIS FOR EAPC (2028) CONDITIONS

#	Intersection	Traffic Control ²	EAPC (2028)			
			Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM
1	I-215 SB Ramps & Scott Rd.	TS	29.5	38.3	C	D
2	I-215 SB Ramps & Clinton Keith Rd.	TS	18.5	21.3	B	C
3	I-215 NB Ramps & Scott Rd.	TS	39.4	66.8	D	E
4	I-215 NB Ramps & Clinton Keith Rd.	TS	25.1	42.2	C	D
5	Antelope Rd. & Scott Rd.	TS	56.0	>200.0	E	F
6	Menifee Rd. & Scott Rd.	TS	>200.0	>200.0	F	F
7	Whitewood Rd. & Clinton Keith Rd.	TS	199.4	>200.0	F	F
8	Briggs Rd. & Scott Rd.	TS	>200.0	>200.0	F	F
9	Leon Rd. & Scott Rd.	AWS	>100.0	>100.0	F	F
10	Leon Rd. & Keller Rd.	CSS	>100.0	>100.0	F	F
11	Leon Rd. & Whisper Heights Pkwy.	CSS	55.0	>100.0	F	F
12	Leon Rd. & Jean Nicholas Rd.	TS	47.3	40.6	D	D
13	Briggs Rd. & Leon Rd.	TS	181.9	>200.0	F	F
14	Leon Rd. & Clinton Keith Rd.	TS	0.0	0.0	A	A
15	Pourroy Rd. & Keller Rd.	AWS	12.0	16.7	B	C
16	Pourroy Rd. & Pat Rd.	CSS	9.4	9.4	A	A
17	Old Keller Rd./Street A & Keller Rd.	CSS	9.8	10.1	A	B
	-Alternative Access	CSS	10.3	10.6	B	B
18	Street B & Keller Rd.	CSS	21.4	32.9	C	D
	-Alternative Access	CSS	15.9	32.4	C	D
19	Driveway 1 & Keller Rd.	CSS	9.5	10.9	A	B
	-Alternative Access	CSS	9.4	10.7	A	B
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.	TS	>200.0	>200.0	F	F
21	Winchester Rd. (SR-79) & Newport Rd.	TS	14.4	12.4	B	B
22	Winchester Rd. (SR-79) & Holland Rd.	TS	53.5	66.2	D	E
23	Winchester Rd. (SR-79) & Garbani Rd.	TS	28.0	37.4	C	D
24	Winchester Rd. (SR-79) & Scott Rd.	TS	161.6	>200.0	F	F
25	Winchester Rd. (SR-79) & Driveway 2	CSS	Not Evaluated			
	-Alternative Access	CSS	82.0	68.4	F	F
26	Winchester Rd. (SR-79) & Keller Rd.	TS	76.8	67.8	E	E
	-Alternative Access	TS	83.4	70.0	F	E
27	Winchester Rd. (SR-79) & Abelia St.	TS	172.8	143.3	F	F
28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	TS	135.6	151.3	F	F
29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	TS	157.3	182.9	F	F
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	TS	>200.0	>200.0	F	F
31	Winchester Rd. (SR-79) & Benton Rd.	TS	195.6	>200.0	F	F
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	TS	>200.0	>200.0	F	F
33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	TS	152.7	149.1	F	F

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay

² CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **TS** = Improvement

- Winchester Road (SR-79) & Holland Road (#22) – LOS E PM peak hour only
- Winchester Road (SR-79) & Scott Road (#24) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Driveway 2 (#25) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Keller Road (#26) – LOS E AM and PM peak hours
- Winchester Road (SR-79) & Abelia Street (#27) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Whisper Heights Parkway/Pourroy Road (#28) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Jean Nicholas Road/Skyview Road (#29) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Max Gilliss Boulevard/Thompson Road (#30) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Benton Road (#31) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Via Mira Mosa/Auld Road (#32) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & La Alba Drive (#33) – LOS F AM and PM peak hours

It should be noted, the deficiencies at Project driveways are not attributable to Project traffic, but instead are due to the high through volumes anticipated on Winchester Road (SR-79). The intersection operations analysis worksheets for EAPC (2028) traffic conditions are included in Appendix 8.1 of this TS and Appendix 8.2 for alternative access conditions.

8.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

There is no additional unsignalized study area intersection that is anticipated to meet a planning level volume-based (ADT) traffic signal warrant for EAPC (2028) traffic conditions (see Appendices 8.3 and 8.4), in addition to the intersection previously identified under Existing (2021), EAP (2028), and EAPC (2023) traffic conditions.

8.5 QUEUING ANALYSIS

Queuing analysis findings for EAPC (2028) are presented on Table 8-2. As shown on Table 8-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project (Project Buildout) traffic. Worksheets for EAPC (2028) traffic conditions queuing analysis are provided in Appendix 8.5 and Appendix 8.6 for alternative access conditions.

TABLE 8-2: PEAK HOUR QUEUING SUMMARY FOR EAPC (2028) CONDITIONS

Intersection	Movement ³	Available Stacking Distance (Feet) ³	EAP (2028)		Acceptable? ¹	
			95th Percentile Queue (Feet)		AM	PM
			AM Peak Hour	PM Peak Hour		
I-215 SB Ramps & Scott Rd. (#1)	SBL	1,470	463	725 ²	Yes	Yes
	SBR	1,470	94	130	Yes	Yes
I-215 SB Ramps & Clinton Keith Rd. (#2)	SBL/T	1,900	458	495	Yes	Yes
	SBR	1,200	578 ²	336	Yes	Yes
I-215 NB Ramps & Scott Rd. (#3)	NBR	1,425	282 ²	912 ²	Yes	Yes
	SBR	1,750	203 ²	507 ²	Yes	Yes
I-215 NB Ramps & Clinton Keith Rd. (#4)	NBL/R	1,920	640 ²	1,097 ²	Yes	Yes
	NBR	950	616 ²	1,026 ^{2,4}	Yes	Yes
Winchester Rd. (SR-79) & Keller Rd. (#26) -Alternative Access	<u>EBL</u>	<u>300</u>	274	242	Yes	Yes
	<u>EBR</u>	<u>175</u>	116	149	Yes	Yes
	<u>EBL</u>	<u>300</u>	243	243	Yes	Yes
	<u>EBR</u>	<u>175</u>	53	19	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ EBL = Improvement; 100 = Improvement

⁴ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 Freeway mainline.

8.6 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. Based on the County of Riverside deficiency criteria discussed in Section 2.6 *Deficiency Criteria*, roadway segments were found to be deficient. Improvements necessary to improve project-related traffic deficiencies are also discussed below.

8.6.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Table 8-3 indicates the physical improvements needed to address LOS deficiencies at each of the study area intersections under EAPC (2028) traffic conditions. The improvements have been identified to improve the EAPC (2028) deficiencies back to acceptable levels. Intersection analysis worksheets for EAPC (2028) traffic conditions, with improvements, are provided in Appendix 8.7.

TABLE 8-3: INTERSECTION ANALYSIS FOR EAPC (2028) CONDITIONS WITH IMPROVEMENTS

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service		
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM	
			L	T	R	L	T	R	L	T	R	L	T	R					
3	I-215 NB Ramps & Scott Rd.	- Without Improvements	TS	0	0	2	0	0	2	1	2	0	0	2	1	39.4	66.8	D	E
		- With Improvements ⁴	TS	0	<u>1</u>	2	0	0	2	1	<u>3</u>	0	0	<u>3</u>	1	31.1	43.5	C	D
5	Antelope Rd. & Scott Rd.	- Without Improvements	TS	2	2	1>	1	1	1>	2	2	1	2	3	0	56.0	>200.0	E	F
		- With Improvements ⁴	TS	2	2	1>	<u>2</u>	<u>2</u>	<u>2></u>	2	<u>3</u>	<u>2</u>	2	3	0	32.1	54.1	C	D
6	Menifee Rd. & Scott Rd.	- Without Improvements	TS	1	1	1	1	1	0	1	2	0	1	2	0	>200.0	>200.0	F	F
		- With Improvements	TS	1	1	1	<u>2</u>	1	0	<u>2</u>	<u>3</u>	0	<u>2</u>	<u>3</u>	<u>1</u>	38.0	45.4	D	D
7	Whitewood Rd. & Clinton Keith Rd.	- Without Improvements	TS	1	1	1	1	2	0	2	2	1	2	3	1	199.4	>200.0	F	F
		- With Improvements	TS	<u>2</u>	<u>2</u>	1	1	2	0	2	<u>3</u>	1	2	3	1	53.0	52.7	D	D
8	Briggs Rd. & Scott Rd.	- Without Improvements	TS	0	1	0	0	1	1	1	2	0	1	2	1	>200.0	>200.0	F	F
		- With Improvements	TS	<u>2</u>	1	0	<u>1</u>	1	0	1	<u>3</u>	0	1	<u>3</u>	1	33.6	35.8	C	D
9	Leon Rd. & Scott Rd.	- Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	>100.0	>100.0	F	F
		- With Improvements	TS	<u>2</u>	1	0	<u>1</u>	1	0	<u>1</u>	<u>3</u>	1>	<u>1</u>	<u>3</u>	0	53.8	37.4	D	D
10	Leon Rd. & Keller Rd.	- Without Improvements	CSS	0	1	0	0	1	0	0	1	0	0	1	0	>100.0	>100.0	F	F
		- With Improvements	TS	<u>1</u>	1	0	<u>1</u>	1	0	0	1	0	0	1	0	21.6	40.4	C	D
11	Leon Rd. & Whisper Heights Pkwy.	- Without Improvements	CSS	1	1	0	1	2	0	0	1	0	1	1	0	55.0	>100.0	F	F
		- With Improvements	TS	1	1	0	1	2	0	0	1	0	1	1	0	9.3	10.6	A	B
13	Briggs Rd. & Leon Rd.	- Without Improvements	TS	2	2	0	2	2	0	2	2	1>	2	2	0	181.9	>200.0	F	F
		- With Improvements		None ⁵															
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.	- Without Improvements	TS	1	2	1	1	2	1	2	2	1	2	3	1	>200.0	>200.0	F	F
		- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	1	2	2	1	2	3	1	53.8	54.9	D	D
22	Winchester Rd. (SR-79) & Holland Rd.	- Without Improvements	TS	1	2	1	1	2	1	1	1	0	1	1	0	53.5	66.2	D	E
		- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	1	1	1	0	1	1	0	9.8	9.0	A	A
24	Winchester Rd. (SR-79) & Scott Rd.	- Without Improvements	TS	1	3	1	1	3	1	1	1	1	1	1	1	161.6	>200.0	F	F
		- With Improvements	TS	<u>2</u>	3	1	<u>2</u>	3	1	<u>2</u>	<u>2</u>	1	<u>2</u>	<u>2</u>	<u>2></u>	37.5	54.4	D	D
25	Winchester Rd. (SR-79) & Driveway 2	- Without Improvements																	
		- With Improvements (Alternative Access) ⁶	CSS	0	<u>3</u>	0	0	<u>3</u>	<u>1</u>	0	0	<u>1</u>	0	0	0	19.5	16.9	C	C
26	Winchester Rd. (SR-79) & Keller Rd.	- Without Improvements	TS	1	2	1	1	2	1	1	1	1	0	1	0	76.8	67.8	E	E
		- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	1	0	1	0	0	1	0	21.5	20.2	C	C
27	Winchester Rd. (SR-79) & Abelia St.	- Without Improvements	TS	1	2	1	1	2	1	1	2	0	1	2	0	172.8	143.3	F	F
		- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	1	1	2	0	<u>2</u>	<u>1</u>	0	47.3	30.8	D	C
28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	- Without Improvements	TS	1	2	1	2	2	1	1	1	1	1	1	1	172.8	143.3	F	F
		- With Improvements	TS	1	<u>3</u>	1	2	<u>3</u>	1	1	1	1	1	1	1	31.0	37.1	C	D
29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	- Without Improvements	TS	1	2	1	1	2	1	1	1	1	1	1	1	157.3	182.9	F	F
		- With Improvements	TS	1	<u>3</u>	1	1	<u>3</u>	1	1	1	1	1	1	1	45.0	52.3	D	D
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	- Without Improvements	TS	1	2	0	1	2	1	1	1	2	1	1	0	>200.0	>200.0	F	F
		- With Improvements ⁷	TS	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>	1	<u>2</u>	<u>2</u>	2	<u>2</u>	<u>2</u>	0	126.3	47.7	F	D
31	Winchester Rd. (SR-79) & Benton Rd.	- Without Improvements	TS	0	3	0	1	2	0	0	0	0	2	0	1>	195.6	>200.0	F	F
		- With Improvements	TS	0	<u>4</u>	0	<u>2</u>	<u>3</u>	0	0	0	0	2	0	1>	14.0	46.1	B	D

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd. - Without Improvements - With Improvements	TS	1	2	1	1	2	0	1	1	0	1	1	0	>200.0	>200.0	F	F
		TS	1	4	1	1	4	0	1	1	0	1	1	0	35.8	51.2	D	D
33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy. - Without Improvements - With Improvements	TS	1	2	0	1	2	1	1	1	1	0	1	0	152.7	149.1	F	F
		TS	1	4	0	1	4	1	1	1	1	0	1	0	15.3	13.4	B	B

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; 1 = Improvement

² Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ AWS = All-way Stop; CSS = Cross-street Stop; TS = Traffic Signal; TS = Improvement

⁴ Improvements are consistent with the I-215 Freeway/Scott Road interchange project ultimate lane geometries.

⁵ Although the intersection is anticipated to operate at an unacceptable LOS, the future extension of Clinton Keith Road is anticipated to reduce traffic volumes at this location and is anticipated to operate at an acceptable LOS under Horizon Year (2040) traffic conditions. Additionally, the intersection is built out to its ultimate and there are no feasible physical improvements. As such, no improvements have been identified at this location.

8.6.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously in Table 8-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAPC (2028) traffic conditions. As such, no improvements have been identified.

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9 HORIZON YEAR (2040) TRAFFIC CONDITIONS

This section discusses the methods used to develop Horizon Year (2040) Without and With Project traffic forecasts, and the resulting intersection operations, traffic signal warrant, and queuing analyses.

9.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Horizon Year (2040) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Horizon Year conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Horizon Year conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways).
- The future extension of Clinton Keith Road to Winchester Road (SR-79) is assumed to be completed.
- The future SR-79 realignment is assumed to be completed.
- Other parallel facilities, that although not evaluated for the purposes of this analysis, are anticipated to be in place for Horizon Year traffic conditions and would affect the travel patterns within the study area.

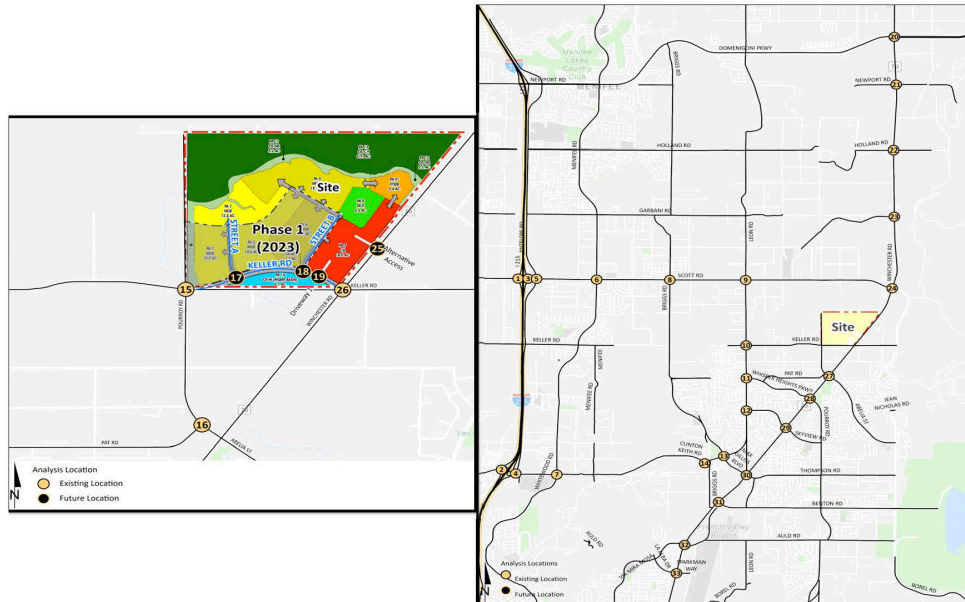
9.2 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-process volumes obtained from the RivTAM (see Section 4.8 *Horizon Year (2040) Volume Development* of this TS for a detailed discussion on the post-processing methodology). The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) Without Project traffic conditions are shown on Exhibit 9-1.

9.3 HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUME FORECASTS

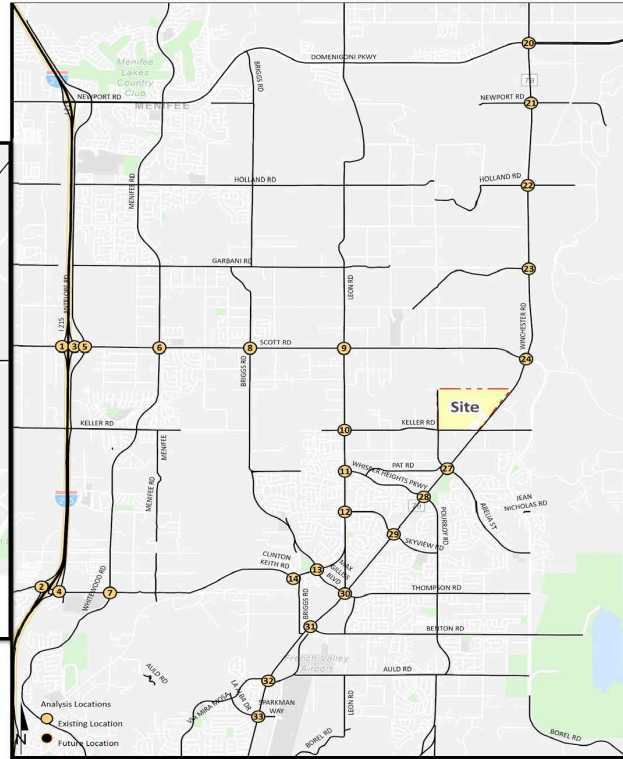
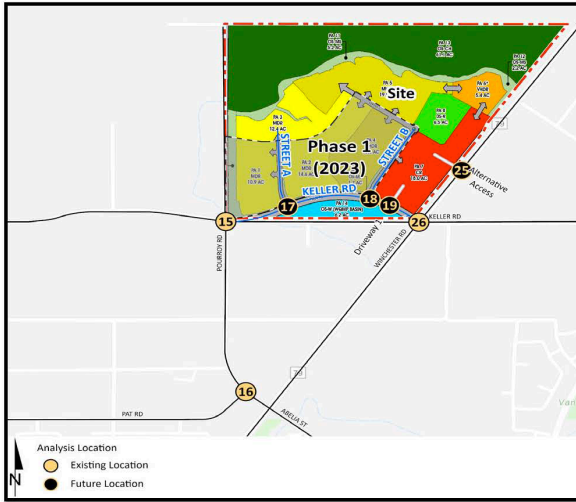
This scenario includes the refined post-process volumes obtained from the RivTAM, plus the traffic generated by the proposed Project (Project Buildout). The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) With Project traffic conditions are shown on Exhibit 9-2 on Exhibit 9-3 for the alternative access on Winchester Road (SR-79).

EXHIBIT 9-1: HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUMES



<p>1 I-215 SB Ramps & Scott Rd.</p> <p>29,150</p> <p>287(334) ↓</p> <p>971(1455) ↓</p> <p>987(709) ↑</p> <p>1145(1946) ↑</p> <p>917(1498) →</p> <p>767(548) ↓</p> <p>53,300</p>	<p>2 I-215 SB Ramps & Clinton Keith Rd.</p> <p>31,200</p> <p>1007(844) ↓</p> <p>486(595) ↓</p> <p>1165(926) ↑</p> <p>1824(1821) ↑</p> <p>0(144) ↓</p> <p>1919(2380) →</p> <p>612(530) ↓</p> <p>64,650</p>	<p>3 I-215 NB Ramps & Scott Rd.</p> <p>29,350</p> <p>331(849) ↓</p> <p>240(302) ↓</p> <p>1648(2651) →</p> <p>1126(1176) ↑</p> <p>1800(1807) ↑</p> <p>428(1268) ↓</p> <p>15,000</p>	<p>4 I-215 NB Ramps & Clinton Keith Rd.</p> <p>4,850</p> <p>423(433) ↑</p> <p>2660(2315) ↑</p> <p>328(577) ↓</p> <p>847(1277) ↓</p> <p>30,600</p>	<p>5 Antelope Rd. & Scott Rd.</p> <p>20,800</p> <p>468(355) ↓</p> <p>179(151) ↓</p> <p>103(161) ↓</p> <p>102(140) ↑</p> <p>2038(1954) ↑</p> <p>108(120) ↓</p> <p>155(625) ↓</p> <p>1367(2737) →</p> <p>554(557) ↓</p> <p>420(673) ↓</p> <p>51(260) ↓</p> <p>101(231) ↓</p> <p>83,500</p>	
<p>6 Menifee Rd. & Scott Rd.</p> <p>20,200</p> <p>91(113) ↓</p> <p>421(340) ↓</p> <p>310(404) ↓</p> <p>324(393) ↑</p> <p>2090(1913) ↑</p> <p>410(323) ↓</p> <p>82(216) ↓</p> <p>1341(2327) ↓</p> <p>88(168) ↓</p> <p>166(137) ↓</p> <p>247(680) →</p> <p>489(511) ↓</p> <p>20,150</p>	<p>7 Whitewood Rd. & Clinton Keith Rd.</p> <p>42,150</p> <p>580(718) ↓</p> <p>454(331) ↓</p> <p>230(302) ↓</p> <p>232(372) ↑</p> <p>1998(1683) ↓</p> <p>323(230) ↓</p> <p>645(852) ↓</p> <p>1490(2074) ↓</p> <p>210(238) ↓</p> <p>237(320) ↓</p> <p>189(965) ↓</p> <p>153(248) ↓</p> <p>28,350</p>	<p>8 Briggs Rd. & Scott Rd.</p> <p>5,050</p> <p>28(31) ↓</p> <p>477(8) ↓</p> <p>364(221) ↓</p> <p>241(167) ↑</p> <p>1946(2103) ↑</p> <p>481(91) ↓</p> <p>418(543) ↓</p> <p>226(18) ↓</p> <p>505(671) ↓</p> <p>935(76) ↓</p> <p>12,350</p>	<p>9 Leon Rd. & Scott Rd.</p> <p>10,400</p> <p>200(129) ↓</p> <p>166(88) ↓</p> <p>99(57) ↓</p> <p>36(81) ↓</p> <p>1376(1382) ↓</p> <p>27(19) ↓</p> <p>201(228) ↓</p> <p>930(1698) ↓</p> <p>581(904) ↓</p> <p>780(761) ↓</p> <p>174(107) ↓</p> <p>11(20) ↓</p> <p>20,500</p>	<p>10 Leon Rd. & Keller Rd.</p> <p>21,950</p> <p>29(0) ↓</p> <p>695(740) ↓</p> <p>88(251) ↓</p> <p>237(165) ↑</p> <p>0(3) ↓</p> <p>39(31) ↓</p> <p>6(7) ↓</p> <p>4(5) ↓</p> <p>21(18) ↓</p> <p>140(0) ↓</p> <p>14(0) ↓</p> <p>11(43) ↓</p> <p>4,950</p>	
<p>11 Leon Rd. & Whispering Heights Pkwy.</p> <p>18,700</p> <p>10(31) ↓</p> <p>608(722) ↓</p> <p>38(107) ↓</p> <p>98(51) ↑</p> <p>19(22) ↓</p> <p>249(191) ↓</p> <p>24(16) ↓</p> <p>18(29) ↓</p> <p>8(6) ↓</p> <p>2(7) ↓</p> <p>538(833) ↓</p> <p>97(291) ↓</p> <p>22,250</p>	<p>12 Leon Rd. & Jean Nicholas Rd.</p> <p>25,400</p> <p>48(19) ↓</p> <p>821(807) ↓</p> <p>94(196) ↓</p> <p>196(231) ↑</p> <p>304(305) ↑</p> <p>150(161) ↓</p> <p>143(99) ↓</p> <p>264(193) ↓</p> <p>152(58) ↓</p> <p>135(68) ↓</p> <p>398(1012) ↓</p> <p>94(227) ↓</p> <p>17,150</p>	<p>13 Briggs Rd. & Leon Rd.</p> <p>16,150</p> <p>311(174) ↓</p> <p>766(639) ↓</p> <p>39(27) ↓</p> <p>28(27) ↓</p> <p>738(632) ↑</p> <p>555(712) ↓</p> <p>381(212) ↓</p> <p>386(944) ↓</p> <p>819(607) ↓</p> <p>688(393) ↓</p> <p>504(551) ↓</p> <p>306(730) ↓</p> <p>26,900</p>	<p>14 Leon Rd. & Clinton Keith Rd.</p> <p>32,800</p> <p>602(847) ↓</p> <p>877(759) ↓</p> <p>823(556) ↓</p> <p>218(236) ↓</p> <p>707(588) ↓</p> <p>273(224) ↓</p> <p>20,250</p>	<p>15 Pourroy Rd. & Keller Rd.</p> <p>5,000</p> <p>2(0) ↓</p> <p>107(299) ↑</p> <p>2(2) ↓</p> <p>221(189) ↓</p> <p>19(20) ↓</p> <p>12(24) ↓</p> <p>3(7) ↓</p> <p>650</p>	
<p>16 Pourroy Rd. & Pat Rd.</p> <p>500</p> <p>3(3) ↓</p> <p>99(83) ↓</p> <p>2(5) ↓</p> <p>215(113) ↓</p> <p>100(194) ↓</p> <p>25(106) ↓</p> <p>3,950</p>	<p>17 Street A & Keller Rd.</p> <p>Future Intersection</p>	<p>18 Street B & Keller Rd.</p> <p>Future Intersection</p>	<p>19 Driveway 1 & Keller Rd.</p> <p>Future Intersection</p>	<p>20 Winchester Rd. (SR-79) & Domenigoni Pkwy.</p> <p>38,800</p> <p>40(63) ↓</p> <p>886(493) ↓</p> <p>642(118) ↓</p> <p>293(19) ↑</p> <p>476(785) ↑</p> <p>831(649) ↓</p> <p>77(180) ↓</p> <p>604(902) ↓</p> <p>179(90) ↓</p> <p>250(123) ↓</p> <p>600(1031) ↓</p> <p>781(870) ↓</p> <p>52,550</p>	
<p>3,600</p>	<p>3,950</p>	<p>23,250</p>	<p>26,900</p>	<p>20,250</p>	<p>31,850</p>

##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

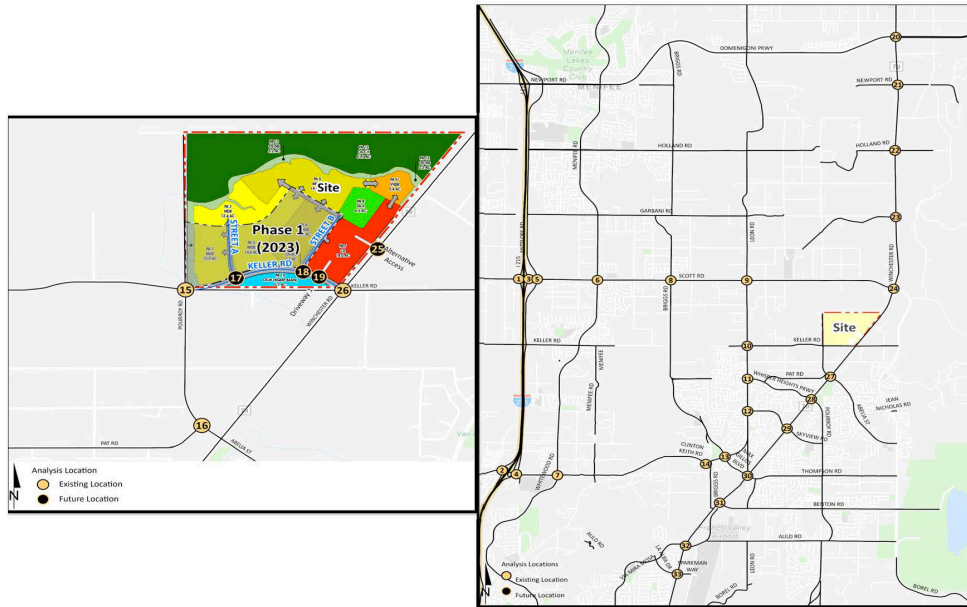


21 Winchester Rd. (SR-79) & Newport Rd. 64,450 13(9) 1873(1190) 10(3) 55(18) 0(9) 5(18) 79(38) 7(23) 1497(1968) 0(7) 31(11) 7(23) 1497(1968) 0(7) 200	22 Winchester Rd. (SR-79) & Holland Rd. 79,550 4(12) 4132(2632) 50(0) 0(61) 12(18) 8(30) 1(7) 10(18) 0(8) 4(10) 2866(4198) 0(42) 81,050	23 Winchester Rd. (SR-79) & Garbani Rd. 80,350 175(253) 3965(5588) 194(165) 133(18) 85(47) 2676(4085) 4,400	24 Winchester Rd. (SR-79) & Scott Rd. 92,450 962(843) 2736(2326) 350(437) 502(653) 336(368) 50(104) 518(763) 282(431) 270(340) 1691(2666) 50(50) 267(292) 270(340) 1691(2666) 50(50) 43,000	25 Winchester Rd. (SR-79) & Driveway 2 23,650 Not Evaluated for this Scenario 62,450
26 Winchester Rd. (SR-79) & Keller Rd. 62,450 91(245) 2962(2470) 0(8) 0(20) 2(25) 17(25) 204(145) 41(16) 69(35) 32(31) 1807(2891) 12(107) 5,000	27 Winchester Rd. (SR-79) & Abelia St. 62,950 179(96) 2781(2342) 88(92) 132(117) 25(45) 458(342) 89(119) 33(43) 183(176) 114(225) 1630(2792) 161(326) 9,950	28 Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd. 67,550 29(128) 3271(2479) 122(253) 184(268) 20(24) 188(153) 36(123) 20(21) 49(24) 21(46) 1685(2953) 0(2) 2,100	29 Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd. 66,100 142(172) 2454(2026) 15(16) 56(27) 30(57) 16(10) 142(184) 137(58) 367(262) 207(469) 1440(2913) 4(15) 13,800	30 Winchester Rd. (SR-79) & Max Gillis Bl./Thompson Rd. 79,200 382(295) 3139(2374) 139(278) 186(134) 552(468) 538(496) 293(394) 297(473) 797(492) 330(462) 330(462) 217(555) 49,800
31 Winchester Rd. (SR-79) & Benton Rd. 108,250 219(188) 3272(2501) 984(873) 631(1352) 357(257) 481(411) 147(220) 257(379) 630(735) 614(566) 1554(3357) 282(574) 21,950	32 Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd. 90,000 307(353) 3682(2833) 393(261) 104(318) 56(89) 393(397) 383(236) 81(53) 101(111) 47(136) 1964(3942) 390(357) 10,250	33 Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy. 80,250 106(162) 3637(3161) 20(19) 8(186) 6(9) 77(160) 155(193) 9(12) 248(188) 174(297) 1836(4056) 191(166) 10,450	4,450 82,800	109,850

##(###) AM(PM) Peak Hour Intersection Volumes

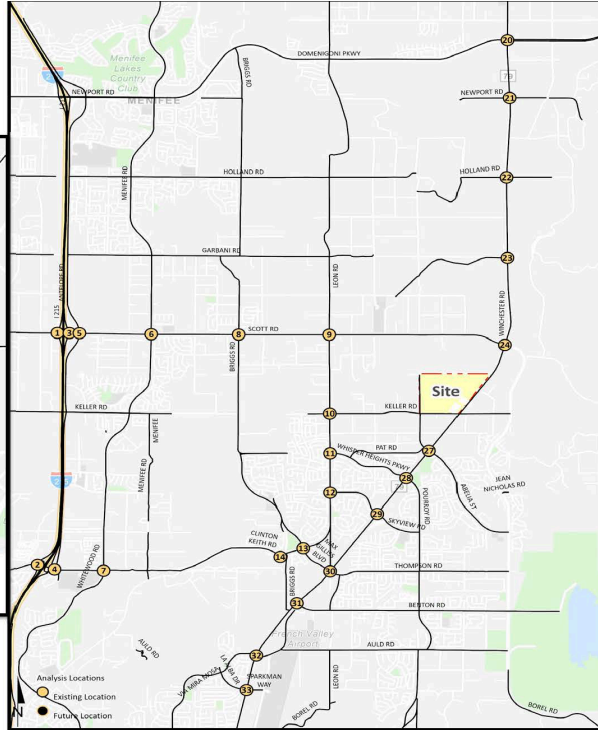
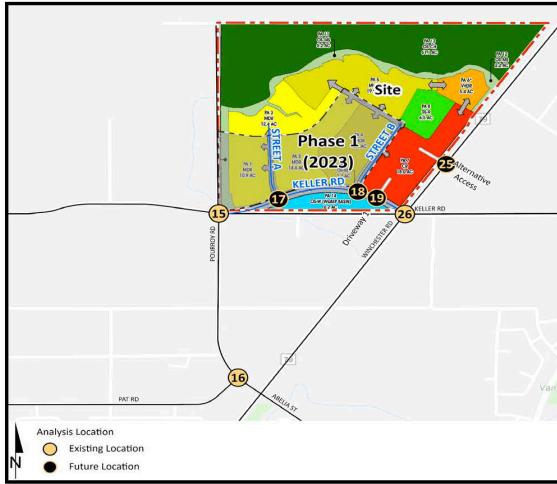
Average Daily Trips

EXHIBIT 9-2: HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUMES



1	I-215 SB Ramps & Scott Rd.	2	I-215 SB Ramps & Clinton Keith Rd.	3	I-215 NB Ramps & Scott Rd.	4	I-215 NB Ramps & Clinton Keith Rd.	5	Antelope Rd. & Scott Rd.
29,600	68,000	31,600	68,200	29,800	84,500	4,850	71,600	20,950	64,700
↓ 287(334)	↑ 987(709)	↓ 1007(844)	↑ 1219(957)	↓ 331(849)	↑ 1180(1207)	↑ 423(433)	↓ 468(355)	↓ 109(145)	↓ 2103(1992)
↑ 1156(1953)	↓ 1006(1504)	↑ 486(595)	↑ 1824(1821)	↑ 1811(1814)	↓ 2714(2346)	↑ 108(168)	↑ 155(625)	↑ 108(120)	↑ 108(120)
925(1508) →		1919(2380) →	0(144)	240(302) ↓		1564(2111) ↓	1411(2791) ↓	420(673) ↓	51(260) ↓
767(548) ↓		612(530) ↓		1692(2705) →	428(1268) →	842(864) ↓	554(557) ↓	101(231) ↓	101(231) ↓
53,450	6,800	64,650	6,400	67,950	15,000	68,150	31,000	84,500	24,100
6	Menifee Rd. & Scott Rd.	7	Whitewood Rd. & Clinton Keith Rd.	8	Briggs Rd. & Scott Rd.	9	Leon Rd. & Scott Rd.	10	Leon Rd. & Keller Rd.
20,500	71,100	42,350	60,050	5,200	64,400	10,400	40,300	23,900	8,050
↓ 91(113)	↑ 342(405)	↓ 580(718)	↑ 242(381)	↓ 28(31)	↑ 253(174)	↓ 200(129)	↑ 36(81)	↓ 29(0)	↑ 356(241)
↓ 421(340)	↑ 2162(1956)	↓ 454(331)	↑ 2052(1714)	↓ 477(8)	↑ 2047(2167)	↓ 168(90)	↑ 1376(1382)	↓ 69(740)	0(3)
↑ 324(421)	↓ 420(332)	↑ 240(313)	↓ 327(233)	↑ 372(231)	↑ 485(94)	↑ 89(57)	↓ 27(19)	↑ 175(356)	↑ 107(74)
82(216) ↓	166(137) →	645(852) →	237(520) →	48(26) ↓	418(543) →	201(228) ↓	176(109) →	6(7) ↓	14(0) ↓
1390(2388) ↓	247(680) →	1525(2118) ↓	189(965) →	1736(2676) ↓	226(18) →	930(1698) ↓	4(5) ↓	14(0) ↓	60(103) ↓
88(168) ↓	489(522) ↑	210(238) ↓	157(523) ↑	505(671) ↓	939(80) →	666(1007) ↓	21(18) ↓	14(0) ↓	14(0) ↓
59,350	20,400	70,250	28,400	67,800	12,400	61,950	22,500	1,300	19,650
11	Leon Rd. & Whisper Heights Pkwy.	12	Leon Rd. & Jean Nicholas Rd.	13	Briggs Rd. & Leon Rd.	14	Leon Rd. & Clinton Keith Rd.	15	Pourroy Rd. & Keller Rd.
19,850	5,950	26,500	17,150	16,150	35,750	33,900	24,350		8,300
↓ 10(31)	↑ 98(51)	↓ 49(19)	↑ 196(231)	↓ 311(174)	↑ 28(27)	↓ 602(847)	↑ 891(599)		↑ 294(418)
↓ 676(765)	↑ 39(107)	↓ 889(850)	↑ 304(305)	↓ 766(839)	↑ 806(675)	↑ 926(819)	↑ 218(236)	↓ 2(0)	↑ 19(9)
↑ 249(191)	↓ 143(99)	↑ 94(196)	↓ 150(161)	↑ 391(212)	↑ 555(712)				
24(16) ↓	2(7) ↓	264(193) ↓	135(68) ↓	391(212) ↓	435(1004) ↓			358(354) ↓	12(24) ↓
18(29) ↓	587(893) ↓	152(58) ↓	447(1072) ↓	435(1004) ↓	819(607) ↓			19(20) ↓	10(18) ↓
8(6) ↓	97(291) ↑		94(227) ↑	698(393) ↓	504(551) ↓				
				306(730) ↓	306(730) ↓				
1,200	23,400	9,750	27,500	24,350	26,900	20,250	8,550		850
16	Pourroy Rd. & Pat Rd.	17	Street A & Keller Rd.	18	Street B & Keller Rd.	19	Driveway 1 & Keller Rd.	20	Winchester Rd. (SR-79) & Domenigoni Pkwy.
700	750	7,700	4,950	8,000	5,900	12,800	39,300	52,850	
↓ 12(7)	↓ 62(25)	↑ 3(4)	↓ 93(58)	↑ 80(96)	↓ 49(43)	↑ 125(243)	↓ 40(163)	↑ 293(19)	
↓ 108(87)	↑ 7(3)	↑ 251(402)	↑ 231(299)	↑ 161(348)	↑ 192(402)	↑ 907(521)	↓ 907(521)	↑ 476(785)	
↑ 6(10)	↑ 27(39)		↑ 117(136)			↑ 642(18)	↑ 77(180)	↑ 845(666)	
215(113) ↓	343(332) ↓		233(189) ↓			604(902) ↓	604(902) ↓	25(123) ↓	
						179(90) ↓	179(90) ↓	636(1050) ↓	
								799(882) ↓	
3,700	4,000	8,300	7,700	8,000	8,000	31,850	65,250		

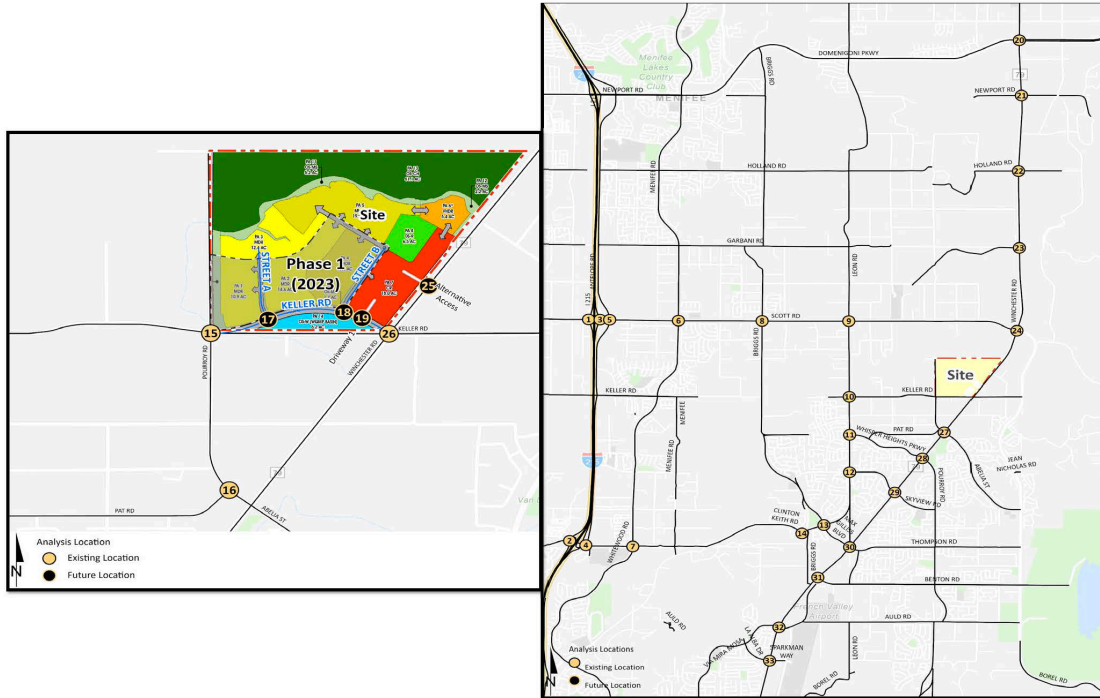
##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips



21	Winchestr Rd. (SR-79) & Newport Rd.	22	Winchestr Rd. (SR-79) & Holland Rd.	23	Winchestr Rd. (SR-79) & Garbani Rd.	24	Winchestr Rd. (SR-79) & Scott Rd.	25	Winchestr Rd. (SR-79) & Driveway 2
65,300	750	80,350	1,850	84,150	350	93,300	23,650	Not Evaluated for this Scenario	
13(93) 1908(1234) 10(3)	55(18) 0(9) 5(18)	4(12) 4167(8696) 50(0)	0(61) 12(18) 8(30)	175(253) 4000(3632)	194(165) 133(18)	962(843) 2771(2370) 350(437)	502(653) 336(368) 50(104)		
79(38) 31(11)	7(23) 1551(1999) 0(7)	1(7) 10(18) 0(8)	4(10) 2920(4229) 0(42)	85(47) 2730(4116)	270(340) 1745(2697) 50(50)	267(292)	63,300		
200	65,300	550	81,850	4,400	76,750	43,000	63,300		
26	Winchestr Rd. (SR-79) & Keller Rd.	27	Winchestr Rd. (SR-79) & Abelia St.	28	Winchestr Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	29	Winchestr Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	30	Winchestr Rd. (SR-79) & Max Gillis Bl./Thompson Rd.
63,300	2,150	65,400	10,750	69,600	8,050	67,750	17,250	80,600	
170(401) 2918(2358) 0(8)	0(20) 2(25) 17(25)	185(101) 2882(2417) 92(95)	136(121) 25(45) 458(342)	35(133) 3359(2542) 137(264)	196(282) 20(24) 188(153)	148(177) 2532(2081) 19(19)	60(31) 30(57) 16(10)	386(298) 3207(2420) 145(283)	192(141) 552(468) 538(496)
288(251) 41(16) 223(231)	161(218) 1777(2816) 12(107)	95(126) 33(43) 192(180)	118(230) 1719(2893) 161(326)	42(130) 20(21) 49(24)	21(46) 1758(3038) 0(2)	148(191) 137(58) 367(262)	207(469) 1504(2987) 4(15)	297(398) 297(473) 797(492)	330(462) 330(462) 217(555)
12,800	65,100	10,200	69,600	2,250	66,250	13,900	73,550	49,900	
31	Winchestr Rd. (SR-79) & Benton Rd.	32	Winchestr Rd. (SR-79) & Via Mira Mosa/Auld Rd.	33	Winchestr Rd. (SR-79) & La Alba Dr./Sparkman Wy.				
109,450	42,800	91,000	18,850	80,950	4,500				
219(188) 3331(2341) 993(880)	639(1361) 357(257) 481(411)	311(356) 3723(2861) 407(270)	114(330) 56(89) 393(397)	112(167) 3668(3180) 24(22)	12(190) 6(9) 77(160)				
147(220) 257(379) 630(735)	614(566) 1600(3411) 282(574)	387(240) 81(53) 101(111)	47(136) 1996(3980) 390(357)	161(200) 9(12) 248(188)	174(297) 1858(4083) 191(166)				
21,950	91,000	10,350	90,700	10,600	83,300				

###(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

EXHIBIT 9-3: HORIZON YEAR (2040) WITH PROJECT ALTERNATIVE ACCESS TRAFFIC VOLUMES



21	Winchester Rd. (SR-79) & Newport Rd.	22	Winchester Rd. (SR-79) & Holland Rd.	23	Winchester Rd. (SR-79) & Garbani Rd.	24	Winchester Rd. (SR-79) & Scott Rd.	25	Winchester Rd. (SR-79) & Driveway 2
65,300	750	80,350	1,850	81,150	350	93,300	23,650	63,150	
13(39) 1908(1234) 10(3) 79(38) 31(11)	55(18) 0(9) 5(18) 7(23) 1551(1999) 0(7)	4(12) 4167(3696) 50(0) 1(7) 10(18) 0(8)	0(61) 12(18) 8(30) 4(10) 2920(4229) 0(42)	175(253) 4000(3632) 194(165) 133(18)	85(47) 2730(4116)	962(843) 2771(2370) 350(437) 518(763) 282(431) 267(292)	502(653) 336(368) 50(104) 270(340) 1745(2697) 50(50)	68(141) 3020(2626) 2065(3087)	
200	65,300	550	81,850	4,400	76,750	43,000	63,300	3,450	63,650
26	Winchester Rd. (SR-79) & Keller Rd.	27	Winchester Rd. (SR-79) & Abella St.	28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	30	Winchester Rd. (SR-79) & Max Gillis Bl./Thompson Rd.
63,750	2,150	65,100	10,750	69,600	8,050	67,750	17,250	80,600	27,500
102(260) 3038(2528) 0(8) 258(251) 41(16) 147(61)	0(20) 2(25) 17(25) 161(218) 1777(2816) 12(107)	185(101) 2882(2417) 92(95) 95(126) 33(43) 192(180)	136(121) 25(45) 458(342) 118(230) 1719(2893) 161(326)	35(133) 3359(2542) 137(264) 42(130) 20(21) 49(24)	196(282) 20(24) 188(153) 21(46) 1759(3038) 0(2)	148(177) 2532(2081) 19(19) 148(191) 137(58) 367(262)	60(31) 30(57) 16(10) 207(469) 1504(2987) 4(15)	386(298) 3207(2420) 145(283) 297(398) 297(473) 797(492)	192(141) 552(468) 538(496) 330(462) 330(462) 217(555)
9,400	65,100	10,200	69,600	2,250	66,250	13,900	73,550	49,900	111,050
31	Winchester Rd. (SR-79) & Benton Rd.	32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.				
109,450	42,800	91,000	18,850	80,950	4,500				
219(188) 3331(2341) 993(886) 147(220) 257(379) 630(735)	639(1361) 357(257) 481(411) 614(566) 1600(3411) 282(574)	311(356) 3723(2861) 407(270) 387(240) 81(53) 101(111)	114(330) 56(89) 393(397) 47(136) 1996(3980) 390(357)	112(167) 3668(3180) 24(22) 161(200) 9(12) 248(188)	12(190) 6(9) 77(160) 174(297) 1858(4083) 191(166)				
21,950	91,000	10,350	90,700	10,600	83,300				

##(###) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

9.4 INTERSECTION OPERATIONS ANALYSIS

9.4.1 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC CONDITIONS

LOS calculations were conducted for the study intersections to evaluate their operations under Horizon Year (2040) Without Project conditions with roadway and intersection geometrics consistent with Section 9.1 *Roadway Improvements*. As shown on Table 9-1, the following study area intersections are anticipated to operate at an unacceptable LOS under Horizon Year (2040) Without Project traffic conditions:

- I-215 NB Ramps & Scott Road (#3) – LOS E AM peak hour; LOS F PM peak hour
- Antelope Road & Scott Road (#5) – LOS F AM and PM peak hours
- Menifee Road & Scott Road (#6) – LOS F AM and PM peak hours
- Whitewood Road & Clinton Keith Road (#7) – LOS F AM and PM peak hours
- Briggs Road & Scott Road (#8) – LOS F AM and PM peak hours
- Leon Road & Scott Road (#9) – LOS F AM and PM peak hours
- Leon Road & Keller Road (#10) – LOS F AM and PM peak hours
- Leon Road & Whisper Heights Parkway (#11) – LOS F AM and PM peak hours
- Briggs Road & Leon Road (#13) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Domenigoni Parkway (#20) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Holland Road (#22) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Garbani Road (#23) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Scott Road (#24) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Driveway 2 (#25) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Keller Road (#26) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Abelia Street (#27) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Whisper Heights Parkway/Pourroy Road (#28) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Jean Nicholas Road/Skyview Road (#29) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Max Gilliss Boulevard/Thompson Road (#30) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Benton Road (#31) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Via Mira Mosa/Auld Road (#32) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & La Alba Drive (#33) – LOS F AM and PM peak hours

The intersection operations analysis worksheets for Horizon Year (2040) Without Project traffic conditions are included in Appendix 9.1 of this TS.

TABLE 9-1: INTERSECTION ANALYSIS FOR HORIZON YEAR (2040) CONDITIONS

#	Intersection	Traffic Control ²	2040 Without Project				2040 With Project			
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	I-215 SB Ramps & Scott Rd.	TS	31.2	51.3	C	D	32.8	54.8	C	D
2	I-215 SB Ramps & Clinton Keith Rd.	TS	22.6	31.5	C	C	22.9	34.3	C	C
3	I-215 NB Ramps & Scott Rd.	TS	56.0	108.2	E	F	57.4	112.9	E	F
4	I-215 NB Ramps & Clinton Keith Rd.	TS	40.7	50.7	D	D	48.2	53.3	D	D
5	Antelope Rd. & Scott Rd.	TS	89.1	>200.0	F	F	100.1	>200.0	F	F
6	Menifee Rd. & Scott Rd.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
7	Whitewood Rd. & Clinton Keith Rd.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
8	Briggs Rd. & Scott Rd.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
9	Leon Rd. & Scott Rd.	AWS	>100.0	>100.0	F	F	>100.0	>100.0	F	F
10	Leon Rd. & Keller Rd.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F
11	Leon Rd. & Whisper Heights Pkwy.	CSS	69.7	>100.0	F	F	93.0	>100.0	F	F
12	Leon Rd. & Jean Nicholas Rd.	TS	40.4	46.8	D	D	40.9	49.5	D	D
13	Briggs Rd. & Leon Rd.	TS	50.5	50.9	D	D	54.7	54.3	D	D
14	Leon Rd. & Clinton Keith Rd.	TS	40.8	19.2	D	B	50.3	20.7	D	C
15	Pourroy Rd. & Keller Rd.	AWS	8.4	9.4	A	A	12.2	14.8	B	C
16	Pourroy Rd. & Pat Rd.	CSS	10.1	9.5	B	A	10.3	9.8	B	A
17	Old Keller Rd./Street A & Keller Rd.	CSS	Future Intersection				9.9	10.3	A	B
	-Alternative Access	CSS	Not Evaluated				10.4	10.8	B	B
18	Street B & Keller Rd.	CSS	Future Intersection				21.4	34.7	C	D
	-Alternative Access	CSS	Not Evaluated				15.9	26.0	C	D
19	Driveway 1 & Keller Rd.	CSS	Future Intersection				9.6	11.0	A	B
	-Alternative Access	CSS	Not Evaluated				9.5	10.9	A	B
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.	TS	>200.0	92.8	F	F	>200.0	97.4	F	F
21	Winchester Rd. (SR-79) & Newport Rd.	TS	10.3	8.2	B	A	10.5	8.3	B	A
22	Winchester Rd. (SR-79) & Holland Rd.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
23	Winchester Rd. (SR-79) & Garbani Rd.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
24	Winchester Rd. (SR-79) & Scott Rd.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
25	Winchester Rd. (SR-79) & Driveway 2	CSS	Future Intersection				Not Evaluated			
	-Alternative Access	CSS	Not Evaluated				>100.0	>100.0	F	F
26	Winchester Rd. (SR-79) & Keller Rd.	TS	169.5	127.4	F	F	171.0	159.5	F	F
	-Alternative Access	TS	Not Evaluated				179.1	177.3	F	F
27	Winchester Rd. (SR-79) & Abelia St.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	TS	177.6	>200.0	F	F	189.6	>200.0	F	F
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
31	Winchester Rd. (SR-79) & Benton Rd.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).
¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or
² CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **TS** = Improvement

9.4.2 HORIZON YEAR (2040) WITH PROJECT TRAFFIC CONDITIONS

As shown on Table 9-1, there are no additional study area intersections anticipated to operate at a deficient LOS during one or both peak hours for Horizon Year (2040) With Project traffic conditions, in addition to the locations identified above for Horizon Year (2040) Without Project

traffic conditions. There are no additional deficiencies anticipated assuming the alternative access conditions, in addition to the deficiencies already anticipated under Horizon Year (2040) With Project conditions. It should be noted, the deficiencies at Project driveways are not attributable to Project traffic, but instead are due to the high through volumes anticipated on Winchester Road (SR-79). The intersection operations analysis worksheets for Horizon Year (2040) With Project traffic conditions are included in Appendix 9.2 of this TS and in Appendix 9.3 for the alternative access conditions.

9.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed (based on CA MUTCD) for Horizon Year (2040) traffic conditions based on peak hour intersection turning movements volumes or planning level (ADT) volumes. There is no additional unsignalized study area intersection anticipated to meet a traffic signal warrant under Horizon Year (2040) Without Project or With Project traffic conditions, in addition to the intersections identified previously under previous analysis scenarios (see Appendices 9.4, 9.5, and 9.6).

9.6 QUEUING ANALYSIS

Queuing analysis findings for Horizon Year (2040) are presented on Table 9-2. As shown on Table 9-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project (Project Buildout) traffic. Worksheets for Horizon Year (2040) traffic conditions queuing analysis are provided in Appendices 9.7 and 9.8, and Appendix 9.9 for alternative access conditions.

TABLE 9-2: PEAK HOUR QUEUING SUMMARY FOR HORIZON YEAR (2040) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	2040 Without Project				2040 With Project			
			95th Percentile Queue (Feet)		Acceptable? ¹		95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps & Scott Rd. (#1)	SBL	1,470	520 ²	860 ²	Yes	Yes	553 ²	837 ²	Yes	Yes
	SBR	1,470	108	155	Yes	Yes	109	151	Yes	Yes
I-215 SB Ramps & Clinton Keith Rd. (#2)	SBL/T	1,900	432	672 ²	Yes	Yes	558 ²	569	Yes	Yes
	SBR	1,200	509	421	Yes	Yes	671 ²	384	Yes	Yes
I-215 NB Ramps & Scott Rd. (#3)	NBR	1,425	335 ²	997 ²	Yes	Yes	344 ²	997 ²	Yes	Yes
	SBR	1,750	254 ²	578 ²	Yes	Yes	255 ²	578 ²	Yes	Yes
I-215 NB Ramps & Clinton Keith Rd. (#4)	NBL/R	1,920	730 ²	1,314 ²	Yes	Yes	754	1,337 ²	Yes	Yes
	NBR	950	691 ²	1,235 ^{2,4}	Yes	Yes	734	1,289 ²	Yes	Yes
Winchester Rd. (SR-79) & Keller Rd. (#26) <i>-Alternative Access</i>	<u>EBL</u>	<u>300</u>	Does Not Exist				295	255	Yes	Yes
	<u>EBR</u>	<u>175</u>					152	159	Yes	Yes
	<u>EBL</u>	<u>300</u>	Does Not Exist				261	256	Yes	Yes
	<u>EBR</u>	<u>175</u>					86	26	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ EBL = Improvement; 100 = Improvement

⁴ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 Freeway mainline.

9.7 DEFICIENCIES AND IMPROVEMENTS

This section provides a summary of deficiencies, based on the County of Riverside’s deficiency criteria discussed in Section 2.6 *Deficiency Criteria*, and improvements needed to improve operations back to acceptable levels.

9.7.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the recommended improvement strategies to address Horizon Year (2040) traffic deficiencies are presented in Table 9-3. Worksheets for Horizon Year (2040) Without and With Project conditions, with improvements, HCM calculation worksheets are provided in Appendices 9.10 and 9.11, respectively.

9.7.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously in Table 9-3, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Horizon Year (2040) traffic conditions. As such, no improvements have been identified.

TABLE 9-3: INTERSECTION ANALYSIS FOR HORIZON YEAR (2040) CONDITIONS WITH IMPROVEMENTS

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service		
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM	
			L	T	R	L	T	R	L	T	R	L	T	R					
3	I-215 NB Ramps & Scott Rd.	- Without Project ⁴	TS	0	<u>1</u>	2	0	0	2	<u>2</u>	<u>4</u>	0	0	<u>4</u>	1	26.8	37.5	C	D
		- With Project ⁴	TS	0	<u>1</u>	2	0	0	2	<u>2</u>	<u>4</u>	0	0	<u>4</u>	1	27.1	38.0	C	D
5	Antelope Rd. & Scott Rd.	- Without Project ⁴	TS	2	2	1>	<u>2</u>	<u>2</u>	<u>2</u> >	2	<u>3</u>	<u>2</u>	2	<u>4</u>	0	30.3	48.5	C	D
		- With Project ⁴	TS	2	2	1>	<u>2</u>	<u>2</u>	<u>2</u> >	2	<u>3</u>	<u>2</u>	2	<u>4</u>	0	31.1	51.6	C	D
6	Menifee Rd. & Scott Rd.	- Without Project	TS	1	<u>2</u>	1>	<u>2</u>	<u>2</u>	0	<u>2</u>	<u>3</u>	0	<u>2</u>	<u>3</u>	<u>1</u>	38.1	50.3	D	D
		- With Project	TS	1	<u>2</u>	1>	<u>2</u>	<u>2</u>	0	<u>2</u>	<u>3</u>	0	<u>2</u>	<u>3</u>	<u>1</u>	39.8	54.3	D	D
7	Whitewood Rd. & Clinton Keith Rd.	- Without Project	TS	<u>2</u>	<u>2</u>	1	<u>2</u>	2	1>	2	<u>3</u>	1	2	3	1	53.4	53.4	D	D
		- With Project	TS	<u>2</u>	<u>2</u>	1	<u>2</u>	2	1>	2	<u>3</u>	1	2	3	1	53.7	53.6	D	D
8	Briggs Rd. & Scott Rd.	- Without Project	TS	<u>2</u>	1	0	<u>1</u>	1	0	1	<u>3</u>	0	1	<u>3</u>	1	45.8	44.4	D	D
		- With Project	TS	<u>2</u>	1	0	<u>1</u>	1	0	1	<u>3</u>	0	1	<u>3</u>	1	46.4	49.2	D	D
9	Leon Rd. & Scott Rd.	- Without Project	TS	<u>2</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>3</u>	1>	<u>1</u>	<u>3</u>	0	44.4	42.5	D	D
		- With Project	TS	<u>2</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>3</u>	1>	<u>1</u>	<u>3</u>	0	50.6	45.7	D	D
10	Leon Rd. & Keller Rd.	- Without Project	TS	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	0	0	1	0	0	1	0	8.9	9.0	A	A
		- With Project	TS	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	0	0	1	0	0	1	0	16.1	31.5	B	C
11	Leon Rd. & Whisper Heights Pkwy.	- Without Project	TS	1	1	0	1	2	0	0	1	0	1	1	0	10.0	17.9	B	B
		- With Project	TS	1	1	0	1	2	0	0	1	0	1	1	0	10.4	20.7	B	C
20	Winchester Rd. (SR-79) & Domenigoni Pkwy.	- Without Project	TS	<u>2</u>	2	1	<u>2</u>	2	1	2	2	1	2	3	1	50.7	39.3	D	D
		- With Project	TS	<u>2</u>	2	1	<u>2</u>	2	1	2	2	1	2	3	1	53.4	41.1	D	D
22	Winchester Rd. (SR-79) & Holland Rd.	- Without Project	TS	1	<u>3</u>	1	1	<u>4</u>	1	1	1	0	1	1	0	21.7	44.6	C	D
		- With Project	TS	1	<u>3</u>	1	1	<u>4</u>	1	1	1	0	1	1	0	23.1	46.6	C	D
23	Winchester Rd. (SR-79) & Garbani Rd.	- Without Project	TS	1	<u>3</u>	0	0	<u>4</u>	1	1	0	1	0	0	0	26.0	41.9	C	D
		- With Project	TS	1	<u>3</u>	0	0	<u>4</u>	1	1	0	1	0	0	0	27.3	43.9	C	D
24	Winchester Rd. (SR-79) & Scott Rd.	- Without Project	TS	<u>2</u>	<u>4</u>	1	<u>2</u>	<u>4</u>	1	<u>2</u>	<u>2</u>	1	<u>2</u>	<u>2</u>	<u>2</u> >	50.7	52.3	D	D
		- With Project	TS	<u>2</u>	<u>4</u>	1	<u>2</u>	<u>4</u>	1	<u>2</u>	<u>2</u>	1	<u>2</u>	<u>2</u>	<u>2</u> >	51.7	53.4	D	D
25	Winchester Rd. (SR-79) & Driveway 2 - With Project (Alternative Access) ⁵		CSS	0	<u>4</u>	0	0	<u>4</u>	<u>1</u>	0	0	<u>1</u>	0	0	0	25.8	28.5	D	D
26	Winchester Rd. (SR-79) & Keller Rd.	- Without Project	TS	1	<u>3</u>	1	1	<u>3</u>	1	0	1	0	0	1	0	18.1	14.4	B	B
		- With Project	TS	1	<u>3</u>	1	1	<u>3</u>	1	0	1	0	0	1	0	48.9	34.5	D	C
27	Winchester Rd. (SR-79) & Abelia St.	- Without Project	TS	1	<u>4</u>	1	1	<u>4</u>	1	1	2	0	<u>2</u>	<u>1</u>	0	41.9	30.3	D	C
		- With Project	TS	1	<u>4</u>	1	1	<u>4</u>	1	1	2	0	<u>2</u>	<u>1</u>	0	48.8	31.8	D	C
28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	- Without Project	TS	1	<u>4</u>	1	2	<u>4</u>	1	1	1	1	1	1	1	28.9	38.9	C	D
		- With Project	TS	1	<u>4</u>	1	2	<u>4</u>	1	1	1	1	1	1	1	32.7	46.9	C	D
29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	- Without Project	TS	1	<u>4</u>	1	1	<u>4</u>	1	1	1	1	1	1	1	37.9	41.0	D	D
		- With Project	TS	1	<u>4</u>	1	1	<u>4</u>	1	1	1	1	1	1	1	41.3	43.0	D	D
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	- Without Project	TS	<u>2</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>4</u>	1	<u>2</u>	<u>2</u>	2	<u>2</u>	<u>2</u>	0	49.6	51.3	D	D
		- With Project	TS	<u>2</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>4</u>	1	<u>2</u>	<u>2</u>	2	<u>2</u>	<u>2</u>	0	53.4	54.8	D	D
31	Winchester Rd. (SR-79) & Benton Rd.	- Without Project	TS	<u>2</u>	<u>4</u>	0	<u>2</u>	<u>4</u>	0	<u>2</u>	<u>2</u>	<u>1</u>	2	<u>2</u>	1>	49.1	51.5	D	D
		- With Project	TS	<u>2</u>	<u>4</u>	0	<u>2</u>	<u>4</u>	0	<u>2</u>	<u>2</u>	<u>1</u>	2	<u>2</u>	1>	52.1	53.9	D	D

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.																	
	- Without Project	TS	1	<u>4</u>	1	<u>2</u>	<u>4</u>	0	1	1	0	1	1	0	48.4	49.9	D	D
	- With Project	TS	1	<u>4</u>	1	<u>2</u>	<u>4</u>	0	1	1	0	1	1	0	50.7	52.7	D	D
33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.																	
	- Without Project	TS	1	<u>4</u>	0	1	<u>4</u>	1	1	1	1	0	1	0	26.7	46.5	C	D
	- With Project	TS	1	<u>4</u>	0	1	<u>4</u>	1	1	1	1	0	1	0	27.9	49.1	C	D

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; 1 = Improvement

² Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ TS = Traffic Signal; TS = Improvement

⁴ Improvements are consistent with the I-215 Freeway/Scott Road interchange project ultimate lane geometries.

10 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the County of Riverside are funded through a combination of improvements constructed by the Project, development impact fee programs or fair share contributions. Fee programs applicable to the Project are described below.

10.1 RIVERSIDE COUNTY TRANSPORTATION UNIFORM MITIGATION FEE (TUMF)

The TUMF program is administered by the WRCOG based upon a regional Nexus Study most recently updated in 2016 to address major changes in right of way acquisition and improvement cost factors. (4) This regional program was put into place to ensure that development pays its fair share, and that funding is in place for construction of facilities needed to maintain the requisite level of service and critical to mobility in the region. TUMF is a truly regional mitigation fee program and is imposed and implemented in every jurisdiction in Western Riverside County.

10.2 COUNTY OF RIVERSIDE DEVELOPMENT IMPACT FEE (DIF) PROGRAM

The Project is located within the County's Southwest Area Plan and therefore will be subject to County of Riverside DIF in an effort by the County to address development throughout its unincorporated area. The DIF program consists of two separate transportation components: the Roads, Bridges and Major Improvements component and the Traffic Signals component. Eligible facilities for funding by the County DIF program are identified on the County's Public Needs List, which currently extends through the year 2020. (11) A comprehensive review of the DIF program is now planned in order to update the nexus study. This will result in development of a revised "needs list" extending the program time horizon from 2010 to 2030.

The cost of signaling DIF network intersections is identified under the Traffic Signals component of the DIF program. County staff generally defines DIF eligible intersections as those consisting of two intersecting general plan roadways. If the intersection meets this requirement, it is potentially eligible for up to \$235,000 of credit, which is subject to negotiations with the County.

10.3 SOUTHWEST ROAD AND BRIDGE BENEFIT DISTRICT (RBBD)

The County of Riverside is anticipated to experience substantial growth. Extensive improvements are necessitated by new development within the region. In particular, Riverside County recognized the effects of this growth on the vicinity of the study area when it formed the Scott Road Southwest Road and Bridge Benefit District (RBBD). The proposed Project lies within Zone C of the Scott Road RBBD. Zone C is generally bounded by SR-79 to the east, Sunset Avenue to the west, Holland Road to the north, and Baxter Road to the south. As discussed above, the facilities improvements that will be ultimately constructed as a result of the collection of these fees and assessments.

10.4 MEASURE A

Measure A, Riverside County's half-cent sales tax for transportation, was adopted by voters in 1988 and extended in 2002. It will continue to fund transportation improvements through 2039. Measure A funds a wide variety of transportation projects and services throughout the County. RCTC is responsible for administering the program. Measure A dollars are spent in accordance with a voter-approved expenditure plan that was adopted as part of the 1988 election.

10.5 FAIR SHARE CONTRIBUTION

Project improvements may include a combination of fee payments to established programs, construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate (to be determined at the County's discretion). When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. Detailed fair share calculations, for each peak hour, have been provided in Table 10-1 for the applicable deficient study area intersection and for each applicable phase. These fees are collected with the proceeds solely used as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected population increases.

TABLE 10-1: PROJECT FAIR SHARE CALCULATIONS

#	Intersection	Existing	Project	2040 With Project	Total New Traffic	Project % of New Traffic ¹	
6	Menifee Rd. & Scott Rd.	AM:	2,572	150	6,232	3,660	4.1%
		PM:	2,850	132	7,677	4,827	2.7%
7	Whitewood Rd. & Clinton Keith Rd.	AM:	3,725	89	6,857	3,132	2.8%
		PM:	4,340	78	8,434	4,094	1.9%
8	Briggs Rd. & Scott Rd.	AM:	2,347	174	6,245	3,898	4.5%
		PM:	1,744	152	6,719	4,975	3.1%
9	Leon Rd. & Scott Rd.	AM:	1,155	191	4,787	3,632	5.3%
		PM:	1,041	165	5,656	4,615	3.6%
10	Leon Rd. & Keller Rd.	AM:	485	319	2,057	1,572	20.3%
		PM:	516	282	2,402	1,886	15.0%
11	Leon Rd. & Whisper Heights Pkwy.	AM:	388	105	1,827	1,439	7.3%
		PM:	496	93	2,408	1,912	4.9%
14	Leon Rd. & Clinton Keith Rd.	AM:	2,376	89	3,617	1,241	7.2%
		PM:	2,781	78	3,313	532	14.7%
20	Winchester Rd. (SR-79) & Domenigoni Pkwy. ¹	AM:	5,046	89	7,017	1,971	4.5%
		PM:	5,294	76	7,729	2,435	3.1%
22	Winchester Rd. (SR-79) & Holland Rd.	AM:	2,917	81	7,176	4,259	1.9%
		PM:	3,252	67	8,131	4,879	1.4%
23	Winchester Rd. (SR-79) & Garbani Rd.	AM:	2,944	85	7,317	4,373	1.9%
		PM:	3,233	72	8,231	4,998	1.4%
24	Winchester Rd. (SR-79) & Scott Rd.	AM:	3,303	91	8,103	4,800	1.9%
		PM:	3,712	77	9,348	5,636	1.4%
25	Winchester Rd. (SR-79) & Driveway 2	AM:	2,259	211	5,273	3,014	7.0%
		PM:	2,233	247	6,023	3,790	6.5%
26	Winchester Rd. (SR-79) & Keller Rd.	AM:	2,344	363	5,609	3,265	11.1%
		PM:	2,404	451	6,475	4,071	11.1%
27	Winchester Rd. (SR-79) & Abelia St.	AM:	2,567	223	6,096	3,529	6.3%
		PM:	2,518	203	6,920	4,402	4.6%
28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	AM:	2,531	203	5,826	3,295	6.2%
		PM:	2,524	184	6,660	4,136	4.4%
29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	AM:	2,301	181	5,171	2,870	6.3%
		PM:	2,691	161	6,355	3,664	4.4%
30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	AM:	4,474	166	8,797	4,323	3.8%
		PM:	5,061	149	10,460	5,399	2.8%
31	Winchester Rd. (SR-79) & Benton Rd.	AM:	4,347	147	9,550	5,203	2.8%
		PM:	5,094	131	11,323	6,229	2.1%
32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	AM:	4,281	117	8,008	3,727	3.1%
		PM:	4,605	106	9,180	4,575	2.3%
33	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	AM:	4,021	81	6,540	2,519	3.2%
		PM:	4,643	72	8,674	4,031	1.8%

BOLD = Highest fair share percentage is highlighted.

¹ The future SR-79 alignment is anticipated to reduce volumes at this location. As such, fair share has been calculated based on EAPC (2028) traffic volumes.

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11 REFERENCES

1. **County of Riverside Transportation Department.** *Transportation Analysis Guidelines for Level of Service and Vehicle Miles Traveled.* County of Riverside : s.n., December 2020.
2. **Institute of Transportation Engineers.** *Trip Generation Manual.* 10th Edition. 2017.
3. **San Diego Municipal Code Land Development Code.** *Trip Generation Manual.* San Diego : s.n., May 2003.
4. **Western Riverside Council of Governments.** *TUMF Nexus Study, 2016 Program Update.* July 2017.
5. **Riverside County Transportation Commission.** *2011 Riverside County Congestion Management Program.* County of Riverside : RCTC, December 14, 2011.
6. **Transportation Research Board.** *Highway Capacity Manual (HCM).* 6th Edition. s.l. : National Academy of Sciences, 2016.
7. **California Department of Transportation.** *Guide for the Preparation of Traffic Impact Studies.* December 2002.
8. —. California Manual on Uniform Traffic Control Devices (MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CAMUTCD).* 2017.
9. **Circulation Element C-1: Roadway System.** *The City of Menifee, California.* [Online] [Cited: 2014 йил 30-May.] <http://cityofmenifee.us/index.aspx?NID=215>.
10. **Southern California Association of Governments (SCAG).** *2020 Regional Transportation Plan / Sustainable Communities Strategy.* Adopted September 2020.
11. **Willdan Financial Services.** *County of Riverside Development Impact Fee Study Update.* County of Riverside : s.n., 2013.

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APPENDIX 1.1:

APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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EXHIBIT B

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the Riverside County Transportation Department requirements for traffic impact analysis of the following project. The analysis must follow the Riverside County Transportation Department Traffic Study Guidelines dated December 2020.

Case No. _____
 Related Cases- _____
 SP No. SP00380A01
 EIR No. _____
 GPA No. _____
 CZ No. _____
 Project Name: Keller Crossing Specific Plan
 Project Address: northwest corner of Winchester Road (SR-79) and Keller Road
 Project Description: 356 single family residential dwelling units, 176,000 square feet of commercial retail uses, 80 senior attached units, and a 6.5-acre sports park/active park

	<u>Consultant</u>	<u>Developer</u>
Name:	<u>Urban Crossroads Inc. - Charlene So</u>	<u>DR Horton</u>
Address:	<u>1133 Camelback St. #8329</u> <u>Newport Beach, CA 92658</u>	<u>2280 Wardlow Circle, Suite 100</u> <u>Corona, CA 92880</u>
Telephone:	<u>(949) 861-0177</u>	_____
Fax:	_____	_____

A. Trip Generation Source: ITE Trip Generation Manual, 10th Edition (2017)

Current GP Land Use	<u>SP 380</u>	Proposed Land Use	<u>SP 380, Amendment</u>
Current Zoning	<u>SP 380</u>	Proposed Zoning	<u>SP 380, Amendment</u>

	<u>Current Trip Generation</u>			<u>Proposed Trip Generation</u>		
	<u>In</u>	<u>Out</u>	<u>Total</u>	<u>In</u>	<u>Out</u>	<u>Total</u>
AM Trips	_____	_____	_____	278	368	646
PM Trips	_____	_____	_____	332	241	573

Internal Trip Allowance Yes No (per ITE % Trip Discount)
 Pass-By Trip Allowance Yes No (per ITE % Trip Discount)

A passby trip discount of 25% is allowed for appropriate land uses. The passby trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution:
 N varies % S varies % E varies % W varies %

C. Background Traffic
 Project Build-out Year: 2028 Annual Ambient Growth Rate: 2 %
 Phase Year(s) 2023, 2028

Other area Projects to be analyzed: To be provided by the County of Riverside
 Model/Forecast Methodology: RivTAM or RIVCOM (if applicable)



D. Study Intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments form other agencies). (See Exhibit 3)

- | | |
|------------------------------|-----------|
| 1. <u>See Attached Table</u> | 11. _____ |
| 2. _____ | 12. _____ |
| 3. _____ | 13. _____ |
| 4. _____ | 14. _____ |
| 5. _____ | 15. _____ |
| 6. _____ | 16. _____ |
| 7. _____ | 17. _____ |
| 8. _____ | 18. _____ |
| 9. _____ | 19. _____ |
| 10. _____ | 20. _____ |

E. Study Roadway Segments: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments form other agencies).

1. _____ 2. _____

F. Other Jurisdictional Impacts

Is this project within a City's Sphere of influence or one mile radius of City boundaries? Yes No

If so, name of City jurisdiction: City of Murrieta, City of Menifee

G. Site Plan (please attach reduced copy)

H. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Transportation Department)

(NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted", or similar statement) at an existing unsignalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.

I. Existing Conditions

Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.

Date of counts: Will be utilizing historic counts, new counts will be adjusted (if no historic counts are available)

***NOTE* Traffic Study Submittal Form and appropriate fee must be submitted with, or prior to submittal of this form. Transportation Department staff will not process the Scoping Agreement prior to receipt of the fee.**

Recommended by:

Charlene S

3/30/2021

Consultant's Representative

Date

Approved Scoping Agreement:

K. S.

06/01/2021

Riverside County Transportation
Department

Date

Scoping Agreement Revised on 5/26/2021

May 26, 2021 (Revised)

Mr. Kevin Tsang
County of Riverside, Transportation Department
4080 Lemon Street, 8th Floor
Riverside, CA 92501

SUBJECT: KELLER CROSSING SPECIFIC PLAN TRAFFIC ANALYSIS SCOPING AGREEMENT (REVISED)

Dear Mr. Kevin Tsang:

The firm of Urban Crossroads, Inc. is pleased to submit this scoping letter regarding the traffic impact analysis for Keller Crossing Specific Plan (Specific Plan No. 380, Amendment No. 1) (“Project”), which is located on the northwest corner of Winchester Road (SR-79) and Keller Road in the County of Riverside. This letter describes the proposed Project trip generation, trip distribution, and analysis methodology, which have been used to establish the draft proposed Project study area and analysis locations. The Project’s location with respect to the surrounding area is shown on Exhibit 1.

PROJECT DESCRIPTION

A preliminary land use plan for the proposed Project is shown on Exhibit 2. The Project is proposing to amend the Specific Plan with a mix of residential and commercial uses, as described below:

- Phase 1 (Opening Year of 2023) is anticipated to include the development of 195 single family detached residential dwelling units.
- Project Buildout (Buildout year of 2028) is anticipated to include a total of 356 single family detached residential dwelling units, 80 attached senior housing units, a 6.5-acre sports park/active park, and 176,000 square feet of commercial retail uses. For the purposes of the calculating and evaluating a conservative trip generation, the commercial retail area is proposed to include a 50,000 square foot supermarket, 14,000 square foot pharmacy, 101,500 square feet of commercial retail uses, and 10,500 square feet of fast-food restaurant with drive-through window use.

The Riverside County Transportation Commission (RCTC) (in partnership with Caltrans) has plans to realign Winchester Road (SR-79) from north of Newport Road and through the Cities of Hemet and San Jacinto as a grade separated, 4-lane facility with on and off ramps along select arterials. The realigned SR-79 is a long-range transportation improvement as RCTC has not yet identified or secured funding to construct the preferred alignment. As such, timing of the future realignment of SR-79 is currently unknown. For this reason, it will be assumed for Horizon Year (2040) traffic conditions only.

Access to the Project site will be accommodated via Keller Road only. However, an alternative scenario will evaluate a right-in/right-out driveway with access to SR-79 (this access is subject to Caltrans District

8 review and approval). Access to the I-215 Freeway is presumed via Scott Road and Clinton Keith Road.

STUDY AREA

Intersections

The purpose of this traffic analysis is to evaluate the peak hour operations of study area intersections based on the proposed distribution of Project traffic. Per the County’s traffic study guidelines, the study area has been developed by including locations where the Project is anticipated to contribute 50 or more peak hour trips within a 5-mile radius of the Project. Exhibit 3 presents the proposed study area intersection analysis locations (and listed on Table 1). The study area intersections will be evaluated using the HCM 6th Edition methodology.

TABLE 1: STUDY AREA INTERSECTIONS

#	Intersection	#	Intersection
1	I-215 SB Ramps & Scott Rd.	18	Street B & Keller Rd. - Future Intersection
2	I-215 SB Ramps & Clinton Keith Rd.	19	Driveway 1 & Keller Rd. - Future Intersection
3	I-215 NB Ramps & Scott Rd.	20	Winchester Rd. (SR-79) & Domenigoni Pkwy.
4	I-215 NB Ramps & Clinton Keith Rd.	21	Winchester Rd. (SR-79) & Newport Rd.
5	Antelope Rd. & Scott Rd.	22	Winchester Rd. (SR-79) & Holland Rd.
6	Menifee Rd. & Scott Rd.	23	Winchester Rd. (SR-79) & Garbani Rd.
7	Whitewood Rd. & Clinton Keith Rd.	24	Winchester Rd. (SR-79) & Scott Rd.
8	Briggs Rd. & Scott Rd.	25	Winchester Rd. (SR-79) & Driveway 2 - Alternative Access Only
9	Leon Rd. & Scott Rd.	26	Winchester Rd. (SR-79) & Keller Rd.
10	Leon Rd. & Keller Rd.	27	Winchester Rd. (SR-79) & Abelia St.
11	Leon Rd. & Whisper Heights Pkwy.	28	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.
12	Leon Rd. & Jean Nicholas Rd.	29	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.
13	Briggs Rd. & Leon Rd.	30	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.
14	Leon Rd. & Clinton Keith Rd.	31	Winchester Rd. (SR-79) & Benton Rd.
15	Pourroy Rd. & Keller Rd.	32	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.
16	Pourroy Rd. & Pat Rd.	33	Winchester Rd. (SR-79) & La Alba Dr./Winchester Rd.
17	Street A & Keller Rd. - Future Intersection		

Queuing

A queuing analysis will be performed for the roadway segment of Keller Road, between Street B and Winchester Road (SR-79) for each analysis scenario.

ANALYSIS SCENARIOS

The analysis of peak hour operations at study area intersections will be provided for the following analysis scenarios:

- Existing (2021) Conditions
- Existing plus Ambient Growth plus Project (EAP) (2023) Conditions (Phase 1)
- Existing plus Ambient Growth plus Project (EAP) (2028) Conditions (Project Buildout)
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2023) Conditions (Phase 1)
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2028) Conditions (Project Buildout)
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Project

An alternative access scenario will be evaluated for With Project (Project Buildout) conditions only, which assumes a right-in/right-out access driveway along SR-79.

EXISTING COUNT DATA

Due to the currently ongoing COVID-19 pandemic, historic traffic count data for the study area intersections that we collected during the **weekday AM** (7-9AM) and **weekday PM** (4-6PM) under pre-pandemic traffic conditions will be utilized. Counts utilized will have been conducted when local schools were in session and operating on normal bell schedules (pre-COVID conditions). An ambient growth rate of 2.0 percent per year (compounded annually) is proposed to adjust the historic count data to the current baseline year (2021) unless a comparison to historic count data indicates no adjustment are necessary.

For study area intersections where historic traffic count data is not available and adjustments are necessary to 2021 traffic counts (based on a comparison to historic data), new traffic counts will be conducted at those locations in addition to key locations where historic count data is available. An adjustment factor will be calculated based on a comparison of the adjusted 2021 (using historic counts) and current 2021 traffic counts. This adjustment factor will then be applied to the 2021 counts for all study area intersections where historic count data is not available in order to establish a non-COVID baseline.

TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development and is based upon the specific land uses planned for a given project. In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of

Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017) was used to estimate the trip generation. Trip generation rates are summarized on Table 2. For purposes of the traffic study, the following ITE land use codes will be utilized:

- Single Family Detached Housing (ITE Land Use Code 210)
- Senior Housing – Attached (ITE Land Use Code 252)
- Supermarket (ITE Land Use Code 850)
- Pharmacy with Drive-Thru Window (ITE Land Use Code 881)
- Shopping Center (ITE Land Use Code 820) – Based on Regression Equation for 101,500 SF
- Fast-food Restaurant with Drive-Thru Window (ITE Land Use Code 934)
- Sports Park/Active Park (Source: San Diego Municipal Code Land Development Code Trip Generation Manual)

TABLE 2: TRIP GENERATION RATES

Land Use ¹	ITE Code	Units ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single Family Detached Residential	210	DU	0.19	0.56	0.74	0.62	0.37	0.99	9.44
Senior Housing - Attached	252	DU	0.07	0.13	0.20	0.14	0.12	0.26	3.70
Active Park/Sports Park	-- ³	AC	1.00	1.00	2.00	2.00	2.00	4.00	50.00
Shopping Center (Regression Equation)	820	TSF	1.24	0.76	2.00	2.60	2.81	5.41	59.83
Supermarket	850	TSF	2.29	1.53	3.82	4.71	4.53	9.24	106.78
Pharmacy with Drive-Thru Window	881	TSF	2.04	1.80	3.84	5.15	5.14	10.29	109.16
Fast-Food Restaurant with Drive-Thru	934	TSF	20.50	19.69	40.19	16.99	15.68	32.67	470.95

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

² DU = dwelling units; TSF = thousand square feet; AC = acres

³ Source: San Diego Municipal Code Land Development Code Trip Generation Manual, May 2003 (Park Land Use).

Internal capture is a percentage reduction that can be applied to the trip generation estimates for individual land uses to account for trips internal to the site. In other words, trips may be made between individual retail uses on-site and can be made either by walking or using internal roadways without using external streets. Internal capture reductions between the proposed land uses have been considered based on the National Cooperative Highway Research Program (NCHRP) 684 Internal Trip Capture Estimation Tool. Attachment A includes the internal capture calculations for Project Buildout.

Pass-by trip reductions have been applied to the proposed Project uses based on percentages have been obtained from the ITE Trip Generation Handbook (3rd Edition, 2017). These percentages represent traffic that is already on the roadway today that would make an intermediate stop at the site before continuing on to their ultimate destination. The pass-by trip reductions will be applied to off-site study area

intersections only while the applicable Project driveways will evaluate 100% of the Project traffic (pass-by trip reductions to be added back).

The trip generation summary showing daily and peak hour trip generation estimates for Phase 1 of the proposed Project is shown on Table 3. As shown on Table 3, Phase 1 of the Project is anticipated to generate a net total of 1,842 two-way trips per day with 144 AM peak hour trips and 193 PM peak hour trips.

TABLE 3: TRIP GENERATION SUMMARY – PHASE 1

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Single Family Detached Residential	195 DU	36	108	144	122	71	193	1,842

¹ DU = dwelling units

The trip generation summary for Project Buildout is shown on Table 4. As shown on Table 4, the northern portion of the Project is anticipated to generate a net total of 6,298 two-way trips per day with 646 AM peak hour trips and 573 PM peak hour trips at Project Buildout.

TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. Long-range trip distribution patterns take into consideration the buildout of future roadway facilities that could likely be utilized by Project traffic. Each of the trip distributions includes an alternative that assumes the right-in/right-out access driveway along SR-79, which will be utilized for the alternative access scenarios only.

- **Exhibit 4:** Near-term trip distribution patterns for the residential use
- **Exhibit 5:** Near-term trip distribution patterns for the commercial retail use
- **Exhibit 6:** Long-range trip distribution patterns for the residential use
- **Exhibit 7:** Long-range trip distribution patterns for the commercial retail use

TABLE 4: PROJECT BUILDOUT TRIP GENERATION SUMMARY

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Single Family Detached Residential	356 DU	66	198	264	222	130	352	3,362
Senior Housing - Attached	80 DU	6	10	16	11	9	20	296
Park	6.5 AC	7	7	14	13	13	26	326
Internal Capture:		-5	-44	-49	-137	-82	-219	-2,092
Residential Subtotal:		74	171	245	109	70	179	1,892
Commercial Retail	101.500 TSF	126	77	203	264	285	549	6,074
Internal Capture:		-9	-13	-22	-58	-84	-142	-1,572
Pass-by Reduction (34% PM/Daily):		0	0	0	-68	-68	-136	-1,532
Supermarket	50.000 TSF	115	76	191	236	226	462	5,340
Internal Capture:		-10	-10	-20	-51	-65	-116	-1,342
Pass-by Reduction (36% PM/Daily):		0	0	0	-58	-58	-116	-1,440
Pharmacy with Drive-Thru Window	14.000 TSF	28	25	53	72	72	144	1,528
Internal Capture:		-5	-1	-6	-16	-10	-26	-276
Pass-by Reduction (49% PM/Daily):		0	0	0	-27	-27	-54	-614
Fast-Food Restaurant with Drive-Thru	10.500 TSF	215	207	422	178	165	343	4,946
Internal Capture:		-65	-26	-91	-77	-98	-175	-2,524
Pass-by Reduction (49% AM; 50% PM/Daily):		-74	-74	-148	-34	-34	-68	-1,212
Commercial Retail Subtotal		204	197	401	223	171	394	4,406
Project Buildout Total:		278	368	646	332	241	573	6,298

¹ DU = dwelling units; TSF = thousand square feet; AC = acres

Mr. Kevin Tsang
County of Riverside, Transportation Department
May 26, 2021
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AMBIENT GROWTH

Consistent with other studies performed in the area, an ambient growth rate of 2.0% per year is proposed for the study area intersections to approximate background traffic growth not identified by nearby cumulative development projects. The rate will be compounded over a two-year period for Phase 1 (i.e., $1.02^{2\text{years}} = 1.0404$ or 4.04% for 2023). An ambient growth of 14.87% will be used for 2028 traffic conditions.

CUMULATIVE PROJECTS

A preliminary list of cumulative projects is provided in Table 5 and are shown on Exhibit 8. These cumulative projects are based on information collected from the County of Riverside, City of Menifee, and City of Murrieta. It is requested that the County of Riverside provide an updated list of cumulative projects within the study area for consideration in the Traffic Analysis. We will be reaching out to the Planning Departments for the Cities of Menifee and Murrieta to obtain a current list of cumulative projects within their respective agencies.

CONCLUSION

Urban Crossroads, Inc. is pleased to submit this letter documenting the Project trip generation, trip distribution, and the recommended intersection analysis locations for the Keller Crossing Specific Plan Traffic Impact Study. We will continue to move forward towards completing the traffic study after receiving jurisdiction approval or comments finalizing the study area.

If you have any questions, please contact me directly at (949) 861-0177.

Respectfully submitted,

URBAN CROSSROADS, INC.



Charlene So, PE
Associate Principal

TABLE 5: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

#	Project Name	Land Use ¹	Quantity Units ²
County of Riverside:			
RC1	Belle Terre (SP 382)	Single Family Housing	1282 DU
RC2	TR 32323	Single Family Housing	38 DU
RC3	PP 22147	Medical Office	10.750 TSF
	PP 22352	Business Park	177.742 TSF
RC4	French Valley Airport	Business Park	694.629 TSF
		Apartments	240 DU
		Condominium	211 DU
RC5	PP 26249	SFDR	48 DU
RC6	TTM 37308	SFDR	8 DU
RC7	TTM 37418	SFDR	6 DU
RC8	CUP 03593	Gas Station	6.200 TSF
		Commercial Retail	26.500 TSF
		Storage	128.600 TSF
	TR 33751	Single Family Housing	11 DU
	PP 26212	Car Wash	30 STALLS
RC9	PP 20574	Medical Office	29.400 TSF
RC10	KTMHQ	Hotel	200 RM
		Fitness Club	20.000 TSF
		Medical Office	77.000 TSF
		Office	160.000 TSF
		Research & Development	188.000 TSF
		High-Turnover Restaurant	14.500 TSF
		Fast Food w/ Drive-Thru	8.000 TSF
RC11	CUP180023	Gas Station with Convenience Market	16 VFP
RC12	TTM No. 35770	Single Family Housing	156 DU
	TR 37028	Single Family Housing	133 DU
RC13	Sevilla	Multifamily Housing (Low-Rise)	180 DU
RC14	Fausto Office Building	Single Tenant Office Building	7.850 TSF
RC15	French Valley Walmart & Commercial/Business Center (PP 21750, PM 34669)	Free-Standing Discount Store/Superstore	205.000 TSF
		Shopping Center	113.300 TSF
		Bank with Drive-Thru	5.500 TSF
		High Turnover (Sit-Down) Restaurant	6.500 TSF
		Fast Food Restaurant w/ Drive-Thru	4.000 TSF
RC16	Spencer's Crossing (SP 312 A-1)	Single Family Housing	1,671 DU
		Parks	32.1 AC
RC17	Perris Union HSD High School	High School	2800 STU
RC18	La Ventana Ranch	Single Family Housing	535 DU
		Community Park	15.0 AC
		Passive Park	2.0 AC

#	Project Name	Land Use ¹	Quantity Units ²
County of Riverside:			
RC19	TR 36687	SFDR	71 DU
RC20	TR 33423	SFDR	134 DU
RC21	TR 30837	SFDR	320 DU
RC22	TR 32185	SFDR	426 DU
RC23	PM 29509	General Light Industrial	37.1 AC
RC24	TR 33303	SFDR	24 DU
RC25	TTM No. 37078	SFDR	164 DU
	PPT 170003	Condominium	168 DU
RC26	Domenigoni - Barton Properties (SP 310)	SFDR	2823 DU
		Mixed Use	200.8 AC
		Commercial Retail	42.4 AC
		Commercial Recreation	117.9 AC
		School	44.0 AC
		Passive Park	37.6 AC
RC27	PP 24054	Commercial Retail	160.680 TSF
RC28	Quinto Do Lago (SP 284)	Business Park/Commercial	45.3 AC
		Industrial Park	38.8 AC
RC29	Winchester Village (SP 286A5)	SFDR	3912 DU
		Condominium	783 DU
		Commercial Retail	54.9 AC
		Commercial Recreation	36.7 AC
		Schools	55.0 AC
		Active Parks	58.4 AC
RC30	TR 36722 (SP 286A6)	SFDR	146 DU
RC31	TR 34150	SFDR	82 DU
RC32	TR 37089	SFDR	21 DU
RC33	CUP 3700	Gas Station w/ Convenience Market	6 VFP
		Car Wash	0.800 TSF
		Commercial Retail	3.225 TSF
RC34	TTM No. 37715	SFDR	145 DU
RC35	CUP190012	Self-Storage	185.468 TSF
RC36	PP19442	Multifamily Housing	186 DU
RC37	PP26344	Shopping Center	133.877 TSF
RC38	TR31700	SFDR	64 DU
City of Murrieta:			
MUR1	Murrieta Marketplace (DP-2011-3129)	Commercial Retail	548.055 TSF
MUR2	Murrieta 196 (DP2013-3335)	Apartments	196 DU
MUR3	Adobe Springs (Tentative Parcel Map No. 36779)	SFDR	287 DU

¹ SFDR = Single Family Detached Residential

² AC = Acres; DU = Dwelling Units; TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions; STU = Students; RMS = Rooms

EXHIBIT 1: LOCATION MAP

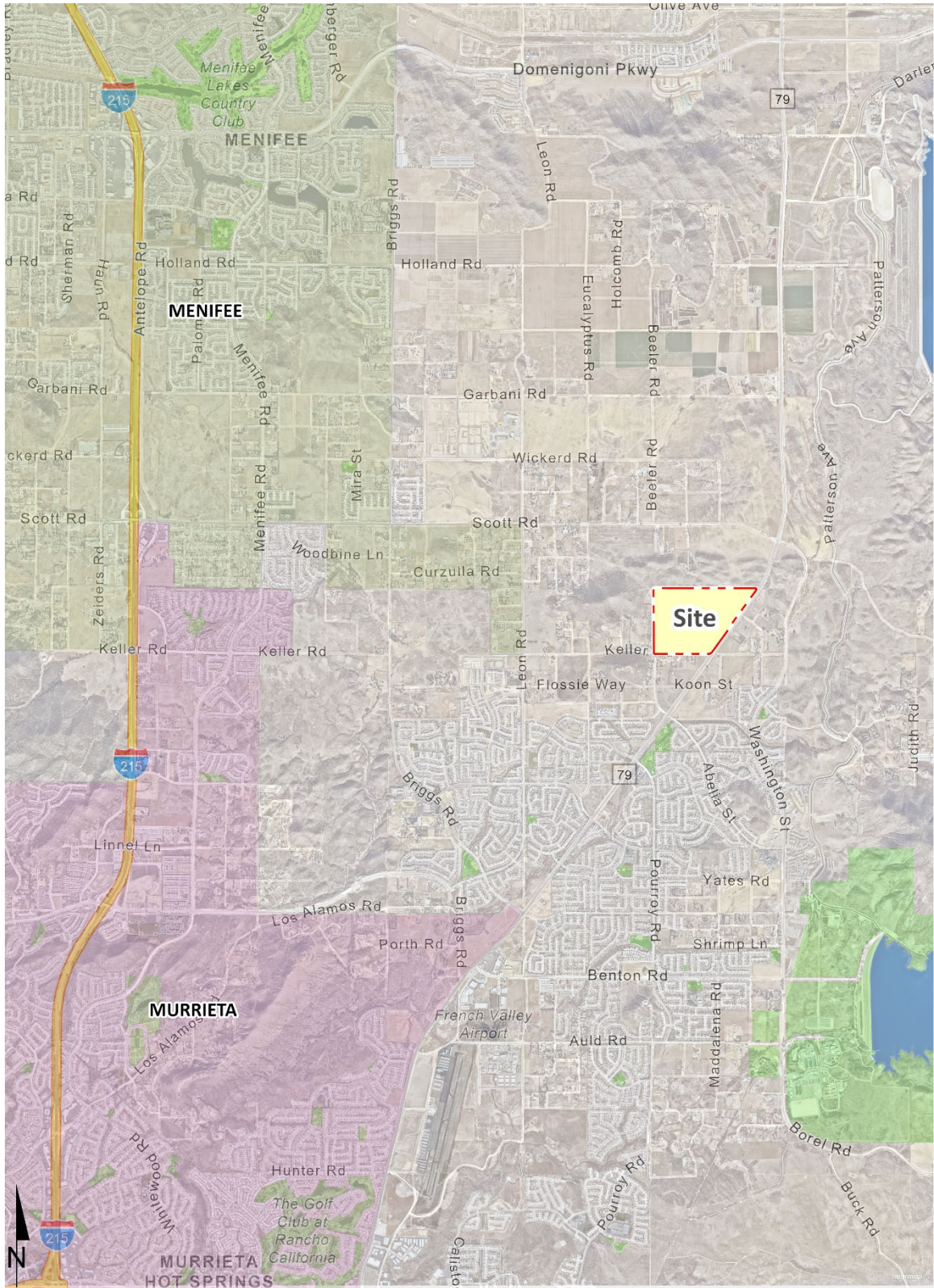


EXHIBIT 2: PRELIMINARY LAND USE PLAN

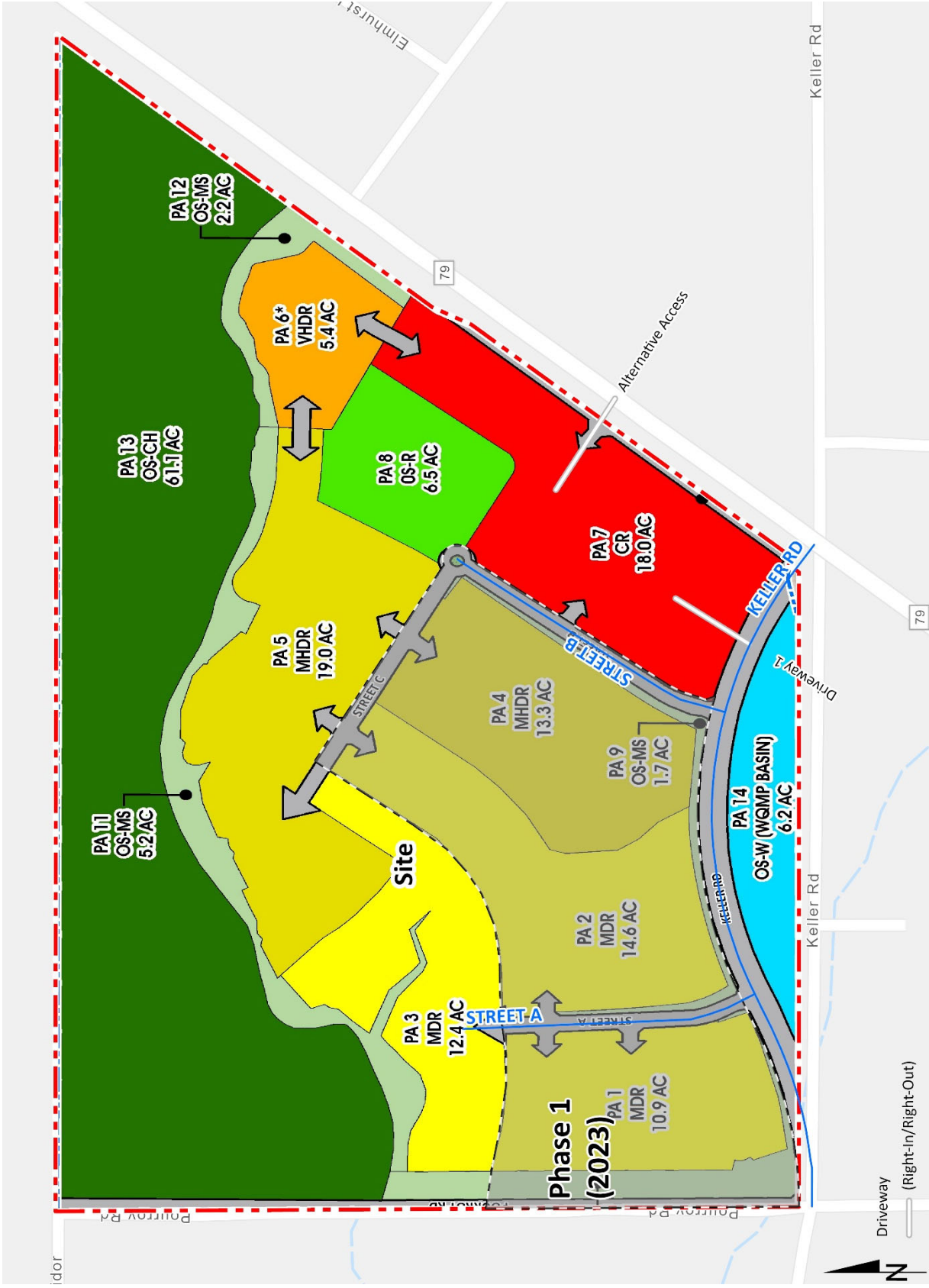
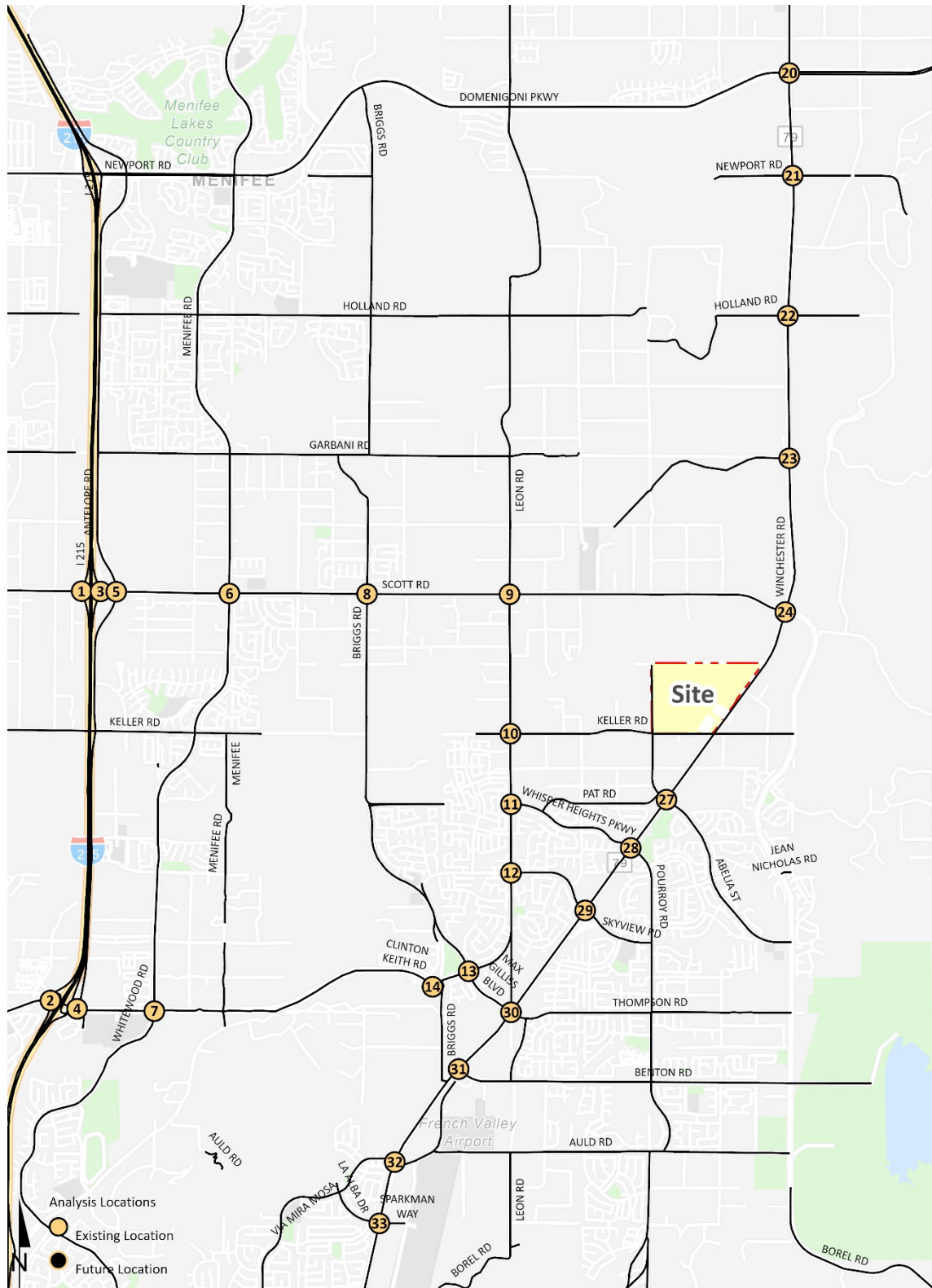
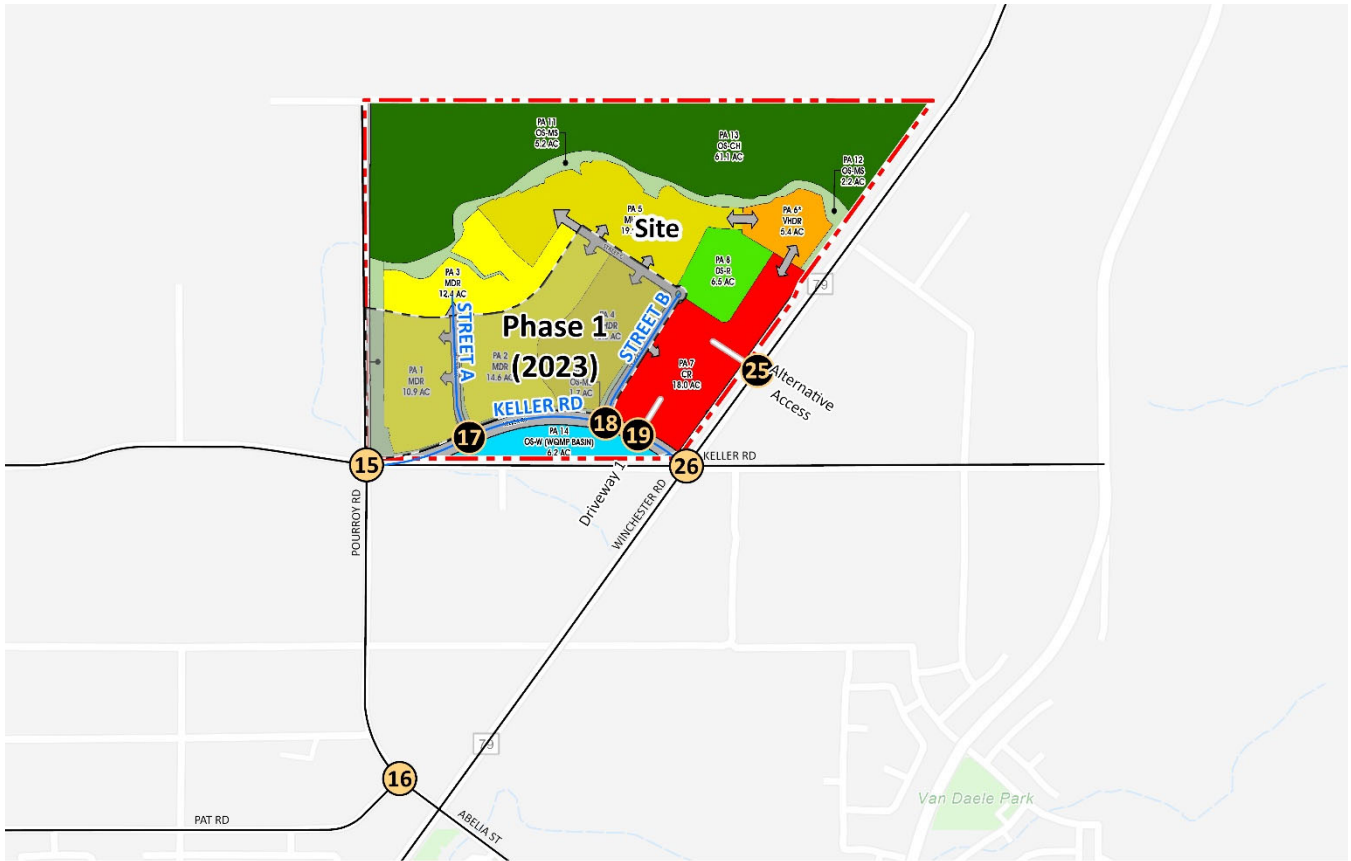


EXHIBIT 3: STUDY AREA LOCATIONS





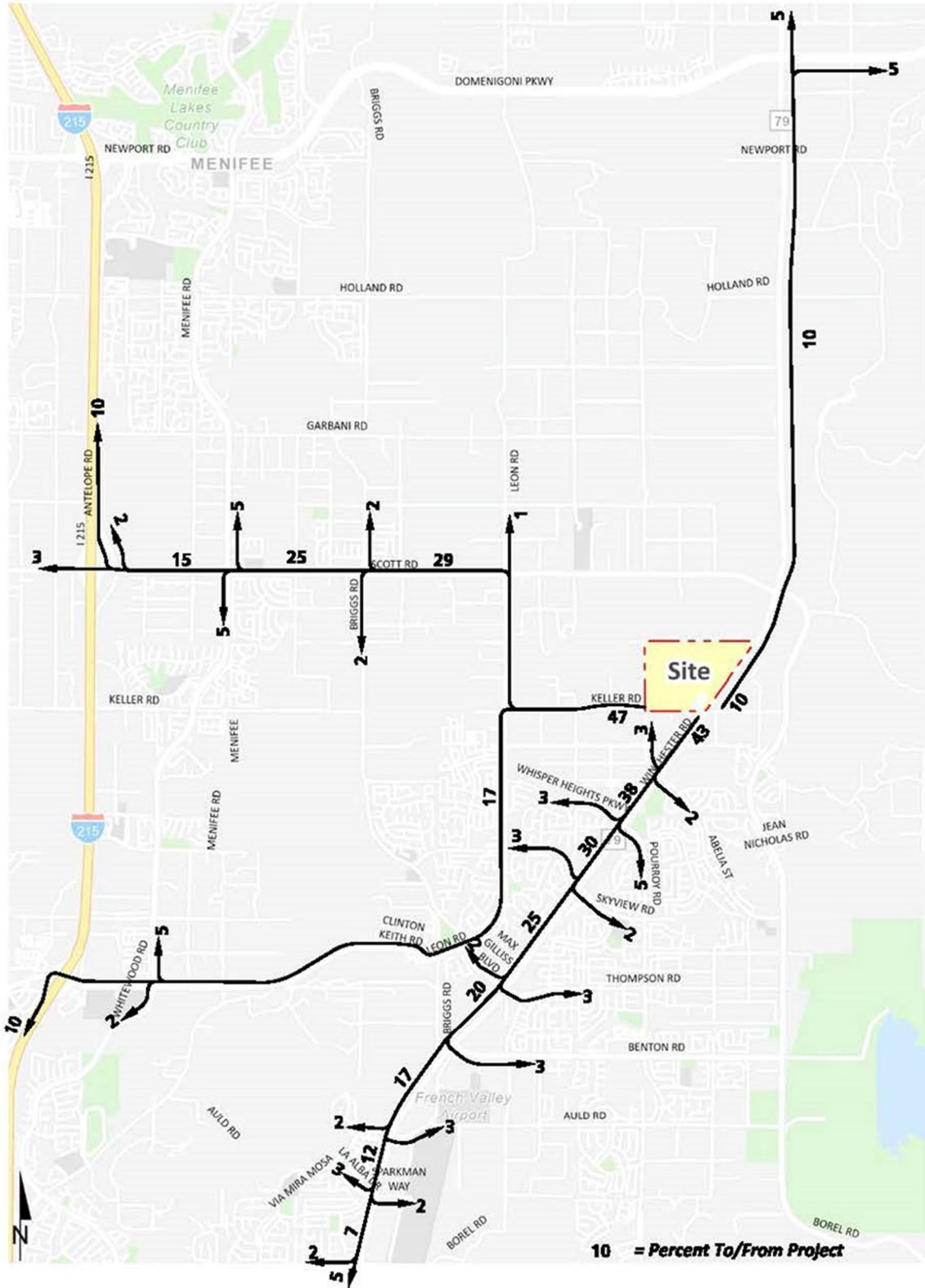


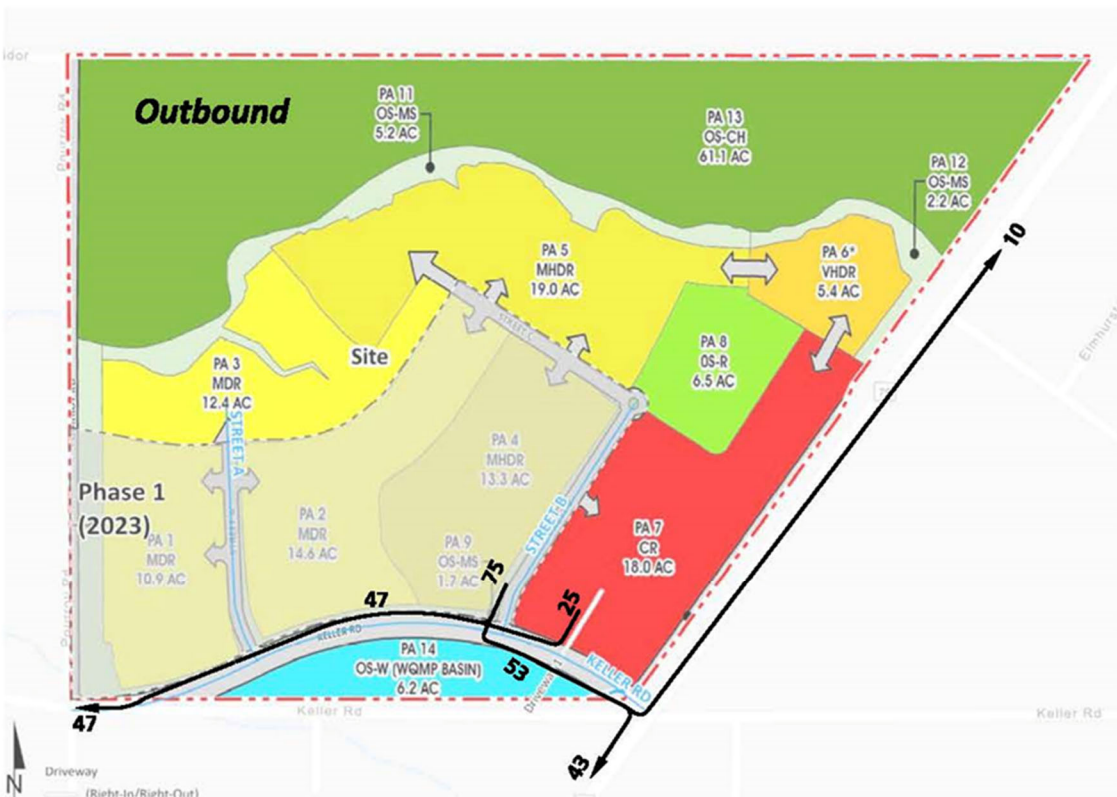
10 = Percent To/From Project

← = Outbound

--- = Inbound

EXHIBIT 5: PROJECT NEAR-TERM (COMMERCIAL) TRIP DISTRIBUTION





10 = Percent To/From Project

← = Outbound

← = Inbound

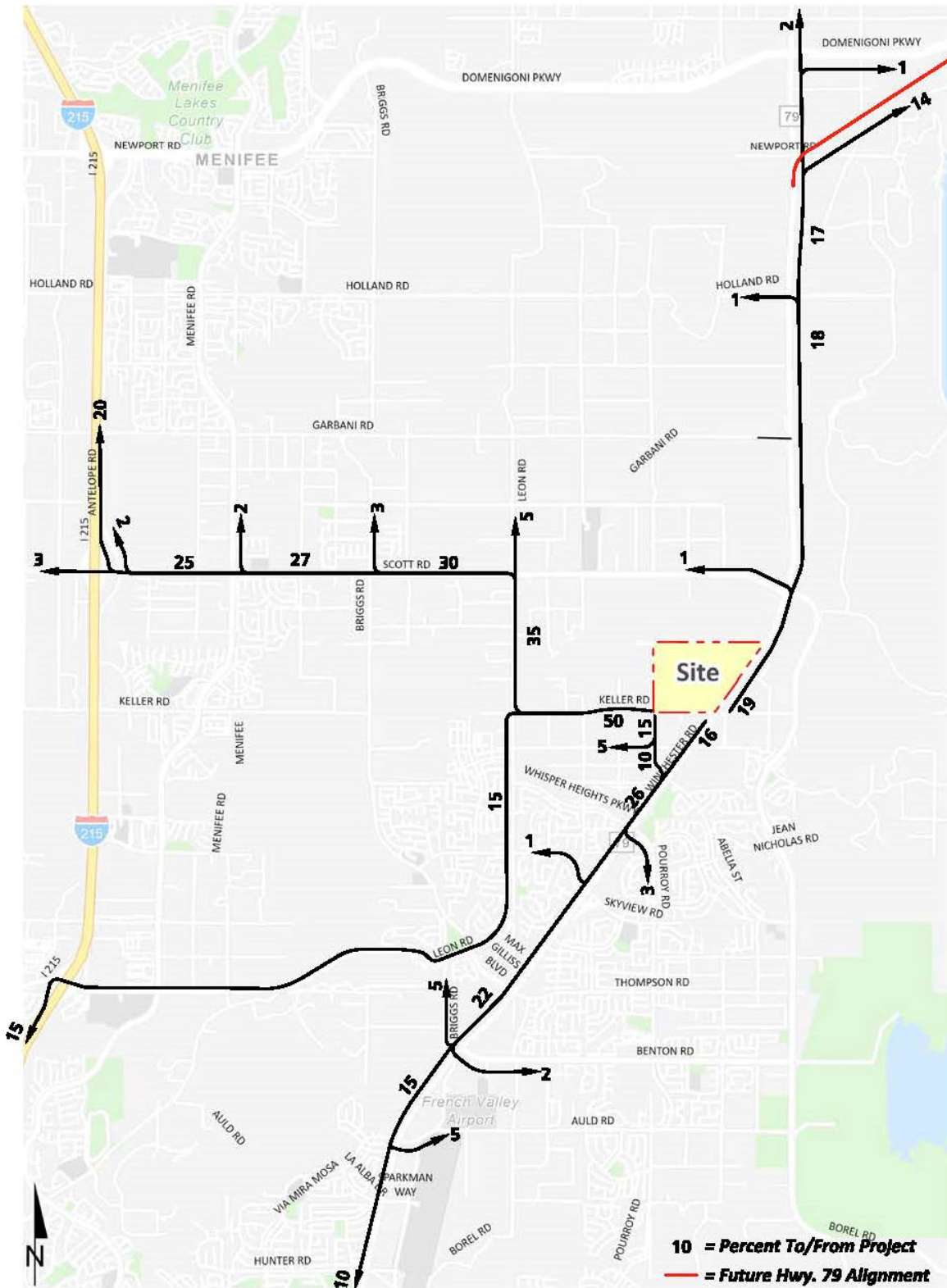


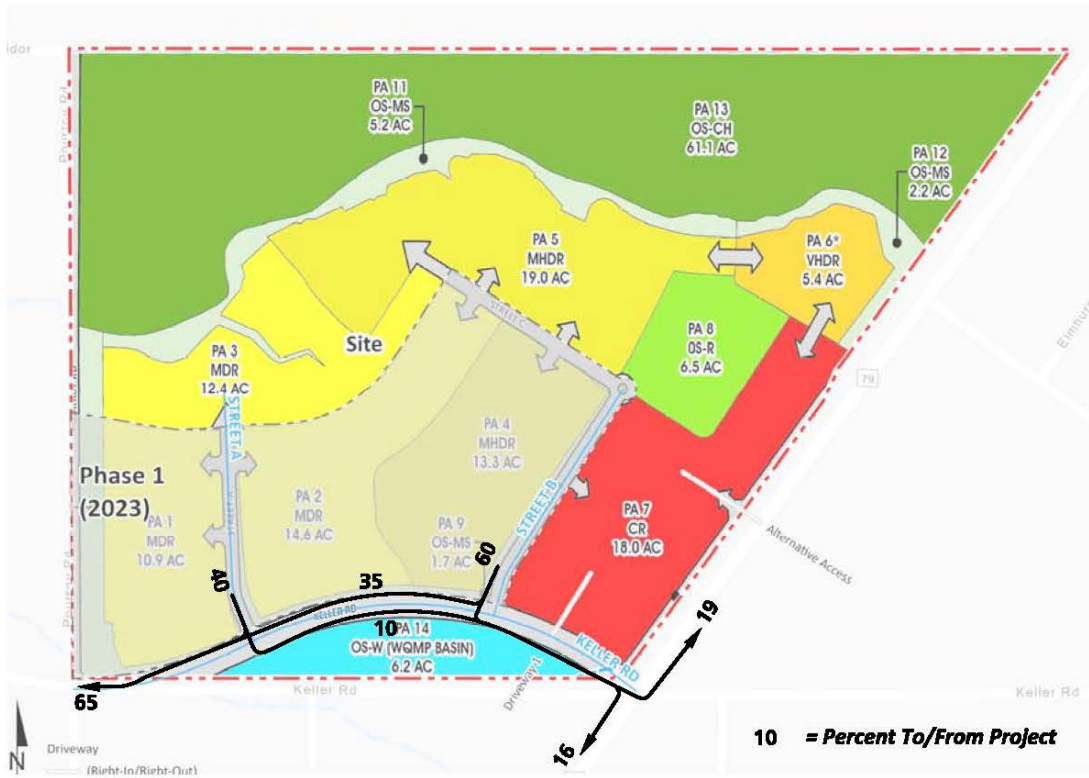
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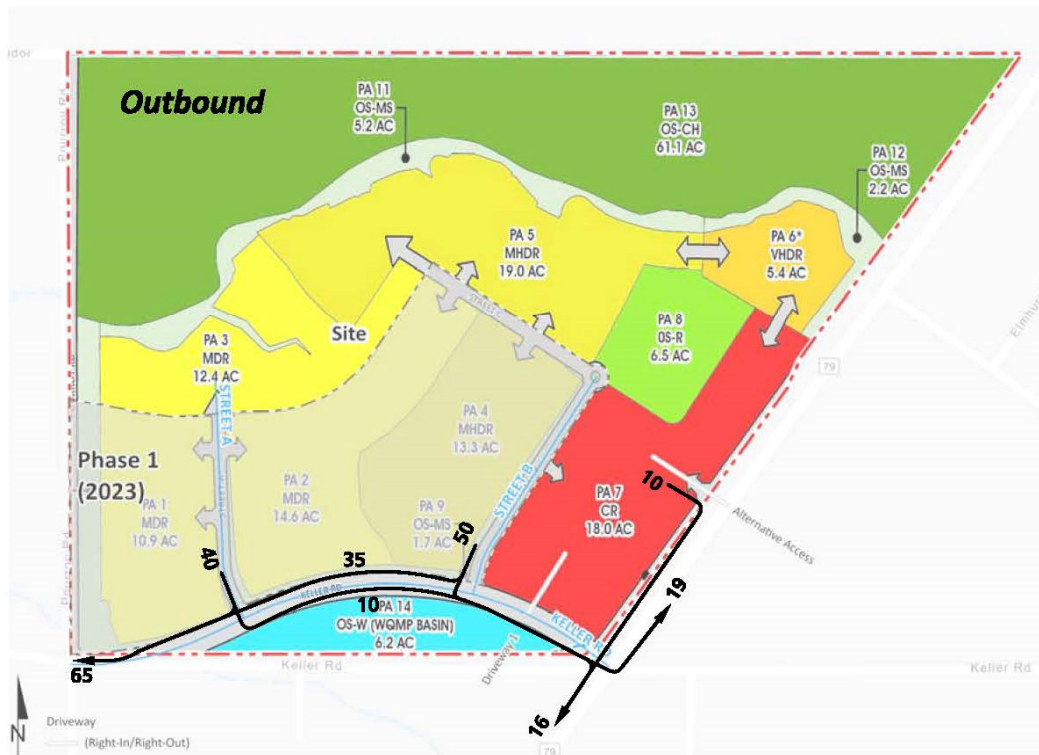
← = Outbound

→ = Inbound

EXHIBIT 6: PROJECT LONG-RANGE (RESIDENTIAL) TRIP DISTRIBUTION







- 10** = Percent To/From Project
- = Outbound
- ←** = Inbound

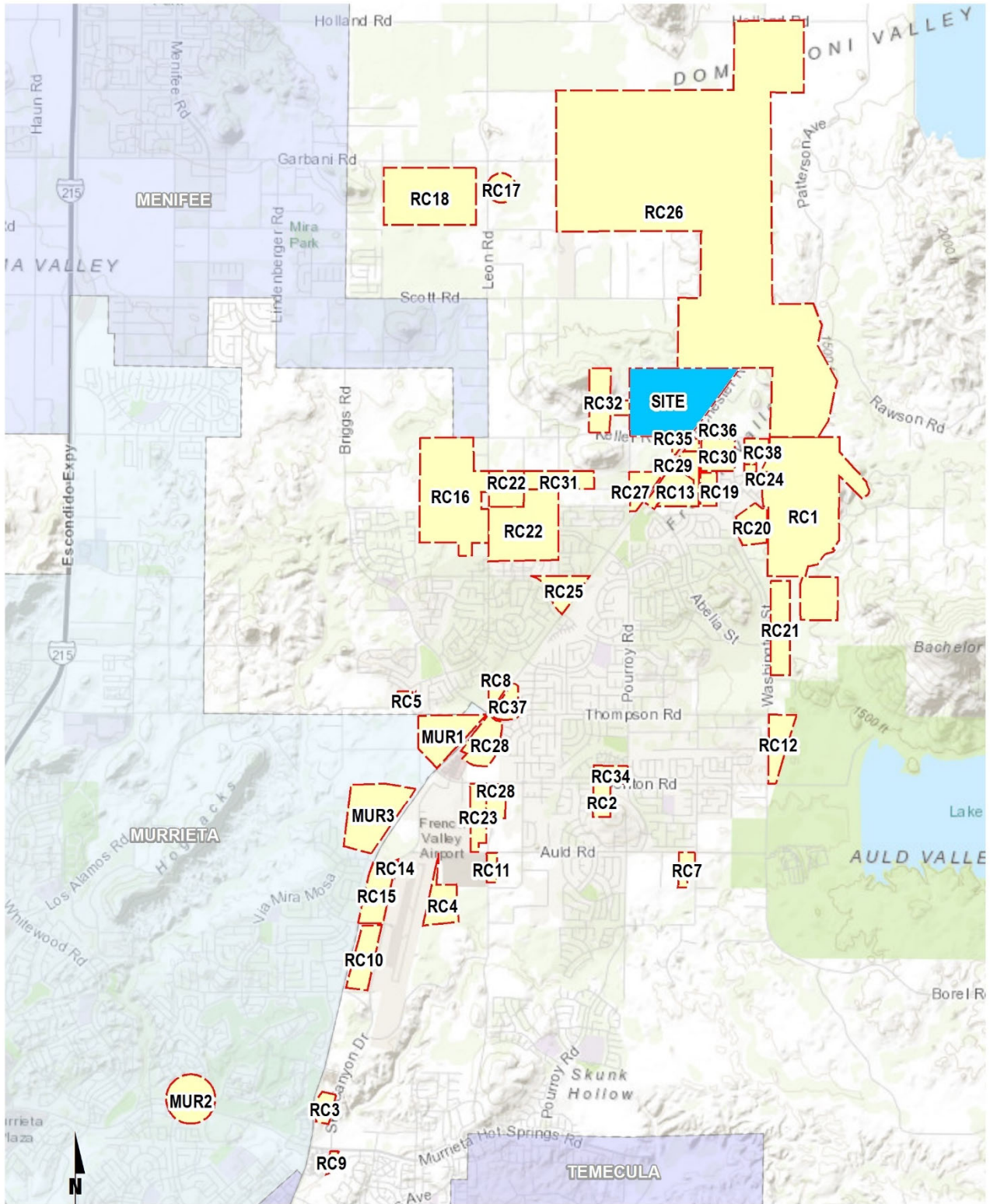


- 10 = Percent To/From Project**
- ← = Outbound**
- ⇐ = Inbound**



- 10 = Percent To/From Project**
- ← = Outbound**
- = Inbound**

EXHIBIT 8: CUMULATIVE DEVELOPMENT LOCATION MAP



ATTACHMENT A: NCHRP INTERNAL CAPTURE WORKSHEETS FOR PROJECT BUILDOUT

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Keller Crossing			Organization:	Urban Crossroads, Inc.
Project Location:	County of Riverside			Performed By:	CS
Scenario Description:	Project Buildout			Date:	3/4/2021
Analysis Year:				Checked By:	
Analysis Period:	AM Street Peak Hour			Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				447	269	178
Restaurant				422	215	207
Cinema/Entertainment				0		
Residential				280	72	208
Hotel				0		
All Other Land Uses ²				0		
				1,149	556	593

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail	0		23	0	1	0
Restaurant	0	22		0	4	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	42	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,149	556	593
Internal Capture Percentage	16%	17%	16%
External Vehicle-Trips ⁵	961	462	499
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	9%	13%
Restaurant	30%	13%
Cinema/Entertainment	N/A	N/A
Residential	7%	21%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Keller Crossing	Organization:	Urban Crossroads, Inc.
Project Location:	County of Riverside	Performed By:	CS
Scenario Description:	Project Buildout	Date:	3/4/2021
Analysis Year:		Checked By:	
Analysis Period:	PM Street Peak Hour	Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				1,155	572	583
Restaurant				343	178	165
Cinema/Entertainment				0		
Residential				372	233	139
Hotel				0		
All Other Land Uses ²				0		
				1,870	983	887

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		52	0	107	0
Restaurant	0	68		0	30	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	57	25	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,870	983	887
Internal Capture Percentage	36%	34%	38%
External Vehicle-Trips ⁵	1,192	644	548
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	22%	27%
Restaurant	43%	59%
Cinema/Entertainment	N/A	N/A
Residential	59%	59%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

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APPENDIX 1.2:
SITE ADJACENT QUEUING WORKSHEETS

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Intersection: 15: Pourroy Rd. & Keller Rd.

Movement	EB	WB	WB	WB	NB	SB
Directions Served	LTR	L	T	R	LTR	LTR
Maximum Queue (ft)	111	30	76	10	29	18
Average Queue (ft)	63	9	39	0	15	1
95th Queue (ft)	94	30	64	7	38	9
Link Distance (ft)	1225		242	242	554	1341
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100				
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 17: Keller Rd. & Street A

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	36	63
Average Queue (ft)	5	29
95th Queue (ft)	24	52
Link Distance (ft)		438
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Keller Rd. & Street B

Movement	EB	EB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	59	16	13	221
Average Queue (ft)	19	1	1	95
95th Queue (ft)	48	8	6	176
Link Distance (ft)		286	137	424
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 19: Keller Rd. & Driveway 1

Movement	EB	EB	SB
Directions Served	T	T	R
Maximum Queue (ft)	134	117	53
Average Queue (ft)	35	29	26
95th Queue (ft)	100	87	48
Link Distance (ft)	137	137	423
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	1	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 25: Winchester Rd. & Driveway 2

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	893	893	884
Average Queue (ft)	799	793	780
95th Queue (ft)	1086	1100	1125
Link Distance (ft)	844	844	844
Upstream Blk Time (%)	50	49	53
Queuing Penalty (veh)	0	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			45
Queuing Penalty (veh)			0

Intersection: 26: Winchester Rd. & Keller Rd.

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	LTR	L	T	T	T	T	T	T	R
Maximum Queue (ft)	81	108	99	59	580	666	630	228	677	689	679	34
Average Queue (ft)	72	79	80	13	572	612	328	31	654	656	654	5
95th Queue (ft)	94	118	111	42	626	771	805	132	666	675	671	21
Link Distance (ft)		82	82	750		615	615	615	644	644	644	644
Upstream Blk Time (%)	12	14	15			85	1		23	25	23	
Queuing Penalty (veh)	0	33	34			0	0		181	191	178	
Storage Bay Dist (ft)	100				530							
Storage Blk Time (%)	12	14			94	1			51			
Queuing Penalty (veh)	5	41			557	1			0			

Network Summary

Network wide Queuing Penalty: 1223

Intersection: 15: Pourroy Rd. & Keller Rd.

Movement	EB	WB	WB	WB	NB
Directions Served	LTR	L	T	R	LTR
Maximum Queue (ft)	104	50	144	20	50
Average Queue (ft)	58	8	58	1	23
95th Queue (ft)	87	34	99	10	45
Link Distance (ft)	1225		245	245	554
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		100			
Storage Blk Time (%)			1		
Queuing Penalty (veh)			0		

Intersection: 17: Keller Rd. & Street A

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	35	50
Average Queue (ft)	12	20
95th Queue (ft)	37	46
Link Distance (ft)		438
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Keller Rd. & Street B

Movement	EB	EB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	72	11	17	454
Average Queue (ft)	32	1	2	290
95th Queue (ft)	63	9	12	505
Link Distance (ft)		283	137	424
Upstream Blk Time (%)				21
Queuing Penalty (veh)				0
Storage Bay Dist (ft)	100			
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Intersection: 19: Keller Rd. & Driveway 1

Movement	EB	EB	SB
Directions Served	T	T	R
Maximum Queue (ft)	125	125	52
Average Queue (ft)	35	30	23
95th Queue (ft)	104	92	48
Link Distance (ft)	137	137	423
Upstream Blk Time (%)	1	0	
Queuing Penalty (veh)	1	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 25: Winchester Rd. & Driveway 2

Movement	NB	NB	NB	SB	SB
Directions Served	T	T	T	T	T
Maximum Queue (ft)	365	504	127	764	773
Average Queue (ft)	12	17	4	314	288
95th Queue (ft)	153	185	89	821	807
Link Distance (ft)	644	644	644	844	844
Upstream Blk Time (%)	0	0	0	3	4
Queuing Penalty (veh)	0	0	0	0	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					8
Queuing Penalty (veh)					0

Intersection: 26: Winchester Rd. & Keller Rd.

Movement	EB	EB	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	LTR	L	T	T	T	R	L	T	T
Maximum Queue (ft)	81	113	94	100	580	639	635	634	348	134	673	691
Average Queue (ft)	72	80	77	39	341	431	384	310	46	5	616	612
95th Queue (ft)	93	116	107	80	641	720	665	624	305	85	735	745
Link Distance (ft)		82	82	750		615	615	615			644	644
Upstream Blk Time (%)	12	13	11			9	6	3			8	5
Queuing Penalty (veh)	0	31	28			0	0	0			54	37
Storage Bay Dist (ft)	100				530				530	540		
Storage Blk Time (%)	12	13			6	8		4			33	
Queuing Penalty (veh)	2	31			60	18		5			3	

Intersection: 26: Winchester Rd. & Keller Rd.

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	703	126
Average Queue (ft)	579	37
95th Queue (ft)	761	91
Link Distance (ft)	644	644
Upstream Blk Time (%)	5	
Queuing Penalty (veh)	38	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 310

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APPENDIX 1.3:

SITE ADJACENT QUEUING ALTERNATIVE ACCESS WORKSHEETS

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Intersection: 15: Pourroy Rd. & Keller Rd.

Movement	EB	WB	WB	WB	NB	SB
Directions Served	LTR	L	T	R	LTR	LTR
Maximum Queue (ft)	116	30	81	4	38	18
Average Queue (ft)	57	11	43	0	14	2
95th Queue (ft)	88	32	69	3	38	11
Link Distance (ft)	1225		242	242	554	1341
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100				
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 17: Keller Rd. & Street A

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	36	62
Average Queue (ft)	7	30
95th Queue (ft)	28	51
Link Distance (ft)		438
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Keller Rd. & Street B

Movement	EB	EB	EB	WB	SB
Directions Served	L	T	T	TR	LR
Maximum Queue (ft)	56	31	6	9	183
Average Queue (ft)	19	2	0	1	71
95th Queue (ft)	48	18	4	6	141
Link Distance (ft)		286	286	137	424
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100				
Storage Blk Time (%)		0			
Queuing Penalty (veh)		0			

Intersection: 19: Keller Rd. & Driveway 1

Movement	EB	EB	WB	WB	SB
Directions Served	T	T	T	TR	R
Maximum Queue (ft)	140	87	6	19	51
Average Queue (ft)	31	9	0	1	25
95th Queue (ft)	101	47	4	14	47
Link Distance (ft)	137	137	82	82	423
Upstream Blk Time (%)	1	0			
Queuing Penalty (veh)	1	0			
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 25: Winchester Rd. & Driveway 2

Movement	EB	SB	SB	SB	SB
Directions Served	R	T	T	T	R
Maximum Queue (ft)	450	752	745	703	240
Average Queue (ft)	368	426	409	351	59
95th Queue (ft)	550	918	898	852	292
Link Distance (ft)	412	844	844	844	
Upstream Blk Time (%)	80	10	8	7	
Queuing Penalty (veh)	0	0	0	0	
Storage Bay Dist (ft)					200
Storage Blk Time (%)				22	
Queuing Penalty (veh)				15	

Intersection: 26: Winchester Rd. & Keller Rd.

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	LTR	L	T	T	T	T	T	T	R
Maximum Queue (ft)	81	109	93	58	580	661	630	225	672	688	691	407
Average Queue (ft)	69	74	64	14	571	612	335	27	635	637	628	21
95th Queue (ft)	91	119	106	44	621	765	822	120	727	736	743	193
Link Distance (ft)		82	82	750		615	615	615	644	644	644	644
Upstream Blk Time (%)	10	12	7			82	1		16	17	14	0
Queuing Penalty (veh)	0	24	13			0	0		126	130	108	0
Storage Bay Dist (ft)	100				530							
Storage Blk Time (%)	10	12			92	2			44			
Queuing Penalty (veh)	4	32			543	3			0			

Network Summary

Network wide Queuing Penalty: 999

Intersection: 15: Pourroy Rd. & Keller Rd.

Movement	EB	WB	WB	WB	NB
Directions Served	LTR	L	T	R	LTR
Maximum Queue (ft)	111	26	125	10	47
Average Queue (ft)	59	7	61	0	21
95th Queue (ft)	89	25	97	7	45
Link Distance (ft)	1225		245	245	554
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		100			
Storage Blk Time (%)			1		
Queuing Penalty (veh)			0		

Intersection: 17: Keller Rd. & Street A

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	40	44
Average Queue (ft)	10	19
95th Queue (ft)	34	44
Link Distance (ft)		438
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Keller Rd. & Street B

Movement	EB	EB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	74	12	22	322
Average Queue (ft)	33	0	1	147
95th Queue (ft)	62	6	10	277
Link Distance (ft)		283	137	424
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)	100			
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Intersection: 19: Keller Rd. & Driveway 1

Movement	EB	EB	WB	WB	SB
Directions Served	T	T	T	TR	R
Maximum Queue (ft)	136	27	44	33	50
Average Queue (ft)	39	1	3	2	24
95th Queue (ft)	105	13	20	19	46
Link Distance (ft)	137	137	82	82	423
Upstream Blk Time (%)	0		0		
Queuing Penalty (veh)	1		0		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 25: Winchester Rd. & Driveway 2

Movement	EB	SB	SB	SB
Directions Served	R	T	T	R
Maximum Queue (ft)	352	777	750	320
Average Queue (ft)	178	280	265	53
95th Queue (ft)	443	780	785	277
Link Distance (ft)	410	844	844	
Upstream Blk Time (%)	27	3	4	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (ft)				200
Storage Blk Time (%)			8	
Queuing Penalty (veh)			11	

Intersection: 26: Winchester Rd. & Keller Rd.

Movement	EB	EB	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	LTR	L	T	T	T	R	L	T	T
Maximum Queue (ft)	81	112	95	132	406	547	506	414	2	142	672	698
Average Queue (ft)	71	80	33	45	185	293	264	191	0	10	599	593
95th Queue (ft)	94	121	74	97	356	507	463	387	1	121	756	772
Link Distance (ft)		82	82	750		615	615	615			644	644
Upstream Blk Time (%)	14	15	1			0	0				8	7
Queuing Penalty (veh)	0	33	2			0	0				56	51
Storage Bay Dist (ft)	100				530				530	540		
Storage Blk Time (%)	14	15				1		0			31	
Queuing Penalty (veh)	2	38				1		0			2	

Intersection: 26: Winchester Rd. & Keller Rd.

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	691	621
Average Queue (ft)	560	79
95th Queue (ft)	781	404
Link Distance (ft)	644	644
Upstream Blk Time (%)	7	0
Queuing Penalty (veh)	49	3
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 250

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APPENDIX 3.1:

EXISTING & HISTORICAL TRAFFIC COUNTS – 2018 & 2021

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-215 Southbound Ramps				Scott Road Westbound				I-215 Southbound On Ramp				Scott Road Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	77	0	42	16	119	0	106	108	0	214	0	0	0	0	107	92	16	532	548
07:15 AM	95	0	41	21	136	0	120	118	22	238	0	0	0	0	122	117	44	613	657
07:30 AM	95	0	54	25	149	0	180	133	18	313	0	0	0	0	109	140	45	711	756
07:45 AM	115	0	46	28	161	0	147	77	19	224	0	0	0	0	116	91	49	592	641
Total	382	0	183	90	565	0	553	436	59	989	0	0	0	0	454	440	154	2448	2602
08:00 AM	89	0	27	11	116	0	131	88	22	219	0	0	0	0	100	101	35	536	571
08:15 AM	77	0	33	18	110	0	136	91	7	227	0	0	0	0	110	93	25	540	565
08:30 AM	77	0	26	15	103	0	118	99	16	217	0	0	0	0	116	111	31	547	578
08:45 AM	78	0	36	23	114	0	143	93	21	236	0	0	0	0	87	70	44	507	551
Total	321	0	122	67	443	0	528	371	66	899	0	0	0	0	413	375	135	2130	2265
Grand Total	703	0	305	157	1008	0	1081	807	125	1888	0	0	0	0	867	815	289	4578	4867
% Approach	69.7	0	30.3			0	57.3	42.7			0	0	0	0	51.5	48.5			
% Total	15.4	0	6.7		22	0	23.6	17.6		41.2	0	0	0	0	18.9	17.8	5.9	94.1	
Passenger Vehicles	651	0	283		1085	0	1039	792		1955	0	0	0	0	820	799	0	0	4666
Large 2 Axle Vehicles	92.6	0	92.8	96.2	93.1	0	96.1	98.1	99.2	97.1	0	0	0	0	94.6	98	100	96.3	0
% Large 2 Axle Vehicles	37	0	18		60	0	30	9		40	0	0	0	0	33	11	0	44	0
% 3 Axle Vehicles	5.3	0	5.9	3.2	5.2	0	2.8	1.1	0.8	2	0	0	0	0	3.8	1.3	0	2.6	0
% 3 Axle Vehicles	11	0	4		16	0	6	0	0	6	0	0	0	0	7	5	0	12	0
% 4+ Axle Trucks	1.6	0	1.3	0.6	1.4	0	0.6	0	0	0.3	0	0	0	0	0.8	0.6	0	0.7	0
% 4+ Axle Trucks	4	0	0		4	0	6	6		12	0	0	0	0	7	0	0	7	0
% 4+ Axle Trucks	0.6	0	0	0	0.3	0	0.6	0.7	0	0.6	0	0	0	0	0.8	0	0	0.4	0

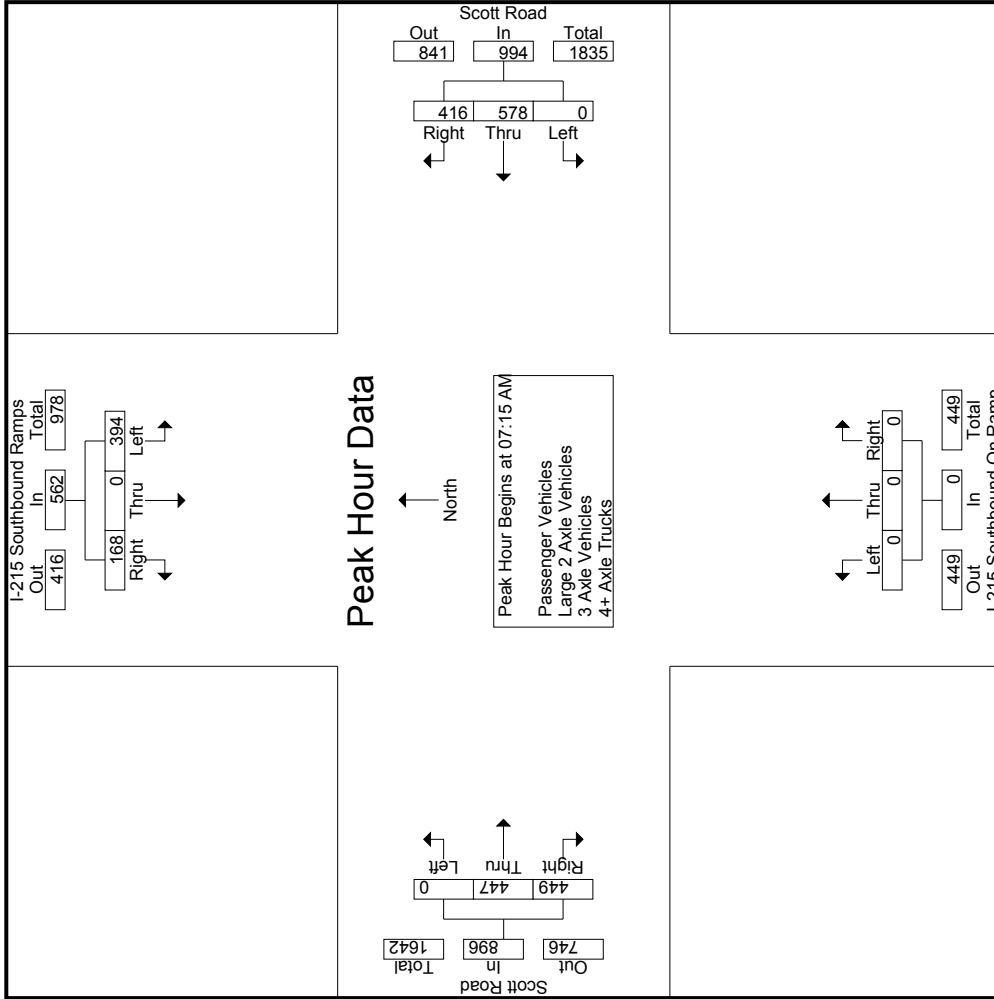
Start Time	I-215 Southbound Ramps				Scott Road Westbound				I-215 Southbound On Ramp				Scott Road Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:15 AM	95	0	41		136	0	120	118		238	0	0	0	0	122	117	16	532	548
07:30 AM	95	0	54		149	0	180	133		313	0	0	0	0	109	140	44	613	657
07:45 AM	115	0	46		161	0	147	77		224	0	0	0	0	116	91	49	592	641
08:00 AM	89	0	27		116	0	131	88		219	0	0	0	0	100	101	35	536	571
Total Volume	394	0	168		562	0	578	416		994	0	0	0	0	447	449	154	2448	2602
% App. Total	70.1	0	29.9		70.1	0	58.1	41.9		70.1	0	0	0	0	49.9	50.1			
PHF	.857	.000	.778		.873	.000	.803	.782		.794	.000	.000	.000	.000	.916	.802	.900	.862	

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

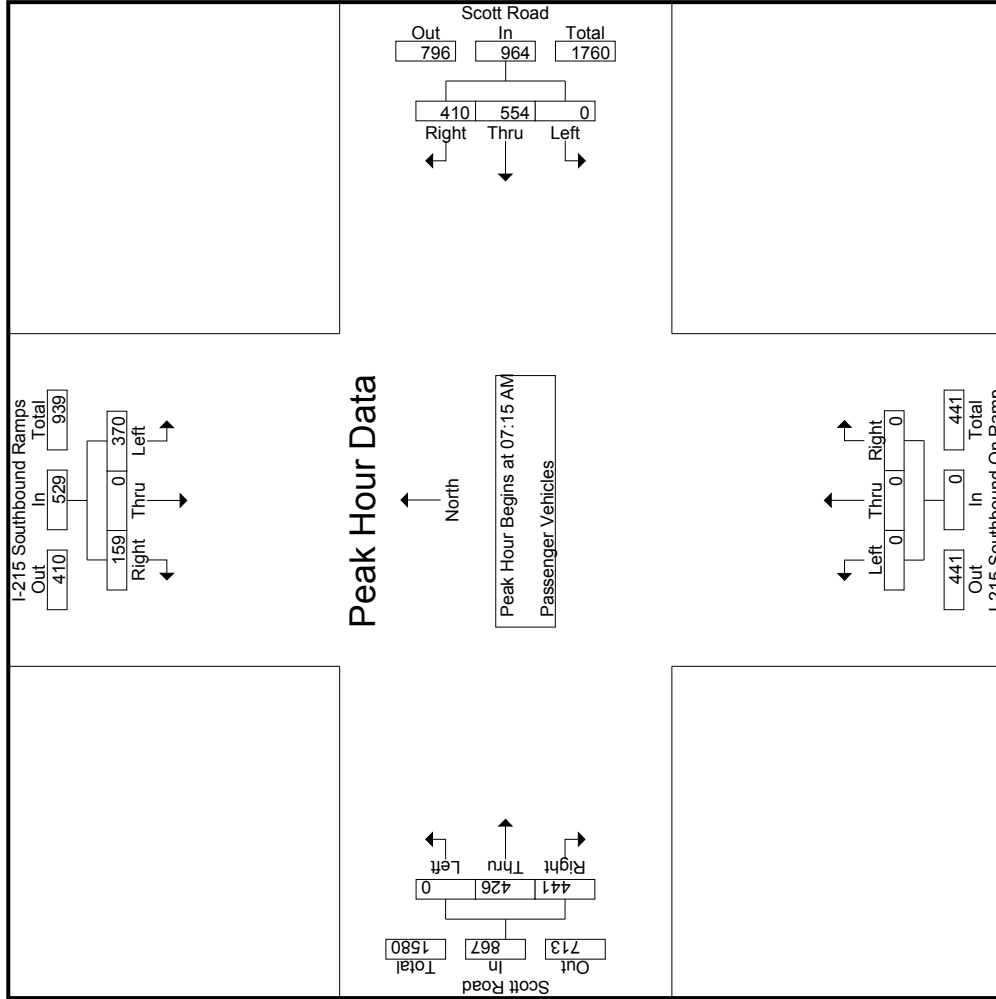
City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Southbound Ramps			Scott Road Westbound			I-215 Southbound On Ramp Northbound			Scott Road Eastbound							
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total				
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:15 AM				07:00 AM				07:15 AM				
+0 mins.	77	0	42	119	0	120	118	238	0	0	0	0	0	0	122	117	239
+15 mins.	95	0	41	136	0	180	133	313	0	0	0	0	0	0	109	140	249
+30 mins.	95	0	54	149	0	147	77	224	0	0	0	0	0	0	116	91	207
+45 mins.	115	0	46	161	0	131	88	219	0	0	0	0	0	0	100	101	201
Total Volume	382	0	183	565	0	578	416	994	0	0	0	0	0	0	447	449	896
% App. Total	67.6	0	32.4		0	58.1	41.9		0	0	0	0	0	0	49.9	50.1	
PHF	.830	.000	.847	.877	.000	.803	.782	.794	.000	.000	.000	.000	.000	.000	.916	.802	.900

Counts Unlimited, Inc.
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City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Scott Road Westbound			I-215 Southbound On Ramp Northbound			Scott Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:15 AM														
+0 mins.	88	0	40	118	116	234	0	0	0	0	0	0	116	113	229
+15 mins.	89	0	52	172	133	305	0	0	0	0	0	0	102	138	240
+30 mins.	112	0	44	139	76	215	0	0	0	0	0	0	114	90	204
+45 mins.	81	0	23	125	85	210	0	0	0	0	0	0	94	100	194
Total Volume	370	0	159	554	410	964	0	0	0	0	0	0	426	441	867
% App. Total	69.9	0	30.1	57.5	42.5	790	0	0	0	0	0	0	49.1	50.9	903
PHF	.826	.000	.764	.805	.771	.790	.000	.000	.000	.000	.000	.000	.918	.799	.903

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File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Groups Printed- Large 2-Axle Vehicles

Start Time	I-215 Southbound Ramps Southbound				Scott Road Westbound				I-215 Southbound On Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	9	0	7	0	16	0	0	4	0	4	0	0	0	0	4	0	24	24
07:15 AM	5	0	1	0	6	0	1	0	0	1	0	0	0	0	7	0	14	14
07:30 AM	4	0	1	1	5	0	8	0	0	8	0	0	0	0	7	1	20	21
07:45 AM	2	0	2	1	4	0	5	1	0	6	0	0	1	0	2	1	12	13
Total	20	0	11	2	31	0	14	5	0	19	0	0	0	0	20	2	70	72
08:00 AM	7	0	3	1	10	0	4	2	1	6	0	0	0	0	6	2	22	24
08:15 AM	4	0	1	1	5	0	3	0	0	3	0	0	0	0	10	1	18	19
08:30 AM	4	0	3	1	7	0	3	1	0	4	0	0	0	0	6	1	17	18
08:45 AM	2	0	0	0	2	0	6	1	0	7	0	0	0	0	2	0	11	11
Total	17	0	7	3	24	0	16	4	1	20	0	0	0	0	24	4	68	72
Grand Total	37	0	18	5	55	0	30	9	1	39	0	0	0	0	44	6	138	144
% Approach	67.3	0	32.7			0	76.9	23.1		28.3	0	0	0	0	31.9	4.2	95.8	
Total %	26.8	0	13		39.9	0	21.7	6.5			0	0	0	0	23.9	8		

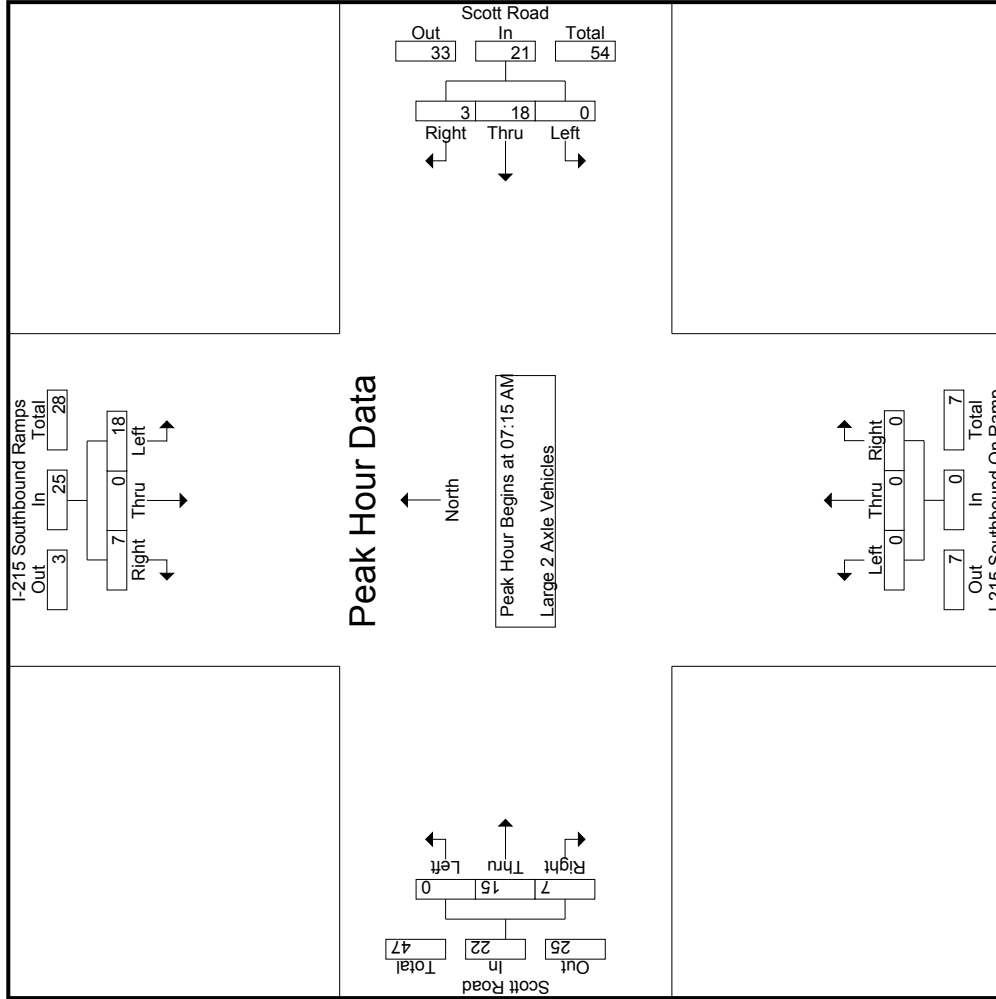
Start Time	I-215 Southbound Ramps Southbound				Scott Road Westbound				I-215 Southbound On Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	5	0	1	0	6	0	1	0	0	1	0	0	0	0	0	0	7	14
07:30 AM	4	0	1	1	5	0	8	0	0	8	0	0	0	0	6	1	7	20
07:45 AM	2	0	2	0	4	0	6	1	0	6	0	0	0	0	1	1	2	12
08:00 AM	7	0	3	0	10	0	4	2	0	6	0	0	0	0	5	1	6	22
Total Volume	18	0	7	2	25	0	18	3	21	21	0	0	0	0	15	7	22	68
% App. Total	72	0	28			0	85.7	14.3			0	0	0	0	68.2	31.8		
PHF	.643	.000	.583		.625	.000	.563	.375	.656	.656	.000	.000	.000	.000	.625	.438	.786	.773

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Scott Road Westbound			I-215 Southbound On Ramp Northbound			Scott Road Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:	07:15 AM													
+0 mins.	5	0	1	0	1	0	0	0	0	0	0	3	4	7
+15 mins.	4	0	1	0	8	0	0	0	0	0	0	6	1	7
+30 mins.	2	0	2	0	5	1	0	0	0	0	0	1	1	2
+45 mins.	7	0	3	0	4	2	6	0	0	0	0	5	1	6
Total Volume	18	0	7	0	18	3	21	0	0	0	0	15	7	22
% App. Total	72	0	28	0	85.7	14.3	656	0	0	0	0	68.2	31.8	786
PHF	.643	.000	.583	.000	.563	.375	.656	.000	.000	.000	.000	.625	.438	.786

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	I-215 Southbound Ramps Southbound				Scott Road Westbound				I-215 Southbound On Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2	0	3	3
07:30 AM	2	0	1	0	3	0	0	0	0	0	0	1	0	0	2	0	5	5
07:45 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
Total	5	0	2	0	7	0	1	0	0	1	0	4	1	0	5	0	13	13
08:00 AM	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	3	3
08:15 AM	1	0	0	0	1	0	2	0	0	2	0	1	1	0	2	0	5	5
08:30 AM	2	0	1	1	3	0	0	0	0	0	0	0	2	0	2	1	5	6
08:45 AM	2	0	0	0	2	0	2	0	0	2	0	2	1	0	3	0	7	7
Total	6	0	2	1	8	0	5	0	0	5	0	3	4	0	7	1	20	21
Grand Total	11	0	4	1	15	0	6	0	0	6	0	7	5	0	12	1	33	34
Approch %	73.3	0	26.7			0	100	0		18.2	0	58.3	41.7		36.4	2.9	97.1	
Total %	33.3	0	12.1		45.5	0	18.2	0			0	21.2	15.2					

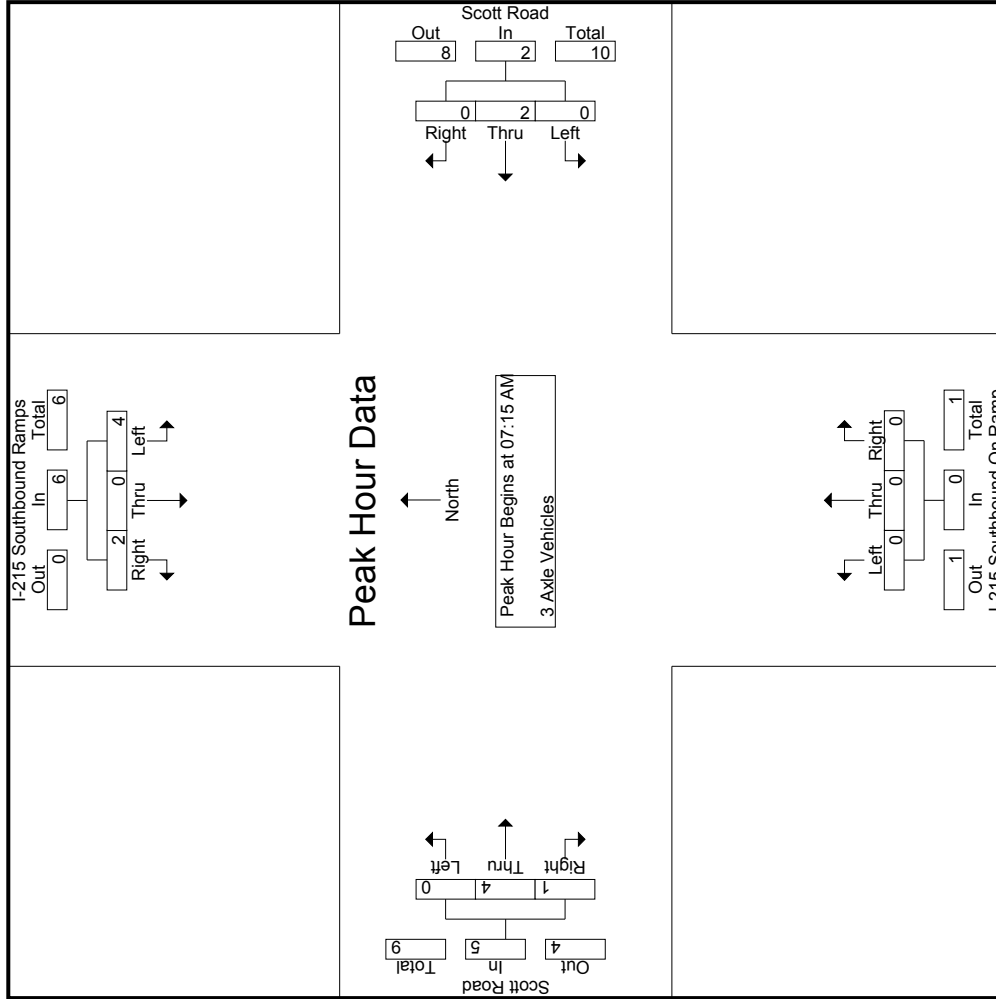
Start Time	I-215 Southbound Ramps Southbound				Scott Road Westbound				I-215 Southbound On Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	3
07:30 AM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	1	2	5
07:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
08:00 AM	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	0	3
Total Volume	4	0	2		6	0	2	0		2	0	4	1		5	0	13	13
% App. Total	66.7	0	33.3			0	100	0		0	0	80	20		.625	.250	.625	.650
PHF	.500	.000	.500		.500	.000	.500	.000		.000	.000	.500	.250		.625	.250	.625	.650

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Scott Road Westbound			I-215 Southbound On Ramp Northbound			Scott Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	1	0	0	0	0	2	0
+15 mins.	2	0	1	3	0	0	0	0	0	0	1	1
+30 mins.	1	0	0	1	0	0	0	0	0	0	1	0
+45 mins.	1	0	1	2	0	1	0	0	0	0	0	0
Total Volume	4	0	2	6	0	2	0	0	0	0	4	1
% App. Total	66.7	0	33.3		0	100	0	0	0	0	80	20
PHF	.500	.000	.500	.500	.000	.500	.000	.000	.000	.000	.500	.250

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File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Groups Printed- 4+ Axle Trucks

Start Time	I-215 Southbound Ramps Southbound					Scott Road Westbound					I-215 Southbound On Ramp Northbound					Scott Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	2	2	
07:15 AM	2	0	0	0	2	0	0	2	0	2	0	0	0	0	0	0	1	0	0	0	0	5	5	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3	
Total	2	0	0	0	2	0	3	3	0	6	0	0	0	0	0	0	2	0	0	0	0	10	10	
08:00 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	0	0	0	0	3	3	
08:15 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	2	0	0	0	0	4	4	
08:30 AM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	0	5	5	
08:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	
Total	2	0	0	0	2	0	3	3	0	6	0	0	0	0	0	0	5	0	0	0	0	13	13	
Grand Total	4	0	0	0	4	0	6	6	0	12	0	0	0	0	0	0	7	0	0	0	0	23	23	
Approch %	100	0	0	0	17.4	0	50	50		52.2	0	0	0	0	0	0	100	0	0	0	0	100	100	
Total %	17.4	0	0	0	17.4	0	26.1	26.1		52.2	0	0	0	0	0	0	30.4	0	0	0	0	100	100	

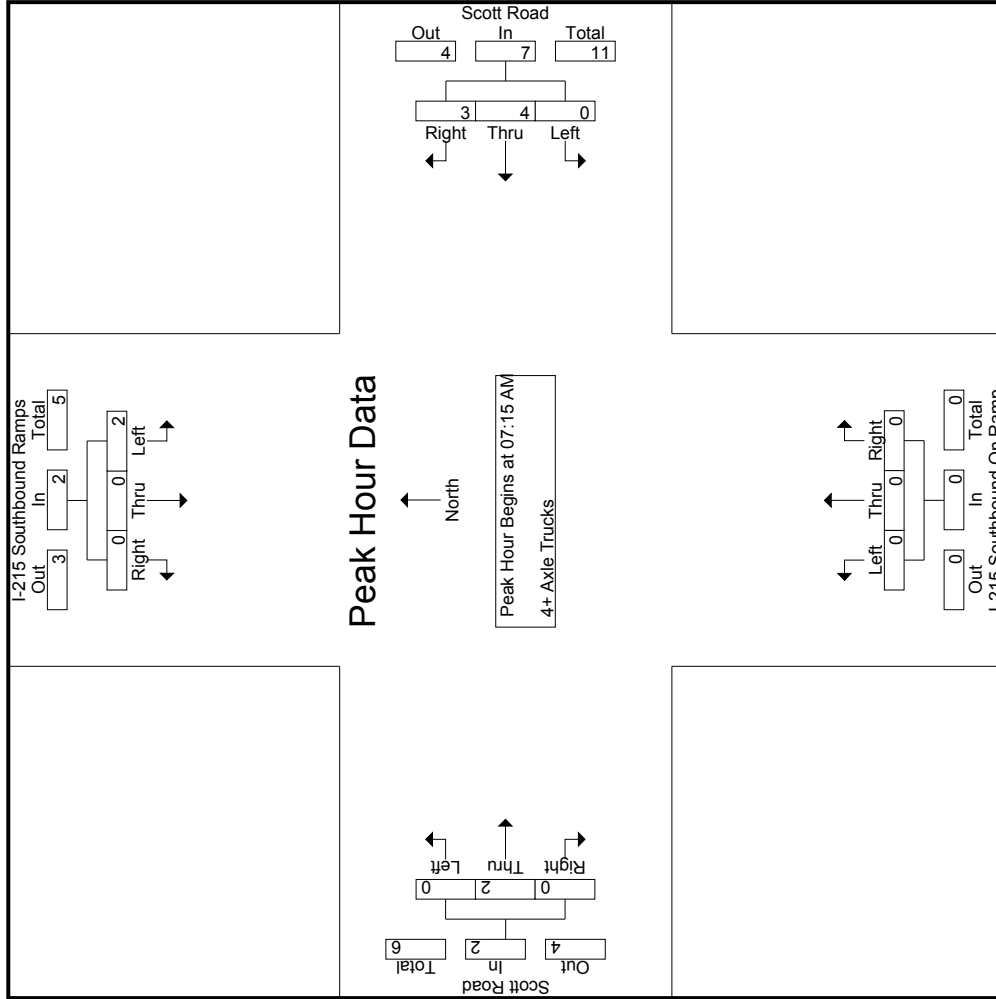
Start Time	I-215 Southbound Ramps Southbound					Scott Road Westbound					I-215 Southbound On Ramp Northbound					Scott Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:15 AM	2	0	0	0	2	0	0	2	0	2	0	0	0	0	0	0	1	0	0	0	0	1	1	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	
08:00 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	0	0	0	0	1	1	
Total Volume	2	0	0	0	2	0	4	3	0	7	0	0	0	0	0	0	2	0	0	0	0	2	2	
% App. Total	100	0	0	0	100	0	57.1	42.9		58.3	0	0	0	0	0	0	100	0	0	0	0	.500	.500	
PHF	.250	.000	.000	.000	.250	.000	.333	.375		.583	.000	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.500	.550	

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 01_MEN_215S_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Scott Road Westbound			I-215 Southbound On Ramp Northbound			Scott Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	2	0	0	0	0	2	0	0	0	0	1	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	3	0	3	0	0	0	0	0
+45 mins.	0	0	0	0	1	1	2	0	0	0	1	0
Total Volume	2	0	0	0	4	3	7	0	0	0	2	0
% App. Total	100	0	0	0	57.1	42.9		0	0	0	100	0
PHF	.250	.000	.000	.250	.333	.375	.583	.000	.000	.000	.500	.000

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-215 Southbound Ramps				Scott Road Westbound				I-215 Southbound On Ramp				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	84	0	55	22	139	0	262	64	18	326	0	0	0	0	0	42	731	773
04:15 PM	84	0	52	30	136	0	265	71	9	336	0	0	0	0	0	40	720	760
04:30 PM	91	0	46	21	137	0	271	73	17	344	0	0	0	0	39	746	785	
04:45 PM	92	0	55	17	147	0	254	59	17	313	0	0	0	0	35	701	736	
Total	351	0	208	90	559	0	1052	267	61	1319	0	0	0	5	1020	156	2898	3054
05:00 PM	102	0	48	21	150	0	247	75	23	322	0	0	0	0	0	45	743	788
05:15 PM	89	0	48	21	137	0	266	79	15	345	0	0	0	0	0	36	767	803
05:30 PM	77	0	50	27	117	0	265	68	11	333	0	0	0	0	0	39	746	785
05:45 PM	74	0	43	20	117	0	256	62	13	318	0	0	0	0	35	681	716	
Total	342	0	189	89	531	0	1034	284	62	1318	0	0	0	4	1088	155	2937	3092
Grand Total	693	0	397	179	1090	0	2086	551	123	2637	0	0	0	9	2108	311	5835	6146
% Approach	63.6	0	36.4	0	100	0	79.1	20.9	0	100	0	0	0	0	100	0	0	0
% Total	11.9	0	6.8	0	18.7	0	35.7	9.4	0	45.2	0	0	0	0	36.1	5.1	94.9	0
Passenger Vehicles	683	0	380	0	1238	0	2055	545	98.4	2721	0	0	0	0	2069	0	6028	0
Large 2 Axle Vehicles	98.6	0	95.7	97.8	97.6	0	98.5	98.9	98.4	98.6	0	0	0	100	97.7	0	98.1	0
% Large 2 Axle Vehicles	0.9	0	11	1.7	20	0	25	4	0	29	0	0	0	0	33	0	82	0
% 3 Axle Vehicles	1	0	2	0	3	0	2	1	0	4	0	0	0	0	10	0	17	0
% 3 Axle Vehicles	0.1	0	0.5	0	0.2	0	0.1	0.2	0.8	0.1	0	0	0	0	0.5	0	0.3	0
4+ Axle Trucks	3	0	4	0	8	0	4	1	0	6	0	0	0	0	5	0	19	0
% 4+ Axle Trucks	0.4	0	1	0.6	0.6	0	0.2	0.2	0.8	0.2	0	0	0	0	0.2	0	0.3	0

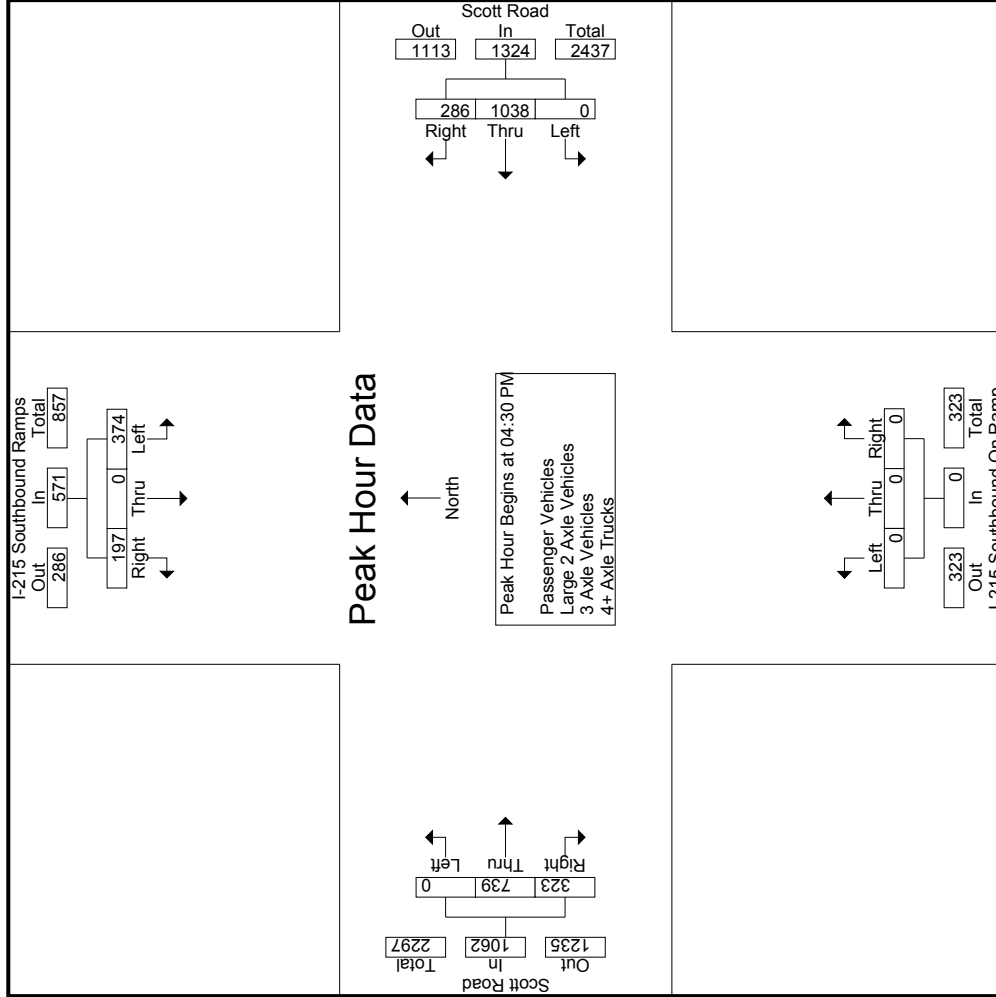
Start Time	I-215 Southbound Ramps				Scott Road Westbound				I-215 Southbound On Ramp				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	91	0	46	0	137	0	271	73	0	344	0	0	0	0	0	0	265	746
04:45 PM	92	0	55	0	147	0	254	59	0	313	0	0	0	0	0	0	241	701
05:00 PM	102	0	48	0	150	0	247	75	0	322	0	0	0	0	0	0	271	743
05:15 PM	89	0	48	0	137	0	266	79	0	345	0	0	0	0	0	0	285	767
Total Volume	374	0	197	571	1324	0	1038	286	0	1324	0	0	0	0	739	323	1062	2957
% App. Total	65.5	0	34.5	0	100	0	78.4	21.6	0	100	0	0	0	0	30.4	0	93.2	0
PHF	.917	.000	.895	.952	.959	.000	.958	.905	.000	.959	.000	.000	.000	.919	.878	.932	.964	.000

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Southbound Ramps			Scott Road Westbound			I-215 Southbound On Ramp Northbound			Scott Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	04:30 PM												
+0 mins.	91	0	46	137	0	0	0	0	0	0	0	194	77
+15 mins.	92	0	55	147	0	0	0	0	0	0	0	201	84
+30 mins.	102	0	48	150	0	0	0	0	0	0	0	198	88
+45 mins.	89	0	48	137	0	0	0	0	0	0	0	167	79
Total Volume	374	0	197	571	0	0	0	0	0	0	0	760	328
% App. Total	65.5	0	34.5	571	0	0	0	0	0	0	0	69.9	30.1
PHF	.917	.000	.895	.952	.000	.000	.000	.000	.000	.000	.000	.945	.932

Counts Unlimited, Inc.
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File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Groups Printed- Passenger Vehicles

Start Time	I-215 Southbound Ramps Southbound				Scott Road Westbound				I-215 Southbound On Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	84	0	54	22	138	0	256	64	18	320	0	0	0	0	0	42	716	758
04:15 PM	84	0	50	28	134	0	258	70	9	328	0	0	0	0	0	38	701	739
04:30 PM	88	0	44	21	132	0	263	72	17	335	0	0	0	0	0	39	725	764
04:45 PM	89	0	49	16	138	0	251	59	17	310	0	0	0	0	0	34	687	721
Total	345	0	197	87	542	0	1028	265	61	1293	0	0	0	0	0	153	2829	2982
05:00 PM	101	0	47	21	148	0	245	74	22	319	0	0	0	0	0	44	732	776
05:15 PM	89	0	46	21	135	0	263	77	14	340	0	0	0	0	0	35	756	791
05:30 PM	75	0	49	27	124	0	263	67	11	330	0	0	0	0	0	39	733	772
05:45 PM	73	0	41	19	114	0	256	62	13	318	0	0	0	0	0	34	673	707
Total	338	0	183	88	521	0	1027	280	60	1307	0	0	0	0	0	152	2894	3046
Grand Total	683	0	380	175	1063	0	2055	545	121	2600	0	0	0	0	0	305	5723	6028
Approch %	64.3	0	35.7			0	79	21		45.4	0	0	0	0	0	5.1	94.9	
Total %	11.9	0	6.6		18.6	0	35.9	9.5			0	0	0	0	0			

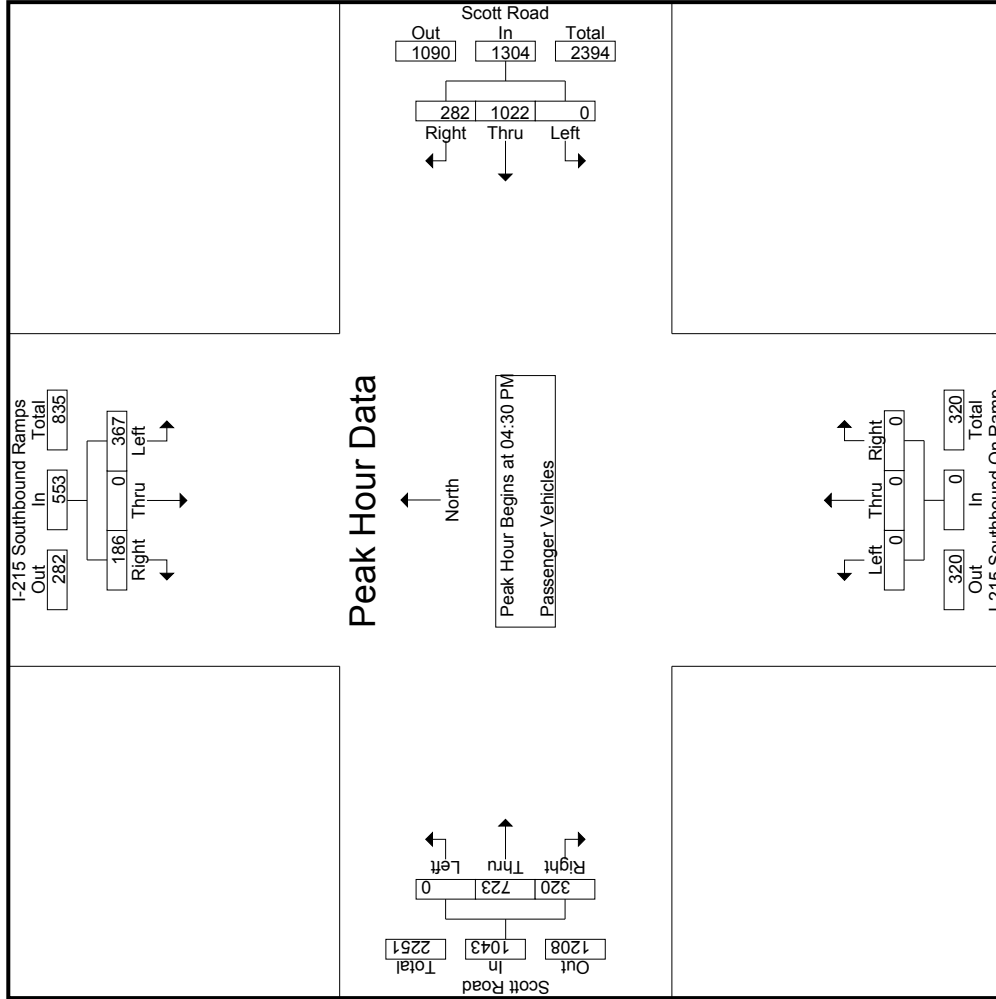
Start Time	I-215 Southbound Ramps Southbound				Scott Road Westbound				I-215 Southbound On Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	88	0	44		132	0	263	72		335	0	0	0	0	0	0	258	725
04:45 PM	89	0	49		138	0	251	59		310	0	0	0	0	0	70	239	687
05:00 PM	101	0	47		148	0	245	74		319	0	0	0	0	0	76	265	732
05:15 PM	89	0	46		135	0	263	77		340	0	0	0	0	0	83	281	756
Total Volume	367	0	186		553	0	1022	282		1304	0	0	0	0	0	723	1043	2900
% App. Total	66.4	0	33.6		33.6	0	78.4	21.6		95.9	0	0	0	0	0	69.3	30.7	95.9
PHF	.908	.000	.949		.934	.000	.971	.916		.959	.000	.000	.000	.000	.913	.879	.928	

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

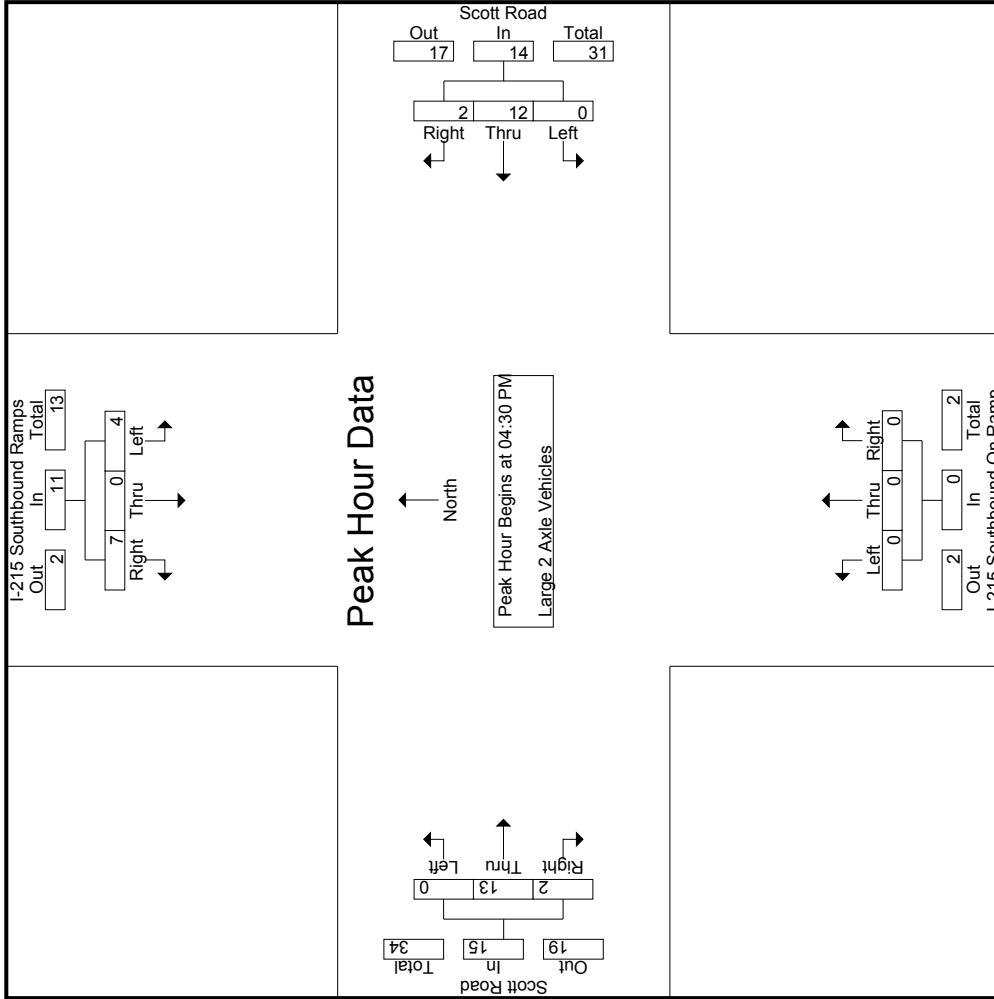
Start Time	I-215 Southbound Ramps Southbound			Scott Road Westbound			I-215 Southbound On Ramp Northbound			Scott Road Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	04:30 PM													
+0 mins.	88	0	44	132	0	263	72	335	0	0	0	0	0	258
+15 mins.	89	0	49	138	0	251	59	310	0	0	0	0	0	239
+30 mins.	101	0	47	148	0	245	74	319	0	0	0	0	0	265
+45 mins.	89	0	46	135	0	263	77	340	0	0	0	0	0	281
Total Volume	367	0	186	553	0	1022	282	1304	0	0	0	0	0	1043
% App. Total	66.4	0	33.6		0	78.4	21.6		0	0	0	0	0	30.7
PHF	.908	.000	.949	.934	.000	.971	.916	.959	.000	.000	.000	.000	.913	.879
														.928

Groups Printed- Large 2-Axle Vehicles																									
		I-215 Southbound Ramps Southbound						Scott Road Westbound						I-215 Southbound On Ramp Northbound						Scott Road Eastbound					
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total		
04:00 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	2	0	0	6	0	10	10	
04:15 PM	0	0	2	2	2	0	7	1	0	8	0	0	0	0	0	0	4	1	0	0	5	2	15	17	
04:30 PM	1	0	2	0	3	0	7	1	0	8	0	0	0	0	0	0	4	1	0	0	5	0	16	16	
04:45 PM	2	0	3	0	5	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	2	0	9	9	
Total	3	0	7	2	10	0	20	2	0	22	0	0	0	0	0	0	14	4	0	18	2	50	52		
05:00 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	5	1	0	6	0	9	9		
05:15 PM	0	0	2	0	2	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	0	6	6		
05:30 PM	1	0	1	0	2	0	2	1	0	3	0	0	0	0	0	0	3	1	0	4	0	9	9		
05:45 PM	1	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	1	5	6		
Total	3	0	4	1	7	0	5	2	0	7	0	0	0	0	0	0	12	3	0	15	1	29	30		
Grand Total	6	0	11	3	17	0	25	4	0	29	0	0	0	0	0	0	26	7	0	33	3	79	82		
Approach %	35.3	0	64.7			0	86.2	13.8			0	0	0			0	78.8	21.2			41.8	3.7	96.3		
Total %	7.6	0	13.9		21.5	0	31.6	5.1		36.7	0	0	0			0	32.9	8.9							
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:30 PM																									
04:30 PM	1	0	2		3	0	7	1		8	0	0	0		0	0	4	1		5	1	5	16		
04:45 PM	2	0	3		5	0	2	0		2	0	0	0		0	0	2	0		2	0	2	9		
05:00 PM	1	0	0		1	0	2	0		2	0	0	0		0	0	5	1		6	1	6	9		
05:15 PM	0	0	2		2	0	1	1		2	0	0	0		0	0	2	0		2	0	2	6		
Total Volume	4	0	7		11	0	12	2		14	0	0	0		0	0	13	2		15	2	15	40		
% App. Total	36.4	0	63.6			0	85.7	14.3			0	0	0		0	0	86.7	13.3			3.7	96.3			
PHF	.500	.000	.583		.550	.000	.429	.500		.438	.000	.000	.000		.000	.000	.650	.500		.625	.500	.625	.625		

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Southbound Ramps			Scott Road Westbound			I-215 Southbound On Ramp Northbound			Scott Road Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:												
	04:30 PM				04:30 PM				04:30 PM				
+0 mins.	1	0	2	3	0	7	1	8	0	0	0	0	5
+15 mins.	2	0	3	5	0	2	0	2	0	0	0	2	2
+30 mins.	1	0	0	1	0	2	0	2	0	0	0	1	6
+45 mins.	0	0	2	2	0	1	1	2	0	0	0	2	2
Total Volume	4	0	7	11	0	12	2	14	0	0	0	13	15
% App. Total	36.4	0	63.6		0	85.7	14.3		0	0	0	86.7	13.3
PHF	.500	.000	.583	.550	.000	.429	.500	.438	.000	.000	.000	.650	.625

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City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	I-215 Southbound Ramps Southbound					Scott Road Westbound					I-215 Southbound On Ramp Northbound					Scott Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	3	3	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2	2
04:30 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	1	0	1	0	0	1	0	3	3	3
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	2	0	2	0	0	2	0	0	0	0	0	3	1	0	0	4	0	8	8	8
05:00 PM	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	2	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	2	2	2
05:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	3	3	3
Total	0	0	1	0	1	0	1	1	1	1	0	0	0	0	0	5	1	0	0	6	1	8	9	9
Grand Total	1	0	2	0	3	0	2	1	1	3	0	0	0	0	0	8	2	0	0	10	1	16	17	17
Approach %	33.3	0	66.7			0	66.7	33.3		18.8	0	0	0	0	0	80	20			62.5	5.9	94.1		
Total %	6.2	0	12.5		18.8	0	12.5	6.2			0	0	0	0	0	50	12.5							

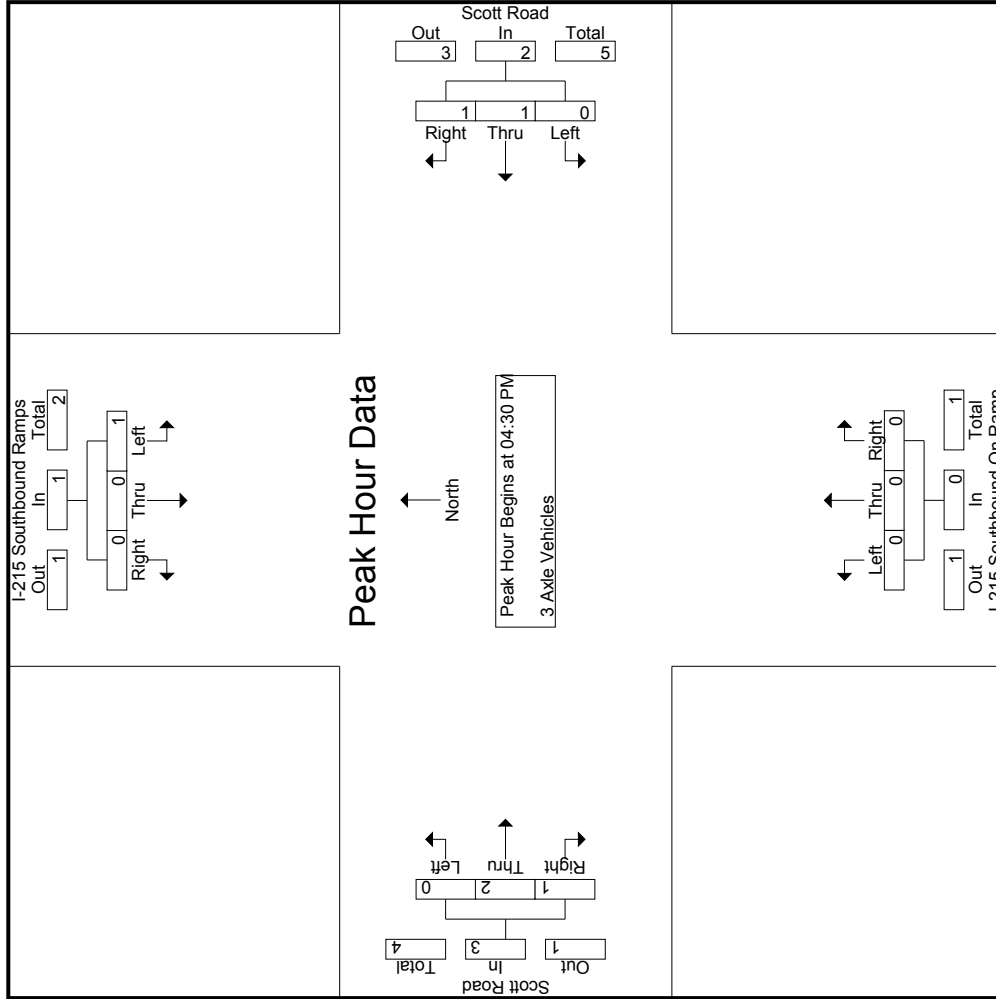
Start Time	I-215 Southbound Ramps Southbound					Scott Road Westbound					I-215 Southbound On Ramp Northbound					Scott Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:30 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2
Total Volume	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	2	1	0	2	1	3	6	6
% App. Total	100	0	0	0	100	0	50	50	0	100	0	0	0	0	0	0	66.7	33.3	0	66.7	33.3	250	500	750
PHF	.250	.000	.000		.250	.000	.250	.250		.500	.000	.000	.000	.000	.000	.000	.500	.250	.000	.375	.250	.500	.500	.500

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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 Corona, CA 92878
 (951)268-6268

File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Scott Road Westbound			I-215 Southbound On Ramp Northbound			Scott Road Eastbound							
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total				
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	1	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2
Total Volume	1	0	0	1	0	0	1	2	0	0	0	0	0	2	2	1	3
% App. Total	100	0	0	0	0	0	50	50	0	0	0	0	0	66.7	33.3	0	33.3
PHF	.250	.000	.000	.250	.000	.000	.250	.500	.000	.000	.000	.000	.000	.500	.250	.000	.375

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File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Groups Printed- 4+ Axle Trucks

Start Time	I-215 Southbound Ramps Southbound					Scott Road Westbound					I-215 Southbound On Ramp Northbound					Scott Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	2
04:30 PM	1	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	2
04:45 PM	1	0	3	1	4	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	5	6	6
Total	2	0	3	1	5	0	2	0	0	2	0	0	0	0	0	0	4	0	0	0	1	11	12	12
05:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:15 PM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	3	4	4
05:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	2	0	2	1	1	3	0	0	0	0	0	0	1	0	0	0	1	6	7	7
Grand Total	3	0	4	1	7	0	4	1	1	5	0	0	0	0	0	0	5	0	0	0	2	17	19	19
Approach %	42.9	0	57.1			80	20			29.4	0	0	0	0	0	100	0	0	0	29.4	10.5	89.5	89.5	89.5
Total %	17.6	0	23.5		41.2	23.5	5.9			29.4	0	0	0	0	0	29.4	0	0	0	29.4	10.5	89.5	89.5	89.5

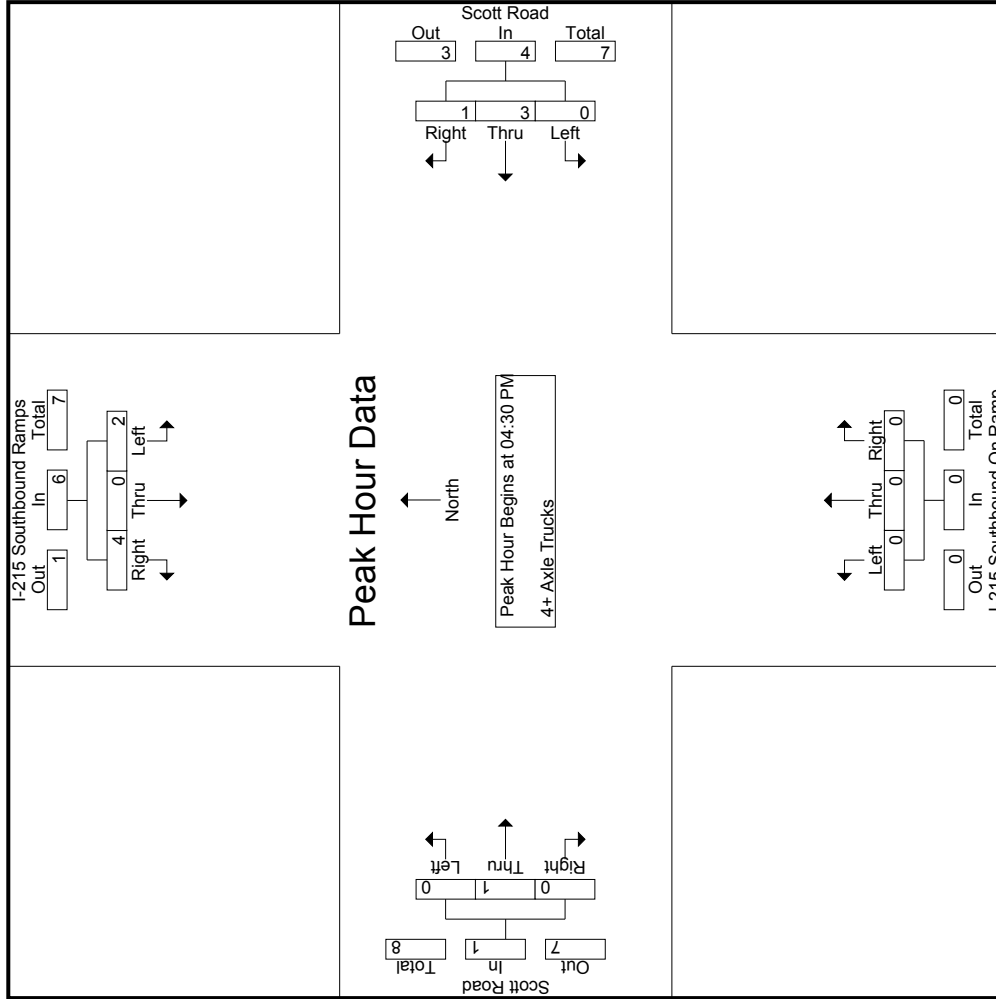
Start Time	I-215 Southbound Ramps Southbound					Scott Road Westbound					I-215 Southbound On Ramp Northbound					Scott Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	2	2
04:45 PM	1	0	3	1	4	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	2	1	3	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	4	4	6	0	3	1	4	4	0	0	0	0	0	0	1	0	0	0	1	11	11	11
% App. Total	33.3	0	66.7			75	25			33.3	0	0	0	0	0	100	0	0	0	100	0	0	0	0
PHF	.500	.000	.333		.375	.000	.375	.250	.333	.000	.000	.000	.000	.000	.250	.000	.250	.000	.250	.000	.250	.550	.550	.550

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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 (951)268-6268

File Name : 01_MEN_215S_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Southbound Ramp
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Southbound Ramps			Scott Road Westbound			I-215 Southbound On Ramp Northbound			Scott Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1
+15 mins.	1	0	3	4	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0
Total Volume	2	0	4	6	0	3	1	4	0	0	0	0	1	0	0	1
% App. Total	33.3	0	66.7		0	75	25		0	0	0		100	0	0	
PHF	.500	.000	.333	.375	.000	.375	.250	.333	.000	.000	.000	.000	.250	.000	.000	.250

Location: Menifee
 N/S: I-215 Southbound Ramps
 E/W: Scott Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg I-215 Southbound Ramps	East Leg Scott Road	South Leg I-215 Southbound Ramps	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-215 Southbound Ramps	East Leg Scott Road	South Leg I-215 Southbound Ramps	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Menifee
 N/S: I-215 Southbound Ramps
 E/W: Scott Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound I-215 Southbound Ramps			Westbound Scott Road			Northbound I-215 Southbound Ramps			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

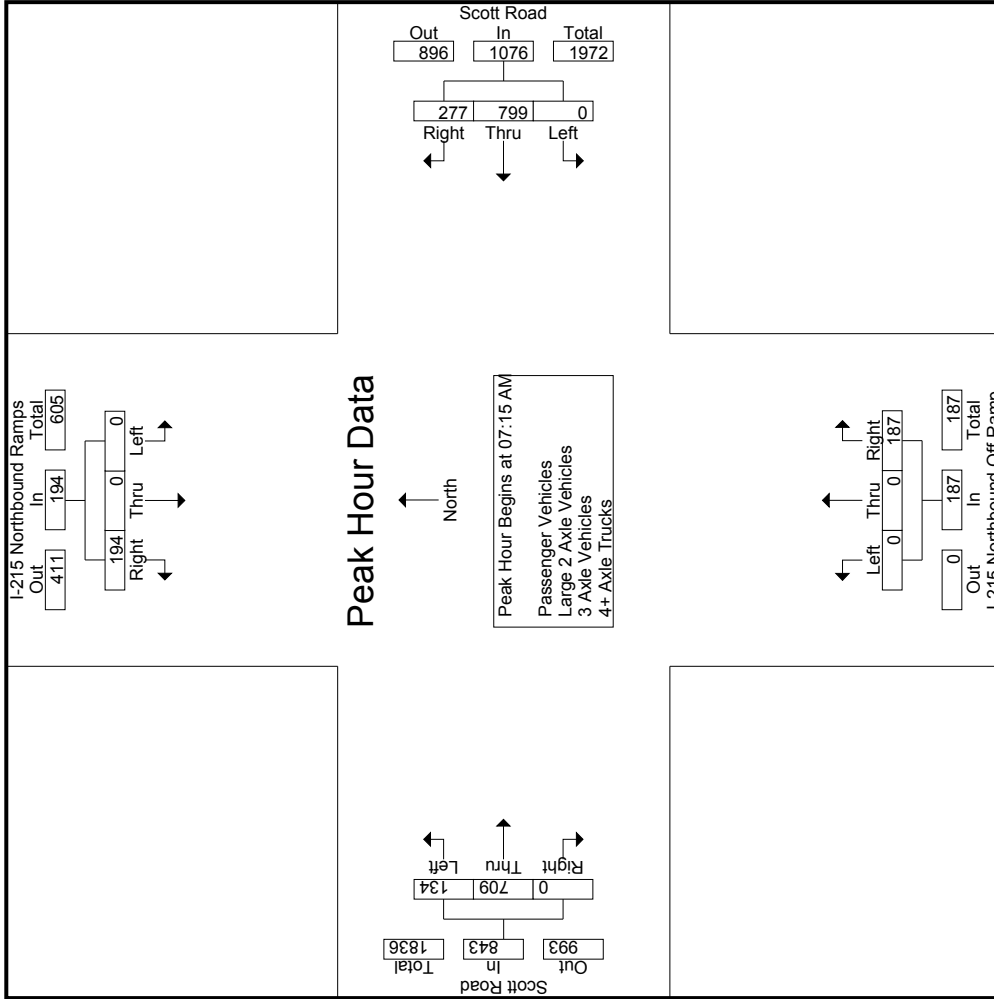
	Southbound I-215 Southbound Ramps			Westbound Scott Road			Northbound I-215 Southbound Ramps			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-215 Northbound Ramps Southbound					Scott Road Westbound					I-215 Northbound Off Ramp Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	30	20	30	0	181	77	29	258	0	0	41	3	41	32	148	0	0	180	52	509	561
07:15 AM	0	0	44	29	44	0	200	69	28	269	0	0	36	4	36	49	168	0	0	217	61	566	627
07:30 AM	0	0	53	27	53	0	252	81	42	333	0	0	39	7	39	26	182	0	0	208	76	633	709
07:45 AM	0	0	49	38	49	0	171	70	25	241	0	0	56	5	56	31	202	0	0	233	68	579	647
Total	0	0	176	114	176	0	804	297	124	1101	0	0	172	19	172	138	700	0	0	838	257	2287	2544
08:00 AM	0	0	48	44	48	0	176	57	17	233	0	0	56	3	56	28	157	0	0	185	64	522	586
08:15 AM	0	0	41	33	41	0	182	70	18	252	0	0	58	3	58	29	162	0	0	191	54	542	596
08:30 AM	0	0	38	29	38	0	185	55	19	240	0	0	77	8	77	35	164	0	0	199	56	554	610
08:45 AM	0	0	49	42	49	0	184	66	25	250	0	0	65	8	65	32	139	0	0	171	75	535	610
Total	0	0	176	148	176	0	727	248	79	975	0	0	256	22	256	124	622	0	0	746	249	2153	2402
Grand Total	0	0	352	262	352	0	1531	545	203	2076	0	0	428	41	428	262	1322	0	0	1584	506	4440	4946
% Approach	0	0	100			0	73.7	26.3			0	0	100			16.5	83.5						
% Total	0	0	7.9			0	34.5	12.3		46.8	0	0	9.6		9.6	5.9	29.8			35.7	10.2	89.8	
Passenger Vehicles	0	0	342		597	0	1489	519		2205	0	0	416		456	241	1243			1484	0	0	4742
Large 2 Axle Vehicles	0	0	3		5	0	28	16		49	0	0	6		7	14	58			72	0	0	133
% 3 Axle Vehicles	0	0	0.9		0.8	0	1.8	2.9		2.5	0	0	1.4		1.5	5.3	4.4			4.5	0	0	2.7
% 4+ Axle Trucks	0	0	1.1		1.1	0	0.2	0.7		0.4	0	0	0.5		0.4	1.1	1.1			1.1	0	0	0.7
% 4+ Axle Trucks	0	0	3		5	0	11	6		17	0	0	4		4	4	7			11	0	0	37
% 4+ Axle Trucks	0	0	0.9		0.8	0	0.7	1.1		0.7	0	0	0.9		0.9	1.5	0.5			0.7	0	0	0.7

Start Time	I-215 Northbound Ramps Southbound					Scott Road Westbound					I-215 Northbound Off Ramp Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	0	0	44		44	0	200	69		269	0	0	36		36	49	168			0	217		566
07:30 AM	0	0	53		53	0	252	81		333	0	0	39		39	26	182			0	208		633
07:45 AM	0	0	49		49	0	171	70		241	0	0	56		56	31	202			0	233		579
08:00 AM	0	0	48		48	0	176	57		233	0	0	56		56	28	157			0	185		522
Total Volume	0	0	194		194	0	799	277		1076	0	0	187		187	134	709			0	843		2300
% App. Total	0.000	0.000	.915		.915	.000	.793	.855		.808	.000	.000	.835		.835	.684	.877			.000	.905		.908
PHF																							

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 02_MEN_215N_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Groups Printed- Passenger Vehicles

Start Time	I-215 Northbound Ramps Southbound					Scott Road Westbound					I-215 Northbound Off Ramp Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	30	20	30	0	177	73	27	250	0	0	40	3	40	30	135	0	0	165	50	485	535
07:15 AM	0	0	43	29	43	0	198	66	28	264	0	0	35	4	35	47	157	0	0	204	61	546	607
07:30 AM	0	0	51	25	51	0	247	78	41	325	0	0	39	7	39	26	169	0	0	195	73	610	683
07:45 AM	0	0	47	37	47	0	165	67	23	232	0	0	54	4	54	30	196	0	0	226	64	559	623
Total	0	0	171	111	171	0	787	284	119	1071	0	0	168	18	168	133	657	0	0	790	248	2200	2448
08:00 AM	0	0	47	44	47	0	168	52	17	220	0	0	55	3	55	23	149	0	0	172	64	494	558
08:15 AM	0	0	39	31	39	0	178	68	18	246	0	0	54	3	54	25	152	0	0	177	52	516	568
08:30 AM	0	0	38	29	38	0	179	51	18	230	0	0	75	8	75	33	151	0	0	184	55	527	582
08:45 AM	0	0	47	40	47	0	177	64	25	241	0	0	64	8	64	27	134	0	0	161	73	513	586
Total	0	0	171	144	171	0	702	235	78	937	0	0	248	22	248	108	586	0	0	694	244	2050	2294
Grand Total	0	0	342	255	342	0	1489	519	197	2008	0	0	416	40	416	241	1243	0	0	1484	492	4250	4742
% Approach	0	0	100			0	74.2	25.8		47.2	0	0	100		9.8	16.2	83.8	0	0	34.9	10.4	89.6	
% Total	0	0	8		8	0	35	12.2			0	0	9.8			5.7	29.2	0	0				

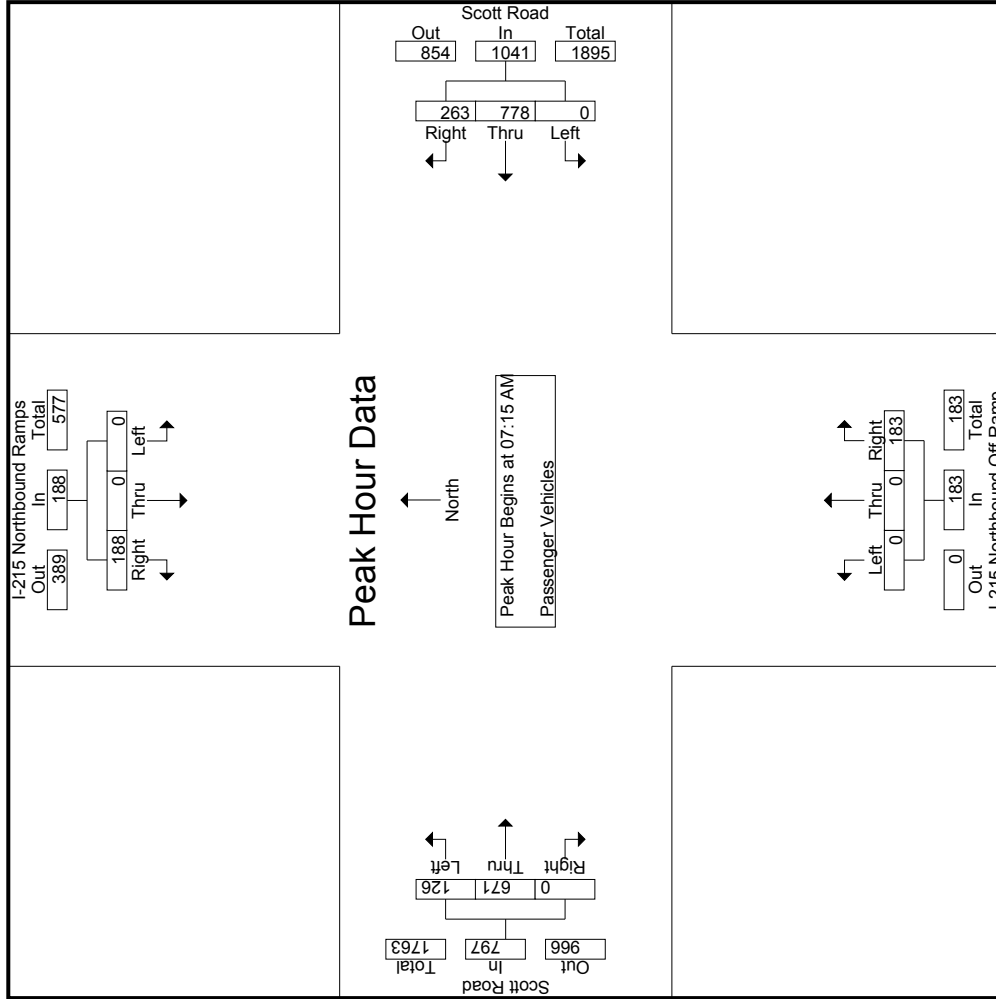
Start Time	I-215 Northbound Ramps Southbound					Scott Road Westbound					I-215 Northbound Off Ramp Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	0	0	43		43	0	198	66		264	0	0	35		35	47	157	0		204			546
07:30 AM	0	0	51		51	0	247	78		325	0	0	39		39	26	169	0		195			610
07:45 AM	0	0	47		47	0	165	67		232	0	0	54		54	30	196	0		226			559
08:00 AM	0	0	47		47	0	168	52		220	0	0	55		55	23	149	0		172			494
Total Volume	0	0	188		188	0	778	263		1041	0	0	183		183	126	671	0		797			2209
% App. Total	0	0	100		100	0	74.7	25.3		801	0	0	100		83.2	15.8	84.2	0					.905
PHF	.000	.000	.922		.922	.000	.787	.843		.801	.000	.000	.832		.832	.670	.856	.000		.882			

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215N_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 02_MEN_215N_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Northbound Ramps Southbound			Scott Road Westbound			I-215 Northbound Off Ramp Northbound			Scott Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	43	0	198	66	0	0	35	47	157	0
+15 mins.	0	0	51	0	247	78	0	0	39	26	169	0
+30 mins.	0	0	47	0	165	67	0	0	54	30	196	0
+45 mins.	0	0	47	0	168	52	0	0	55	23	149	0
Total Volume	0	0	188	0	778	263	0	0	183	126	671	0
% App. Total	0	0	100	0	74.7	25.3	0	0	100	15.8	84.2	0
PHF	.000	.000	.922	.000	.787	.843	.000	.000	.832	.670	.856	.000

Groups Printed- Large 2 Axle Vehicles

Start Time	I-215 Northbound Ramps Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	2	1	1	3	0	0	0	0	0	12	1	15	16
07:15 AM	0	0	0	0	0	0	2	0	2	0	0	0	0	0	8	0	10	10
07:30 AM	0	0	1	1	1	5	2	1	7	0	0	0	0	0	11	2	19	21
07:45 AM	0	0	1	0	1	0	5	2	7	0	0	1	1	4	5	3	14	17
Total	0	0	2	1	2	0	12	7	19	0	0	1	1	3	36	6	58	64
08:00 AM	0	0	0	0	0	5	5	0	10	0	0	1	0	0	11	0	22	22
08:15 AM	0	0	1	1	1	0	2	1	3	0	3	0	3	0	10	1	17	18
08:30 AM	0	0	0	0	0	4	2	1	6	0	0	1	0	0	10	1	17	18
08:45 AM	0	0	0	0	0	0	5	1	6	0	0	0	0	0	5	0	11	11
Total	0	0	1	1	1	0	16	9	25	0	0	5	0	11	36	2	67	69
Grand Total	0	0	3	2	3	0	28	16	44	0	0	6	1	6	72	8	125	133
Approch %	0	0	100			0	63.6	36.4		0	0	100			19.4	80.6	0	
Total %	0	0	2.4		2.4	0	22.4	12.8	35.2	0	0	4.8		4.8	57.6	6	94	

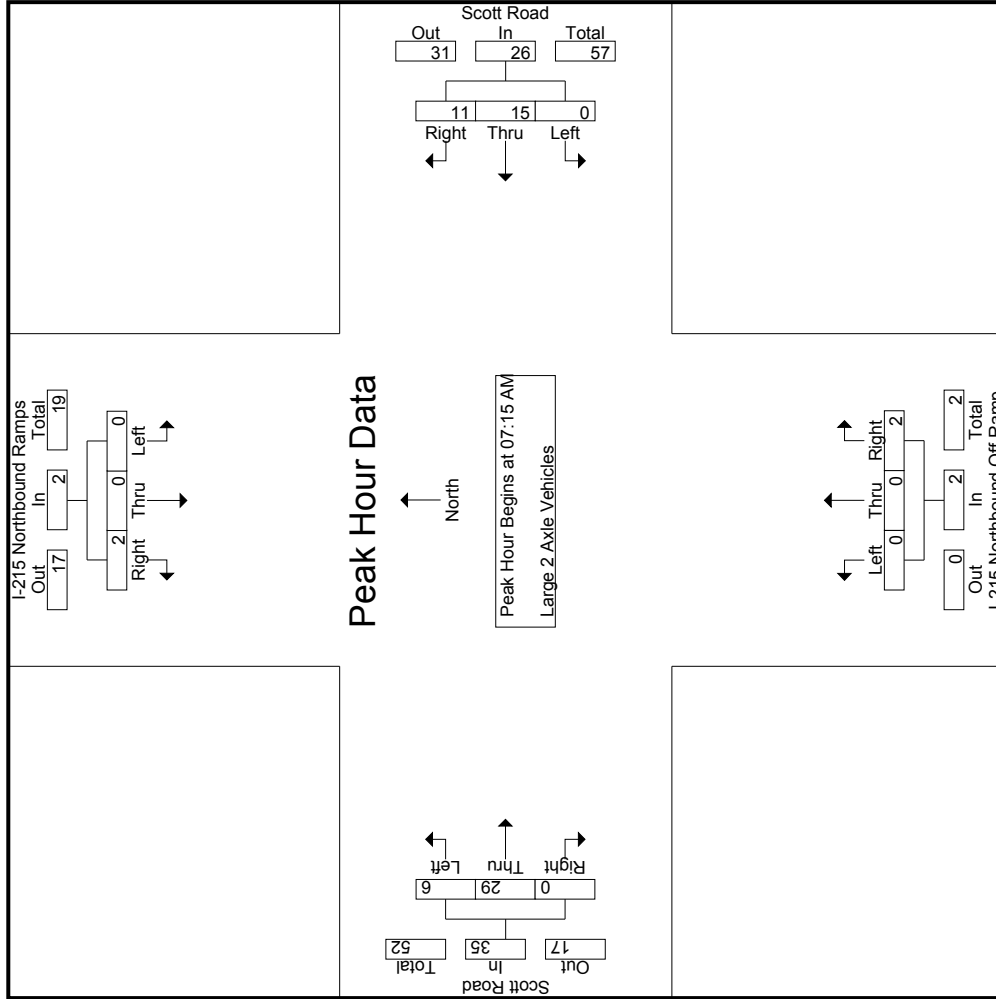
Start Time	I-215 Northbound Ramps Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	8	10
07:30 AM	0	0	1	1	1	0	5	2	7	0	0	0	0	0	11	0	11	19
07:45 AM	0	0	1	1	1	0	5	2	7	0	0	1	1	4	0	0	5	14
08:00 AM	0	0	0	0	0	0	5	5	10	0	0	0	4	7	0	0	11	22
Total Volume	0	0	2	2	2	0	15	11	26	0	0	2	6	29	0	0	35	65
% App. Total	0	0	100			0	57.7	42.3		0	0	100			17.1	82.9	0	
PHF	.000	.000	.500		.500	.000	.750	.550	.650	.000	.000	.500	.375	.659	.000	.795	.739	

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215N_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 02_MEN_215N_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Northbound Ramps Southbound			Scott Road Westbound			I-215 Northbound Off Ramp Northbound			Scott Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:	07:15 AM														
+0 mins.	0	0	0	0	2	2	0	0	0	0	1	7	0	0	8
+15 mins.	0	0	1	5	2	7	0	0	0	0	0	11	0	0	11
+30 mins.	0	0	1	5	2	7	0	0	1	1	4	4	0	0	5
+45 mins.	0	0	0	5	5	10	0	0	1	4	7	7	0	0	11
Total Volume	0	0	2	15	11	26	0	0	2	6	29	29	0	0	35
% App. Total	0	0	100	57.7	42.3	42.3	0	0	100	17.1	82.9	82.9	0	0	0
PHF	.000	.000	.500	.000	.750	.550	.000	.000	.500	.375	.659	.659	.000	.000	.795

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 02_MEN_215N_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Groups Printed- 3 Axle Vehicles

Start Time	I-215 Northbound Ramps Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4
07:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	4	4
Total	0	0	1	0	1	0	0	2	1	2	0	0	1	0	8	1	12	13
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
08:15 AM	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	4	5
08:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	4	4
08:45 AM	0	0	2	2	2	0	1	1	0	2	0	0	0	0	0	2	8	10
Total	0	0	3	3	3	0	3	2	0	5	0	0	1	0	9	3	18	21
Grand Total	0	0	4	3	4	0	3	4	1	7	0	0	2	0	17	4	30	34
% Approach	0	0	100		42.9	0	42.9	57.1		23.3	0	0	100		17.6	11.8	88.2	
% Total	0	0	13.3		13.3	0	10	13.3		23.3	0	0	6.7		6.7	10	46.7	

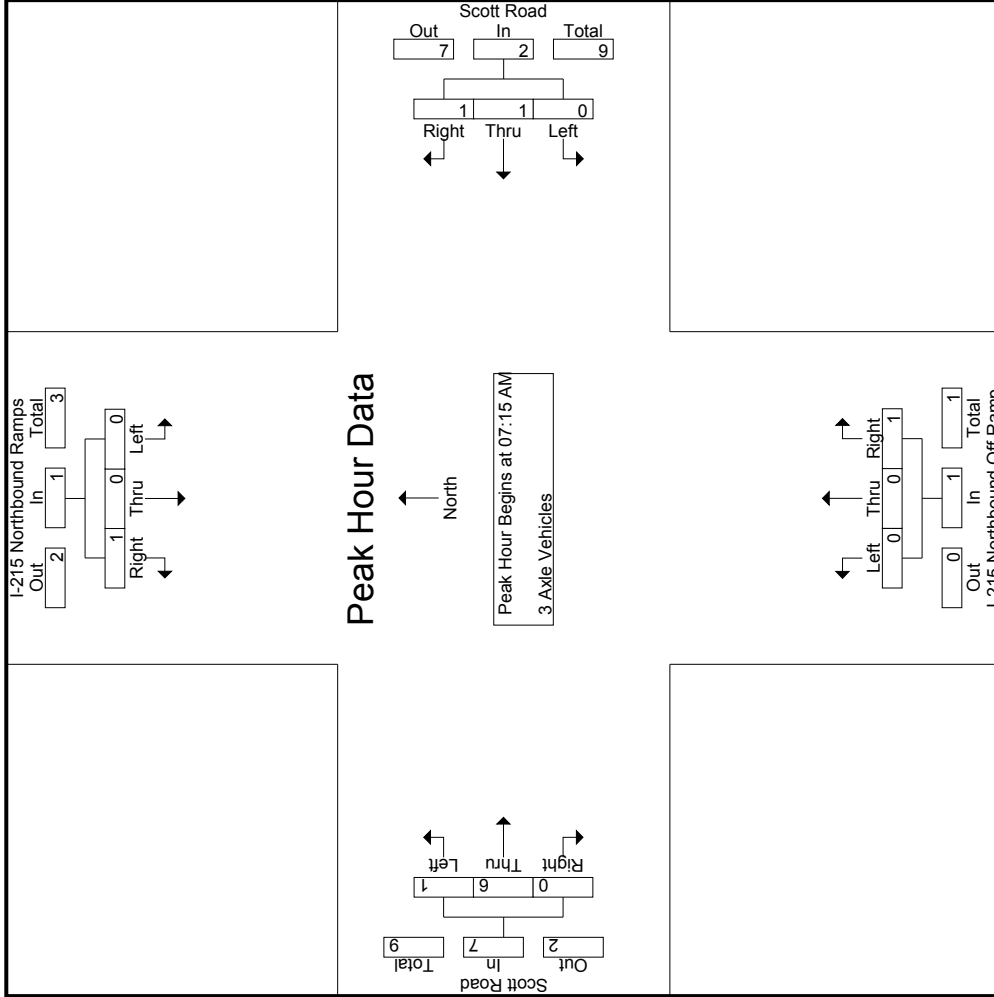
Start Time	I-215 Northbound Ramps Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	2	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
Total Volume	0	0	1	0	1	0	0	1	0	2	0	0	1	0	7	0	7	11
% App. Total	0	0	100		.250	0	50	50		.500	0	0	100		.250	.000	.875	.688
PHF	.000	.000	.250		.250	.000	.250	.250		.250	.000	.250	.250		.250	.000	.875	.688

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215N_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 02_MEN_215N_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Northbound Ramps Southbound			Scott Road Westbound			I-215 Northbound Off Ramp Northbound			Scott Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:	07:15 AM														
+0 mins.	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
+30 mins.	0	0	0	0	0	1	0	0	1	0	0	0	2	0	2
+45 mins.	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1
Total Volume	0	0	1	0	1	1	0	0	1	0	0	1	6	0	7
% App. Total	0	0	100	0	50	50	0	0	100	0	0	0	85.7	0	0
PHF	.000	.000	.250	.000	.250	.250	.000	.000	.250	.250	.250	.000	.750	.000	.875

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215N_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	I-215 Northbound Ramps Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	2	2	0	0	4	0	0	1	0	0	0	6	6
07:15 AM	0	0	0	0	0	2	1	0	0	3	0	1	0	0	0	0	7	7
07:30 AM	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	1	2	3
07:45 AM	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	1	2	3
Total	0	0	2	2	2	0	5	4	0	9	0	2	1	3	0	2	17	19
08:00 AM	0	0	1	0	1	0	2	0	0	2	0	0	1	0	0	0	4	4
08:15 AM	0	0	0	0	0	1	1	0	0	2	0	1	1	0	2	0	5	5
08:30 AM	0	0	0	0	0	2	1	0	0	3	0	0	1	2	0	3	6	6
08:45 AM	0	0	0	0	0	1	0	0	0	1	0	1	0	1	0	0	3	3
Total	0	0	1	0	1	0	6	2	0	8	0	2	3	4	0	0	18	18
Grand Total	0	0	3	2	3	0	11	6	0	17	0	4	4	7	0	0	35	37
% Approach	0	0	100		8.6	0	64.7	35.3		48.6	0	0	36.4	63.6	0	5.4	94.6	
% Total	0	0	8.6		8.6	0	31.4	17.1		48.6	0	0	11.4	20	0	5.4	94.6	

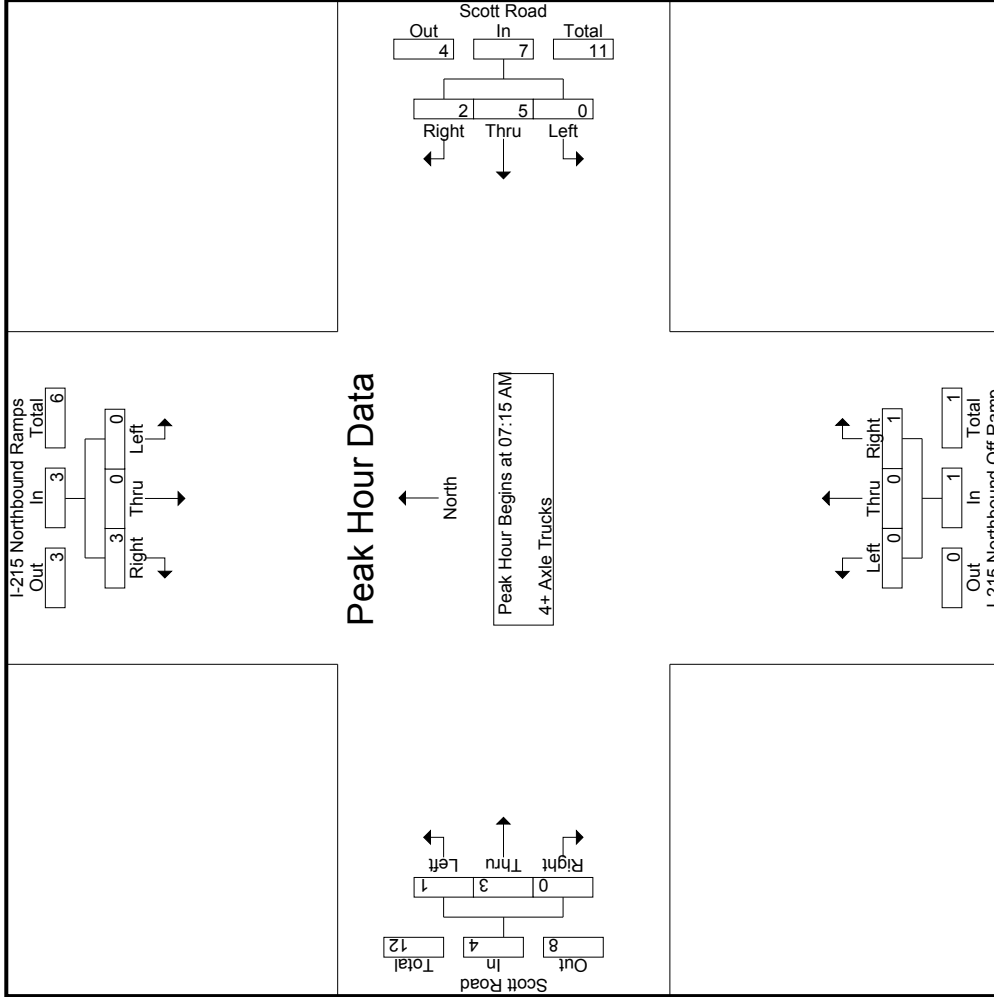
Start Time	I-215 Northbound Ramps Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	0	0	0	0	0	0	2	1	0	3	0	0	1	0	0	0	3	7
07:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	1	0	0	0	1	4
Total Volume	0	0	3	3	3	0	5	2	7	7	0	1	1	3	0	0	4	15
% App. Total	0	0	100		.750	0	71.4	28.6		.583	0	0	100	.75	0	.333	.536	
PHF	.000	.000	.750		.750	.000	.625	.500		.583	.000	.250	.250	.250	.000	.333	.536	

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215N_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 02_MEN_215N_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Northbound Ramps Southbound			Scott Road Westbound			I-215 Northbound Off Ramp Northbound			Scott Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	1	1	1	1	1	0	0	0	0	0
+30 mins.	0	0	1	1	1	1	1	0	0	0	0	0
+45 mins.	0	0	1	1	2	0	2	0	0	1	0	0
Total Volume	0	0	3	3	5	2	7	0	0	1	3	0
% App. Total	0	0	100	0	71.4	28.6	0	0	0	100	75	0
PHF	.000	.000	.750	.750	.625	.500	.583	.000	.250	.250	.250	.000

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-215 Northbound Ramps Southbound						I-215 Northbound Off Ramp Northbound						Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total
04:00 PM	0	0	124	53	124	275	1	0	116	3	117	117	41	215	0	0	256	78
04:15 PM	0	0	119	54	119	311	0	0	128	4	128	128	36	228	0	0	264	102
04:30 PM	0	0	130	50	130	327	0	0	145	10	145	145	34	236	0	0	270	91
04:45 PM	0	0	118	55	118	292	0	0	147	5	147	147	41	226	0	0	267	96
Total	0	0	491	212	491	1205	1	0	536	22	537	537	152	905	0	0	1057	367
05:00 PM	0	0	122	55	122	290	0	0	135	12	135	135	44	244	0	0	288	91
05:15 PM	0	0	130	64	130	299	1	0	124	6	125	125	53	268	0	0	321	102
05:30 PM	0	0	133	56	133	278	0	0	116	4	116	116	40	230	0	0	270	82
05:45 PM	0	0	128	77	128	274	0	0	133	4	133	133	39	201	0	0	240	105
Total	0	0	513	252	513	1141	1	0	508	26	509	509	176	943	0	0	1119	380
Grand Total	0	0	1004	464	1004	2346	2	0	1044	48	1046	1046	328	1848	0	0	2176	747
% Approach	0	0	100			2346	0.2	0	99.8			1046	15.1	84.9	0	0	33.1	10.2
% Total	0	0	15.3			35.7	0	0	15.9			15.9	5	28.1	0	0	33.1	10.2
Passenger Vehicles	0	0	990			2474	2	0	1038			1088	310	1819	0	0	2129	0
Large 2 Axle Vehicles	0	0	98.6	98.7	98.6	95.9	100	0	99.4	100	99.5	99.5	94.5	98.4	0	0	97.8	0
% Large 2 Axle Vehicles	0	0	10			62	0	0	2			2	9	22	0	0	31	0
% 3 Axle Vehicles	0	0	1	0.9	1	2.4	0	0	0.2	0	0.2	0.2	2.7	1.2	0	0	1.4	0
% 3 Axle Vehicles	0	0	1			8	0	0	1			1	6	3	0	0	9	0
% 4+ Axle Trucks	0	0	0.1			0.3	0	0	0.1	0	0.1	0.1	1.8	0.2	0	0	0.4	0
% 4+ Axle Trucks	0	0	3	0.4	0.3	37	0	0	3	0	3	3	3	4	0	0	7	0
% 4+ Axle Trucks	0	0	0.3			1.4	0	0	0.3	0	0.3	0.3	0.9	0.2	0	0	0.3	0

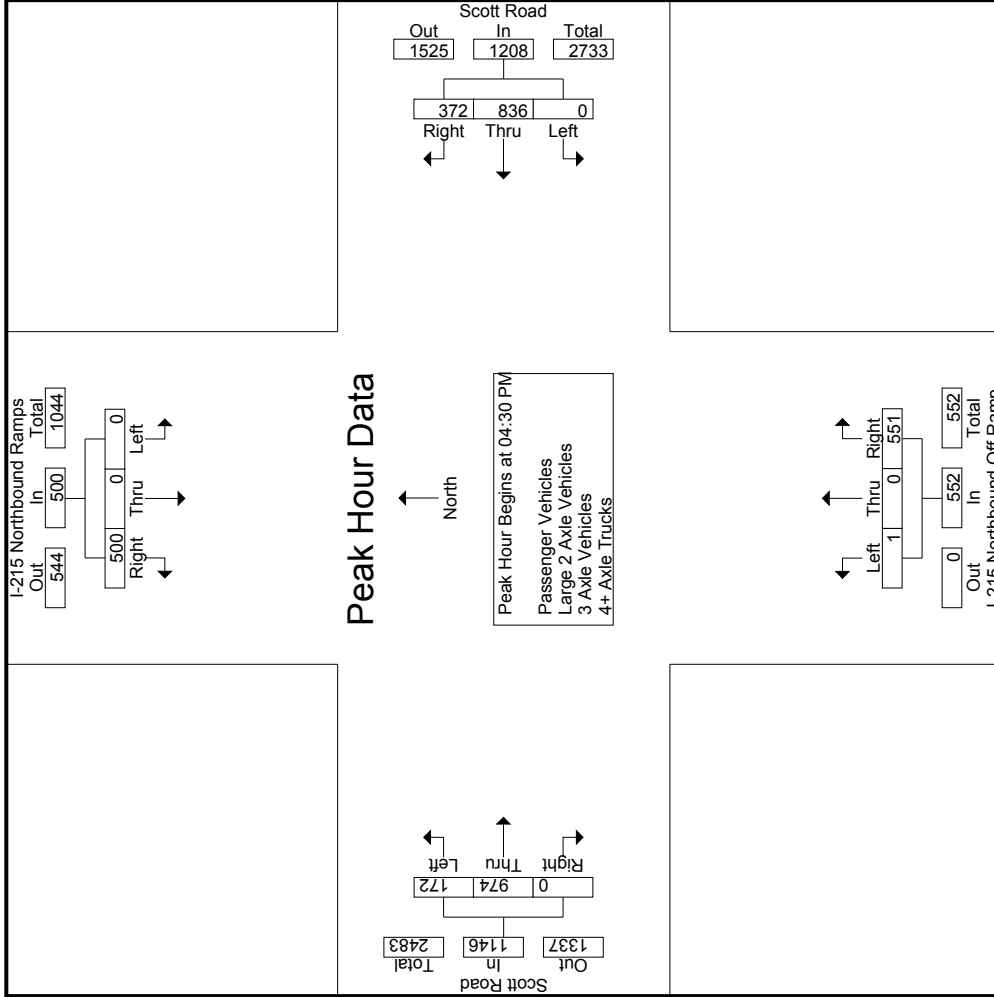
Start Time	I-215 Northbound Ramps Southbound						I-215 Northbound Off Ramp Northbound						Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total
04:30 PM	0	0	130		130	327	0	0	145		145	145	34	236	0	0	270	78
04:45 PM	0	0	118		118	292	0	0	147		147	147	41	226	0	0	267	102
05:00 PM	0	0	122		122	290	0	0	135		135	135	44	244	0	0	321	91
05:15 PM	0	0	130		130	299	1	0	124		124	124	39	201	0	0	240	105
Total Volume	0	0	500		500	1208	1	0	551		551	551	172	974	0	0	1146	367
% App. Total	0	0	100		100	30.8	0.2	0	99.8		99.8	99.8	15	85	0	0	85	27.2
PHF	.000	.000	.962		.962	.912	.250	.000	.937		.937	.939	.811	.909	.000		.893	.973

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Northbound Ramps Southbound			Scott Road Westbound			I-215 Northbound Off Ramp Northbound			Scott Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	122	0	221	90	0	0	128	34	236	0
+15 mins.	0	0	130	0	225	102	0	0	145	41	226	0
+30 mins.	0	0	133	0	191	101	0	0	147	44	244	0
+45 mins.	0	0	128	0	201	89	0	0	135	53	268	0
Total Volume	0	0	513	0	838	382	0	0	555	172	974	0
% App. Total	0	0	100	0	68.7	31.3	0	0	100	15	85	0
PHF	.000	.000	.964	.000	.931	.936	.000	.000	.944	.811	.909	.000

Counts Unlimited, Inc.
 PO Box 1178
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 (951)268-6268

File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Groups Printed- Passenger Vehicles

Start Time	I-215 Northbound Ramps Southbound					Scott Road Westbound					I-215 Northbound Off Ramp Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	122	52	122	0	190	73	18	263	1	0	114	3	115	40	213	0	0	253	73	753	826
04:15 PM	0	0	117	52	117	0	216	79	41	295	0	0	128	4	128	32	223	0	0	255	97	795	892
04:30 PM	0	0	124	49	124	0	221	87	30	308	0	0	144	10	144	33	229	0	0	262	89	838	927
04:45 PM	0	0	118	55	118	0	188	93	32	281	0	0	145	5	145	41	223	0	0	264	92	808	900
Total	0	0	481	208	481	0	815	332	121	1147	1	0	531	22	532	146	888	0	0	1034	351	3194	3545
05:00 PM	0	0	122	55	122	0	198	85	22	283	0	0	135	12	135	43	240	0	0	283	89	823	912
05:15 PM	0	0	127	62	127	0	217	71	32	288	1	0	124	6	125	51	266	0	0	317	100	857	957
05:30 PM	0	0	132	56	132	0	204	67	20	271	0	0	116	4	116	34	226	0	0	260	80	779	859
05:45 PM	0	0	128	77	128	0	193	75	22	268	0	0	132	4	132	36	199	0	0	235	103	763	866
Total	0	0	509	250	509	0	812	298	96	1110	1	0	507	26	508	164	931	0	0	1095	372	3222	3594
Grand Total	0	0	990	458	990	0	1627	630	217	2257	2	0	1038	48	1040	310	1819	0	0	2129	723	6416	7139
% Approach	0	0	100			0	72.1	27.9		35.2	0.2	0	99.8		16.2	14.6	85.4	0	0	33.2	10.1	89.9	
% Total	0	0	15.4			0	25.4	9.8			0	0	16.2			4.8	28.4	0	0				

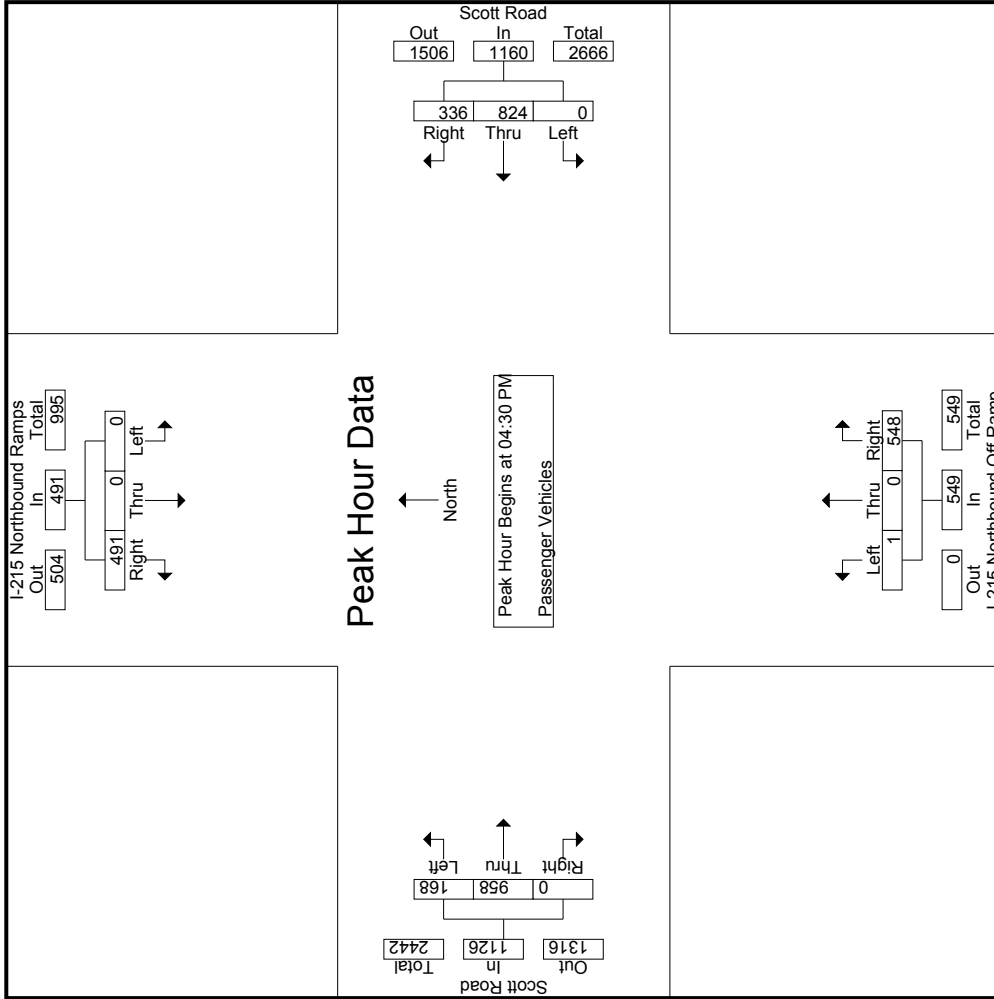
Start Time	I-215 Northbound Ramps Southbound					Scott Road Westbound					I-215 Northbound Off Ramp Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	0	0	124		124	0	221	87		308	0	0	144		144	33	229	0	0	262	0	262	838
04:45 PM	0	0	118		118	0	188	93		281	0	0	145		145	41	223	0	0	264	0	264	808
05:00 PM	0	0	122		122	0	198	85		283	0	0	135		135	43	240	0	0	283	0	283	823
05:15 PM	0	0	127		127	0	217	71		288	1	0	124		124	51	266	0	0	317	0	317	857
Total Volume	0	0	491		491	0	824	336		1160	1	0	548		548	168	958	0	0	1126	0	1126	3326
% App. Total	0	0	100			0	71	29		99.8	0.2	0	99.8			14.9	85.1	0	0		0		
PHF	.000	.000	.967		.967	.000	.932	.903		.942	.250	.000	.945		.947	.824	.900	.000		.888	.000	.888	.970

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Northbound Ramps Southbound			Scott Road Westbound			I-215 Northbound Off Ramp Northbound			Scott Road Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:	04:30 PM													
+0 mins.	0	0	124	0	221	87	0	308	0	144	33	229	0	262
+15 mins.	0	0	118	0	188	93	0	281	0	145	41	223	0	264
+30 mins.	0	0	122	0	198	85	0	283	0	135	43	240	0	283
+45 mins.	0	0	127	0	217	71	1	288	0	124	51	266	0	317
Total Volume	0	0	491	0	824	336	1	1160	0	548	168	958	0	1126
% App. Total	0	0	100	0	71	29	0.2	99.8	0	99.8	14.9	85.1	0	0
PHF	.000	.000	.967	.000	.932	.903	.250	.942	.000	.945	.824	.900	.000	.888

Counts Unlimited, Inc.
 PO Box 1178
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File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

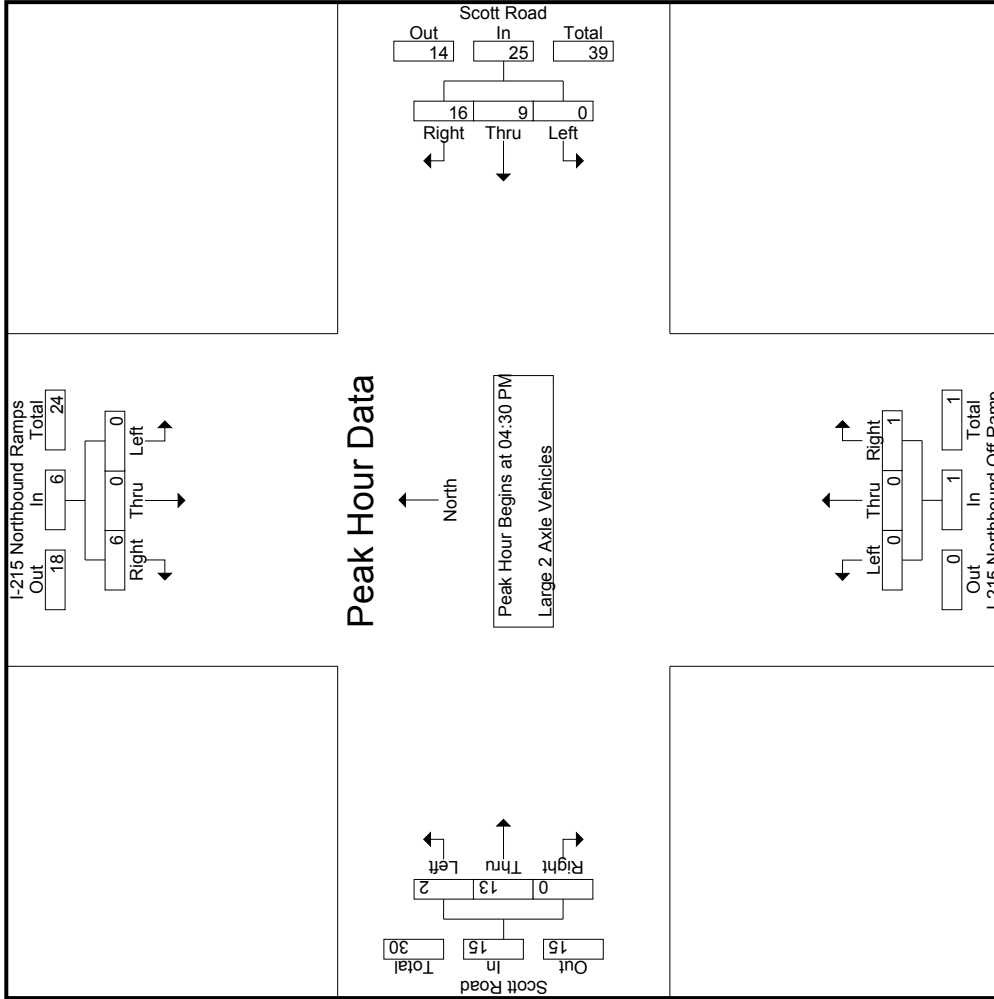
City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Groups Printed- Large 2 Axle Vehicles

Start Time	I-215 Northbound Ramps Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	0	0	1	0	1	0	2	7	2	9	0	0	0	0	0	1	2	11	13
04:15 PM	0	0	2	2	2	0	5	4	1	9	0	0	0	0	6	3	17	20	
04:30 PM	0	0	5	1	5	0	4	4	1	8	0	0	1	0	5	2	19	21	
04:45 PM	0	0	0	0	0	0	2	4	3	6	0	0	0	0	2	3	8	11	
Total	0	0	8	3	8	0	13	19	7	32	0	0	1	0	14	10	55	65	
05:00 PM	0	0	0	0	0	0	2	3	2	5	0	0	0	0	5	2	10	12	
05:15 PM	0	0	1	1	1	0	1	5	0	6	0	0	0	0	3	1	10	11	
05:30 PM	0	0	1	0	1	0	2	4	1	6	0	0	0	0	6	1	13	14	
05:45 PM	0	0	0	0	0	0	0	3	0	3	0	0	1	0	3	0	7	7	
Total	0	0	2	1	2	0	5	15	3	20	0	0	1	0	17	4	40	44	
Grand Total	0	0	10	4	10	0	18	34	10	52	0	0	2	0	31	14	95	109	
% Approach	0	0	100			0	34.6	65.4		54.7	0	0	100		29	71	0		
% Total	0	0	10.5		10.5	0	18.9	35.8		54.7	0	0	2.1		9.5	23.2	0	12.8	87.2

Start Time	I-215 Northbound Ramps Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	0	0	0	0	0	0	4	4	8	8	0	0	1	1	1	0	5	5
04:45 PM	0	0	0	0	0	0	2	4	6	6	0	0	0	0	2	0	2	8
05:00 PM	0	0	0	0	0	0	2	3	5	5	0	0	0	1	4	0	5	10
05:15 PM	0	0	0	0	0	0	1	5	6	6	0	0	0	1	2	0	3	10
Total Volume	0	0	6	6	6	0	9	16	25	25	0	0	1	1	13	0	15	47
% App. Total	0	0	100			0	36	64	100	100	0	0	100		86.7	0	0	0
PHF	.000	.000	.300		.300	.000	.563	.800	.781	.781	.000	.000	.250		.250	.000	.750	.618

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Northbound Ramps Southbound			Scott Road Westbound			I-215 Northbound Off Ramp Northbound			Scott Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:	04:30 PM											
+0 mins.	0	0	5	4	4	8	0	0	1	0	0	5
+15 mins.	0	0	0	2	4	6	0	0	0	0	2	0
+30 mins.	0	0	0	2	3	5	0	0	0	1	4	0
+45 mins.	0	0	1	1	5	6	0	0	0	1	2	0
Total Volume	0	0	6	9	16	25	0	0	1	2	13	0
% App. Total	0	0	100	36	64	100	0	0	100	13.3	86.7	0
PHF	.000	.000	.300	.563	.800	.781	.000	.000	.250	.500	.650	.000
			.300			.781			.250			.750

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
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File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Groups Printed- 3 Axle Vehicles

Start Time	I-215 Northbound Ramps Southbound					Scott Road Westbound					I-215 Northbound Off Ramp Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	1	0	0	2	0	4	4
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
04:30 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	3	3
04:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	0	1	0	1	0	1	3	0	4	0	0	1	0	1	1	3	0	0	4	0	10	10
05:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2	0	0	0	2	1	3	4
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0	2	0	3	3
Total	0	0	0	0	0	0	1	2	1	3	0	0	0	0	0	5	0	0	0	5	1	8	9
Grand Total	0	0	1	0	1	0	2	5	1	7	0	0	1	0	1	6	3	0	0	9	1	18	19
Approch %	0	0	100			0	28.6	71.4		38.9	0	0	100		66.7	33.3	0	0	50	5.3	5.3	94.7	
Total %	0	0	5.6		5.6	0	11.1	27.8		38.9	0	0	5.6		33.3	16.7	0	0	50				

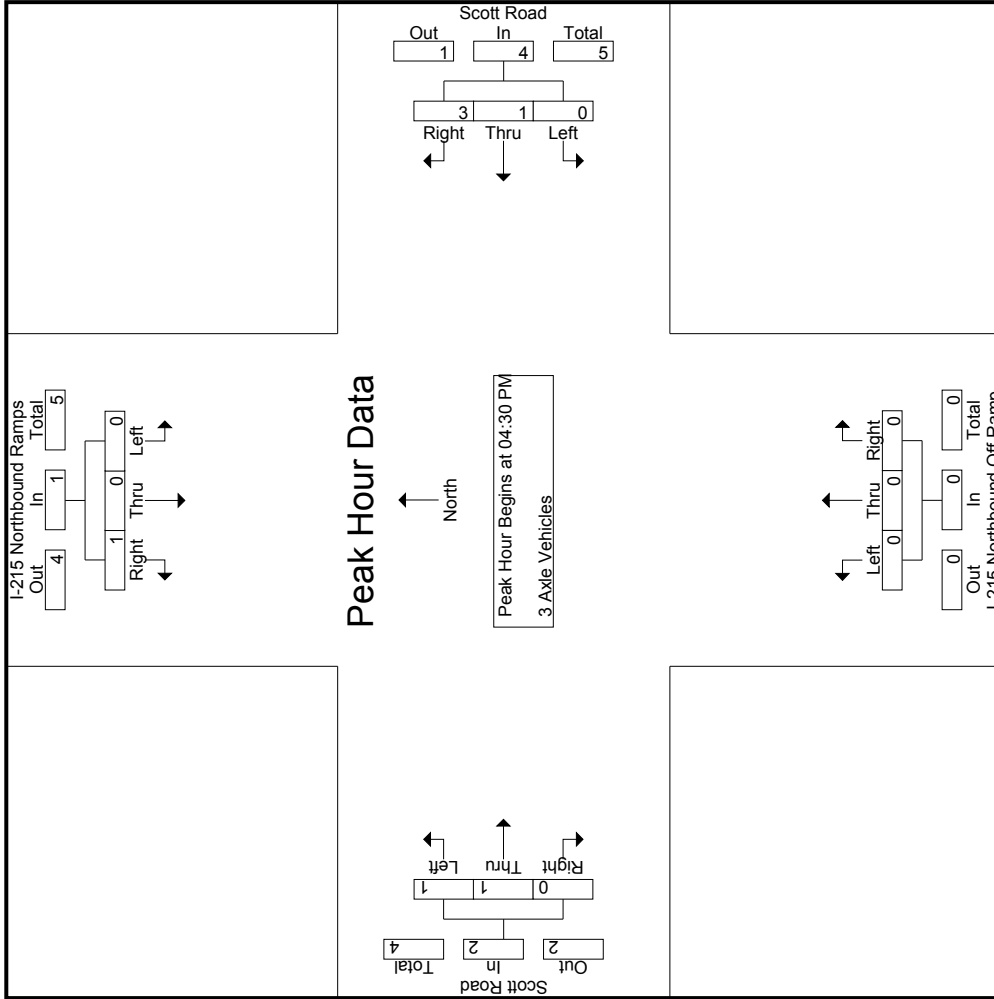
Start Time	I-215 Northbound Ramps Southbound					Scott Road Westbound					I-215 Northbound Off Ramp Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	.000	.000	.000		.250	.000	.000	.250		.375	.500	.000	.000		.000	.250	.250		.500	.000	.500	.583	
PHF																							

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Northbound Ramps Southbound			Scott Road Westbound			I-215 Northbound Off Ramp Northbound			Scott Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:	04:30 PM														
+0 mins.	0	0	1	0	0	1	0	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	0	1	3	0	0	0	0	0	0	1	1	0
% App. Total	0	0	100	0	25	75	0	0	0	0	0	0	50	50	0
PHF	.000	.000	.250	.000	.250	.375	.000	.000	.000	.000	.250	.000	.250	.250	.500

Counts Unlimited, Inc.
 PO Box 1178
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File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Groups Printed- 4+ Axle Trucks

Start Time	I-215 Northbound Ramps Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	1	1	1	0	0	2	2	2	0	0	0	0	0	3	4	7
04:15 PM	0	0	0	0	0	0	0	7	2	7	0	0	0	0	2	2	9	11
04:30 PM	0	0	0	0	0	0	0	10	0	10	0	0	0	0	2	0	12	12
04:45 PM	0	0	0	0	0	0	1	2	1	3	0	0	0	0	1	1	6	7
Total	0	0	1	1	1	0	1	21	5	22	0	0	3	0	5	6	31	37
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1
05:15 PM	0	0	2	1	2	0	1	4	0	5	0	0	0	0	1	1	7	8
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
05:45 PM	0	0	0	0	0	0	0	2	2	2	0	0	0	0	0	2	2	4
Total	0	0	2	1	2	0	1	7	2	8	0	0	0	0	2	3	12	15
Grand Total	0	0	3	2	3	0	2	28	7	30	0	0	3	0	7	9	43	52
% Approach	0	0	100			0	6.7	93.3			42.9	57.1	0	16.3	17.3	82.7		
Total %	0	0	7			0	4.7	65.1			7	9.3	0					

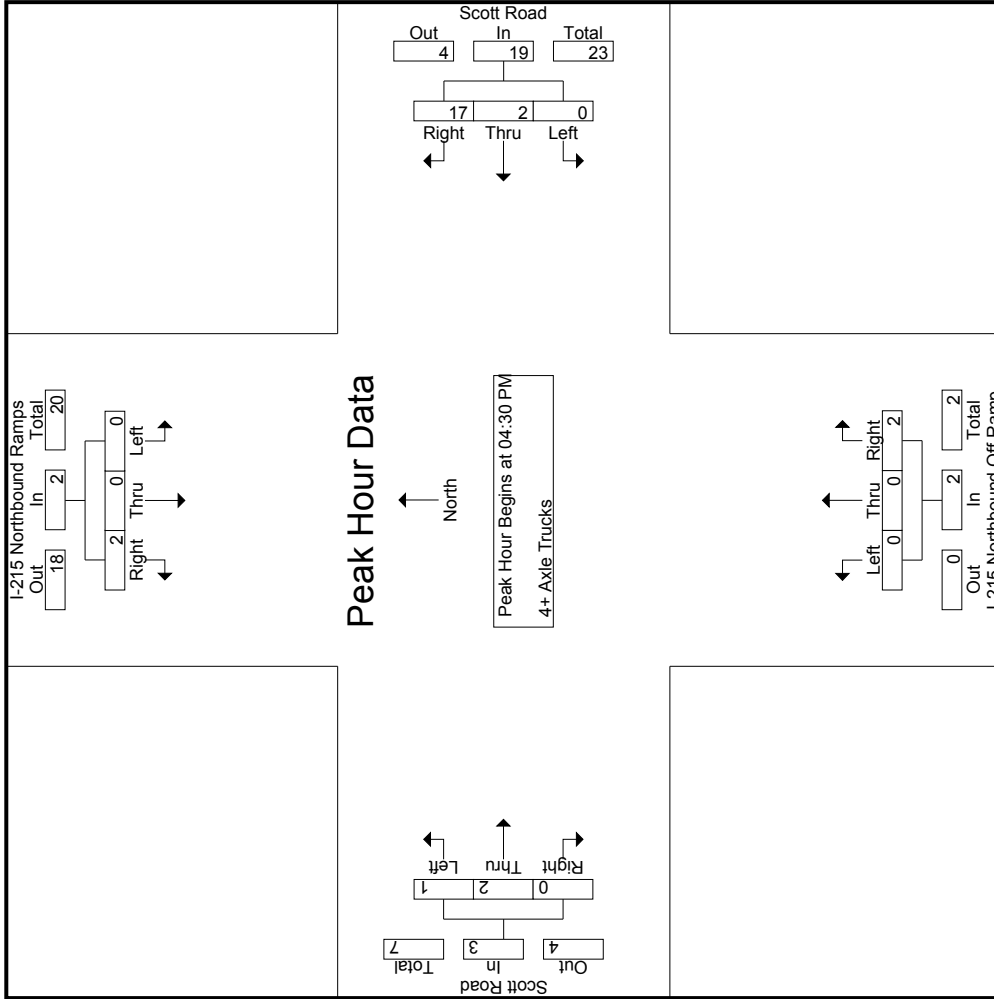
Start Time	I-215 Northbound Ramps Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	0	0	0	0	0	0	0	10	0	10	0	0	0	0	0	0	2	12
04:45 PM	0	0	0	0	0	0	0	2	3	3	0	0	2	1	0	0	1	6
05:00 PM	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	4	5	5	0	0	0	0	0	0	0	7
Total Volume	0	0	2	2	2	0	2	17	19	19	0	0	2	2	2	0	3	26
% App. Total	0	0	100			0	10.5	89.5			33.3	66.7	0					
PHF	.000	.000	.250			.000	.000	.425			.250	.250	.000	.250	.500	.000	.375	.542

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 02_MEN_215N_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

Start Time	I-215 Northbound Ramps Southbound			Scott Road Westbound			I-215 Northbound Off Ramp Northbound			Scott Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:	04:30 PM											
+0 mins.	0	0	0	0	0	10	0	0	0	0	1	0
+15 mins.	0	0	0	0	1	2	0	0	2	0	1	0
+30 mins.	0	0	0	0	0	1	0	0	0	0	0	0
+45 mins.	0	0	2	2	1	4	1	0	0	0	0	0
Total Volume	0	0	2	2	2	17	2	0	2	1	2	0
% App. Total	0	0	100	100	10.5	89.5	0	0	100	33.3	66.7	0
PHF	.000	.000	.250	.250	.000	.425	.000	.000	.250	.250	.500	.000
						.475			.250			.375

Location: Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg I-215 Northbound Ramps	East Leg Scott Road	South Leg I-215 Northbound Ramps	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	1	0	1
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	0	1

	North Leg I-215 Northbound Ramps	East Leg Scott Road	South Leg I-215 Northbound Ramps	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound I-215 Northbound Ramps			Westbound Scott Road			Northbound I-215 Northbound Ramps				Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound I-215 Northbound Ramps			Westbound Scott Road			Northbound I-215 Northbound Ramps				Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Groups Printed- Total Volume

Start Time	Antelope Road Southbound				Scott Road Westbound				Antelope Road Northbound				Scott Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
07:00 AM	5	13	72	53	90	4	125	1	0	130	56	7	10	3	73	20	125	31	19	176	75	469	544
07:15 AM	5	12	80	40	97	8	137	4	0	149	48	10	10	6	68	16	112	65	31	193	77	507	584
07:30 AM	6	17	98	45	121	10	152	4	2	166	79	9	11	8	99	15	121	72	40	208	95	594	689
07:45 AM	8	39	62	33	109	16	111	3	1	130	65	8	8	5	81	24	126	93	42	243	81	563	644
Total	24	81	312	171	417	38	525	12	3	575	248	34	39	22	321	75	484	261	132	820	328	2133	2461
08:00 AM	6	22	62	43	90	10	125	2	1	137	44	8	10	5	62	26	118	66	20	210	69	499	568
08:15 AM	6	20	52	39	78	15	140	4	1	159	58	5	14	10	77	26	101	93	29	220	79	534	613
08:30 AM	7	24	50	41	81	17	115	6	2	138	70	20	9	5	99	26	100	96	53	222	101	540	641
08:45 AM	8	31	51	24	90	21	127	6	2	154	71	16	23	18	110	27	107	76	54	210	98	564	662
Total	27	97	215	147	339	63	507	18	6	588	243	49	56	38	348	105	426	331	156	862	347	2137	2484
Grand Total	51	178	527	318	756	101	1032	30	9	1163	491	83	95	60	669	180	910	592	288	1682	675	4270	4945
% Approach	6.7	23.5	69.7			8.7	88.7	2.6			73.4	12.4	14.2		15.7	10.7	54.1	35.2		39.4			
% Total	1.2	4.2	12.3		17.7	2.4	24.2	0.7		27.2	11.5	1.9	2.2		15.7	4.2	21.3	13.9		39.4	13.7	86.3	

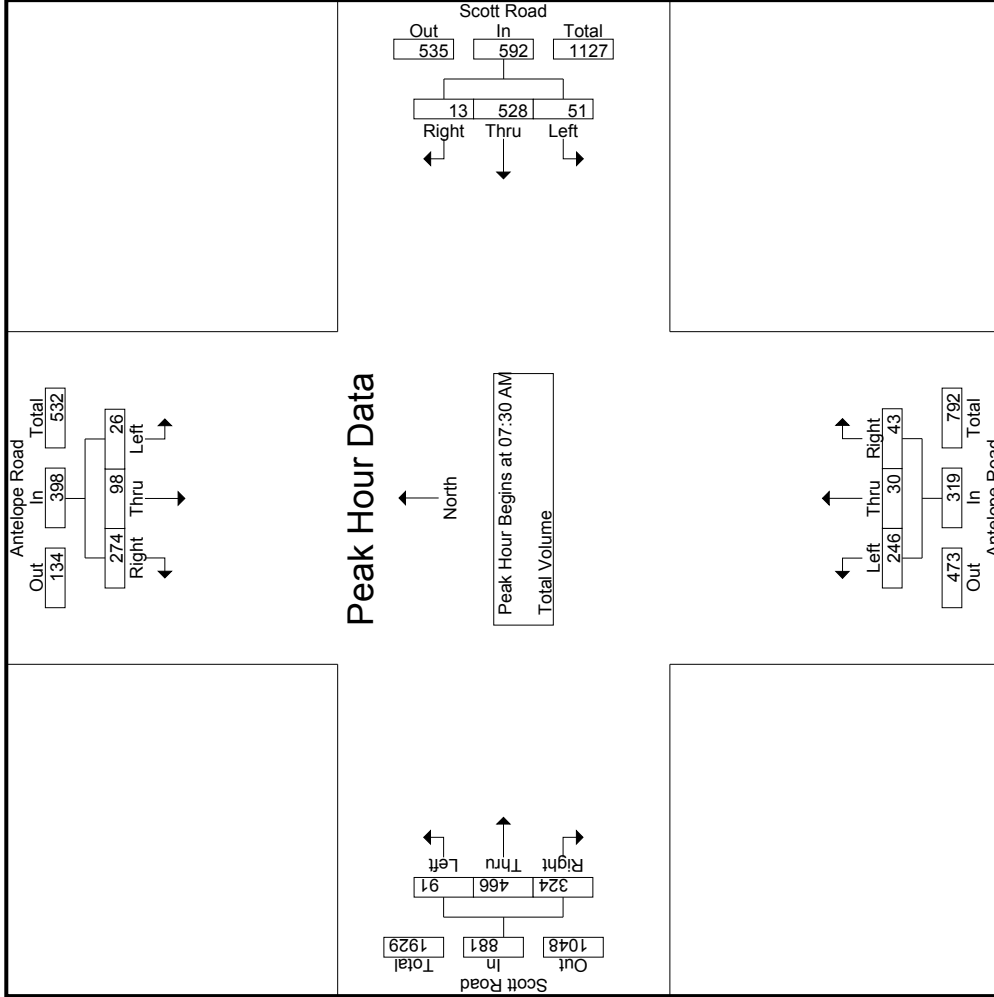
Start Time	Antelope Road Southbound				Scott Road Westbound				Antelope Road Northbound				Scott Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	6	17	98		121	10	152	4		166	79	9	11		99	15	121	72		208			594
07:45 AM	8	39	62		109	16	111	3		130	65	8	8		81	24	126	93		243			563
08:00 AM	6	22	62		90	10	125	2		137	44	8	10		62	26	118	66		210			499
08:15 AM	6	20	52		78	15	140	4		159	58	5	14		77	26	101	93		220			534
Total Volume	26	98	274		398	51	528	13		592	246	30	43		319	91	466	324		881			2190
% App. Total	6.5	24.6	68.8			8.6	89.2	2.2			77.1	9.4	13.5			10.3	52.9	36.8					.922
PHF	.813	.628	.699		.822	.797	.868	.813		.892	.778	.833	.768		.806	.875	.925	.871		.906			

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: Antelope Road
 E/W: Scott Road
 Weather: Clear

File Name : 03_MEN_Ant_Scott AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 03_MEN_Ant_Scott AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: Antelope Road
 E/W: Scott Road
 Weather: Clear

Start Time	Antelope Road Southbound			Scott Road Westbound			Antelope Road Northbound			Scott Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:00 AM				07:30 AM				08:00 AM				07:45 AM			
+0 mins.	5	13	72	90	10	152	4	166	44	8	10	62	24	126	93	243
+15 mins.	5	12	80	97	16	111	3	130	58	5	14	77	26	118	66	210
+30 mins.	6	17	98	121	10	125	2	137	70	20	9	99	26	101	93	220
+45 mins.	8	39	62	109	15	140	4	159	71	16	23	110	26	100	96	222
Total Volume	24	81	312	417	51	528	13	592	243	49	56	348	102	445	348	895
% App. Total	5.8	19.4	74.8	862	8.6	89.2	2.2	69.8	69.8	14.1	16.1	791	11.4	49.7	38.9	921
PHF	.750	.519	.796	.862	.797	.868	.813	.892	.856	.613	.609	.791	.981	.883	.906	.921

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 03_MEN_Ant_Scott PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Menifee
 N/S: Antelope Road
 E/W: Scott Road
 Weather: Clear

Groups Printed- Total Volume

Start Time	Antelope Road Southbound				Scott Road Westbound				Antelope Road Northbound				Scott Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	16	17	44	19	77	25	138	5	0	168	90	34	36	23	160	76	180	71	39	327	81	732	813
04:15 PM	5	14	57	35	76	22	148	6	1	176	100	38	34	19	172	92	165	74	41	331	96	755	851
04:30 PM	9	22	55	35	86	13	190	10	2	213	79	34	24	20	137	92	201	93	47	386	104	822	926
04:45 PM	3	20	44	22	67	9	138	7	3	154	119	50	36	20	205	79	195	81	59	355	104	781	885
Total	33	73	200	111	306	69	614	28	6	711	388	156	130	82	674	339	741	319	186	1399	385	3090	3475
05:00 PM	11	19	52	30	82	16	130	8	1	154	109	34	29	22	172	95	189	78	53	362	106	770	876
05:15 PM	10	28	58	27	96	21	142	5	2	168	88	35	33	26	156	94	219	68	42	381	97	801	898
05:30 PM	7	20	49	27	76	18	153	7	2	178	75	34	23	12	132	76	186	73	34	335	75	721	796
05:45 PM	11	27	44	27	82	19	141	9	2	169	91	44	33	27	168	77	161	82	47	320	103	739	842
Total	39	94	203	111	336	74	566	29	7	669	363	147	118	87	628	342	755	301	176	1398	381	3031	3412
Grand Total	72	167	403	222	642	143	1180	57	13	1380	751	303	248	169	1302	681	1496	620	362	2797	766	6121	6887
% Approach	11.2	26	62.8			10.4	85.5	4.1			57.7	23.3	19		21.3	24.3	53.5	22.2		45.7	11.1	88.9	
% Total	1.2	2.7	6.6		10.5	2.3	19.3	0.9		22.5	12.3	5	4.1		21.3	11.1	24.4	10.1					

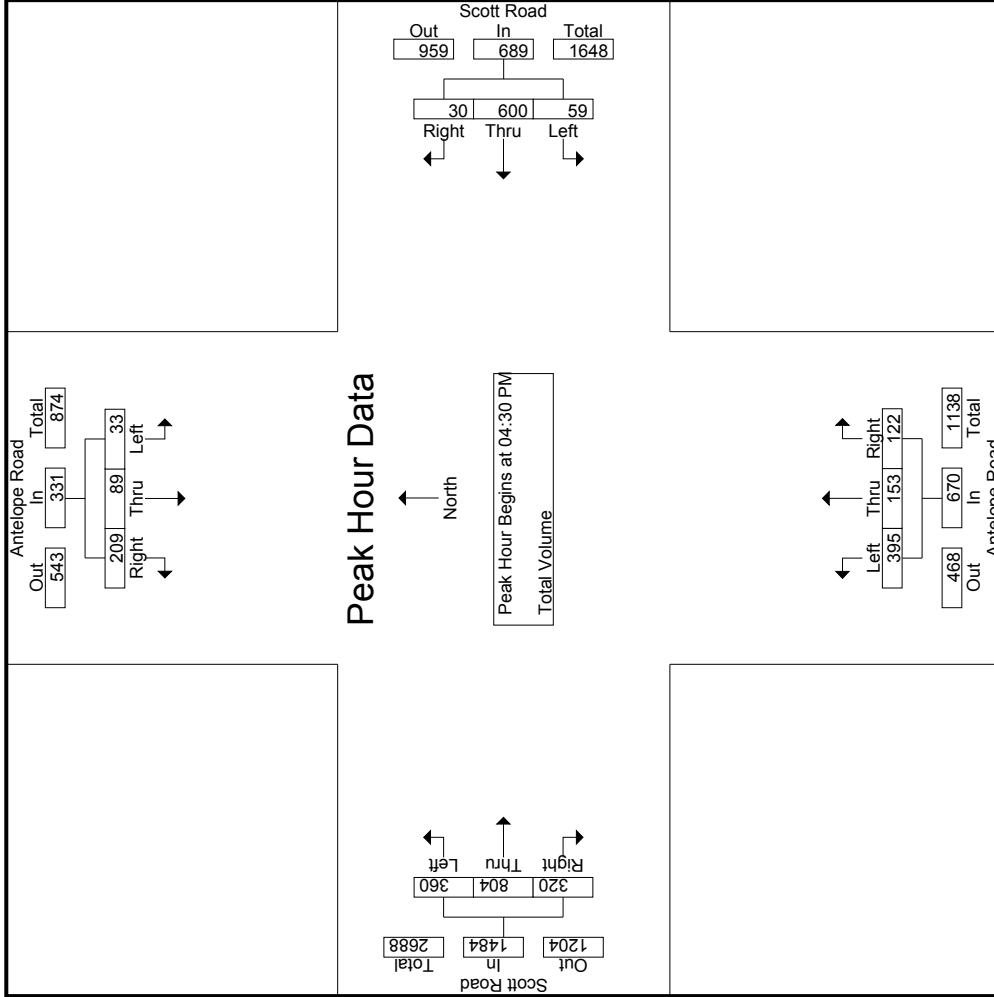
Start Time	Antelope Road Southbound				Scott Road Westbound				Antelope Road Northbound				Scott Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	9	22	55		86	13	190	10		213	79	34	24		137	92	201	93		386			822
04:45 PM	3	20	44		67	9	138	7		154	119	50	36		205	79	195	81		355			781
05:00 PM	11	19	52		82	16	130	8		154	109	34	29		172	95	189	78		362			770
05:15 PM	10	28	58		96	21	142	5		168	88	35	33		156	94	219	68		381			801
Total Volume	33	89	209		331	59	600	30		689	395	153	122		670	360	804	320		1484			3174
% App. Total	10	26.9	63.1		63.1	8.6	87.1	4.4		4.4	59	22.8	18.2		21.6	24.3	54.2	21.6					.965
PHF	.750	.795	.901		.862	.702	.789	.750		.809	.830	.765	.847		.817	.947	.918	.860					

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

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City of Menifee
 N/S: Antelope Road
 E/W: Scott Road
 Weather: Clear

File Name : 03_MEN_Ant_Scott PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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City of Menifee
 N/S: Antelope Road
 E/W: Scott Road
 Weather: Clear

File Name : 03_MEN_Ant_Scott PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Antelope Road Southbound			Scott Road Westbound			Antelope Road Northbound			Scott Road Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	05:00 PM			04:00 PM			04:15 PM			04:30 PM				
+0 mins.	11	19	52	25	138	5	168	100	38	34	172	201	93	386
+15 mins.	10	28	58	22	148	6	176	79	34	24	137	195	81	355
+30 mins.	7	20	49	13	190	10	213	119	50	36	205	189	78	362
+45 mins.	11	27	44	9	138	7	154	109	34	29	172	219	68	381
Total Volume	39	94	203	69	614	28	711	407	156	123	686	804	320	1484
% App. Total	11.6	28	60.4	9.7	86.4	3.9	59.3	59.3	22.7	17.9	24.3	54.2	21.6	
PHF	.886	.839	.875	.690	.808	.700	.835	.855	.780	.854	.837	.918	.860	.961

Location: Menifee
 N/S: Antelope Road
 E/W: Scott Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Antelope Road	East Leg Scott Road	South Leg Antelope Road	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Antelope Road	East Leg Scott Road	South Leg Antelope Road	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Menifee
 N/S: Antelope Road
 E/W: Scott Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Antelope Road			Westbound Scott Road			Northbound Antelope Road			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Antelope Road			Westbound Scott Road			Northbound Antelope Road			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	1	0	0	0	0	0	0	0	0	2

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File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

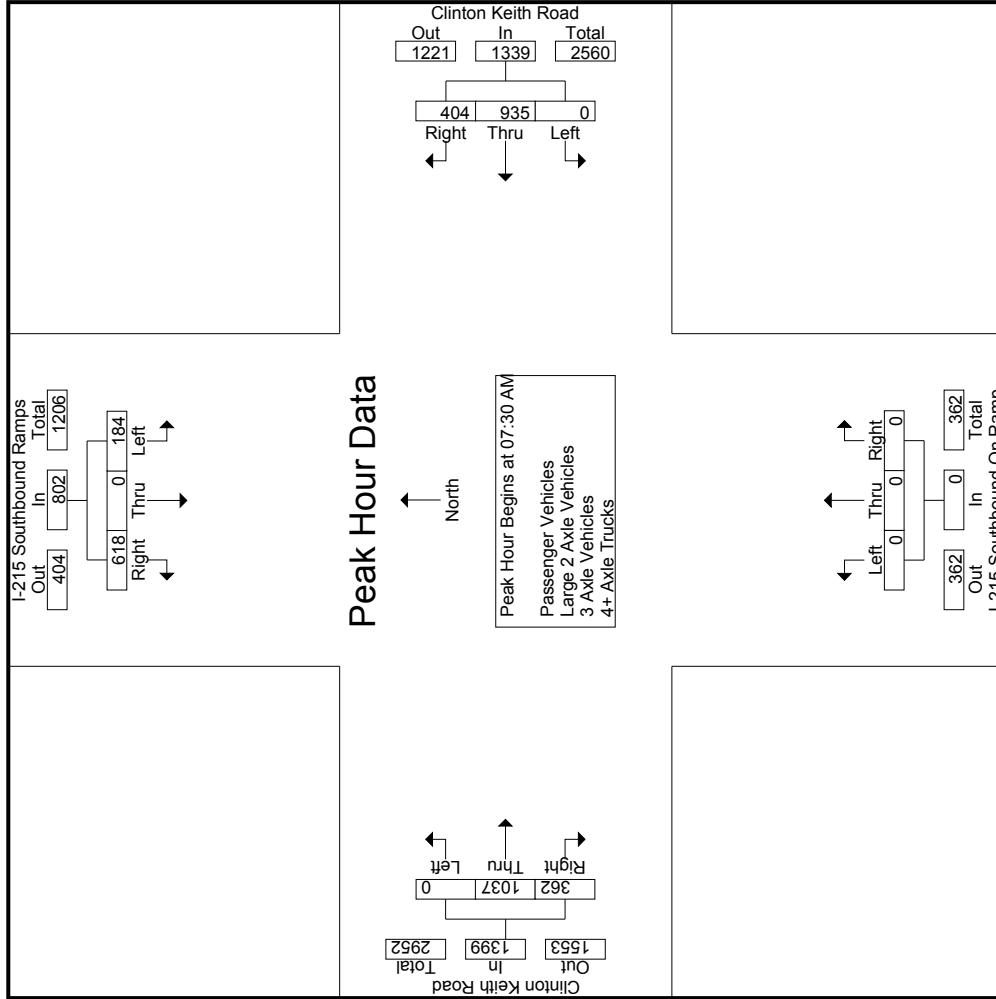
City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-215 Southbound Ramps Southbound						Clinton Keith Road Westbound						I-215 Southbound On Ramp Northbound						Clinton Keith Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total
	07:00 AM	42	0	93	59	135	0	122	74	0	196	0	0	0	0	0	255	76	18	331	77	662	739	
07:15 AM	59	0	133	83	192	0	168	119	0	287	0	0	0	0	0	260	85	20	345	103	824	927		
07:30 AM	36	0	125	82	161	0	202	108	0	310	0	0	0	0	0	278	90	12	368	94	839	933		
07:45 AM	49	0	157	100	206	0	260	81	0	341	0	0	0	0	0	232	75	21	307	121	854	975		
Total	186	0	508	324	694	0	752	382	0	1134	0	0	0	0	0	1025	326	71	1351	395	3179	3574		
08:00 AM	56	0	191	84	247	0	244	100	0	344	0	0	0	0	0	253	94	21	347	105	938	1043		
08:15 AM	43	0	145	48	188	0	229	115	0	344	0	0	0	0	0	274	103	24	377	72	909	981		
08:30 AM	36	0	96	50	132	0	237	107	0	344	0	0	0	0	0	182	97	15	279	65	755	820		
08:45 AM	23	0	118	86	141	0	201	112	0	313	0	0	0	0	0	191	95	17	286	103	740	843		
Total	158	0	550	268	708	0	911	434	0	1345	0	0	0	0	0	900	389	77	1289	345	3342	3687		
Grand Total	344	0	1058	592	1402	0	1663	816	0	2479	0	0	0	0	0	1925	715	148	2640	740	6521	7261		
% Approach	24.5	0	75.5			0	67.1	32.9	0		0	0	0	0	0	72.9	27.1							
% Total	5.3	0	16.2		21.5	0	25.5	12.5	0	38	0	0	0	0	0	29.5	11		40.5	10.2	89.8			
Passenger Vehicles	319	0	1010		1897	0	1632	785	0	2417	0	0	0	0	0	1890	687		2716	0	0	7030		
Large 2 Axle Vehicles	92.7	0	95.5	95.9	95.1	0	98.1	96.2	0	97.5	0	0	0	0	0	98.2	96.1	93.9	97.4	0	0	96.8		
% Large 2 Axle Vehicles	14	0	38		73	0	18	16	0	34	0	0	0	0	0	27	12		43	0	0	150		
% 3 Axle Vehicles	4.1	0	3.6	3.5	3.7	0	1.1	2	0	1.4	0	0	0	0	0	1.4	1.7	2.7	1.5	0	0	2.1		
% 3 Axle Vehicles	6	0	7		14	0	9	12	0	21	0	0	0	0	0	5	5		12	0	0	47		
% 4+ Axle Trucks	1.7	0	0.7	0.2	0.7	0	0.5	1.5	0	0.8	0	0	0	0	0	0.3	0.7	1.4	0.4	0	0	0.6		
% 4+ Axle Trucks	5	0	3		10	0	4	3	0	7	0	0	0	0	0	3	11		17	0	0	34		
% 4+ Axle Trucks	1.5	0	0.3	0.3	0.5	0	0.2	0.4	0	0.3	0	0	0	0	0	0.2	1.5	2	0.6	0	0	0.5		

Start Time	I-215 Southbound Ramps Southbound						Clinton Keith Road Westbound						I-215 Southbound On Ramp Northbound						Clinton Keith Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total
	07:30 AM	36	0	125		161	0	202	108	0	310	0	0	0	0	0	278	90		368	90	368	839	
07:45 AM	49	0	157		206	0	260	81	0	341	0	0	0	0	0	232	75		307	75	307	854		
08:00 AM	56	0	191		247	0	244	100	0	344	0	0	0	0	0	253	94		347	94	347	938		
08:15 AM	43	0	145		188	0	229	115	0	344	0	0	0	0	0	274	103		377	72	377	981		
Total Volume	184	0	618		802	0	935	404	0	1339	0	0	0	0	0	1037	362		1399	362	1399	3540		
% App. Total	22.9	0	77.1		812	0	69.8	30.2	0	973	0	0	0	0	0	74.1	25.9		928	25.9	928	943		
PHF	.821	.000	.809		.812	.000	.899	.878	.000	.973	.000	.000	.000	.000	.000	.933	.879		.928	.879	.928	.943		

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM



Counts Unlimited, Inc.
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File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Clinton Keith Road Westbound			I-215 Southbound On Ramp Northbound			Clinton Keith Road Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
+0 mins.	59	0	133	0	260	81	0	341	0	0	0	0	278	90
+15 mins.	36	0	125	0	244	100	0	344	0	0	0	0	232	75
+30 mins.	49	0	157	0	229	115	0	344	0	0	0	0	253	94
+45 mins.	56	0	191	0	237	107	0	344	0	0	0	0	274	103
Total Volume	200	0	606	0	970	403	0	1373	0	0	0	0	1037	362
% App. Total	24.8	0	75.2	0	70.6	29.4	0	998	0	0	0	0	74.1	25.9
PHF	.847	.000	.793	.000	.933	.876	.000	.998	.000	.000	.000	.000	.933	.879

Counts Unlimited, Inc.
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File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- Passenger Vehicles

Start Time	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	36	0	87	57	123	0	122	71	0	193	0	0	0	0	0	72	637	709
07:15 AM	54	0	126	79	180	0	162	118	0	280	0	0	0	0	0	98	796	894
07:30 AM	36	0	121	79	157	0	200	104	0	304	0	0	0	0	0	91	822	913
07:45 AM	45	0	154	98	199	0	257	77	0	334	0	0	0	0	0	119	836	955
Total	171	0	488	313	659	0	741	370	0	1111	0	0	0	0	0	380	3091	3471
08:00 AM	53	0	177	81	230	0	235	96	0	331	0	0	0	0	0	102	903	1005
08:15 AM	42	0	139	46	181	0	227	113	0	340	0	0	0	0	0	67	885	952
08:30 AM	32	0	94	48	126	0	233	102	0	335	0	0	0	0	0	61	734	795
08:45 AM	21	0	112	80	133	0	196	104	0	300	0	0	0	0	0	97	710	807
Total	148	0	522	255	670	0	891	415	0	1306	0	0	0	0	0	327	3232	3559
Grand Total	319	0	1010	568	1329	0	1632	785	0	2417	0	0	0	0	0	707	6323	7030
% Approach	24	0	76			0	67.5	32.5		38.2	0	0	0	0		10.1	89.9	
% Total	5	0	16		21	0	25.8	12.4			0	0	0	0				

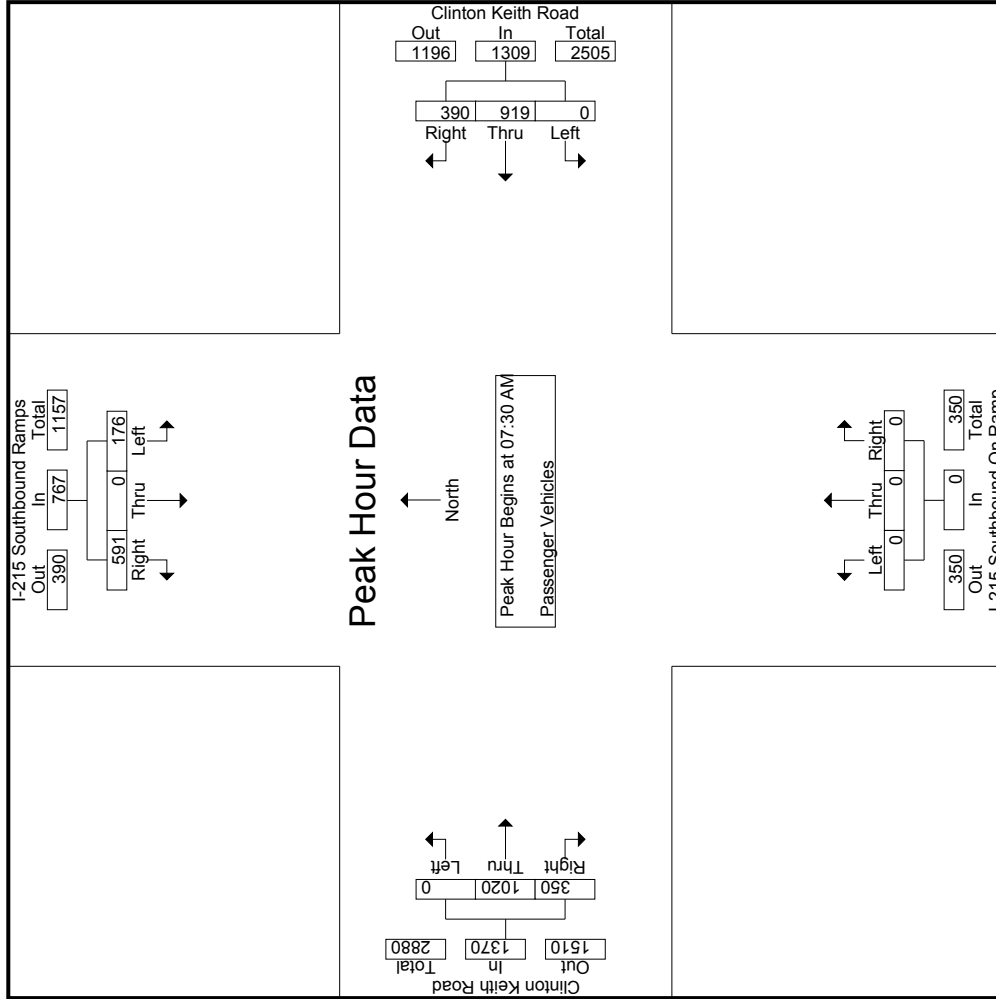
Start Time	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	36	0	121		157	0	200	104		304	0	0	0	0	0	87	361	822
07:45 AM	45	0	154		199	0	257	77		334	0	0	0	0	0	74	303	836
08:00 AM	53	0	177		230	0	235	96		331	0	0	0	0	0	94	342	903
08:15 AM	42	0	139		181	0	227	113		340	0	0	0	0	0	95	364	885
Total Volume	176	0	591		767	0	919	390		1309	0	0	0	0	0	350	1370	3446
% App. Total	22.9	0	77.1			0	70.2	29.8			0	0	0	0	0	25.5	94.1	
PHF	.830	.000	.835		.834	.000	.894	.863		.963	.000	.000	.000	.000	.931	.921	.941	.954

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
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City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 2



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File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Clinton Keith Road Westbound			I-215 Southbound On Ramp Northbound			Clinton Keith Road Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:	07:30 AM													
+0 mins.	36	0	121	0	200	104	0	304	0	0	0	0	274	87
+15 mins.	45	0	154	0	257	77	0	334	0	0	0	0	229	74
+30 mins.	53	0	177	0	235	96	0	331	0	0	0	0	248	94
+45 mins.	42	0	139	0	227	113	0	340	0	0	0	0	269	95
Total Volume	176	0	591	0	919	390	0	1309	0	0	0	0	1020	350
% App. Total	22.9	0	77.1	0	70.2	29.8	0	0	0	0	0	0	74.5	25.5
PHF	.830	.000	.835	.000	.894	.863	.963	.963	.000	.000	.000	.000	.931	.921

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File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- Large 2-Axle Vehicles

Start Time	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
07:00 AM	3	0	4	2	7	0	0	2	0	2	0	0	0	0	0	0	1	3	2	4	4	13	17
07:15 AM	3	0	6	3	9	0	4	1	0	5	0	0	0	0	0	0	5	1	0	6	3	20	23
07:30 AM	0	0	3	2	3	0	2	3	0	5	0	0	0	0	0	0	4	2	0	6	2	14	16
07:45 AM	3	0	3	2	6	0	2	2	0	4	0	0	0	0	0	0	2	1	0	3	2	13	15
Total	9	0	16	9	25	0	8	8	0	16	0	0	0	0	0	0	12	7	2	19	11	60	71
08:00 AM	1	0	9	3	10	0	3	1	0	4	0	0	0	0	0	0	2	0	0	2	3	16	19
08:15 AM	1	0	6	2	7	0	2	1	0	3	0	0	0	0	0	0	5	2	1	7	3	17	20
08:30 AM	2	0	1	1	3	0	4	3	0	7	0	0	0	0	0	0	2	3	1	5	2	15	17
08:45 AM	1	0	6	6	7	0	1	3	0	4	0	0	0	0	0	0	6	0	0	6	6	17	23
Total	5	0	22	12	27	0	10	8	0	18	0	0	0	0	0	0	15	5	2	20	14	65	79
Grand Total	14	0	38	21	52	0	18	16	0	34	0	0	0	0	0	0	27	12	4	39	25	125	150
Approch %	26.9	0	73.1			0	52.9	47.1			0	0	0			0	69.2	30.8		31.2	16.7	83.3	
Total %	11.2	0	30.4		41.6	0	14.4	12.8		27.2	0	0	0			0	21.6	9.6					

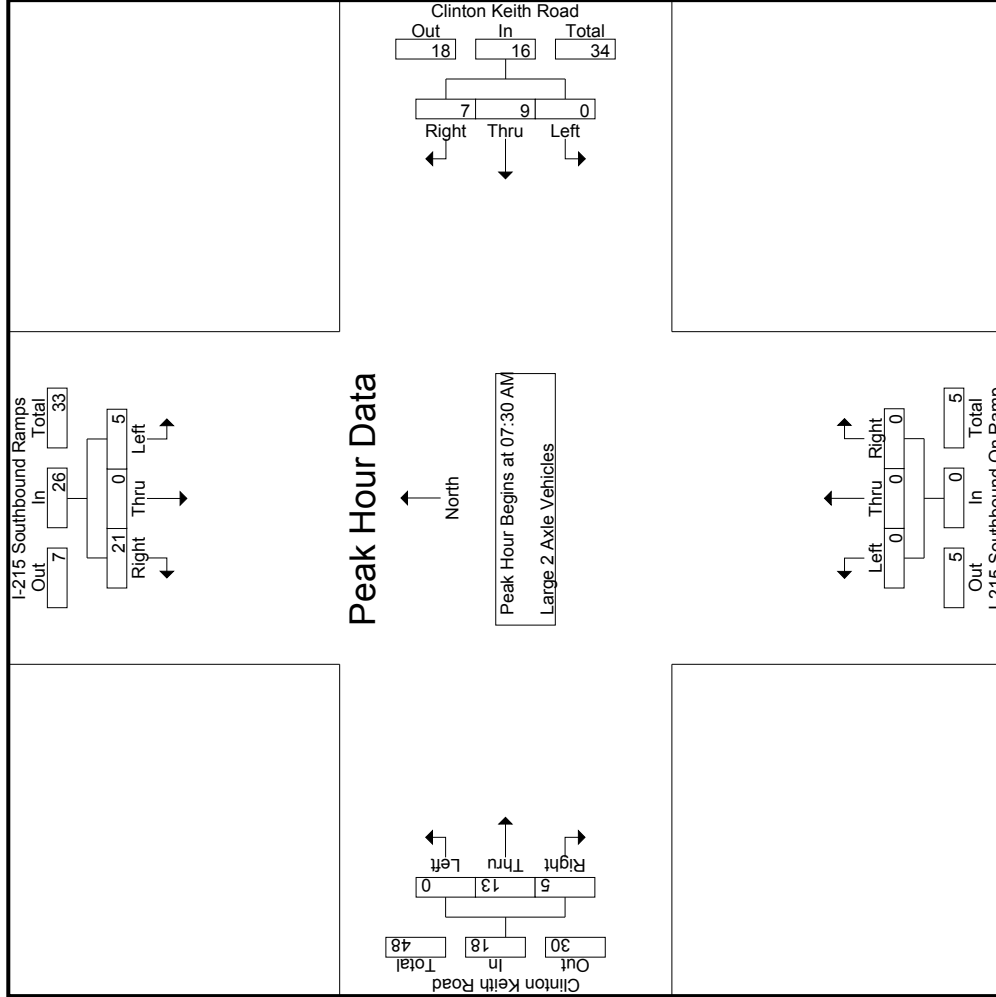
Start Time	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
07:30 AM	0	0	3		3	0	2	3		5	0	0	0		0	0	4	2		6	2	6	14
07:45 AM	3	0	3		6	0	2	2		4	0	0	0		0	0	2	1		3	1	3	13
08:00 AM	1	0	9		10	0	3	1		4	0	0	0		0	0	2	0		2	0	2	16
08:15 AM	1	0	6		7	0	2	2		3	0	0	0		0	0	5	2		7	2	7	17
Total Volume	5	0	21		26	0	9	7		16	0	0	0		0	0	13	5		18	5	18	60
% App. Total	19.2	0	80.8			0	56.2	43.8			0	0	0		0	0	72.2	27.8					
PHF	.417	.000	.583		.650	.000	.750	.583		.800	.000	.000	.000		.000	.000	.650	.625		.643	.625	.643	.882

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 2

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear



Counts Unlimited, Inc.
 PO Box 1178
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File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Clinton Keith Road Westbound			I-215 Southbound On Ramp Northbound			Clinton Keith Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	3	0	2	3	0	0	0	0	0	0
+15 mins.	3	0	3	0	2	2	0	0	0	0	0	0
+30 mins.	1	0	9	0	3	1	0	0	0	0	0	0
+45 mins.	1	0	6	0	2	1	0	0	0	0	0	0
Total Volume	5	0	21	0	9	7	0	0	0	0	0	0
% App. Total	19.2	0	80.8	0	56.2	43.8	0	0	0	0	0	0
PHF	.417	.000	.583	.000	.750	.583	.000	.000	.000	.000	.650	.625
			.650			.800			.000			.643

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- 3 Axle Vehicles

Start Time	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	0	2	0	4	0	0	1	0	1	0	0	0	0	0	0	1	1	1	2	1	7	8
07:15 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	2	1	1	3	1	6	7
07:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	2	2
07:45 AM	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	0	4	4
Total	4	0	2	0	6	0	3	3	0	6	0	0	0	0	0	4	3	2	7	2	19	21	
08:00 AM	0	0	4	0	4	0	3	2	0	5	0	0	0	0	0	1	0	0	1	0	0	10	10
08:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0	2	0	0	3	3
08:30 AM	2	0	1	1	3	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	5	6
08:45 AM	0	0	0	0	0	0	3	4	0	7	0	0	0	0	0	0	0	0	0	0	0	7	7
Total	2	0	5	1	7	0	6	9	0	15	0	0	0	0	0	1	2	0	3	1	25	26	
Grand Total	6	0	7	1	13	0	9	12	0	21	0	0	0	0	0	5	5	2	10	3	44	47	
% Approach	46.2	0	53.8			0	42.9	57.1		47.7	0	0	0	0	0	50	50		22.7	6.4	93.6		
% Total	13.6	0	15.9		29.5	0	20.5	27.3			0	0	0	0	0	11.4	11.4						

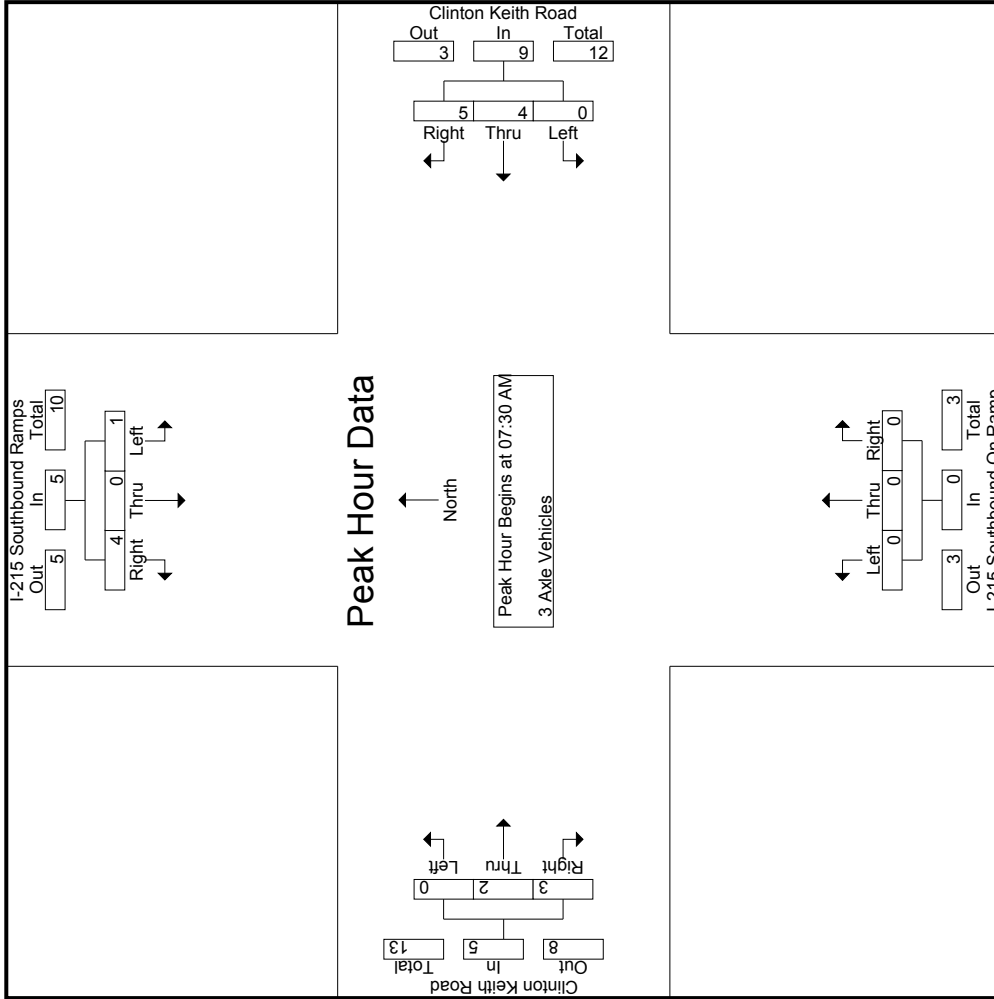
Start Time	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2
07:45 AM	1	0	0	0	1	0	1	1	2	2	0	0	0	0	0	0	1	0	0	0	0	1	4
08:00 AM	0	0	0	4	4	0	3	2	5	5	0	0	0	0	0	0	1	0	0	0	0	1	10
08:15 AM	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	2	2	3
Total Volume	1	0	4	4	5	0	4	5	9	9	0	0	0	0	0	0	2	3	5	19			
% App. Total	.250	.000	.250	.313	.313	.000	.333	.625	.450	.450	.000	.000	.000	.000	.000	.000	.500	.375	.625	.475			
PHF																							

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
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 (951)268-6268

File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Clinton Keith Road Westbound			I-215 Southbound On Ramp Northbound			Clinton Keith Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	1	0	0	0	0	0	1
+15 mins.	1	0	0	0	1	1	0	0	0	0	1	0
+30 mins.	0	0	4	0	3	2	0	0	0	0	1	0
+45 mins.	0	0	0	0	0	1	0	0	0	0	0	2
Total Volume	1	0	4	0	4	5	0	0	0	0	2	3
% App. Total	20	0	80	0	44.4	55.6	0	0	0	0	40	60
PHF	.250	.000	.250	.000	.333	.625	.000	.000	.000	.000	.500	.375
			.313		.450						.625	

Counts Unlimited, Inc.
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File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- 4+ Axle Trucks

Start Time	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	0	5	5
07:15 AM	1	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
07:30 AM	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
07:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	2	0	2	2	4	0	0	1	0	1	0	0	0	0	0	0	1	3	0	4	2	9	11
08:00 AM	2	0	1	0	3	0	3	1	0	4	0	0	0	0	0	0	2	0	0	2	0	9	9
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	4	2	4	6
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2
08:45 AM	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	0	3	0	3	0	6	6
Total	3	0	1	0	4	0	4	2	0	6	0	0	0	0	0	0	2	8	3	10	3	20	23
Grand Total	5	0	3	2	8	0	4	3	0	7	0	0	0	0	0	0	3	11	3	14	5	29	34
Approch %	62.5	0	37.5			0	57.1	42.9		24.1	0	0	0	0	0	0	21.4	78.6		48.3	14.7	85.3	
Total %	17.2	0	10.3		27.6	0	13.8	10.3			0	0	0	0	0	0	10.3	37.9					

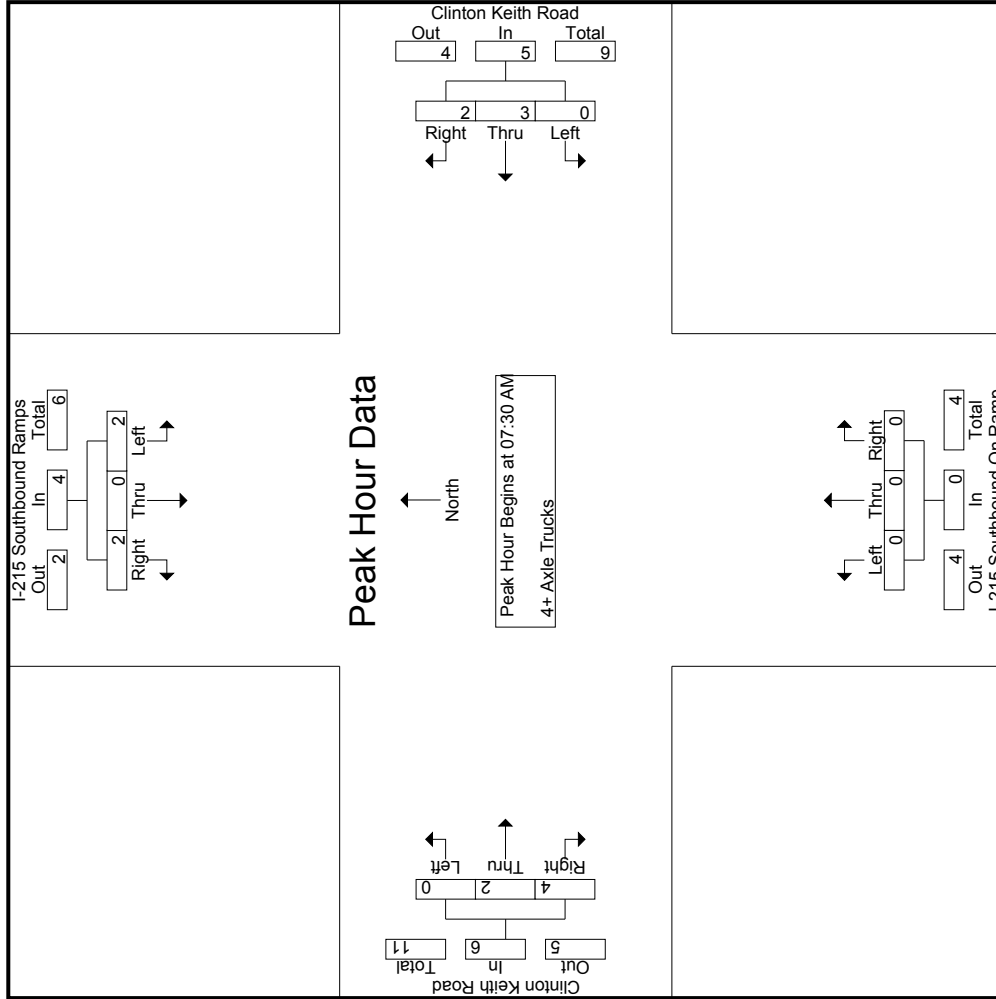
Start Time	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	2	0	0	0	2	0	3	1	0	4	0	0	0	0	0	0	2	0	0	2	0	2	9
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
Total Volume	2	0	0	0	2	0	3	2	0	5	0	0	0	0	0	0	2	4	0	6	0	6	15
% App. Total	.250	.000	.500		.333	.000	.250	.500		.313	.000	.000	.000	.000	.000	.000	.250	.250		.375	.250	.417	
PHF																							

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

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File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 2

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

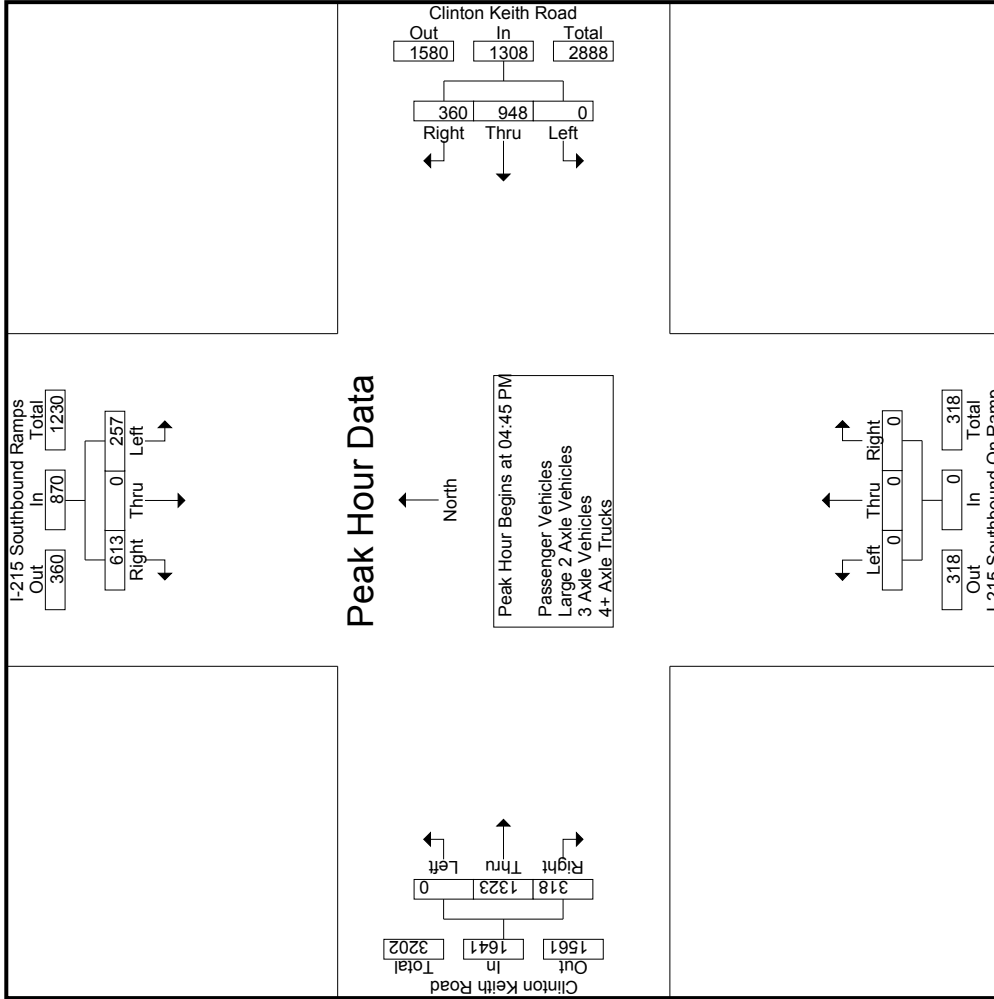
Start Time	I-215 Southbound Ramps Southbound			Clinton Keith Road Westbound			I-215 Southbound On Ramp Northbound			Clinton Keith Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:	07:30 AM											
+0 mins.	0	0	1	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	0	0	0	0	0
+30 mins.	2	0	1	0	3	1	0	0	0	0	2	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	2	0	2	0	3	2	0	0	0	0	2	4
% App. Total	50	0	50	0	60	40	0	0	0	0	33.3	66.7
PHF	.250	.000	.500	.000	.250	.500	.000	.000	.000	.000	.250	.250
			.333			.313			.000			.375

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-215 Southbound Ramps Southbound						Clinton Keith Road Westbound						I-215 Southbound On Ramp Northbound						Clinton Keith Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total
	04:00 PM	97	0	251	68	348	0	208	43	0	251	0	0	0	0	0	358	69	14	427	82	1026	1108	
04:15 PM	53	0	133	63	186	0	233	59	0	292	0	0	0	0	0	338	72	16	410	79	888	967		
04:30 PM	51	0	145	91	196	0	258	63	0	321	0	0	0	0	0	308	78	11	386	102	903	1005		
04:45 PM	66	0	171	81	237	0	255	83	0	338	0	0	0	0	0	342	80	10	422	91	997	1088		
Total	267	0	700	303	967	0	954	248	0	1202	0	0	0	0	0	1346	299	51	1645	354	3814	4168		
05:00 PM	49	0	132	83	181	0	240	99	0	339	0	0	0	0	0	311	73	8	384	91	904	995		
05:15 PM	63	0	177	116	240	0	221	103	0	324	0	0	0	0	0	350	78	17	428	133	992	1125		
05:30 PM	79	0	133	81	212	0	232	75	0	307	0	0	0	0	0	320	87	15	407	96	926	1022		
05:45 PM	63	0	144	92	207	0	245	85	0	330	0	0	0	0	0	313	73	6	386	98	923	1021		
Total	254	0	586	372	840	0	938	362	0	1300	0	0	0	0	0	1294	311	46	1605	418	3745	4163		
Grand Total	521	0	1286	675	1807	0	1892	610	0	2502	0	0	0	0	0	2640	610	97	3250	772	7559	8331		
% Approach	28.8	0	71.2			0	75.6	24.4			0	0	0	0	0	81.2	18.8							
% Total	6.9	0	17			0	25	8.1			0	0	0	0	0	34.9	8.1							
Passenger Vehicles	511	0	1275			0	1879	604			0	0	0	0	0	2605	605							
% Passenger Vehicles	98.1	0	99.1	99.6		0	99.3	99	0	99.2	0	0	0	0	0	98.7	99.2	100	98.8	0	0	0	0	
Large 2 Axle Vehicles	1.7	0	9	0.3	0.8	0	12	4	0	16	0	0	0	0	0	30	4	34	0	0	0	0	0	
% Large 2 Axle Vehicles	0.3	0	0.7			0	0.6	0.7	0	0.6	0	0	0	0	0	1.1	0.7	1	0.8	0	0	0	0	
3 Axle Vehicles	1	0	1			0	1	2	0	3	0	0	0	0	0	5	1	6	0	0	0	0	0	
% 3 Axle Vehicles	0.2	0	0.1			0	0.1	0.3	0	0.1	0	0	0	0	0	0.2	0.2	0	0.2	0	0	0	0	
4+ Axle Trucks	0	0	1			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% 4+ Axle Trucks	0	0	0.1			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Start Time	I-215 Southbound Ramps Southbound						Clinton Keith Road Westbound						I-215 Southbound On Ramp Northbound						Clinton Keith Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total
	04:45 PM	66	0	171			0	255	83			0	0	0	0	0	338							
05:00 PM	49	0	132			0	240	99			0	0	0	0	0	339								
05:15 PM	63	0	177			0	221	103			0	0	0	0	0	324								
05:30 PM	79	0	133			0	232	75			0	0	0	0	0	307								
Total	257	0	613			0	948	360			0	0	0	0	0	1308								
% App. Total	29.5	0	70.5			0	72.5	27.5			0	0	0	0	0	80.6								
PHF	.813	.000	.866			.906	.929	.874			.965	.000	.000	.000	.945	.914	.959							

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM



Counts Unlimited, Inc.
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File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Clinton Keith Road Westbound			I-215 Southbound On Ramp Northbound			Clinton Keith Road Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
+0 mins.	97	0	251	0	258	63	0	321	0	0	0	0	358	69
+15 mins.	53	0	133	0	255	83	0	338	0	0	0	0	338	72
+30 mins.	51	0	145	0	240	99	0	339	0	0	0	0	308	78
+45 mins.	66	0	171	0	221	103	0	324	0	0	0	0	342	80
Total Volume	267	0	700	0	974	348	0	1322	0	0	0	0	1346	299
% App. Total	27.6	0	72.4	0	73.7	26.3	0	0	0	0	0	0	81.8	18.2
PHF	.688	.000	.697	.000	.944	.845	.000	.975	.000	.000	.000	.000	.940	.934

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File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- Passenger Vehicles

Start Time	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	95	0	244	68	339	0	207	43	0	250	0	0	0	0	0	0	355	68	14	423	82	1012	1094
04:15 PM	53	0	133	63	186	0	231	57	0	288	0	0	0	0	0	0	335	72	16	407	79	881	960
04:30 PM	49	0	144	90	193	0	254	63	0	317	0	0	0	0	0	0	300	78	11	378	101	888	989
04:45 PM	66	0	170	81	236	0	253	83	0	336	0	0	0	0	0	0	336	79	10	415	91	987	1078
Total	263	0	691	302	954	0	945	246	0	1191	0	0	0	0	0	0	1326	297	51	1623	353	3768	4121
05:00 PM	47	0	131	82	178	0	238	98	0	336	0	0	0	0	0	0	309	72	8	381	90	895	985
05:15 PM	61	0	177	116	238	0	220	102	0	322	0	0	0	0	0	0	346	76	17	422	133	982	1115
05:30 PM	77	0	133	81	210	0	232	74	0	306	0	0	0	0	0	0	317	87	15	404	96	920	1016
05:45 PM	63	0	143	91	206	0	244	84	0	328	0	0	0	0	0	0	307	73	6	380	97	914	1011
Total	248	0	584	370	832	0	934	358	0	1292	0	0	0	0	0	0	1279	308	46	1587	416	3711	4127
Grand Total	511	0	1275	672	1786	0	1879	604	0	2483	0	0	0	0	0	0	2605	605	97	3210	769	7479	8248
Approach %	28.6	0	71.4			0	75.7	24.3			0	0	0			0	81.2	18.8		42.9	9.3	90.7	
Total %	6.8	0	17		23.9	0	25.1	8.1		33.2	0	0	0			0	34.8	8.1					

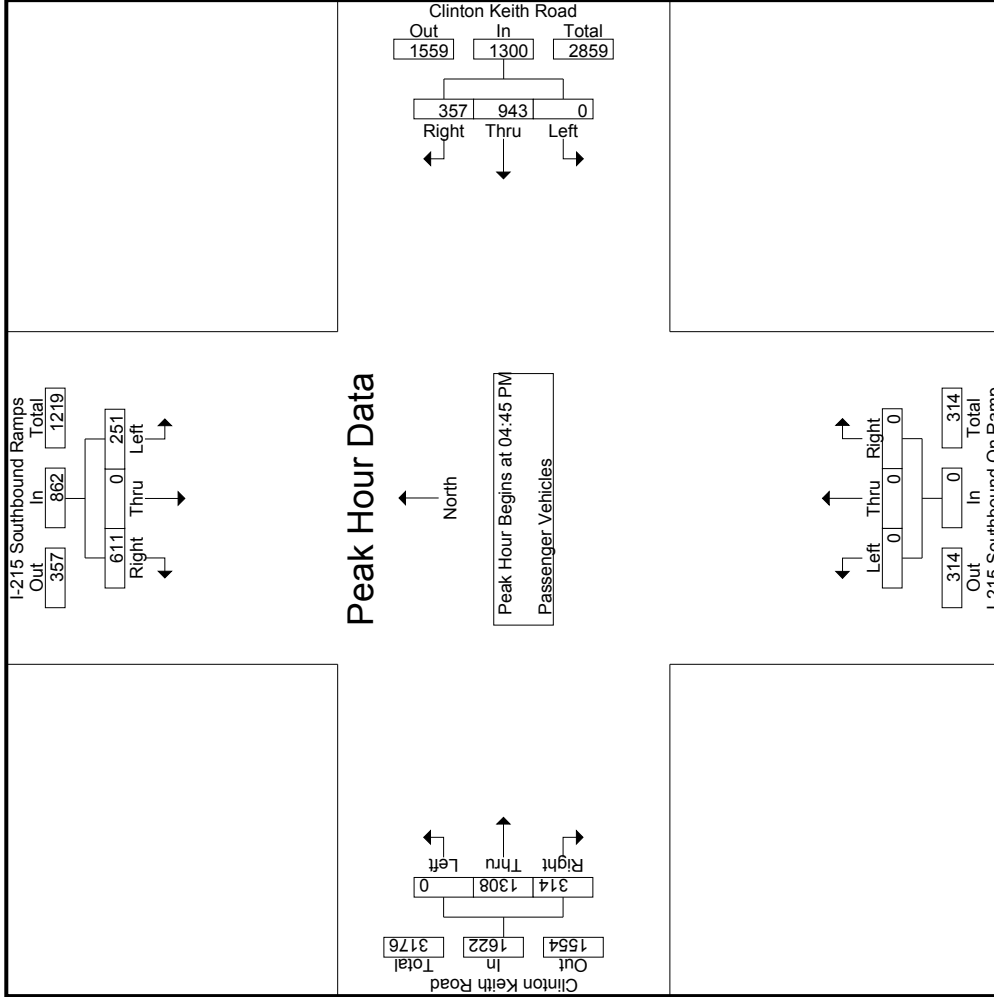
Start Time	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	66	0	170		236	0	253	83		336	0	0	0		0	0	336	79		415		415	987
05:00 PM	47	0	131		178	0	238	98		336	0	0	0		0	0	309	72		381		381	895
05:15 PM	61	0	177		238	0	220	102		322	0	0	0		0	0	346	76		422		422	982
05:30 PM	77	0	133		210	0	232	74		306	0	0	0		0	0	317	87		404		404	920
Total Volume	251	0	611		862	0	943	357		1300	0	0	0		0	0	1308	314		1622		1622	3784
% App. Total	29.1	0	70.9			0	72.5	27.5			0	0	0		0	0	80.6	19.4				.961	.958
PHF	.815	.000	.863		.905	.000	.932	.875		.967	.000	.000	.000		.000	.000	.945	.902				.961	.958

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Clinton Keith Road Westbound			I-215 Southbound On Ramp Northbound			Clinton Keith Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:	04:45 PM														
+0 mins.	66	0	170	0	253	83	0	336	336	0	0	0	0	0	0
+15 mins.	47	0	131	0	238	98	0	336	336	0	0	0	0	0	0
+30 mins.	61	0	177	0	220	102	0	322	322	0	0	0	0	0	0
+45 mins.	77	0	133	0	232	74	0	306	306	0	0	0	0	0	0
Total Volume	251	0	611	0	943	357	0	1300	1300	0	0	0	0	0	0
% App. Total	29.1	0	70.9	0	72.5	27.5	0	0	0	0	0	0	0	0	0
PHF	.815	.000	.863	.000	.932	.875	.000	.967	.967	.000	.000	.000	.000	.945	.902

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- Large 2-Axle Vehicles

Start Time	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound											
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	2	0	6	0	8	0	1	0	0	1	0	0	0	0	0	0	3	1	0	0	4	0	13	13
04:15 PM	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	2	0	0	0	2	0	6	6
04:30 PM	2	0	1	1	3	0	3	0	0	3	0	0	0	0	0	0	7	0	0	0	7	1	13	14
04:45 PM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	0	7	7
Total	4	0	8	1	12	0	8	2	0	10	0	0	0	0	0	0	16	1	0	17	1	39	40	40
05:00 PM	2	0	1	1	3	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	1	7	7	8
05:15 PM	2	0	0	0	2	0	1	1	0	2	0	0	0	0	0	0	4	2	0	6	0	10	10	10
05:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	4	4	4
05:45 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	6	0	0	6	0	8	8	8
Total	5	0	1	1	6	0	4	2	0	6	0	0	0	0	0	0	14	3	0	17	1	29	30	30
Grand Total	9	0	9	2	18	0	12	4	0	16	0	0	0	0	0	0	30	4	0	34	2	68	70	70
Approach %	50	0	50			0	75	25		23.5	0	0	0	0	0	0	88.2	11.8		50	2.9	97.1		
Total %	13.2	0	13.2		26.5	0	17.6	5.9			0	0	0	0	0	0	44.1	5.9						

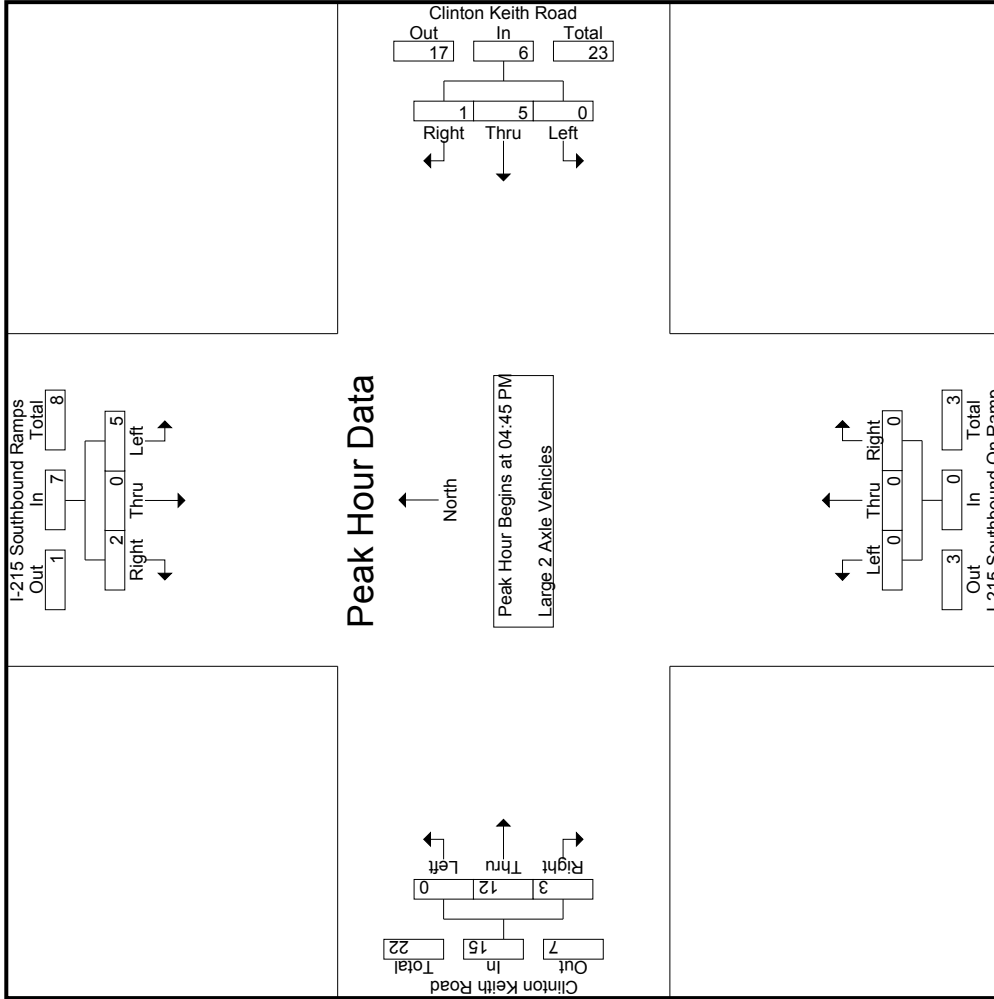
Start Time	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound											
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:45 PM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	4	4	7
05:00 PM	2	0	1	0	3	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	1	2	2	7
05:15 PM	2	0	0	0	2	0	1	1	0	2	0	0	0	0	0	0	4	2	0	6	0	6	10	10
05:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	4	4
Total Volume	5	0	2	0	7	0	5	1	0	6	0	0	0	0	0	0	12	3	0	15	3	15	28	28
% App. Total	71.4	0	28.6			0	83.3	16.7			0	0	0	0	0	0	80	20						
PHF	.625	.000	.500		.583	.000	.625	.250		.750	.000	.000	.000	.000	.000	.000	.750	.375		.625		.700		

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Clinton Keith Road Westbound			I-215 Southbound On Ramp Northbound			Clinton Keith Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:	04:45 PM														
+0 mins.	0	0	1	0	0	2	0	0	0	0	0	0	0	0	4
+15 mins.	2	0	1	0	0	2	0	0	0	0	0	0	0	1	1
+30 mins.	2	0	0	0	0	1	0	0	0	0	0	0	0	4	2
+45 mins.	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Total Volume	5	0	2	0	0	5	0	0	1	0	0	0	0	12	3
% App. Total	71.4	0	28.6	0	0	83.3	0	0	16.7	0	0	0	0	80	20
PHF	.625	.000	.500	.000	.000	.625	.000	.750	.250	.000	.000	.000	.750	.375	.625

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

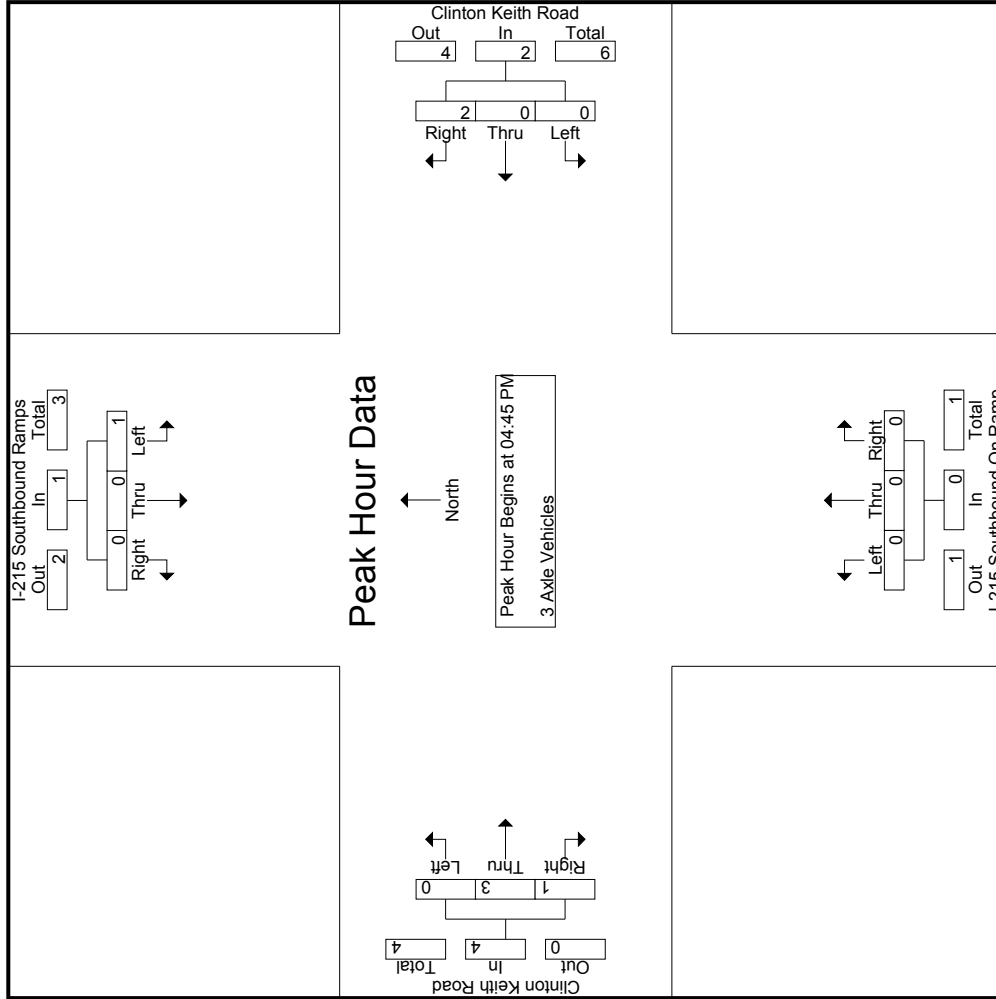
City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- 3 Axle Vehicles

Start Time	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
04:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	1	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3	3
Total	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	4	1	0	0	0	0	7	7
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	2	0	2	0	0	0	0	0	0	1	0	0	0	0	0	4	4
Grand Total	1	0	1	0	2	0	1	2	0	3	0	0	0	0	0	0	5	1	0	0	6	0	11	11
Approach %	50	0	50			0	33.3	66.7		27.3	0	0	0	0	0	0	83.3	16.7		54.5	0	100	100	
Total %	9.1	0	9.1		18.2	0	9.1	18.2		27.3	0	0	0	0	0	0	45.5	9.1		54.5	0	100	100	

Start Time	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	0	1	0	0	2	0	2	0	0	0	0	0	0	3	1	0	0	0	0	4	7
% App. Total	100	0	0	0	100	0	0	100	0	100	0	0	0	0	0	0	75	25	0	0	0	0	100	100
PHF	.250	.000	.000		.250	.000	.000	.500		.500	.000	.000	.000	.000	.000	.000	.375	.250		.333	0	.583	.583	

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- 4+ Axle Trucks

Start Time	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Grand Total	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2
% Apprch %	0	0	100			0	0	0			0	0	0			50	50	
Total %	0	0	100		100	0	0	0			0	0	0			50	50	

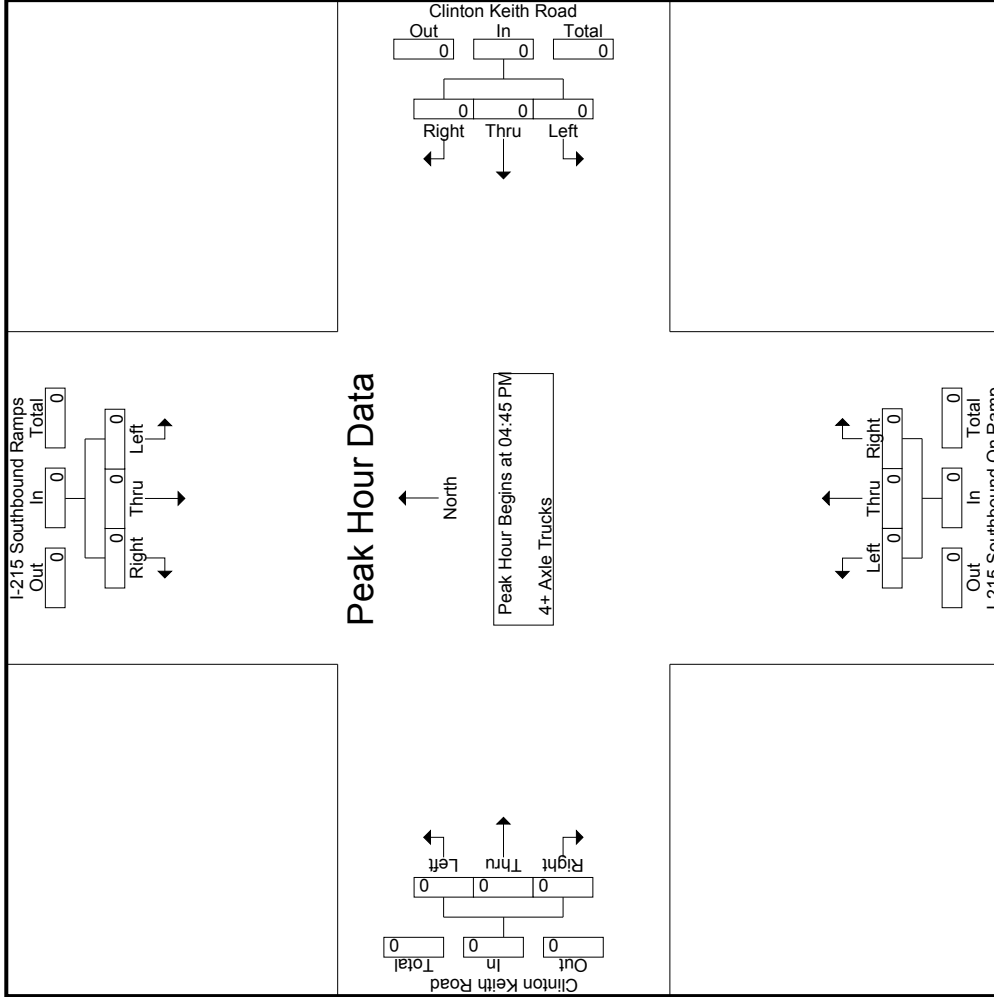
Start Time	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 2

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Southbound Ramps Southbound			Clinton Keith Road Westbound			I-215 Southbound On Ramp Northbound			Clinton Keith Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: Murrieta
 N/S: I-215 SB Ramps
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

PEDESTRIANS

	North Leg I-215 SB Ramps	East Leg Clinton Keith Road	South Leg I-215 SB Ramps	West Leg Clinton Keith Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	2	0	2
7:15 AM	0	0	0	0	0
7:30 AM	0	0	2	0	2
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	1	0	1
8:30 AM	0	0	1	0	1
8:45 AM	0	0	1	0	1
TOTAL VOLUMES:	0	0	7	0	7

	North Leg I-215 SB Ramps	East Leg Clinton Keith Road	South Leg I-215 SB Ramps	West Leg Clinton Keith Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	1	0	1
4:15 PM	0	0	1	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	3	0	3
5:00 PM	0	0	1	0	1
5:15 PM	0	0	2	0	2
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	8	0	8

Location: Murrieta
 N/S: I-215 SB Ramps
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

BICYCLES

	Southbound I-215 SB Ramps			Westbound Clinton Keith Road			Northbound I-215 SB Ramps			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	1	0	2

	Southbound I-215 SB Ramps			Westbound Clinton Keith Road			Northbound I-215 SB Ramps			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	4	0	5

City of Murrieta
 N/S: Whitewood Road
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_Whitewood_Clinton AM
 Site Code : 05721179
 Start Date : 4/27/2021
 Page No : 1

Groups Printed- Total Volume

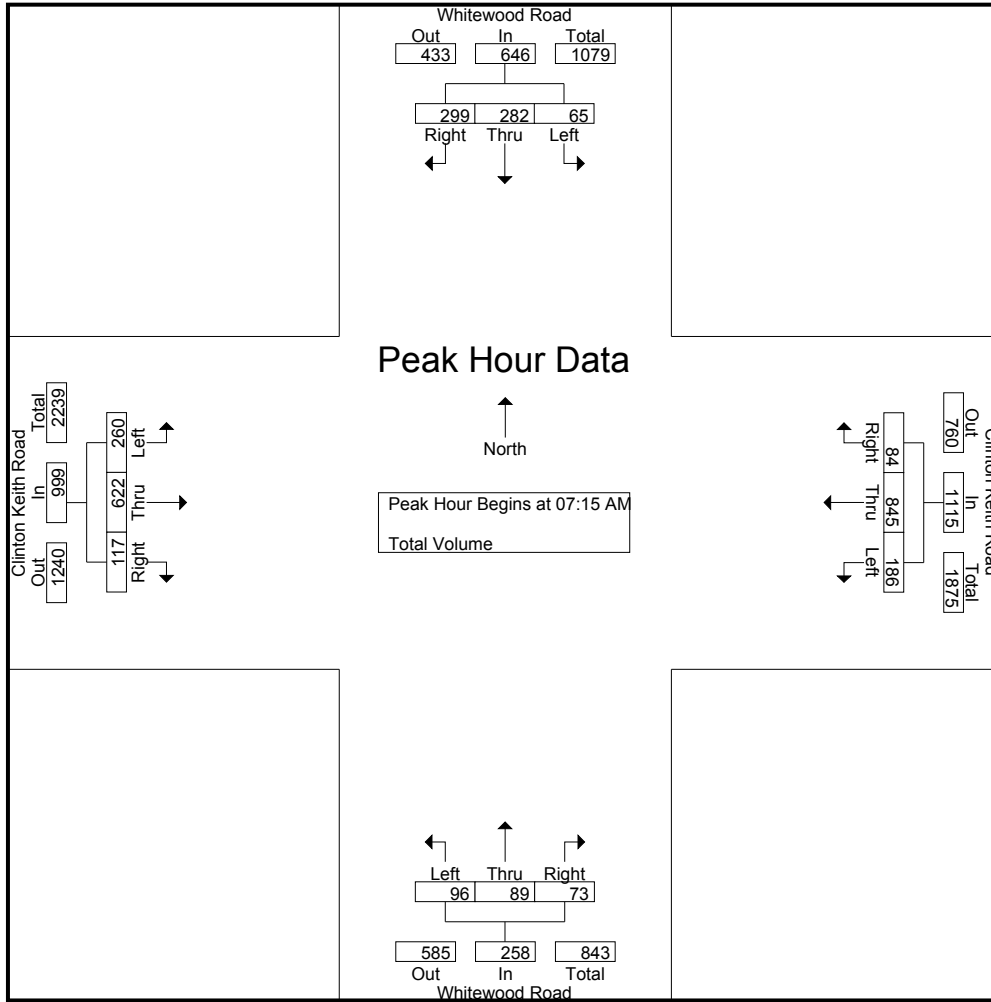
Start Time	Whitewood Road Southbound				Clinton Keith Road Westbound				Whitewood Road Northbound				Clinton Keith Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	12	50	80	142	34	196	11	241	39	10	7	56	38	106	22	166	605
07:15 AM	12	50	90	152	55	273	19	347	49	17	10	76	55	165	42	262	837
07:30 AM	15	80	78	173	40	192	11	243	12	16	14	42	73	171	27	271	729
07:45 AM	24	88	61	173	44	195	26	265	15	29	21	65	76	155	23	254	757
Total	63	268	309	640	173	856	67	1096	115	72	52	239	242	597	114	953	2928
08:00 AM	14	64	70	148	47	185	28	260	20	27	28	75	56	131	25	212	695
08:15 AM	17	65	59	141	50	184	22	256	22	20	20	62	71	120	18	209	668
08:30 AM	15	52	53	120	39	186	25	250	13	20	15	48	48	88	13	149	567
08:45 AM	12	33	50	95	29	177	26	232	13	26	10	49	48	117	18	183	559
Total	58	214	232	504	165	732	101	998	68	93	73	234	223	456	74	753	2489
Grand Total	121	482	541	1144	338	1588	168	2094	183	165	125	473	465	1053	188	1706	5417
Apprch %	10.6	42.1	47.3		16.1	75.8	8		38.7	34.9	26.4		27.3	61.7	11		
Total %	2.2	8.9	10	21.1	6.2	29.3	3.1	38.7	3.4	3	2.3	8.7	8.6	19.4	3.5	31.5	

Start Time	Whitewood Road Southbound				Clinton Keith Road Westbound				Whitewood Road Northbound				Clinton Keith Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	12	50	90	152	55	273	19	347	49	17	10	76	55	165	42	262	837
07:30 AM	15	80	78	173	40	192	11	243	12	16	14	42	73	171	27	271	729
07:45 AM	24	88	61	173	44	195	26	265	15	29	21	65	76	155	23	254	757
08:00 AM	14	64	70	148	47	185	28	260	20	27	28	75	56	131	25	212	695
Total Volume	65	282	299	646	186	845	84	1115	96	89	73	258	260	622	117	999	3018
% App. Total	10.1	43.7	46.3		16.7	75.8	7.5		37.2	34.5	28.3		26	62.3	11.7		
PHF	.677	.801	.831	.934	.845	.774	.750	.803	.490	.767	.652	.849	.855	.909	.696	.922	.901

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

City of Murrieta
 N/S: Whitewood Road
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_Whitewood_Clinton AM
 Site Code : 05721179
 Start Date : 4/27/2021
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	12	50	90	152	55	273	19	347	49	17	10	76	55	165	42	262
+15 mins.	15	80	78	173	40	192	11	243	12	16	14	42	73	171	27	271
+30 mins.	24	88	61	173	44	195	26	265	15	29	21	65	76	155	23	254
+45 mins.	14	64	70	148	47	185	28	260	20	27	28	75	56	131	25	212
Total Volume	65	282	299	646	186	845	84	1115	96	89	73	258	260	622	117	999
% App. Total	10.1	43.7	46.3		16.7	75.8	7.5		37.2	34.5	28.3		26	62.3	11.7	
PHF	.677	.801	.831	.934	.845	.774	.750	.803	.490	.767	.652	.849	.855	.909	.696	.922

City of Murrieta
 N/S: Whitewood Road
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_Whitewood_Clinton PM
 Site Code : 05721179
 Start Date : 4/27/2021
 Page No : 1

Groups Printed- Total Volume

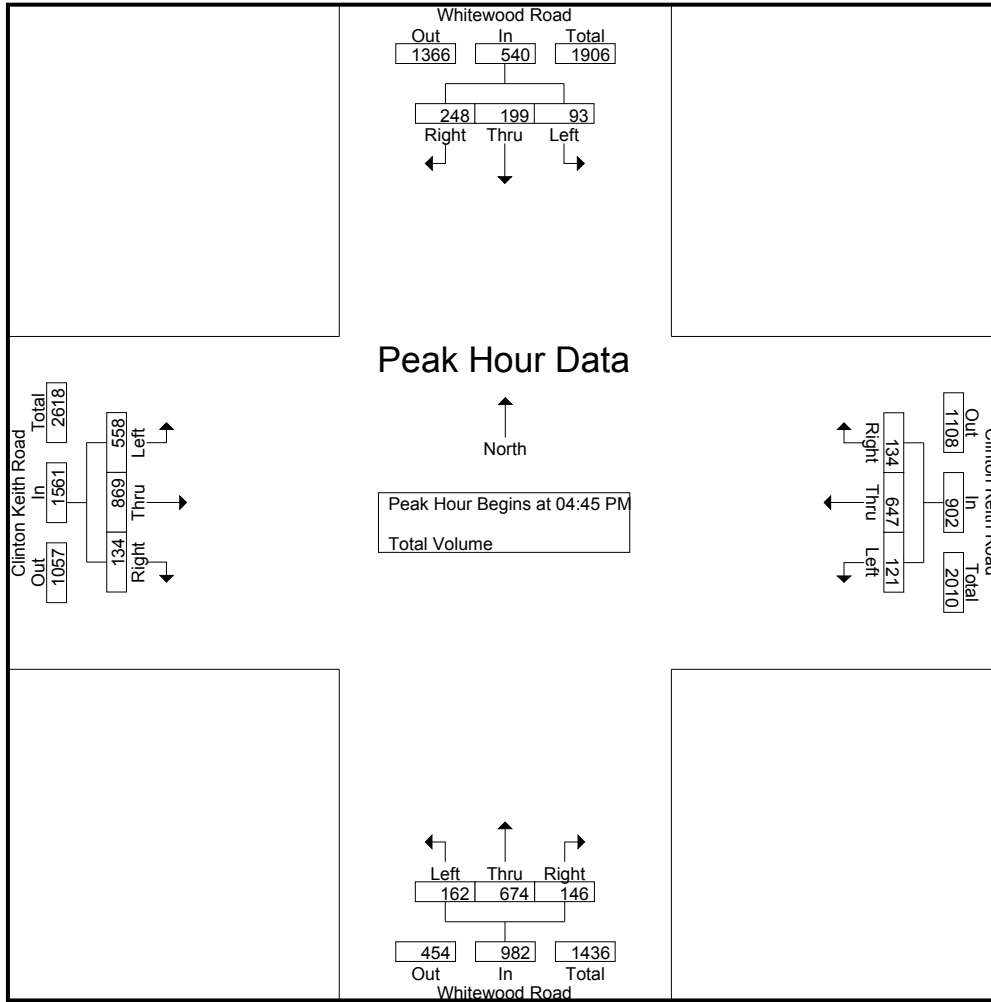
Start Time	Whitewood Road Southbound				Clinton Keith Road Westbound				Whitewood Road Northbound				Clinton Keith Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	38	58	81	177	27	169	24	220	29	90	46	165	96	201	50	347	909
04:15 PM	33	51	57	141	40	168	16	224	41	114	56	211	100	206	42	348	924
04:30 PM	33	52	66	151	32	163	20	215	59	138	45	242	76	175	25	276	884
04:45 PM	28	58	55	141	32	167	18	217	38	157	51	246	136	200	38	374	978
Total	132	219	259	610	131	667	78	876	167	499	198	864	408	782	155	1345	3695
05:00 PM	33	64	71	168	26	146	15	187	29	155	37	221	148	237	36	421	997
05:15 PM	14	41	65	120	24	169	46	239	52	175	30	257	142	212	26	380	996
05:30 PM	18	36	57	111	39	165	55	259	43	187	28	258	132	220	34	386	1014
05:45 PM	17	42	50	109	39	119	34	192	46	174	33	253	123	224	27	374	928
Total	82	183	243	508	128	599	150	877	170	691	128	989	545	893	123	1561	3935
Grand Total	214	402	502	1118	259	1266	228	1753	337	1190	326	1853	953	1675	278	2906	7630
Apprch %	19.1	36	44.9		14.8	72.2	13		18.2	64.2	17.6		32.8	57.6	9.6		
Total %	2.8	5.3	6.6	14.7	3.4	16.6	3	23	4.4	15.6	4.3	24.3	12.5	22	3.6	38.1	

Start Time	Whitewood Road Southbound				Clinton Keith Road Westbound				Whitewood Road Northbound				Clinton Keith Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:45 PM	28	58	55	141	32	167	18	217	38	157	51	246	136	200	38	374	978
05:00 PM	33	64	71	168	26	146	15	187	29	155	37	221	148	237	36	421	997
05:15 PM	14	41	65	120	24	169	46	239	52	175	30	257	142	212	26	380	996
05:30 PM	18	36	57	111	39	165	55	259	43	187	28	258	132	220	34	386	1014
Total Volume	93	199	248	540	121	647	134	902	162	674	146	982	558	869	134	1561	3985
% App. Total	17.2	36.9	45.9		13.4	71.7	14.9		16.5	68.6	14.9		35.7	55.7	8.6		
PHF	.705	.777	.873	.804	.776	.957	.609	.871	.779	.901	.716	.952	.943	.917	.882	.927	.982

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

City of Murrieta
 N/S: Whitewood Road
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_Whitewood_Clinton PM
 Site Code : 05721179
 Start Date : 4/27/2021
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				05:00 PM				04:45 PM			
+0 mins.	38	58	81	177	32	167	18	217	29	155	37	221	136	200	38	374
+15 mins.	33	51	57	141	26	146	15	187	52	175	30	257	148	237	36	421
+30 mins.	33	52	66	151	24	169	46	239	43	187	28	258	142	212	26	380
+45 mins.	28	58	55	141	39	165	55	259	46	174	33	253	132	220	34	386
Total Volume	132	219	259	610	121	647	134	902	170	691	128	989	558	869	134	1561
% App. Total	21.6	35.9	42.5		13.4	71.7	14.9		17.2	69.9	12.9		35.7	55.7	8.6	
PHF	.868	.944	.799	.862	.776	.957	.609	.871	.817	.924	.865	.958	.943	.917	.882	.927

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 04_MEN_Menifee_Scott AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

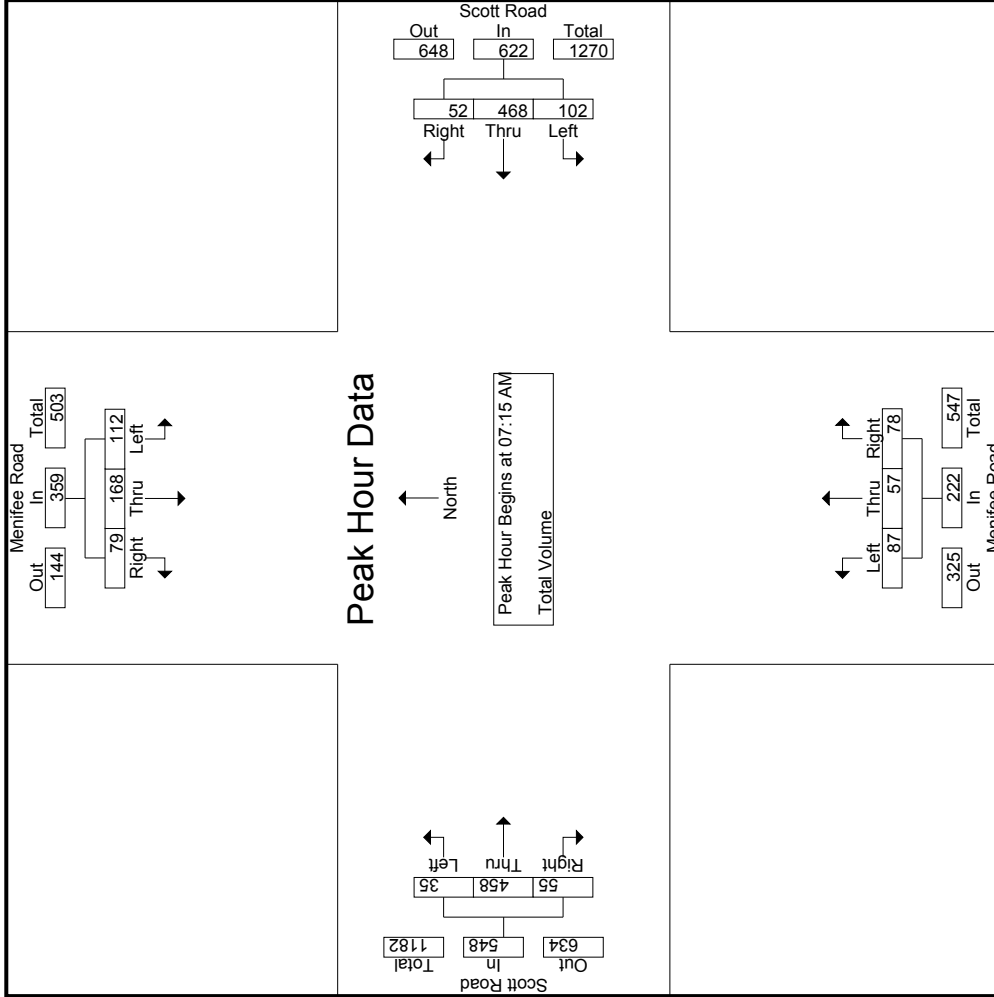
City of Menifee
 N/S: Menifee Road
 E/W: Scott Road
 Weather: Clear

Groups Printed- Total Volume

Start Time	Menifee Road Southbound				Scott Road Westbound				Menifee Road Northbound				Scott Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	13	36	21	5	70	10	99	9	3	118	19	8	17	11	44	6	115	6	2	127	21	359	380
07:15 AM	28	41	20	5	89	20	117	15	2	152	21	10	14	11	45	9	113	13	3	135	21	421	442
07:30 AM	46	48	28	6	122	20	130	9	0	159	31	19	19	12	69	13	110	13	2	136	20	486	506
07:45 AM	20	47	16	2	83	36	112	13	1	161	15	14	18	12	47	7	116	18	2	141	17	432	449
Total	107	172	85	18	364	86	458	46	6	590	86	51	68	46	205	35	454	50	9	539	79	1698	1777
08:00 AM	18	32	15	4	65	26	109	15	3	150	20	14	27	20	61	6	119	11	2	136	29	412	441
08:15 AM	10	22	24	5	56	34	133	19	3	186	16	12	13	8	41	11	95	15	1	121	17	404	421
08:30 AM	13	34	22	7	69	23	123	7	0	153	26	9	17	13	52	14	93	13	3	120	23	394	417
08:45 AM	13	22	23	8	58	15	106	9	1	130	19	13	11	4	43	21	85	11	2	117	15	348	363
Total	54	110	84	24	248	98	471	50	7	619	81	48	68	45	197	52	392	50	8	494	84	1558	1642
Grand Total	161	282	169	42	612	184	929	96	13	1209	167	99	136	91	402	87	846	100	17	1033	163	3256	3419
% Approach	26.3	46.1	27.6			15.2	76.8	7.9		41.5	24.6	33.8		12.3	8.4	81.9	9.7			31.7	4.8	95.2	
Total %	4.9	8.7	5.2		18.8	5.7	28.5	2.9		37.1	5.1	3	4.2		2.7	26	3.1						

Start Time	Menifee Road Southbound				Scott Road Westbound				Menifee Road Northbound				Scott Road Eastbound													
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
07:15 AM	28	41	20		89	20	117	15		152	21	10	14		45	9	113	13		135						421
07:30 AM	46	48	28		122	20	130	9		159	31	19	19		69	13	110	13		136						486
07:45 AM	20	47	16		83	36	112	13		161	15	14	18		47	7	116	18		141						432
08:00 AM	18	32	15		65	26	109	15		150	20	14	18		61	6	119	11		136						412
Total Volume	112	168	79		359	102	468	52		622	87	57	78		222	35	458	55		548						1751
% App. Total	31.2	46.8	22		16.4	75.2	8.4			39.2	25.7	35.1			6.4	83.6	10									.901
PHF	.609	.875	.705		.736	.708	.900	.867		.966	.702	.750	.722		.804	.673	.962	.764			.972					

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM



Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: Menifee Road
 E/W: Scott Road
 Weather: Clear

File Name : 04_MEN_Menifee_Scott AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Menifee Road Southbound			Scott Road Westbound			Menifee Road Northbound			Scott Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:00 AM			07:30 AM			07:15 AM			07:15 AM						
+0 mins.	13	36	21	70	20	130	9	159	21	10	14	45	9	113	13	135
+15 mins.	28	41	20	89	36	112	13	161	31	19	19	69	13	110	13	136
+30 mins.	46	48	28	122	26	109	15	150	15	14	18	47	7	116	18	141
+45 mins.	20	47	16	83	34	133	19	186	20	14	27	61	6	119	11	136
Total Volume	107	172	85	364	116	484	56	656	87	57	78	222	35	458	55	548
% App. Total	29.4	47.3	23.4	74.6	17.7	73.8	8.5	88.2	39.2	25.7	35.1	80.4	6.4	83.6	10	97.2
PHF	.582	.896	.759	.746	.806	.910	.737	.882	.702	.750	.722	.804	.673	.962	.764	.972

Counts Unlimited, Inc.
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File Name : 04_MEN_Menifee_Scott PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

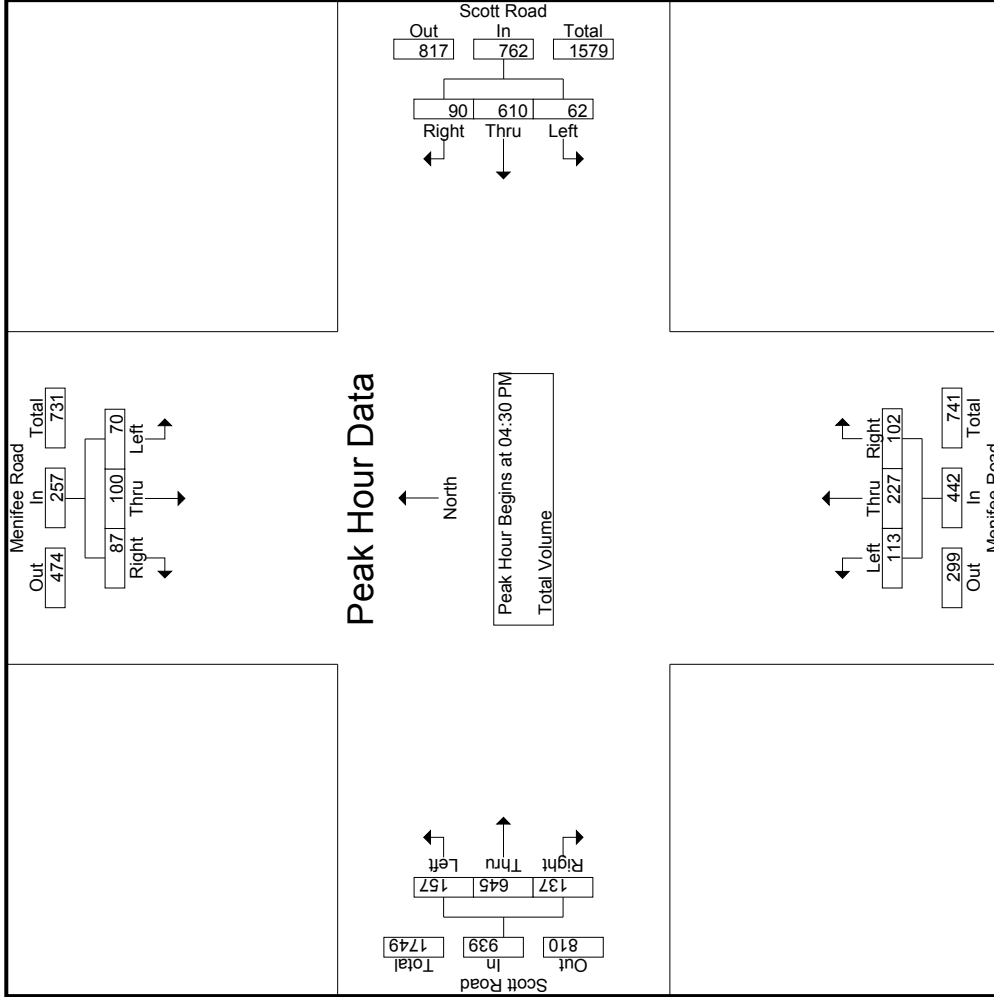
City of Menifee
 N/S: Menifee Road
 E/W: Scott Road
 Weather: Clear

Groups Printed- Total Volume

Start Time	Menifee Road Southbound				Scott Road Westbound				Menifee Road Northbound				Scott Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
04:00 PM	7	21	21	3	49	6	143	23	4	172	24	43	17	10	84	21	142	4	208	21	513	534	
04:15 PM	14	28	15	8	57	13	169	22	2	204	18	56	21	11	95	22	141	4	202	25	558	583	
04:30 PM	14	22	24	7	60	15	184	20	0	219	41	46	27	15	114	28	141	5	202	27	595	622	
04:45 PM	15	22	12	5	49	15	126	30	1	171	33	54	23	16	110	31	145	2	223	24	553	577	
Total	50	93	72	23	215	49	622	95	7	766	116	199	88	52	403	164	569	102	835	97	2219	2316	
05:00 PM	18	26	24	5	68	14	132	18	1	164	18	49	29	17	96	40	169	40	249	27	577	604	
05:15 PM	23	30	27	9	80	18	168	22	0	208	21	78	23	13	122	37	190	38	4	265	26	675	701
05:30 PM	11	28	20	7	59	15	124	26	0	165	16	40	19	13	75	26	141	32	9	199	29	498	527
05:45 PM	21	31	24	9	76	15	138	17	2	170	34	56	17	11	107	46	133	35	6	214	28	567	595
Total	73	115	95	30	283	62	562	83	3	707	89	223	88	54	400	149	633	145	23	927	110	2317	2427
Grand Total	123	208	167	53	498	111	1184	178	10	1473	205	422	176	106	803	313	1202	247	38	1762	207	4536	4743
% Approach	24.7	41.8	33.5			7.5	80.4	12.1			25.5	52.6	21.9			17.8	68.2	14			4.4	95.6	
Total %	2.7	4.6	3.7		11	2.4	26.1	3.9		32.5	4.5	9.3	3.9		17.7	6.9	26.5	5.4		38.8			

Start Time	Menifee Road Southbound				Scott Road Westbound				Menifee Road Northbound				Scott Road Eastbound																		
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
04:30 PM	14	22	24		60	15	184	20		219	41	46	27		114	33	141	28		202	28	202									595
04:45 PM	15	22	12		49	15	126	30		171	33	54	23		110	47	145	31		223	31	223									553
05:00 PM	18	26	24		68	14	132	18		164	18	49	29		96	40	169	40		249	40	249									577
05:15 PM	23	30	27		80	18	168	22		208	21	78	23		122	37	190	38		265	38	265									675
Total Volume	70	100	87		257	62	610	90		762	113	227	102		442	157	645	137		939	137	939									2400
% App. Total	27.2	38.9	33.9			8.1	80.1	11.8			25.6	51.4	23.1			16.7	68.7	14.6													.889
PHF	.761	.833	.806		.803	.861	.829	.750		.870	.689	.728	.879		.906	.835	.849	.856		.886											

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM



Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

File Name : 04_MEN_Meniffee_Scott PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Meniffee
 N/S: Meniffee Road
 E/W: Scott Road
 Weather: Clear

Start Time	Meniffee Road Southbound			Scott Road Westbound			Meniffee Road Northbound			Scott Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	05:00 PM			04:00 PM			04:30 PM			04:30 PM						
+0 mins.	18	26	24	68	6	143	23	172	41	46	27	114	33	141	28	202
+15 mins.	23	30	27	80	13	169	22	204	33	54	23	110	47	145	31	223
+30 mins.	11	28	20	59	15	184	20	219	18	49	29	96	40	169	40	249
+45 mins.	21	31	24	76	15	126	30	171	21	78	23	122	37	190	38	265
Total Volume	73	115	95	283	49	622	95	766	113	227	102	442	157	645	137	939
% App. Total	25.8	40.6	33.6	.884	6.4	81.2	12.4	25.6	25.6	51.4	23.1	16.7	16.7	68.7	14.6	.886
PHF	.793	.927	.880	.884	.817	.845	.792	.874	.689	.728	.879	.906	.835	.849	.856	.886

Location: Menifee
 N/S: Menifee Road
 E/W: Scott Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Menifee Road	East Leg Scott Road	South Leg Menifee Road	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	1	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	1	1	2
TOTAL VOLUMES:	0	0	2	1	3

	North Leg Menifee Road	East Leg Scott Road	South Leg Menifee Road	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1
5:00 PM	0	0	2	0	2
5:15 PM	0	0	0	0	0
5:30 PM	0	0	1	0	1
5:45 PM	0	0	0	1	1
TOTAL VOLUMES:	0	0	4	1	5

Location: Menifee
 N/S: Menifee Road
 E/W: Scott Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Menifee Road			Westbound Scott Road			Northbound Menifee Road			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	2	0	0	0	0	2	0	0	0	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	2
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	2	1	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	2	0	0	1	4	3	0	0	0	12

	Southbound Menifee Road			Westbound Scott Road			Northbound Menifee Road			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	1	2
4:30 PM	0	0	0	0	1	0	0	5	0	0	0	0	6
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	0	0	0	0	0	1	0	1	0	3
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	0	1	0	0	7	1	0	1	1	14

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-215 Northbound On Ramp Southbound						Clinton Keith Road Westbound						I-215 Northbound Ramps Northbound						Clinton Keith Road Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total
07:00 AM	0	0	0	0	0	0	0	177	56	0	233	0	0	92	60	112	0	172	121	0	293	0	0	121	0	293	60	638	698	
07:15 AM	0	0	0	0	0	0	0	260	62	0	322	0	94	55	123	0	201	120	0	321	0	0	120	0	321	55	766	821		
07:30 AM	0	0	0	0	0	0	0	266	43	0	309	41	0	46	36	87	0	169	146	0	315	0	0	146	0	315	36	711	747	
07:45 AM	0	0	0	0	0	0	0	291	40	0	331	45	0	80	54	125	0	167	121	0	288	0	0	121	0	288	54	744	798	
Total	0	0	0	0	0	0	0	994	201	0	1195	135	0	312	205	447	0	709	508	0	1217	0	0	508	0	1217	205	2859	3064	
08:00 AM	0	0	0	0	0	0	0	292	37	0	329	53	0	56	37	109	0	177	131	0	308	0	0	131	0	308	37	746	783	
08:15 AM	0	0	0	0	0	0	0	285	35	0	320	54	0	62	38	116	0	185	130	0	315	0	0	130	0	315	38	751	789	
08:30 AM	0	0	0	0	0	0	0	289	51	0	340	56	0	60	42	116	0	123	95	0	218	0	0	95	0	218	42	674	716	
08:45 AM	0	0	0	0	0	0	0	261	33	0	294	52	0	59	53	111	0	115	96	0	211	0	0	96	0	211	53	616	669	
Total	0	0	0	0	0	0	0	1127	156	0	1283	215	0	237	170	452	0	600	452	0	1052	0	0	452	0	1052	170	2787	2957	
Grand Total	0	0	0	0	0	0	0	2121	357	0	2478	350	0	549	375	899	0	1309	960	0	2269	0	0	960	0	2269	375	5646	6021	
% Approach	0	0	0	0	0	0	0	85.6	14.4	0	38.9	0	61.1	0	15.9	40.2	0	57.7	42.3	0	40.2	0	0	42.3	0	40.2	6.2	93.8	0	
% Total	0	0	0	0	0	0	0	37.6	6.3	0	43.9	6.2	0	9.7	15.9	40.2	0	23.2	17	0	40.2	0	0	17	0	40.2	6.2	93.8	0	
Passenger Vehicles	0	0	0	0	0	0	0	2084	349	0	2433	325	0	534	375	899	0	1272	937	0	2209	0	0	937	0	2209	0	5868	0	
Large 2 Axle Vehicles	0	0	0	0	0	0	0	98.3	97.8	0	98.2	92.9	0	97.3	97.9	96.2	0	97.2	97.6	0	97.4	0	0	97.6	0	97.4	0	0	0	
% 3 Axle Vehicles	0	0	0	0	0	0	0	26	5	0	31	8	0	10	23	23	0	26	15	0	41	0	0	15	0	41	0	0	95	
4+ Axle Trucks	0	0	0	0	0	0	0	1.2	1.4	0	1.3	2.3	0	1.8	1.3	1.8	0	2	1.6	0	1.8	0	0	1.6	0	1.8	0	0	1.6	
% 4+ Axle Trucks	0	0	0	0	0	0	0	9	2	0	11	12	0	4	18	18	0	6	5	0	11	0	0	5	0	11	0	0	40	
Total Volume	0	0	0	0	0	0	0	0.4	0.6	0	0.4	3.4	0	0.7	0.5	1.4	0	0.5	0.5	0	0.5	0	0	0.5	0	0.5	0	0	0.7	
% App. Total	0	0	0	0	0	0	0	2	1	0	3	5	0	1	7	7	0	5	3	0	8	0	0	3	0	8	0	0	18	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	

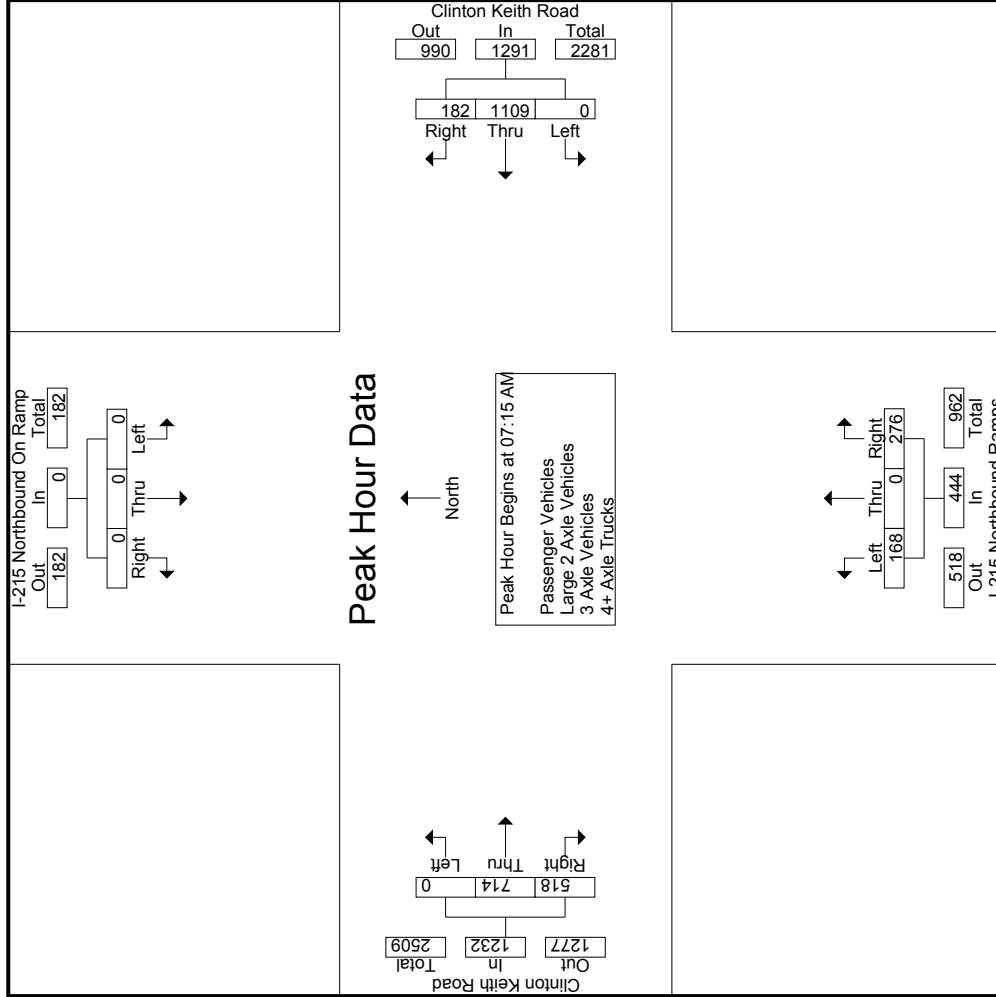
Start Time	I-215 Northbound On Ramp Southbound						Clinton Keith Road Westbound						I-215 Northbound Ramps Northbound						Clinton Keith Road Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total
07:15 AM	0	0	0	0	0	0	0	260	62	0	322	29	0	94	0	123	0	201	120	0	321	0	0	120	0	321	60	638	698	
07:30 AM	0	0	0	0	0	0	0	266	43	0	309	41	0	46	36	87	0	169	146	0	315	0	0	146	0	315	55	766	821	
07:45 AM	0	0	0	0	0	0	0	291	40	0	331	45	0	80	54	125	0	167	121	0	288	0	0	121	0	288	54	744	798	
08:00 AM	0	0	0	0	0	0	0	292	37	0	329	53	0	56	37	109	0	177	131	0	308	0	0	131	0	308	37	746	783	
Total Volume	0	0	0	0	0	0	0	1109	182	0	1291	168	0	276	182	444	0	714	518	0	1232	0	0	518	0	1232	205	2859	3064	
% App. Total	0	0	0	0	0	0	0	85.9	14.1	0	37.8	0	62.2	0	15.9	40.2	0	57.7	42.3	0	40.2	0	0	42.3	0	40.2	6.2	93.8	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 2

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Northbound On Ramp Southbound			Clinton Keith Road Westbound			I-215 Northbound Ramps Northbound			Clinton Keith Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	07:00 AM			07:45 AM			07:45 AM			07:15 AM					
+0 mins.	0	0	0	0	291	40	331	45	0	80	125	0	201	120	321
+15 mins.	0	0	0	0	292	37	329	53	0	56	109	0	169	146	315
+30 mins.	0	0	0	0	285	35	320	54	0	62	116	0	167	121	288
+45 mins.	0	0	0	0	289	51	340	56	0	60	116	0	177	131	308
Total Volume	0	0	0	0	1157	163	1320	208	0	258	466	0	714	518	1232
% App. Total	0	0	0	0	87.7	12.3	97.1	44.6	0	55.4	93.2	0	58	42	960
PHF	.000	.000	.000	.000	.991	.799	.971	.929	.000	.806	.932	.000	.888	.887	.960

Counts Unlimited, Inc.
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File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

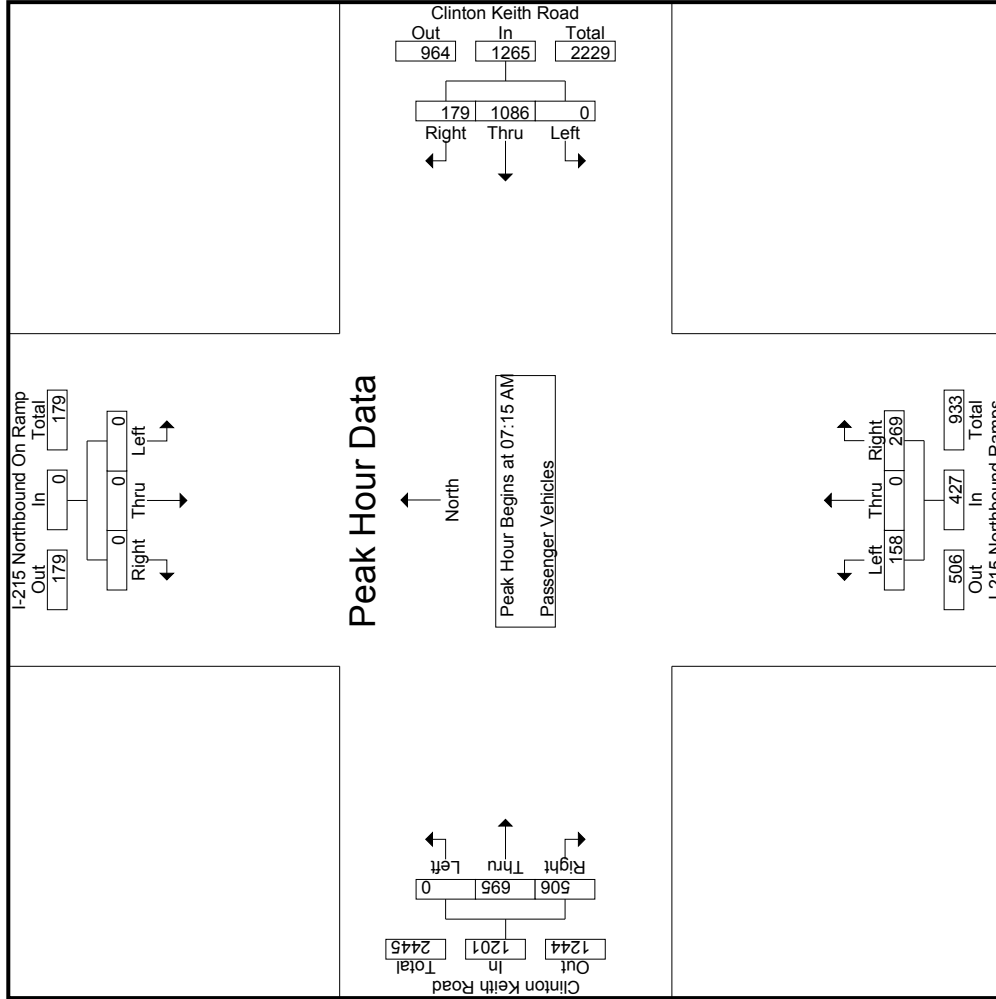
City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- Passenger Vehicles

Start Time	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	0	0	0	0	0	0	176	54	0	230	18	0	88	58	106	0	167	117	0	284	58	620	678
07:15 AM	0	0	0	0	0	0	255	61	0	316	27	0	91	54	118	0	193	116	0	309	54	743	797
07:30 AM	0	0	0	0	0	0	260	43	0	303	41	0	46	36	87	0	166	145	0	311	36	701	737
07:45 AM	0	0	0	0	0	0	287	39	0	326	42	0	78	53	120	0	163	118	0	281	53	727	780
Total	0	0	0	0	0	0	978	197	0	1175	128	0	303	201	431	0	689	496	0	1185	201	2791	2992
08:00 AM	0	0	0	0	0	0	284	36	0	320	48	0	54	36	102	0	173	127	0	300	36	722	758
08:15 AM	0	0	0	0	0	0	282	35	0	317	53	0	62	38	115	0	181	128	0	309	38	741	779
08:30 AM	0	0	0	0	0	0	284	49	0	333	52	0	58	41	110	0	120	92	0	212	41	655	696
08:45 AM	0	0	0	0	0	0	256	32	0	288	44	0	57	51	101	0	109	94	0	203	51	592	643
Total	0	0	0	0	0	0	1106	152	0	1258	197	0	231	166	428	0	583	441	0	1024	166	2710	2876
Grand Total	0	0	0	0	0	0	2084	349	0	2433	325	0	534	367	859	0	1272	937	0	2209	367	5501	5868
% Approach	0	0	0	0	0	0	85.7	14.3	0	44.2	37.8	0	62.2	15.6	0	57.6	42.4	0	40.2	6.3	93.7		
Total %	0	0	0	0	0	0	37.9	6.3	0	44.2	5.9	0	9.7	15.6	0	23.1	17	0	40.2	6.3	93.7		

Start Time	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:15 AM	0	0	0	0	0	0	0	0	0	0	27	0	0	91	0	193	116	0	309	743			
07:30 AM	0	0	0	0	0	0	260	43	0	303	41	0	46	46	87	0	166	145	0	311	701		
07:45 AM	0	0	0	0	0	0	287	39	0	326	42	0	78	78	120	0	163	118	0	281	727		
08:00 AM	0	0	0	0	0	0	284	36	0	320	48	0	54	54	102	0	173	127	0	300	722		
Total Volume	0	0	0	0	0	0	1086	179	0	1265	158	0	269	269	427	0	695	506	0	1201	2893		
% App. Total	0	0	0	0	0	0	85.8	14.2	0	44.2	37	0	63	63	42.1	0	57.9	42.1	0	42.1	.965		
PHF	.000	.000	.000	.000	.000	.000	.946	.734	.970	.890	.823	.000	.739	.890	.890	.000	.900	.872	.965	.965	.973		

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM



Counts Unlimited, Inc.
 PO Box 1178
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 (951)268-6268

File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

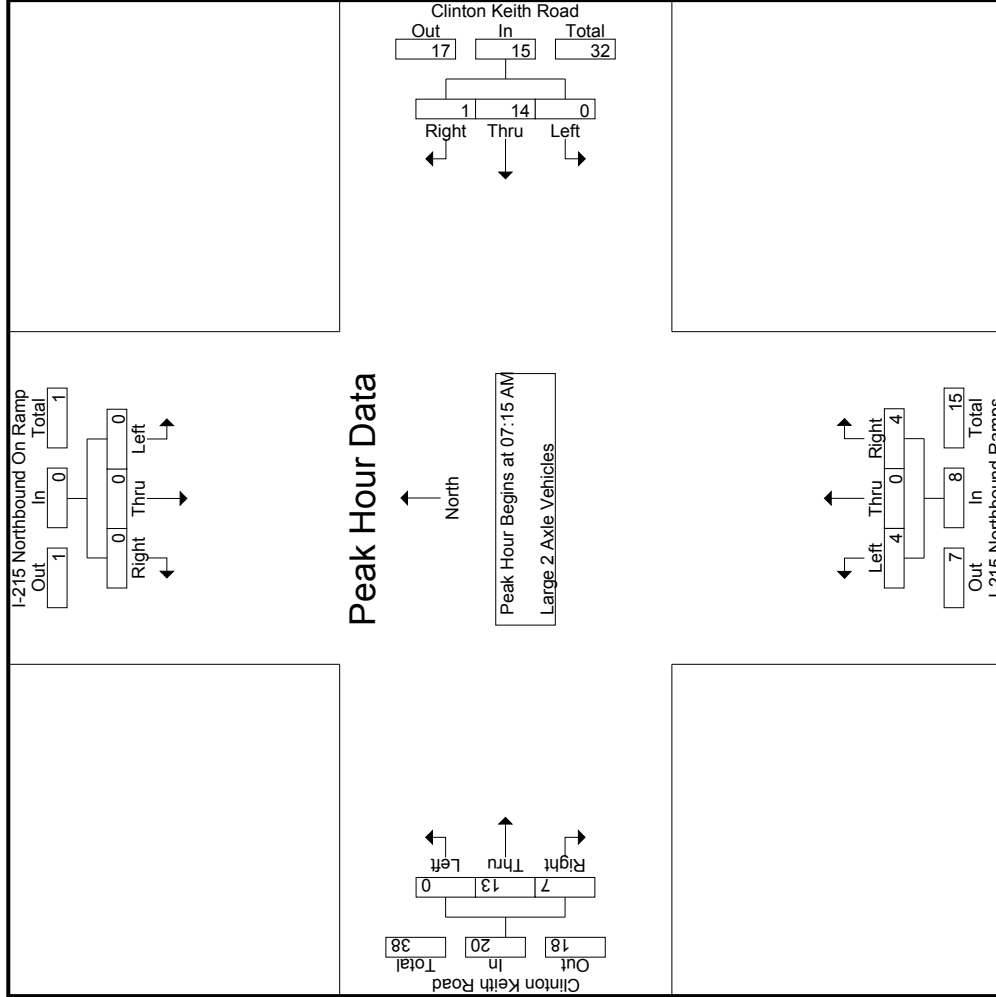
Start Time	I-215 Northbound On Ramp Southbound			Clinton Keith Road Westbound			I-215 Northbound Ramps Northbound			Clinton Keith Road Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:	07:15 AM													
+0 mins.	0	0	0	0	255	61	316	27	0	91	118	193	116	309
+15 mins.	0	0	0	0	260	43	303	41	0	46	87	166	145	311
+30 mins.	0	0	0	0	287	39	326	42	0	78	120	163	118	281
+45 mins.	0	0	0	0	284	36	320	48	0	54	102	173	127	300
Total Volume	0	0	0	0	1086	179	1265	158	0	269	427	695	506	1201
% App. Total	0	0	0	0	85.8	14.2	97.0	37	0	63	89.0	57.9	42.1	96.5
PHF	.000	.000	.000	.000	.946	.734	.970	.823	.000	.739	.890	.900	.872	.965

Groups Printed- Large 2 Axle Vehicles																							
I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound								
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	2	1	0	4	2	5	0	2	2	0	4	2	11	13
07:15 AM	0	0	0	0	0	0	3	0	0	3	2	0	2	0	4	0	6	2	0	8	0	15	15
07:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	1	0	4	0	9	9
07:45 AM	0	0	0	0	0	0	3	0	0	3	1	0	1	0	2	0	2	3	0	5	0	10	10
Total	0	0	0	0	0	0	12	1	0	13	4	0	7	2	11	0	13	8	0	21	2	45	47
08:00 AM	0	0	0	0	0	0	3	1	0	4	1	0	1	1	2	0	2	1	0	3	1	9	10
08:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	2	0	6	0	9	9
08:30 AM	0	0	0	0	0	0	5	2	0	7	2	0	1	1	3	0	2	2	0	4	1	14	15
08:45 AM	0	0	0	0	0	0	3	1	0	4	1	0	1	1	2	0	5	2	0	7	1	13	14
Total	0	0	0	0	0	0	14	4	0	18	4	0	3	3	7	0	13	7	0	20	3	45	48
Grand Total	0	0	0	0	0	0	26	5	0	31	8	0	10	5	18	0	26	15	0	41	5	90	95
% Apprch %	0	0	0	0	0	0	83.9	16.1	0	44.4	0	55.6	0	0	20	0	63.4	36.6	0	45.6	5.3	94.7	
% Total %	0	0	0	0	0	0	28.9	5.6	0	34.4	8.9	0	11.1	0	20	0	28.9	16.7	0	45.6	5.3	94.7	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 07:15 AM																							
07:15 AM	0	0	0	0	0	0	0	3	0	3	2	0	2	0	2	0	4	0	0	4	0	8	15
07:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	1	0	3	1	4	9
07:45 AM	0	0	0	0	0	0	3	0	0	3	1	0	1	1	2	0	2	0	0	2	3	5	10
08:00 AM	0	0	0	0	0	0	3	1	0	4	1	0	1	1	2	0	2	1	0	2	1	3	9
Total Volume	0	0	0	0	0	0	14	1	0	15	4	0	4	0	8	0	13	7	0	20	7	43	
% App. Total	0	0	0	0	0	0	93.3	6.7	0	67	50	0	50	0	35	0	65	35	0	65	5.3	94.7	
PHF	.000	.000	.000	.000	.000	.000	.700	.250	.750	.500	.500	.000	.500	.000	.500	.000	.542	.583	.625	.717			

Counts Unlimited, Inc.
 PO Box 1178
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City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 2



Counts Unlimited, Inc.
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File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Northbound On Ramp Southbound			Clinton Keith Road Westbound			I-215 Northbound Ramps Northbound			Clinton Keith Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:	07:15 AM											
+0 mins.	0	0	0	0	3	0	0	2	0	0	0	0
+15 mins.	0	0	0	0	5	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	3	0	0	1	0	0	0	0
+45 mins.	0	0	0	0	3	1	1	1	0	1	0	0
Total Volume	0	0	0	0	14	1	15	4	0	4	8	0
% App. Total	0	0	0	0	93.3	6.7	50	50	0	50	0	0
PHF	.000	.000	.000	.000	.750	.250	.750	.500	.000	.500	.500	.000
					.700	.250	.750	.500	.000	.542	.583	.625

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File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

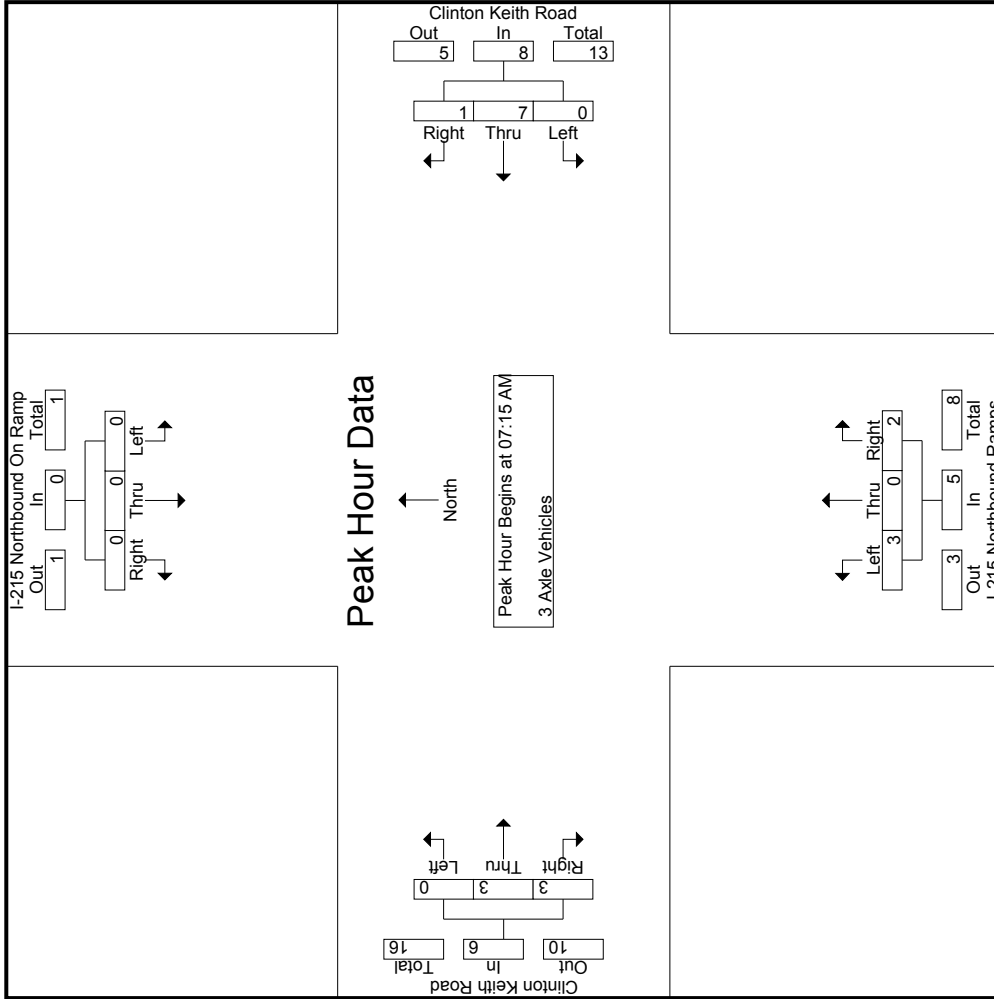
City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- 3 Axle Vehicles

Start Time	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	2	1	0	3	0	5	5
07:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	2	0	3	0	5	5
07:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
07:45 AM	0	0	0	0	0	0	1	1	0	2	1	0	1	1	2	0	2	0	0	2	1	6	7
Total	0	0	0	0	0	0	4	2	0	6	2	0	1	1	3	0	5	3	0	8	1	17	18
08:00 AM	0	0	0	0	0	0	3	0	0	3	2	0	1	0	3	0	0	1	0	1	0	7	7
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	0	1	1	0	2	0	5	5
08:45 AM	0	0	0	0	0	0	2	0	0	2	5	0	1	1	6	0	0	0	0	0	1	8	9
Total	0	0	0	0	0	0	5	0	0	5	10	0	3	1	13	0	1	2	0	3	1	21	22
Grand Total	0	0	0	0	0	0	9	2	0	11	12	0	4	2	16	0	6	5	0	11	2	38	40
% Approach	0	0	0	0	0	0	81.8	18.2	0	28.9	75	0	25	0	42.1	0	54.5	45.5	0	28.9	5	95	95
Total %	0	0	0	0	0	0	23.7	5.3	0	28.9	31.6	0	10.5	0	42.1	0	15.8	13.2	0	28.9	5	95	95

Start Time	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	2	0	3	0	3	3
07:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	1	1	0	2	1	0	1	0	2	0	2	0	0	2	0	2	2
08:00 AM	0	0	0	0	0	0	3	0	0	3	2	0	1	1	3	0	3	0	0	3	1	7	7
Total Volume	0	0	0	0	0	0	7	1	0	8	3	0	2	0	5	0	3	3	0	6	3	19	19
% App. Total	0	0	0	0	0	0	87.5	12.5	0	100	60	0	40	0	60	0	50	50	0	50	37.5	375	375
PHF	.000	.000	.000	.000	.000	.000	.583	.250	.000	.667	.375	.000	.500	.000	.417	.000	.375	.375	.000	.500	.500	.679	.679

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Northbound On Ramp Southbound			Clinton Keith Road Westbound			I-215 Northbound Ramps Northbound			Clinton Keith Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	2	0	2	0	0	0	1	2
+15 mins.	0	0	0	0	1	0	1	0	0	0	0	0
+30 mins.	0	0	0	0	1	1	2	1	0	2	0	0
+45 mins.	0	0	0	0	3	0	3	2	0	3	0	1
Total Volume	0	0	0	0	7	1	8	3	0	5	3	3
% App. Total	0	0	0	0	87.5	12.5	60	60	0	40	50	50
PHF	.000	.000	.000	.000	.583	.250	.667	.375	.000	.500	.375	.375
									.417			.500

Groups Printed- 4+ Axle Trucks

Start Time	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	2	2
07:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	1	1	1	0	1	0	0	1	1	3	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	1	0	1	1	0	1	1	2	0	2	1	0	3	1	6	7
08:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2	0	2	2	0	4	0	8	8
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	1	0	0	1	0	3	3
Total	0	0	0	0	0	0	2	0	0	2	4	0	0	0	4	0	3	2	0	5	0	11	11
Grand Total	0	0	0	0	0	0	2	1	0	3	5	0	1	1	6	0	5	3	0	8	1	17	18
% Apprch	0	0	0	0	0	0	66.7	33.3	0	83.3	0	16.7	0	0	16.7	0	62.5	37.5	0	47.1	5.6	94.4	94.4
Total %	0	0	0	0	0	0	11.8	5.9	0	17.6	0	5.9	0	0	35.3	0	29.4	17.6	0	47.1	5.6	94.4	94.4

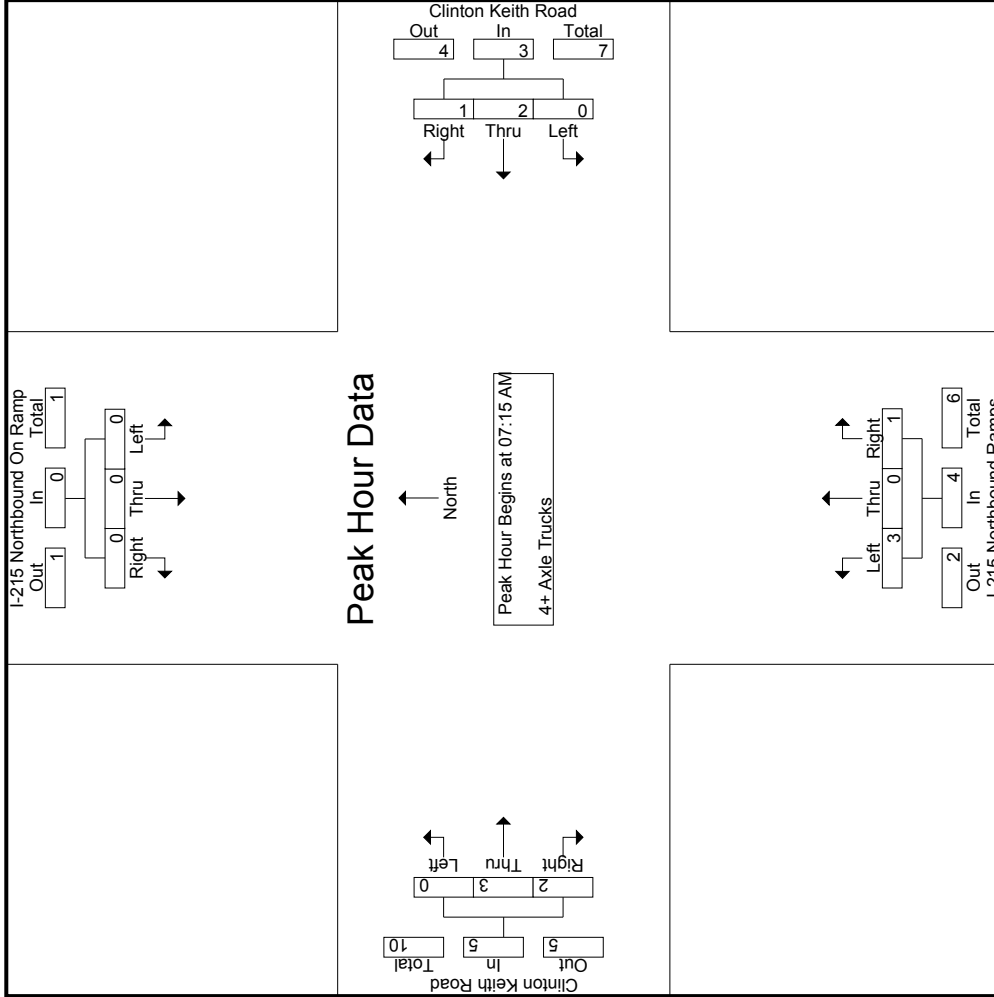
Start Time	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	2	0	0	2	2	0	0	0	2	0	2	2	0	4	2	4	8
Total Volume	0	0	0	0	0	0	2	1	0	3	3	0	1	0	4	0	3	2	0	5	2	5	12
% App. Total	0	0	0	0	0	0	66.7	33.3	0	83.3	75	0	25	0	25	0	60	40	0	60	.375	.375	.375
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.375	.375	.000	.250	.000	.500	.000	.375	.250	.000	.375	.313	.375	.375

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 2

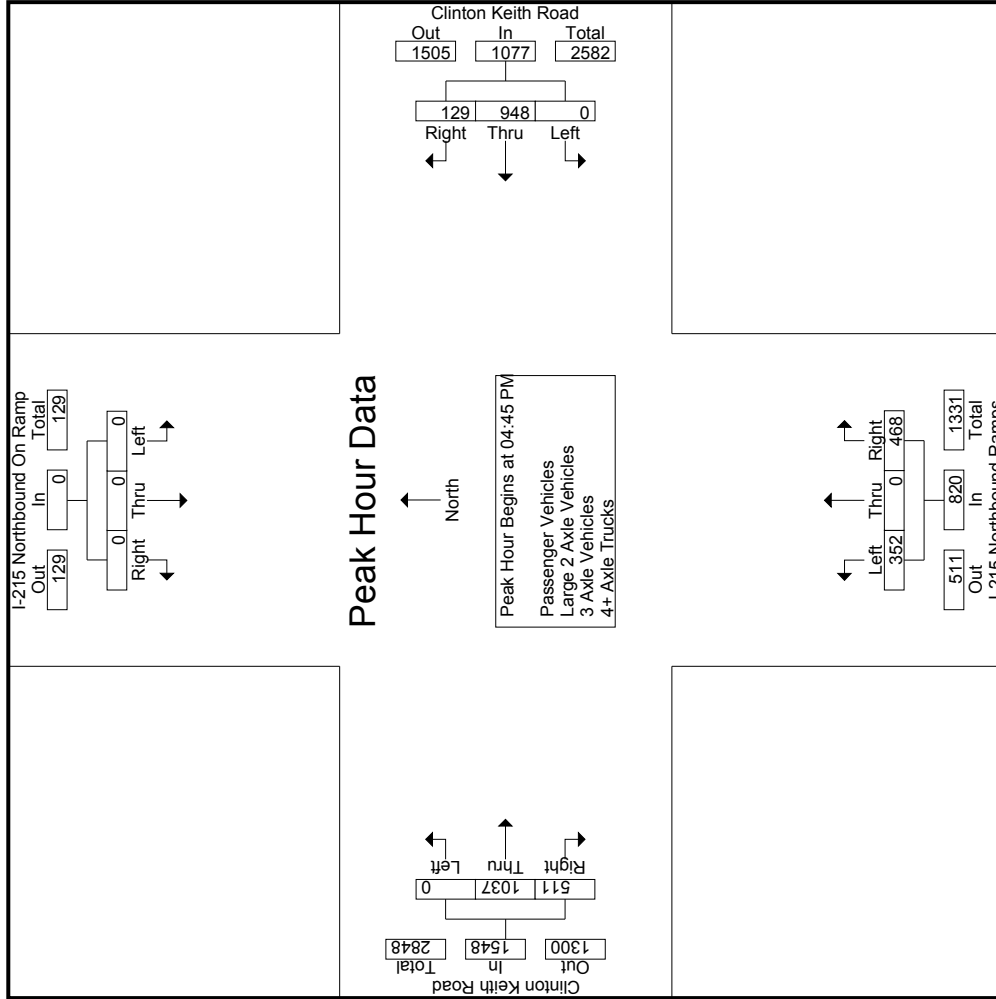


Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Northbound On Ramp Southbound			Clinton Keith Road Westbound			I-215 Northbound Ramps Northbound			Clinton Keith Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:	07:15 AM														
+0 mins.	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
+45 mins.	0	0	0	0	2	2	2	0	2	0	0	2	2	2	4
Total Volume	0	0	0	0	2	1	3	0	1	0	0	3	2	2	5
% App. Total	0	0	0	0	66.7	33.3	75	0	25	0	0	60	40	40	80
PHF	.000	.000	.000	.000	.250	.250	.375	.000	.250	.000	.375	.250	.250	.250	.313



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 04_MUR_215N_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

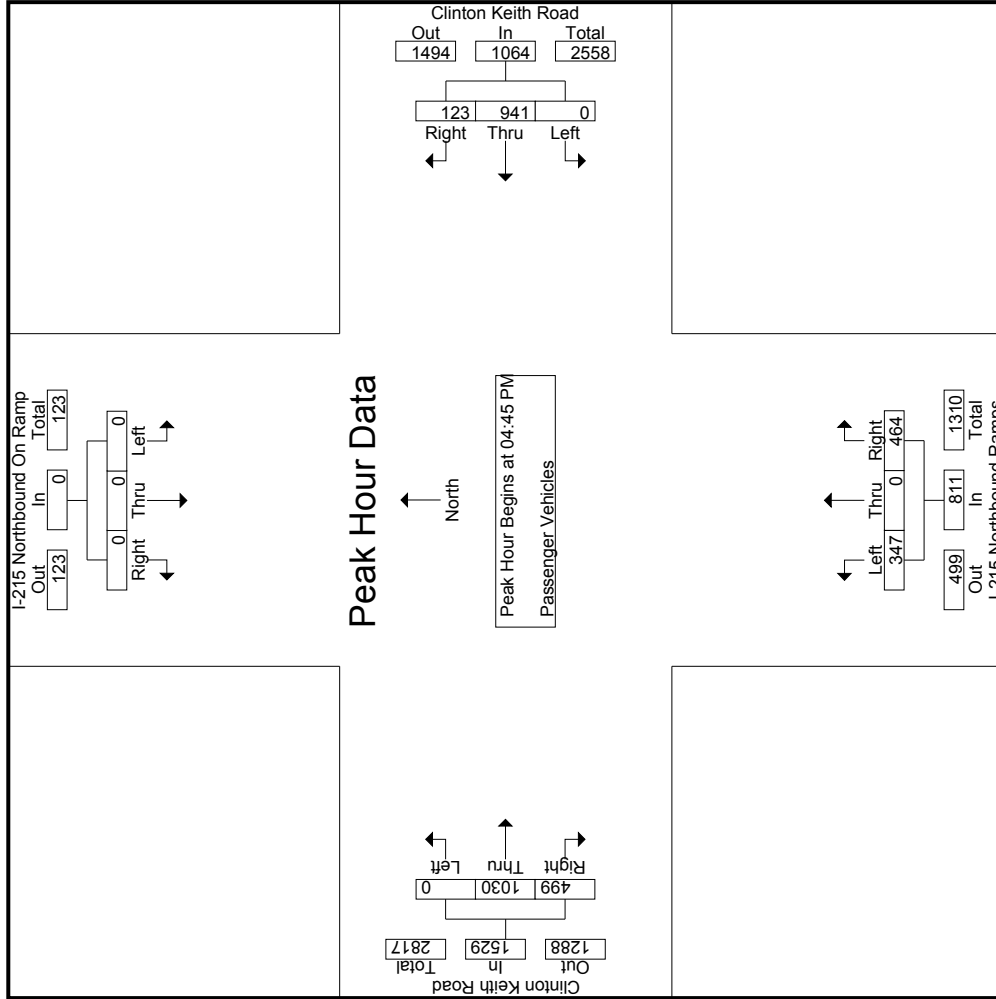
Start Time	I-215 Northbound On Ramp Southbound			Clinton Keith Road Westbound			I-215 Northbound Ramps Northbound			Clinton Keith Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	04:00 PM			04:30 PM			05:00 PM			04:00 PM					
+0 mins.	0	0	0	0	243	37	280	81	0	114	195	0	296	158	454
+15 mins.	0	0	0	0	248	28	276	86	0	121	207	0	243	136	379
+30 mins.	0	0	0	0	263	33	296	99	0	126	225	0	232	120	352
+45 mins.	0	0	0	0	230	31	261	101	0	109	210	0	264	138	402
Total Volume	0	0	0	0	984	129	1113	367	0	470	837	0	1035	552	1587
% App. Total	0	0	0	0	88.4	11.6	940	43.8	0	56.2	930	0	65.2	34.8	874
PHF	.000	.000	.000	.000	.935	.872	.940	.908	.000	.933	.930	.000	.874	.873	.874

Groups Printed- Passenger Vehicles

Start Time	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR
04:00 PM	0	0	0	0	0	190	24	0	214	60	0	79	36	139	0	294	156	0	450	36	803	839
04:15 PM	0	0	0	0	0	209	37	0	246	88	0	115	54	203	0	243	133	0	376	54	825	879
04:30 PM	0	0	0	0	0	240	36	0	276	82	0	99	42	181	0	226	117	0	343	42	800	842
04:45 PM	0	0	0	0	0	246	27	0	273	86	0	107	46	193	0	262	133	0	395	46	861	907
Total	0	0	0	0	0	885	124	0	1009	316	0	400	178	716	0	1025	539	0	1564	178	3289	3467
05:00 PM	0	0	0	0	0	261	33	0	294	79	0	113	56	192	0	254	96	0	350	56	836	892
05:15 PM	0	0	0	0	0	229	30	0	259	85	0	119	36	204	0	262	134	0	396	36	859	895
05:30 PM	0	0	0	0	0	205	33	0	238	97	0	125	38	222	0	252	136	0	388	38	848	886
05:45 PM	0	0	0	0	0	219	31	0	250	101	0	108	51	209	0	232	127	0	359	51	818	869
Total	0	0	0	0	0	914	127	0	1041	362	0	465	181	827	0	1000	493	0	1493	181	3361	3542
Grand Total	0	0	0	0	0	1799	251	0	2050	678	0	865	359	1543	0	2025	1032	0	3057	359	6650	7009
% Approach	0	0	0	0	0	87.8	12.2	0	43.9	0	56.1	0	0	23.2	0	66.2	33.8	0	46	0	94.9	0
Total %	0	0	0	0	0	27.1	3.8	0	30.8	10.2	0	13	0	0	0	30.5	15.5	0	46	5.1	94.9	0

Start Time	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				Exclu. Total	Inclu. Total	Int. Total			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR
04:45 PM	0	0	0	0	0	0	0	0	0	273	86	0	107	193	0	262	133	0	395	0	395	861
05:00 PM	0	0	0	0	0	0	0	0	294	79	0	113	192	192	0	254	96	0	350	0	350	836
05:15 PM	0	0	0	0	0	0	0	0	259	85	0	119	204	204	0	262	134	0	396	0	396	859
05:30 PM	0	0	0	0	0	0	0	0	238	97	0	125	222	222	0	252	136	0	388	0	388	848
Total Volume	0	0	0	0	0	941	123	0	1064	347	0	464	811	811	0	1030	499	0	1529	0	1529	3404
% App. Total	0	0	0	0	0	88.4	11.6	0	42.8	0	57.2	0	0	67.4	0	67.4	32.6	0	983	0	983	988
PHF	.000	.000	.000	.000	.000	.000	.901	.932	.905	.894	.000	.928	.913	.983	.000	.983	.917	.965	.965	.965	.965	.988

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 04_MUR_215N_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Northbound On Ramp Southbound			Clinton Keith Road Westbound			I-215 Northbound Ramps Northbound			Clinton Keith Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	27	273	0	86	193	0	262	133
+15 mins.	0	0	0	0	33	294	0	79	192	0	254	96
+30 mins.	0	0	0	0	30	259	0	85	204	0	262	134
+45 mins.	0	0	0	0	33	238	0	97	222	0	252	136
Total Volume	0	0	0	0	123	1064	0	347	811	0	1030	499
% App. Total	0	0	0	0	11.6	93.2	0	42.8	57.2	0	67.4	32.6
PHF	.000	.000	.000	.000	.932	.905	.894	.000	.913	.000	.983	.917

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 04_MUR_215N_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

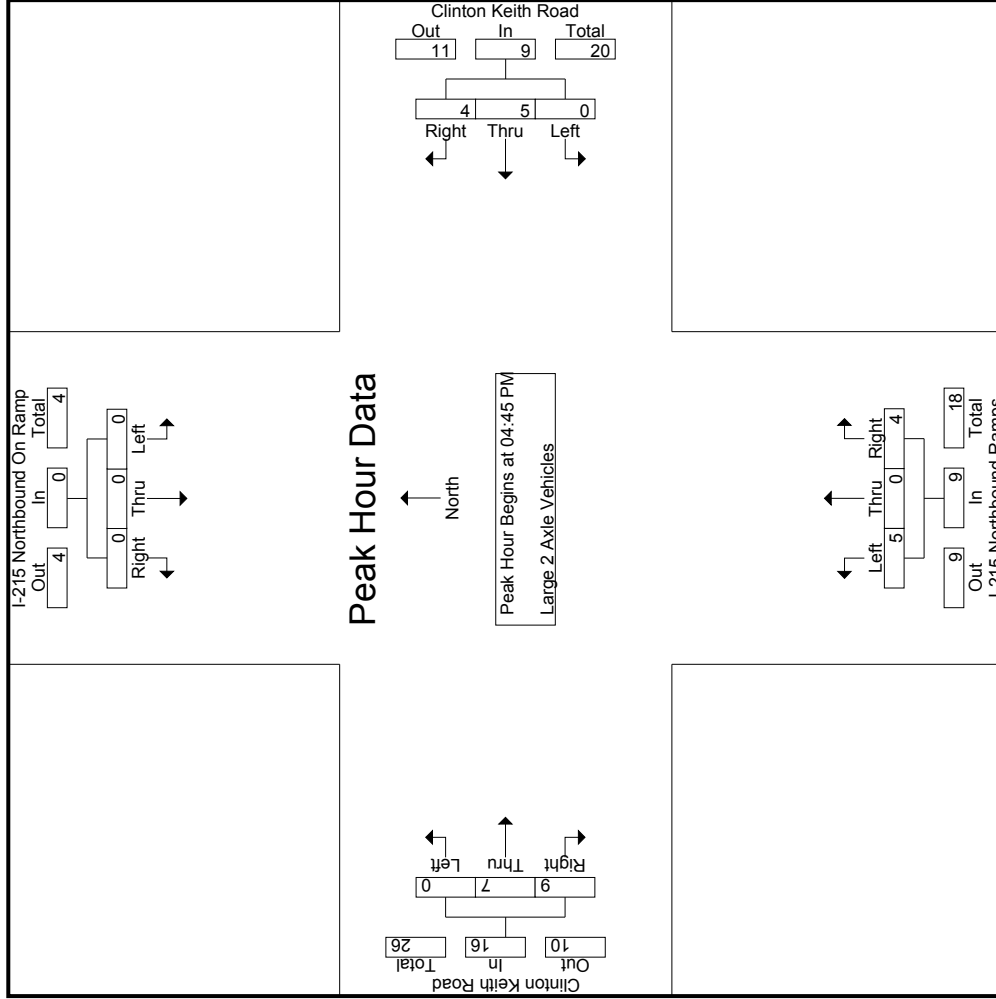
Groups Printed- Large 2 Axle Vehicles

Start Time	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2	0	4	0	5	5
04:15 PM	0	0	0	0	0	3	1	0	0	4	1	0	0	0	1	0	0	2	0	2	0	7	7
04:30 PM	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	6	2	0	8	0	11	11
04:45 PM	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	2	3	0	5	0	8	8
Total	0	0	0	0	0	8	3	0	0	11	1	0	0	0	1	0	10	9	0	19	0	31	31
05:00 PM	0	0	0	0	0	1	0	0	0	1	2	0	1	0	3	0	1	1	0	2	0	6	6
05:15 PM	0	0	0	0	0	1	1	0	0	2	1	0	2	0	3	0	3	1	0	4	0	9	9
05:30 PM	0	0	0	0	0	1	2	0	0	3	2	0	1	1	3	0	1	4	0	5	1	11	12
05:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	1	0	1	0	3	3
Total	0	0	0	0	0	4	4	0	0	8	5	0	4	1	9	0	5	7	0	12	1	29	30
Grand Total	0	0	0	0	0	12	7	0	0	19	6	0	4	1	10	0	15	16	0	31	1	60	61
% Apprch %	0	0	0	0	0	63.2	36.8				60	0	40			0	48.4	51.6					
Total %	0	0	0	0	0	20	11.7			31.7	10	0	6.7		16.7	0	25	26.7		51.7	1.6	98.4	

Start Time	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	5	0	5	5
05:00 PM	0	0	0	0	0	1	0	0	0	1	2	0	1	0	3	0	1	1	0	2	0	7	7
05:15 PM	0	0	0	0	0	1	1	0	0	2	1	0	2	0	3	0	3	1	0	4	0	9	9
05:30 PM	0	0	0	0	0	2	1	0	0	3	2	0	1	1	3	0	1	4	0	5	1	11	12
05:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	1	0	1	0	3	3
Total	0	0	0	0	0	4	4	0	0	8	5	0	4	1	9	0	5	7	0	12	1	29	30
Grand Total	0	0	0	0	0	12	7	0	0	19	6	0	4	1	10	0	15	16	0	31	1	60	61
% Apprch %	0	0	0	0	0	63.2	36.8				60	0	40			0	48.4	51.6					
Total %	0	0	0	0	0	20	11.7			31.7	10	0	6.7		16.7	0	25	26.7		51.7	1.6	98.4	

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Start Time	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	5	0	5	5
05:00 PM	0	0	0	0	0	1	0	0	0	1	2	0	1	0	3	0	1	1	0	2	0	7	7
05:15 PM	0	0	0	0	0	1	1	0	0	2	1	0	2	0	3	0	3	1	0	4	0	9	9
05:30 PM	0	0	0	0	0	2	1	0	0	3	2	0	1	1	3	0	1	4	0	5	1	11	12
05:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	1	0	1	0	3	3
Total	0	0	0	0	0	4	4	0	0	8	5	0	4	1	9	0	5	7	0	12	1	29	30
% App. Total	0	0	0	0	0	55.6	44.4				55.6	0	44.4			0	43.8	56.2					
PHF	.000	.000	.000	.000	.000	.000	.625	.500		.750	.625	.000	.500		.750	.000	.583	.563		.800	.000	.800	.773



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 04_MUR_215N_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Northbound On Ramp Southbound			Clinton Keith Road Westbound			I-215 Northbound Ramps Northbound			Clinton Keith Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:	04:45 PM											
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	2	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	1	0	1	3	0	1
+45 mins.	0	0	0	0	0	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	5	0	0	4	0	7
% App. Total	0	0	0	0	0	0	55.6	0	0	44.4	0	43.8
PHF	.000	.000	.000	.000	.000	.000	.625	.000	.500	.750	.000	.563
							.625	.000	.500	.750	.000	.563
							.500	.000	.500	.750	.000	.800

Groups Printed- 3 Axle Vehicles

Start Time	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	1	0	2
04:30 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	1	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	2	0	2
Total	0	0	0	0	0	1	1	0	2	0	0	0	0	0	4	0	0	0	4	0	4	0	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	2	2	0	4	0	0	0	0	0	1	0	0	0	1	0	1	0	5
Grand Total	0	0	0	0	0	3	3	0	6	0	0	0	0	0	5	0	0	0	5	0	5	0	11
% Apprch %	0	0	0	0	0	50	50		54.5				0	0	100		0	0	45.5		45.5		100
Total %	0	0	0	0	0	27.3	27.3		54.5				0	0	45.5		0	0	45.5		45.5		100

Start Time	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	2	2	0	4	0	0	0	0	0	1	0	0	0	1	0	1	0	5
Grand Total	0	0	0	0	0	3	3	0	6	0	0	0	0	0	5	0	0	0	5	0	5	0	11
% Apprch %	0	0	0	0	0	50	50		54.5				0	0	100		0	0	45.5		45.5		100
Total %	0	0	0	0	0	27.3	27.3		54.5				0	0	45.5		0	0	45.5		45.5		100

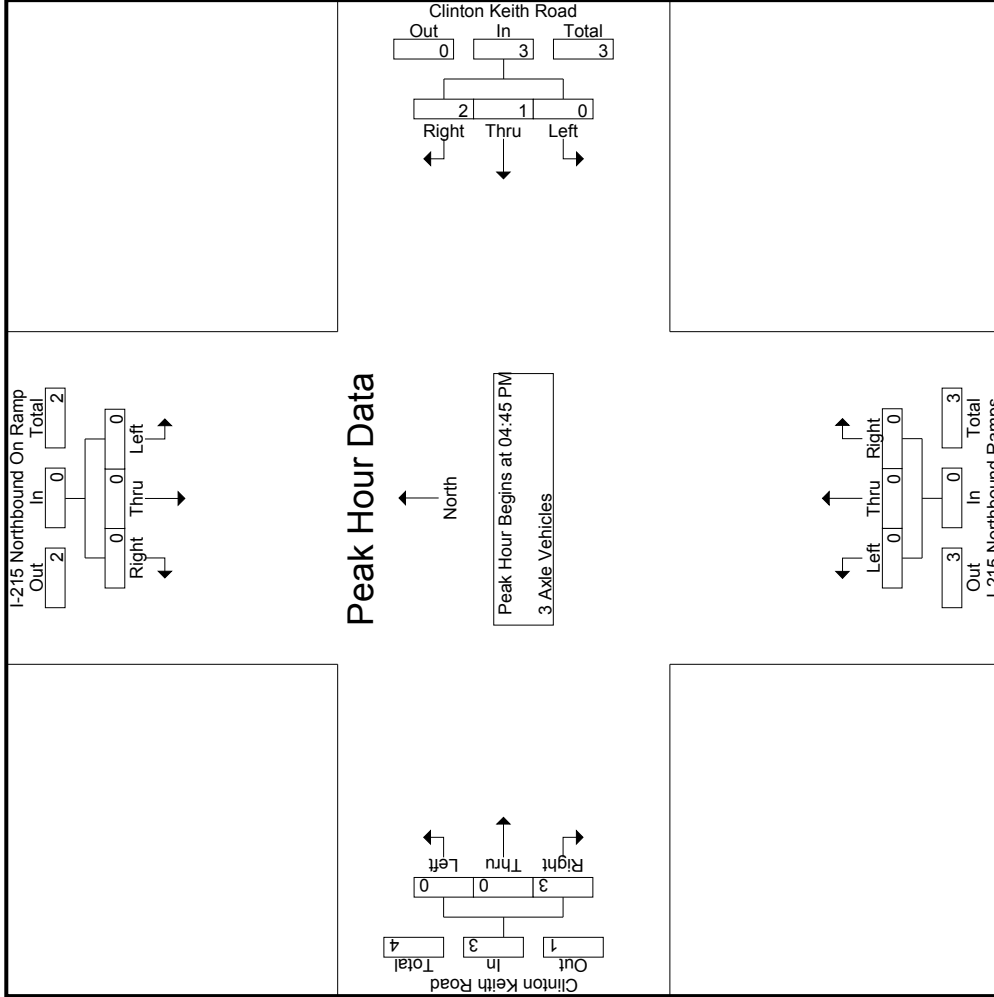
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Start Time	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
% App. Total	0	0	0	0	0	33.3	66.7		250				0	0	100		0	0	375		375		500
PHF	.000	.000	.000	.000	.000	.250	.250		.250				.000	.000	.375		.000	.000	.375		.375		.500

Counts Unlimited, Inc.
 PO Box 1178
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File Name : 04_MUR_215N_CK_PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 2

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 04_MUR_215N_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Northbound On Ramp Southbound			Clinton Keith Road Westbound			I-215 Northbound Ramps Northbound			Clinton Keith Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:	04:45 PM											
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	2
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	2	3	0	0	0	0	0
Total Volume	0	0	0	0	1	2	3	0	0	0	0	3
% App. Total	0	0	0	0	33.3	66.7	.250	0	0	0	0	100
PHF	.000	.000	.000	.000	.250	.250	.250	.000	.000	.000	.000	.375

Counts Unlimited, Inc.
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File Name : 04_MUR_215N_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 1

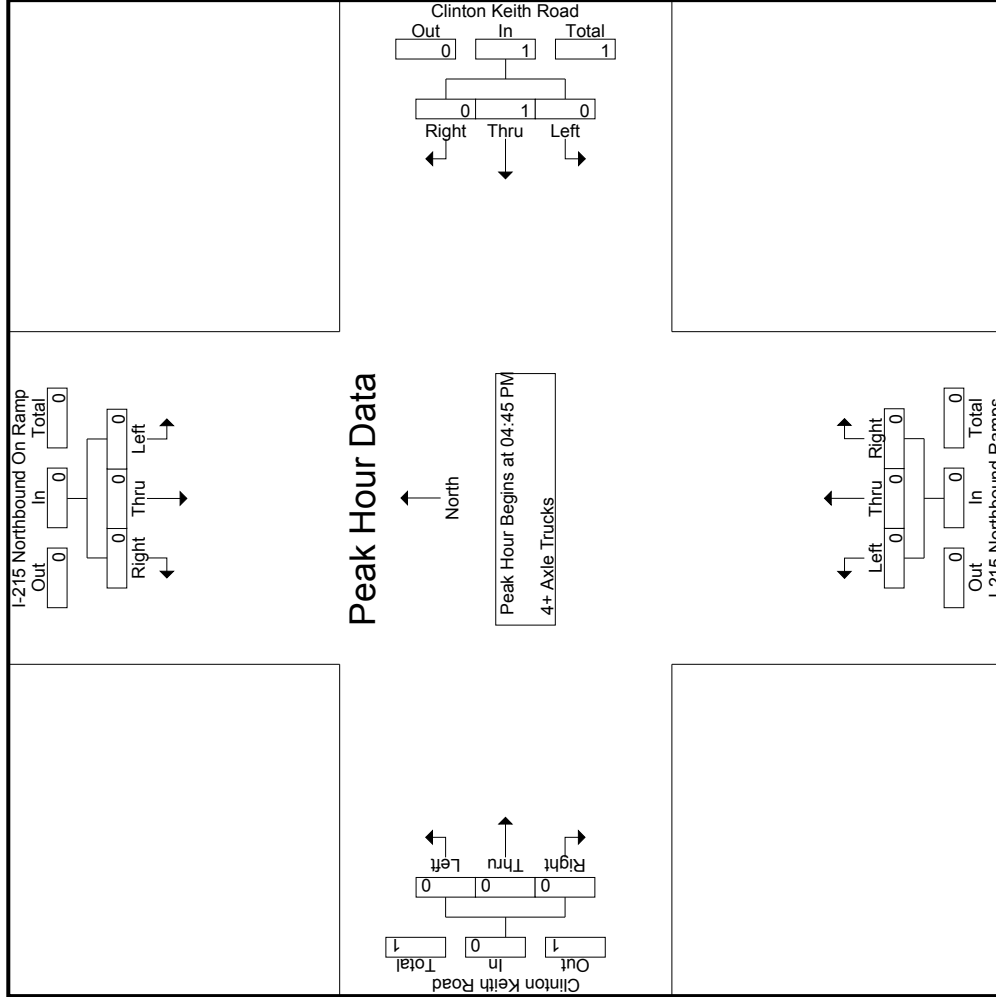
City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Groups Printed- 4+ Axle Trucks

Start Time	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	1	1	1	0	0	0	0	0	0	1	2
Grand Total	0	0	0	0	0	0	1	0	0	1	0	0	1	1	1	0	0	0	0	0	0	1	2
% Apprch	0	0	0	0	0	0	100	0	0	50	0	0	100	50	50	0	0	0	0	0	0	33.3	66.7
Total %	0	0	0	0	0	0	50	0	0	50	0	0	50	50	50	0	0	0	0	0	0	33.3	66.7

Start Time	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 04_MUR_215N_CK_PM
 Site Code : 05121192
 Start Date : 5/4/2021
 Page No : 3

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

Start Time	I-215 Northbound On Ramp Southbound			Clinton Keith Road Westbound			I-215 Northbound Ramps Northbound			Clinton Keith Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:	04:45 PM											
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	0	0	0	0	0
% App. Total	0	0	0	0	100	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000

Location: Murrieta
 N/S: I-215 NB Ramps
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

PEDESTRIANS

	North Leg I-215 NB Ramps	East Leg Clinton Keith Road	South Leg I-215 NB Ramps	West Leg Clinton Keith Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	2	0	2
7:15 AM	0	0	1	0	1
7:30 AM	0	0	4	0	4
7:45 AM	0	0	0	0	0
8:00 AM	0	0	1	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	8	0	8

	North Leg I-215 NB Ramps	East Leg Clinton Keith Road	South Leg I-215 NB Ramps	West Leg Clinton Keith Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	3	0	3
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	4	0	4
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	7	0	7

Location: Murrieta
 N/S: I-215 NB Ramps
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

BICYCLES

	Southbound I-215 NB Ramps			Westbound Clinton Keith Road			Northbound I-215 NB Ramps			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	1	0	0	0	1	0	2

	Southbound I-215 NB Ramps			Westbound Clinton Keith Road			Northbound I-215 NB Ramps			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	0	0	0	4	0	0	0	0	0	1	0	5

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 05_MEN_Briggs_Scott AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Menifee
 N/S: Briggs Road
 E/W: Scott Road
 Weather: Clear

Groups Printed- Total Volume

Start Time	Briggs Road Southbound				Scott Road Westbound				Briggs Road Northbound				Scott Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	7	5	8	1	68	0	0	69	27	0	1	0	28	5	115	41	6	161	11	266	277
07:15 AM	3	2	11	8	16	1	104	0	0	105	26	0	0	0	26	0	94	59	5	153	13	300	313
07:30 AM	1	7	4	2	12	2	105	0	0	107	27	0	2	1	29	4	98	59	6	161	9	309	318
07:45 AM	1	2	2	1	5	4	107	1	0	112	30	1	1	1	32	3	78	75	14	156	16	305	321
Total	5	12	24	16	41	8	384	1	0	393	110	1	4	2	115	12	385	234	31	631	49	1180	1229
08:00 AM	3	5	5	4	13	8	93	0	0	101	42	2	0	0	44	4	78	55	6	137	10	295	305
08:15 AM	0	2	7	5	9	2	109	0	0	111	49	1	0	0	50	5	90	39	11	134	16	304	320
08:30 AM	0	2	7	2	9	0	107	0	0	107	26	1	1	0	28	7	88	26	4	121	6	265	271
08:45 AM	4	1	6	5	11	0	88	2	1	90	26	0	1	1	27	0	83	25	5	108	12	236	248
Total	7	10	25	16	42	10	397	2	1	409	143	4	2	1	149	16	339	145	26	500	44	1100	1144
Grand Total	12	22	49	32	83	18	781	3	1	802	253	5	6	3	264	28	724	379	57	1131	93	2280	2373
% Approach	14.5	26.5	59			2.2	97.4	0.4		35.2	95.8	1.9	2.3		11.6	2.5	64	33.5		49.6	3.9	96.1	
Total %	0.5	1	2.1		3.6	0.8	34.3	0.1			11.1	0.2	0.3			1.2	31.8	16.6					

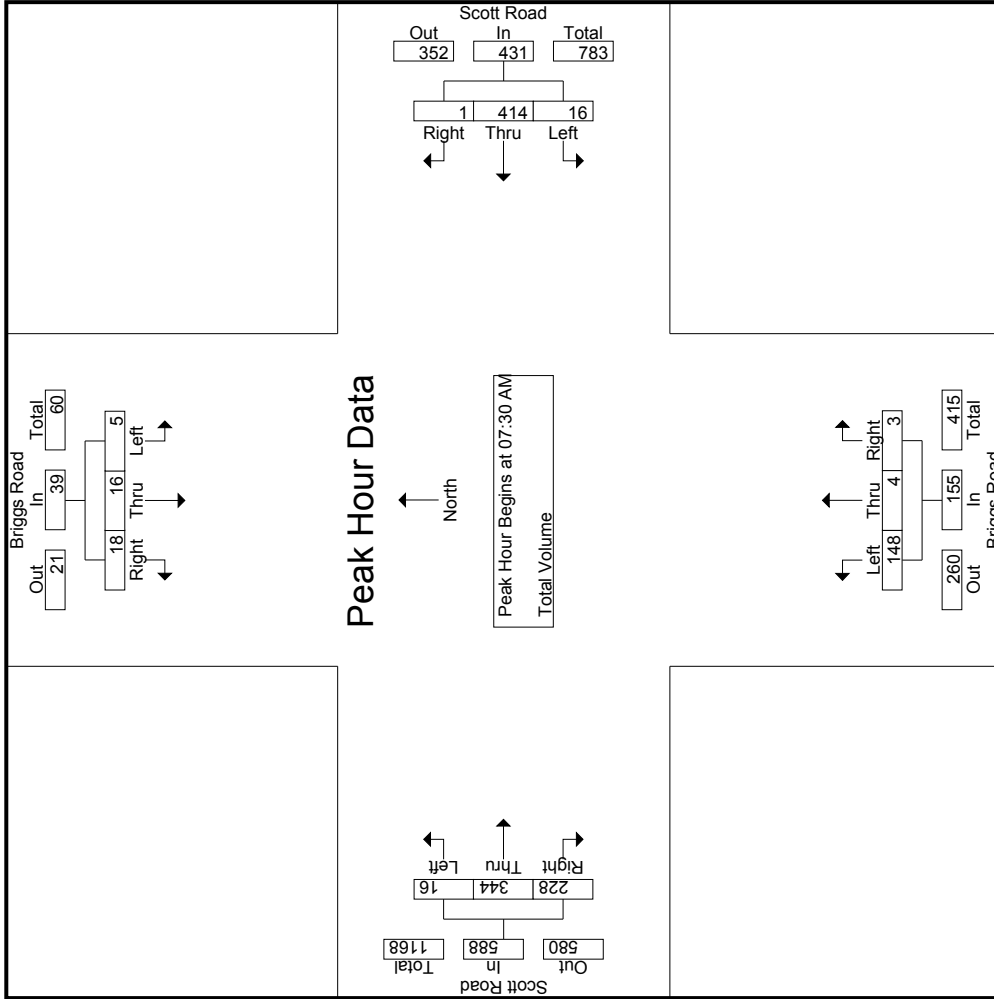
Start Time	Briggs Road Southbound				Scott Road Westbound				Briggs Road Northbound				Scott Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	1	7	4		12	2	105	0		107	27	0	2		29	4	98	59		161			309
07:45 AM	1	2	2		5	4	107	1		112	30	1	1		32	3	78	75		156			305
08:00 AM	3	5	5		13	8	93	0		101	42	2	0		44	4	78	55		137			295
08:15 AM	0	2	2		7	2	109	0		111	49	1	0		50	5	90	39		134			304
Total Volume	5	16	18		39	16	414	1		431	148	4	3		155	16	344	228		588			1213
% App. Total	12.8	41	46.2			3.7	96.1	0.2			95.5	2.6	1.9			2.7	58.5	38.8					
PHF	.417	.571	.643		.750	.500	.950	.250		.962	.755	.500	.375		.775	.800	.878	.760		.913			.981

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: Briggs Road
 E/W: Scott Road
 Weather: Clear

File Name : 05_MEN_Briggs_Scott AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 05_MEN_Briggs_Scott AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: Briggs Road
 E/W: Scott Road
 Weather: Clear

Start Time	Briggs Road Southbound			Scott Road Westbound			Briggs Road Northbound			Scott Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:15 AM			07:30 AM			07:30 AM			07:00 AM						
+0 mins.	3	2	11	16	2	105	0	107	27	0	2	29	5	115	41	161
+15 mins.	1	7	4	12	4	107	1	112	30	1	1	32	0	94	59	153
+30 mins.	1	2	2	5	8	93	0	101	42	2	0	44	4	98	59	161
+45 mins.	3	5	5	13	2	109	0	111	49	1	0	50	3	78	75	156
Total Volume	8	16	22	46	16	414	1	431	148	4	3	155	12	385	234	631
% App. Total	17.4	34.8	47.8		3.7	96.1	0.2		95.5	2.6	1.9		1.9	61	37.1	
PHF	.667	.571	.500	.719	.500	.950	.250	.962	.755	.500	.375	.775	.600	.837	.780	.980

Groups Printed- Total Volume

Start Time	Briggs Road Southbound				Scott Road Westbound				Briggs Road Northbound				Scott Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	12	7	13	1	119	1	1	121	44	4	1	1	49	8	95	35	2	138	11	321	332
04:15 PM	1	3	6	4	10	1	145	5	3	151	46	1	1	0	48	6	118	48	2	172	9	381	390
04:30 PM	1	5	6	3	12	1	148	0	0	149	45	3	1	1	49	2	112	39	4	153	8	363	371
04:45 PM	0	2	8	4	10	1	110	1	0	112	45	4	3	2	52	8	123	44	4	175	10	349	359
Total	2	11	32	18	45	4	522	7	4	533	180	12	6	4	198	24	448	166	12	638	38	1414	1452
05:00 PM	1	4	12	6	17	3	97	5	0	105	38	2	1	1	41	6	123	57	10	186	17	349	366
05:15 PM	1	1	5	4	7	2	130	1	0	133	58	0	0	0	58	4	141	67	9	212	13	410	423
05:30 PM	1	0	9	6	10	0	108	1	0	109	48	4	2	0	54	8	111	56	7	175	13	348	361
05:45 PM	2	4	8	4	14	1	106	3	1	110	48	1	1	1	50	6	92	45	7	143	13	317	330
Total	5	9	34	20	48	6	441	10	1	457	192	7	4	2	203	24	467	225	33	716	56	1424	1480
Grand Total	7	20	66	38	93	10	963	17	5	990	372	19	10	6	401	48	915	391	45	1354	94	2838	2932
% Approach	7.5	21.5	71			1	97.3	1.7			92.8	4.7	2.5		14.1	3.5	67.6	28.9		47.7			
% Total	0.2	0.7	2.3		3.3	0.4	33.9	0.6		34.9	13.1	0.7	0.4			1.7	32.2	13.8			3.2		96.8

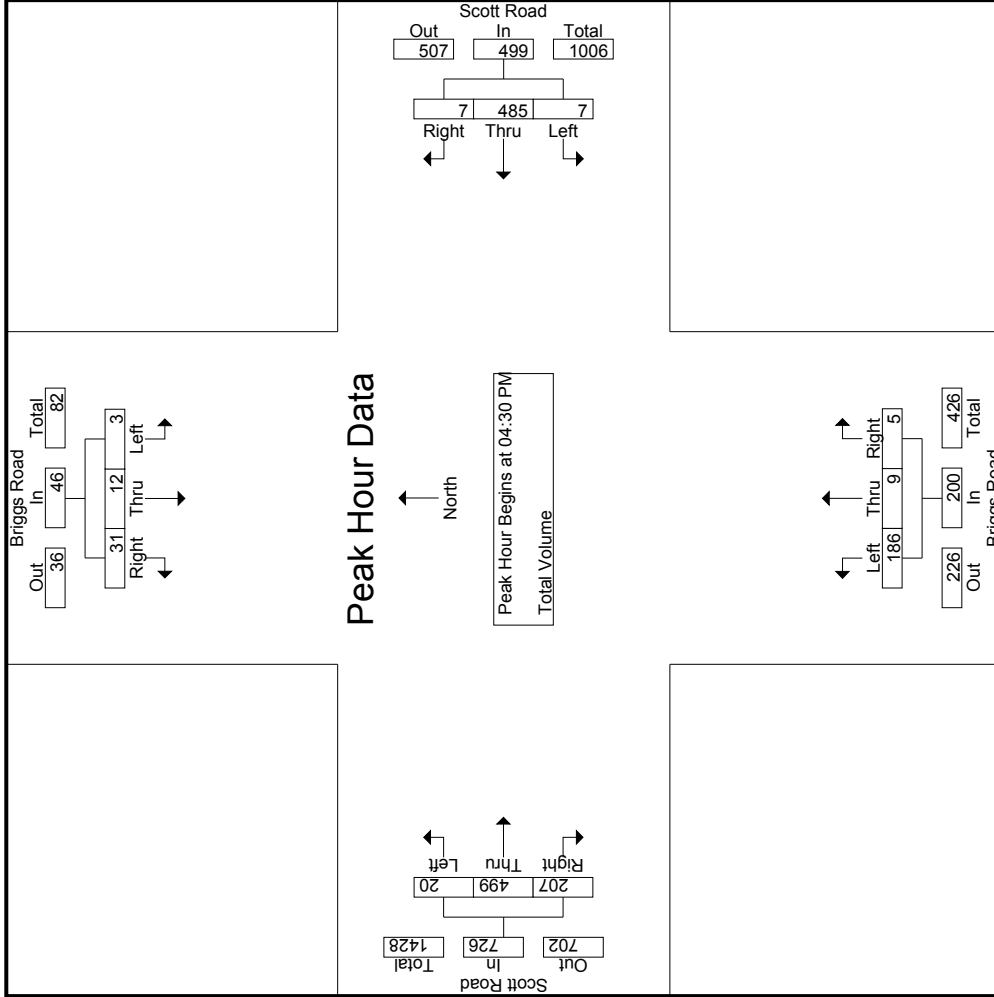
Start Time	Briggs Road Southbound				Scott Road Westbound				Briggs Road Northbound				Scott Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	1	5	6		12	1	148	0		149	45	3	1		49	2	112	39		153			363
04:45 PM	0	2	8		10	1	110	1		112	45	4	3		52	8	123	44		175			349
05:00 PM	1	4	12		17	3	97	5		105	38	2	1		41	6	123	57		186			349
05:15 PM	1	1	5		7	2	130	1		133	58	0	0		58	4	141	67		212			410
Total Volume	3	12	31		46	7	485	7		499	186	9	5		200	20	499	207		726			1471
% App. Total	6.5	26.1	67.4			1.4	97.2	1.4			93	4.5	2.5			2.8	68.7	28.5					
PHF	.750	.600	.646		.676	.583	.819	.350		.837	.802	.563	.417		.862	.625	.885	.772		.856			.897

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Menifee
 N/S: Briggs Road
 E/W: Scott Road
 Weather: Clear

File Name : 05_MEN_Briggs_Scott PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 05_MEN_Briggs_Scott PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Menifee
 N/S: Briggs Road
 E/W: Scott Road
 Weather: Clear

Start Time	Briggs Road Southbound			Scott Road Westbound			Briggs Road Northbound			Scott Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:15 PM			04:00 PM			04:45 PM			04:45 PM						
+0 mins.	1	3	6	10	1	119	1	121	4	45	3	52	8	123	44	175
+15 mins.	1	5	6	12	5	145	151	151	2	38	1	41	6	123	57	186
+30 mins.	0	2	8	10	0	148	149	149	0	58	0	58	4	141	67	212
+45 mins.	1	4	12	17	1	110	112	112	4	48	2	54	8	111	56	175
Total Volume	3	14	32	49	4	522	7	533	10	189	6	205	26	498	224	748
% App. Total	6.1	28.6	65.3		0.8	97.9	1.3		4.9	92.2	2.9		3.5	66.6	29.9	
PHF	.750	.700	.667	.721	1.000	.882	.350	.882	.625	.815	.500	.884	.813	.883	.836	.882

Location: Menifee
 N/S: Briggs Road
 E/W: Scott Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Briggs Road	East Leg Scott Road	South Leg Briggs Road	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Briggs Road	East Leg Scott Road	South Leg Briggs Road	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Menifee
 N/S: Briggs Road
 E/W: Scott Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Briggs Road			Westbound Scott Road			Northbound Briggs Road			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	1	0	1

	Southbound Briggs Road			Westbound Scott Road			Northbound Briggs Road			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	1	1	0	0	1	0	3

County of Riverside
 N/S: Leon Road
 E/W: Scott Road
 Weather: Clear

File Name : 06_CRV_Leon_Scott AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Total Volume

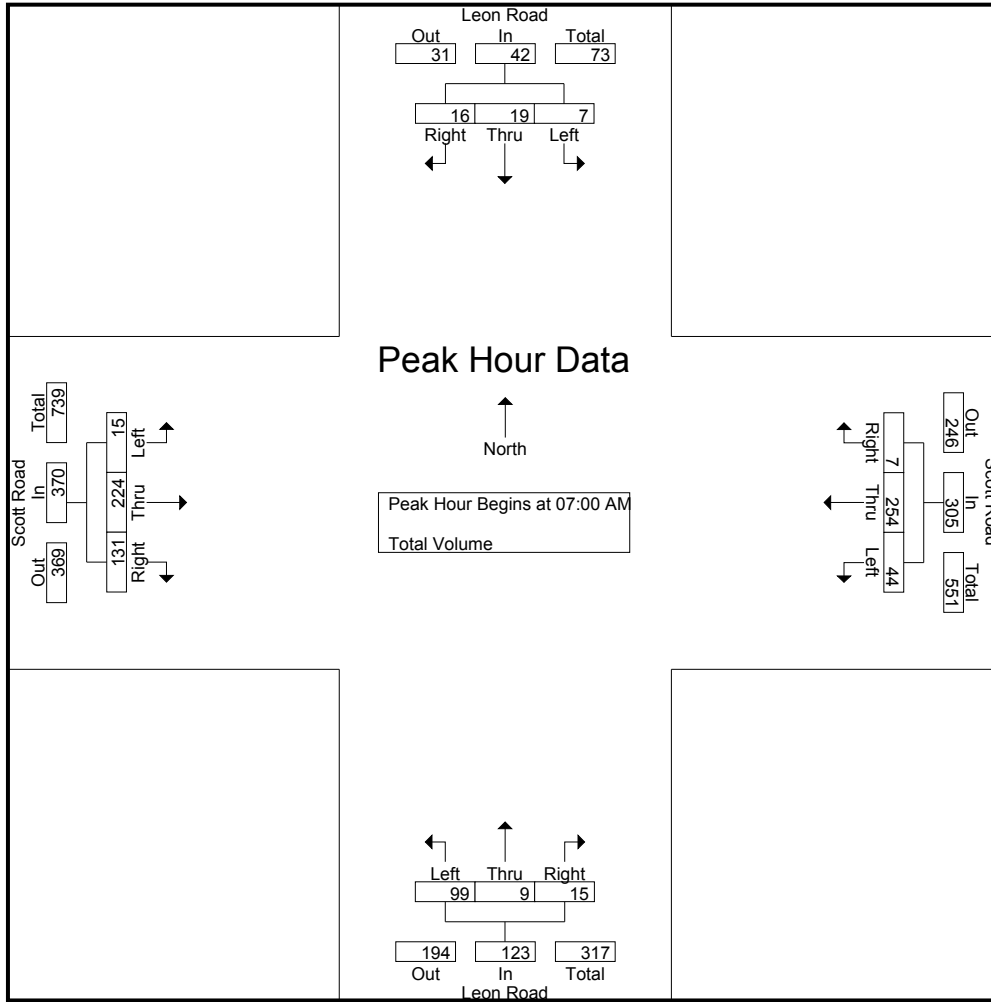
Start Time	Leon Road Southbound				Scott Road Westbound				Leon Road Northbound				Scott Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	3	3	1	7	15	42	2	59	33	0	3	36	5	61	41	107	209
07:15 AM	0	5	4	9	12	70	1	83	22	3	4	29	5	56	35	96	217
07:30 AM	2	7	3	12	10	73	2	85	26	3	7	36	3	61	34	98	231
07:45 AM	2	4	8	14	7	69	2	78	18	3	1	22	2	46	21	69	183
Total	7	19	16	42	44	254	7	305	99	9	15	123	15	224	131	370	840
08:00 AM	2	6	4	12	6	74	2	82	25	2	1	28	1	54	29	84	206
08:15 AM	1	1	5	7	3	66	4	73	25	4	6	35	5	57	22	84	199
08:30 AM	0	5	5	10	8	69	0	77	19	8	2	29	7	63	15	85	201
08:45 AM	1	2	2	5	4	49	1	54	27	3	4	34	4	61	22	87	180
Total	4	14	16	34	21	258	7	286	96	17	13	126	17	235	88	340	786
Grand Total	11	33	32	76	65	512	14	591	195	26	28	249	32	459	219	710	1626
Apprch %	14.5	43.4	42.1		11	86.6	2.4		78.3	10.4	11.2		4.5	64.6	30.8		
Total %	0.7	2	2	4.7	4	31.5	0.9	36.3	12	1.6	1.7	15.3	2	28.2	13.5	43.7	

Start Time	Leon Road Southbound				Scott Road Westbound				Leon Road Northbound				Scott Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	3	3	1	7	15	42	2	59	33	0	3	36	5	61	41	107	209
07:15 AM	0	5	4	9	12	70	1	83	22	3	4	29	5	56	35	96	217
07:30 AM	2	7	3	12	10	73	2	85	26	3	7	36	3	61	34	98	231
07:45 AM	2	4	8	14	7	69	2	78	18	3	1	22	2	46	21	69	183
Total Volume	7	19	16	42	44	254	7	305	99	9	15	123	15	224	131	370	840
% App. Total	16.7	45.2	38.1		14.4	83.3	2.3		80.5	7.3	12.2		4.1	60.5	35.4		
PHF	.583	.679	.500	.750	.733	.870	.875	.897	.750	.750	.536	.854	.750	.918	.799	.864	.909

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

County of Riverside
 N/S: Leon Road
 E/W: Scott Road
 Weather: Clear

File Name : 06_CRV_Leon_Scott AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				08:00 AM				07:00 AM			
+0 mins.	0	5	4	9	12	70	1	83	25	2	1	28	5	61	41	107
+15 mins.	2	7	3	12	10	73	2	85	25	4	6	35	5	56	35	96
+30 mins.	2	4	8	14	7	69	2	78	19	8	2	29	3	61	34	98
+45 mins.	2	6	4	12	6	74	2	82	27	3	4	34	2	46	21	69
Total Volume	6	22	19	47	35	286	7	328	96	17	13	126	15	224	131	370
% App. Total	12.8	46.8	40.4		10.7	87.2	2.1		76.2	13.5	10.3		4.1	60.5	35.4	
PHF	.750	.786	.594	.839	.729	.966	.875	.965	.889	.531	.542	.900	.750	.918	.799	.864

County of Riverside
 N/S: Leon Road
 E/W: Scott Road
 Weather: Clear

File Name : 06_CRV_Leon_Scott PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Total Volume

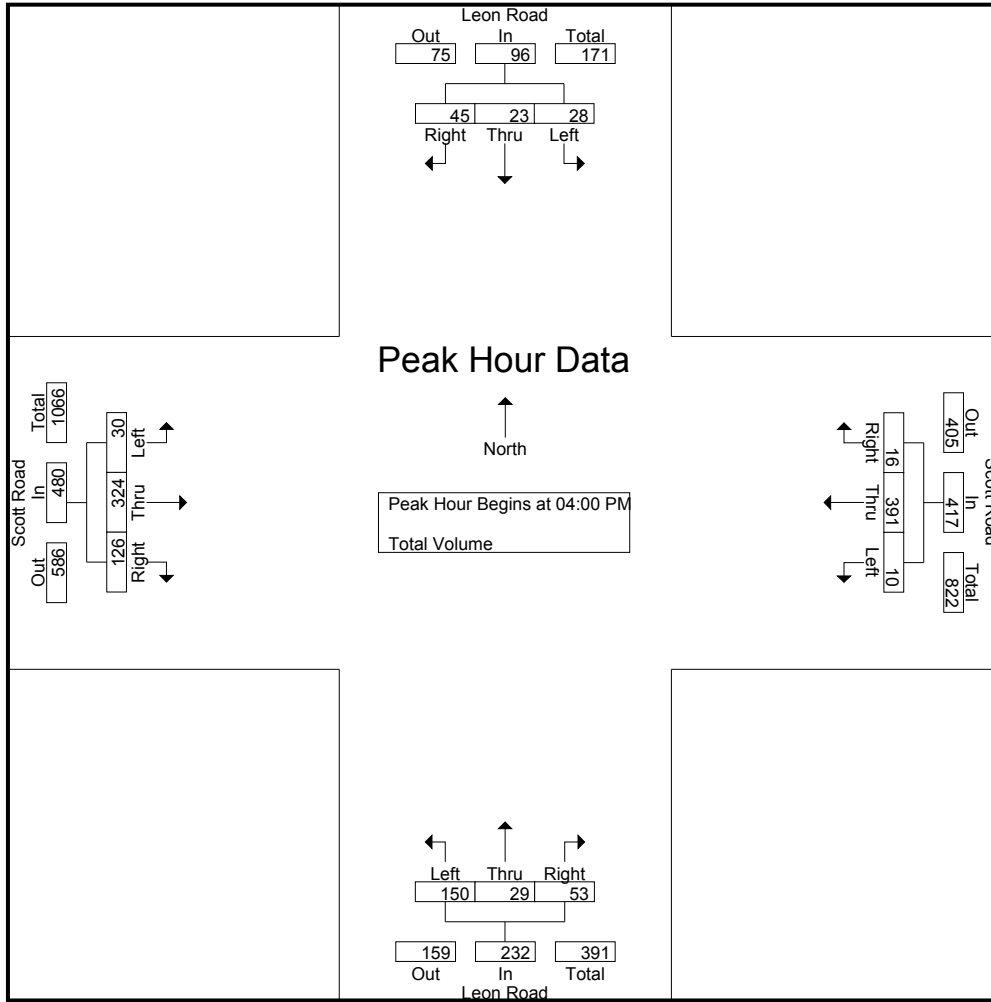
Start Time	Leon Road Southbound				Scott Road Westbound				Leon Road Northbound				Scott Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	15	3	18	36	2	78	4	84	31	10	21	62	10	81	29	120	302
04:15 PM	9	12	16	37	1	95	0	96	41	6	21	68	8	75	28	111	312
04:30 PM	2	4	7	13	5	121	5	131	45	10	5	60	5	83	32	120	324
04:45 PM	2	4	4	10	2	97	7	106	33	3	6	42	7	85	37	129	287
Total	28	23	45	96	10	391	16	417	150	29	53	232	30	324	126	480	1225
05:00 PM	4	4	5	13	5	80	4	89	45	5	6	56	4	81	18	103	261
05:15 PM	2	1	15	18	1	80	5	86	47	5	6	58	5	90	29	124	286
05:30 PM	5	6	10	21	1	90	5	96	30	4	9	43	4	82	26	112	272
05:45 PM	2	5	3	10	2	69	3	74	37	16	12	65	7	85	25	117	266
Total	13	16	33	62	9	319	17	345	159	30	33	222	20	338	98	456	1085
Grand Total	41	39	78	158	19	710	33	762	309	59	86	454	50	662	224	936	2310
Apprch %	25.9	24.7	49.4		2.5	93.2	4.3		68.1	13	18.9		5.3	70.7	23.9		
Total %	1.8	1.7	3.4	6.8	0.8	30.7	1.4	33	13.4	2.6	3.7	19.7	2.2	28.7	9.7	40.5	

Start Time	Leon Road Southbound				Scott Road Westbound				Leon Road Northbound				Scott Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	15	3	18	36	2	78	4	84	31	10	21	62	10	81	29	120	302
04:15 PM	9	12	16	37	1	95	0	96	41	6	21	68	8	75	28	111	312
04:30 PM	2	4	7	13	5	121	5	131	45	10	5	60	5	83	32	120	324
04:45 PM	2	4	4	10	2	97	7	106	33	3	6	42	7	85	37	129	287
Total Volume	28	23	45	96	10	391	16	417	150	29	53	232	30	324	126	480	1225
% App. Total	29.2	24	46.9		2.4	93.8	3.8		64.7	12.5	22.8		6.2	67.5	26.2		
PHF	.467	.479	.625	.649	.500	.808	.571	.796	.833	.725	.631	.853	.750	.953	.851	.930	.945

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:00 PM

County of Riverside
 N/S: Leon Road
 E/W: Scott Road
 Weather: Clear

File Name : 06_CRV_Leon_Scott PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:00 PM				04:00 PM			
+0 mins.	15	3	18	36	1	95	0	96	31	10	21	62	10	81	29	120
+15 mins.	9	12	16	37	5	121	5	131	41	6	21	68	8	75	28	111
+30 mins.	2	4	7	13	2	97	7	106	45	10	5	60	5	83	32	120
+45 mins.	2	4	4	10	5	80	4	89	33	3	6	42	7	85	37	129
Total Volume	28	23	45	96	13	393	16	422	150	29	53	232	30	324	126	480
% App. Total	29.2	24	46.9		3.1	93.1	3.8		64.7	12.5	22.8		6.2	67.5	26.2	
PHF	.467	.479	.625	.649	.650	.812	.571	.805	.833	.725	.631	.853	.750	.953	.851	.930

Location: County of Riverside
 N/S: Leon Road
 E/W: Scott Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Leon Road	East Leg Scott Road	South Leg Leon Road	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Leon Road	East Leg Scott Road	South Leg Leon Road	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Leon Road
 E/W: Scott Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Leon Road			Westbound Scott Road			Northbound Leon Road			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Leon Road			Westbound Scott Road			Northbound Leon Road			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	6	0	0	0	0	0	0	0	0	0	0	6
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
TOTAL VOLUMES:	0	6	0	0	0	0	0	0	1	0	0	0	7

County of Riverside
 N/S: Leon Road
 E/W: Keller Road
 Weather: Clear

File Name : 07_CRV_Leon_Keller AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Total Volume

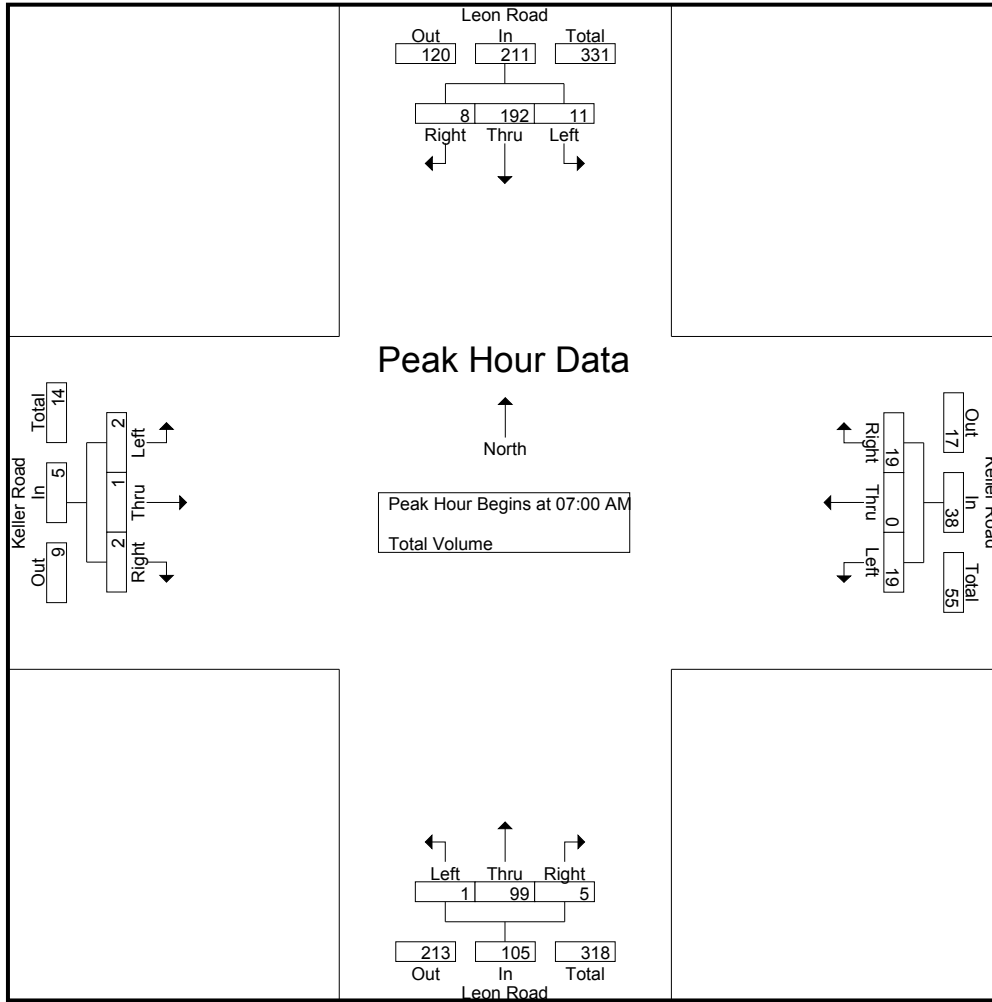
Start Time	Leon Road Southbound				Keller Road Westbound				Leon Road Northbound				Keller Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	1	65	3	69	3	0	11	14	1	23	0	24	1	0	1	2	109
07:15 AM	2	46	3	51	10	0	4	14	0	23	2	25	1	0	0	1	91
07:30 AM	4	53	1	58	2	0	4	6	0	30	2	32	0	1	1	2	98
07:45 AM	4	28	1	33	4	0	0	4	0	23	1	24	0	0	0	0	61
Total	11	192	8	211	19	0	19	38	1	99	5	105	2	1	2	5	359
08:00 AM	3	38	1	42	3	0	1	4	0	26	0	26	0	0	0	0	72
08:15 AM	3	27	0	30	3	0	3	6	0	29	5	34	1	0	0	1	71
08:30 AM	2	30	0	32	3	1	0	4	0	29	1	30	0	0	0	0	66
08:45 AM	2	23	1	26	1	0	3	4	0	33	2	35	0	0	0	0	65
Total	10	118	2	130	10	1	7	18	0	117	8	125	1	0	0	1	274
Grand Total	21	310	10	341	29	1	26	56	1	216	13	230	3	1	2	6	633
Apprch %	6.2	90.9	2.9		51.8	1.8	46.4		0.4	93.9	5.7		50	16.7	33.3		
Total %	3.3	49	1.6	53.9	4.6	0.2	4.1	8.8	0.2	34.1	2.1	36.3	0.5	0.2	0.3	0.9	

Start Time	Leon Road Southbound				Keller Road Westbound				Leon Road Northbound				Keller Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	1	65	3	69	3	0	11	14	1	23	0	24	1	0	1	2	109
07:15 AM	2	46	3	51	10	0	4	14	0	23	2	25	1	0	0	1	91
07:30 AM	4	53	1	58	2	0	4	6	0	30	2	32	0	1	1	2	98
07:45 AM	4	28	1	33	4	0	0	4	0	23	1	24	0	0	0	0	61
Total Volume	11	192	8	211	19	0	19	38	1	99	5	105	2	1	2	5	359
% App. Total	5.2	91	3.8		50	0	50		1	94.3	4.8		40	20	40		
PHF	.688	.738	.667	.764	.475	.000	.432	.679	.250	.825	.625	.820	.500	.250	.500	.625	.823

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

County of Riverside
 N/S: Leon Road
 E/W: Keller Road
 Weather: Clear

File Name : 07_CRV_Leon_Keller AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				08:00 AM				07:00 AM			
+0 mins.	1	65	3	69	3	0	11	14	0	26	0	26	1	0	1	2
+15 mins.	2	46	3	51	10	0	4	14	0	29	5	34	1	0	0	1
+30 mins.	4	53	1	58	2	0	4	6	0	29	1	30	0	1	1	2
+45 mins.	4	28	1	33	4	0	0	4	0	33	2	35	0	0	0	0
Total Volume	11	192	8	211	19	0	19	38	0	117	8	125	2	1	2	5
% App. Total	5.2	91	3.8		50	0	50		0	93.6	6.4		40	20	40	
PHF	.688	.738	.667	.764	.475	.000	.432	.679	.000	.886	.400	.893	.500	.250	.500	.625

County of Riverside
 N/S: Leon Road
 E/W: Keller Road
 Weather: Clear

File Name : 07_CRV_Leon_Keller PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Total Volume

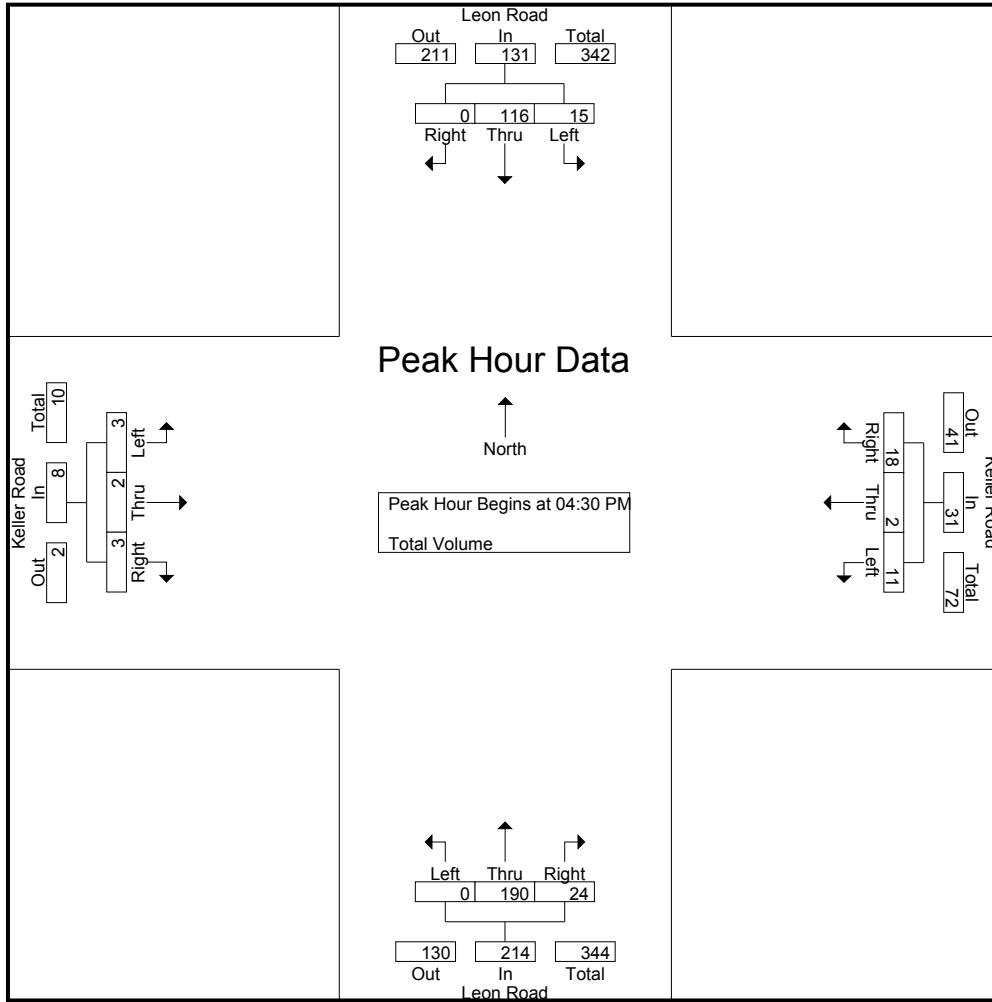
Start Time	Leon Road Southbound				Keller Road Westbound				Leon Road Northbound				Keller Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	3	29	1	33	2	0	4	6	0	53	3	56	3	0	0	3	98
04:15 PM	3	23	1	27	1	1	2	4	0	50	4	54	1	0	0	1	86
04:30 PM	1	32	0	33	1	1	7	9	0	42	7	49	0	1	0	1	92
04:45 PM	4	26	0	30	3	1	2	6	0	56	2	58	2	0	0	2	96
Total	11	110	2	123	7	3	15	25	0	201	16	217	6	1	0	7	372
05:00 PM	3	32	0	35	4	0	6	10	0	35	8	43	1	0	1	2	90
05:15 PM	7	26	0	33	3	0	3	6	0	57	7	64	0	1	2	3	106
05:30 PM	2	32	1	35	1	0	1	2	1	39	6	46	0	0	0	0	83
05:45 PM	6	25	0	31	3	0	3	6	0	43	6	49	0	0	0	0	86
Total	18	115	1	134	11	0	13	24	1	174	27	202	1	1	3	5	365
Grand Total	29	225	3	257	18	3	28	49	1	375	43	419	7	2	3	12	737
Apprch %	11.3	87.5	1.2		36.7	6.1	57.1		0.2	89.5	10.3		58.3	16.7	25		
Total %	3.9	30.5	0.4	34.9	2.4	0.4	3.8	6.6	0.1	50.9	5.8	56.9	0.9	0.3	0.4	1.6	

Start Time	Leon Road Southbound				Keller Road Westbound				Leon Road Northbound				Keller Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	1	32	0	33	1	1	7	9	0	42	7	49	0	1	0	1	92
04:45 PM	4	26	0	30	3	1	2	6	0	56	2	58	2	0	0	2	96
05:00 PM	3	32	0	35	4	0	6	10	0	35	8	43	1	0	1	2	90
05:15 PM	7	26	0	33	3	0	3	6	0	57	7	64	0	1	2	3	106
Total Volume	15	116	0	131	11	2	18	31	0	190	24	214	3	2	3	8	384
% App. Total	11.5	88.5	0		35.5	6.5	58.1		0	88.8	11.2		37.5	25	37.5		
PHF	.536	.906	.000	.936	.688	.500	.643	.775	.000	.833	.750	.836	.375	.500	.375	.667	.906

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

County of Riverside
 N/S: Leon Road
 E/W: Keller Road
 Weather: Clear

File Name : 07_CRV_Leon_Keller PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:00 PM				04:30 PM			
+0 mins.	3	32	0	35	1	1	7	9	0	53	3	56	0	1	0	1
+15 mins.	7	26	0	33	3	1	2	6	0	50	4	54	2	0	0	2
+30 mins.	2	32	1	35	4	0	6	10	0	42	7	49	1	0	1	2
+45 mins.	6	25	0	31	3	0	3	6	0	56	2	58	0	1	2	3
Total Volume	18	115	1	134	11	2	18	31	0	201	16	217	3	2	3	8
% App. Total	13.4	85.8	0.7		35.5	6.5	58.1		0	92.6	7.4		37.5	25	37.5	
PHF	.643	.898	.250	.957	.688	.500	.643	.775	.000	.897	.571	.935	.375	.500	.375	.667

Location: County of Riverside
 N/S: Leon Road
 E/W: Keller Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Leon Road	East Leg Keller Road	South Leg Leon Road	West Leg Keller Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Leon Road	East Leg Keller Road	South Leg Leon Road	West Leg Keller Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Leon Road
 E/W: Keller Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Leon Road			Westbound Keller Road			Northbound Leon Road			Eastbound Keller Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
TOTAL VOLUMES:	0	1	0	2	0	0	0	1	1	0	0	0	5

	Southbound Leon Road			Westbound Keller Road			Northbound Leon Road			Eastbound Keller Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	1	0	0	1	3

County of Riverside
 N/S: Leon Road
 E/W: Whisper Heights Parkway
 Weather: Clear

File Name : 08_CRV_Leon_Whisper AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Total Volume

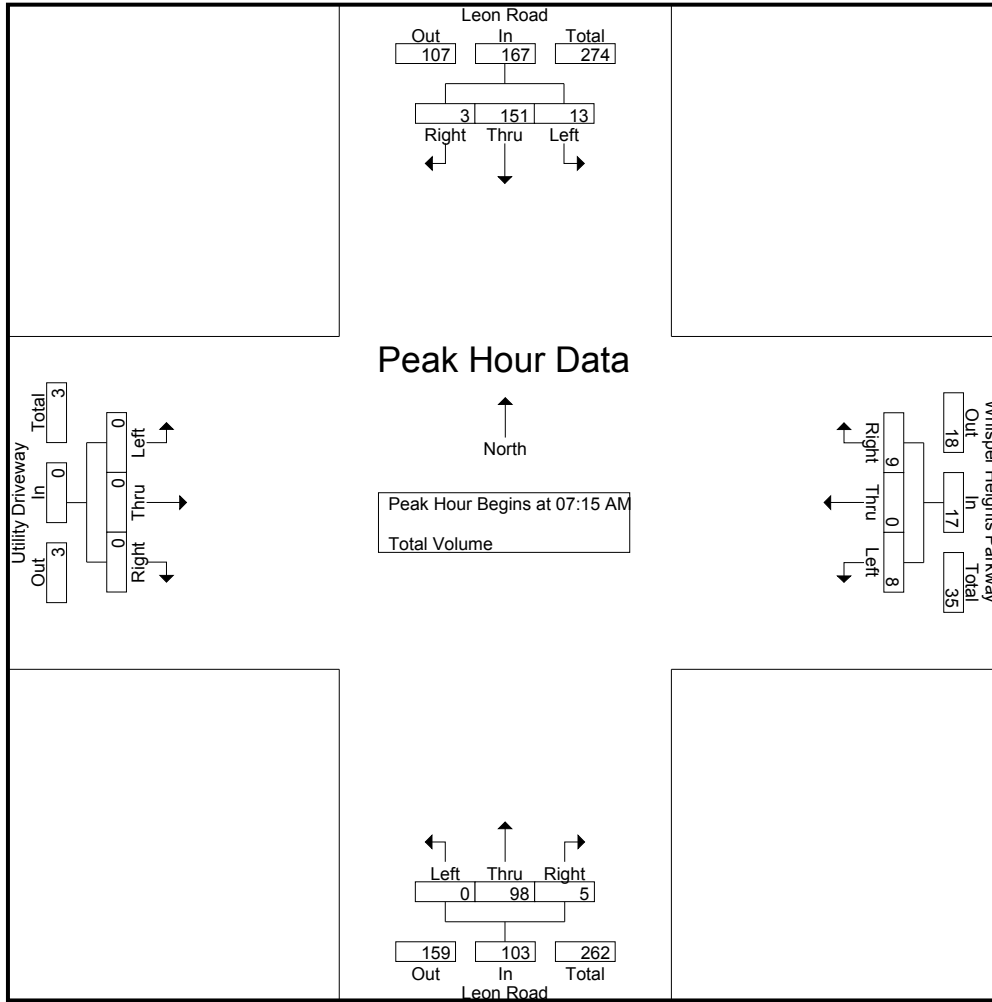
Start Time	Leon Road Southbound				Whisper Heights Parkway Westbound				Leon Road Northbound				Utility Driveway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	4	32	0	36	2	0	0	2	0	28	0	28	0	0	0	0	66
07:15 AM	2	40	1	43	1	0	2	3	0	24	2	26	0	0	0	0	72
07:30 AM	5	42	1	48	2	0	0	2	0	31	0	31	0	0	0	0	81
07:45 AM	2	30	1	33	1	0	1	2	0	21	2	23	0	0	0	0	58
Total	13	144	3	160	6	0	3	9	0	104	4	108	0	0	0	0	277
08:00 AM	4	39	0	43	4	0	6	10	0	22	1	23	0	0	0	0	76
08:15 AM	4	23	0	27	0	0	4	4	0	31	2	33	0	0	0	0	64
08:30 AM	3	24	0	27	1	0	1	2	0	35	1	36	0	0	0	0	65
08:45 AM	5	26	1	32	2	0	3	5	0	31	4	35	0	0	1	1	73
Total	16	112	1	129	7	0	14	21	0	119	8	127	0	0	1	1	278
Grand Total	29	256	4	289	13	0	17	30	0	223	12	235	0	0	1	1	555
Apprch %	10	88.6	1.4		43.3	0	56.7		0	94.9	5.1		0	0	100		
Total %	5.2	46.1	0.7	52.1	2.3	0	3.1	5.4	0	40.2	2.2	42.3	0	0	0.2	0.2	

Start Time	Leon Road Southbound				Whisper Heights Parkway Westbound				Leon Road Northbound				Utility Driveway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	2	40	1	43	1	0	2	3	0	24	2	26	0	0	0	0	72
07:30 AM	5	42	1	48	2	0	0	2	0	31	0	31	0	0	0	0	81
07:45 AM	2	30	1	33	1	0	1	2	0	21	2	23	0	0	0	0	58
08:00 AM	4	39	0	43	4	0	6	10	0	22	1	23	0	0	0	0	76
Total Volume	13	151	3	167	8	0	9	17	0	98	5	103	0	0	0	0	287
% App. Total	7.8	90.4	1.8		47.1	0	52.9		0	95.1	4.9		0	0	0		
PHF	.650	.899	.750	.870	.500	.000	.375	.425	.000	.790	.625	.831	.000	.000	.000	.000	.886

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

County of Riverside
 N/S: Leon Road
 E/W: Whisper Heights Parkway
 Weather: Clear

File Name : 08_CRV_Leon_Whisper AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	2	40	1	43	4	0	6	10	0	22	1	23	0	0	0	0
+15 mins.	5	42	1	48	0	0	4	4	0	31	2	33	0	0	0	0
+30 mins.	2	30	1	33	1	0	1	2	0	35	1	36	0	0	0	0
+45 mins.	4	39	0	43	2	0	3	5	0	31	4	35	0	0	1	1
Total Volume	13	151	3	167	7	0	14	21	0	119	8	127	0	0	1	1
% App. Total	7.8	90.4	1.8		33.3	0	66.7		0	93.7	6.3		0	0	100	
PHF	.650	.899	.750	.870	.438	.000	.583	.525	.000	.850	.500	.882	.000	.000	.250	.250

County of Riverside
 N/S: Leon Road
 E/W: Whisper Heights Parkway
 Weather: Clear

File Name : 08_CRV_Leon_Whisper PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

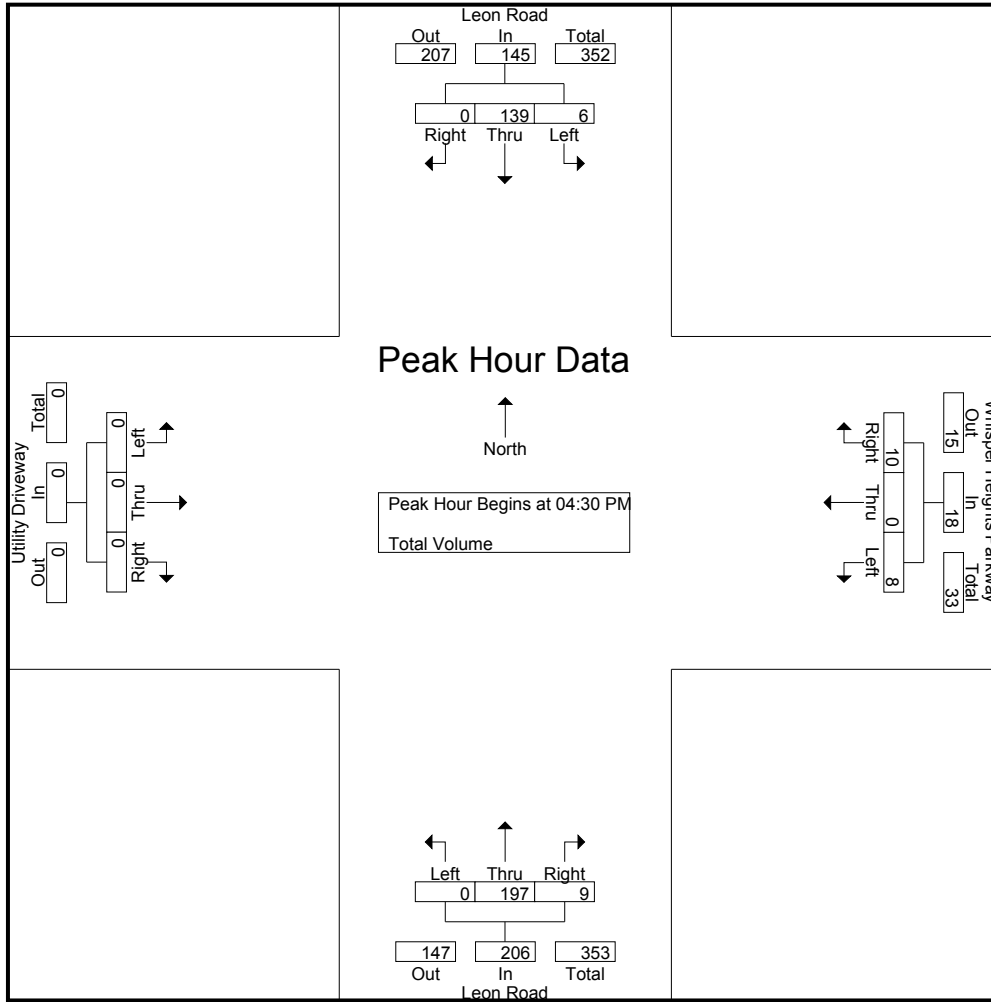
Groups Printed- Total Volume

Start Time	Leon Road Southbound				Whisper Heights Parkway Westbound				Leon Road Northbound				Utility Driveway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	3	40	0	43	0	0	5	5	0	51	1	52	0	0	0	0	100
04:15 PM	3	26	0	29	3	0	5	8	0	40	1	41	0	0	0	0	78
04:30 PM	1	37	0	38	3	0	0	3	0	47	2	49	0	0	0	0	90
04:45 PM	0	37	0	37	3	0	4	7	0	50	3	53	0	0	0	0	97
Total	7	140	0	147	9	0	14	23	0	188	7	195	0	0	0	0	365
05:00 PM	2	33	0	35	1	0	5	6	0	37	2	39	0	0	0	0	80
05:15 PM	3	32	0	35	1	0	1	2	0	63	2	65	0	0	0	0	102
05:30 PM	1	36	0	37	1	0	3	4	0	39	2	41	0	0	0	0	82
05:45 PM	0	40	0	40	2	0	3	5	0	49	0	49	0	0	0	0	94
Total	6	141	0	147	5	0	12	17	0	188	6	194	0	0	0	0	358
Grand Total	13	281	0	294	14	0	26	40	0	376	13	389	0	0	0	0	723
Apprch %	4.4	95.6	0		35	0	65		0	96.7	3.3		0	0	0		
Total %	1.8	38.9	0	40.7	1.9	0	3.6	5.5	0	52	1.8	53.8	0	0	0	0	

Start Time	Leon Road Southbound				Whisper Heights Parkway Westbound				Leon Road Northbound				Utility Driveway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	1	37	0	38	3	0	0	3	0	47	2	49	0	0	0	0	90
04:45 PM	0	37	0	37	3	0	4	7	0	50	3	53	0	0	0	0	97
05:00 PM	2	33	0	35	1	0	5	6	0	37	2	39	0	0	0	0	80
05:15 PM	3	32	0	35	1	0	1	2	0	63	2	65	0	0	0	0	102
Total Volume	6	139	0	145	8	0	10	18	0	197	9	206	0	0	0	0	369
% App. Total	4.1	95.9	0		44.4	0	55.6		0	95.6	4.4		0	0	0		
PHF	.500	.939	.000	.954	.667	.000	.500	.643	.000	.782	.750	.792	.000	.000	.000	.000	.904

County of Riverside
 N/S: Leon Road
 E/W: Whisper Heights Parkway
 Weather: Clear

File Name : 08_CRV_Leon_Whisper PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:30 PM				04:00 PM			
+0 mins.	3	40	0	43	3	0	5	8	0	47	2	49	0	0	0	0
+15 mins.	3	26	0	29	3	0	0	3	0	50	3	53	0	0	0	0
+30 mins.	1	37	0	38	3	0	4	7	0	37	2	39	0	0	0	0
+45 mins.	0	37	0	37	1	0	5	6	0	63	2	65	0	0	0	0
Total Volume	7	140	0	147	10	0	14	24	0	197	9	206	0	0	0	0
% App. Total	4.8	95.2	0		41.7	0	58.3		0	95.6	4.4		0	0	0	
PHF	.583	.875	.000	.855	.833	.000	.700	.750	.000	.782	.750	.792	.000	.000	.000	.000

Location: County of Riverside
 N/S: Leon Road
 E/W: Whisper Heights Parkway



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Leon Road	East Leg Whisper Heights Parkway	South Leg Leon Road	West Leg Utility Driveway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Leon Road	East Leg Whisper Heights Parkway	South Leg Leon Road	West Leg Utility Driveway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	2	0	2
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	2	0	2

Location: County of Riverside
 N/S: Leon Road
 E/W: Whisper Heights Parkway



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Leon Road			Westbound Whisper Heights Parkway			Northbound Leon Road			Eastbound Utility Driveway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	1	0	0	0	0	0	1	0	0	0	0	2
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES:	0	4	0	0	0	0	0	2	0	0	0	0	6

	Southbound Leon Road			Westbound Whisper Heights Parkway			Northbound Leon Road			Eastbound Utility Driveway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	3	0	0	1	0	0	0	3	1	0	0	0	8
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	3	0	0	1	0	1	0	5	2	0	0	0	12

Groups Printed- Total Volume

Start Time	Leon Road Southbound				Jean Nicholas Road Westbound				Leon Road Northbound				Baxter Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
07:00 AM	9	42	1	0	52	21	4	11	5	36	1	20	6	2	27	2	4	10	8	16	15	131	146
07:15 AM	5	63	0	0	68	29	7	12	6	48	7	18	14	2	39	0	4	7	5	11	13	166	179
07:30 AM	10	56	2	2	68	20	9	11	8	40	13	22	19	3	54	1	11	14	9	26	22	188	210
07:45 AM	12	39	1	0	52	22	36	17	6	75	30	11	16	9	57	2	15	12	6	29	21	213	234
Total	36	200	4	2	240	92	56	51	25	199	51	71	55	16	177	5	34	43	28	82	71	698	769
08:00 AM	6	52	3	3	61	23	65	17	6	105	32	16	12	4	60	1	34	38	14	73	27	299	326
08:15 AM	7	33	1	1	41	23	36	10	2	69	4	19	8	5	31	6	23	25	11	54	19	195	214
08:30 AM	8	36	0	0	44	26	8	15	6	49	4	31	15	1	50	2	10	10	10	22	17	165	182
08:45 AM	5	39	1	0	45	26	10	15	4	51	3	31	15	2	49	0	9	7	4	16	10	161	171
Total	26	160	5	4	191	98	119	57	18	274	43	97	50	12	190	9	76	80	39	165	73	820	893
Grand Total	62	360	9	6	431	190	175	108	43	473	94	168	105	28	367	14	110	123	67	247	144	1518	1662
% Approach	14.4	83.5	2.1			40.2	37	22.8		31.2	25.6	45.8	28.6		24.2	5.7	44.5	49.8		16.3	8.7	91.3	
Total %	4.1	23.7	0.6		28.4	12.5	11.5	7.1		6.2	6.2	11.1	6.9		24.2	0.9	7.2	8.1		16.3	8.7	91.3	

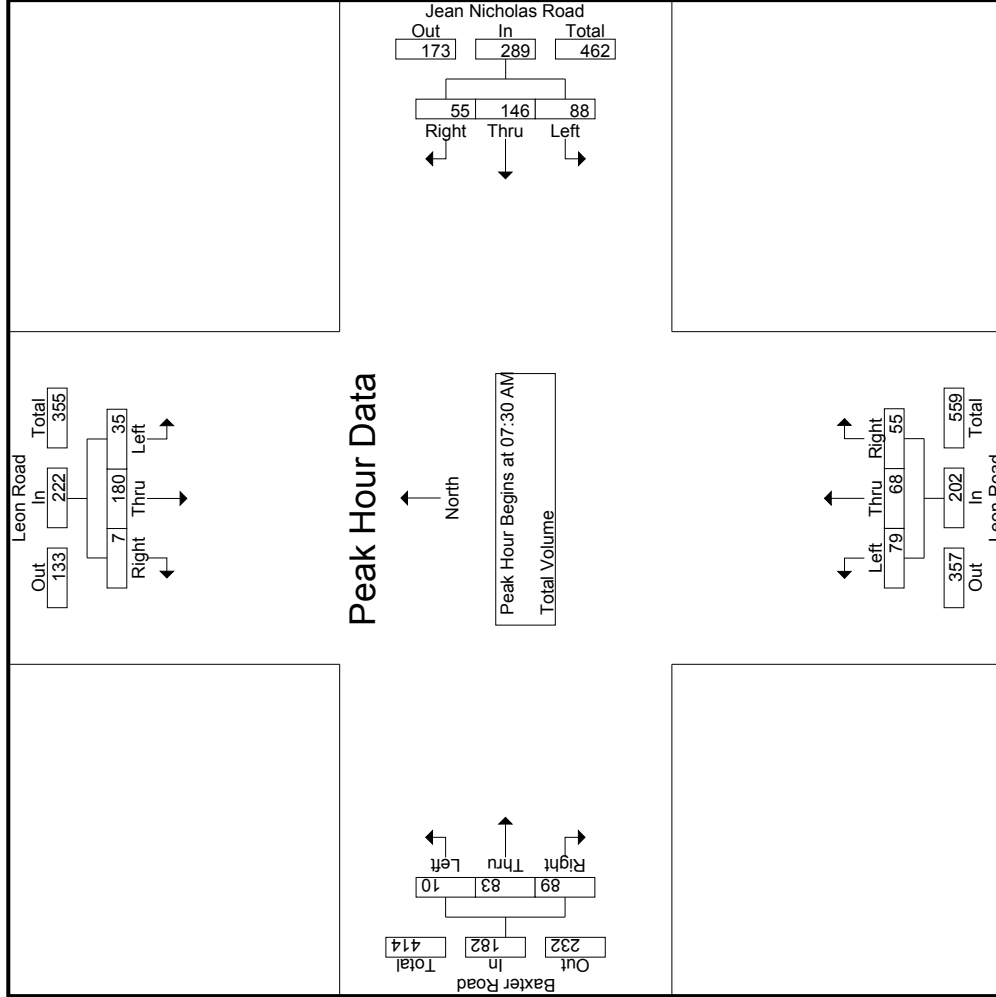
Start Time	Leon Road Southbound				Jean Nicholas Road Westbound				Leon Road Northbound				Baxter Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
07:30 AM	10	56	2		68	20	9	11		40	13	22	19		54					11	14	26	188
07:45 AM	12	39	1		52	22	36	17		75	30	11	16		57					15	12	29	213
08:00 AM	6	52	3		61	23	65	17		105	32	16	12		60					34	38	73	299
08:15 AM	7	33	1		41	23	36	10		69	4	19	8		31					23	25	54	195
Total Volume	35	180	7		222	88	146	55		289	79	68	55		202					10	83	89	895
% App. Total	15.8	81.1	3.2		28.4	30.4	50.5	19		31.2	39.1	33.7	27.2		24.2					5.5	45.6	48.9	748
PHF	.729	.804	.583		.816	.957	.562	.809		.688	.617	.773	.724		.842					.417	.610	.586	.748

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Leon Road
 E/W: Baxter Road/Jean Nicholas Road
 Weather: Clear

File Name : 09_CRV_Leon_Jean AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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County of Riverside
 N/S: Leon Road
 E/W: Baxter Road/Jean Nicholas Road
 Weather: Clear

File Name : 09_CRV_Leon_Jean AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Leon Road Southbound			Jean Nicholas Road Westbound			Leon Road Northbound			Baxter Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
+0 mins.	5	63	0	22	36	17	75	18	14	39	1	11	26
+15 mins.	10	56	2	23	65	17	105	22	19	54	2	15	29
+30 mins.	12	39	1	23	36	10	69	30	11	57	1	34	73
+45 mins.	6	52	3	26	8	15	49	32	16	60	6	23	54
Total Volume	33	210	6	94	145	59	298	82	67	210	10	83	182
% App. Total	13.3	84.3	2.4	31.5	48.7	19.8	19.8	39	31.9	29	5.5	45.6	48.9
PHF	.688	.833	.500	.904	.558	.868	.710	.641	.761	.803	.417	.610	.586

Groups Printed- Total Volume

Start Time	Leon Road Southbound				Jean Nicholas Road Westbound				Leon Road Northbound				Baxter Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
04:00 PM	8	39	0	0	47	24	13	18	9	55	6	43	16	1	65	2	2	8	7	12	17	179	196
04:15 PM	10	34	2	1	46	15	8	12	4	35	12	46	32	10	90	1	9	6	5	16	20	187	207
04:30 PM	20	42	1	0	63	19	21	15	7	55	4	49	31	7	84	2	6	6	4	14	18	216	234
04:45 PM	18	39	2	1	59	23	14	22	11	59	8	49	32	10	89	0	7	10	8	17	30	224	254
Total	56	154	5	2	215	81	56	67	31	204	30	187	111	28	328	5	24	30	24	59	85	806	891
05:00 PM	7	32	0	0	39	28	19	15	9	62	7	43	30	6	80	2	13	10	8	25	23	206	229
05:15 PM	14	42	1	0	57	27	19	34	19	80	9	59	36	8	104	0	4	8	8	12	35	253	288
05:30 PM	10	42	1	0	53	16	14	27	14	57	7	43	33	6	83	3	5	5	4	13	24	206	230
05:45 PM	18	44	0	0	62	24	17	20	10	61	17	44	35	16	96	1	10	11	9	22	35	241	276
Total	49	160	2	0	211	95	69	96	52	260	40	189	134	36	363	6	32	34	29	72	117	906	1023
Grand Total	105	314	7	2	426	176	125	163	83	464	70	376	245	64	691	11	56	64	53	131	202	1712	1914
% Approach	24.6	73.7	1.6			37.9	26.9	35.1			10.1	54.4	35.5			8.4	42.7	48.9					
% Total	6.1	18.3	0.4		24.9	10.3	7.3	9.5		27.1	4.1	22	14.3		40.4	0.6	3.3	3.7		7.7	10.6	89.4	

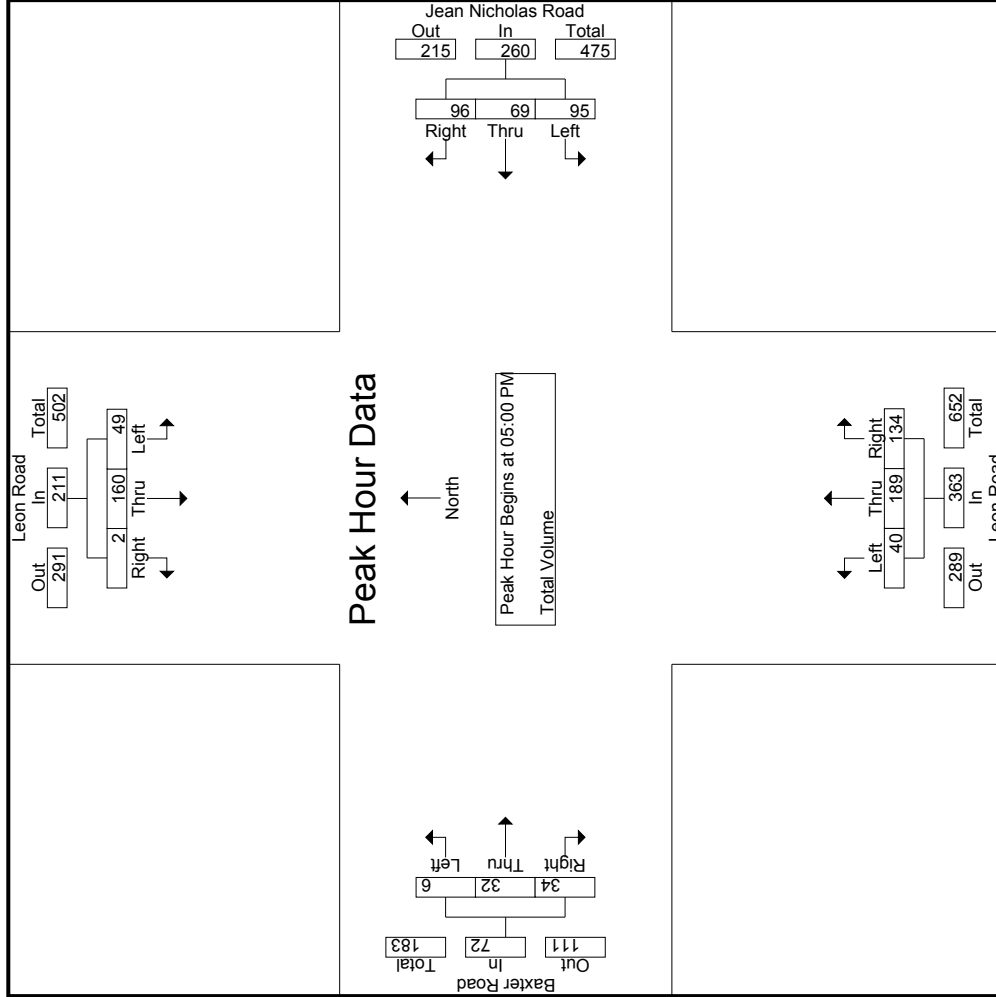
Start Time	Leon Road Southbound				Jean Nicholas Road Westbound				Leon Road Northbound				Baxter Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00 PM	7	32	0	0	39	28	19	15	9	62	7	43	30	6	80	2	13	10	8	25	23	206	229
05:15 PM	14	42	1	0	57	27	19	34	19	80	9	59	36	8	104	0	4	8	8	12	35	253	288
05:30 PM	10	42	1	0	53	16	14	27	14	57	7	43	33	6	83	3	5	5	4	13	24	206	230
05:45 PM	18	44	0	0	62	24	17	20	10	61	17	44	35	16	96	1	10	11	9	22	35	241	276
Total	49	160	2	0	211	95	69	96	52	260	40	189	134	36	363	6	32	34	29	72	117	906	1023
% App. Total	23.2	75.8	0.9			36.5	26.5	36.9			11	52.1	36.9			8.3	44.4	47.2					
PHF	.681	.909	.500		.851	.848	.908	.706		.813	.588	.801	.931		.873	.500	.615	.773		.720		.720	.895

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Leon Road
 E/W: Baxter Road/Jean Nicholas Road
 Weather: Clear

File Name : 09_CRV_Leon_Jean_PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Leon Road
 E/W: Baxter Road/Jean Nicholas Road
 Weather: Clear

File Name : 09_CRV_Leon_Jean PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Leon Road Southbound			Jean Nicholas Road Westbound			Leon Road Northbound			Baxter Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
+0 mins.	20	42	1	28	19	15	7	43	30	1	9	6	16
+15 mins.	18	39	2	27	19	34	9	59	36	2	6	6	14
+30 mins.	7	32	0	16	14	27	7	43	33	0	7	10	17
+45 mins.	14	42	1	24	17	20	17	44	35	2	13	10	25
Total Volume	59	155	4	95	69	96	40	189	134	5	35	32	72
% App. Total	27.1	71.1	1.8	36.5	26.5	36.9	11	52.1	36.9	6.9	48.6	44.4	72
PHF	.738	.923	.500	.848	.908	.706	.588	.801	.931	.625	.673	.800	.720

Location: County of Riverside
 N/S: Leon Road
 E/W: Baxter Rd/Jean Nicholas Rd



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Leon Road	East Leg Jean Nicholas Road	South Leg Leon Road	West Leg Baxter Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	1	0	1	0	2
7:15 AM	1	1	2	2	6
7:30 AM	0	0	0	0	0
7:45 AM	2	0	1	0	3
8:00 AM	2	2	0	2	6
8:15 AM	1	2	1	0	4
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	7	5	5	4	21

	North Leg Leon Road	East Leg Jean Nicholas Road	South Leg Leon Road	West Leg Baxter Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	2	3	5
4:45 PM	0	0	0	0	0
5:00 PM	4	0	1	0	5
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	2	0	2
TOTAL VOLUMES:	4	0	5	3	12

Location: County of Riverside
 N/S: Leon Road
 E/W: Baxter Rd/Jean Nicholas Rd



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Leon Road			Westbound Jean Nicholas Road			Northbound Leon Road			Eastbound Baxter Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	1	0	0	0	0	0	1	0	0	0	0	2
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	4	0	0	0	0	0	0	0	4
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	1	0	0	0	2
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	2	1	0	0	1	0	0	0	4
TOTAL VOLUMES:	0	3	0	0	8	1	0	1	2	0	0	0	15

	Southbound Leon Road			Westbound Jean Nicholas Road			Northbound Leon Road			Eastbound Baxter Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	2	0	0	0	1	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	3	4	0	3	1	11
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	2	0	0	6	5	0	3	1	17

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 10_CRV_Leon_Briggs AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

County of Riverside
 N/S: Leon Road
 E/W: Briggs Road/Max Gilliss Boulevard
 Weather: Clear

Groups Printed- Total Volume

Start Time	Leon Road Southbound				Max Gilliss Boulevard Westbound				Leon Road Northbound				Briggs Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	17	76	2	0	95	191	20	13	4	224	15	27	70	46	112	59	500	559
07:15 AM	34	100	0	0	134	170	31	10	0	211	14	40	116	30	170	37	600	637
07:30 AM	41	83	2	0	126	160	47	13	4	220	45	45	151	23	241	39	675	714
07:45 AM	33	75	4	3	112	123	69	8	5	200	52	32	135	28	219	51	693	744
Total	125	334	8	3	467	644	167	44	13	855	126	144	472	127	742	186	2468	2654
08:00 AM	39	62	8	3	109	114	93	11	4	218	79	28	94	29	201	56	696	752
08:15 AM	43	59	0	0	102	126	75	10	5	211	53	27	118	48	198	74	724	798
08:30 AM	33	76	3	1	112	106	24	19	6	149	15	39	93	32	147	67	540	607
08:45 AM	36	67	1	0	104	139	22	25	6	186	19	35	108	45	162	61	507	568
Total	151	264	12	4	427	485	214	65	23	764	166	129	413	154	708	258	2467	2725
Grand Total	276	598	20	7	894	1129	381	109	36	1619	292	273	885	281	1450	444	4935	5379
% Approach	30.9	66.9	2.2			69.7	23.5	6.7		32.8	20.1	18.8	61		29.4	8.3	91.7	
% Total	5.6	12.1	0.4		18.1	22.9	7.7	2.2		5.9	5.5	17.9			19.7			

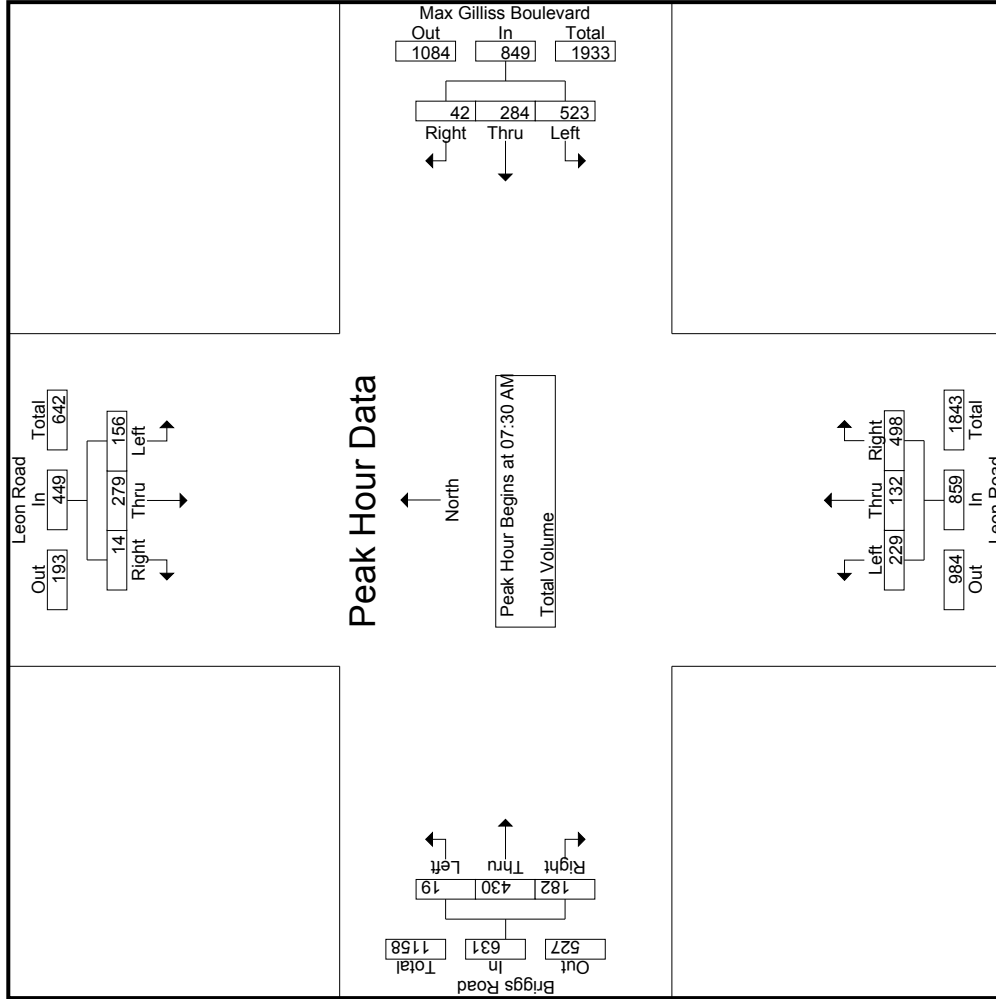
Start Time	Leon Road Southbound				Max Gilliss Boulevard Westbound				Leon Road Northbound				Briggs Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	41	83	2		126	160	47	13		220	45	45	151		241		88	675
07:45 AM	33	75	4		112	123	69	8		200	52	32	135		219		162	693
08:00 AM	39	62	8		109	114	93	11		218	79	28	94		201		168	696
08:15 AM	43	59	0		102	126	75	10		211	53	27	118		198		213	724
Total Volume	156	279	14		449	523	284	42		849	229	132	498		859		631	2788
% App. Total	34.7	62.1	3.1		18.1	61.6	33.5	4.9		5.9	26.7	15.4	58		28.8		74.1	.963
PHF	.907	.840	.438		.891	.817	.763	.808		.965	.725	.733	.825		.891		.615	.741

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
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County of Riverside
 N/S: Leon Road
 E/W: Briggs Road/Max Gilliss Boulevard
 Weather: Clear

File Name : 10_CRV_Leon_Briggs AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Leon Road
 E/W: Briggs Road/Max Gilliss Boulevard
 Weather: Clear

File Name : 10_CRV_Leon_Briggs AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Leon Road Southbound			Max Gilliss Boulevard Westbound			Leon Road Northbound			Briggs Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	34	100	0	191	20	13	45	45	151	2	123	37
+15 mins.	41	83	2	170	31	10	52	32	135	11	111	46
+30 mins.	33	75	4	160	47	13	79	28	94	5	134	74
+45 mins.	39	62	8	123	69	8	53	27	118	1	73	58
Total Volume	147	320	14	644	167	44	229	132	498	19	441	215
% App. Total	30.6	66.5	2.9	75.3	19.5	5.1	26.7	15.4	58	2.8	65.3	31.9
PHF	.896	.800	.438	.843	.605	.846	.725	.733	.825	.432	.823	.726
				07:00 AM	07:30 AM	07:45 AM						
				134	224	241	241	201	859	241	198	675
				126	211	219	219	198	859	162	132	675
				112	220	201	201	198	859	168	132	675
				109	200	198	198	198	859	213	132	675
				481	855	855	855	855	859	162	132	675
				.897	.954	.891	.891	.891	.891	.792	.792	.792

Groups Printed- Total Volume

Start Time	Leon Road Southbound				Max Gilliss Boulevard Westbound				Leon Road Northbound				Briggs Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
04:00 PM	27	51	5		83	150	76	29	12	255	26	71	158	78	255	3	29	26	19	58	111	651	762
04:15 PM	38	48	3		89	161	54	29	4	244	25	93	180	78	298	1	52	24	16	77	101	708	809
04:30 PM	28	39	1		68	148	73	31	8	252	30	82	175	88	287	3	59	22	11	84	108	691	799
04:45 PM	37	49	1		87	146	70	30	6	246	29	96	161	83	286	2	53	17	11	72	100	691	791
Total	130	187	10		327	605	273	119	30	997	110	342	674	327	1126	9	193	89	57	291	420	2741	3161
05:00 PM	32	53	1		86	164	68	25	5	257	23	85	183	79	291	3	45	13	7	61	91	695	786
05:15 PM	38	54	1		93	158	62	31	5	251	33	102	219	74	354	2	55	20	7	77	86	775	861
05:30 PM	33	38	2		73	157	84	32	10	273	40	74	178	78	292	1	54	23	11	78	99	716	815
05:45 PM	33	77	4		114	125	86	44	12	255	29	97	186	56	312	3	44	17	6	64	75	745	820
Total	136	222	8		366	604	300	132	32	1036	125	358	766	287	1249	9	198	73	31	280	351	2931	3282
Grand Total	266	409	18		693	1209	573	251	62	2033	235	700	1440	614	2375	18	391	162	88	571	771	5672	6443
% Approach	38.4	59	2.6		12.2	59.5	28.2	12.3		35.8	9.9	29.5	60.6		41.9	3.2	68.5	28.4		10.1	12	88	
Total %	4.7	7.2	0.3			21.3	10.1	4.4			4.1	12.3	25.4			0.3	6.9	2.9					

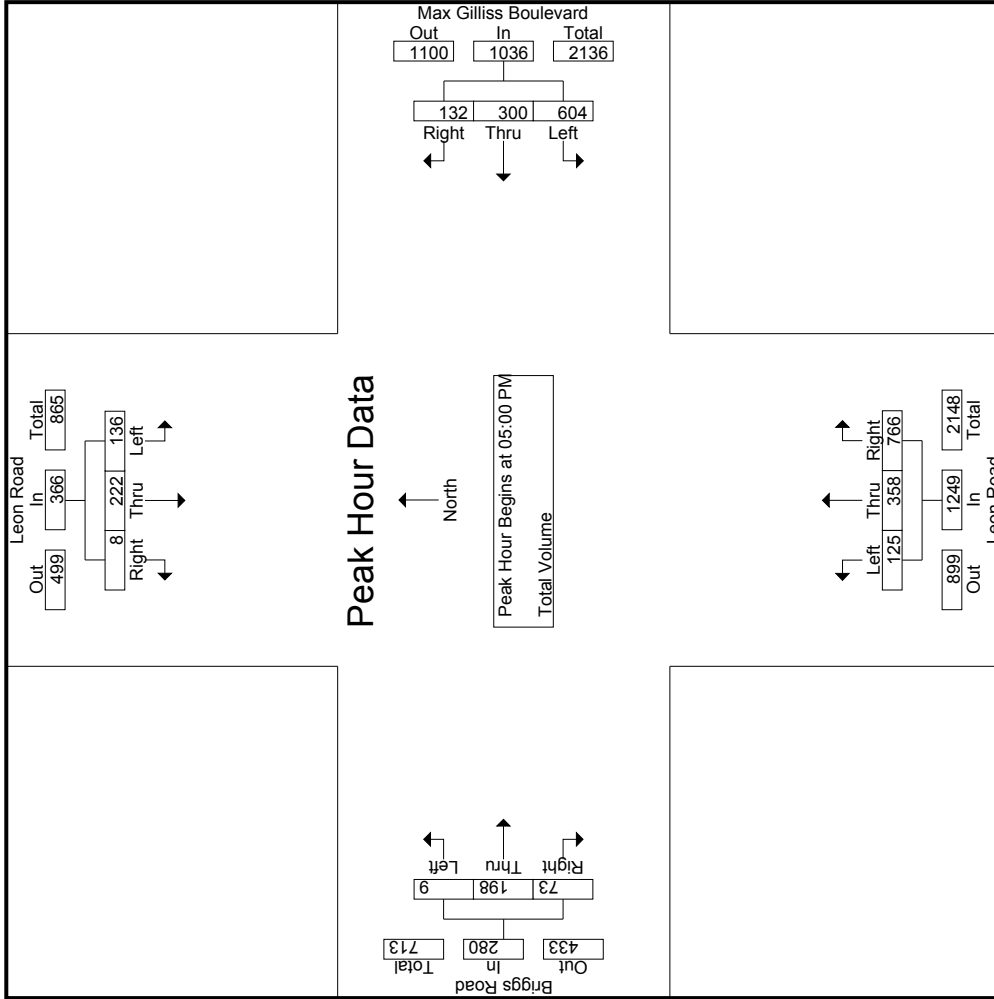
Start Time	Leon Road Southbound				Max Gilliss Boulevard Westbound				Leon Road Northbound				Briggs Road Eastbound														
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total	
05:00 PM	32	53	1		86	164	68	25	5	257	23	85	183	79	291	3	45	13	7	61	91	695	786				
05:15 PM	38	54	1		93	158	62	31	5	251	33	102	219	74	354	2	55	20	7	77	86	775	861				
05:30 PM	33	38	2		73	157	84	32	10	273	40	74	178	78	292	1	54	23	11	78	99	716	815				
05:45 PM	33	77	4		114	125	86	44	12	255	29	97	186	56	312	3	44	17	6	64	75	745	820				
Total Volume	136	222	8		366	604	300	132	32	1036	125	358	766	287	1249	9	198	73	31	280	351	2931	3282				
% App. Total	37.2	60.7	2.2		12.2	58.3	29	12.7		35.8	9.9	29.5	61.3		41.9	3.2	68.5	28.4		10.1	12	88					
PHF	.895	.721	.500		.803	.921	.872	.750		.949	.781	.877	.874		.882	.750	.900	.793		.897							

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Leon Road
 E/W: Briggs Road/Max Gilliss Boulevard
 Weather: Clear

File Name : 10_CRV_Leon_Briggs PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Leon Road
 E/W: Briggs Road/Max Gilliss Boulevard
 Weather: Clear

File Name : 10_CRV_Leon_Briggs PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Leon Road Southbound			Max Gilliss Boulevard Westbound			Leon Road Northbound			Briggs Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:												
	05:00 PM			05:00 PM			05:00 PM			04:15 PM			
+0 mins.	32	53	1	164	68	25	257	85	183	291	1	52	77
+15 mins.	38	54	1	158	62	31	251	102	219	354	3	59	84
+30 mins.	33	38	2	157	84	32	273	74	178	292	2	53	72
+45 mins.	33	77	4	125	86	44	255	97	186	312	3	45	61
Total Volume	136	222	8	604	300	132	1036	358	766	1249	9	209	294
% App. Total	37.2	60.7	2.2	58.3	29	12.7	949	28.7	61.3	882	3.1	71.1	25.9
PHF	.895	.721	.500	.921	.872	.750	.949	.877	.874	.882	.750	.886	.792
													.875

Location: County of Riverside
 N/S: Leon Road
 E/W: Briggs Rd/Max Gilliss Blvd



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Leon Road	East Leg Max Gilliss Blvd	South Leg Leon Road	West Leg Briggs Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	1	0	0	0	1
7:45 AM	0	0	2	1	3
8:00 AM	0	1	1	0	2
8:15 AM	0	1	3	0	4
8:30 AM	0	1	1	0	2
8:45 AM	0	0	1	0	1
TOTAL VOLUMES:	1	3	8	1	13

	North Leg Leon Road	East Leg Max Gilliss Blvd	South Leg Leon Road	West Leg Briggs Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1
4:30 PM	0	0	1	1	2
4:45 PM	0	0	5	0	5
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	1	0	0	0	1
TOTAL VOLUMES:	1	1	6	1	9

Location: County of Riverside
 N/S: Leon Road
 E/W: Briggs Rd/Max Gilliss Blvd



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Leon Road			Westbound Max Gilliss Blvd			Northbound Leon Road			Eastbound Briggs Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	1	0	0	0	0	0	0	1	0	0	0	0	2
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	2
8:00 AM	0	0	1	0	0	0	0	0	1	1	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	1	1	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
TOTAL VOLUMES:	1	1	1	1	1	0	0	1	3	2	0	0	11

	Southbound Leon Road			Westbound Max Gilliss Blvd			Northbound Leon Road			Eastbound Briggs Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	6	0	0	0	0	0	0	0	0	0	0	0	6
4:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	3	2	0	0	1	1	0	0	0	7
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	6	0	0	4	4	0	1	1	1	0	0	0	17

County of Riverside
 N/S: Leon Road
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 11_CRV_Leon_CK AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Total Volume

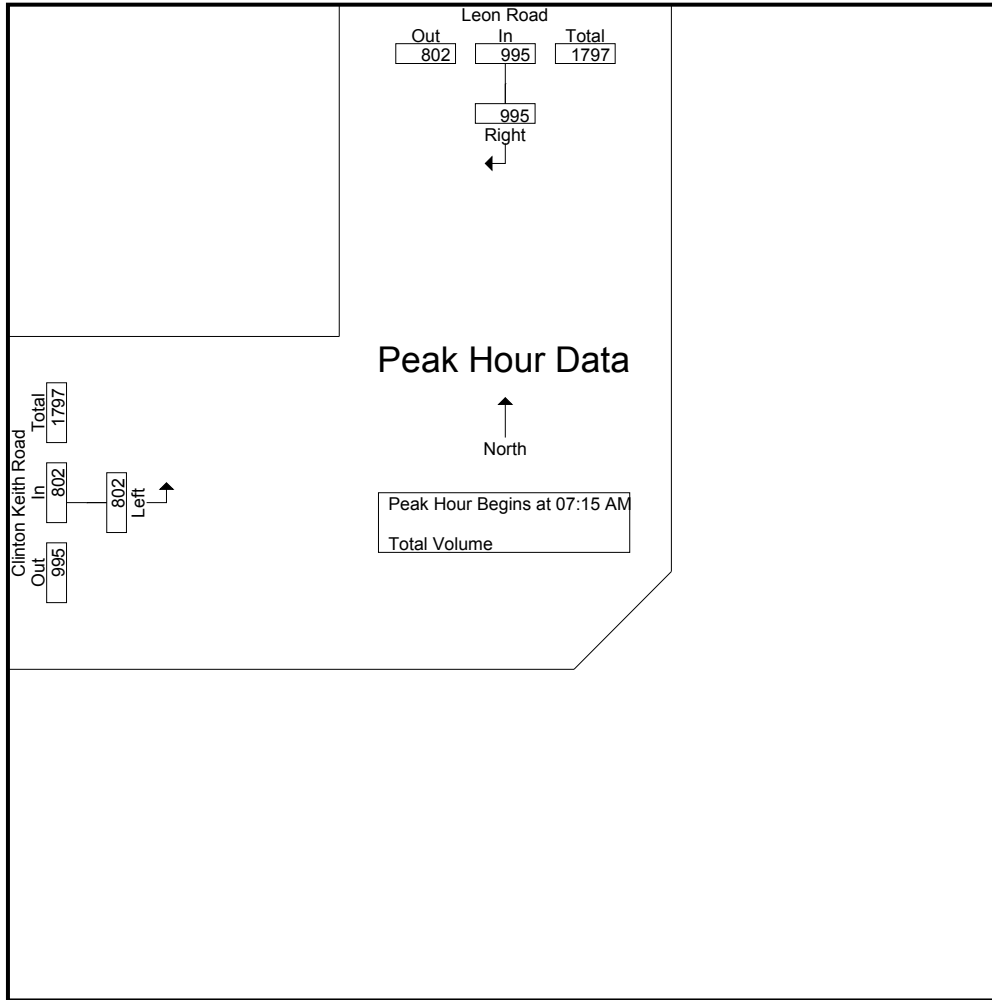
Start Time	Leon Road Southbound		Clinton Keith Road Eastbound		Int. Total
	Right	App. Total	Left	App. Total	
07:00 AM	265	265	105	105	370
07:15 AM	288	288	195	195	483
07:30 AM	242	242	212	212	454
07:45 AM	239	239	232	232	471
Total	1034	1034	744	744	1778
08:00 AM	226	226	163	163	389
08:15 AM	252	252	197	197	449
08:30 AM	222	222	131	131	353
08:45 AM	206	206	157	157	363
Total	906	906	648	648	1554
Grand Total	1940	1940	1392	1392	3332
Apprch %	100		100		
Total %	58.2	58.2	41.8	41.8	

Start Time	Leon Road Southbound		Clinton Keith Road Eastbound		Int. Total
	Right	App. Total	Left	App. Total	
07:15 AM	288	288	195	195	483
07:30 AM	242	242	212	212	454
07:45 AM	239	239	232	232	471
08:00 AM	226	226	163	163	389
Total Volume	995	995	802	802	1797
% App. Total	100		100		
PHF	.864	.864	.864	.864	.930

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

County of Riverside
 N/S: Leon Road
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 11_CRV_Leon_CK AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM		07:30 AM	
+0 mins.	265	265	212	212
+15 mins.	288	288	232	232
+30 mins.	242	242	163	163
+45 mins.	239	239	197	197
Total Volume	1034	1034	804	804
% App. Total	100	100	100	100
PHF	.898	.898	.866	.866

County of Riverside
 N/S: Leon Road
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 11_CRV_Leon_CK PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Total Volume

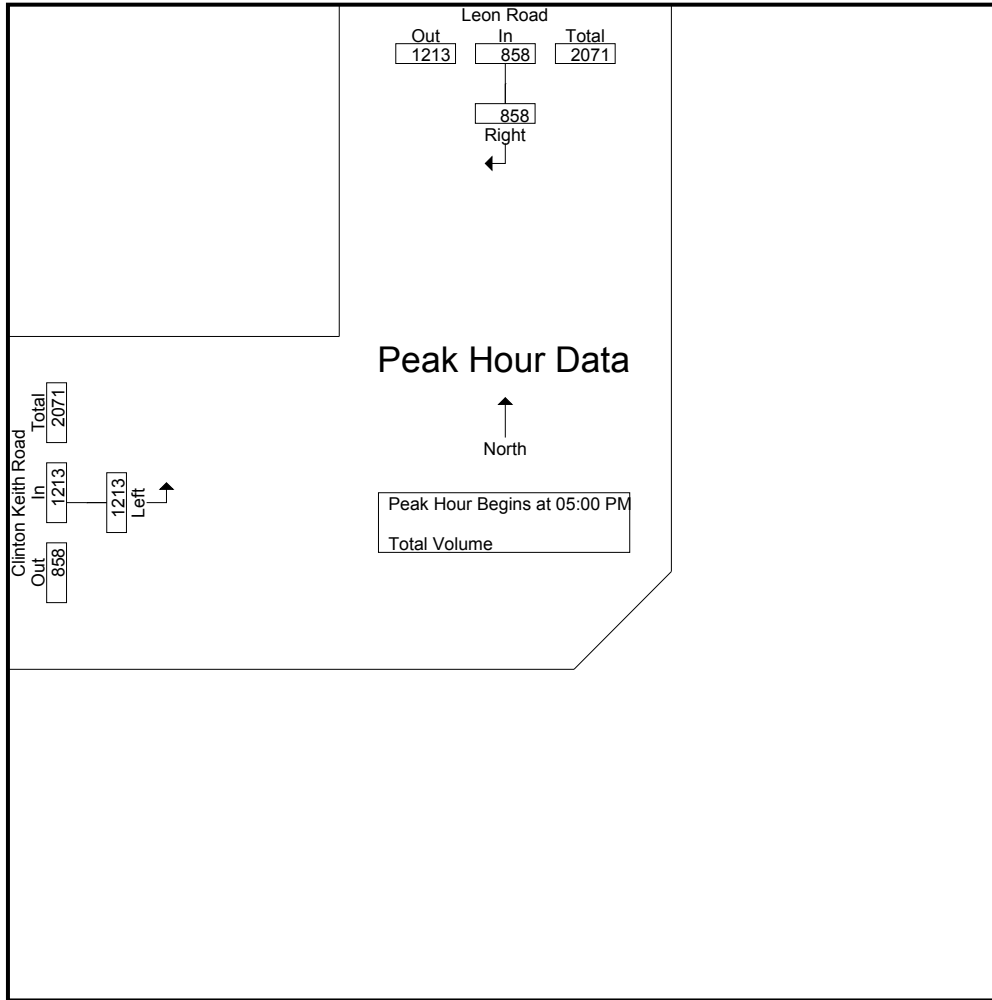
Start Time	Leon Road Southbound		Clinton Keith Road Eastbound		Int. Total
	Right	App. Total	Left	App. Total	
04:00 PM	220	220	245	245	465
04:15 PM	231	231	286	286	517
04:30 PM	224	224	260	260	484
04:45 PM	195	195	285	285	480
Total	870	870	1076	1076	1946
05:00 PM	218	218	290	290	508
05:15 PM	211	211	312	312	523
05:30 PM	227	227	303	303	530
05:45 PM	202	202	308	308	510
Total	858	858	1213	1213	2071
Grand Total	1728	1728	2289	2289	4017
Apprch %	100		100		
Total %	43	43	57	57	

Start Time	Leon Road Southbound		Clinton Keith Road Eastbound		Int. Total
	Right	App. Total	Left	App. Total	
05:00 PM	218	218	290	290	508
05:15 PM	211	211	312	312	523
05:30 PM	227	227	303	303	530
05:45 PM	202	202	308	308	510
Total Volume	858	858	1213	1213	2071
% App. Total	100		100		
PHF	.945	.945	.972	.972	.977

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

County of Riverside
 N/S: Leon Road
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 11_CRV_Leon_CK PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM		05:00 PM	
+0 mins.	220	220	290	290
+15 mins.	231	231	312	312
+30 mins.	224	224	303	303
+45 mins.	195	195	308	308
Total Volume	870	870	1213	1213
% App. Total	100	100	100	100
PHF	.942	.942	.972	.972

Location: County of Riverside
 N/S: Leon Road
 E/W: Clinton Keith Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Briggs Road	East Leg Dead End	South Leg Dead End	West Leg Clinton Keith Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Briggs Road	East Leg Dead End	South Leg Dead End	West Leg Clinton Keith Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Leon Road
 E/W: Clinton Keith Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Briggs Road			Westbound Dead End			Northbound Dead End			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTAL VOLUMES:	0	0	2	0	0	0	0	0	0	4	0	0	6

	Southbound Briggs Road			Westbound Dead End			Northbound Dead End			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	2	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
5:00 PM	0	0	2	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTAL VOLUMES:	0	0	4	0	0	0	0	0	0	4	0	0	8

County of Riverside
 N/S: Pourroy Road
 E/W: Keller Road
 Weather: Clear

File Name : 12_CRV_Pourroy_Keller AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

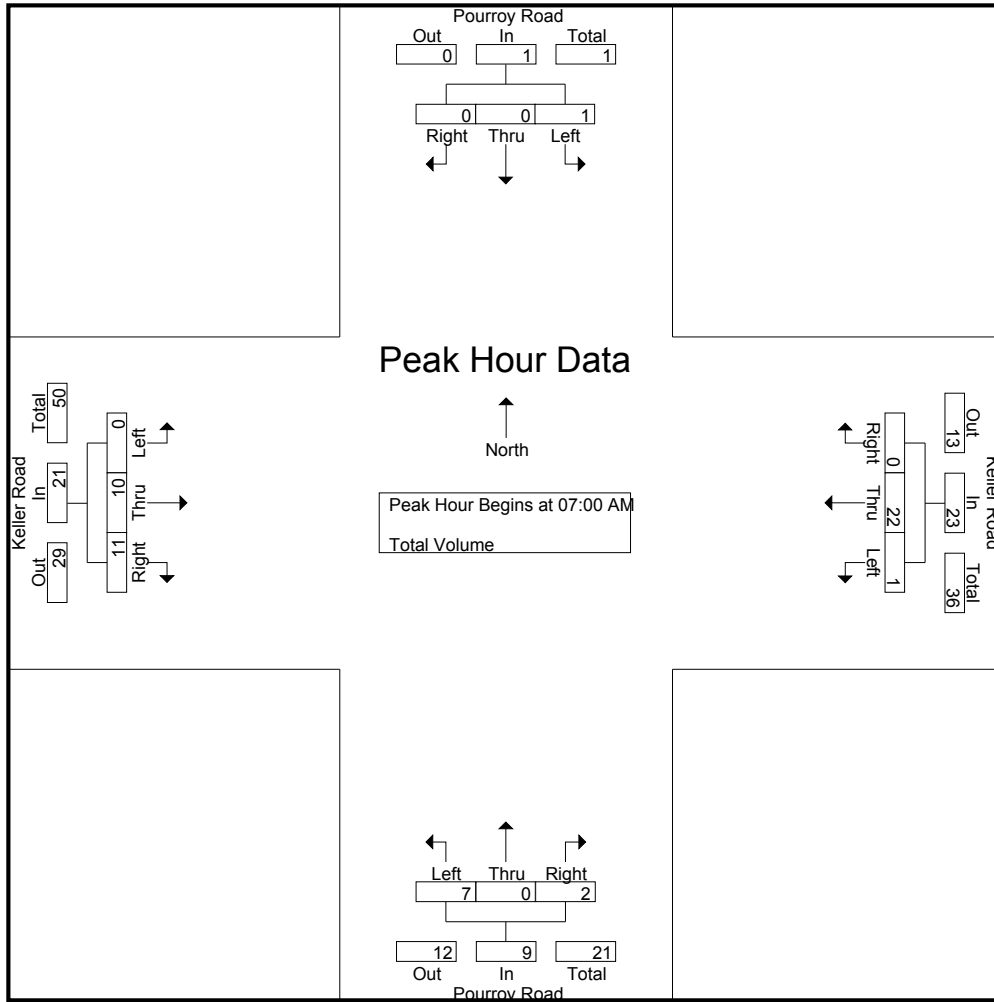
Groups Printed- Total Volume

Start Time	Pourroy Road Southbound				Keller Road Westbound				Pourroy Road Northbound				Keller Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	9	0	9	3	0	0	3	0	1	2	3	15
07:15 AM	0	0	0	0	0	8	0	8	3	0	0	3	0	2	2	4	15
07:30 AM	0	0	0	0	1	1	0	2	1	0	2	3	0	5	3	8	13
07:45 AM	1	0	0	1	0	4	0	4	0	0	0	0	0	2	4	6	11
Total	1	0	0	1	1	22	0	23	7	0	2	9	0	10	11	21	54
08:00 AM	0	0	0	0	0	3	0	3	1	0	0	1	0	0	3	3	7
08:15 AM	0	0	0	0	0	3	0	3	2	0	0	2	0	2	5	7	12
08:30 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	1	2	3	6
08:45 AM	0	0	0	0	0	1	0	1	2	0	0	2	0	3	0	3	6
Total	0	1	0	1	0	9	0	9	5	0	0	5	0	6	10	16	31
Grand Total	1	1	0	2	1	31	0	32	12	0	2	14	0	16	21	37	85
Apprch %	50	50	0		3.1	96.9	0		85.7	0	14.3		0	43.2	56.8		
Total %	1.2	1.2	0	2.4	1.2	36.5	0	37.6	14.1	0	2.4	16.5	0	18.8	24.7	43.5	

Start Time	Pourroy Road Southbound				Keller Road Westbound				Pourroy Road Northbound				Keller Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	9	0	9	3	0	0	3	0	1	2	3	15
07:15 AM	0	0	0	0	0	8	0	8	3	0	0	3	0	2	2	4	15
07:30 AM	0	0	0	0	1	1	0	2	1	0	2	3	0	5	3	8	13
07:45 AM	1	0	0	1	0	4	0	4	0	0	0	0	0	2	4	6	11
Total Volume	1	0	0	1	1	22	0	23	7	0	2	9	0	10	11	21	54
% App. Total	100	0	0		4.3	95.7	0		77.8	0	22.2		0	47.6	52.4		
PHF	.250	.000	.000	.250	.250	.611	.000	.639	.583	.000	.250	.750	.000	.500	.688	.656	.900

County of Riverside
 N/S: Pourroy Road
 E/W: Keller Road
 Weather: Clear

File Name : 12_CRV_Pourroy_Keller AM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM				07:00 AM				07:00 AM				07:30 AM			
+0 mins.	1	0	0	1	0	9	0	9	3	0	0	3	0	5	3	8
+15 mins.	0	0	0	0	0	8	0	8	3	0	0	3	0	2	4	6
+30 mins.	0	0	0	0	1	1	0	2	1	0	2	3	0	0	3	3
+45 mins.	0	1	0	1	0	4	0	4	0	0	0	0	0	2	5	7
Total Volume	1	1	0	2	1	22	0	23	7	0	2	9	0	9	15	24
% App. Total	50	50	0		4.3	95.7	0		77.8	0	22.2		0	37.5	62.5	
PHF	.250	.250	.000	.500	.250	.611	.000	.639	.583	.000	.250	.750	.000	.450	.750	.750

County of Riverside
 N/S: Pourroy Road
 E/W: Keller Road
 Weather: Clear

File Name : 12_CRV_Pourroy_Keller PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

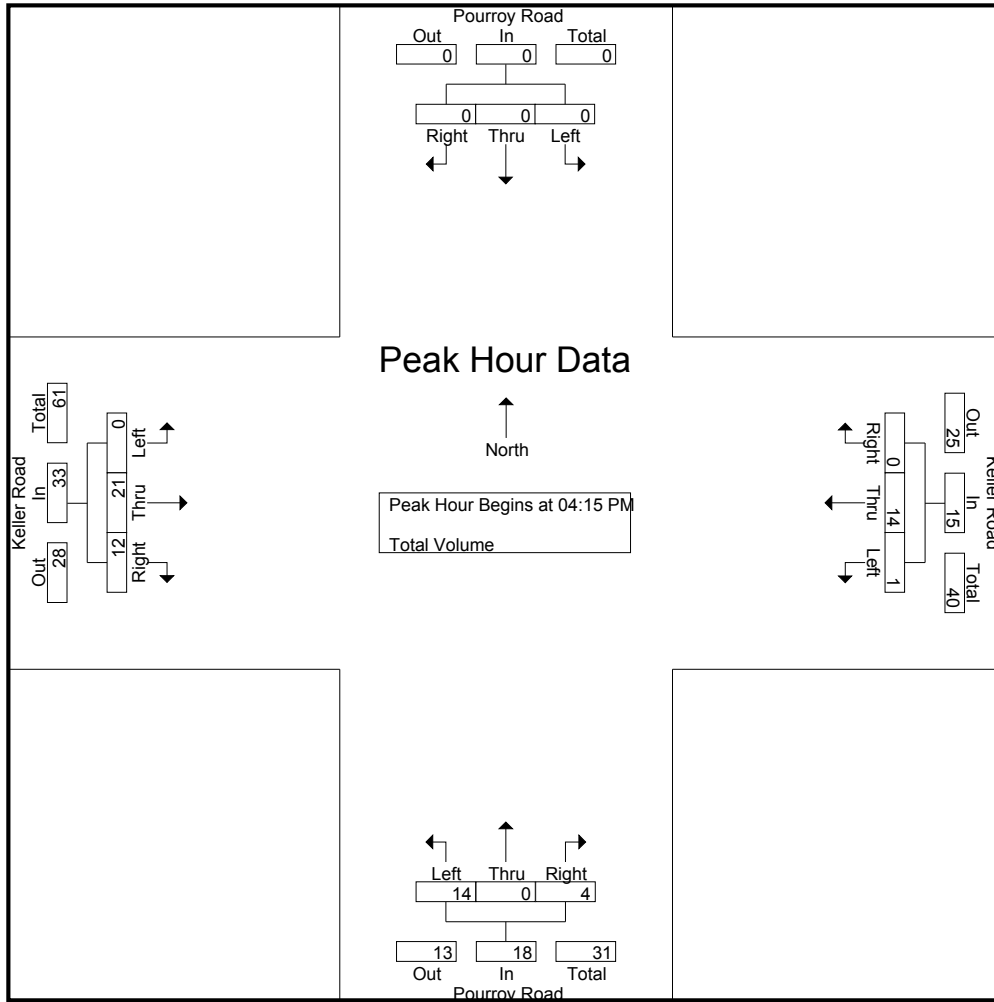
Groups Printed- Total Volume

Start Time	Pourroy Road Southbound				Keller Road Westbound				Pourroy Road Northbound				Keller Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	2	0	2	1	0	2	3	0	5	2	7	12
04:15 PM	0	0	0	0	1	4	0	5	2	0	3	5	0	4	3	7	17
04:30 PM	0	0	0	0	0	3	0	3	3	0	0	3	0	6	3	9	15
04:45 PM	0	0	0	0	0	4	0	4	4	0	1	5	0	2	2	4	13
Total	0	0	0	0	1	13	0	14	10	0	6	16	0	17	10	27	57
05:00 PM	0	0	0	0	0	3	0	3	5	0	0	5	0	9	4	13	21
05:15 PM	0	1	0	1	0	3	0	3	1	0	0	1	0	8	3	11	16
05:30 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	6	2	8	10
05:45 PM	0	0	0	0	2	2	0	4	2	0	0	2	0	5	4	9	15
Total	0	1	0	1	2	9	0	11	9	0	0	9	0	28	13	41	62
Grand Total	0	1	0	1	3	22	0	25	19	0	6	25	0	45	23	68	119
Apprch %	0	100	0		12	88	0		76	0	24		0	66.2	33.8		
Total %	0	0.8	0	0.8	2.5	18.5	0	21	16	0	5	21	0	37.8	19.3	57.1	

Start Time	Pourroy Road Southbound				Keller Road Westbound				Pourroy Road Northbound				Keller Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	1	4	0	5	2	0	3	5	0	4	3	7	17
04:30 PM	0	0	0	0	0	3	0	3	3	0	0	3	0	6	3	9	15
04:45 PM	0	0	0	0	0	4	0	4	4	0	1	5	0	2	2	4	13
05:00 PM	0	0	0	0	0	3	0	3	5	0	0	5	0	9	4	13	21
Total Volume	0	0	0	0	1	14	0	15	14	0	4	18	0	21	12	33	66
% App. Total	0	0	0		6.7	93.3	0		77.8	0	22.2		0	63.6	36.4		
PHF	.000	.000	.000	.000	.250	.875	.000	.750	.700	.000	.333	.900	.000	.583	.750	.635	.786

County of Riverside
 N/S: Pourroy Road
 E/W: Keller Road
 Weather: Clear

File Name : 12_CRV_Pourroy_Keller PM
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM				04:15 PM				04:15 PM				05:00 PM			
+0 mins.	0	0	0	0	1	4	0	5	2	0	3	5	0	9	4	13
+15 mins.	0	0	0	0	0	3	0	3	3	0	0	3	0	8	3	11
+30 mins.	0	0	0	0	0	4	0	4	4	0	1	5	0	6	2	8
+45 mins.	0	1	0	1	0	3	0	3	5	0	0	5	0	5	4	9
Total Volume	0	1	0	1	1	14	0	15	14	0	4	18	0	28	13	41
% App. Total	0	100	0	0	6.7	93.3	0	0	77.8	0	22.2	0	0	68.3	31.7	0
PHF	.000	.250	.000	.250	.250	.875	.000	.750	.700	.000	.333	.900	.000	.778	.813	.788

Location: County of Riverside
 N/S: Pourroy Road
 E/W: Keller Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Pourroy Road	East Leg Keller Road	South Leg Pourroy Road	West Leg Keller Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Pourroy Road	East Leg Keller Road	South Leg Pourroy Road	West Leg Keller Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Pourroy Road
 E/W: Keller Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

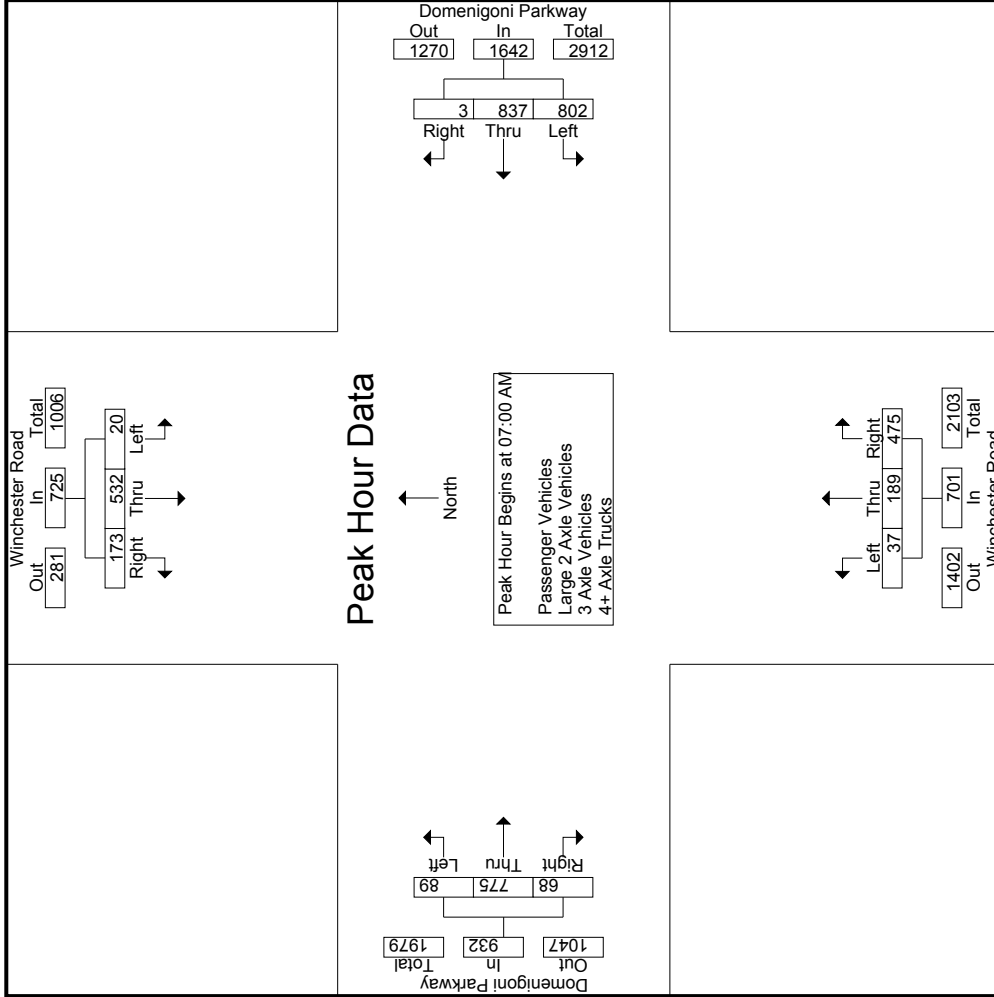
	Southbound Pourroy Road			Westbound Keller Road			Northbound Pourroy Road			Eastbound Keller Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

	Southbound Pourroy Road			Westbound Keller Road			Northbound Pourroy Road			Eastbound Keller Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	1	0	1

Counts Unlimited, Inc.
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 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

Start Time	Winchester Road Southbound			Domenigoni Parkway Westbound			Winchester Road Northbound			Domenigoni Parkway Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	3	120	37	168	231	0	6	57	110	173	174	19
+15 mins.	6	147	40	207	203	0	14	49	131	194	187	16
+30 mins.	5	160	45	230	215	0	5	35	116	156	211	15
+45 mins.	6	105	51	197	188	3	12	48	118	178	203	18
Total Volume	20	532	173	802	837	3	37	189	475	701	775	68
% App. Total	2.8	73.4	23.9	48.8	51	0.2	5.3	27	67.8	9.5	83.2	7.3
PHF	.833	.831	.848	.872	.906	.250	.661	.829	.906	.718	.918	.895

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
07:00 AM	3	116	37	21	156	168	220	0	0	388	6	54	109	48	169	14	169	17	9	200	78	913	991
07:15 AM	5	145	38	24	188	203	200	0	0	403	11	42	129	54	182	20	178	16	10	214	88	987	1075
07:30 AM	5	156	44	29	205	228	211	0	0	439	4	33	114	63	151	18	202	15	9	235	101	1030	1131
07:45 AM	6	102	48	31	156	196	184	1	0	381	9	48	118	61	175	30	192	18	9	240	101	952	1053
Total	19	519	167	105	705	795	815	1	0	1611	30	177	470	226	677	82	741	66	37	889	368	3882	4250
08:00 AM	2	92	34	29	128	178	154	1	0	333	12	44	80	49	136	13	132	6	3	151	81	748	829
08:15 AM	4	98	31	21	133	179	160	1	1	340	10	45	94	39	149	22	146	10	5	178	66	800	866
08:30 AM	6	101	39	25	146	143	154	1	0	298	6	36	94	41	136	22	152	12	9	186	75	766	841
08:45 AM	4	73	33	23	110	128	154	3	0	285	6	53	85	46	144	28	151	7	3	186	72	725	797
Total	16	364	137	98	517	628	622	6	1	1256	34	178	353	175	565	85	581	35	20	701	294	3039	3333
Grand Total	35	883	304	203	1222	1423	1437	7	1	2867	64	355	823	401	1242	167	1322	101	57	1590	662	6921	7583
% Apprch %	2.9	72.3	24.9			49.6	50.1	0.2		41.4	5.2	28.6	66.3		17.9	10.5	83.1	6.4		23	8.7	91.3	
% Total %	0.5	12.8	4.4			20.6	20.8	0.1			0.9	5.1	11.9			2.4	19.1	1.5					

Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
07:00 AM	3	116	37	21	156	168	220	0	0	388	6	54	109	48	169	14	169	17	9	200	78	913	991
07:15 AM	5	145	38	24	188	203	200	0	0	403	11	42	129	54	182	20	178	16	10	214	88	987	1075
07:30 AM	5	156	44	29	205	228	211	0	0	439	4	33	114	63	151	18	202	15	9	235	101	1030	1131
07:45 AM	6	102	48	31	156	196	184	1	0	381	9	48	118	61	175	30	192	18	9	240	101	952	1053
Total	19	519	167	105	705	795	815	1	0	1611	30	177	470	226	677	82	741	66	37	889	368	3882	4250
08:00 AM	2	92	34	29	128	178	154	1	0	333	12	44	80	49	136	13	132	6	3	151	81	748	829
08:15 AM	4	98	31	21	133	179	160	1	1	340	10	45	94	39	149	22	146	10	5	178	66	800	866
08:30 AM	6	101	39	25	146	143	154	1	0	298	6	36	94	41	136	22	152	12	9	186	75	766	841
08:45 AM	4	73	33	23	110	128	154	3	0	285	6	53	85	46	144	28	151	7	3	186	72	725	797
Total	16	364	137	98	517	628	622	6	1	1256	34	178	353	175	565	85	581	35	20	701	294	3039	3333
Grand Total	35	883	304	203	1222	1423	1437	7	1	2867	64	355	823	401	1242	167	1322	101	57	1590	662	6921	7583
% Apprch %	2.9	72.3	24.9			49.6	50.1	0.2		41.4	5.2	28.6	66.3		17.9	10.5	83.1	6.4		23	8.7	91.3	
% Total %	0.5	12.8	4.4			20.6	20.8	0.1			0.9	5.1	11.9			2.4	19.1	1.5					

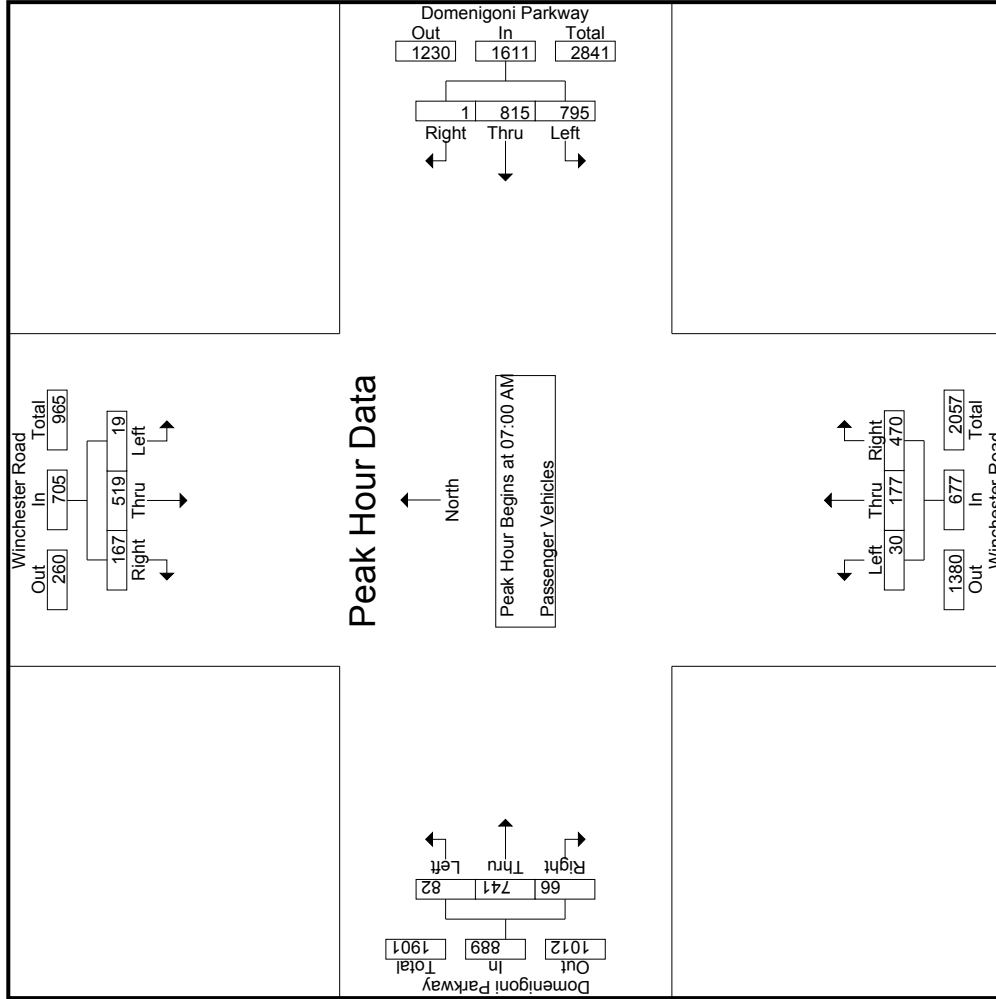
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
07:00 AM	3	116	37	21	156	168	220	0	0	388	6	54	109	48	169	14	169	17	9	200	78	913	991
07:15 AM	5	145	38	24	188	203	200	0	0	403	11	42	129	54	182	20	178	16	10	214	88	987	1075
07:30 AM	5	156	44	29	205	228	211	0	0	439	4	33	114	63	151	18	202	15	9	235	101	1030	1131
07:45 AM	6	102	48	31	156	196	184	1	0	381	9	48	118	61	175	30	192	18	9	240	101	952	1053
Total	19	519	167	105	705	795	815	1	0	1611	30	177	470	226	677	82	741	66	37	889	368	3882	4250
% App. Total	2.7	73.6	23.7			49.3	50.6	0.1		41.4	4.4	26.1	69.4		17.9	9.2	83.4	7.4		23	8.7	91.3	
PHF	.792	.832	.870		.860	.872	.926	.250		.917	.682	.819	.911		.930	.683	.917	.917		.926			

Counts Unlimited, Inc.
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File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear



Counts Unlimited, Inc.
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File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

Start Time	Winchester Road Southbound			Domenigoni Parkway Westbound			Winchester Road Northbound			Domenigoni Parkway Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	3	116	37	168	220	0	6	54	109	14	169	17
+15 mins.	5	145	38	203	200	0	11	42	129	20	178	16
+30 mins.	5	156	44	228	211	0	4	33	114	18	202	15
+45 mins.	6	102	48	196	184	1	9	48	118	30	192	18
Total Volume	19	519	167	795	815	1	30	177	470	82	741	66
% App. Total	2.7	73.6	23.7	49.3	50.6	0.1	4.4	26.1	69.4	9.2	83.4	7.4
PHF	.792	.832	.870	.872	.926	.250	.682	.819	.911	.683	.917	.917

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound					Domenigoni Parkway Westbound					Winchester Road Northbound					Domenigoni Parkway Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	3	0	0	3	0	4	0	0	4	0	1	1	0	2	0	1	1	0	2	0	11	11	11
07:15 AM	1	1	1	1	3	1	2	0	0	3	2	6	1	1	9	0	5	0	0	5	2	20	22	22
07:30 AM	0	2	1	1	3	1	2	0	0	3	1	1	2	1	4	4	6	0	0	10	2	20	22	22
07:45 AM	0	2	2	2	4	0	2	0	0	2	1	0	0	0	1	0	7	0	0	7	2	14	16	16
Total	1	8	4	4	13	2	10	0	0	12	4	8	4	2	16	4	19	1	0	24	6	65	71	71
08:00 AM	0	2	0	0	2	1	1	0	0	2	0	1	0	0	1	0	9	1	1	10	1	15	16	16
08:15 AM	0	6	2	1	8	2	2	0	0	4	0	1	2	0	3	1	8	1	0	10	1	25	26	26
08:30 AM	0	4	0	0	4	1	4	0	0	5	0	1	0	0	1	0	3	0	0	3	0	13	13	13
08:45 AM	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	3	3	0	0	6	0	12	12	12
Total	0	12	2	1	14	4	12	0	0	16	1	3	2	0	6	4	23	2	1	29	2	65	67	67
Grand Total	1	20	6	5	27	6	22	0	0	28	5	11	6	2	22	8	42	3	1	53	8	130	138	138
% Approach	3.7	74.1	22.2			21.4	78.6	0	0	22.7	50	27.3			15.1	79.2	5.7			40.8	5.8	94.2		
% Total	0.8	15.4	4.6		20.8	4.6	16.9	0	0	21.5	3.8	8.5	4.6		16.9	6.2	32.3	2.3						

Start Time	Winchester Road Southbound					Domenigoni Parkway Westbound					Winchester Road Northbound					Domenigoni Parkway Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	3	0	0	3	0	4	0	0	4	0	1	1	0	2	0	1	1	0	2	0	11	11	11
07:15 AM	1	1	1	1	3	1	2	0	0	3	2	6	1	1	9	0	5	0	0	5	2	20	22	22
07:30 AM	0	2	1	1	3	1	2	0	0	3	1	1	2	1	4	4	6	0	0	10	2	20	22	22
07:45 AM	0	2	2	2	4	0	2	0	0	2	1	0	0	0	1	0	7	0	0	7	2	14	16	16
Total	1	8	4	4	13	2	10	0	0	12	4	8	4	2	16	4	19	1	0	24	6	65	71	71
08:00 AM	0	2	0	0	2	1	1	0	0	2	0	1	0	0	1	0	9	1	1	10	1	15	16	16
08:15 AM	0	6	2	1	8	2	2	0	0	4	0	1	2	0	3	1	8	1	0	10	1	25	26	26
08:30 AM	0	4	0	0	4	1	4	0	0	5	0	1	0	0	1	0	3	0	0	3	0	13	13	13
08:45 AM	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	3	3	0	0	6	0	12	12	12
Total	0	12	2	1	14	4	12	0	0	16	1	3	2	0	6	4	23	2	1	29	2	65	67	67
Grand Total	1	20	6	5	27	6	22	0	0	28	5	11	6	2	22	8	42	3	1	53	8	130	138	138
% Approach	3.7	74.1	22.2			21.4	78.6	0	0	22.7	50	27.3			15.1	79.2	5.7			40.8	5.8	94.2		
% Total	0.8	15.4	4.6		20.8	4.6	16.9	0	0	21.5	3.8	8.5	4.6		16.9	6.2	32.3	2.3						

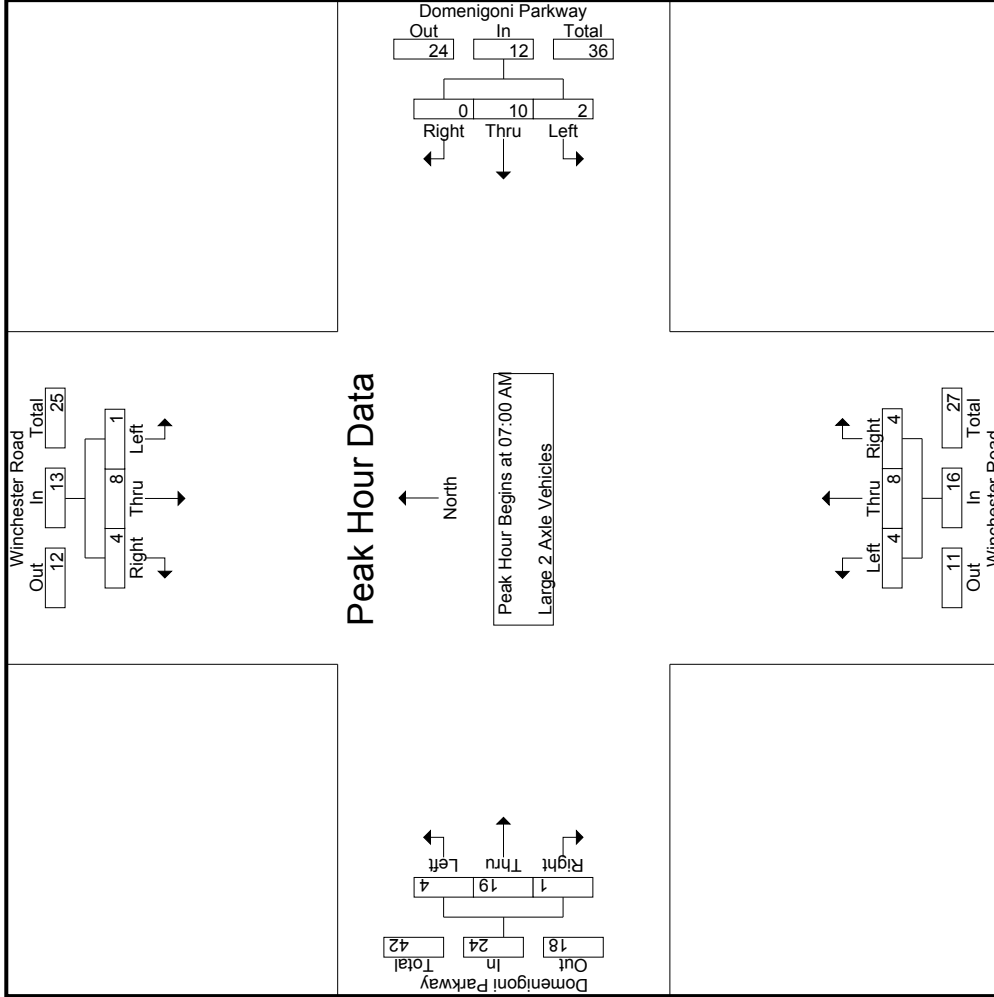
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Winchester Road Southbound					Domenigoni Parkway Westbound					Winchester Road Northbound					Domenigoni Parkway Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	3	0	0	3	0	4	0	0	4	0	1	1	0	2	0	1	1	0	2	0	11	11	11
07:15 AM	1	1	1	1	3	1	2	0	0	3	2	6	1	1	9	0	5	0	0	5	2	20	22	22
07:30 AM	0	2	1	1	3	1	2	0	0	3	1	1	2	1	4	4	6	0	0	10	2	20	22	22
07:45 AM	0	2	2	2	4	0	2	0	0	2	1	0	0	0	1	0	7	0	0	7	2	14	16	16
Total	1	8	4	4	13	2	10	0	0	12	4	8	4	2	16	4	19	1	0	24	6	65	71	71
% App. Total	7.7	61.5	30.8			16.7	83.3	0	0	25	50	25			16.7	79.2	4.2			40.8	5.8	94.2		
PHF	.250	.667	.500		.813	.500	.625	.000		.750	.500	.333	.500		.444	.250	.679	.250		.600		.813		

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

Start Time	Winchester Road Southbound			Domenigoni Parkway Westbound			Winchester Road Northbound			Domenigoni Parkway Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	3	0	0	4	0	0	4	1	0	0	1
+15 mins.	1	1	1	1	2	0	2	6	1	0	5	0
+30 mins.	0	2	1	1	2	0	1	1	2	4	6	0
+45 mins.	0	2	2	0	2	0	1	0	0	0	7	0
Total Volume	1	8	4	2	10	0	4	8	4	4	19	1
% App. Total	7.7	61.5	30.8	16.7	83.3	0	25	50	25	16.7	79.2	4.2
PHF	.250	.667	.500	.500	.625	.000	.750	.333	.500	.250	.679	.250
			.813		.750	.444		.444			.600	

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound								
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
07:15 AM	0	0	1	1	0	0	0	0	1	1	1	0	0	1	0	0	1	1	0	6	7
07:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	5	5	6
07:45 AM	0	0	0	0	0	0	2	1	2	1	0	0	0	2	0	0	2	1	1	5	6
Total	0	3	1	1	4	2	3	2	7	2	1	1	0	4	1	6	1	8	2	23	25
08:00 AM	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	3	3
08:15 AM	3	1	0	0	4	0	1	1	1	0	1	0	2	0	1	1	2	2	9	11	11
08:30 AM	0	2	0	0	2	1	0	0	2	0	0	0	0	1	1	0	2	0	6	6	6
08:45 AM	0	0	0	0	0	1	0	0	1	2	0	0	2	0	0	1	0	0	4	4	4
Total	3	3	0	0	6	2	1	2	5	4	1	1	0	6	2	3	1	5	2	22	24
Grand Total	3	6	1	1	10	4	4	2	12	6	2	2	0	10	1	8	4	13	4	45	49
% Approach	30	60	10		33.3	33.3	8.9		26.7	60	20	20		22.2	7.7	61.5	30.8		8.2	91.8	
Total %	6.7	13.3	2.2		22.2	8.9	8.9		26.7	13.3	4.4	4.4		2.2	17.8	8.9					

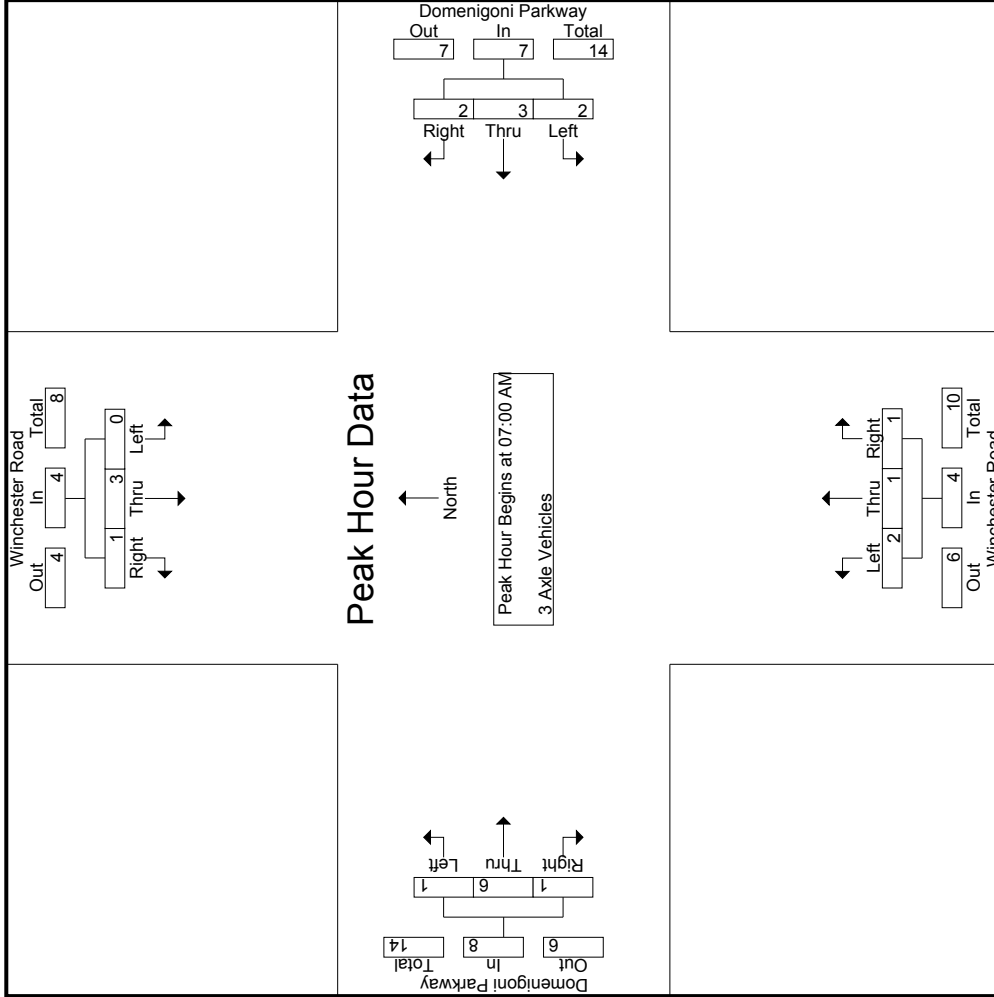
Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound								
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	1	0	0	0	0	0	1	1	0	0	1	1	0	3	0	1	0	1
07:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	2	1	2	1	0	0	0	2	0	0	1	0	2	1	0
Total Volume	0	3	1	1	4	2	3	2	7	2	1	1	0	4	1	6	1	8	2	23	23
% App. Total	0	.75	.25		28.6	42.9	28.6		.583	.50	.25	.25		.333	.75	12.5		.667	.821		
PHF	.000	.375	.250		.500	.250	.250		.583	.500	.250	.250		.333	.750	.250		.667	.821		

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
 PO Box 1178
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 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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 Corona, CA 92878
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File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

Start Time	Winchester Road Southbound			Domenigoni Parkway Westbound			Winchester Road Northbound			Domenigoni Parkway Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	1	0	0	3	0	0	0	0	0	2	1
+15 mins.	0	0	1	1	0	0	1	1	3	0	1	0
+30 mins.	0	2	0	1	0	0	0	0	1	1	1	0
+45 mins.	0	0	0	0	0	2	1	0	0	0	2	0
Total Volume	0	3	1	2	3	2	2	1	4	1	6	1
% App. Total	0	.75	.25	28.6	42.9	28.6	.50	.25	.25	12.5	.75	12.5
PHF	.000	.375	.250	.500	.250	.250	.583	.250	.333	.250	.750	.250

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	4	0	2	0	0	2	1	2	0	3
07:15 AM	0	1	0	0	1	2	1	0	0	3	0	0	0	0	0	0	3	0	3
07:30 AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	2	0	2
07:45 AM	0	1	1	1	2	1	2	0	0	3	1	0	0	0	1	1	2	0	3
Total	0	2	1	1	3	3	9	0	0	12	1	3	0	0	4	2	9	0	11
08:00 AM	0	3	1	1	4	1	3	0	0	4	0	0	0	0	0	2	0	0	2
08:15 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	1	2	1	4
08:30 AM	0	4	0	0	4	0	0	0	0	0	1	0	0	0	1	0	1	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	1	1	0	2
Total	0	8	1	1	9	1	4	0	0	5	0	3	1	0	4	4	4	1	9
Grand Total	0	10	2	2	12	4	13	0	0	17	1	6	1	0	8	6	13	1	1
% Apprch %	0	83.3	16.7		23.5	76.5	0			12.5	75	12.5			30	65	5		20
% Total %	0	17.5	3.5		21.1	7	22.8	0		29.8	1.8	10.5	1.8		14	10.5	22.8	1.8	35.1

Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound																				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	4	0	2	0	0	2	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	9	9
07:15 AM	0	1	0	0	1	2	1	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	7	7	
07:30 AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	5	5		
07:45 AM	0	1	1	1	2	1	2	0	0	3	1	0	0	0	1	1	2	0	0	3	1	0	0	0	0	0	0	0	1	9	10		
Total	0	2	1	1	3	3	9	0	0	12	1	3	0	0	4	2	9	0	0	11	1	1	0	0	0	0	0	0	1	30	31		
08:00 AM	0	3	1	1	4	1	3	0	0	4	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	10	11		
08:15 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	1	2	1	1	4	1	1	1	1	1	1	1	1	1	6	7		
08:30 AM	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	6	6		
08:45 AM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	1	1	0	0	2	0	0	0	0	0	0	0	0	5	5			
Total	0	8	1	1	9	1	4	0	0	5	0	3	1	0	4	4	4	1	1	9	2	2	1	1	2	2	2	2	27	29			
Grand Total	0	10	2	2	12	4	13	0	0	17	1	6	1	0	8	6	13	1	1	20	3	3	3	3	3	3	3	3	57	60			
% Apprch %	0	83.3	16.7		23.5	76.5	0			12.5	75	12.5			30	65	5		20	35.1	5	5	5	5	5	5	5	95	95				
% Total %	0	17.5	3.5		21.1	7	22.8	0		29.8	1.8	10.5	1.8		14	10.5	22.8	1.8	35.1														

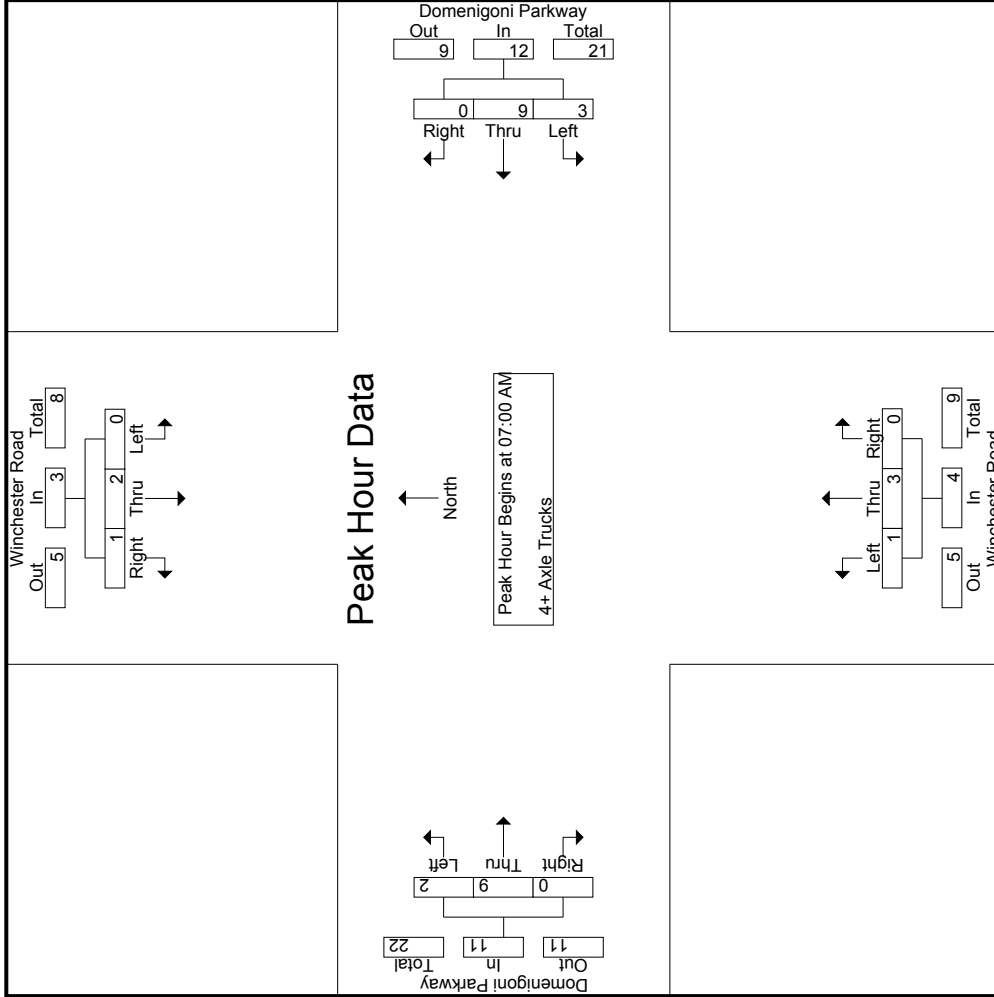
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound																			
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	0	0	0	4	0	2	0	0	2	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	9	9
07:15 AM	0	1	0	0	1	2	1	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	7	7	
07:30 AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	2	5	5	
07:45 AM	0	1	1	1	2	1	2	0	0	3	1	0	0	0	1	1	2	0	0	3	1	0	0	0	0	0	0	0	1	9	10	
Total	0	2	1	1	3	3	9	0	0	12	1	3	0	0	4	2	9	0	0	11	1	1	0	0	0	0	0	0	1	30	31	
% App. Total	0	66.7	33.3		33.3	75	75	0		75	25	75	0		75	25	75	0		75	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.500	.250		.375	.375	.563	.000		.750	.250	.375	.000		.500	.500	.750	.000		.917	.000	.000	.000	.000	.000	.000	.000	.000	.917	.833		

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 13_CRV_79_Dom AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

Start Time	Winchester Road Southbound			Domenigoni Parkway Westbound			Winchester Road Northbound			Domenigoni Parkway Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	4	0	4	0	0	2	0	3
+15 mins.	0	1	0	2	1	0	3	0	0	0	3	0
+30 mins.	0	0	0	0	2	0	2	1	0	1	0	2
+45 mins.	0	1	1	1	2	0	3	1	0	1	2	3
Total Volume	0	2	1	3	9	0	12	1	3	4	9	11
% App. Total	0	66.7	33.3	.25	.75	.0	.75	.25	.75	.500	81.8	.0
PHF	.000	.500	.250	.375	.563	.000	.750	.250	.375	.500	.750	.000

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound					Domenigoni Parkway Westbound					Winchester Road Northbound					Domenigoni Parkway Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	4	87	35	20	126	139	158	5	0	302	9	137	241	78	387	43	233	12	6	288	104	1103	1207
04:15 PM	7	72	46	19	125	152	177	5	4	334	11	115	234	99	360	42	230	5	3	277	125	1096	1221
04:30 PM	3	73	35	24	111	172	179	5	2	356	20	137	203	86	360	49	229	11	5	289	117	1116	1233
04:45 PM	6	65	41	18	112	137	199	2	1	338	11	134	235	86	380	42	208	5	2	255	107	1085	1192
Total	20	297	157	81	474	600	713	17	7	1330	51	523	913	349	1487	176	900	33	16	1109	453	4400	4853
05:00 PM	4	69	51	39	124	143	186	7	4	336	17	119	222	88	358	50	210	17	6	277	137	1095	1232
05:15 PM	3	65	43	25	111	182	247	7	2	436	12	114	234	113	360	55	266	9	2	330	142	1237	1379
05:30 PM	4	73	45	28	122	136	170	6	3	312	27	148	265	92	440	60	202	9	3	271	126	1145	1271
05:45 PM	4	56	36	18	96	143	181	1	0	325	16	123	219	83	358	60	210	4	3	274	104	1053	1157
Total	15	263	175	110	453	604	784	21	9	1409	72	504	940	376	1516	225	888	39	14	1152	509	4530	5039
Grand Total	35	560	332	191	927	1204	1497	38	16	2739	123	1027	1853	725	3003	401	1788	72	30	2261	962	8930	9892
% Approach	3.8	60.4	35.8			44	54.7	1.4			4.1	34.2	61.7			17.7	79.1	3.2					
% Total	0.4	6.3	3.7			13.5	16.8	0.4			1.4	11.5	20.8			4.5	20	0.8			9.7	90.3	
Passenger Vehicles	34	553	322		1094	1194	1475	35		2720	119	1005	1844		3689	392	1771	70		2263	0	0	9766
Large 2 Axle Vehicles	97.1	98.8	97	96.9	97.9	99.2	98.5	92.1	100	98.7	96.7	97.9	99.5	99.4	99	97.8	99	97.2	100	98.8	0	0	98.7
% Large 2 Axle Vehicles	1	7	5	1.6	1.4	9	16	2	0	27	4	11	8	0.6	27	7	16	0	0	23	0	0	93
% 3 Axle Vehicles	2.9	1.2	1.5		0.7	0.7	1.1	5.3	0	1	3.3	1.1	0.4	0.6	0.7	1.7	0.9	0	0	1	0	0	0.9
% 3 Axle Vehicles	0	0	2		4	0	3	0	0	3	0	4	0	4	4	2	0	0	0	2	0	0	13
% 4+ Axle Trucks	0	0	0.6	1	0.4	0	0.2	0	0	0.1	0	0.4	0	0.1	0.1	0.5	0	0	0	0.1	0	0	0.1
% 4+ Axle Trucks	0	0	3		4	1	3	1		5	0	7	1	8	8	0	1	2	0	3	0	0	20
% 4+ Axle Trucks	0	0	0.9	0.5	0.4	0.1	0.2	2.6	0	0.2	0	0.7	0.1	0.2	0.2	0	0.1	2.8	0	0.1	0	0	0.2

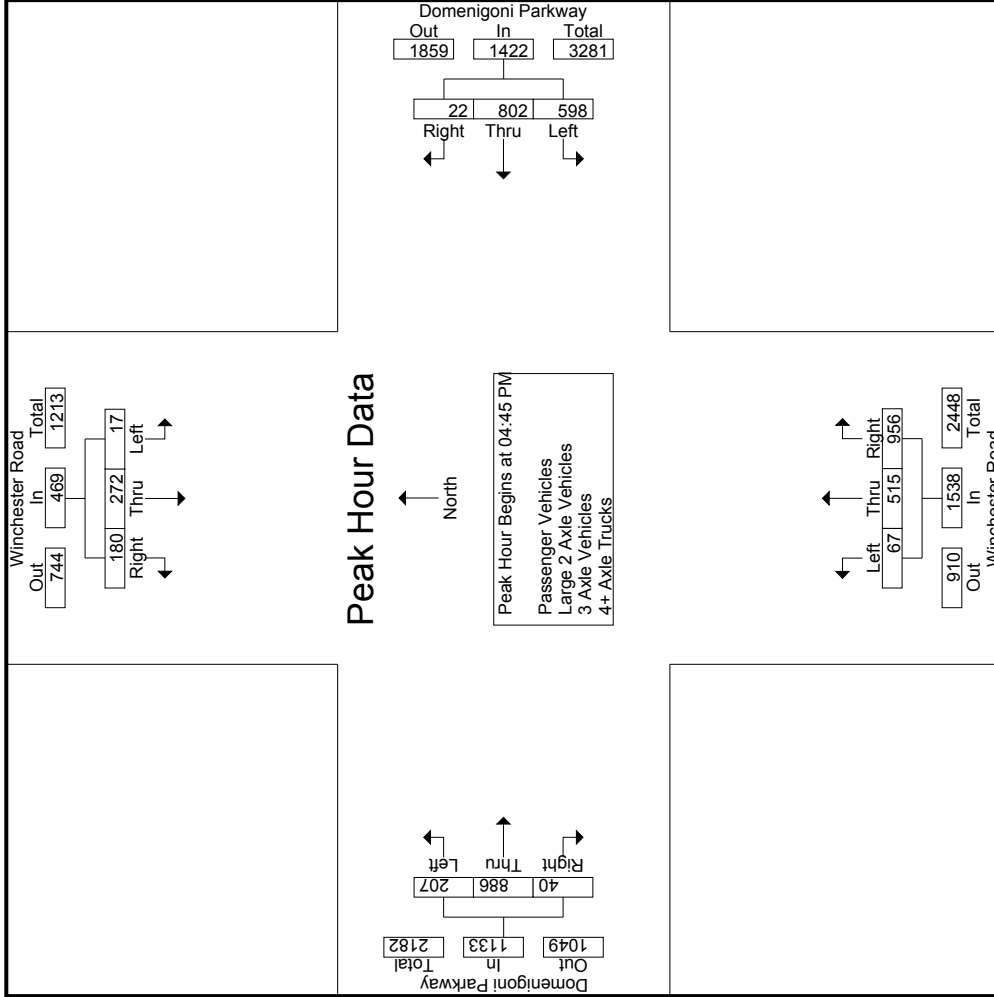
Start Time	Winchester Road Southbound					Domenigoni Parkway Westbound					Winchester Road Northbound					Domenigoni Parkway Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	6	65	41		112	137	199	2		338	11	134	235		380	42	208	5		255			1085
05:00 PM	4	69	51		124	143	186	7		336	17	119	222		358	50	210	17		277			1095
05:15 PM	3	65	43		111	182	247	7		436	12	114	234		360	55	266	9		330			1233
05:30 PM	4	73	45		122	136	170	6		312	27	148	265		440	60	202	9		271			1145
Total Volume	17	272	180		469	598	802	22		1422	67	515	956		1538	207	886	40		1133			4562
% App. Total	3.6	58	38.4		38.4	42.1	56.4	1.5		81.5	4.4	33.5	62.2		87.4	18.3	78.2	3.5		858			922
PHF	.708	.932	.882		.946	.821	.812	.786		.815	.620	.870	.902		.874	.863	.833	.588		.858			.922

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
04:00 PM	4	86	34	19	124	137	156	5	0	298	9	134	237	76	380	43	233	11	6	287	101	1089	1190
04:15 PM	7	72	43	19	122	150	172	5	4	327	11	113	233	98	357	42	229	5	3	276	124	1082	1206
04:30 PM	3	72	34	23	109	172	177	5	2	354	20	135	203	86	358	47	227	11	5	285	116	1106	1222
04:45 PM	6	65	41	18	112	136	197	2	1	335	11	126	232	85	369	40	206	5	2	251	106	1067	1173
Total	20	295	152	79	467	595	702	17	7	1314	51	508	905	345	1464	172	895	32	16	1099	447	4344	4791
05:00 PM	4	67	49	37	120	143	185	7	4	335	16	116	222	88	354	50	207	17	6	274	135	1083	1218
05:15 PM	3	63	42	25	108	181	242	5	2	428	12	114	234	113	360	52	262	9	2	323	142	1219	1361
05:30 PM	4	73	45	28	122	135	168	5	3	308	25	145	265	92	435	58	199	8	3	265	126	1130	1256
05:45 PM	3	55	34	16	92	140	178	1	0	319	15	122	218	83	355	60	208	4	3	272	102	1038	1140
Total	14	258	170	106	442	599	773	18	9	1390	68	497	939	376	1504	220	876	38	14	1134	505	4470	4975
Grand Total	34	553	322	185	909	1194	1475	35	16	2704	119	1005	1844	721	2968	392	1771	70	30	2233	952	8814	9766
% Approach	3.7	60.8	35.4			44.2	54.5	1.3			4	33.9	62.1			17.6	79.3	3.1					
% Total	0.4	6.3	3.7		10.3	13.5	16.7	0.4		30.7	1.4	11.4	20.9		33.7	4.4	20.1	0.8		25.3	9.7	90.3	

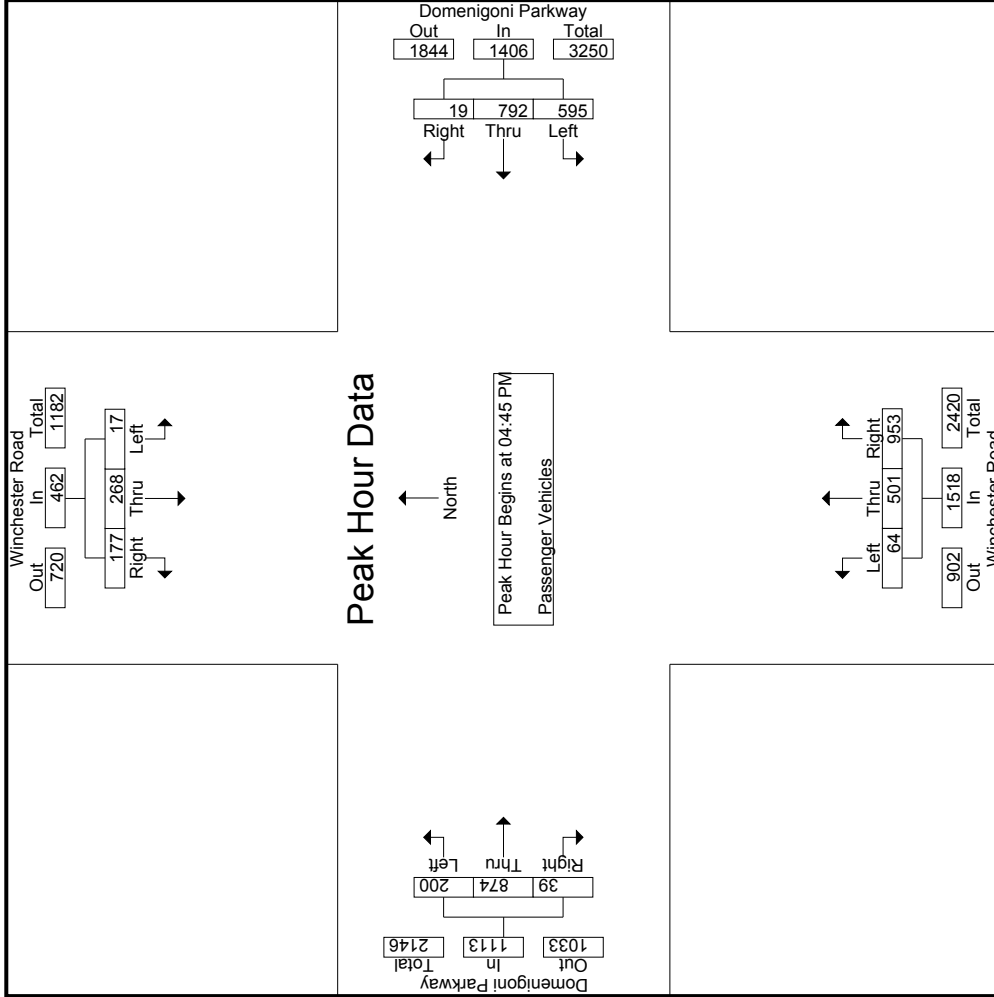
Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
04:45 PM	6	65	41		112	136	197	2		335	11	126	232		369								
05:00 PM	4	67	49		120	143	185	7		335	16	116	222		354								
05:15 PM	3	63	42		108	181	242	5		428	12	114	234		360								
05:30 PM	4	73	45		122	135	168	5		308	25	145	265		435								
Total Volume	17	268	177		462	595	792	19		1406	64	501	953		1518								
% App. Total	3.7	58	38.3		10.3	13.5	16.7	0.4		30.7	1.4	11.4	20.9		33.7	4.4	20.1	0.8		25.3	9.7	90.3	
PHF	.708	.918	.903		.947	.822	.818	.679		.821	.640	.864	.899		.872					.834	.574	.861	.923

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

File Name : 13_CRV_79_Dom PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

Start Time	Winchester Road Southbound			Domenigoni Parkway Westbound			Winchester Road Northbound			Domenigoni Parkway Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	6	65	41	136	197	2	11	126	232	40	206	5
+15 mins.	4	67	49	143	185	7	16	116	222	50	207	17
+30 mins.	3	63	42	181	242	5	12	114	234	52	262	9
+45 mins.	4	73	45	135	168	5	25	145	265	58	199	8
Total Volume	17	268	177	595	792	19	64	501	953	200	874	39
% App. Total	3.7	58	38.3	42.3	56.3	1.4	4.2	33	62.8	18	78.5	3.5
PHF	.708	.918	.903	.822	.818	.679	.640	.864	.899	.862	.834	.574
			.947			.821			.872			.861

Counts Unlimited, Inc.
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound					Domenigoni Parkway Westbound					Winchester Road Northbound					Domenigoni Parkway Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	1	1	2	2	1	0	0	3	0	2	4	2	6	0	0	0	0	0	3	11	14
04:15 PM	0	0	1	0	1	1	5	0	0	6	0	1	1	1	2	0	1	0	0	1	1	10	11
04:30 PM	0	1	0	0	1	0	1	0	0	1	0	2	0	2	1	2	0	0	0	3	0	7	7
04:45 PM	0	0	0	0	0	1	2	0	0	3	0	1	2	1	3	1	2	0	0	3	1	9	10
Total	0	2	2	1	4	4	9	0	0	13	0	6	7	4	13	2	5	0	0	7	5	37	42
05:00 PM	0	2	1	1	3	0	0	0	0	0	1	2	0	0	3	0	2	0	0	2	1	8	9
05:15 PM	0	2	1	0	3	1	3	2	0	6	0	0	0	0	0	3	4	0	0	7	0	16	16
05:30 PM	0	0	0	0	0	1	1	0	0	2	2	2	0	4	2	3	0	0	5	0	0	11	11
05:45 PM	1	1	1	1	3	3	3	0	0	6	1	1	1	0	3	0	2	0	0	2	1	14	15
Total	1	5	3	2	9	5	7	2	0	14	4	5	1	0	10	5	11	0	0	16	2	49	51
Grand Total	1	7	5	3	13	9	16	2	0	27	4	11	8	4	23	7	16	0	0	23	7	86	93
% Approach	7.7	53.8	38.5			33.3	59.3	7.4			17.4	47.8	34.8			30.4	69.6	0		26.7	7.5	92.5	
% Total	1.2	8.1	5.8		15.1	10.5	18.6	2.3		31.4	4.7	12.8	9.3		26.7	8.1	18.6	0		26.7	7.5	92.5	

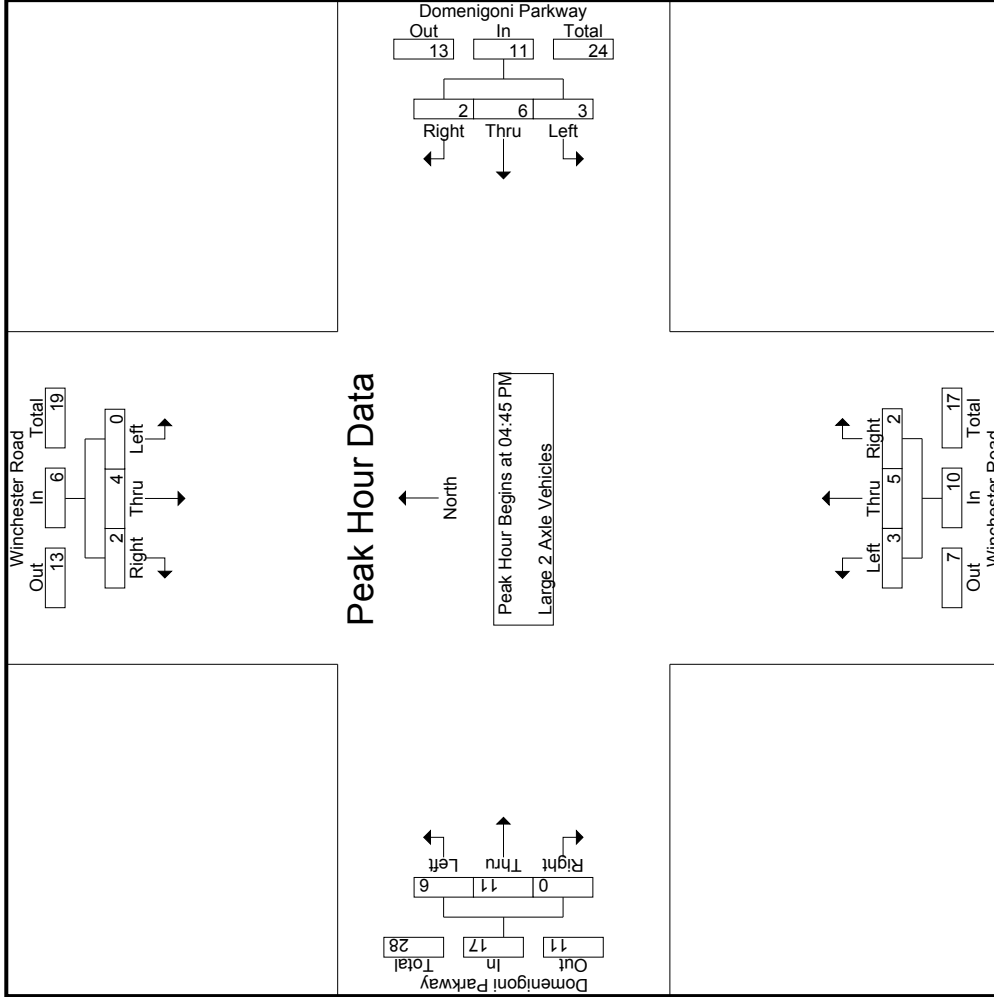
Start Time	Winchester Road Southbound					Domenigoni Parkway Westbound					Winchester Road Northbound					Domenigoni Parkway Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:45 PM	0	0	0	0	0	1	2	0	0	3	0	1	2	3	1	2	0	0	0	0	0	0	3	9
05:00 PM	0	2	1	1	3	0	0	0	0	0	0	1	2	0	3	0	2	0	0	2	0	0	2	8
05:15 PM	0	2	1	1	3	1	3	1	0	5	0	0	0	0	0	3	4	0	0	7	0	7	16	
05:30 PM	0	0	0	0	0	1	1	1	0	3	0	2	2	2	4	2	3	0	0	5	0	0	11	
Total	0	4	2	2	6	3	6	2	0	11	3	5	2	2	10	6	11	0	0	17	0	17	44	
% App. Total	0	66.7	33.3			27.3	54.5	18.2			30	50	20		35.3	64.7	0			68.8	0	68.8	.688	
PHF	.000	.500	.500		.500	.750	.500	.250		.458	.375	.625	.250		.625	.500	.688	.000		.607	.000	.607	.688	

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	2
Total	0	0	0	0	0	1	0	0	0	2	2	0	0	0	2	0	5	5
05:00 PM	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0	1	2	3
05:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2
05:45 PM	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	0	2	2	2	3	0	0	0	2	4	0	0	0	2	2	6	8
Grand Total	0	0	2	2	2	3	0	0	0	4	0	0	0	0	2	2	11	13
% Approach	0	0	100		0	100	0		0	100	0			0	100	15.4	84.6	
Total %	0	0	18.2		27.3	0		0		36.4	18.2			0	18.2			

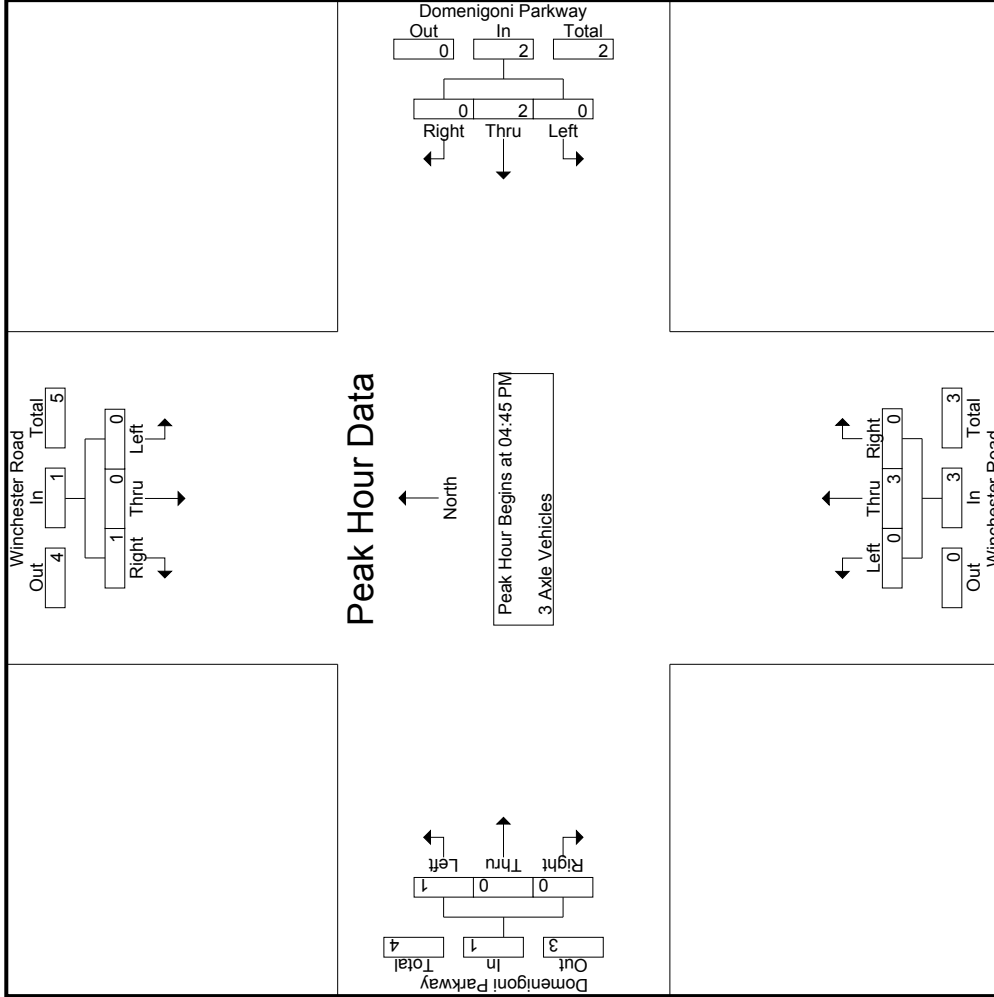
Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	0	0	2	0	0	0	0	3	0	0	7
% App. Total	0	0	100		0	100	0		0	100	0			0	100	0	0	
PHF	.000	.000	.250		.250	.000	.500		.500	.000	.750	.000	.750	.000	.250	.000	.250	.875

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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 Corona, CA 92878
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File Name : 13_CRV_79_Dom PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

Start Time	Winchester Road Southbound			Domenigoni Parkway Westbound			Winchester Road Northbound			Domenigoni Parkway Eastbound			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	App. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1	04:45 PM														
Peak Hour for Each Approach Begins at:	04:45 PM														
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
+15 mins.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	0	2	0	0	2	0	0	0	0	0	0	1
% App. Total	0	0	100	0	100	0	0	100	0	0	0	0	0	0	100
PHF	.000	.000	.250	.000	.500	.000	.500	.000	.000	.000	.750	.000	.000	.000	.250

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2
04:15 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	4	4
04:30 PM	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	0	7	7
Total	0	0	3	1	3	1	0	0	0	2	0	7	1	0	8	1	14	15
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2
05:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	5	5
Grand Total	0	0	3	1	3	1	3	1	0	5	0	7	1	0	8	1	19	20
% Approach	0	0	100		20	60	20			26.3	0	87.5	12.5		42.1	0	33.3	66.7
% Total	0	0	15.8		5.3	15.8	5.3			26.3	0	36.8	5.3		42.1	0	5.3	10.5

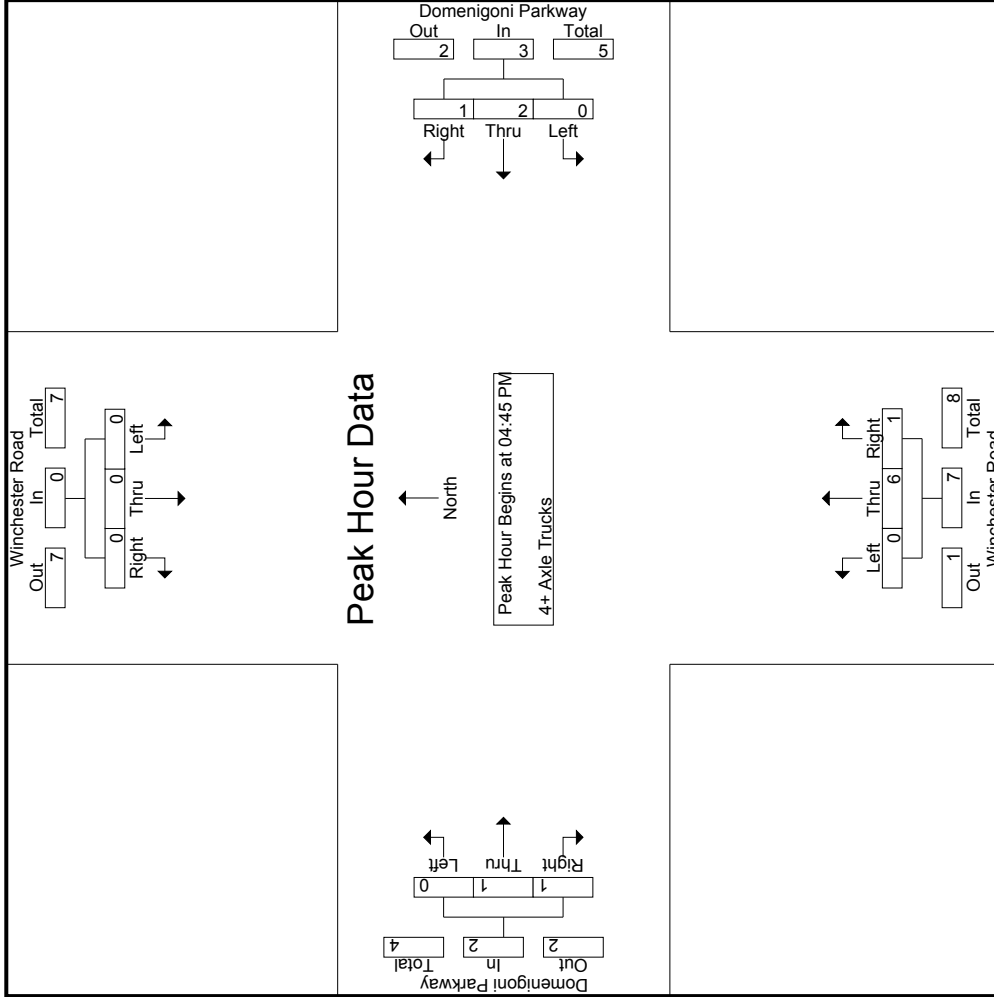
Start Time	Winchester Road Southbound				Domenigoni Parkway Westbound				Winchester Road Northbound				Domenigoni Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	1	0	0	3	0	6	1	0	7	0	0	0
% App. Total	0	0	0	0	0	66.7	33.3			33.3	0	85.7	14.3		50	0	50	50
PHF	.000	.000	.000		.000	.000	.500	.250		.750	.000	.250	.250		.250	.000	.250	.500

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
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 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

File Name : 13_CRV_79_Dom PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
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File Name : 13_CRV_79_Dom PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Domenigoni Parkway
 Weather: Clear

Start Time	Winchester Road Southbound			Domenigoni Parkway Westbound			Winchester Road Northbound			Domenigoni Parkway Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	0	0	0	1	0	0	1
+30 mins.	0	0	0	0	1	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	2	1	0	6	1	0	1	1
% App. Total	0	0	0	0	66.7	33.3	0	85.7	14.3	0	50	50
PHF	.000	.000	.000	.000	.500	.250	.750	.250	.250	.000	.250	.250

Location: County of Riverside
 N/S: Winchester Road
 E/W: Domenigoni Pkwy



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road	East Leg Domenigoni Pkwy	South Leg Winchester Road	West Leg Domenigoni Pkwy	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Winchester Road	East Leg Domenigoni Pkwy	South Leg Winchester Road	West Leg Domenigoni Pkwy	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Winchester Road
 E/W: Domenigoni Pkwy



Date: 5/12/2021
 Day: Wednesday

BICYCLES

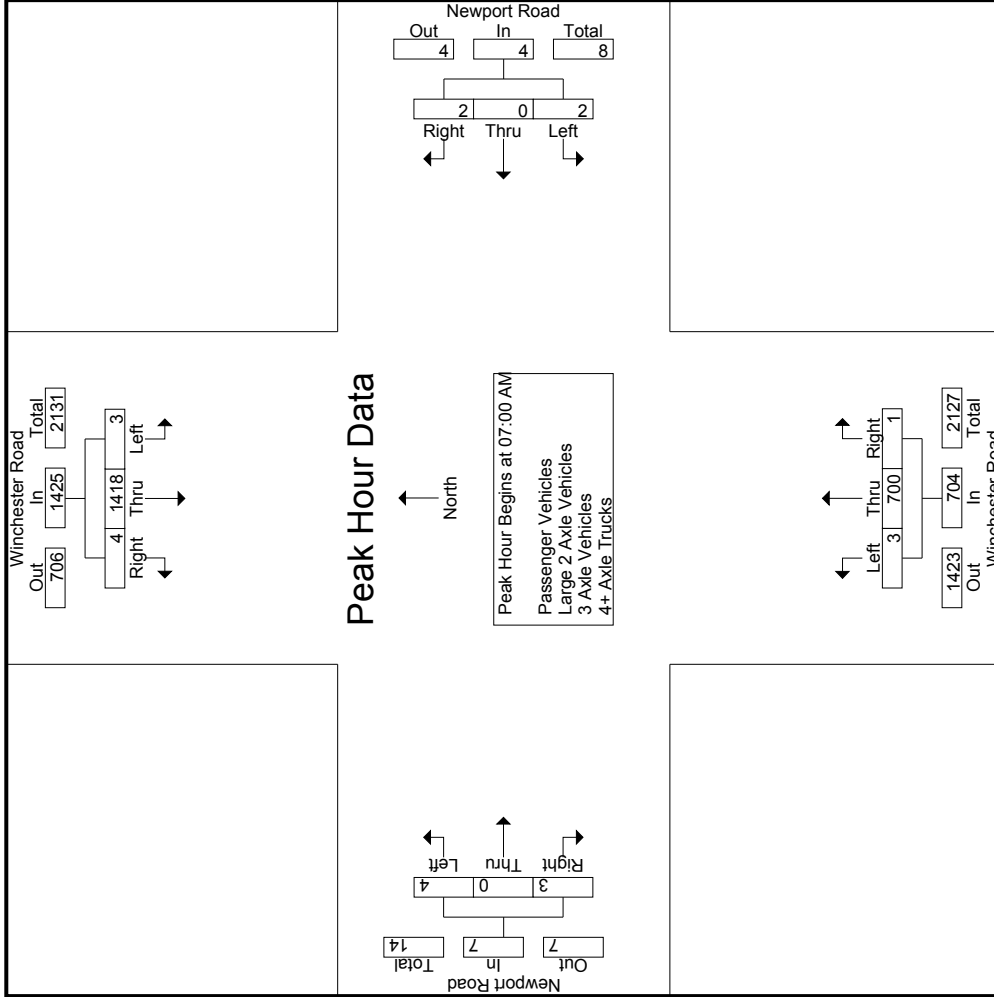
	Southbound Winchester Road			Westbound Domenigoni Pkwy			Northbound Winchester Road			Eastbound Domenigoni Pkwy			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	2	0	0	2	0	0	0	0	0	0	0	4

	Southbound Winchester Road			Westbound Domenigoni Pkwy			Northbound Winchester Road			Eastbound Domenigoni Pkwy			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Newport Road Westbound			Winchester Road Northbound			Newport Road Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:													
	07:00 AM			08:00 AM			07:00 AM			07:00 AM				
+0 mins.	1	313	4	0	0	2	0	0	181	1	0	0	1	2
+15 mins.	1	369	0	0	0	0	0	0	192	0	0	0	1	2
+30 mins.	1	407	0	1	0	2	1	1	158	0	0	0	1	1
+45 mins.	0	329	0	1	0	3	2	2	169	0	2	0	0	2
Total Volume	3	1418	4	2	0	7	3	3	700	1	0	0	3	7
% App. Total	0.2	99.5	0.3	22.2	0	77.8	0.4	99.4	0.1	57.1	0	42.9	0	42.9
PHF	.750	.871	.250	.500	.000	.583	.375	.911	.250	.500	.000	.750	.000	.875

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 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	306	3	0	310	0	0	0	0	0	0	171	1	0	172	0	484	484
07:15 AM	1	361	0	0	362	0	0	0	0	0	184	0	0	0	184	0	547	547
07:30 AM	0	398	0	0	398	0	0	0	0	0	153	0	0	0	153	0	552	552
07:45 AM	0	325	0	0	325	1	0	1	1	2	165	0	0	0	166	1	494	495
Total	2	1390	3	0	1395	1	0	1	1	2	673	1	0	0	675	1	2077	2078
08:00 AM	1	282	0	0	283	0	0	1	1	1	137	0	0	0	137	0	421	422
08:15 AM	0	256	1	0	257	0	0	0	0	0	135	0	0	0	135	0	392	392
08:30 AM	0	269	1	0	270	1	0	2	1	3	142	1	0	0	143	3	419	422
08:45 AM	4	204	2	0	210	1	0	3	3	4	151	2	0	0	153	0	367	370
Total	5	1011	4	0	1020	2	0	6	5	8	565	3	0	0	568	7	1599	1606
Grand Total	7	2401	7	0	2415	3	0	7	6	10	1238	4	0	0	1243	2	3676	3684
% Approach	0.3	99.4	0.3			30	0	70	0.2	0.3	0.1	99.6	0.3		33.8	25	99.8	
% Total	0.2	65.3	0.2		65.7	0.1	0	0.2			33.7	0.1				0.1	99.8	

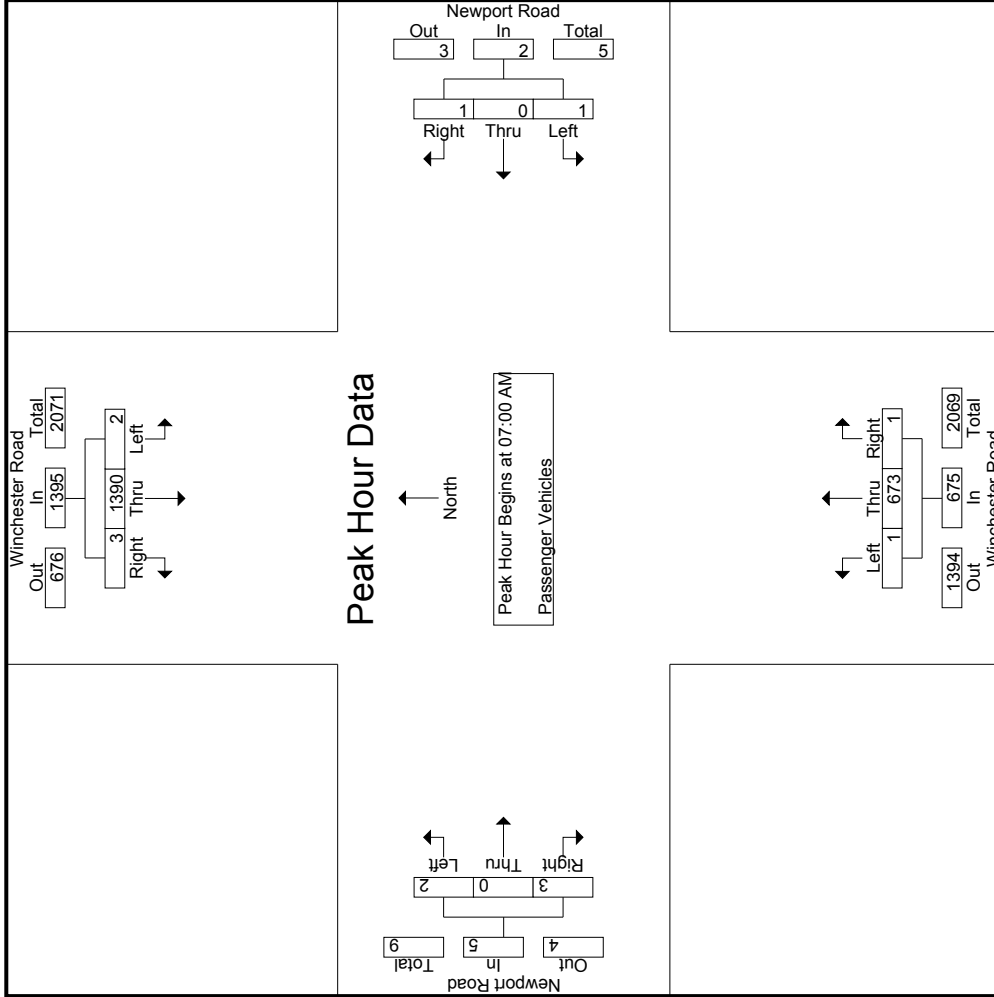
Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	306	3	0	310	0	0	0	0	0	0	171	1	0	172	0	484	484
07:15 AM	1	361	0	0	362	0	0	0	0	0	184	0	0	0	184	0	547	547
07:30 AM	0	398	0	0	398	0	0	0	0	0	153	0	0	0	153	0	552	552
07:45 AM	0	325	0	0	325	1	0	1	1	2	165	0	0	0	166	1	494	495
Total Volume	2	1390	3	0	1395	1	0	1	1	2	673	1	0	0	675	0	2077	2077
% App. Total	0.1	99.6	0.2			50	0	50	0.1	0.1	99.7	0.1			60	60	99.8	
PHF	.500	.873	.250		.876	.250	.000	.250	.914	.250	.250	.917	.500	.750	.625	.941		

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Newport Road Westbound			Winchester Road Northbound			Newport Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	1	306	3	310	0	0	0	0	0	171	1	172	1	0	1	2
+15 mins.	1	361	0	362	0	0	0	0	0	184	0	184	0	0	1	1
+30 mins.	0	398	0	398	0	0	0	0	0	153	0	153	0	0	1	1
+45 mins.	0	325	0	325	1	0	1	2	1	165	0	166	1	0	0	1
Total Volume	2	1390	3	1395	1	0	1	2	1	673	1	675	2	0	3	5
% App. Total	0.1	99.6	0.2	99.6	50	0	50	0.1	0.1	99.7	0.1	99.7	40	0	60	60
PHF	.500	.873	.250	.876	.250	.000	.250	.250	.250	.914	.250	.917	.500	.000	.750	.625

Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	5	0	0	5	0	0	1	1	1	0	6	0	0	0	1	12	13
07:15 AM	0	4	0	0	4	0	0	0	0	0	5	0	0	0	0	0	9	9
07:30 AM	1	7	0	0	8	1	0	0	0	1	4	0	0	0	0	0	13	13
07:45 AM	0	2	0	0	2	0	0	0	0	0	2	0	0	0	0	0	4	4
Total	1	18	0	0	19	1	0	1	1	2	17	0	0	0	0	1	38	39
08:00 AM	0	4	0	0	4	0	0	1	0	1	2	0	0	0	0	0	7	7
08:15 AM	0	9	0	0	9	0	0	0	0	0	4	0	0	0	0	0	13	13
08:30 AM	0	6	0	0	6	0	0	0	0	0	3	0	0	0	0	0	9	9
08:45 AM	0	4	0	0	4	0	0	0	0	0	2	0	0	0	0	0	6	6
Total	0	23	0	0	23	0	0	1	0	1	11	0	0	0	0	0	35	35
Grand Total	1	41	0	0	42	1	0	2	1	3	28	0	0	0	0	1	73	74
% Approach	2.4	97.6	0	0	66.7	0	0	100	0	0	100	0	0	0	0	1.4	98.6	
% Total	1.4	56.2	0	0	57.5	1.4	0	38.4	0	4.1	38.4	0	0	0	0	1.4	98.6	

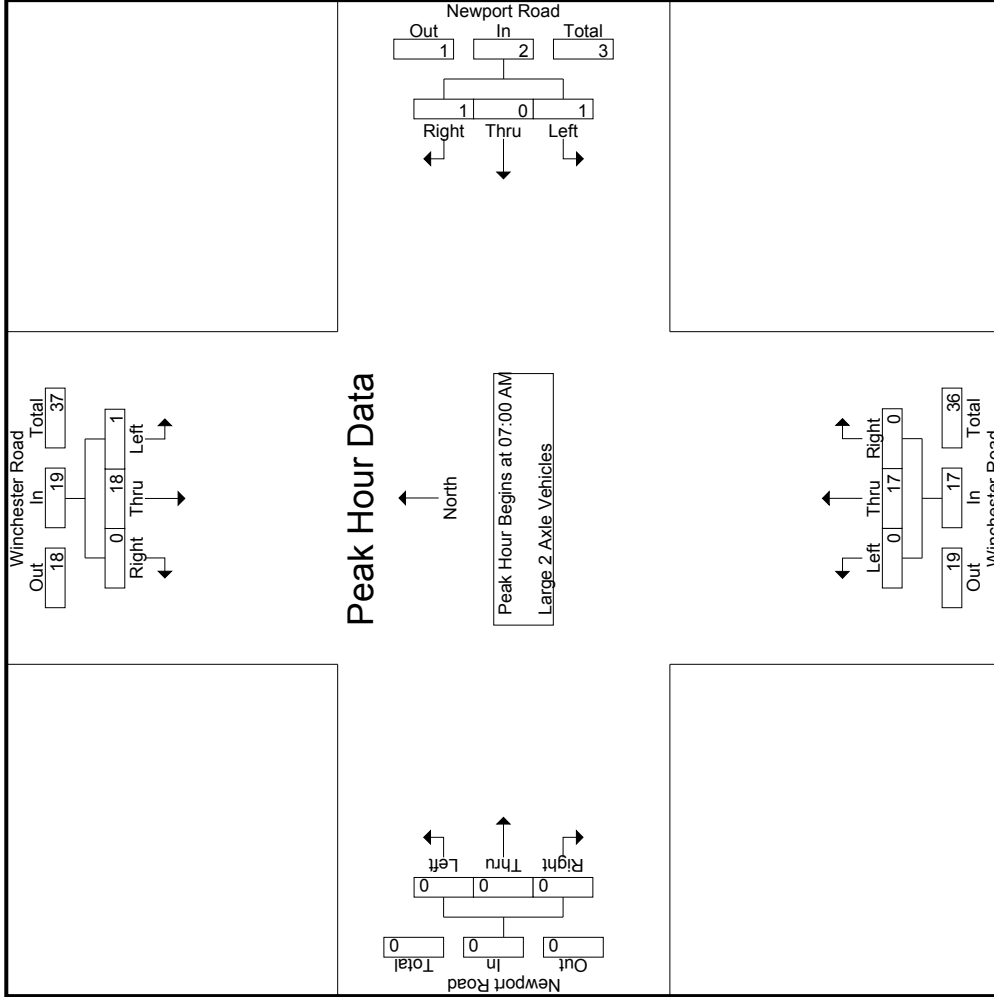
Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	5	0	0	5	0	0	1	1	1	0	6	0	0	0	1	12	13
07:15 AM	0	4	0	0	4	0	0	0	0	0	5	0	0	0	0	0	9	9
07:30 AM	1	7	0	0	8	1	0	0	0	1	4	0	0	0	0	0	13	13
07:45 AM	0	2	0	0	2	0	0	0	0	0	2	0	0	0	0	0	4	4
Total Volume	1	18	0	0	19	1	0	1	1	2	17	0	0	0	0	0	38	38
% App. Total	5.3	94.7	0	0	94.7	5.0	0	100	0	0	100	0	0	0	0	0	98.6	
PHF	.250	.643	.000	.000	.594	.250	.000	.500	.250	.500	.708	.000	.000	.000	.708	.000	.731	

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Newport Road Westbound			Winchester Road Northbound			Newport Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	5	0	0	0	1	0	0	0	0	0	0
+15 mins.	0	4	0	0	0	0	0	0	0	0	0	0
+30 mins.	1	7	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	0	0	0	0	0	0	0	0	0
Total Volume	1	18	0	1	0	1	0	0	0	0	0	0
% App. Total	5.3	94.7	0	50	0	50	0	0	100	0	0	0
PHF	.250	.643	.000	.250	.000	.250	.000	.000	.708	.000	.000	.000

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 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound			Newport Road Westbound			Winchester Road Northbound			Newport Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
07:00 AM	0	1	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	1	0	0	0	0	0	2	0	1	0	0
07:30 AM	0	2	0	0	0	0	1	0	0	0	0	0
07:45 AM	0	1	0	0	0	0	1	1	0	1	0	0
Total	0	5	1	0	0	0	2	3	0	2	0	0
08:00 AM	0	0	0	0	0	0	0	1	0	0	0	0
08:15 AM	0	1	0	0	0	0	0	1	0	1	0	0
08:30 AM	0	3	2	0	0	0	0	0	0	0	0	0
08:45 AM	0	2	0	0	0	0	1	1	0	2	0	0
Total	0	6	2	0	0	0	1	3	0	4	0	0
Grand Total	0	11	3	0	0	0	3	6	0	9	5	0
% Approach	0	78.6	21.4	0	0	0	33.3	66.7	0	32.1	100	0
Total %	0	39.3	10.7	0	0	0	10.7	21.4	0	17.9	17.9	0

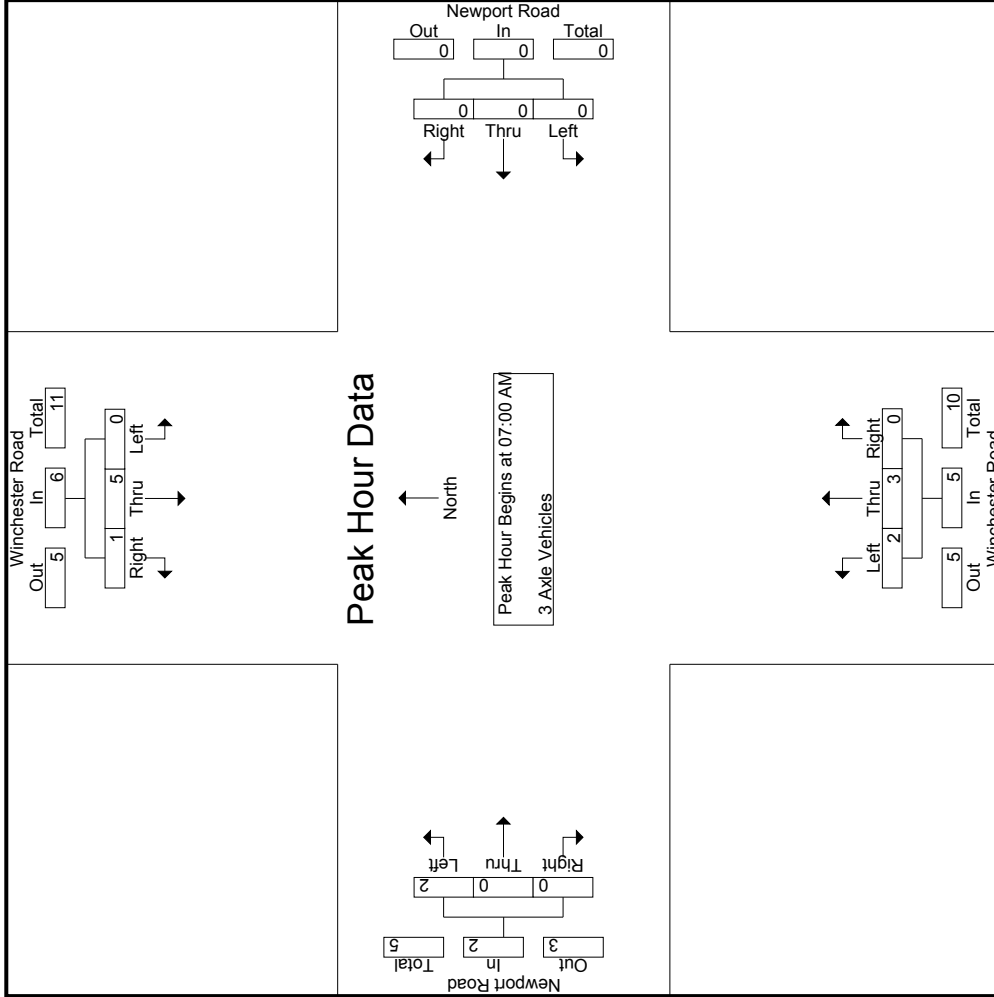
Start Time	Winchester Road Southbound			Newport Road Westbound			Winchester Road Northbound			Newport Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
07:00 AM	0	1	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	1	0	0	0	0	0	2	0	2	0	0
07:30 AM	0	2	0	0	0	0	1	0	0	1	0	0
07:45 AM	0	1	0	0	0	0	1	1	0	2	0	0
Total Volume	0	5	1	0	0	0	2	3	0	5	2	0
% App. Total	0	83.3	16.7	0	0	0	40	60	0	100	0	0
PHF	.000	.625	.250	.000	.000	.000	.500	.375	.000	.625	.000	.500

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Newport Road Westbound			Winchester Road Northbound			Newport Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	1	1	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	0	0	0	0	2	0	1	0	0
+30 mins.	0	2	0	0	0	0	1	0	0	0	0	0
+45 mins.	0	1	0	0	0	0	1	1	0	1	0	0
Total Volume	0	5	1	0	0	0	2	3	0	2	0	0
% App. Total	0	83.3	16.7	0	0	0	40	60	0	100	0	0
PHF	.000	.625	.250	.000	.000	.000	.500	.375	.000	.500	.000	.000

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	0	0	5	5
07:15 AM	0	3	0	0	3	0	0	0	0	0	1	0	0	0	0	0	4	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
07:45 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
Total	0	5	0	0	5	0	0	0	0	0	7	0	0	0	0	0	12	12
08:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5	5
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
08:30 AM	0	4	0	0	4	0	0	0	0	0	3	0	0	0	0	0	7	7
08:45 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
Total	0	11	0	0	11	0	0	0	0	0	4	0	0	0	0	0	15	15
Grand Total	0	16	0	0	16	0	0	0	0	0	11	0	0	0	0	0	27	27
Approach %	0	100	0	0	0	0	100	0	0	0	100	0	0	0	0	0	100	100
Total %	0	59.3	0	0	59.3	0	40.7	0	0	40.7	0	0	0	0	0	0	100	100

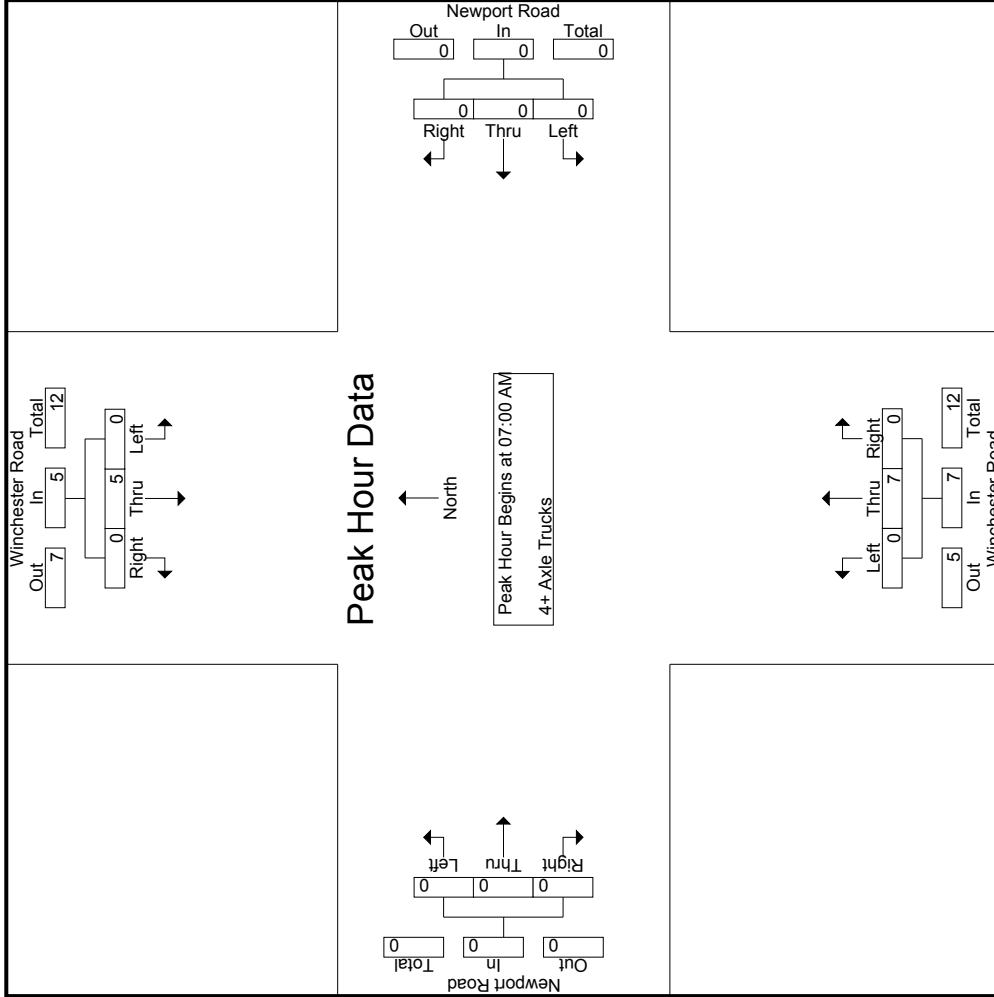
Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	0	0	5	5
07:15 AM	0	3	0	0	3	0	0	0	0	0	1	0	0	0	0	0	4	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
07:45 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
Total Volume	0	5	0	0	5	0	0	0	0	0	7	0	0	0	0	0	12	12
% App. Total	0	100	0	0	0	0	100	0	0	0	100	0	0	0	0	0	100	100
PHF	.000	.417	.000	.000	.417	.000	.438	.000	.000	.438	.000	.438	.000	.000	.000	.000	.600	.600

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Newport Road Westbound			Winchester Road Northbound			Newport Road Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:00 AM				07:00 AM				07:00 AM				07:00 AM		
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	3	0	3	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	5	0	5	0	0	0	0	0	0	0	0	0	0	
% App. Total	0	100	0	100	0	0	0	0	0	0	0	0	0	0	
PHF	.000	.417	.000	.417	.000	.000	.000	.000	.000	.438	.000	.438	.000	.000	

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound						Newport Road Westbound						Winchester Road Northbound						Newport Road Eastbound					
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
04:00 PM	5	225	1	0	231	0	2	2	3	0	386	0	0	0	0	0	0	0	0	0	0	0	0	
04:15 PM	0	249	0	0	249	12	8	5	12	0	378	0	0	0	0	0	0	0	0	0	0	0	0	
04:30 PM	3	218	0	0	221	12	4	3	12	0	324	0	0	0	0	0	0	0	0	0	0	0	0	
04:45 PM	2	192	0	0	194	7	6	6	7	1	356	3	0	0	0	0	0	0	0	0	0	0	0	
Total	10	884	1	0	895	34	20	16	34	1	1444	3	0	0	0	0	0	0	0	0	0	0	0	
05:00 PM	1	239	1	0	241	1	1	1	1	0	375	0	0	0	0	0	0	0	0	0	0	0	0	
05:15 PM	1	261	1	0	263	0	0	0	0	1	409	1	0	0	0	0	0	0	0	0	0	0	0	
05:30 PM	2	199	1	0	202	1	1	1	1	0	408	0	0	0	0	0	0	0	0	0	0	0	0	
05:45 PM	1	186	0	0	187	3	0	0	3	0	355	2	0	0	0	0	0	0	0	0	0	0	0	
Total	5	885	3	0	893	5	3	3	5	1	1547	3	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	15	1769	4	0	1788	39	23	19	39	2	2991	6	0	0	0	0	0	0	0	0	0	0	0	
% Approach	0.8	98.9	0.2			0.1	99.7	0.2		0.1	99.7	0.2												
% Total	0.3	36.6	0.1			0.8	0	0.5		0	61.9	0.1												
Passenger Vehicles	13	1744	4		1761	56	22	22	56	1	2951	6												
Large 2 Axle Vehicles	86.7	98.6	100		98.5	100	0	95.7	94.7	50	98.7	100												
% Large 2 Axle Vehicles	2	22	0		24	2	0	1	2	0	28	0												
% 3 Axle Vehicles	13.3	1.2	0		1.3	0	0	4.3	5.3	0	0.9	0												
3 Axle Vehicles	0	0	0		0	0	0	0	0	1	4	0												
% 4+ Axle Trucks	0	0	0		0	0	0	0	0	0	0.1	0												
4+ Axle Trucks	0	3	0		3	0	0	0	0	0	8	0												
% 4+ Axle Trucks	0	0.2	0		0.2	0	0	0	0	0	0.3	0												

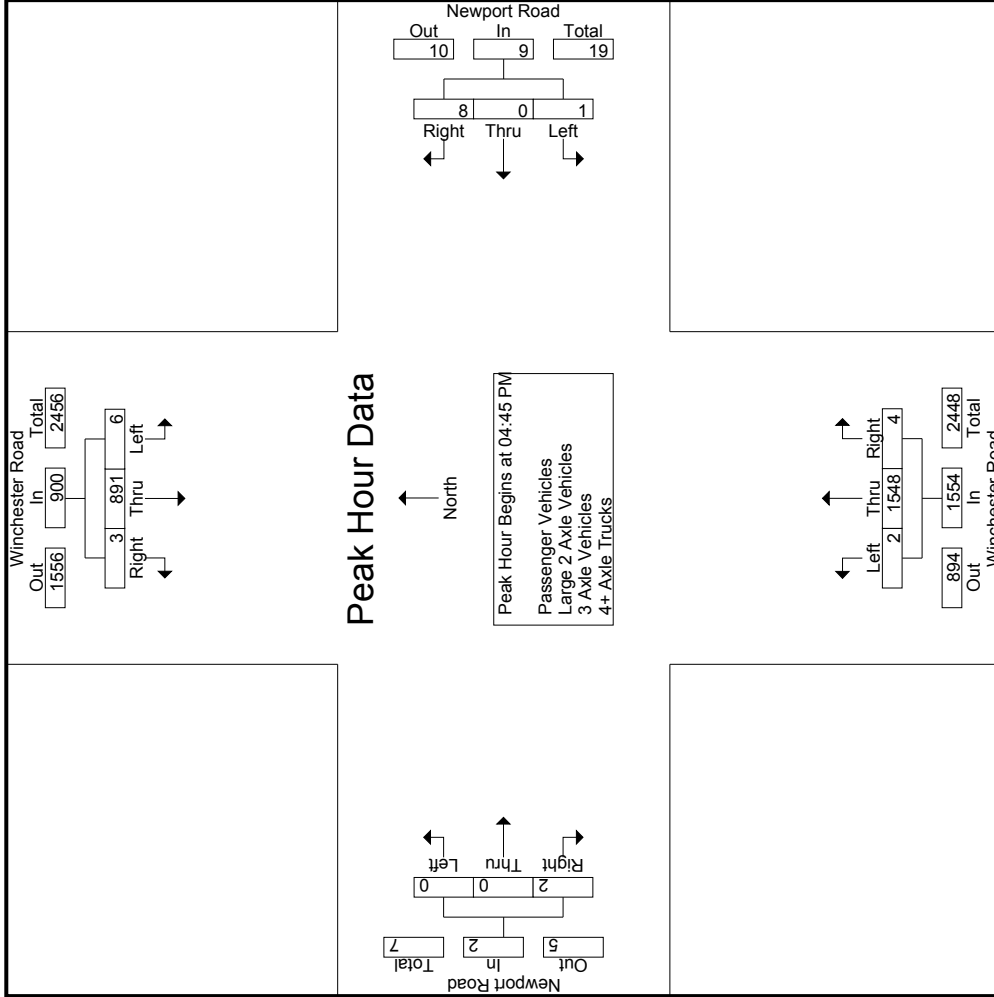
Start Time	Winchester Road Southbound						Newport Road Westbound						Winchester Road Northbound						Newport Road Eastbound					
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
04:45 PM	2	192	0		194	1	0	0	6	7	1	356	3											
05:00 PM	1	239	1		241	0	0	1	1	1	0	375	0											
05:15 PM	1	261	1		263	0	0	0	0	0	1	409	1											
05:30 PM	2	199	1		202	0	0	0	0	1	0	408	0											
Total	6	891	3		900	1	0	0	8	9	2	1548	4											
% App. Total	0.7	99	0.3		0.3	11.1	0	88.9	0.3	0.1	99.6	0.3												
PHF	.750	.853	.750		.856	.250	.000	.333	.321	.500	.946	.333												

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Start Time	Winchester Road Southbound			Newport Road Westbound			Winchester Road Northbound			Newport Road Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	04:30 PM			04:00 PM			04:45 PM			04:00 PM				
+0 mins.	3	218	0	221	1	0	2	3	1	356	3	360	0	0
+15 mins.	2	192	0	194	4	0	8	12	0	375	0	375	2	2
+30 mins.	1	239	1	241	8	0	4	12	1	409	1	411	1	1
+45 mins.	1	261	1	263	1	0	6	7	0	408	0	408	0	0
Total Volume	7	910	2	919	14	0	20	34	2	1548	4	1554	3	3
% App. Total	0.8	99	0.2	101	41.2	0	58.8	70.8	0.1	99.6	0.3	100	100	0
PHF	.583	.872	.500	.874	.438	.000	.625	.708	.500	.946	.333	.945	.375	.375

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	3	221	1	0	225	1	0	2	2	3	0	379	0	0	379	0	607	609
04:15 PM	0	246	0	0	246	4	0	8	5	12	0	374	0	0	374	5	634	639
04:30 PM	3	214	0	0	217	8	0	4	3	12	0	319	0	0	319	3	549	552
04:45 PM	2	191	0	0	193	1	0	5	5	6	1	347	3	0	351	5	550	555
Total	8	872	1	0	881	14	0	19	15	33	1	1419	3	0	1423	15	2340	2355
05:00 PM	1	237	1	0	239	0	0	1	1	1	0	371	0	0	371	1	611	612
05:15 PM	1	297	1	0	299	0	0	0	0	0	0	408	1	0	409	1	669	670
05:30 PM	2	195	1	0	198	0	0	1	1	1	0	401	0	0	401	0	600	601
05:45 PM	1	183	0	0	184	2	0	1	1	3	0	352	2	0	354	1	541	542
Total	5	872	3	0	880	2	0	3	3	5	0	1532	3	0	1535	4	2421	2425
Grand Total	13	1744	4	0	1761	16	0	22	18	38	1	2951	6	0	2958	19	4761	4780
% Approach	0.7	99	0.2			42.1	0	57.9		0.8	0	99.8	0.2		62.1	0.1	99.6	
% Total	0.3	36.6	0.1			0.3	0	0.5		0.8	0	62	0.1		62.1	0.1	99.6	

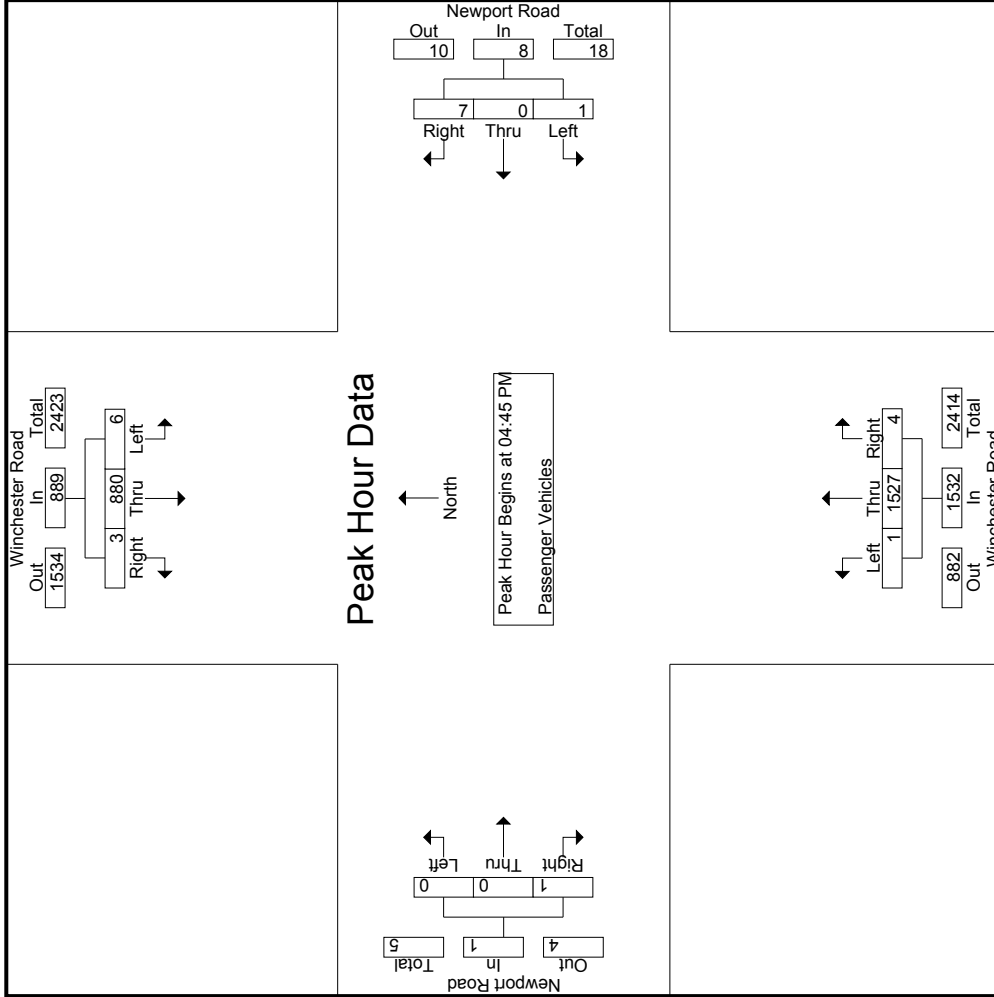
Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	2	191	0		193	1	0	5	6	1	347	3	0	351	0	0	0	550
05:00 PM	1	237	1		239	0	0	1	1	0	371	0	0	371	0	0	0	611
05:15 PM	1	257	1		259	0	0	0	0	0	408	1	0	409	1	1	1	669
05:30 PM	2	195	1		198	0	0	1	1	1	401	0	0	401	0	0	0	600
Total Volume	6	880	3		889	1	0	7	8	1	1527	4	0	1532	0	0	1	2430
% App. Total	0.7	99	0.3			12.5	0	87.5	0.3	0.3	99.7	0.3		99.6	0.1	100		99.6
PHF	.750	.856	.750		.858	.250	.000	.350	.333	.333	.250	.936	.333	.936	.000	.250	.250	.908

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Newport Road Westbound			Winchester Road Northbound			Newport Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	04:45 PM			04:45 PM			04:45 PM			04:45 PM			04:45 PM		
+0 mins.	2	191	0	1	0	5	6	1	347	3	351	0	0	0	0
+15 mins.	1	237	1	0	0	1	1	0	371	0	371	0	0	0	0
+30 mins.	1	257	1	0	0	0	0	0	408	1	409	0	0	1	1
+45 mins.	2	195	1	0	0	1	1	0	401	0	401	0	0	0	0
Total Volume	6	880	3	1	0	7	8	1	1527	4	1532	0	0	1	1
% App. Total	0.7	99	0.3	12.5	0	87.5	0.1	0.1	99.7	0.3	0	0	0	100	0
PHF	.750	.856	.750	.250	.000	.350	.333	.250	.936	.333	.936	.000	.000	.250	.250

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	2	3	0	0	5	0	0	0	0	0	0	6	0	0	0	0	11	11
04:15 PM	0	2	0	0	2	0	0	0	0	0	3	0	0	0	0	0	5	5
04:30 PM	0	4	0	0	4	0	0	0	0	0	4	0	0	0	0	0	8	8
04:45 PM	0	1	0	0	1	0	0	1	1	1	3	0	0	0	0	1	5	6
Total	2	10	0	0	12	0	0	1	1	1	16	0	0	0	0	1	29	30
05:00 PM	0	2	0	0	2	0	0	0	0	0	3	0	0	0	0	0	5	5
05:15 PM	0	4	0	0	4	0	0	0	0	0	1	0	0	0	0	0	5	5
05:30 PM	0	3	0	0	3	0	0	0	0	0	5	0	0	0	0	0	8	8
05:45 PM	0	3	0	0	3	0	0	0	0	0	3	0	0	0	0	0	6	6
Total	0	12	0	0	12	0	0	0	0	0	12	0	0	0	0	0	24	24
Grand Total	2	22	0	0	24	0	0	1	1	1	28	0	0	0	0	1	53	54
% Approach	8.3	91.7	0	0	45.3	0	0	100	0	1.9	0	52.8	0	0	0	1.9	98.1	
% Total	3.8	41.5	0	0	19.9	0	0	52.8	0	52.8	0	0	0	0	0	0	98.1	

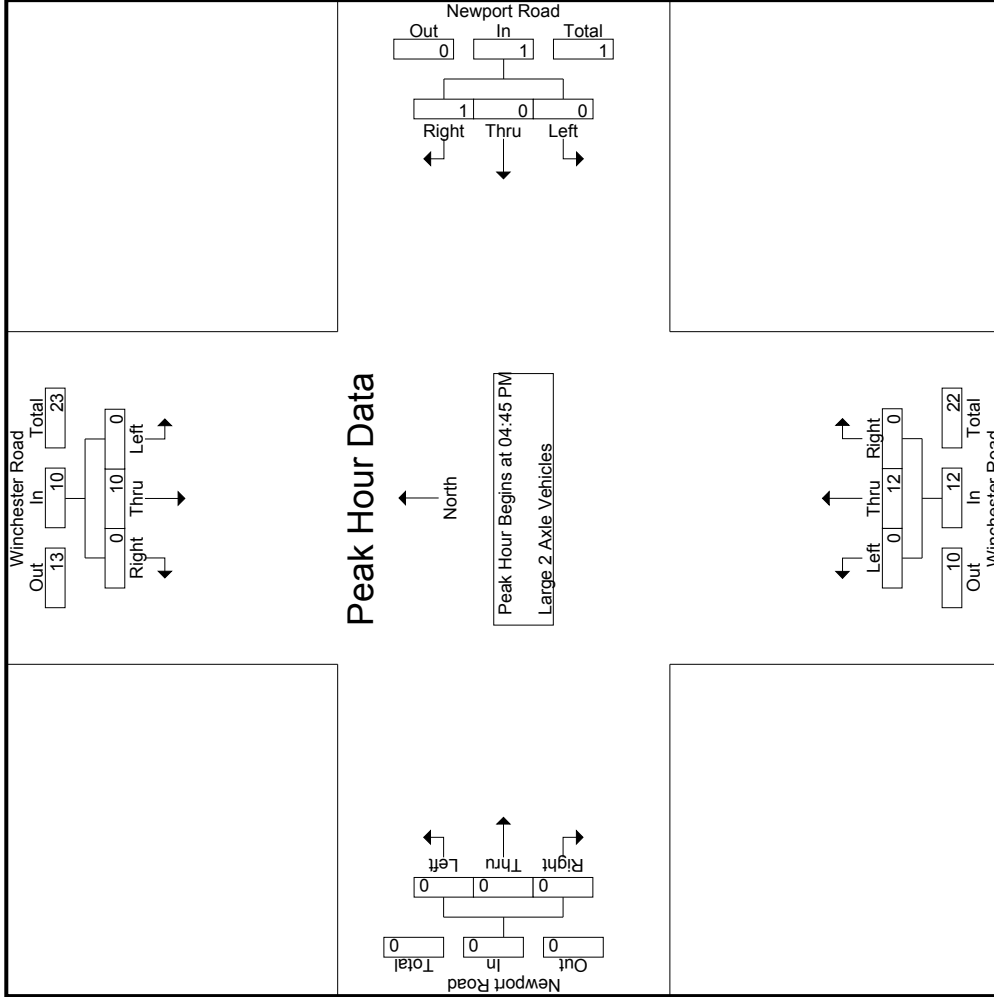
Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	0	0	0	0
05:00 PM	0	2	0	0	2	0	0	0	0	0	3	0	0	0	0	0	0	0
05:15 PM	0	4	0	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0
05:30 PM	0	3	0	0	3	0	0	0	0	0	5	0	0	0	0	0	0	0
Total Volume	0	10	0	0	10	0	0	1	1	1	12	0	0	0	0	0	0	23
% App. Total	0	100	0	0	100	0	0	100	0	100	0	0	0	0	0	0	0	0
PHF	.000	.625	.000	.000	.625	.000	.250	.250	.000	.600	.000	.000	.000	.000	.600	.000	.000	.719

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Newport Road Westbound			Winchester Road Northbound			Newport Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	1	0	0	0	1	1	0	0	0	0	0
+15 mins.	0	2	0	0	0	0	0	0	3	0	0	0
+30 mins.	0	4	0	0	0	0	0	0	1	0	0	0
+45 mins.	0	3	0	0	0	0	0	0	5	0	0	0
Total Volume	0	10	0	0	0	1	1	0	12	0	0	0
% App. Total	0	100	0	0	0	100	0	0	100	0	0	0
PHF	.000	.625	.000	.000	.000	.250	.250	.000	.600	.000	.000	.000

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	2	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	1	4	5
Grand Total	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	1	6	7
% Approach	0	0	0	0	0	20	80	0	0	0	16.7	66.7	0	0	0	14.3	85.7	0
% Total	0	0	0	0	0	16.7	66.7	0	0	83.3	0	0	0	0	16.7	14.3	85.7	0

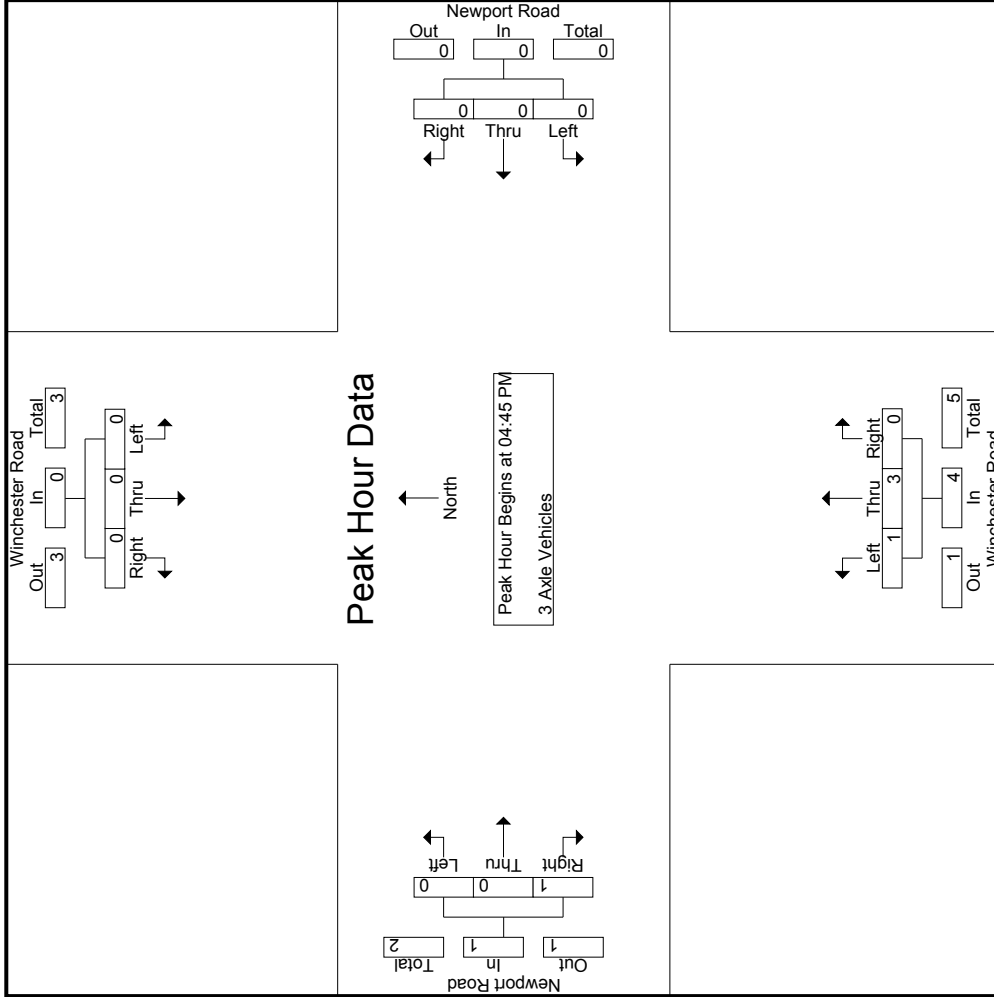
Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	0	1	5
% App. Total	0	0	0	0	0	0	25	75	0	0	25	75	0	0	100	0	100	0
PHF	.000	.000	.000	.000	.000	.000	.250	.750	.000	.000	1.00	.000	.250	.250	.250	.250	.625	.625

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Newport Road Westbound			Winchester Road Northbound			Newport Road Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	04:45 PM				04:45 PM				04:45 PM				04:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
Total Volume	0	0	0	0	0	0	0	0	1	3	0	0	0	1	
% App. Total	0	0	0	0	0	0	0	0	25	75	0	0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.750	.000	1.000	.000	.250	

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	5
Total	0	2	0	0	2	0	0	0	0	0	0	7	0	0	0	0	9	9
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
Grand Total	0	3	0	0	3	0	0	0	0	0	8	0	0	0	0	0	11	11
% Apprch %	0	100	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	100
% Total %	0	27.3	0	0	27.3	0	0	0	0	72.7	0	0	0	0	0	0	0	100

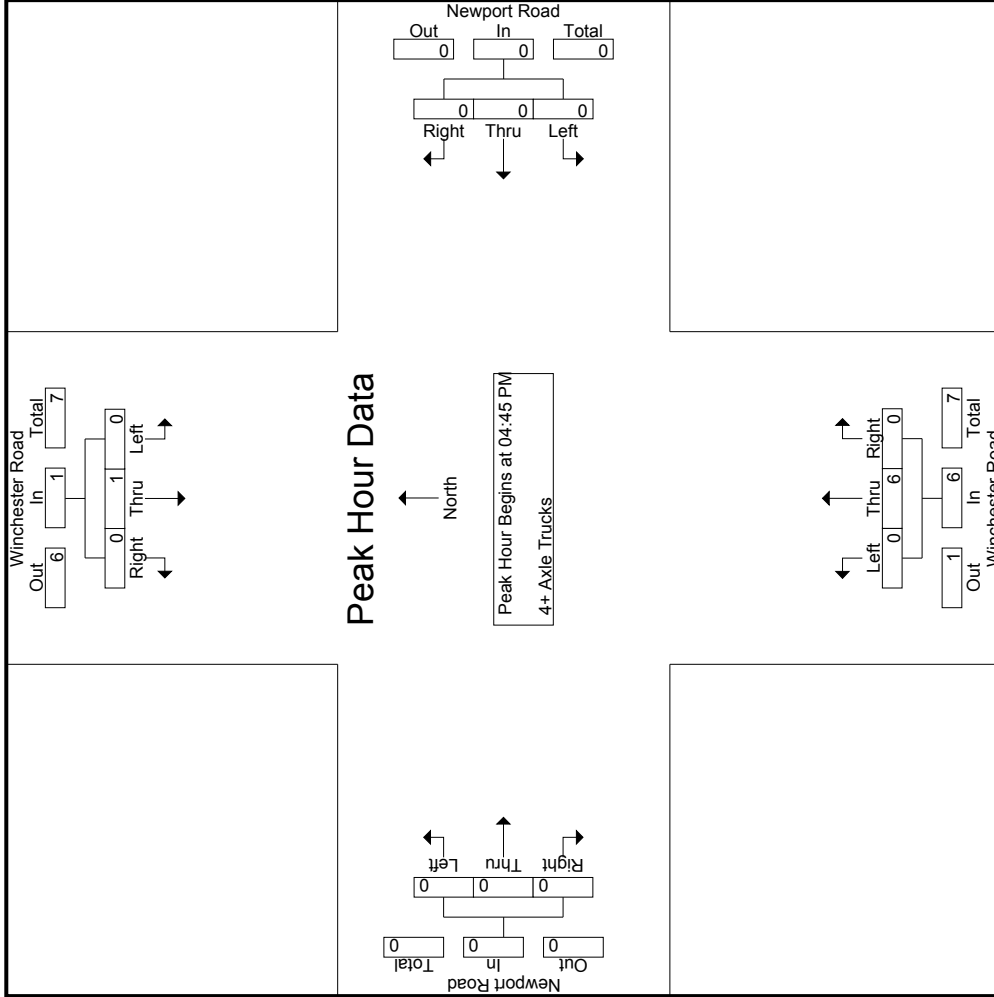
Start Time	Winchester Road Southbound				Newport Road Westbound				Winchester Road Northbound				Newport Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	6	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.300	.000	.300	.000	.000	.000	.000	.000	.350

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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 Corona, CA 92878
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Newport Road
 Weather: Clear

File Name : 14_CRV_79_New PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Newport Road Westbound			Winchester Road Northbound			Newport Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	0	0	0	1	0	0	0	0
Total Volume	0	1	0	0	0	0	0	6	0	0	0	0
% App. Total	0	100	0	0	0	0	0	100	0	0	0	0
PHF	.000	.250	.000	.000	.000	.000	.000	.300	.000	.000	.000	.000

Location: County of Riverside
 N/S: Winchester Road
 E/W: Newport Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road	East Leg Newport Road	South Leg Winchester Road	West Leg Newport Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Winchester Road	East Leg Newport Road	South Leg Winchester Road	West Leg Newport Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Winchester Road
 E/W: Newport Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Winchester Road			Westbound Newport Road			Northbound Winchester Road			Eastbound Newport Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	2	0	0	0	0	0	0	0	0	0	0	2

	Southbound Winchester Road			Westbound Newport Road			Northbound Winchester Road			Eastbound Newport Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound						Holland Road Westbound						Winchester Road Northbound						Holland Road Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right							
	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	327	0	1	0	0	1	1	178	0	0	179	0	0	2	2	2	0	0	2	2	2	2	0	0	2	509	511		
07:15 AM	0	370	1	0	0	0	1	0	188	0	0	188	1	0	1	0	2	0	0	1	0	2	0	0	2	0	562	562		
07:30 AM	0	373	2	0	0	0	0	0	183	0	0	183	0	0	0	0	0	0	0	0	0	0	0	0	0	0	558	558		
07:45 AM	0	352	2	0	0	0	0	1	164	0	0	165	0	0	1	1	1	0	0	0	1	1	1	1	1	1	520	521		
Total	0	1422	5	0	0	0	2	2	713	0	0	715	1	0	4	3	5	1	0	4	3	5	3	2149	2152					
08:00 AM	0	265	2	0	0	0	1	0	136	0	0	136	0	0	1	0	1	0	0	1	0	1	0	0	0	0	405	405		
08:15 AM	0	286	0	0	0	0	2	0	145	0	0	145	2	0	1	1	3	0	0	1	1	3	1	3	1	436	437			
08:30 AM	0	281	0	0	0	0	2	1	144	0	0	145	3	2	0	0	5	0	0	0	0	5	0	0	0	433	433			
08:45 AM	1	207	0	0	0	0	2	2	157	1	0	160	3	0	0	0	3	0	0	0	0	3	0	0	0	373	373			
Total	1	1039	2	0	0	0	7	3	582	1	0	586	8	2	2	1	12	1	0	2	1	12	1	1647	1648					
Grand Total	1	2461	7	0	0	0	9	5	1295	1	0	1301	9	2	6	4	17	4	0	6	4	17	4	3796	3800					
% Approach	0	99.7	0.3	22.2	77.8	0	0.2	0.4	99.5	0.1	0	34.3	52.9	11.8	35.3	0.4	0.1	99.9												
% Total	0	64.8	0.2	65	0.1	0.2	0	0.1	34.1	0	0	34.3	0.2	0.1	0.2	0.4	0.1	99.9												
Passenger Vehicles	1	2386	5	2392	1	4	5	5	1249	0	0	1254	8	1	6	19	0	0	0	3670										
Large 2 Axle Vehicles	100	97	71.4	0	96.9	50	57.1	100	96.4	0	0	96.4	88.9	50	100	90.5	0	0	0	96.6										
% Large 2 Axle Vehicles	0	48	1	49	1	3	4	0	30	1	31	0	1	0	1	1	0	0	85											
3 Axle Vehicles	0	11	0	2	50	42.9	0	0	2.3	100	0	2.4	0	50	0	4.8	0	0	2.2											
% 3 Axle Vehicles	0	0.4	0	0.4	0	0	0	0	0.7	0	0.7	0	0	0	0	0	0	0	0.5											
4+ Axle Trucks	0	16	1	17	0	0	0	0	7	0	7	0	1	0	0	1	0	0	25											
% 4+ Axle Trucks	0	0.7	14.3	0	0.7	0	0	0	0.5	0	0.5	0	11.1	0	0	4.8	0	0	0.7											

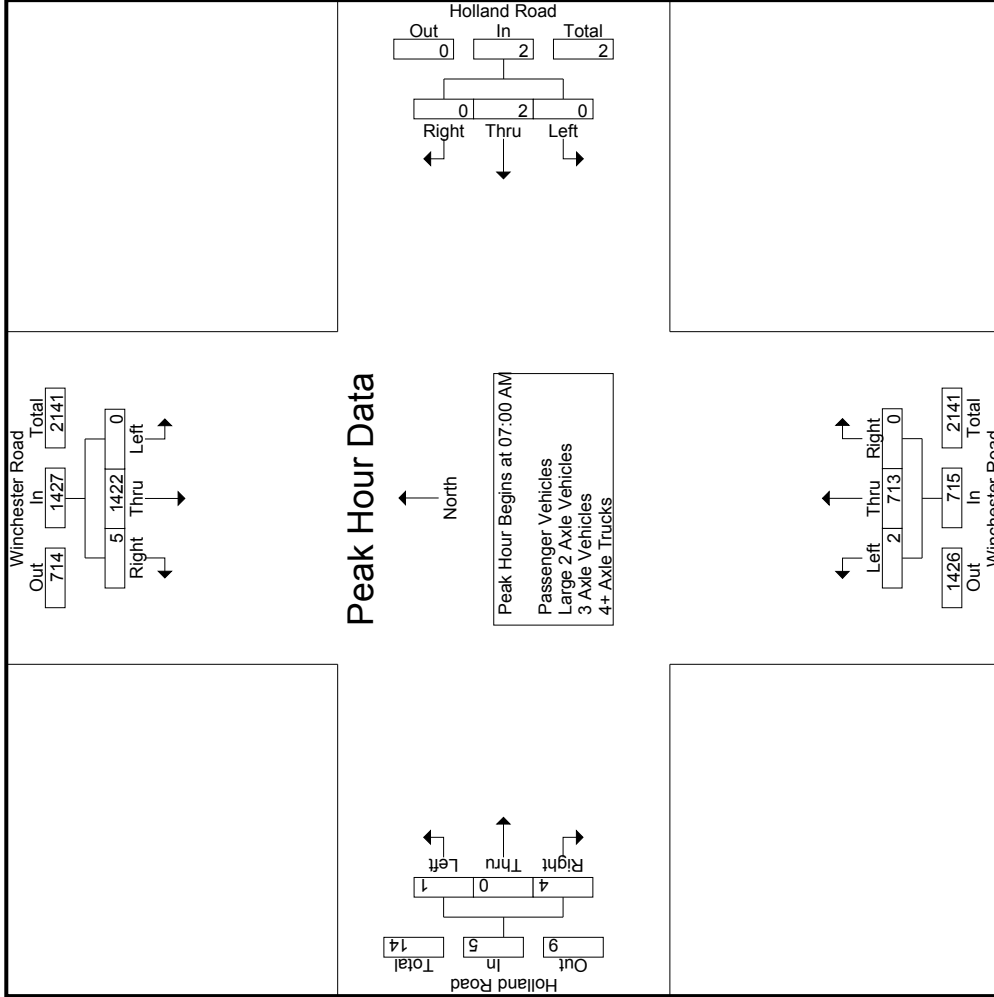
Start Time	Winchester Road Southbound						Holland Road Westbound						Winchester Road Northbound						Holland Road Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right							
	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	327	0	327	0	0	1	1	178	0	0	179	0	0	2	2	2	0	0	2	2	2	0	0	2	2	509	509		
07:15 AM	0	370	0	370	1	0	1	0	188	0	0	188	1	0	1	0	2	0	0	1	0	2	0	0	1	2	562	562		
07:30 AM	0	373	0	373	2	0	0	0	183	0	0	183	0	0	0	0	0	0	0	0	0	0	0	0	0	0	558	558		
07:45 AM	0	352	0	352	2	0	0	1	164	0	0	165	0	0	1	1	1	0	0	0	1	1	1	1	1	1	520	521		
Total Volume	0	1422	5	1427	0	0	2	2	713	0	0	715	1	0	4	3	5	1	0	4	3	5	3	2149	2149					
% App. Total	0	99.6	0.4	0.4	0	0	0	0.3	99.7	0	0	99.7	0.3	0	80	0	0	0	0	80	0	0	0	0	0	0	0	0	0	
PHF	.000	.953	.625	.951	.000	.500	.000	.500	.948	.000	.951	.000	.500	.951	.250	.500	.625	.956												

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Holland Road Westbound			Winchester Road Northbound			Holland Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	327	0	0	1	0	1	178	0	0	0	1
+15 mins.	0	370	1	1	1	0	0	188	0	2	0	1
+30 mins.	0	373	2	2	2	0	0	183	0	3	2	0
+45 mins.	0	352	2	1	1	0	1	164	0	3	0	0
Total Volume	0	1422	5	2	5	0	2	713	0	8	2	2
% App. Total	0	99.6	0.4	28.6	71.4	0	0.3	99.7	0	66.7	16.7	16.7
PHF	.000	.953	.625	.500	.625	.000	.500	.948	.000	.667	.250	.500
				08:00 AM	07:00 AM	08:00 AM	07:00 AM	08:00 AM		08:00 AM		
				0	1	0	1	178	0	0	0	1
				1	2	0	0	188	0	2	0	1
				0	375	0	0	183	0	3	2	0
				1	354	0	1	164	0	3	0	0
				2	1427	5	2	713	0	8	2	2
				28.6	71.4	0	0.3	99.7	0	66.7	16.7	16.7
				.500	.625	.000	.500	.948	.000	.667	.250	.500
				.951	.875	.000	.951	.951	.000	.951	.600	.600

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	317	0	0	317	0	1	0	0	1	170	0	0	0	171	0	2	493
07:15 AM	0	362	0	0	362	0	1	0	0	1	0	178	0	0	178	1	0	543
07:30 AM	0	365	2	0	367	0	0	0	0	0	177	0	0	0	177	0	0	544
07:45 AM	0	344	2	0	346	0	0	0	0	0	159	0	0	0	160	1	1	507
Total	0	1388	4	0	1392	0	2	0	0	2	684	0	0	0	686	1	3	2085
08:00 AM	0	256	1	0	257	0	1	0	0	1	133	0	0	0	133	0	0	392
08:15 AM	0	272	0	0	272	1	0	0	0	1	140	0	0	0	140	2	1	416
08:30 AM	0	268	0	0	268	0	1	0	0	1	139	0	0	0	140	2	0	412
08:45 AM	1	202	0	0	203	0	0	0	0	0	153	0	0	0	155	3	0	361
Total	1	998	1	0	1000	1	2	0	0	3	565	0	0	0	568	7	1	1581
Grand Total	1	2386	5	0	2392	1	4	0	0	5	1249	0	0	0	1254	8	1	3670
% Approach	0	99.7	0.2		65.2	0	80	0		0.1	0.4	99.6	0		34.2	53.3	6.7	40
% Total	0	65.1	0.1		65.2	0	0.1	0		0.1	0.1	34.1	0		0.2	0.2	0	0.2

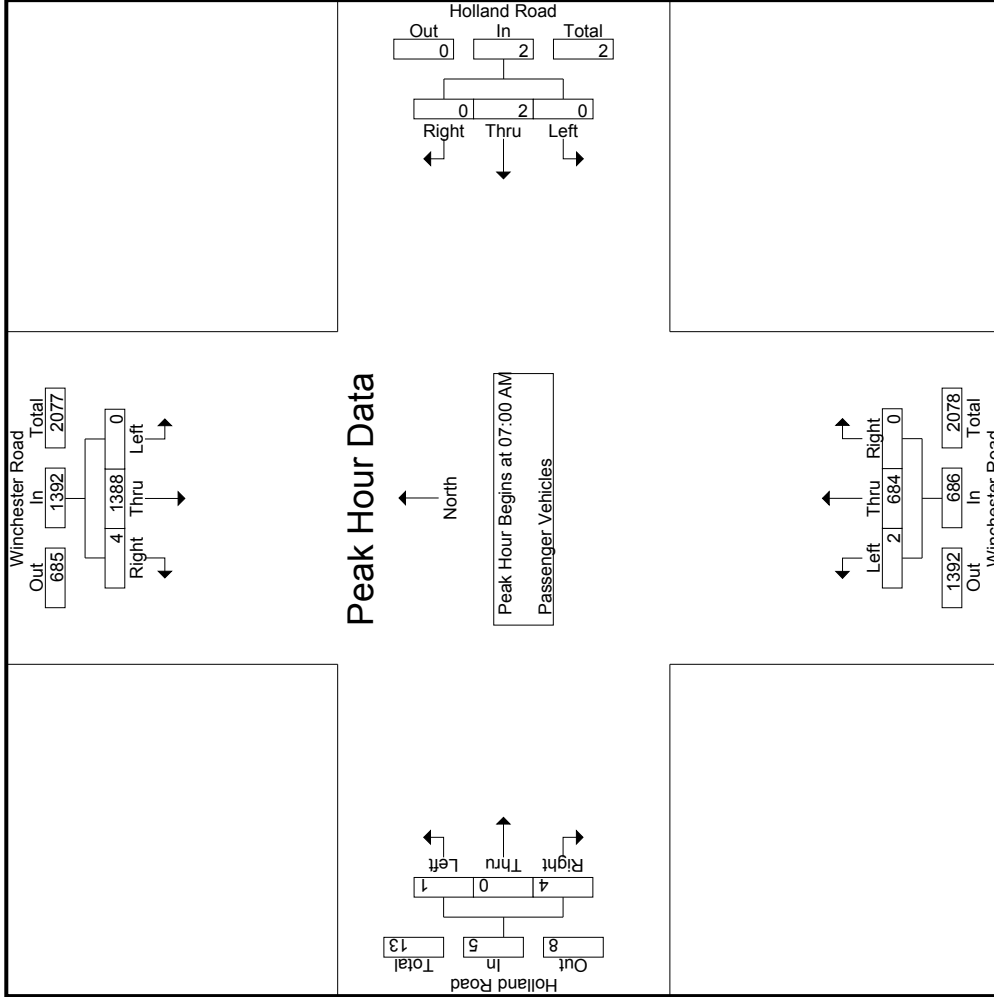
Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	App. Total	Int. Total	
07:00 AM	0	317	0	0	317	0	1	0	0	1	170	0	0	0	171	0	0	0	0	2	491
07:15 AM	0	362	0	0	362	0	1	0	0	1	0	178	0	0	178	1	0	1	0	2	543
07:30 AM	0	365	2	0	367	0	0	0	0	0	0	177	0	0	177	0	0	0	0	0	544
07:45 AM	0	344	2	0	346	0	0	0	0	0	159	0	0	0	160	0	0	1	1	1	507
Total Volume	0	1388	4	0	1392	0	2	0	0	2	684	0	0	0	686	1	0	4	5	2085	
% App. Total	0	99.7	0.3		65.2	0	100	0		0.1	0.3	99.7	0		34.2	20	0	80	0.4	0.1	99.9
PHF	.000	.951	.500		.948	.000	.500	.000		.500	.500	.961	.000		.963	.250	.500	.625		.625	.958

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Holland Road Westbound			Winchester Road Northbound			Holland Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	317	0	0	1	0	1	170	0	0	0	2
+15 mins.	0	362	0	0	1	0	0	178	0	1	0	1
+30 mins.	0	365	2	0	0	0	0	177	0	0	0	0
+45 mins.	0	344	2	0	0	0	1	159	0	0	0	1
Total Volume	0	1388	4	0	2	0	2	684	0	1	0	4
% App. Total	0	99.7	0.3	0	100	0	0.3	99.7	0	20	0	80
PHF	.000	.951	.500	.000	.500	.000	.500	.961	.000	.250	.000	.500
			.948					.963				.625

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	6	0	0	6	0	0	0	0	0	0	6	0	0	0	0	12	12
07:15 AM	0	6	0	0	6	0	0	0	0	0	7	0	0	0	0	0	13	13
07:30 AM	0	5	0	0	5	0	0	0	0	0	4	0	0	0	0	0	9	9
07:45 AM	0	6	0	0	6	0	0	0	0	0	2	0	0	0	0	0	8	8
Total	0	23	0	0	23	0	0	0	0	0	19	0	0	0	0	0	42	42
08:00 AM	0	4	1	0	5	0	0	0	0	0	2	0	0	0	0	0	7	7
08:15 AM	0	11	0	0	11	0	1	0	0	4	0	4	0	0	0	0	16	16
08:30 AM	0	8	0	0	8	0	1	0	0	1	0	3	0	1	0	0	13	13
08:45 AM	0	2	0	0	2	1	1	0	0	2	1	0	0	0	0	0	7	7
Total	0	25	1	0	26	1	3	0	0	4	11	1	0	0	1	0	43	43
Grand Total	0	48	1	0	49	1	3	0	0	4	0	30	1	0	0	1	85	85
% Approach	0	98	2		57.6	25	75	0		4.7	0	96.8	3.2		0	100	0	100
Total %	0	56.5	1.2		57.6	1.2	3.5	0		4.7	0	35.3	1.2		0	1.2	0	100

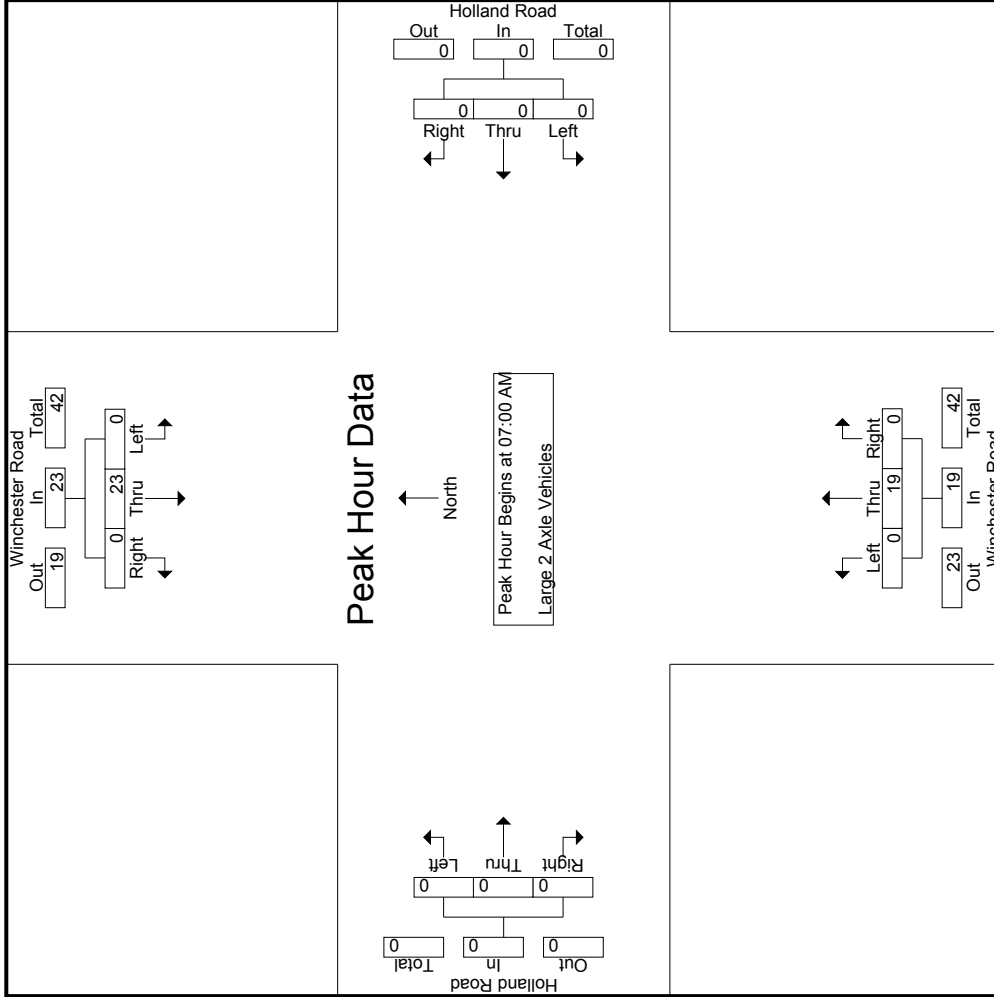
Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	6	0	0	6	0	0	0	0	0	0	6	0	0	0	0	0	0
07:15 AM	0	6	0	0	6	0	0	0	0	0	7	0	0	0	0	0	0	0
07:30 AM	0	5	0	0	5	0	0	0	0	0	4	0	0	0	0	0	0	0
07:45 AM	0	6	0	0	6	0	0	0	0	0	2	0	0	0	0	0	0	0
Total Volume	0	23	0	0	23	0	0	0	0	0	19	0	0	0	0	0	0	0
% App. Total	0	100	0		958	0	0	0		0	100	0	0		0	0	0	0
PHF	.000	.958	.000		.958	.000	.000	.000		.000	.679	.000	.000		.679	.000	.000	.808

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Holland Road Westbound			Winchester Road Northbound			Holland Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM
+0 mins.	0	6	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	6	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	5	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	6	0	0	0	0	0	0	0	0	0	0
Total Volume	0	23	0	0	0	0	0	19	0	0	0	0
% App. Total	0	100	0	0	0	0	0	100	0	0	0	0
PHF	.000	.958	.000	.000	.000	.000	.000	.679	.000	.000	.000	.000

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
07:15 AM	0	1	0	0	1	0	0	0	0	0	3	0	0	0	0	0	4	4
07:30 AM	0	3	0	0	3	0	0	0	0	0	1	0	0	0	0	0	4	4
07:45 AM	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	3	3
Total	0	6	0	0	6	0	0	0	0	0	6	0	0	0	0	0	12	12
08:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
08:15 AM	0	2	0	0	2	0	0	0	0	0	1	0	0	0	0	0	3	3
08:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
08:45 AM	0	2	0	0	2	0	0	0	0	0	1	0	0	0	0	0	3	3
Total	0	5	0	0	5	0	0	0	0	0	3	0	0	0	0	0	8	8
Grand Total	0	11	0	0	11	0	0	0	0	0	9	0	0	0	0	0	20	20
Approch %	0	100	0	0	0	0	0	0	0	0	100	0	0	0	0	0	100	100
Total %	0	55	0	0	55	0	0	0	0	0	45	0	0	0	0	0	100	100

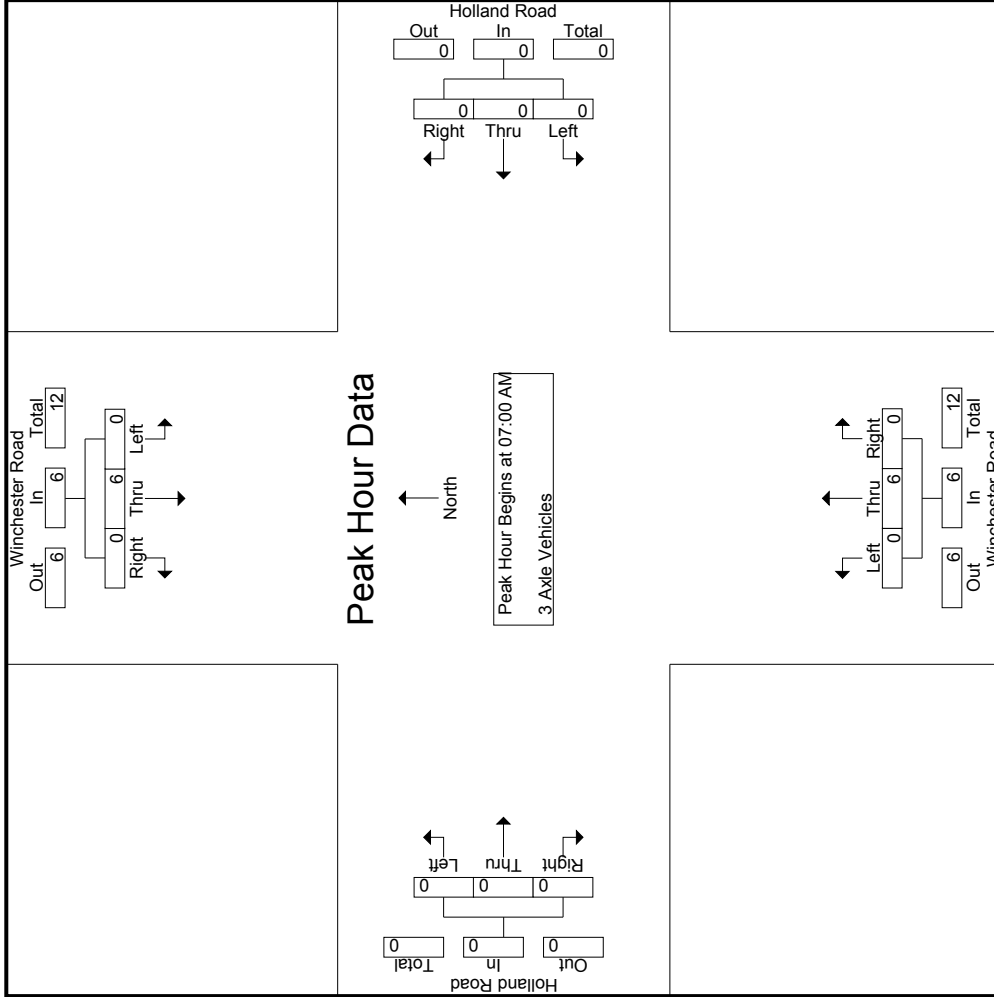
Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
07:15 AM	0	1	0	0	1	0	0	0	0	0	3	0	0	0	0	0	4	4
07:30 AM	0	3	0	0	3	0	0	0	0	0	1	0	0	0	0	0	4	4
07:45 AM	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	3	3
Total Volume	0	6	0	0	6	0	0	0	0	0	6	0	0	0	0	0	12	12
% App. Total	0	100	0	0	0	0	0	0	0	0	100	0	0	0	0	0	100	100
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.500	.000	.000	.000	.000	.000	.750	.750

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Holland Road Westbound			Winchester Road Northbound			Holland Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	1	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	0	0	0	0	3	0	0	0	0
+30 mins.	0	3	0	0	0	0	0	1	0	0	0	0
+45 mins.	0	1	0	0	0	0	0	2	0	0	0	0
Total Volume	0	6	0	0	0	0	0	6	0	0	0	0
% App. Total	0	100	0	0	0	0	0	100	0	0	0	0
PHF	.000	.500	.000	.000	.000	.000	.000	.500	.000	.000	.000	.000

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	0	0	5	5
07:15 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
07:45 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
Total	0	5	1	0	6	0	0	0	0	0	4	0	0	0	0	0	10	10
08:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5	5
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
08:30 AM	0	4	0	0	4	0	0	0	0	2	0	2	1	0	0	0	7	7
08:45 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
Total	0	11	0	0	11	0	0	0	0	3	0	3	1	0	0	0	15	15
Grand Total	0	16	1	0	17	0	0	0	0	7	0	7	1	0	0	1	25	25
% Approach	0	94.1	5.9	0	0	0	0	0	0	100	0	100	0	0	0	0	100	100
Total %	0	64	4	0	68	0	0	0	0	28	0	28	4	0	4	0	100	100

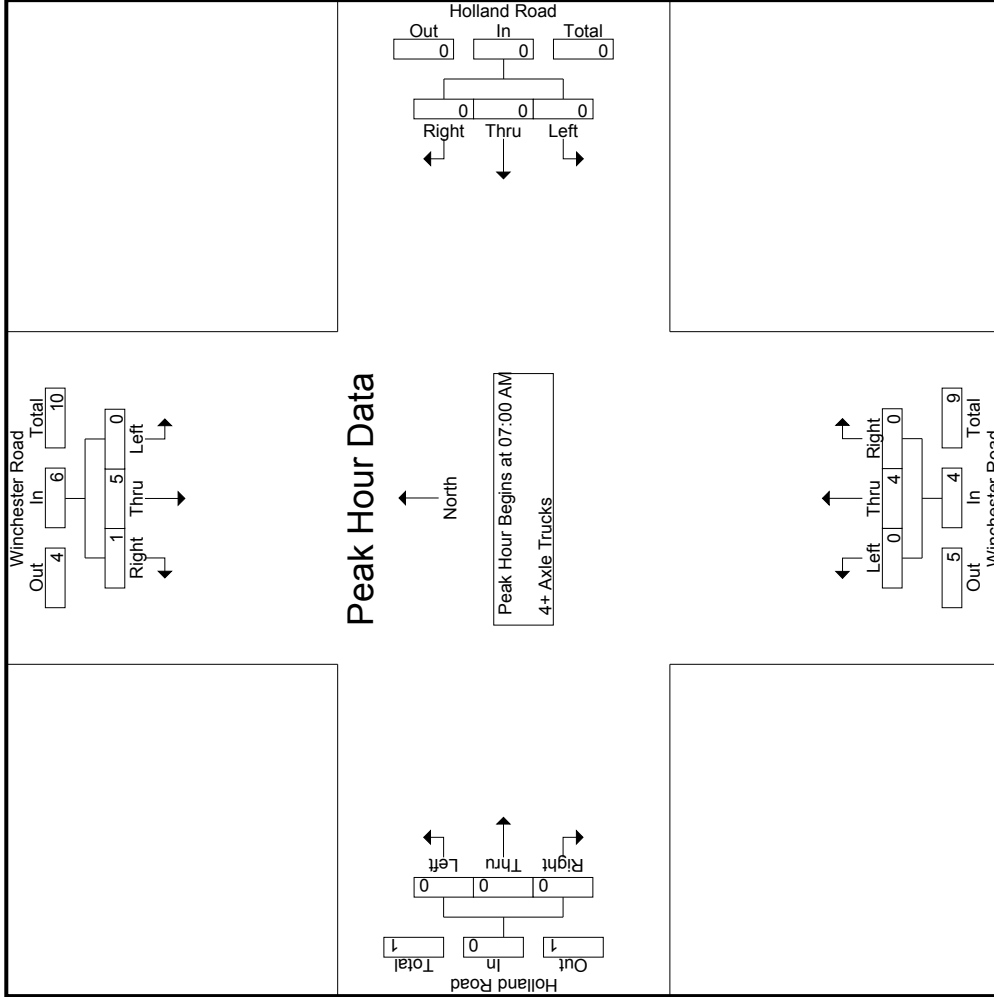
Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	0	0	5	5
07:15 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
07:45 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
Total Volume	0	5	1	0	6	0	0	0	0	4	0	4	0	0	0	0	10	10
% App. Total	0	83.3	16.7	0	0	0	0	0	0	100	0	100	0	0	0	0	100	100
PHF	.000	.417	.250	.500	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.500	.500

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Holland Road Westbound			Winchester Road Northbound			Holland Road Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	07:00 AM			07:00 AM			07:00 AM			07:00 AM			07:00 AM	
+0 mins.	0	3	0	3	0	0	0	0	0	2	0	0	2	0
+15 mins.	0	1	1	2	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	0	1	0
+45 mins.	0	1	0	1	0	0	0	0	0	1	0	0	1	0
Total Volume	0	5	1	6	0	0	0	0	0	4	0	0	4	0
% App. Total	0	83.3	16.7		0	0	0		0	100	0		100	0
PHF	.000	.417	.250	.500	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound						Holland Road Westbound						Winchester Road Northbound						Holland Road Eastbound					
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR
04:00 PM	0	251	2	0	253	0	0	1	1	0	0	2	1	379	0	0	380	0	0	1	0	1	0	3
04:15 PM	0	215	1	0	216	0	0	0	0	0	0	0	2	351	0	0	353	0	0	2	2	2	4	4
04:30 PM	0	261	1	0	262	0	0	0	0	0	0	0	0	350	0	0	350	0	0	2	3	2	5	5
04:45 PM	0	189	0	0	189	1	1	1	3	3	3	5	3	367	0	0	370	2	0	2	0	0	2	2
Total	0	916	4	0	920	2	2	2	3	3	7	6	1447	0	0	1453	4	4	6	4	4	14	14	14
05:00 PM	0	230	2	0	232	0	0	0	0	0	0	0	0	363	0	0	363	2	0	1	1	1	3	3
05:15 PM	0	246	0	0	246	0	0	0	0	0	0	0	1	412	0	0	413	2	1	1	1	1	4	4
05:30 PM	0	226	1	0	227	1	0	0	0	0	1	1	391	0	0	392	0	0	3	3	3	3	3	3
05:45 PM	0	199	2	0	201	0	0	0	0	0	0	0	360	0	0	360	1	0	0	0	0	1	1	1
Total	0	901	5	0	906	1	0	0	0	0	1	2	1526	0	0	1528	5	1	5	5	5	11	11	11
Grand Total	0	1817	9	0	1826	3	2	3	3	8	8	8	2973	0	0	2981	9	5	11	9	25	25	25	25
% Approach	0	99.5	0.5	0	37.5	37.5	25	37.5	0	0.3	99.7	0	0.3	99.7	0	0	61.6	0.2	0.1	0.2	0.5	0.2	99.8	0.2
% Total	0	37.5	0.2	0	37.7	0.1	0	0.1	0	0.2	0.2	61.4	0	61.4	0	61.6	0.2	0.1	0.2	0.5	0.2	99.8	0.2	
Passenger Vehicles	0	1794	9	0	1803	2	2	3	3	10	7	2923	0	2930	0	0	2930	8	4	10	31	31	31	31
Large 2 Axle Vehicles	0	98.7	100	0	98.7	66.7	100	100	100	90.9	87.5	98.3	0	98.3	88.9	80	90.9	100	91.2	0	0	0	0	0
% Large 2 Axle Vehicles	0	19	0	0	19	1	0	0	0	1	1	38	0	39	1	1	39	1	0	0	2	2	2	2
% 3 Axle Vehicles	0	1	0	0	1	33.3	0	0	0	9.1	12.5	1.3	0	1.3	11.1	20	0	0	5.9	0	0	0	0	0
% 4+ Axle Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0	0.2	0	0.2	0	0	0.2	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	3	0	0	3	0	0	0	0	0	7	0	7	0	0	7	0	0	1	0	1	1	1	1
% 4+ Axle Trucks	0	0.2	0	0	0.2	0	0	0	0	0	0.2	0	0.2	0	0.2	0	0.2	0	0	0	0	0	0	0

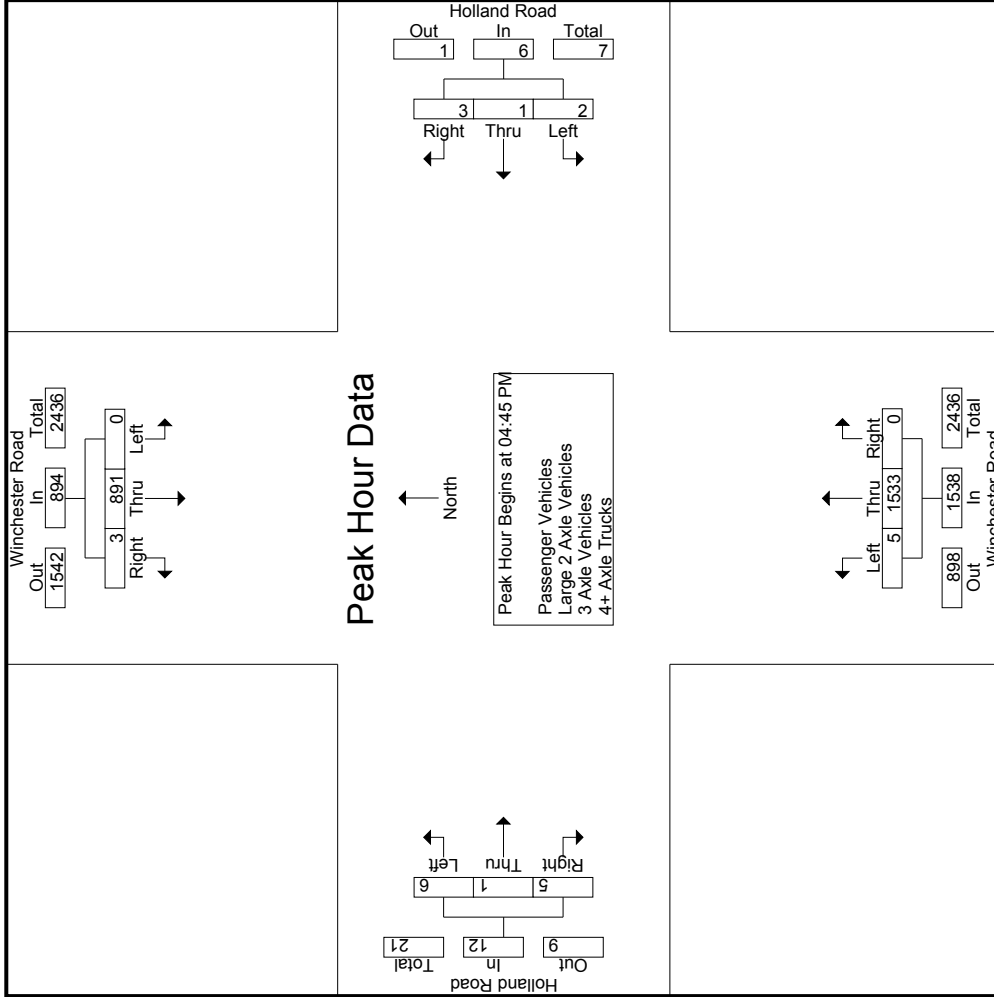
Start Time	Winchester Road Southbound						Holland Road Westbound						Winchester Road Northbound						Holland Road Eastbound					
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR
04:45 PM	0	189	0	0	189	1	1	1	3	3	5	3	367	0	0	370	2	0	0	0	0	2	2	2
05:00 PM	0	230	2	0	232	0	0	0	0	0	0	0	363	0	0	363	0	0	2	2	0	1	3	3
05:15 PM	0	246	0	0	246	0	0	0	0	0	0	1	412	0	0	413	2	0	2	2	1	1	4	4
05:30 PM	0	226	1	0	227	1	0	0	0	1	1	391	0	391	0	0	392	0	0	0	0	3	3	3
Total Volume	0	891	3	0	894	2	1	3	6	6	6	5	1533	0	0	1538	6	1	5	12	12	12	12	12
% App. Total	0	99.7	0.3	0	99.7	33.3	16.7	50	50	33.3	16.7	50	99.7	0	0	99.7	50	8.3	41.7	41.7	41.7	41.7	41.7	41.7
PHF	.000	.905	.375	0	.909	.500	.250	.250	.300	.300	.417	.930	.000	.931	.750	.250	.417	.750	.250	.417	.750	.250	.417	.750

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_HoII PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
04:00 PM	0	247	2	0	249	1	1	0	0	2	1	371	0	0	372	2	0	1	0	3	0	626	626
04:15 PM	0	213	1	0	214	0	0	0	0	0	1	347	0	0	348	0	1	2	2	3	2	565	567
04:30 PM	0	298	1	0	299	0	0	0	0	0	0	340	0	0	340	0	2	2	2	4	2	603	605
04:45 PM	0	189	0	0	189	0	1	3	3	4	3	358	0	0	361	2	0	0	0	2	3	556	559
Total	0	907	4	0	911	1	2	3	3	6	5	1416	0	0	1421	4	3	5	4	12	7	2350	2357
05:00 PM	0	227	2	0	229	0	0	0	0	0	0	359	0	0	359	2	0	1	1	3	1	591	592
05:15 PM	0	242	0	0	242	0	0	0	0	0	1	409	0	0	410	2	1	1	4	4	1	656	657
05:30 PM	0	223	1	0	224	0	0	0	0	1	1	383	0	0	384	0	0	3	3	3	3	612	615
05:45 PM	0	195	2	0	197	0	0	0	0	0	0	356	0	0	356	0	0	0	0	0	0	553	553
Total	0	887	5	0	892	1	0	0	0	1	2	1507	0	0	1509	4	1	5	5	10	5	2412	2417
Grand Total	0	1794	9	0	1803	2	2	3	3	7	7	2923	0	0	2930	8	4	10	9	22	12	4762	4774
% Approach	0	99.5	0.5			28.6	28.6	42.9		0.1	0.2	99.8	0	0	61.5	36.4	18.2	45.5		0.5	0.3	99.7	
% Total	0	37.7	0.2		37.9	0	0	0.1		0.1	0.1	61.4	0	0	61.5	0.2	0.1	0.2		0.5	0.3	99.7	

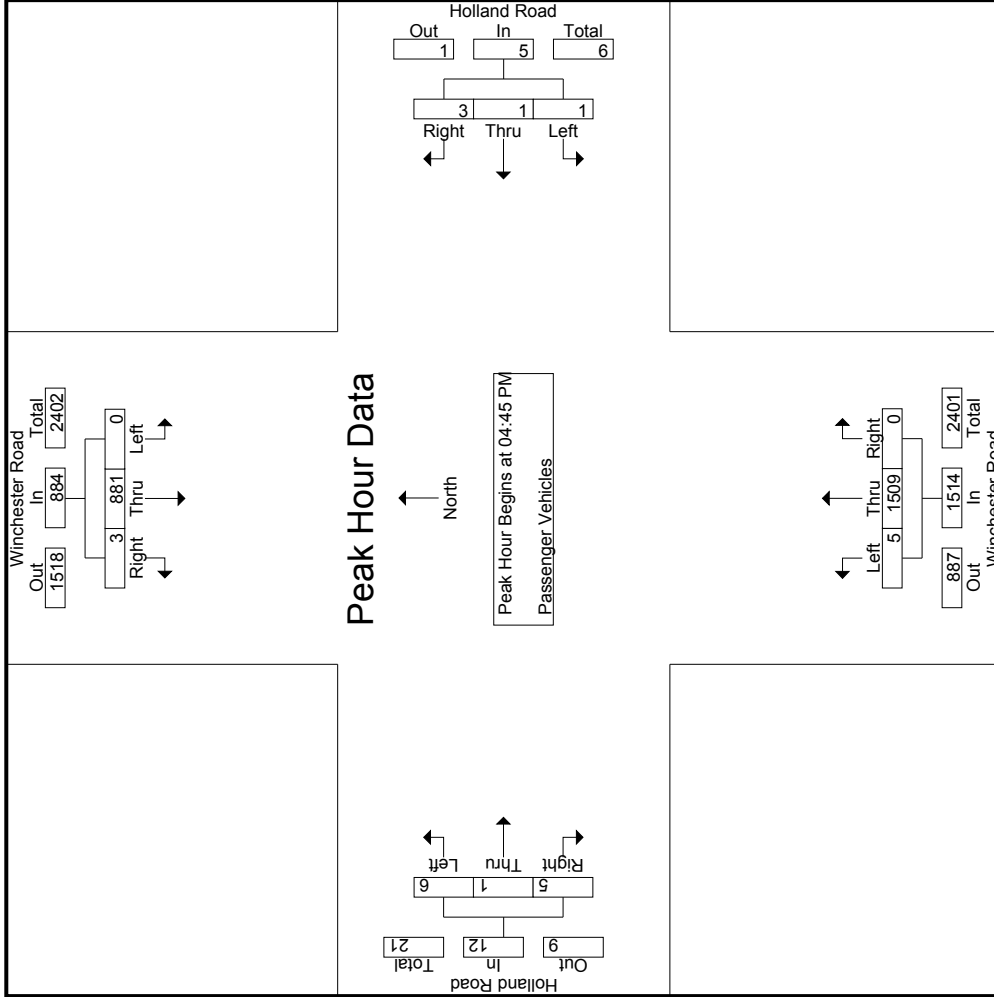
Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru	Right	RTOR	App. Total
04:45 PM	0	189	0	0	189	0	1	3	3	4	3	358	0	0	361	2	0	0	0	2	0	556	556
05:00 PM	0	227	2	0	229	0	0	0	0	0	0	359	0	0	359	2	0	1	1	3	1	591	591
05:15 PM	0	242	0	0	242	0	0	0	0	0	1	409	0	0	410	2	2	2	1	4	1	656	656
05:30 PM	0	223	1	0	224	0	1	0	0	1	1	383	0	0	384	0	0	3	3	3	3	612	612
Total Volume	0	881	3	0	884	1	1	3	3	5	5	1509	0	0	1514	6	1	5	5	12	5	2415	2415
% App. Total	0	99.7	0.3		913	20	20	60		0.3	0.3	99.7	0	0	923	50	8.3	41.7		0.5	0.3	99.7	
PHF	.000	.910	.375		.913	.250	.250	.250		.313	.417	.922	.000	.000	.923	.750	.250	.417		.750	.417	.750	.920

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_HoII PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Holland Road Westbound			Winchester Road Northbound			Holland Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	189	0	189	0	1	3	4	3	358	0	361	2	0	0	2
+15 mins.	0	227	2	229	0	0	0	0	0	359	0	359	2	0	1	3
+30 mins.	0	242	0	242	0	0	0	0	1	409	0	410	2	1	1	4
+45 mins.	0	223	1	224	1	0	0	1	1	383	0	384	0	0	3	3
Total Volume	0	881	3	884	1	1	3	5	5	1509	0	1514	6	1	5	12
% App. Total	0	99.7	0.3	99.7	20	20	60	313	0.3	99.7	0	923	50	8.3	41.7	750
PHF	.000	.910	.375	.913	.250	.250	.250	.313	.417	.922	.000	.923	.750	.250	.417	.750

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	3	0	0	3	0	0	0	0	0	0	7	0	0	0	0	10	10
04:15 PM	0	1	0	0	1	0	0	0	0	0	3	0	0	0	1	0	6	6
04:30 PM	0	3	0	0	3	0	0	0	0	0	9	0	0	0	0	0	12	12
04:45 PM	0	0	0	0	0	1	0	0	0	1	0	3	0	0	0	0	4	4
Total	0	7	0	0	7	1	0	0	0	1	22	0	0	0	1	0	32	32
05:00 PM	0	3	0	0	3	0	0	0	0	0	3	0	0	0	0	0	6	6
05:15 PM	0	4	0	0	4	0	0	0	0	2	0	0	0	0	0	0	6	6
05:30 PM	0	1	0	0	1	0	0	0	0	7	0	0	0	0	0	0	8	8
05:45 PM	0	4	0	0	4	0	0	0	0	4	0	4	0	0	1	0	9	9
Total	0	12	0	0	12	0	0	0	0	16	0	16	0	0	1	0	29	29
Grand Total	0	19	0	0	19	1	0	0	0	1	38	0	0	0	1	1	61	61
% Approach	0	100	0	0	100	0	0	0	0	2.6	97.4	0	0	0	50	0	100	100
% Total	0	31.1	0	0	31.1	1.6	0	0	0	1.6	62.3	0	0	0	1.6	0	100	100

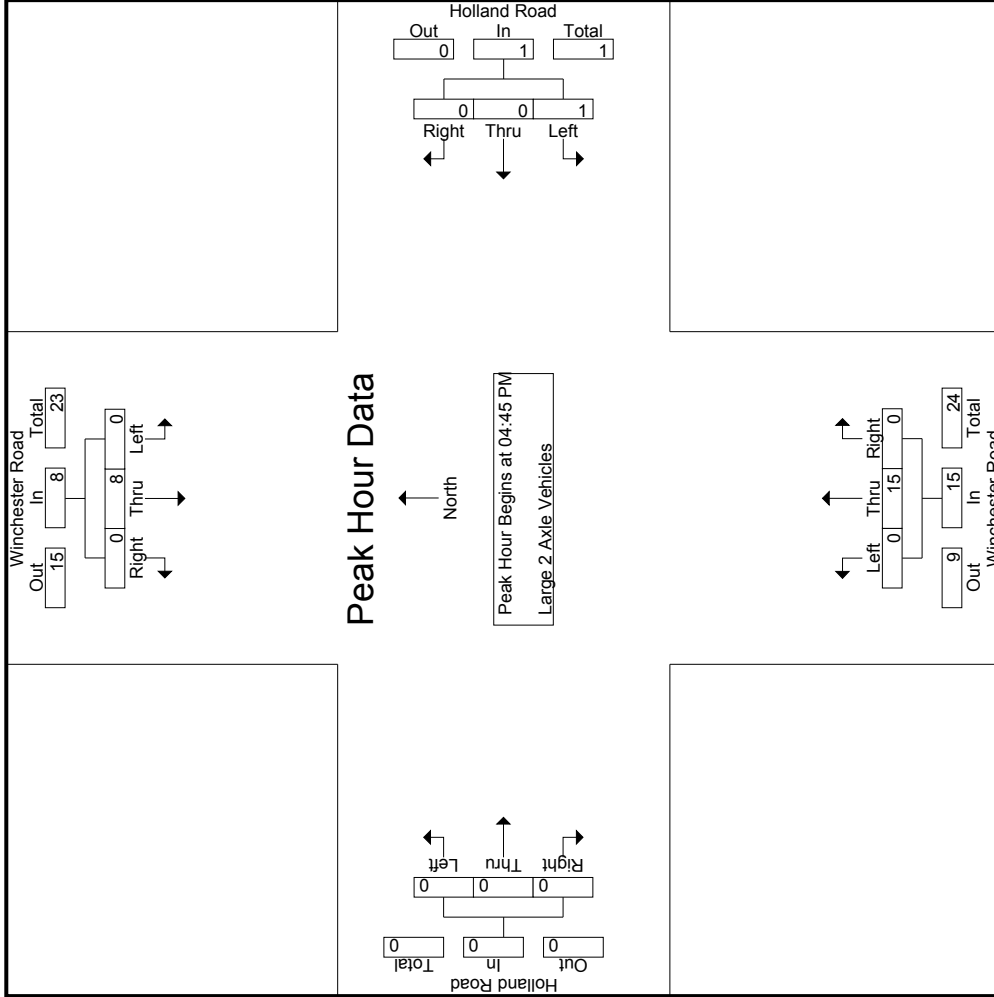
Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	1	0	0	0	1	0	3	0	0	0	0	0	0
05:00 PM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0
05:15 PM	0	4	0	0	4	0	0	0	0	2	0	2	0	0	0	0	0	0
05:30 PM	0	1	0	0	1	0	0	0	0	7	0	7	0	0	0	0	0	0
Total Volume	0	8	0	0	8	1	0	0	0	15	0	15	0	0	0	0	0	0
% App. Total	0	100	0	0	100	0	0	0	0	100	0	100	0	0	0	0	0	0
PHF	.000	.500	.000	.500	.500	.250	.000	.000	.250	.250	.000	.536	.000	.000	.536	.000	.000	.750

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_HoII PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Holland Road Westbound			Winchester Road Northbound			Holland Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	1	0	0	0	0	0
+15 mins.	0	3	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	4	0	0	0	0	0	2	0	0	0	0
+45 mins.	0	1	0	0	0	0	0	7	0	0	0	0
Total Volume	0	8	0	1	0	0	1	15	0	0	0	0
% App. Total	0	100	0	100	0	0	0	100	0	0	0	0
PHF	.000	.500	.000	.250	.000	.000	.250	.536	.000	.536	.000	.000

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
05:30 PM	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	3	0	0	0	0	0	4	4
Grand Total	0	1	0	0	1	0	0	0	0	0	5	0	0	0	0	0	6	6
% Approach	0	100	0	0	0	0	0	0	0	0	100	0	0	0	0	0	100	100
% Total	0	16.7	0	0	16.7	0	0	0	0	83.3	0	0	0	0	0	0	100	100

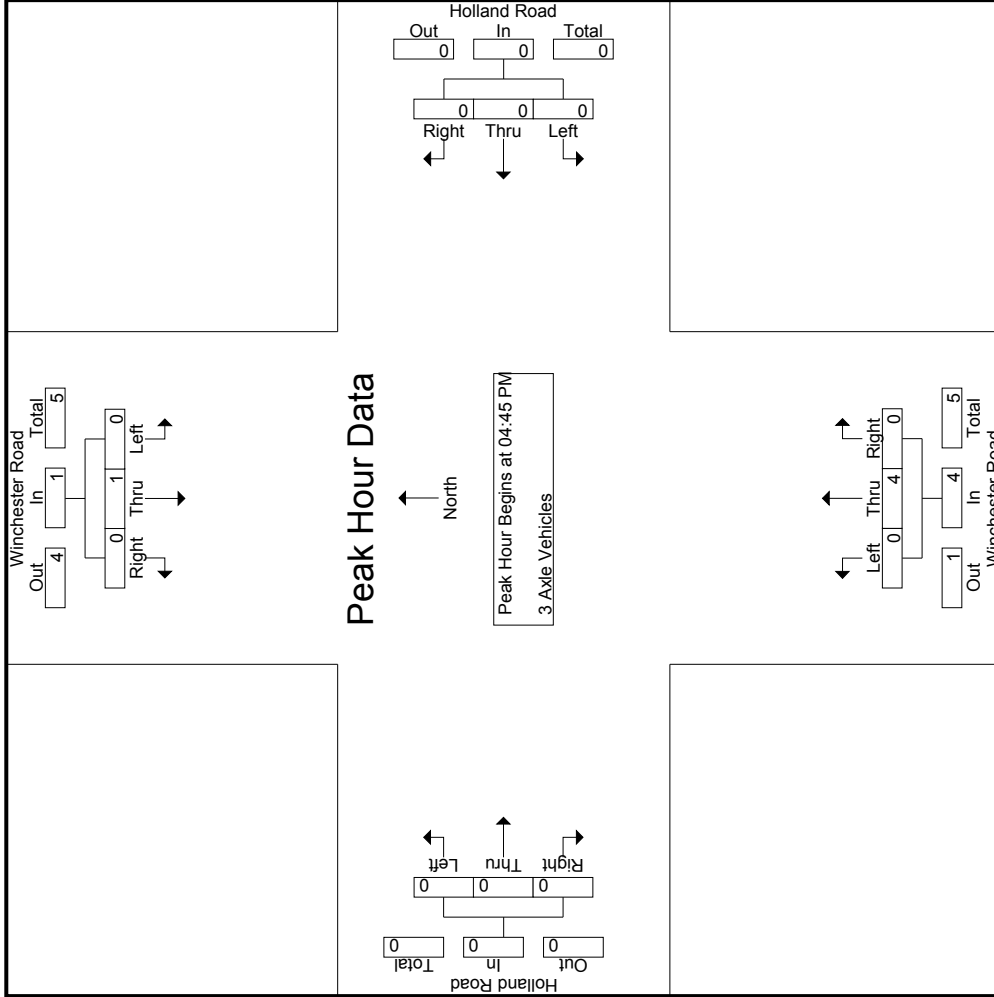
Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	4	0	0	0	4	0	0	5
% App. Total	0	100	0	0	100	0	0	0	0	100	0	0	0	0	100	0	0	100
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	1.00	.000	.000	.000	1.00	.000	.000	.625

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_HoII PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Holland Road Westbound			Winchester Road Northbound			Holland Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5	5
Total	0	2	0	0	2	0	0	0	0	0	7	0	0	0	1	0	10	10
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Grand Total	0	3	0	0	3	0	0	0	0	0	7	0	0	1	1	0	11	11
% Approach	0	100	0	0	0	0	0	0	0	0	100	0	0	100	0	0	100	100
% Total	0	27.3	0	0	27.3	0	0	0	0	63.6	0	0	9.1	9.1	0	0	100	100

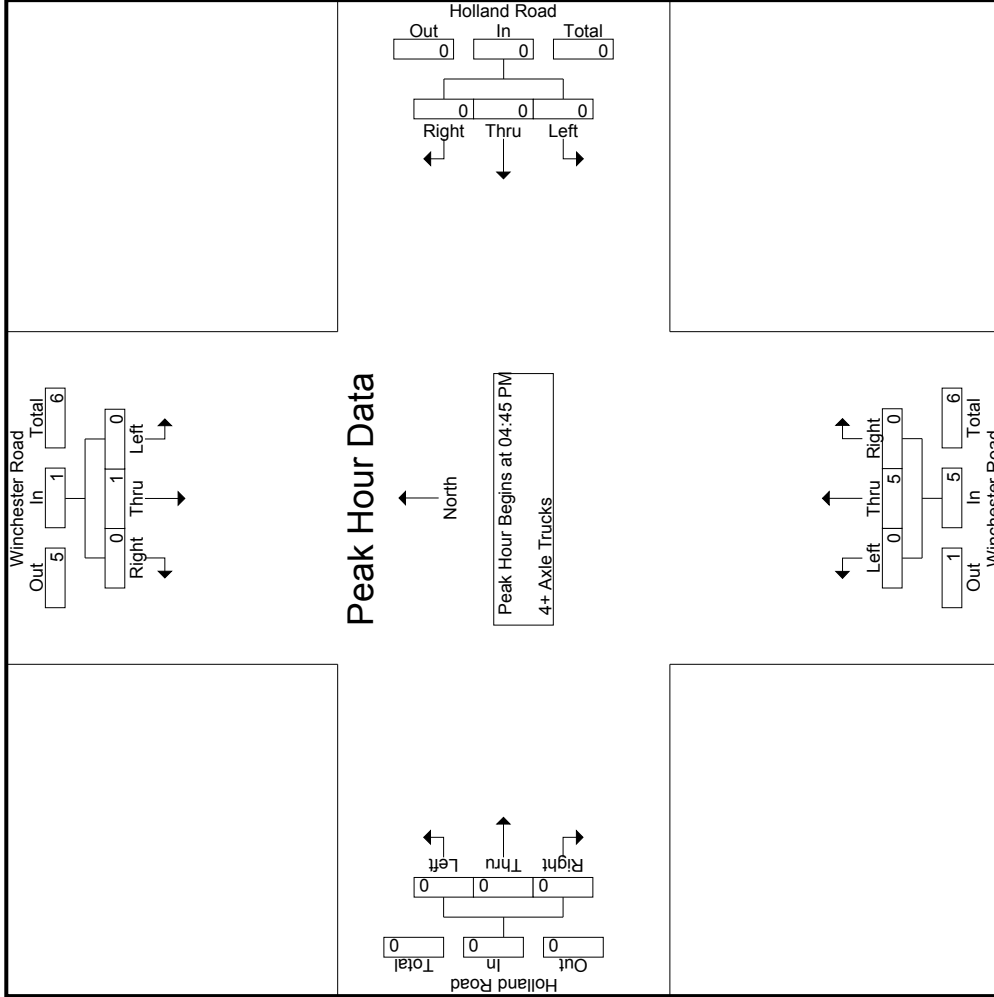
Start Time	Winchester Road Southbound				Holland Road Westbound				Winchester Road Northbound				Holland Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	1	0	0	0	0	0	5	0	0	0	0	0	0	6
% App. Total	0	100	0	0	100	0	0	0	0	100	0	0	0	0	0	0	0	100
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.250	.000	.000	.000	.000	.250	.000	.000	.300

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_HoII PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Holland Road
 Weather: Clear

File Name : 15_CRV_79_Holl PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Holland Road Westbound			Winchester Road Northbound			Holland Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
	04:45 PM			04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	100	0	0	0	0
PHF	.000	.250	.000	.000	.000	.000	.000	.250	.000	.000	.000	.000
	.250			.000			.250			.000		

Location: County of Riverside
 N/S: Winchester Road
 E/W: Holland Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road	East Leg Holland Road	South Leg Winchester Road	West Leg Holland Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Winchester Road	East Leg Holland Road	South Leg Winchester Road	West Leg Holland Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Winchester Road
 E/W: Holland Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Winchester Road			Westbound Holland Road			Northbound Winchester Road			Eastbound Holland Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	2	0	0	0	0	0	0	0	0	0	0	2

	Southbound Winchester Road			Westbound Holland Road			Northbound Winchester Road			Eastbound Holland Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

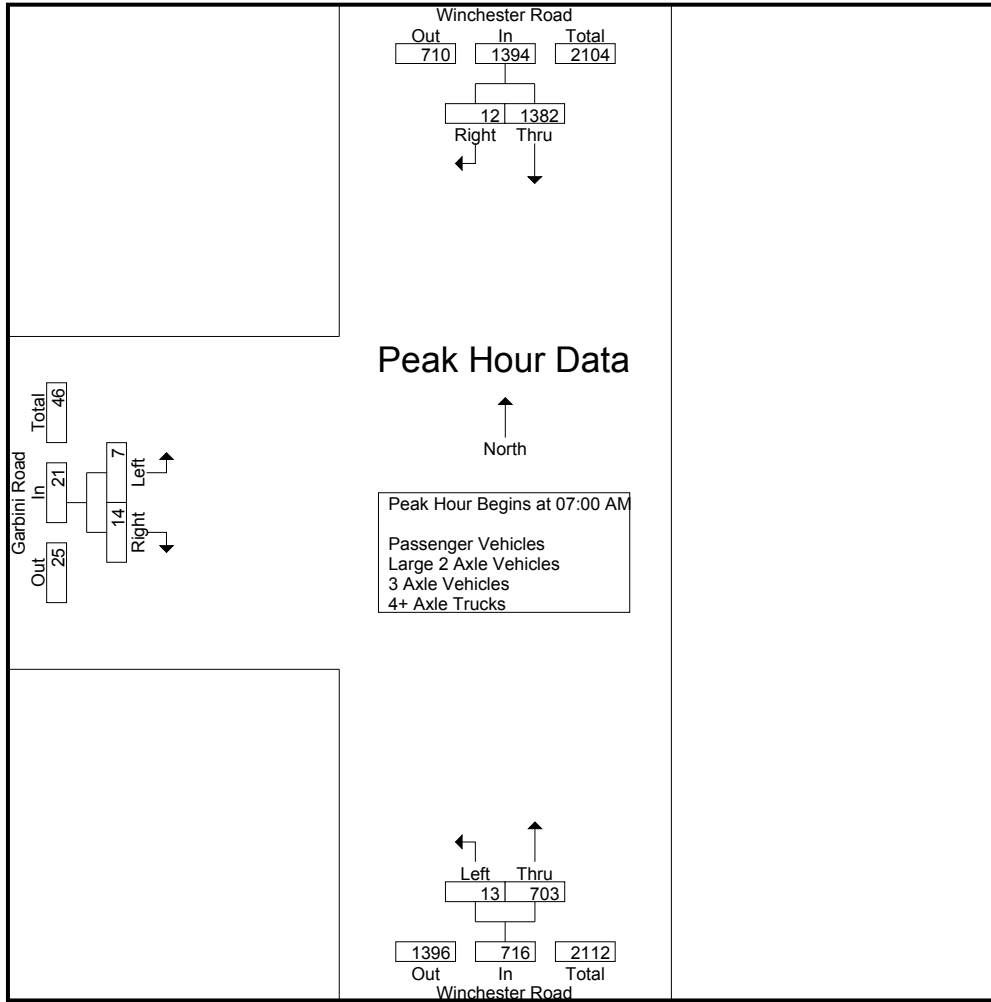
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound				Winchester Road Northbound				Garbini Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total			
07:00 AM	296	4	0	300	2	186	0	188	1	6	6	7	6	495	501
07:15 AM	361	1	0	362	2	173	0	175	3	3	1	6	1	543	544
07:30 AM	398	1	0	399	4	183	0	187	1	0	0	1	0	587	587
07:45 AM	327	6	0	333	5	161	0	166	2	5	0	7	0	506	506
Total	1382	12	0	1394	13	703	0	716	7	14	7	21	7	2131	2138
08:00 AM	281	5	0	286	3	142	0	145	1	3	3	4	3	435	438
08:15 AM	264	2	0	266	3	149	0	152	1	7	6	8	6	426	432
08:30 AM	279	4	0	283	2	139	0	141	1	6	4	7	4	431	435
08:45 AM	211	4	0	215	4	159	0	163	3	5	4	8	4	386	390
Total	1035	15	0	1050	12	589	0	601	6	21	17	27	17	1678	1695
Grand Total	2417	27	0	2444	25	1292	0	1317	13	35	24	48	24	3809	3833
Apprch %	98.9	1.1			1.9	98.1			27.1	72.9					
Total %	63.5	0.7		64.2	0.7	33.9		34.6	0.3	0.9		1.3	0.6	99.4	
Passenger Vehicles	2339	22		2361	19	1250		1269	8	25		51	0	0	3681
% Passenger Vehicles	96.8	81.5	0	96.6	76	96.7	0	96.4	61.5	71.4	75	70.8	0	0	96
Large 2 Axle Vehicles	53	4		57	4	31		35	2	9		17	0	0	109
% Large 2 Axle Vehicles	2.2	14.8	0	2.3	16	2.4	0	2.7	15.4	25.7	25	23.6	0	0	2.8
3 Axle Vehicles	8	1		9	1	6		7	1	0		1	0	0	17
% 3 Axle Vehicles	0.3	3.7	0	0.4	4	0.5	0	0.5	7.7	0	0	1.4	0	0	0.4
4+ Axle Trucks	17	0		17	1	5		6	2	1		3	0	0	26
% 4+ Axle Trucks	0.7	0	0	0.7	4	0.4	0	0.5	15.4	2.9	0	4.2	0	0	0.7

Start Time	Winchester Road Southbound			Winchester Road Northbound			Garbini Road Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	296	4	300	2	186	188	1	6	7	495
07:15 AM	361	1	362	2	173	175	3	3	6	543
07:30 AM	398	1	399	4	183	187	1	0	1	587
07:45 AM	327	6	333	5	161	166	2	5	7	506
Total Volume	1382	12	1394	13	703	716	7	14	21	2131
% App. Total	99.1	0.9		1.8	98.2		33.3	66.7		
PHF	.868	.500	.873	.650	.945	.952	.583	.583	.750	.908

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			08:00 AM		
+0 mins.	296	4	300	2	186	188	1	3	4
+15 mins.	361	1	362	2	173	175	1	7	8
+30 mins.	398	1	399	4	183	187	1	6	7
+45 mins.	327	6	333	5	161	166	3	5	8
Total Volume	1382	12	1394	13	703	716	6	21	27
% App. Total	99.1	0.9		1.8	98.2		22.2	77.8	
PHF	.868	.500	.873	.650	.945	.952	.500	.750	.844

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

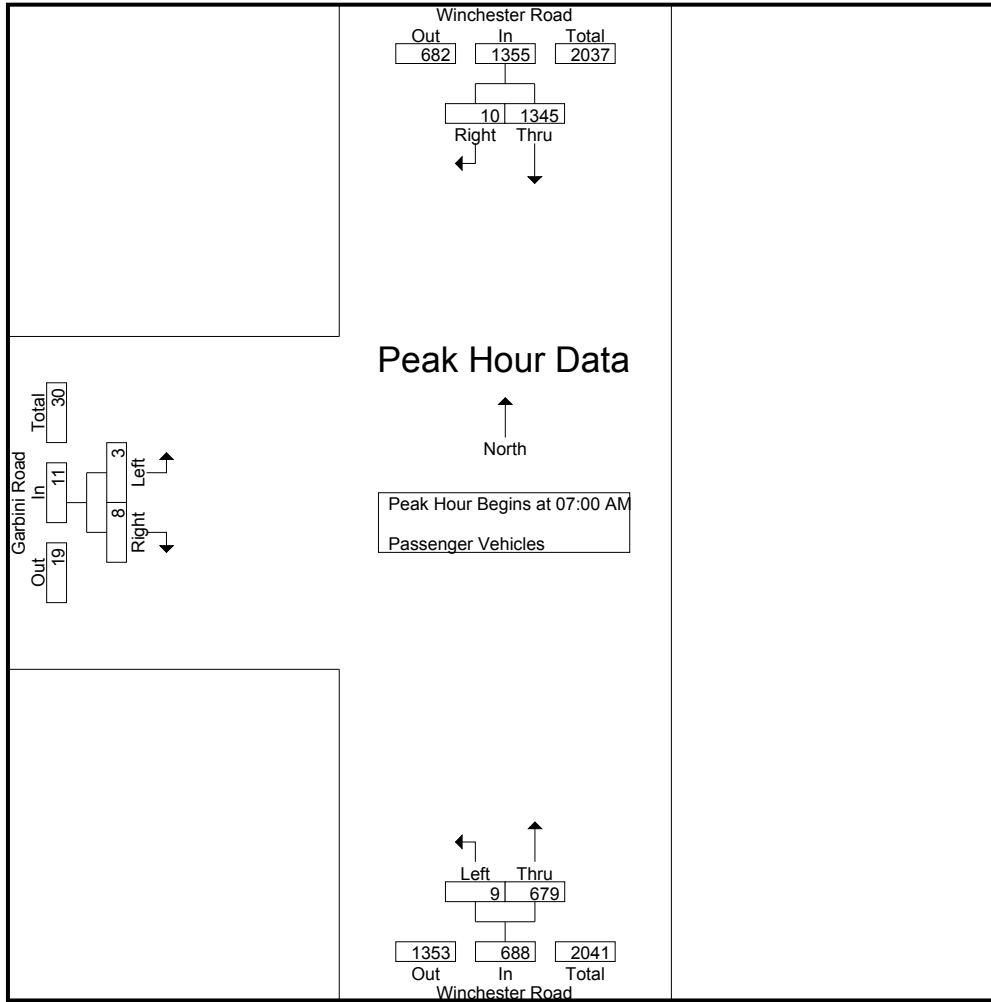
Start Time	Winchester Road Southbound				Winchester Road Northbound				Garbini Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total			
07:00 AM	288	3	0	291	1	180	0	181	0	2	2	2	2	474	476
07:15 AM	351	1	0	352	1	163	0	164	3	3	1	6	1	522	523
07:30 AM	388	1	0	389	2	178	0	180	0	0	0	0	0	569	569
07:45 AM	318	5	0	323	5	158	0	163	0	3	0	3	0	489	489
Total	1345	10	0	1355	9	679	0	688	3	8	3	11	3	2054	2057
08:00 AM	272	5	0	277	2	138	0	140	1	3	3	4	3	421	424
08:15 AM	251	1	0	252	2	146	0	148	1	6	5	7	5	407	412
08:30 AM	266	4	0	270	2	133	0	135	1	4	3	5	3	410	413
08:45 AM	205	2	0	207	4	154	0	158	2	4	4	6	4	371	375
Total	994	12	0	1006	10	571	0	581	5	17	15	22	15	1609	1624
Grand Total	2339	22	0	2361	19	1250	0	1269	8	25	18	33	18	3663	3681
Apprch %	99.1	0.9			1.5	98.5			24.2	75.8					
Total %	63.9	0.6		64.5	0.5	34.1		34.6	0.2	0.7		0.9	0.5	99.5	

Start Time	Winchester Road Southbound			Winchester Road Northbound			Garbini Road Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	288	3	291	1	180	181	0	2	2	474
07:15 AM	351	1	352	1	163	164	3	3	6	522
07:30 AM	388	1	389	2	178	180	0	0	0	569
07:45 AM	318	5	323	5	158	163	0	3	3	489
Total Volume	1345	10	1355	9	679	688	3	8	11	2054
% App. Total	99.3	0.7		1.3	98.7		27.3	72.7		
PHF	.867	.500	.871	.450	.943	.950	.250	.667	.458	.902

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	288	3	291	1	180	181	0	2	2
+15 mins.	351	1	352	1	163	164	3	3	6
+30 mins.	388	1	389	2	178	180	0	0	0
+45 mins.	318	5	323	5	158	163	0	3	3
Total Volume	1345	10	1355	9	679	688	3	8	11
% App. Total	99.3	0.7		1.3	98.7		27.3	72.7	
PHF	.867	.500	.871	.450	.943	.950	.250	.667	.458

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

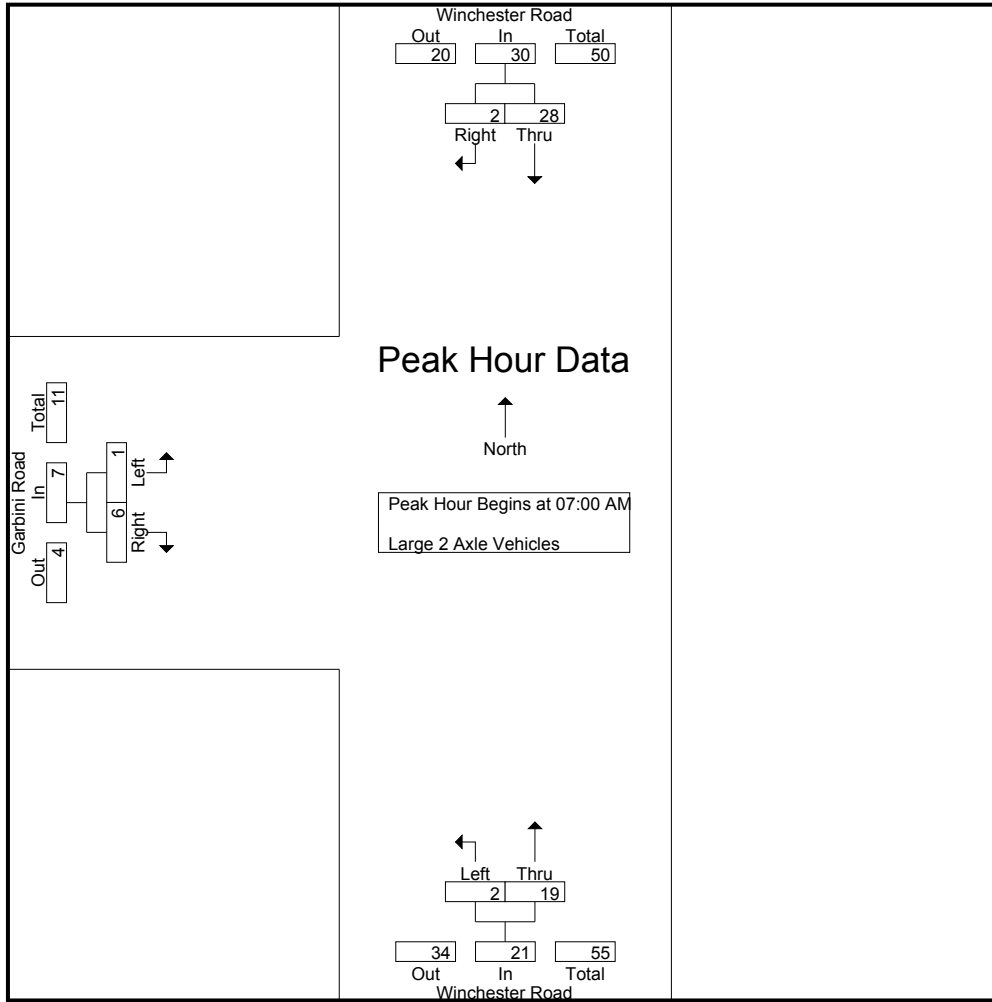
Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Winchester Road Northbound				Garbini Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total			
07:00 AM	5	1	0	6	1	4	0	5	1	4	4	5	4	16	20
07:15 AM	9	0	0	9	0	9	0	9	0	0	0	0	0	18	18
07:30 AM	7	0	0	7	1	4	0	5	0	0	0	0	0	12	12
07:45 AM	7	1	0	8	0	2	0	2	0	2	0	2	0	12	12
Total	28	2	0	30	2	19	0	21	1	6	4	7	4	58	62
08:00 AM	4	0	0	4	1	2	0	3	0	0	0	0	0	7	7
08:15 AM	11	1	0	12	1	3	0	4	0	1	1	1	1	17	18
08:30 AM	6	0	0	6	0	3	0	3	0	2	1	2	1	11	12
08:45 AM	4	1	0	5	0	4	0	4	1	0	0	1	0	10	10
Total	25	2	0	27	2	12	0	14	1	3	2	4	2	45	47
Grand Total	53	4	0	57	4	31	0	35	2	9	6	11	6	103	109
Apprch %	93	7			11.4	88.6			18.2	81.8					
Total %	51.5	3.9		55.3	3.9	30.1		34	1.9	8.7		10.7	5.5	94.5	

Start Time	Winchester Road Southbound			Winchester Road Northbound			Garbini Road Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	5	1	6	1	4	5	1	4	5	16
07:15 AM	9	0	9	0	9	9	0	0	0	18
07:30 AM	7	0	7	1	4	5	0	0	0	12
07:45 AM	7	1	8	0	2	2	0	2	2	12
Total Volume	28	2	30	2	19	21	1	6	7	58
% App. Total	93.3	6.7		9.5	90.5		14.3	85.7		
PHF	.778	.500	.833	.500	.528	.583	.250	.375	.350	.806

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	5	1	6	1	4	5	1	4	5
+15 mins.	9	0	9	0	9	9	0	0	0
+30 mins.	7	0	7	1	4	5	0	0	0
+45 mins.	7	1	8	0	2	2	0	2	2
Total Volume	28	2	30	2	19	21	1	6	7
% App. Total	93.3	6.7		9.5	90.5		14.3	85.7	
PHF	.778	.500	.833	.500	.528	.583	.250	.375	.350

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

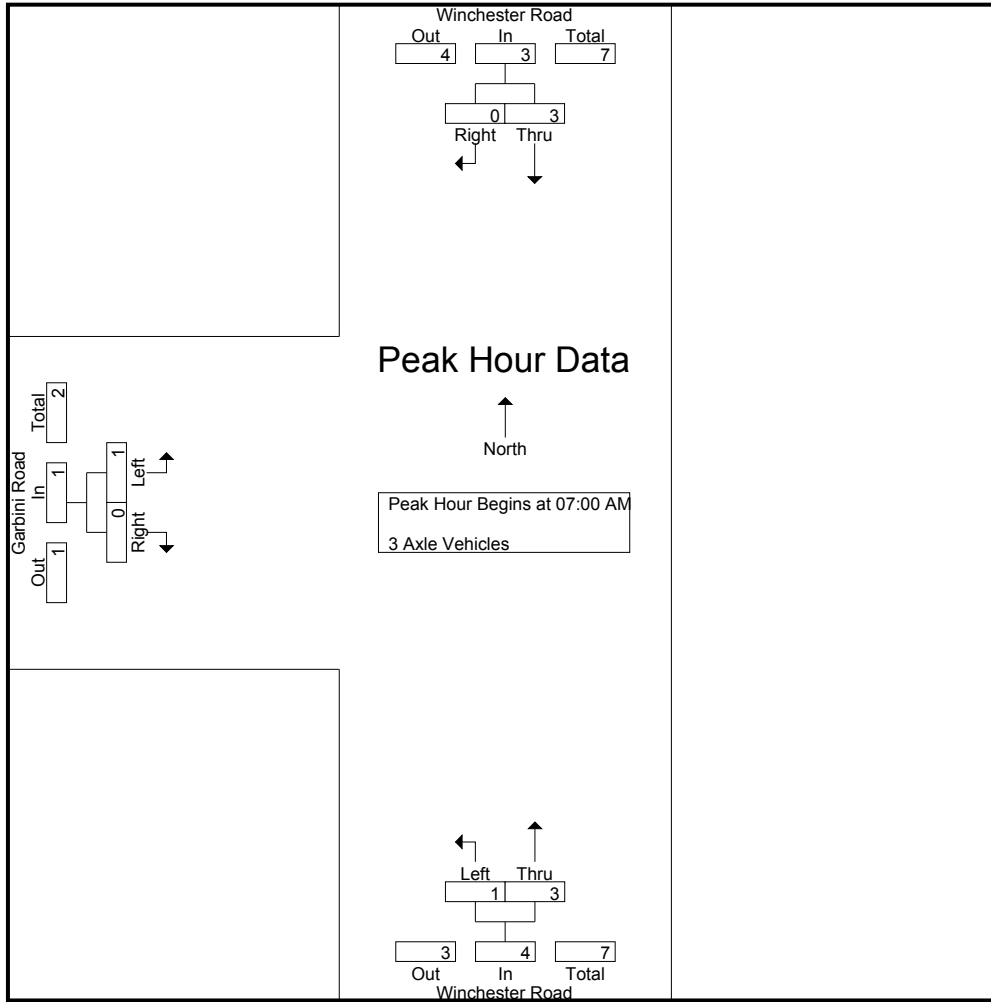
Start Time	Winchester Road Southbound				Winchester Road Northbound				Garbini Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
07:30 AM	2	0	0	2	1	1	0	2	0	0	0	0	0	4	4
07:45 AM	1	0	0	1	0	1	0	1	1	0	0	1	0	3	3
Total	3	0	0	3	1	3	0	4	1	0	0	1	0	8	8
08:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	2
08:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1
08:30 AM	3	0	0	3	0	1	0	1	0	0	0	0	0	4	4
08:45 AM	1	1	0	2	0	0	0	0	0	0	0	0	0	2	2
Total	5	1	0	6	0	3	0	3	0	0	0	0	0	9	9
Grand Total	8	1	0	9	1	6	0	7	1	0	0	1	0	17	17
Apprch %	88.9	11.1			14.3	85.7			100	0					
Total %	47.1	5.9		52.9	5.9	35.3		41.2	5.9	0		5.9	0	100	

Start Time	Winchester Road Southbound			Winchester Road Northbound			Garbini Road Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	1	1	0	0	0	1
07:30 AM	2	0	2	1	1	2	0	0	0	4
07:45 AM	1	0	1	0	1	1	1	0	1	3
Total Volume	3	0	3	1	3	4	1	0	1	8
% App. Total	100	0		25	75		100	0		
PHF	.375	.000	.375	.250	.750	.500	.250	.000	.250	.500

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	1	0	0	0
+30 mins.	2	0	2	1	1	2	0	0	0
+45 mins.	1	0	1	0	1	1	1	0	1
Total Volume	3	0	3	1	3	4	1	0	1
% App. Total	100	0		25	75		100	0	
PHF	.375	.000	.375	.250	.750	.500	.250	.000	.250

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

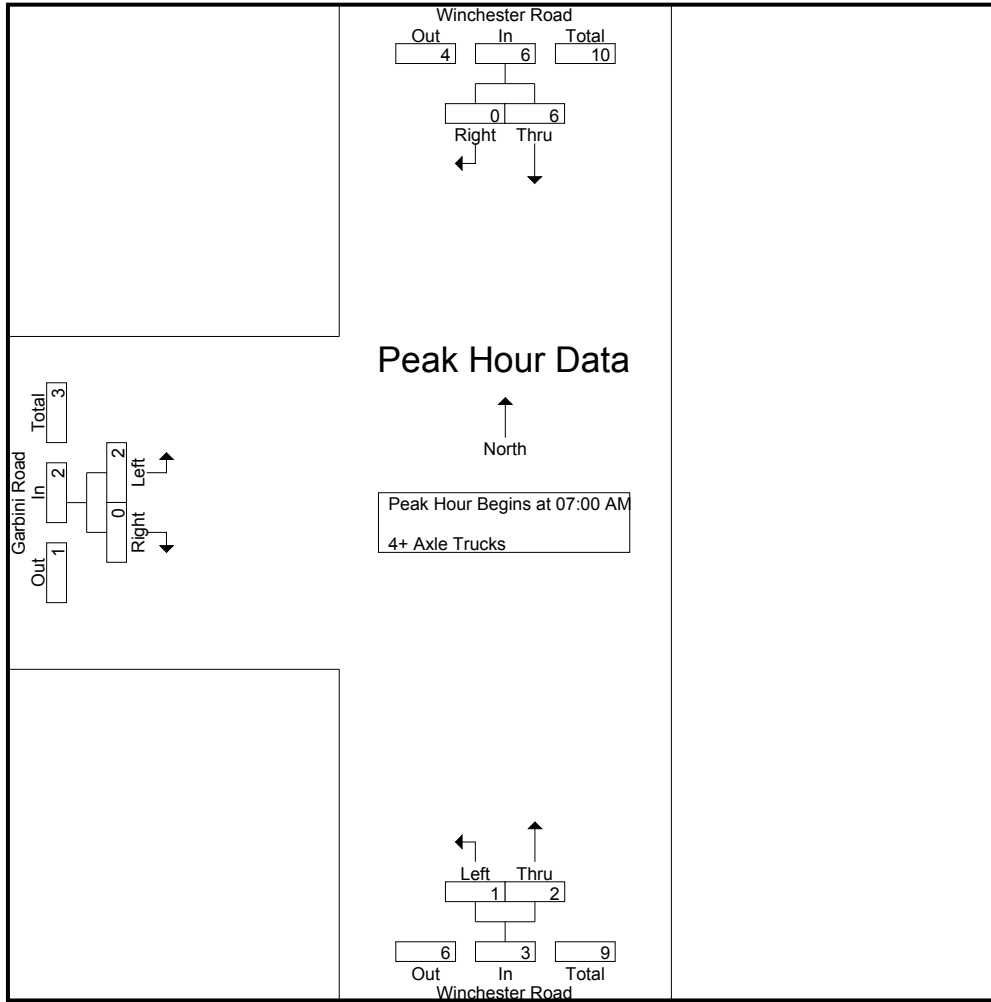
Start Time	Winchester Road Southbound				Winchester Road Northbound				Garbini Road Eastbound				Exclu. Total	Inclu. Total	Int. Total	
	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total				
07:00 AM	3	0	0	3	0	2	0	2	0	0	0	0	0	0	5	5
07:15 AM	1	0	0	1	1	0	0	1	0	0	0	0	0	0	2	2
07:30 AM	1	0	0	1	0	0	0	0	1	0	0	1	0	0	2	2
07:45 AM	1	0	0	1	0	0	0	0	1	0	0	1	0	0	2	2
Total	6	0	0	6	1	2	0	3	2	0	0	2	0	0	11	11
08:00 AM	5	0	0	5	0	0	0	0	0	0	0	0	0	0	5	5
08:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1
08:30 AM	4	0	0	4	0	2	0	2	0	0	0	0	0	0	6	6
08:45 AM	1	0	0	1	0	1	0	1	0	1	0	1	0	0	3	3
Total	11	0	0	11	0	3	0	3	0	1	0	1	0	0	15	15
Grand Total	17	0	0	17	1	5	0	6	2	1	0	3	0	0	26	26
Apprch %	100	0			16.7	83.3			66.7	33.3						
Total %	65.4	0		65.4	3.8	19.2		23.1	7.7	3.8		11.5	0	0	100	

Start Time	Winchester Road Southbound			Winchester Road Northbound			Garbini Road Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	3	0	3	0	2	2	0	0	0	5
07:15 AM	1	0	1	1	0	1	0	0	0	2
07:30 AM	1	0	1	0	0	0	1	0	1	2
07:45 AM	1	0	1	0	0	0	1	0	1	2
Total Volume	6	0	6	1	2	3	2	0	2	11
% App. Total	100	0		33.3	66.7		100	0		
PHF	.500	.000	.500	.250	.250	.375	.500	.000	.500	.550

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	3	0	3	0	2	2	0	0	0
+15 mins.	1	0	1	1	0	1	0	0	0
+30 mins.	1	0	1	0	0	0	1	0	1
+45 mins.	1	0	1	0	0	0	1	0	1
Total Volume	6	0	6	1	2	3	2	0	2
% App. Total	100	0		33.3	66.7		100	0	
PHF	.500	.000	.500	.250	.250	.375	.500	.000	.500

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

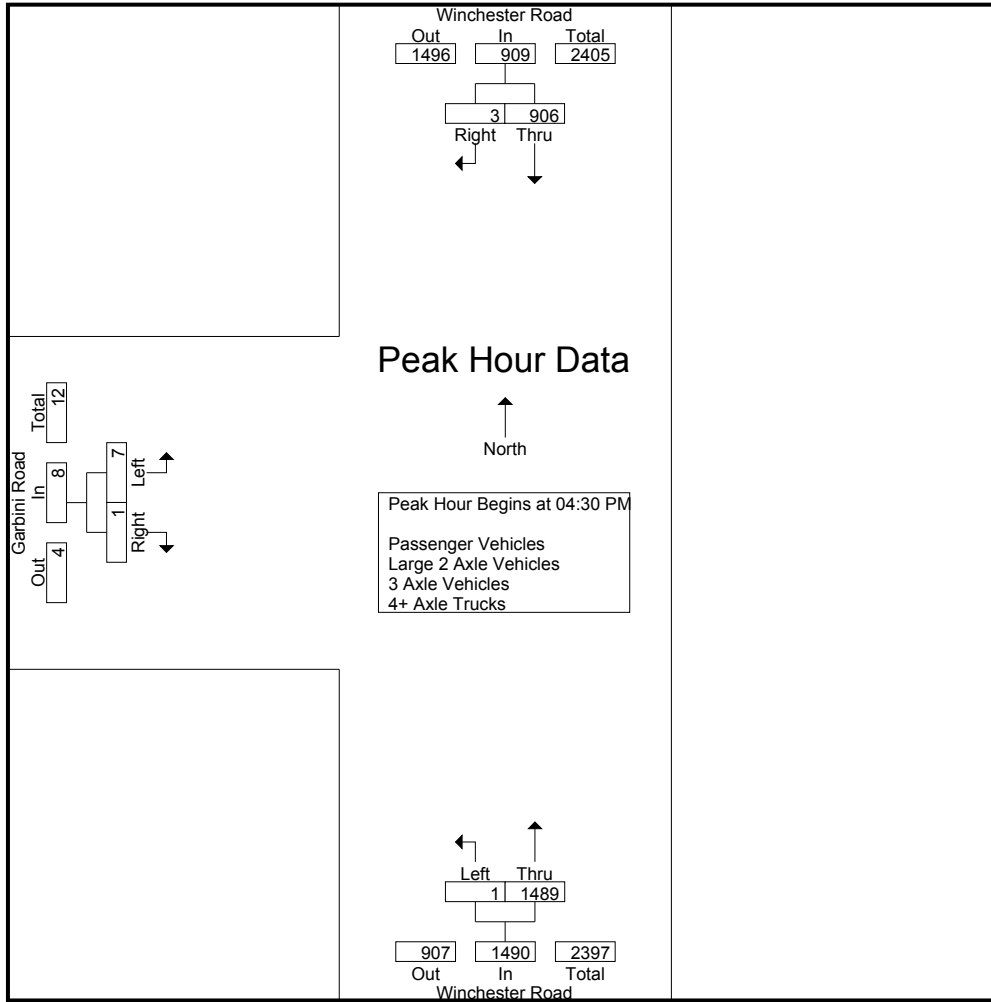
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound				Winchester Road Northbound				Garbini Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total			
04:00 PM	229	0	0	229	0	389	0	389	6	3	3	9	3	627	630
04:15 PM	225	0	0	225	0	317	0	317	1	2	2	3	2	545	547
04:30 PM	257	1	0	258	0	354	0	354	5	1	1	6	1	618	619
04:45 PM	192	1	0	193	1	374	0	375	0	0	0	0	0	568	568
Total	903	2	0	905	1	1434	0	1435	12	6	6	18	6	2358	2364
05:00 PM	214	0	0	214	0	334	0	334	1	0	0	1	0	549	549
05:15 PM	243	1	0	244	0	427	0	427	1	0	0	1	0	672	672
05:30 PM	212	2	0	214	0	389	0	389	2	1	1	3	1	606	607
05:45 PM	196	0	0	196	0	349	0	349	3	0	0	3	0	548	548
Total	865	3	0	868	0	1499	0	1499	7	1	1	8	1	2375	2376
Grand Total	1768	5	0	1773	1	2933	0	2934	19	7	7	26	7	4733	4740
Apprch %	99.7	0.3			0	100			73.1	26.9					
Total %	37.4	0.1		37.5	0	62		62	0.4	0.1		0.5	0.1	99.9	
Passenger Vehicles	1727	3		1730	1	2873		2874	18	6		30	0	0	4634
% Passenger Vehicles	97.7	60	0	97.6	100	98	0	98	94.7	85.7	85.7	90.9	0	0	97.8
Large 2 Axle Vehicles	36	1		37	0	48		48	1	1		3	0	0	88
% Large 2 Axle Vehicles	2	20	0	2.1	0	1.6	0	1.6	5.3	14.3	14.3	9.1	0	0	1.9
3 Axle Vehicles	2	0		2	0	5		5	0	0		0	0	0	7
% 3 Axle Vehicles	0.1	0	0	0.1	0	0.2	0	0.2	0	0	0	0	0	0	0.1
4+ Axle Trucks	3	1		4	0	7		7	0	0		0	0	0	11
% 4+ Axle Trucks	0.2	20	0	0.2	0	0.2	0	0.2	0	0	0	0	0	0	0.2

Start Time	Winchester Road Southbound			Winchester Road Northbound			Garbini Road Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	257	1	258	0	354	354	5	1	6	618
04:45 PM	192	1	193	1	374	375	0	0	0	568
05:00 PM	214	0	214	0	334	334	1	0	1	549
05:15 PM	243	1	244	0	427	427	1	0	1	672
Total Volume	906	3	909	1	1489	1490	7	1	8	2407
% App. Total	99.7	0.3		0.1	99.9		87.5	12.5		
PHF	.881	.750	.881	.250	.872	.872	.350	.250	.333	.895

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:45 PM			04:00 PM		
+0 mins.	257	1	258	1	374	375	6	3	9
+15 mins.	192	1	193	0	334	334	1	2	3
+30 mins.	214	0	214	0	427	427	5	1	6
+45 mins.	243	1	244	0	389	389	0	0	0
Total Volume	906	3	909	1	1524	1525	12	6	18
% App. Total	99.7	0.3		0.1	99.9		66.7	33.3	
PHF	.881	.750	.881	.250	.892	.893	.500	.500	.500

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

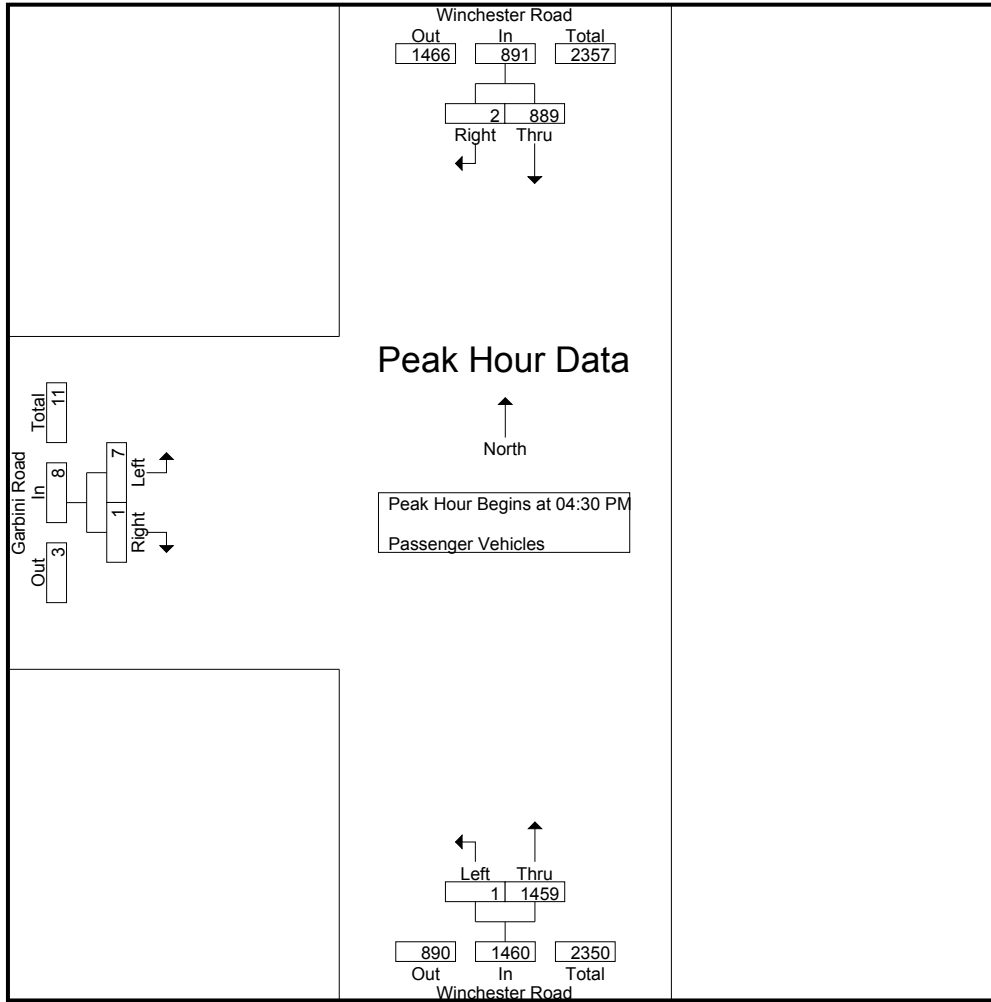
Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Winchester Road Northbound				Garbini Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total			
04:00 PM	219	0	0	219	0	378	0	378	5	2	2	7	2	604	606
04:15 PM	221	0	0	221	0	311	0	311	1	2	2	3	2	535	537
04:30 PM	249	1	0	250	0	345	0	345	5	1	1	6	1	601	602
04:45 PM	190	0	0	190	1	363	0	364	0	0	0	0	0	554	554
Total	879	1	0	880	1	1397	0	1398	11	5	5	16	5	2294	2299
05:00 PM	211	0	0	211	0	328	0	328	1	0	0	1	0	540	540
05:15 PM	239	1	0	240	0	423	0	423	1	0	0	1	0	664	664
05:30 PM	211	1	0	212	0	380	0	380	2	1	1	3	1	595	596
05:45 PM	187	0	0	187	0	345	0	345	3	0	0	3	0	535	535
Total	848	2	0	850	0	1476	0	1476	7	1	1	8	1	2334	2335
Grand Total	1727	3	0	1730	1	2873	0	2874	18	6	6	24	6	4628	4634
Apprch %	99.8	0.2			0	100			75	25					
Total %	37.3	0.1		37.4	0	62.1		62.1	0.4	0.1		0.5	0.1	99.9	

Start Time	Winchester Road Southbound			Winchester Road Northbound			Garbini Road Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:30 PM	249	1	250	0	345	345	5	1	6	601
04:45 PM	190	0	190	1	363	364	0	0	0	554
05:00 PM	211	0	211	0	328	328	1	0	1	540
05:15 PM	239	1	240	0	423	423	1	0	1	664
Total Volume	889	2	891	1	1459	1460	7	1	8	2359
% App. Total	99.8	0.2		0.1	99.9		87.5	12.5		
PHF	.893	.500	.891	.250	.862	.863	.350	.250	.333	.888

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	249	1	250	0	345	345	5	1	6
+15 mins.	190	0	190	1	363	364	0	0	0
+30 mins.	211	0	211	0	328	328	1	0	1
+45 mins.	239	1	240	0	423	423	1	0	1
Total Volume	889	2	891	1	1459	1460	7	1	8
% App. Total	99.8	0.2		0.1	99.9		87.5	12.5	
PHF	.893	.500	.891	.250	.862	.863	.350	.250	.333

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

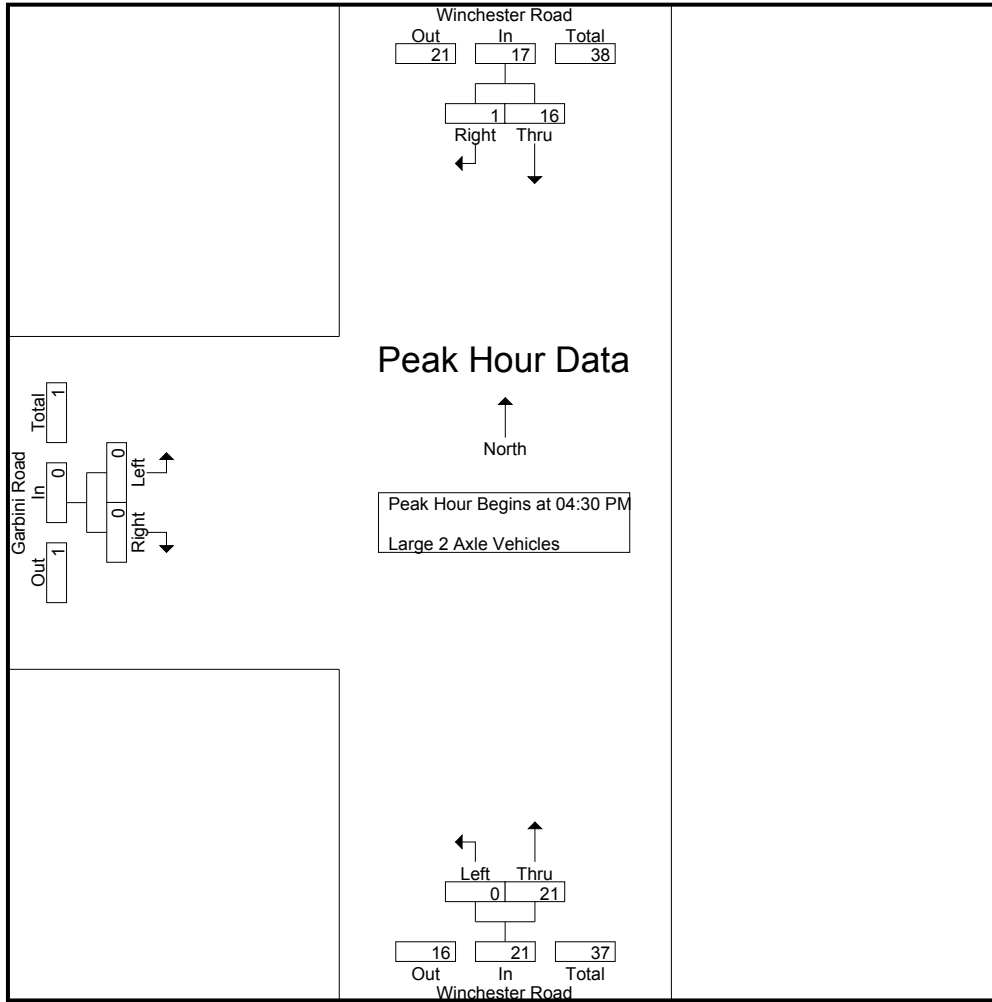
Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Winchester Road Northbound				Garbini Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total			
04:00 PM	9	0	0	9	0	9	0	9	1	1	1	2	1	20	21
04:15 PM	3	0	0	3	0	6	0	6	0	0	0	0	0	9	9
04:30 PM	7	0	0	7	0	8	0	8	0	0	0	0	0	15	15
04:45 PM	2	1	0	3	0	5	0	5	0	0	0	0	0	8	8
Total	21	1	0	22	0	28	0	28	1	1	1	2	1	52	53
05:00 PM	3	0	0	3	0	5	0	5	0	0	0	0	0	8	8
05:15 PM	4	0	0	4	0	3	0	3	0	0	0	0	0	7	7
05:30 PM	1	0	0	1	0	8	0	8	0	0	0	0	0	9	9
05:45 PM	7	0	0	7	0	4	0	4	0	0	0	0	0	11	11
Total	15	0	0	15	0	20	0	20	0	0	0	0	0	35	35
Grand Total	36	1	0	37	0	48	0	48	1	1	1	2	1	87	88
Apprch %	97.3	2.7			0	100			50	50					
Total %	41.4	1.1		42.5	0	55.2		55.2	1.1	1.1		2.3	1.1	98.9	

Start Time	Winchester Road Southbound			Winchester Road Northbound			Garbini Road Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:30 PM	7	0	7	0	8	8	0	0	0	15
04:45 PM	2	1	3	0	5	5	0	0	0	8
05:00 PM	3	0	3	0	5	5	0	0	0	8
05:15 PM	4	0	4	0	3	3	0	0	0	7
Total Volume	16	1	17	0	21	21	0	0	0	38
% App. Total	94.1	5.9		0	100		0	0		
PHF	.571	.250	.607	.000	.656	.656	.000	.000	.000	.633

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	7	0	7	0	8	8	0	0	0
+15 mins.	2	1	3	0	5	5	0	0	0
+30 mins.	3	0	3	0	5	5	0	0	0
+45 mins.	4	0	4	0	3	3	0	0	0
Total Volume	16	1	17	0	21	21	0	0	0
% App. Total	94.1	5.9		0	100		0	0	
PHF	.571	.250	.607	.000	.656	.656	.000	.000	.000

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

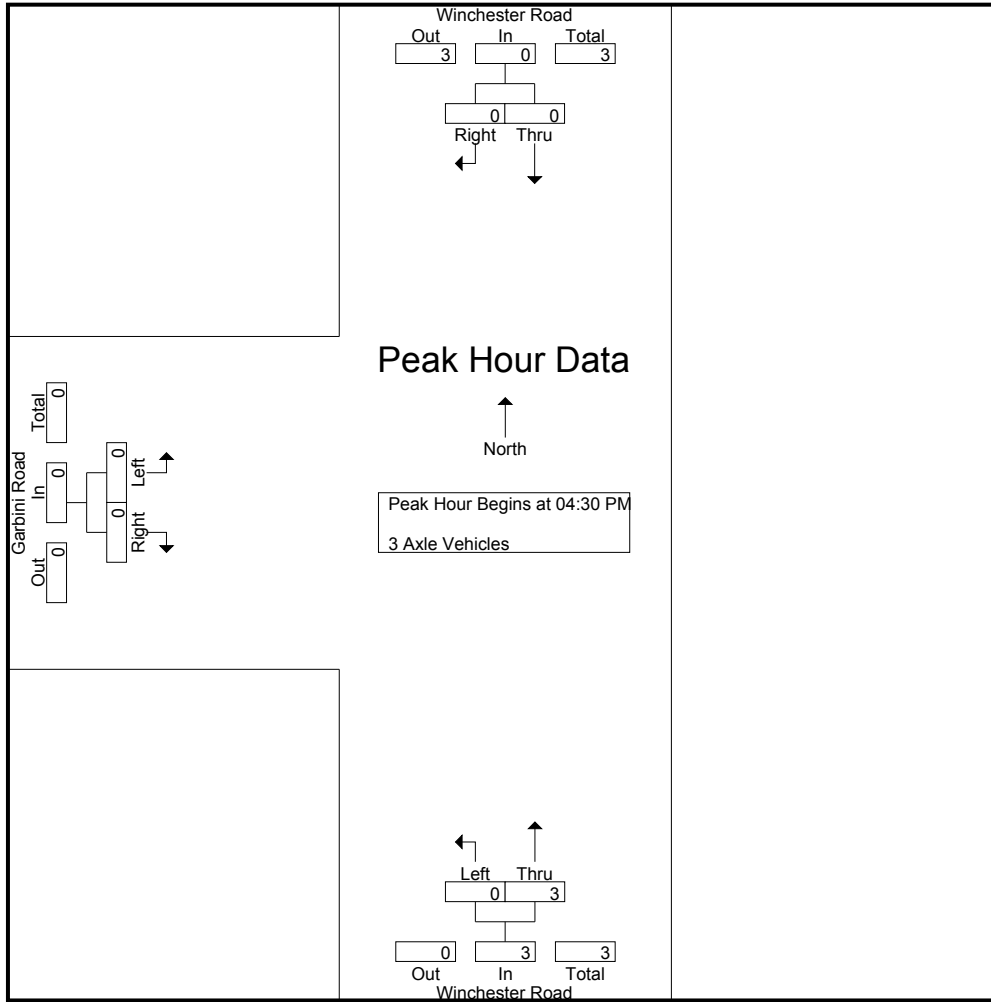
Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Winchester Road Northbound				Garbini Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total			
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	2	2
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1
05:45 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	2	2
Total	2	0	0	2	0	3	0	3	0	0	0	0	0	5	5
Grand Total	2	0	0	2	0	5	0	5	0	0	0	0	0	7	7
Apprch %	100	0			0	100			0	0					
Total %	28.6	0		28.6	0	71.4		71.4	0	0		0		100	

Start Time	Winchester Road Southbound			Winchester Road Northbound			Garbini Road Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	1	1	0	0	0	1
05:00 PM	0	0	0	0	1	1	0	0	0	1
05:15 PM	0	0	0	0	1	1	0	0	0	1
Total Volume	0	0	0	0	3	3	0	0	0	3
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.750	.750	.000	.000	.000	.750

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	1	0	0	0
+30 mins.	0	0	0	0	1	1	0	0	0
+45 mins.	0	0	0	0	1	1	0	0	0
Total Volume	0	0	0	0	3	3	0	0	0
% App. Total	0	0	0	0	100		0	0	
PHF	.000	.000	.000	.000	.750	.750	.000	.000	.000

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

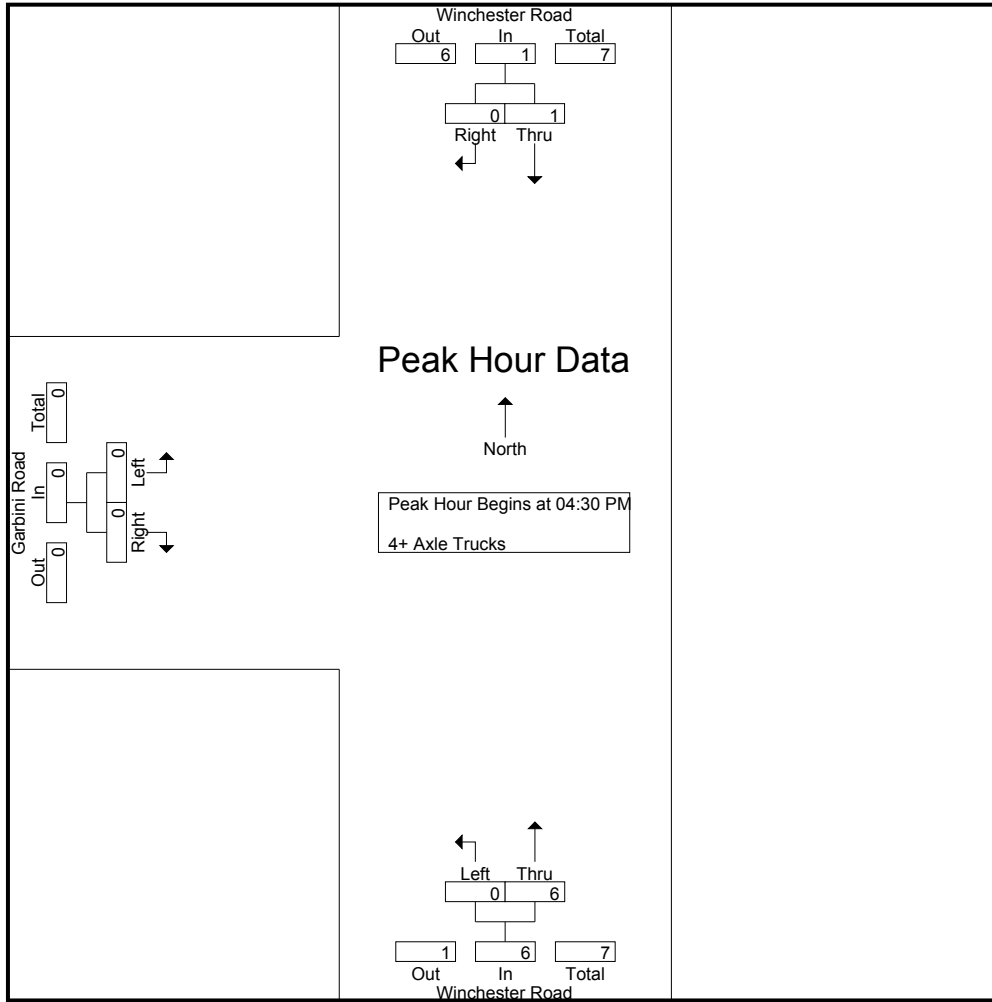
Start Time	Winchester Road Southbound				Winchester Road Northbound				Garbini Road Eastbound				Exclu. Total	Inclu. Total	Int. Total	
	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total				
04:00 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	0	2	2
04:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1
04:30 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	0	2	2
04:45 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	0	5	5
Total	3	0	0	3	0	7	0	7	0	0	0	0	0	0	10	10
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
Grand Total	3	1	0	4	0	7	0	7	0	0	0	0	0	0	11	11
Apprch %	75	25			0	100			0	0						
Total %	27.3	9.1		36.4	0	63.6		63.6	0	0		0		0	100	

Start Time	Winchester Road Southbound			Winchester Road Northbound			Garbini Road Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:30 PM	1	0	1	0	1	1	0	0	0	2
04:45 PM	0	0	0	0	5	5	0	0	0	5
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	6	6	0	0	0	7
% App. Total	100	0		0	100		0	0		
PHF	.250	.000	.250	.000	.300	.300	.000	.000	.000	.350

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Garbini Road
 Weather: Clear

File Name : 16_CRV_79_Gar PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	1	0	1	0	1	1	0	0	0
+15 mins.	0	0	0	0	5	5	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	6	6	0	0	0
% App. Total	100	0	100	0	100	100	0	0	0
PHF	.250	.000	.250	.000	.300	.300	.000	.000	.000

Location: County of Riverside
 N/S: Winchester Road
 E/W: Garbini Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road	East Leg Dead End	South Leg Winchester Road	West Leg Garbini Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Winchester Road	East Leg Dead End	South Leg Winchester Road	West Leg Garbini Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Winchester Road
 E/W: Garbini Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

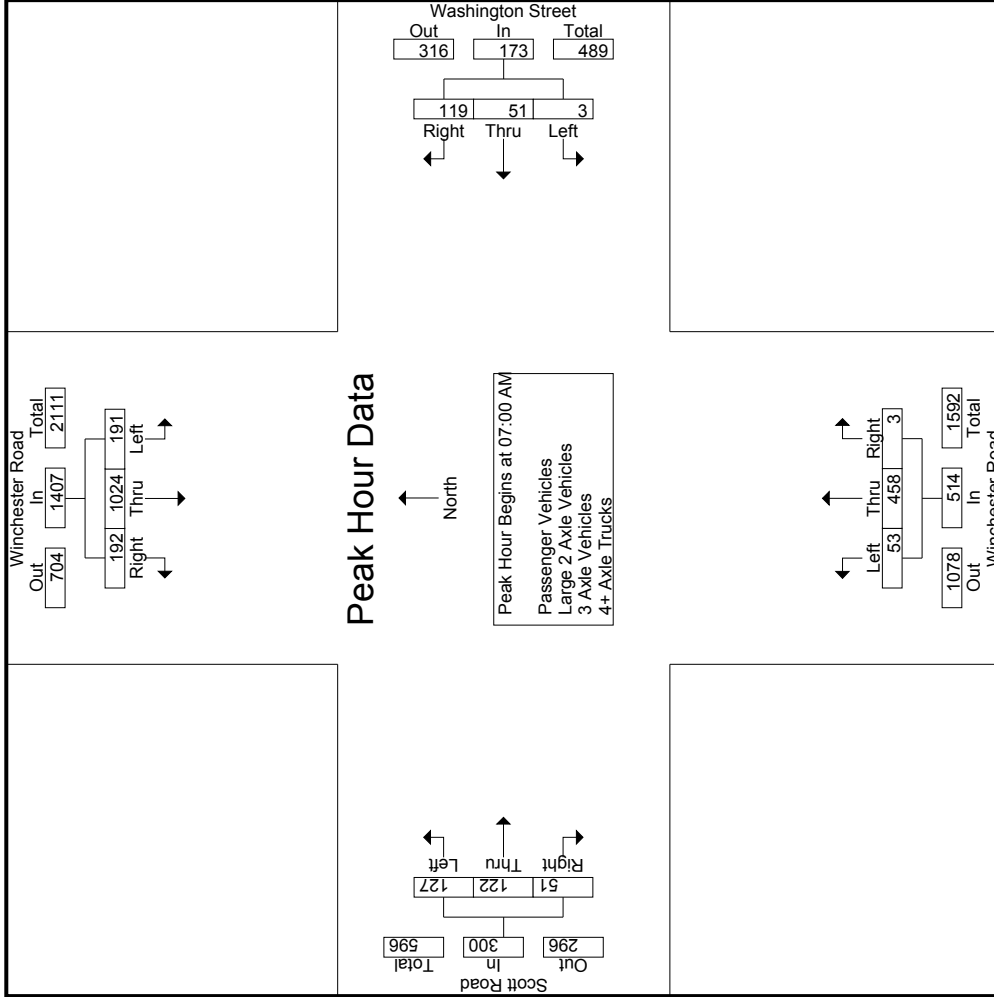
	Southbound Winchester Road			Westbound Dead End			Northbound Winchester Road			Eastbound Garbini Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	2	0	0	0	0	0	0	0	0	0	0	2

	Southbound Winchester Road			Westbound Dead End			Northbound Winchester Road			Eastbound Garbini Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Washington Street Westbound			Winchester Road Northbound			Scott Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:00 AM														
+0 mins.	42	234	40	1	13	33	47	15	1	127	1	143	46	35	15
+15 mins.	39	296	51	1	15	38	54	12	1	108	1	121	41	37	8
+30 mins.	57	293	54	1	22	25	48	16	0	132	0	148	17	20	16
+45 mins.	53	241	47	1	16	17	34	10	1	91	1	102	23	30	12
Total Volume	191	1024	192	4	66	113	183	53	3	458	3	514	127	122	51
% App. Total	13.6	72.8	13.6	2.2	36.1	61.7	10.3	10.3	0.6	89.1	0.6	42.3	42.3	40.7	17
PHF	.838	.874	.889	1.000	.750	.743	.847	.828	.750	.867	.750	.868	.690	.824	.797

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound					Washington Street Westbound					Winchester Road Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	38	228	39	13	305	1	8	29	16	38	14	122	0	0	136	46	30	15	3	91	32	570	602
07:15 AM	38	250	51	11	339	0	14	18	12	32	12	104	0	0	116	36	34	8	4	78	27	565	592
07:30 AM	53	290	54	30	397	1	13	31	17	45	16	131	0	0	147	16	20	15	12	51	59	640	699
07:45 AM	52	236	47	10	335	1	15	37	27	53	8	89	1	0	98	23	27	12	7	62	44	548	592
Total	181	1004	191	64	1376	3	50	115	72	168	50	446	1	0	497	121	111	50	26	282	162	2323	2485
08:00 AM	34	207	41	13	282	1	21	22	20	44	14	118	0	0	132	12	20	13	9	45	42	503	545
08:15 AM	27	189	39	10	255	1	13	17	13	31	16	89	0	0	105	27	16	10	6	53	29	444	473
08:30 AM	18	206	42	16	266	0	17	21	17	38	15	88	2	2	105	29	17	13	7	59	42	468	510
08:45 AM	17	165	32	14	214	1	13	12	8	26	9	121	0	0	130	34	22	9	8	65	30	435	465
Total	96	767	154	53	1017	3	64	72	58	139	54	416	2	2	472	102	75	45	30	222	143	1850	1993
Grand Total	277	1771	345	117	2393	6	114	187	130	307	104	862	3	2	969	223	186	95	56	504	305	4173	4478
% Approach	11.6	74	14.4			2	37.1	60.9		7.4	10.7	89	0.3		23.2	44.2	36.9	18.8	12.1		6.8	93.2	
% Total	6.6	42.4	8.3		57.3	0.1	2.7	4.5			2.5	20.7	0.1			5.3	4.5	2.3					

Start Time	Winchester Road Southbound					Washington Street Westbound					Winchester Road Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	38	228	39	13	305	1	8	29	16	38	14	122	0	0	136	46	30	15	3	91	32	570	602
07:15 AM	38	250	51	11	339	0	14	18	12	32	12	104	0	0	116	36	34	8	4	78	27	565	592
07:30 AM	53	290	54	30	397	1	13	31	17	45	16	131	0	0	147	16	20	15	12	51	59	640	699
07:45 AM	52	236	47	10	335	1	15	37	27	53	8	89	1	0	98	23	27	12	7	62	44	548	592
Total	181	1004	191	64	1376	3	50	115	72	168	50	446	1	0	497	121	111	50	26	282	162	2323	2485
08:00 AM	34	207	41	13	282	1	21	22	20	44	14	118	0	0	132	12	20	13	9	45	42	503	545
08:15 AM	27	189	39	10	255	1	13	17	13	31	16	89	0	0	105	27	16	10	6	53	29	444	473
08:30 AM	18	206	42	16	266	0	17	21	17	38	15	88	2	2	105	29	17	13	7	59	42	468	510
08:45 AM	17	165	32	14	214	1	13	12	8	26	9	121	0	0	130	34	22	9	8	65	30	435	465
Total	96	767	154	53	1017	3	64	72	58	139	54	416	2	2	472	102	75	45	30	222	143	1850	1993
Grand Total	277	1771	345	117	2393	6	114	187	130	307	104	862	3	2	969	223	186	95	56	504	305	4173	4478
% Approach	11.6	74	14.4			2	37.1	60.9		7.4	10.7	89	0.3		23.2	44.2	36.9	18.8	12.1		6.8	93.2	
% Total	6.6	42.4	8.3		57.3	0.1	2.7	4.5			2.5	20.7	0.1			5.3	4.5	2.3					

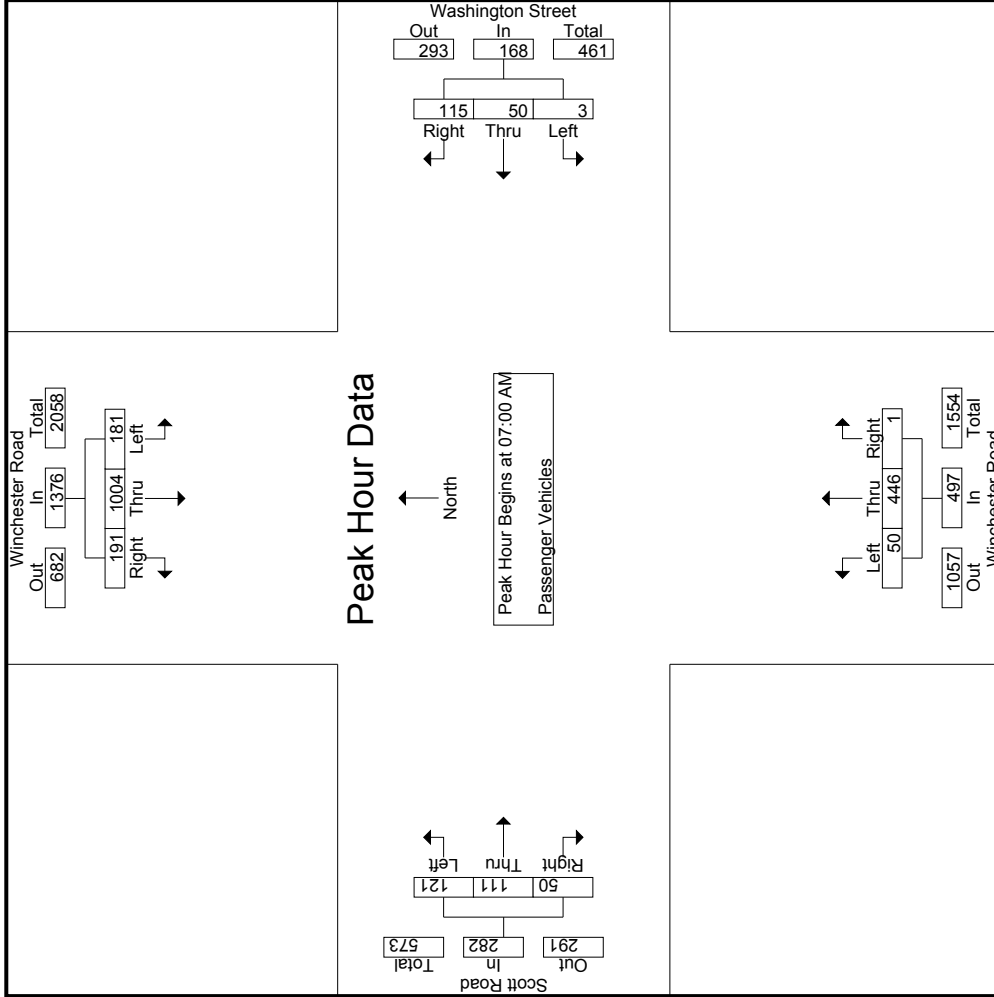
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Winchester Road Southbound					Washington Street Westbound					Winchester Road Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	38	228	39	13	305	1	8	29	16	38	14	122	0	0	136	46	30	15	3	91	32	570	602
07:15 AM	38	250	51	11	339	0	14	18	12	32	12	104	0	0	116	36	34	8	4	78	27	565	592
07:30 AM	53	290	54	30	397	1	13	31	17	45	16	131	0	0	147	16	20	15	12	51	59	640	699
07:45 AM	52	236	47	10	335	1	15	37	27	53	8	89	1	0	98	23	27	12	7	62	44	548	592
Total	181	1004	191	64	1376	3	50	115	72	168	50	446	1	0	497	121	111	50	26	282	162	2323	2485
% App. Total	13.2	73	13.9			1.8	29.8	68.5		7.4	10.1	89.7	0.2		23.2	42.9	39.4	17.7					
PHF	.854	.866	.884		.866	.750	.833	.777		.792	.781	.851	.250		.845	.658	.816	.833		.775			.907

Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

Start Time	Winchester Road Southbound			Washington Street Westbound			Winchester Road Northbound			Scott Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	07:00 AM															
Peak Hour for Each Approach Begins at:	07:00 AM															
+0 mins.	38	228	39	305	1	8	29	38	14	122	0	136	46	30	15	91
+15 mins.	38	250	51	339	0	14	18	32	12	104	0	116	36	34	8	78
+30 mins.	53	290	54	397	1	13	31	45	16	131	0	147	16	20	15	51
+45 mins.	52	236	47	335	1	15	37	53	8	89	1	98	23	27	12	62
Total Volume	181	1004	191	1376	3	50	115	168	50	446	1	497	121	111	50	282
% App. Total	13.2	73	13.9		1.8	29.8	68.5		10.1	89.7	0.2		42.9	39.4	17.7	
PHF	.854	.866	.884	.866	.750	.833	.777	.792	.781	.851	.250	.845	.658	.816	.833	.775

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Washington Street Westbound				Winchester Road Northbound				Scott Road Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	2	5	1	1	8	0	1	1	1	2	1	3	1	1	5	0	5	0	5
07:15 AM	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	4	2	0	6
07:30 AM	3	1	0	0	4	0	0	1	0	1	0	0	0	0	0	0	0	0	0
07:45 AM	0	4	0	0	4	0	0	1	1	1	1	1	0	0	2	0	3	0	3
Total	5	14	1	1	20	0	1	3	2	4	2	7	1	1	10	4	10	0	14
08:00 AM	1	2	0	0	3	0	1	2	2	3	0	1	0	0	1	0	0	1	1
08:15 AM	2	4	1	0	7	0	2	0	0	2	0	4	0	0	4	1	1	2	2
08:30 AM	0	4	2	0	6	0	1	2	2	3	1	1	0	0	2	0	3	3	6
08:45 AM	0	1	1	1	2	0	1	2	1	3	0	1	0	0	1	0	3	1	4
Total	3	11	4	1	18	0	5	6	5	11	1	7	0	0	8	0	7	6	13
Grand Total	8	25	5	2	38	0	6	9	7	15	3	14	1	1	18	4	17	6	27
% Approach	21.1	65.8	13.2			0	40	60		16.7	77.8	5.6		18.4	14.8	63	22.2		27.6
% Total	8.2	25.5	5.1		38.8	0	6.1	9.2		15.3	3.1	14.3	1		4.1	17.3	6.1		11.7

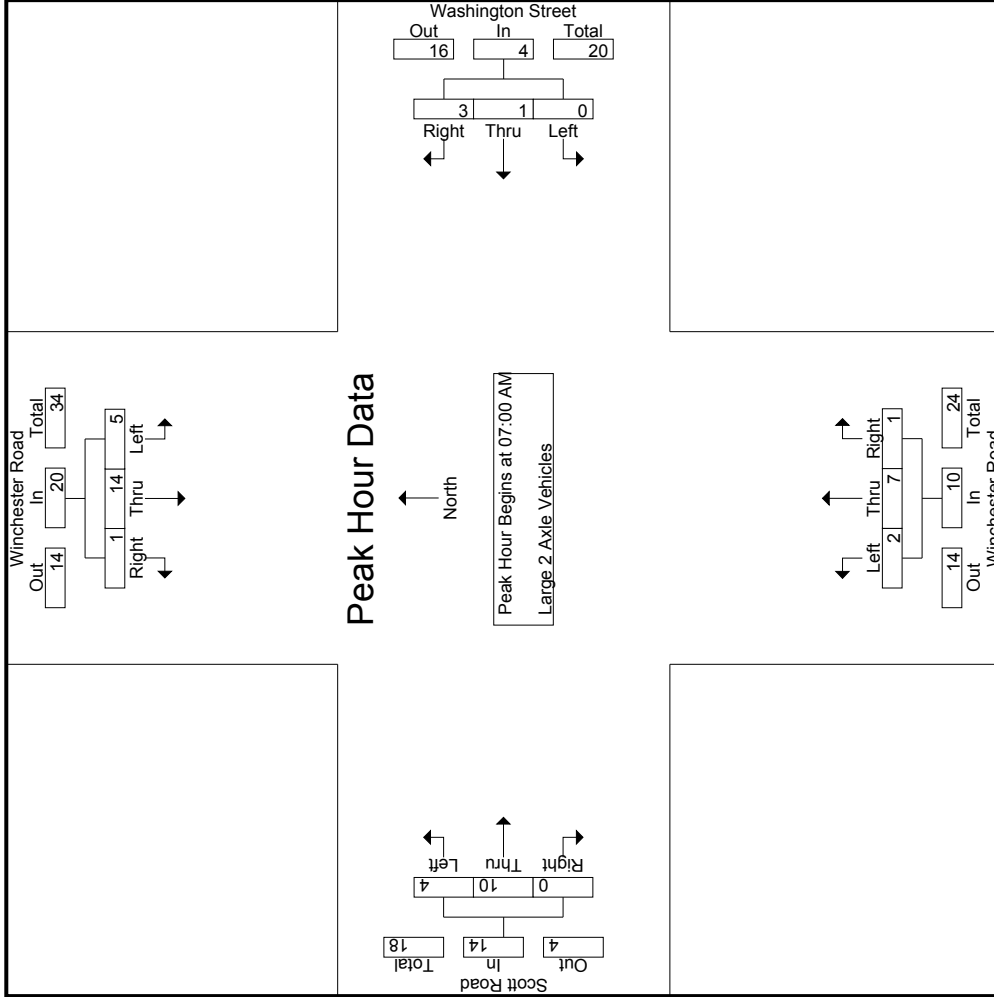
Start Time	Winchester Road Southbound				Washington Street Westbound				Winchester Road Northbound				Scott Road Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	2	5	1	1	8	0	1	1	1	2	1	3	1	1	5	0	5	0	5
07:15 AM	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	4	2	0	6
07:30 AM	3	1	0	0	4	0	0	1	0	1	0	0	0	0	0	0	0	0	0
07:45 AM	0	4	0	0	4	0	0	1	1	1	1	1	0	0	2	0	3	0	3
Total	5	14	1	1	20	0	1	3	2	4	2	7	1	1	10	4	10	0	14
% App. Total	25	70	5			0	25	75		15.3	75	5		18.4	14.8	63	22.2		27.6
PHF	.417	.700	.250		.625	.000	.250	.750		.500	.500	.583	.250		.500	.250	.583		.600

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Washington Street Westbound			Winchester Road Northbound			Scott Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	2	5	1	0	1	1	1	2	3	1	5	0
+15 mins.	0	4	0	0	0	0	0	0	3	4	2	0
+30 mins.	3	1	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	4	0	0	0	1	1	1	2	0	3	0
Total Volume	5	14	1	0	1	3	2	4	7	4	10	0
% App. Total	.25	.70	.05	.00	.25	.75	.20	.50	.30	.286	.714	.00
PHF	.417	.700	.250	.000	.250	.750	.500	.500	.583	.250	.500	.000

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Washington Street Westbound				Winchester Road Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	2	0	0	2	0	0	0	1	1	0	0	0	0	1	1	4	5
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	1	2	2	5	7
07:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	1	4	0	0	5	0	0	1	1	1	2	0	1	1	3	3	11	14
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	2	3
08:30 AM	2	1	1	0	4	0	0	0	0	0	0	0	0	0	0	0	1	1
08:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	5	5
Total	3	2	1	0	6	0	0	2	2	2	0	0	1	0	3	2	11	13
Grand Total	4	6	1	0	11	0	0	3	3	3	0	1	1	1	2	4	0	2
% Approach	36.4	54.5	9.1			0	0	100			0	50	50		66.7	0	22	27
Total %	18.2	27.3	4.5		50	0	0	13.6		13.6	0	4.5	4.5		18.2	0	18.5	81.5

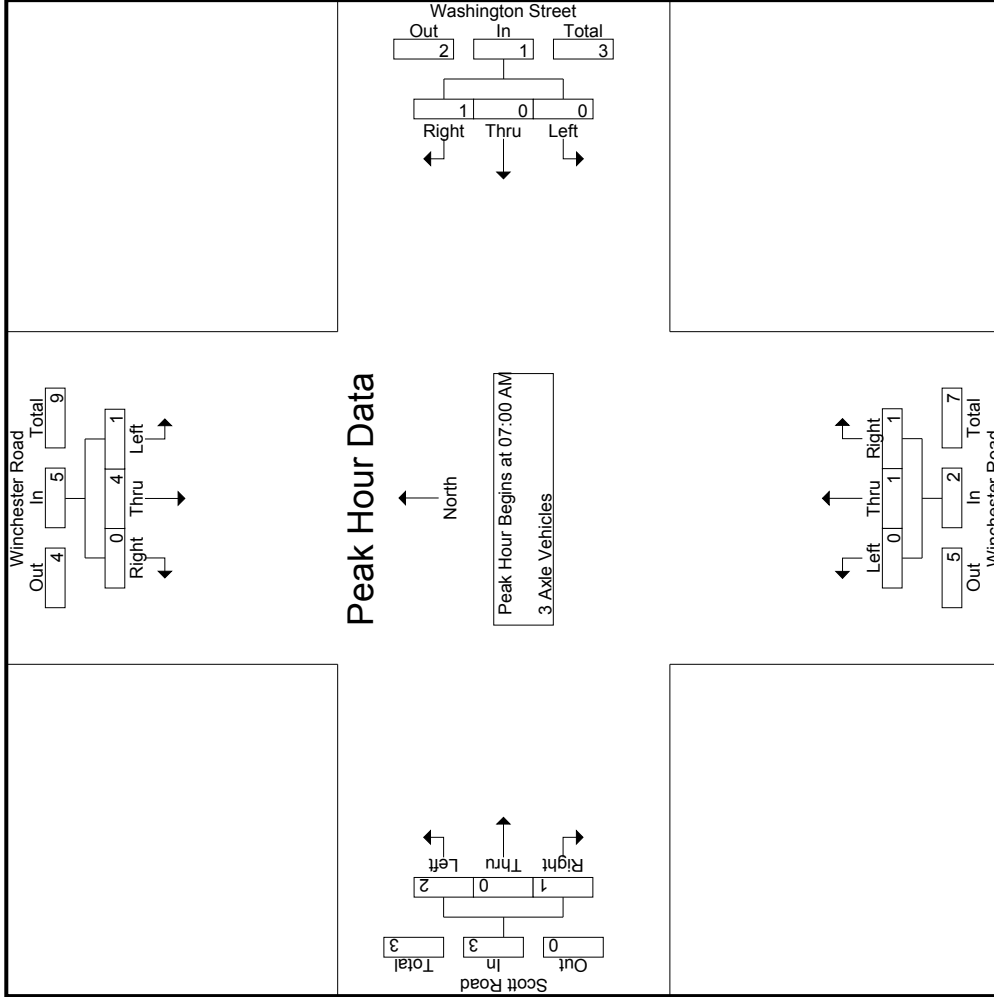
Start Time	Winchester Road Southbound				Washington Street Westbound				Winchester Road Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	4	0	0	5	0	0	1	1	1	2	0	1	1	3	3	11	14
% App. Total	20	80	0	0	100	0	0	100			50	50	33.3		66.7	0	33.3	11
PHF	.250	.500	.000		.625	.000	.000	.250		.250	.000	.250	.250		.500	.000	.375	.550

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

Start Time	Winchester Road Southbound			Washington Street Westbound			Winchester Road Northbound			Scott Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	2	0	0	0	0	0	0	1	1	0	0
+30 mins.	0	2	0	0	0	1	0	0	0	1	0	2
+45 mins.	1	0	0	0	0	0	0	1	0	0	0	0
Total Volume	1	4	0	0	0	1	0	1	1	2	0	1
% App. Total	.250	.800	.000	.000	.000	.100	.000	.250	.500	.667	.000	.333
PHF	.250	.500	.000	.000	.000	.250	.000	.250	.250	.500	.000	.250

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Washington Street Westbound				Winchester Road Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	1	0	0	3	0	0	0	0	0	0	2	0	0	0	0	5	5
07:15 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	3	3
07:30 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
07:45 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
Total	4	2	0	0	6	0	0	0	0	0	4	0	0	0	1	0	12	12
08:00 AM	2	2	1	0	5	0	0	0	0	0	0	0	0	0	0	0	5	5
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
08:30 AM	0	4	0	0	4	0	0	0	0	0	2	0	0	0	1	0	7	7
08:45 AM	0	2	0	0	2	0	0	1	1	1	0	0	0	0	1	1	4	5
Total	2	8	1	0	11	0	1	1	1	2	0	2	0	0	2	1	17	18
Grand Total	6	10	1	0	17	0	1	1	1	2	1	6	0	0	3	1	29	30
% Approach	35.3	58.8	5.9			0	50	3.4		6.9	14.3	85.7	0		100	3.3	96.7	
% Total	20.7	34.5	3.4		58.6	0	3.4	3.4		24.1	3.4	20.7	0		10.3			

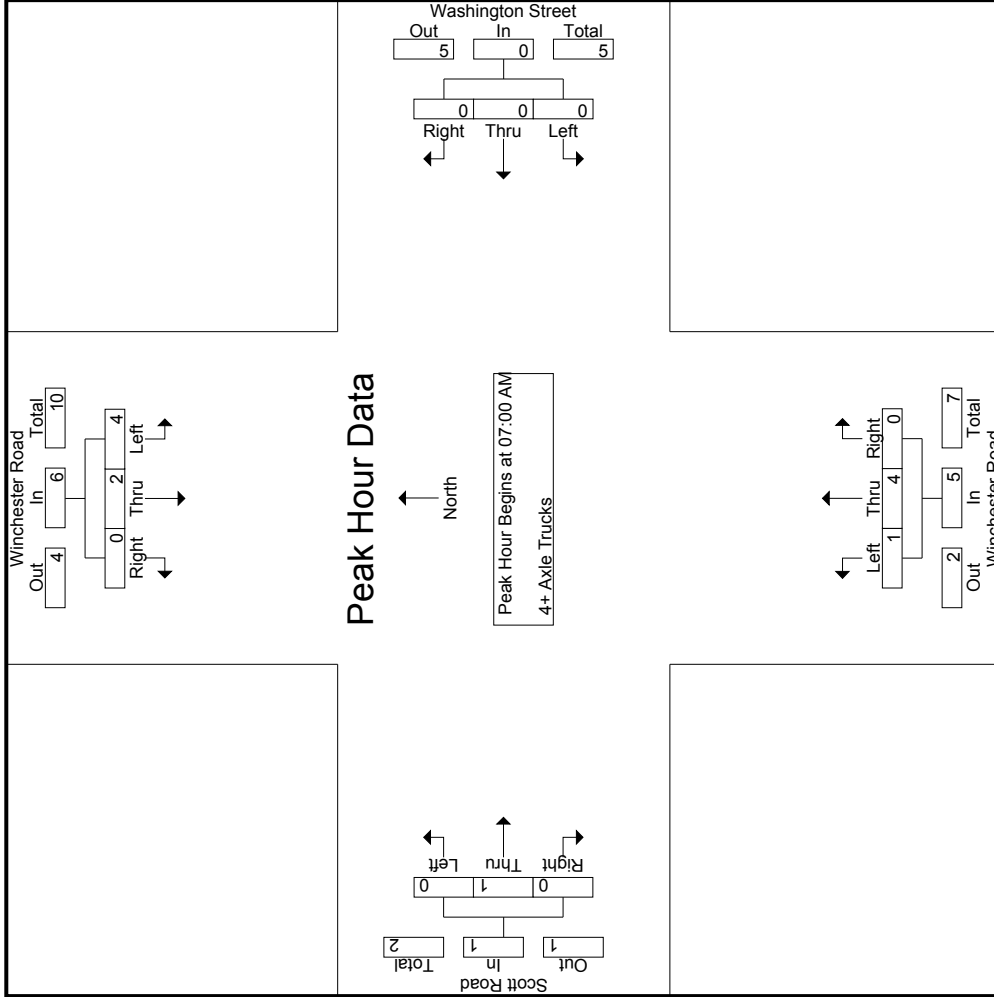
Start Time	Winchester Road Southbound				Washington Street Westbound				Winchester Road Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	1	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0
07:15 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	1	1
07:30 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
Total Volume	4	2	0	0	6	0	0	0	0	0	4	0	0	0	5	0	1	12
% App. Total	66.7	33.3	0			0	0	0		.000	20	80	0		100	0		
PHF	.500	.500	.000		.500	.000	.000	.000		.000	.250	.500	.000		.625	.000	.250	.600

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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File Name : 17_CRV_79_Scott AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

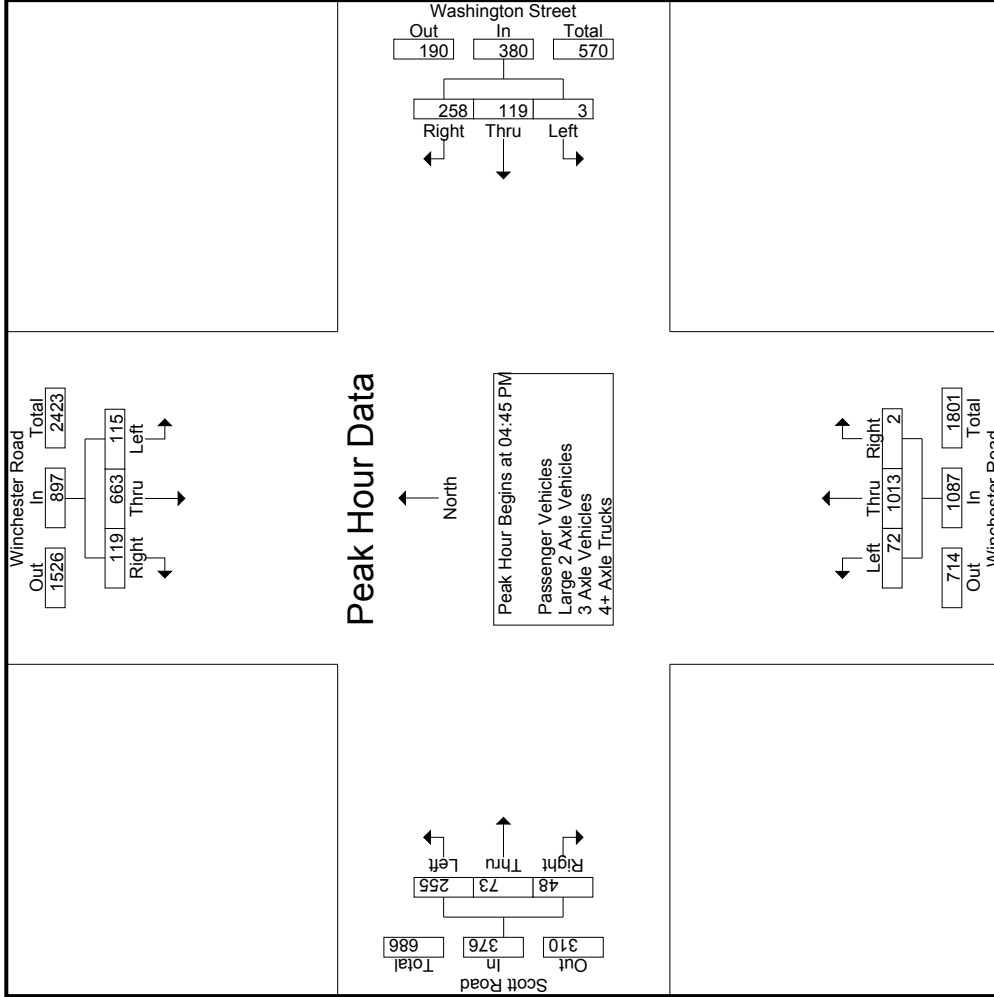
County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

Start Time	Winchester Road Southbound			Washington Street Westbound			Winchester Road Northbound			Scott Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	2	1	0	0	0	0	0	0	0	2	0	0
+15 mins.	1	0	0	0	0	0	0	0	0	1	0	0
+30 mins.	1	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	0	0	1	0	0	0	0	0
Total Volume	4	2	0	0	0	0	1	4	0	5	1	0
% App. Total	66.7	33.3	0	0	0	0	20	80	0	0	100	0
PHF	.500	.500	.000	.000	.000	.000	.250	.500	.000	.625	.250	.000

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File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear



Counts Unlimited, Inc.
 PO Box 1178
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File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

Start Time	Winchester Road Southbound			Washington Street Westbound			Winchester Road Northbound			Scott Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	04:15 PM			04:00 PM			04:45 PM			04:45 PM					
+0 mins.	25	185	29	2	34	62	98	23	252	0	275	51	30	7	88
+15 mins.	28	158	47	0	26	59	85	13	237	1	251	68	14	12	94
+30 mins.	25	161	24	1	33	80	114	20	257	1	278	71	15	14	100
+45 mins.	38	169	34	1	25	64	90	16	267	0	283	65	14	15	94
Total Volume	116	673	134	4	118	265	387	72	1013	2	1087	255	73	48	376
% App. Total	12.6	72.9	14.5	1	30.5	68.5	6.6	93.2	0.2	67.8	19.4	12.8	608	12.8	940
PHF	.763	.909	.713	.500	.868	.828	.849	.783	.949	.500	.960	.898	.608	.800	.940

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound					Washington Street Westbound					Winchester Road Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	37	150	24	15	211	2	33	61	38	96	15	276	1	0	292	51	12	11	7	74	60	673	733
04:15 PM	25	181	29	11	235	0	21	58	32	79	21	194	0	0	215	47	23	17	14	87	57	616	673
04:30 PM	28	155	43	17	226	1	32	79	45	112	10	242	1	0	253	56	19	14	7	89	69	680	749
04:45 PM	25	160	24	14	209	1	24	62	40	87	21	243	0	0	264	51	30	7	6	88	60	648	708
Total	115	646	120	57	881	4	110	260	155	374	67	955	2	0	1024	205	84	49	34	338	246	2617	2863
05:00 PM	38	167	33	15	238	1	25	55	35	81	12	236	1	1	249	68	14	12	11	94	62	662	724
05:15 PM	22	169	30	8	221	1	25	67	43	93	20	257	1	0	278	70	15	13	10	98	61	690	751
05:30 PM	29	163	29	18	221	0	35	67	33	102	16	264	0	0	280	64	14	14	9	92	60	695	755
05:45 PM	27	139	40	20	206	1	30	63	40	94	14	257	0	0	271	40	14	13	8	67	68	638	706
Total	116	638	132	61	886	3	115	252	151	370	62	1014	2	1	1078	242	57	52	38	351	251	2685	2936
Grand Total	231	1284	252	118	1767	7	225	512	306	744	129	1969	4	1	2102	447	141	101	72	689	497	5302	5799
% Approach	13.1	72.7	14.3			0.9	30.2	68.8			6.1	93.7	0.2			64.9	20.5	14.7					
% Total	4.4	24.2	4.8		33.3	0.1	4.2	9.7		14	2.4	37.1	0.1		39.6	8.4	2.7	1.9		13	8.6	91.4	

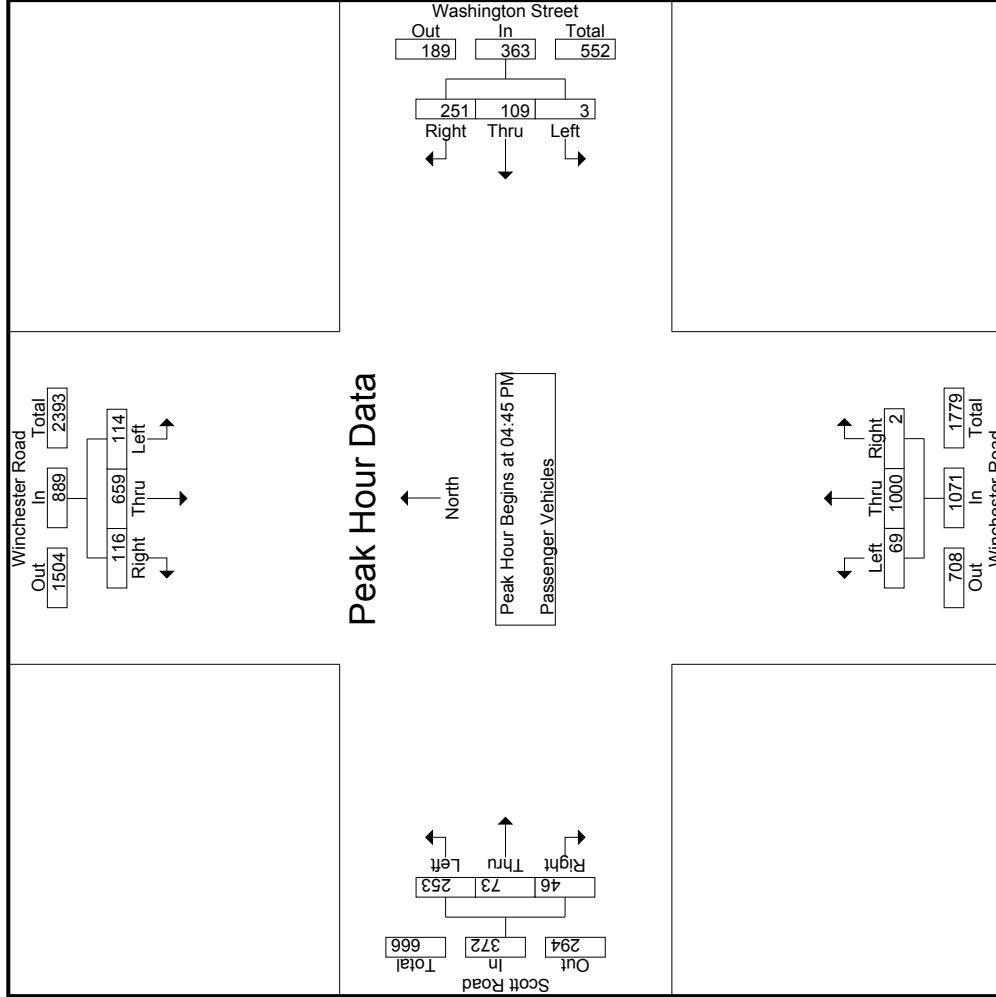
Start Time	Winchester Road Southbound					Washington Street Westbound					Winchester Road Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	25	160	24		209	1	24	62		87	21	243	0		264	51	30	7		88			648
05:00 PM	38	167	33		238	1	25	55		81	12	236	1		249	68	14	12		94			662
05:15 PM	22	169	30		221	1	25	67		93	20	257	1		278	70	15	13		98			690
05:30 PM	29	163	29		221	0	35	67		102	16	264	0		280	64	14	14		92			695
Total Volume	114	659	116		889	3	109	251		363	69	1000	2		1071	253	73	46		372			2695
% App. Total	12.8	74.1	13			0.8	30	69.1			6.4	93.4	0.2			68	19.6	12.4					.969
PHF	.750	.975	.879		.934	.750	.779	.937		.890	.821	.947	.500		.956	.904	.608	.821		.949			

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

Start Time	Winchester Road Southbound			Washington Street Westbound			Winchester Road Northbound			Scott Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:45 PM			04:45 PM			04:45 PM			04:45 PM						
+0 mins.	25	160	24	209	1	24	62	87	21	243	0	264	51	30	7	88
+15 mins.	38	167	33	238	1	25	55	81	12	236	1	249	68	14	12	94
+30 mins.	22	169	30	221	1	25	67	93	20	257	1	278	70	15	13	98
+45 mins.	29	163	29	221	0	35	67	102	16	264	0	280	64	14	14	92
Total Volume	114	659	116	889	3	109	251	363	69	1000	2	1071	253	73	46	372
% App. Total	12.8	74.1	13		0.8	30	69.1		6.4	93.4	0.2		68	19.6	12.4	
PHF	.750	.975	.879	.934	.750	.779	.937	.890	.821	.947	.500	.956	.904	.608	.821	.949

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Washington Street Westbound				Winchester Road Northbound				Scott Road Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	1	1	0	0	2	0	1	1	1	2	1	1	0	0	2	1	8	9	
04:15 PM	0	3	0	0	3	0	3	1	1	4	0	2	0	0	0	1	9	10	
04:30 PM	0	3	3	3	6	0	1	1	1	2	1	1	0	0	1	4	11	15	
04:45 PM	0	1	0	0	1	0	1	1	1	2	1	4	0	0	0	1	8	9	
Total	1	8	3	3	12	0	6	4	4	10	3	8	0	0	3	7	36	43	
05:00 PM	0	2	1	0	3	0	1	1	0	2	1	0	0	0	0	0	6	6	
05:15 PM	1	1	1	0	3	0	1	1	0	2	0	0	0	1	2	1	7	8	
05:30 PM	0	0	1	0	1	0	2	1	2	4	0	2	0	0	0	1	8	9	
05:45 PM	1	3	0	0	4	0	0	0	0	0	0	2	0	0	1	0	7	7	
Total	2	6	3	0	11	0	4	4	1	8	1	4	0	0	4	2	28	30	
Grand Total	3	14	6	3	23	0	10	8	5	18	4	12	0	0	16	9	64	73	
% Approach	13	60.9	26.1			0	55.6	44.4		28.1	25	75	0		57.1	14.3	28.6		
% Total	4.7	21.9	9.4		35.9	0	15.6	12.5		28.1	6.2	18.8	0		6.2	1.6	3.1	12.3	87.7

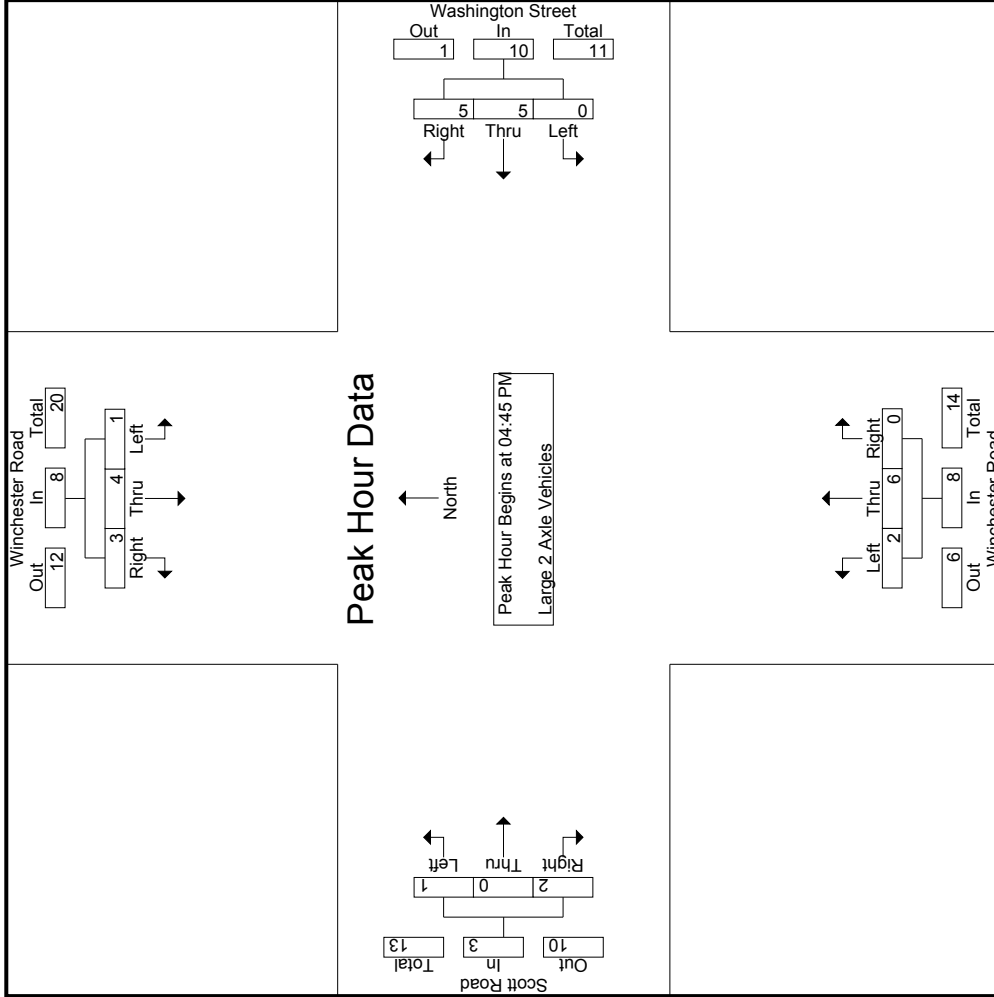
Start Time	Winchester Road Southbound				Washington Street Westbound				Winchester Road Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	1	0	0	1	0	1	1	1	2	1	4	0	0	5	0	0	0
05:00 PM	0	2	1	1	3	0	0	1	1	2	1	0	0	0	1	0	0	0
05:15 PM	1	1	1	1	3	0	0	1	1	2	0	0	0	0	0	1	2	7
05:30 PM	0	0	0	1	1	0	0	2	2	4	0	2	0	0	2	0	1	1
Total Volume	1	4	3	3	8	0	5	5	10	10	2	6	0	8	8	1	0	2
% App. Total	12.5	50	37.5		37.5	0	50	50	50	62.5	25	75	0	66.7	66.7	0	0	29
PHF	.250	.500	.750		.667	.000	.625	.625	.625	.625	.500	.375	.000	.400	.500	.375	.906	

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Start Time	Winchester Road Southbound			Washington Street Westbound			Winchester Road Northbound			Scott Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
+0 mins.	0	1	0	1	1	1	2	2	0	1	4	0	0	0	0
+15 mins.	0	2	1	3	1	1	2	2	0	1	0	0	0	0	0
+30 mins.	1	1	1	3	1	1	2	2	0	0	0	0	1	1	2
+45 mins.	0	0	1	1	2	2	4	4	0	2	2	0	0	0	1
Total Volume	1	4	3	8	5	5	10	10	0	6	6	0	1	0	2
% App. Total	12.5	50	37.5	33.3	50	50	33.3	33.3	0	33.3	33.3	0	66.7	0	66.7
PHF	.250	.500	.750	.667	.625	.625	.625	.625	.000	.375	.375	.000	.250	.000	.500

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Washington Street Westbound				Winchester Road Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	1	2
Total	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2	1	3	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
05:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	1	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	5	5
Grand Total	1	0	0	0	1	0	1	2	1	3	0	2	0	0	2	1	8	9
% Approach	100	0	0	0	33.3	66.7	0	100	0	25	50	12.5	0	0	25	11.1	88.9	0
% Total	12.5	0	0	0	12.5	25	0	25	0	37.5	12.5	12.5	0	0	25	11.1	88.9	0

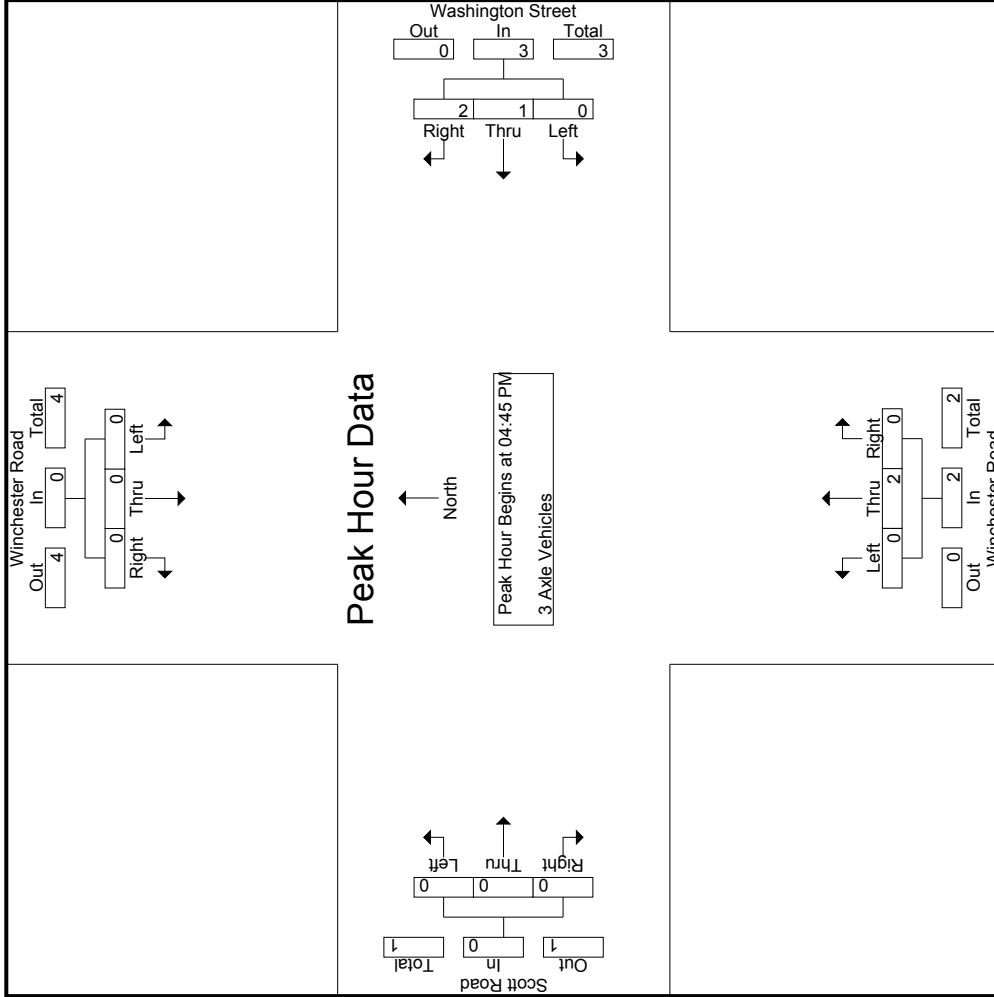
Start Time	Winchester Road Southbound				Washington Street Westbound				Winchester Road Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	3	0	2	0	0	2	0	0	0
% App. Total	0	0	0	0	33.3	66.7	0	100	0	75	0	50	0	0	50	0	0	0
PHF	.000	.000	.000	.000	.250	.500	.375	.000	.500	.000	.500	.000	.000	.000	.000	.000	.625	.000

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

Start Time	Winchester Road Southbound			Washington Street Westbound			Winchester Road Northbound			Scott Road Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	04:45 PM				04:45 PM				04:45 PM				04:45 PM		
+0 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	
+30 mins.	0	0	0	0	1	1	2	2	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	
Total Volume	0	0	0	0	1	2	3	3	2	0	0	2	0	0	
% App. Total	0	0	0	0	33.3	66.7	66.7	66.7	100	0	0	100	0	0	
PHF	.000	.000	.000	.000	.000	.250	.375	.500	.500	.000	.000	.500	.000	.000	

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Washington Street Westbound				Winchester Road Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	5	1	0	0	6	0	0	7
04:15 PM	0	1	0	0	1	0	2	0	0	2	3	0	0	0	3	0	0	6
04:30 PM	0	0	1	1	1	0	0	0	0	0	5	1	0	0	6	2	8	10
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	5	0	0	6	0	6	6
Total	0	2	1	1	3	0	2	0	0	2	14	7	0	0	21	2	27	29
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	1	0	3	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	4	0	0	0	4	0	0	0	0	1	0	5	5
Grand Total	0	2	1	1	3	0	6	0	0	6	14	7	0	0	21	2	32	34
% Approach	0	66.7	33.3			0	100	0		66.7	33.3	0	50	0	6.2	5.9	94.1	
% Total	0	6.2	3.1		9.4	0	18.8	0		18.8	43.8	21.9	0	3.1	65.6	3.1	94.1	

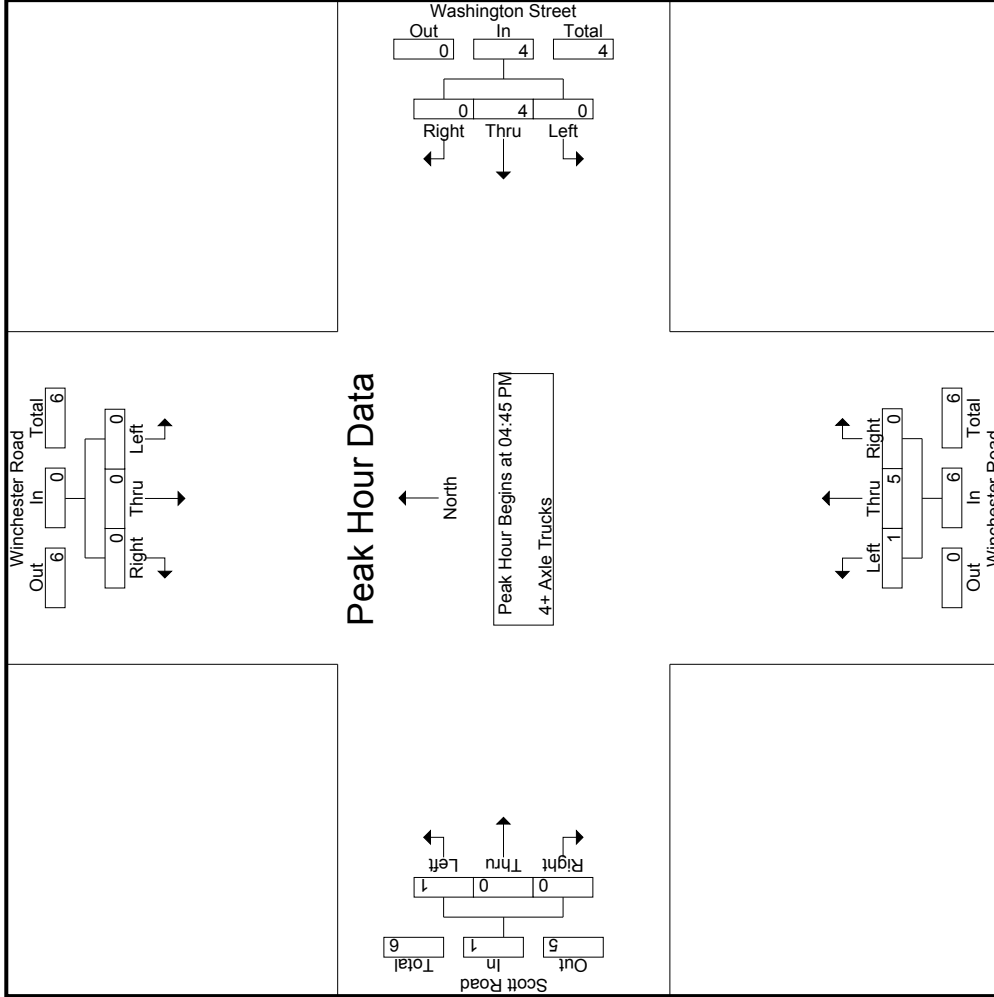
Start Time	Winchester Road Southbound				Washington Street Westbound				Winchester Road Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	5	0	0	6	0	0	6
05:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	1	0	1	3
Total Volume	0	0	0	0	0	0	4	0	0	4	1	5	0	0	6	1	0	11
% App. Total	0	0	0	0	0	0	100	0		16.7	83.3	0	100	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.500	.000		.500	.250	.250	.000	.000	.250	.000	.250	.458

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 17_CRV_79_Scott PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Scott Road/Washington Street
 Weather: Clear

Start Time	Winchester Road Southbound			Washington Street Westbound			Winchester Road Northbound			Scott Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:											
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	0	1	0	0	0	0	0
+30 mins.	0	0	0	0	1	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	2	0	2	0	0	1	0	1
Total Volume	0	0	0	0	4	0	4	1	5	0	0	0
% App. Total	0	0	0	0	100	0	16.7	83.3	0	0	0	0
PHF	.000	.000	.000	.000	.500	.000	.250	.250	.000	.250	.000	.250

Location: County of Riverside
 N/S: Winchester Road
 E/W: Scott Rd/Washington St



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road	East Leg Washington Street	South Leg Winchester Road	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Winchester Road	East Leg Washington Street	South Leg Winchester Road	West Leg Scott Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Winchester Road
 E/W: Scott Rd/Washington St



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Winchester Road			Westbound Washington Street			Northbound Winchester Road			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	1	0	0	0	0	0	0	0	0	1	0	2

	Southbound Winchester Road			Westbound Washington Street			Northbound Winchester Road			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	1	2

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound						Keller Road Westbound						Winchester Road Northbound						Keller Road Eastbound							
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right			
	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	
07:00 AM	7	234	0	227	7	0	234	6	1	0	0	7	1	138	2	0	141	1	0	1	1	0	1	0	1	2
07:15 AM	5	280	0	275	5	0	280	4	2	0	0	6	0	127	1	0	128	0	2	0	0	2	0	2	0	2
07:30 AM	1	314	0	313	1	0	314	10	0	0	0	10	0	144	3	1	147	0	3	2	2	2	0	3	2	476
07:45 AM	1	272	0	271	1	0	272	1	3	0	0	4	0	109	7	0	116	2	2	1	0	2	1	0	5	397
Total	14	1100	0	1086	14	0	1100	21	6	0	0	27	1	518	13	1	532	3	7	4	3	14	4	4	1673	1677
08:00 AM	2	227	1	224	2	0	227	6	0	0	0	6	2	126	4	0	132	0	0	1	0	1	0	0	1	366
08:15 AM	1	217	0	216	1	0	217	7	1	0	0	8	1	107	4	0	112	0	2	0	0	2	0	0	2	339
08:30 AM	0	243	0	243	0	0	243	5	1	0	0	6	1	125	4	0	130	0	1	0	0	1	0	0	1	380
08:45 AM	0	177	0	176	1	0	177	1	0	0	0	1	0	120	5	0	125	0	2	1	1	1	1	1	3	306
Total	4	864	1	859	4	0	864	19	2	0	0	21	4	478	17	0	499	0	5	2	1	7	1	1	1391	1392
Grand Total	18	1964	1	1945	18	0	1964	40	8	0	0	48	5	996	30	1	1031	3	12	6	4	21	5	5	3064	3069
% Approach	0.1	99	0.9	99	0.9	0	99	83.3	16.7	0	0	16.6	0.5	96.6	2.9	0	33.6	14.3	57.1	28.6	0.7	0.2	0.2	99.8	99.8	
% Total	0	63.5	0.6	63.5	0.6	0	64.1	1.3	0.3	0	0	1.6	0.2	32.5	1	0	33.6	0.1	0.4	0.2	0.7	0.2	0.2	99.8	99.8	
% Passenger Vehicles	0	1889	17	1889	17	0	1906	33	8	0	0	41	5	969	26	0	1001	2	11	5	21	0	0	0	2969	
% Large 2 Axle Vehicles	0	97.1	94.4	97.1	94.4	0	97	82.5	100	0	0	85.4	100	97.3	86.7	100	97	66.7	91.7	83.3	75	84	0	0	96.7	
% 3 Axle Vehicles	1	41	1	41	1	0	43	4	0	0	0	4	0	22	4	0	26	0	1	1	1	3	0	0	76	
% 4+ Axle Trucks	100	2.1	5.6	2.1	5.6	0	2.2	10	0	0	0	8.3	0	2.2	13.3	0	2.5	0	8.3	16.7	25	12	0	0	2.5	
% 4+ Axle Trucks	0	0.3	0	0.3	0	0	0.3	0	0	0	0	0	0	0	0	0	0	33.3	0	0	0	4	0	0	0.2	
% 4+ Axle Trucks	0	9	0	9	0	0	9	3	0	0	0	3	0	5	0	0	5	0	0	0	0	0	0	0	17	
% 4+ Axle Trucks	0	0.5	0	0.5	0	0	0.5	7.5	0	0	0	6.2	0	0.5	0	0	0.5	0	0	0	0	0	0	0	0.6	

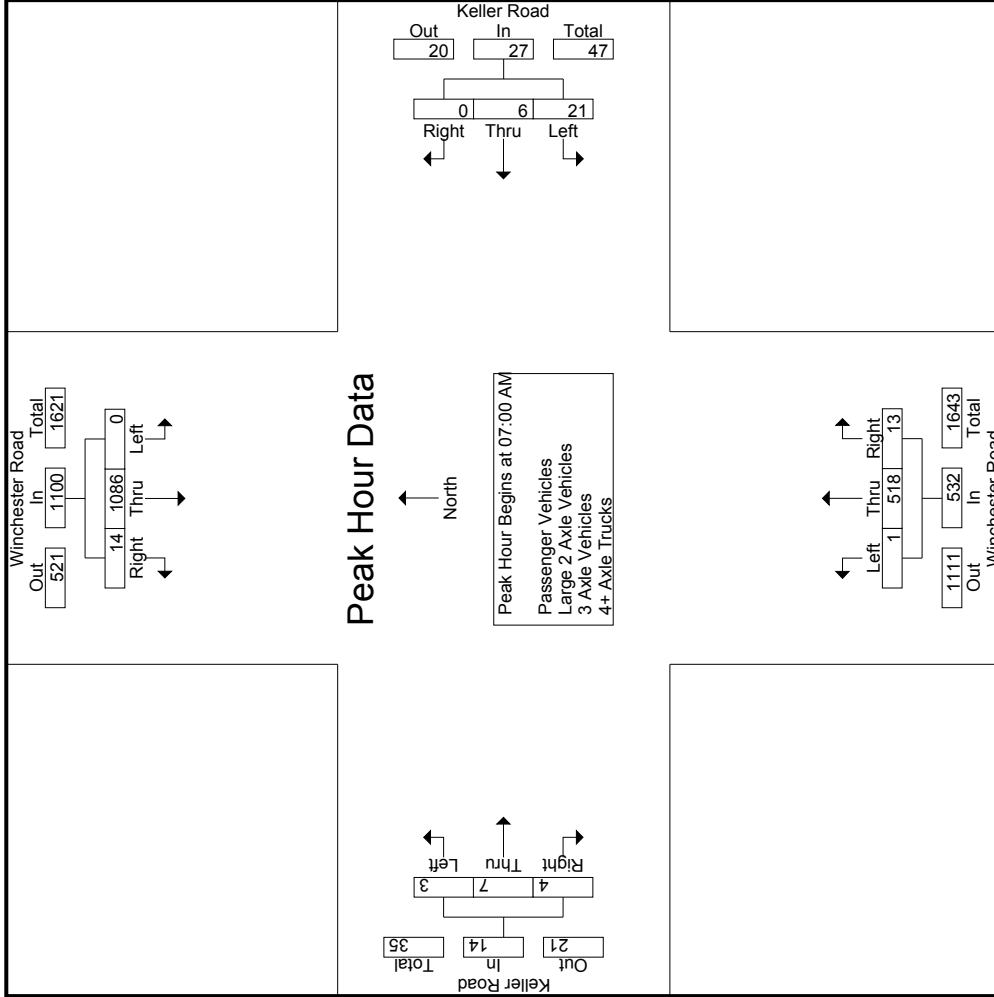
Start Time	Winchester Road Southbound						Keller Road Westbound						Winchester Road Northbound						Keller Road Eastbound						
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right
07:00 AM	7	234	0	227	7	0	234	6	1	0	0	7	1	138	2	0	141	1	0	1	1	0	1	0	2
07:15 AM	5	280	0	275	5	0	280	4	2	0	0	6	0	127	1	0	128	0	2	0	0	2	0	2	2
07:30 AM	1	314	0	313	1	0	314	10	0	0	0	10	0	144	3	1	147	0	3	0	3	2	0	5	
07:45 AM	1	272	0	271	1	0	272	1	3	0	0	4	0	109	7	0	116	2	2	1	2	2	1	5	
Total Volume	14	1100	0	1086	14	0	1100	21	6	0	0	27	1	518	13	1	532	3	7	4	3	7	4	14	
% App. Total	0	98.7	1.3	98.7	1.3	0	98.7	77.8	22.2	0	0	0	0.2	97.4	2.4	0	97.4	21.4	50	28.6	0	50	28.6	0	
PHF	.000	.867	.500	.867	.500	.000	.675	.525	.500	.000	.000	.675	.250	.899	.464	.905	.375	.583	.500	.700	.879	.700	.500	.879	

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Keller Road Westbound			Winchester Road Northbound			Keller Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	227	7	10	0	0	1	138	2	1	0	1
+15 mins.	0	275	5	1	3	0	0	127	1	0	2	0
+30 mins.	0	313	1	6	0	0	0	144	3	0	3	2
+45 mins.	0	271	1	7	1	0	0	109	7	2	2	1
Total Volume	0	1086	14	24	4	0	1	518	13	3	7	4
% App. Total	0	98.7	1.3	85.7	14.3	0	0.2	97.4	2.4	21.4	50	28.6
PHF	.000	.867	.500	.600	.333	.000	.250	.899	.464	.375	.583	.500

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total			
07:00 AM	0	218	7	0	225	6	1	0	0	7	1	132	1	0	134	1	0	1	368	369	
07:15 AM	0	267	5	0	272	3	2	0	0	5	0	124	1	0	125	0	2	0	404	404	
07:30 AM	0	309	1	0	310	9	0	0	0	9	0	140	3	1	143	0	2	1	465	467	
07:45 AM	0	263	1	0	264	1	3	0	0	4	0	106	5	0	111	1	2	1	383	383	
Total	0	1057	14	0	1071	19	6	0	0	25	1	502	10	1	513	2	6	3	1620	1623	
08:00 AM	0	220	1	0	221	4	0	0	0	4	2	124	4	0	130	0	0	1	356	356	
08:15 AM	0	210	1	0	211	5	1	0	0	6	1	104	4	0	109	0	2	0	328	328	
08:30 AM	0	231	0	0	231	4	1	0	0	5	1	120	3	0	124	0	1	0	361	361	
08:45 AM	0	171	1	0	172	1	0	0	0	1	0	119	5	0	124	0	2	1	300	301	
Total	0	832	3	0	835	14	2	0	0	16	4	467	16	0	487	0	5	2	1345	1346	
Grand Total	0	1889	17	0	1906	33	8	0	0	41	5	969	26	1	1000	2	11	5	3	2965	2969
% Approach	0	99.1	0.9		80.5	19.5	0			1.4	0.5	96.9	2.6		33.7	11.1	61.1	27.8	0.6	99.9	
% Total	0	63.7	0.6		64.3	1.1	0.3			1.4	0.2	32.7	0.9		33.7	0.1	0.4	0.2	0.1	99.9	

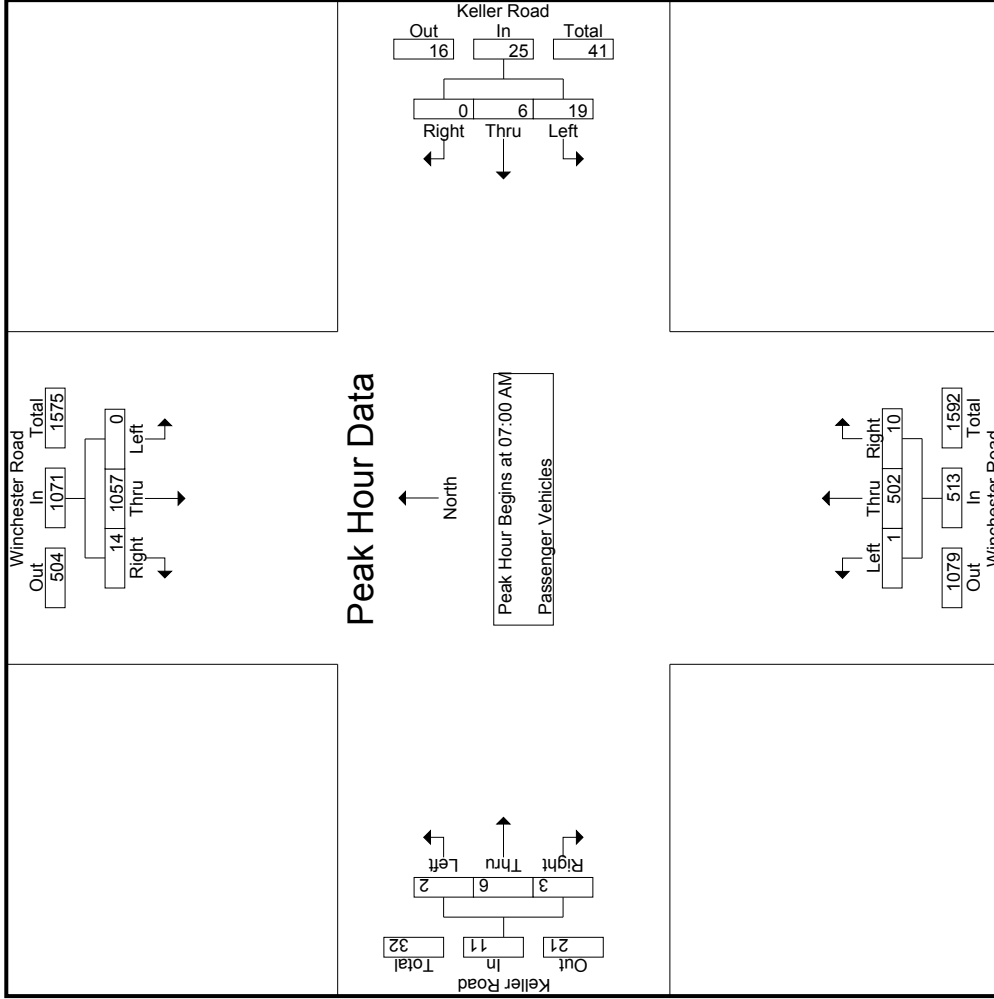
Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	App. Total	Int. Total	
07:00 AM	0	218	7	0	225	6	1	0	0	7	1	132	1	0	134	1	0	1	368	368	
07:15 AM	0	267	5	0	272	3	2	0	0	5	0	124	1	0	125	0	2	0	404	404	
07:30 AM	0	309	1	0	310	9	0	0	0	9	0	140	3	1	143	0	2	1	465	465	
07:45 AM	0	263	1	0	264	1	3	0	0	4	0	106	5	0	111	1	2	1	383	383	
Total	0	1057	14	0	1071	19	6	0	0	25	1	502	10	1	513	2	6	3	1620	1620	
% App. Total	0	98.7	1.3		80.5	19.5	0			1.4	0.2	97.9	1.9		33.7	11.1	61.1	27.3	0.6	99.9	
PHF	.000	.855	.500		.864	.528	.500	.000		.694	.250	.896	.500		.897	.500	.750	.688		.871	

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Keller Road Westbound			Winchester Road Northbound			Keller Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM
+0 mins.	0	218	7	6	1	0	7	132	1	134	0	1
+15 mins.	0	267	5	3	2	0	5	124	1	125	2	0
+30 mins.	0	309	1	9	0	0	9	140	3	143	0	1
+45 mins.	0	263	1	1	3	0	4	106	5	111	2	1
Total Volume	0	1057	14	19	6	0	25	502	10	513	6	3
% App. Total	0	98.7	1.3	.76	.24	.00	.00	97.9	1.9	18.2	54.5	27.3
PHF	.000	.855	.500	.528	.500	.000	.694	.896	.500	.500	.750	.688

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	9	0	0	9	0	0	0	0	0	0	4	1	0	5	0	0	14
07:15 AM	0	5	0	0	5	1	0	0	0	1	0	2	0	0	2	0	0	8
07:30 AM	0	2	0	0	2	1	0	0	0	1	0	4	0	1	4	1	1	10
07:45 AM	0	6	0	0	6	0	0	0	0	0	0	3	2	0	5	0	0	11
Total	0	22	0	0	22	2	0	0	0	2	0	13	3	1	16	1	1	43
08:00 AM	1	2	1	0	4	2	0	0	0	2	0	2	0	0	2	0	0	8
08:15 AM	0	6	0	0	6	0	0	0	0	0	3	0	0	0	3	0	0	9
08:30 AM	0	9	0	0	9	0	0	0	0	0	3	1	0	0	4	0	0	13
08:45 AM	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	3
Total	1	19	1	0	21	2	0	0	0	2	0	9	1	0	10	0	0	33
Grand Total	1	41	1	0	43	4	0	0	0	4	0	22	4	0	26	1	1	76
% Approach	2.3	95.3	2.3			100	0	0		5.3	0	84.6	15.4		34.7	0	1.3	98.7
% Total	1.3	54.7	1.3		57.3	5.3	0	0		5.3	0	29.3	5.3		2.7	1.3	98.7	

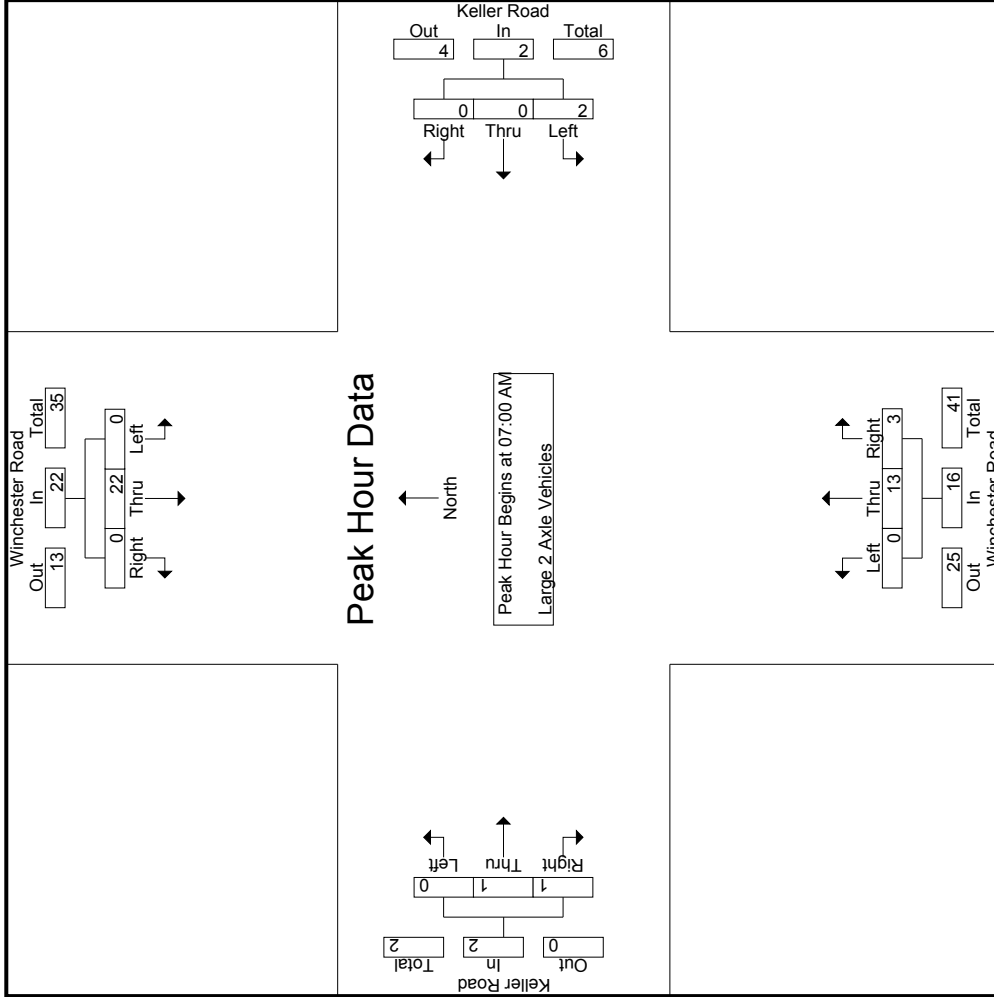
Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	9	0	0	9	0	0	0	0	0	0	4	1	0	5	0	0	14
07:15 AM	0	5	0	0	5	1	0	0	0	1	0	2	0	0	2	0	0	8
07:30 AM	0	2	0	0	2	1	0	0	0	1	0	4	0	1	4	1	1	10
07:45 AM	0	6	0	0	6	0	0	0	0	0	0	3	2	0	5	0	0	11
Total	0	22	0	0	22	2	0	0	0	2	0	13	3	1	16	1	1	42
% App. Total	0	100	0			100	0	0		0	0	81.2	18.8		2.50	0	50	42
PHF	.000	.611	.000		.611	.500	.000	.000		.500	.000	.813	.375		.800	.250	.250	.750

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Start Time	Winchester Road Southbound			Keller Road Westbound			Winchester Road Northbound			Keller Road Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	07:00 AM												
Peak Hour for Each Approach Begins at:	07:00 AM												
+0 mins.	0	9	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	5	0	1	0	0	0	1	0	0	0	0	0
+30 mins.	0	2	0	1	0	0	0	4	0	0	1	1	2
+45 mins.	0	6	0	0	0	0	0	3	2	0	0	0	0
Total Volume	0	22	0	2	0	0	0	13	3	0	1	1	2
% App. Total	0	100	0	100	0	0	0	81.2	18.8	0	50	50	
PHF	.000	.611	.000	.500	.000	.000	.500	.813	.375	.000	.250	.250	.250

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound											
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	2
Total	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	6	6
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Grand Total	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	7	7
% Approach	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	100
% Total	0	85.7	0	0	85.7	0	0	0	0	0	0	0	0	0	14.3	0	0	0	0	0	0	0	0	100

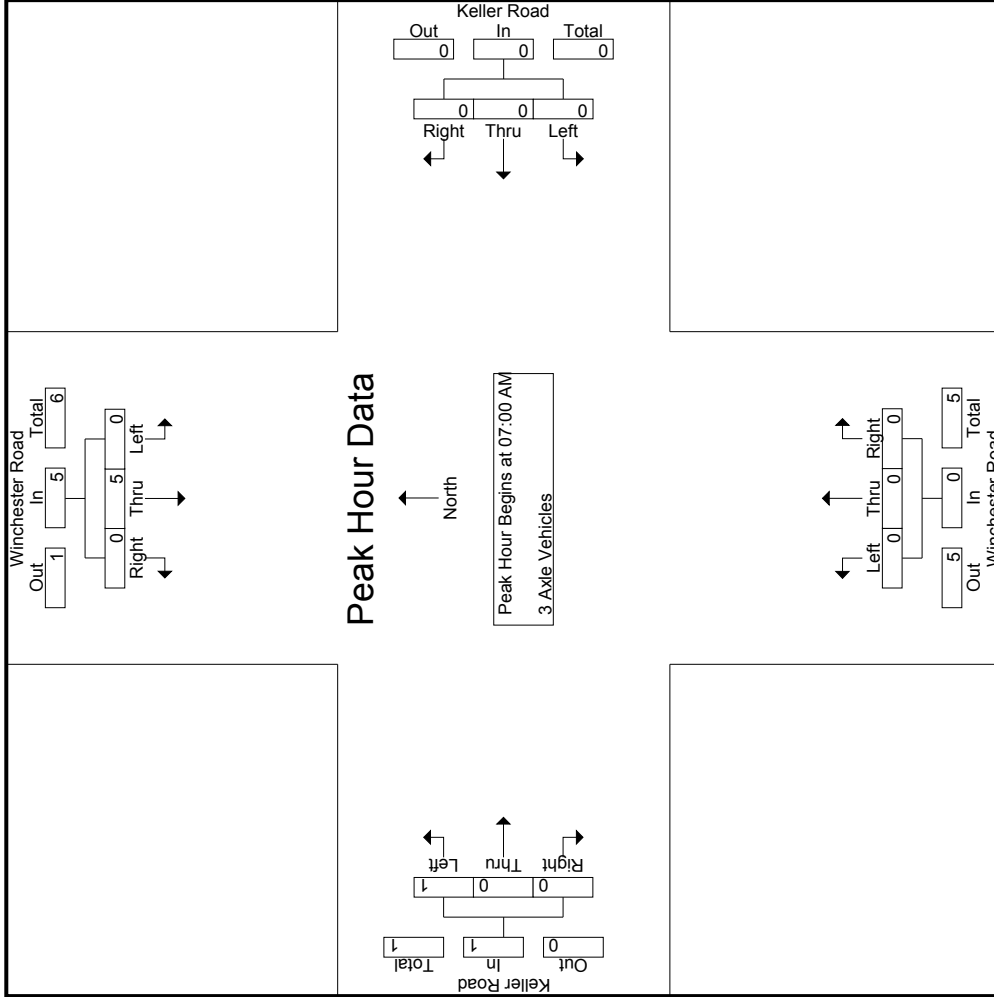
Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound											
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2
Total Volume	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	6
% App. Total	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	100
PHF	.000	.625	.000	.000	.625	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.000	.250	.000	.250	.750

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Keller Road Westbound			Winchester Road Northbound			Keller Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	2	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	2	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	0	0	0	0	0	1	0	1
Total Volume	0	5	0	0	0	0	0	0	0	1	0	1
% App. Total	0	100	0	0	0	0	0	0	0	100	0	0
PHF	.000	.625	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
07:15 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	2	0	0	2	0	0	0	0	0	3	0	0	0	0	0	5	5
08:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
08:15 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2	2
08:30 AM	0	3	0	0	3	1	0	0	0	1	0	2	0	0	0	0	6	6
08:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	7	0	0	7	3	0	0	0	3	0	2	0	0	0	0	12	12
Grand Total	0	9	0	0	9	3	0	0	0	3	0	5	0	0	0	0	17	17
% Approach	0	100	0	0	100	0	0	0	0	0	100	0	0	0	0	0	100	100
% Total	0	52.9	0	0	52.9	17.6	0	0	0	17.6	0	29.4	0	0	0	0	100	100

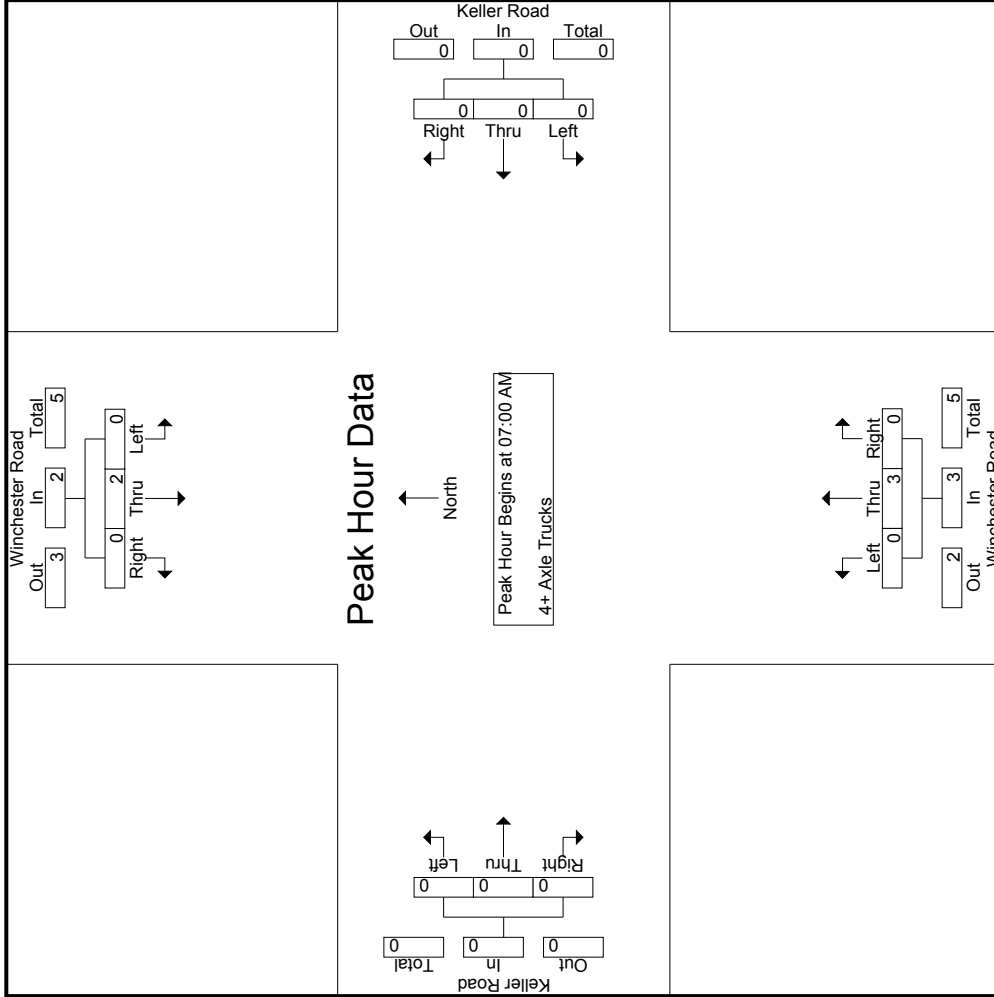
Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
07:15 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total Volume	0	2	0	0	2	0	0	0	0	0	3	0	0	0	0	0	5	5
% App. Total	0	100	0	0	100	0	0	0	0	0	100	0	0	0	0	0	100	100
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.375	.000	.000	.000	.000	.000	.625	.625

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2

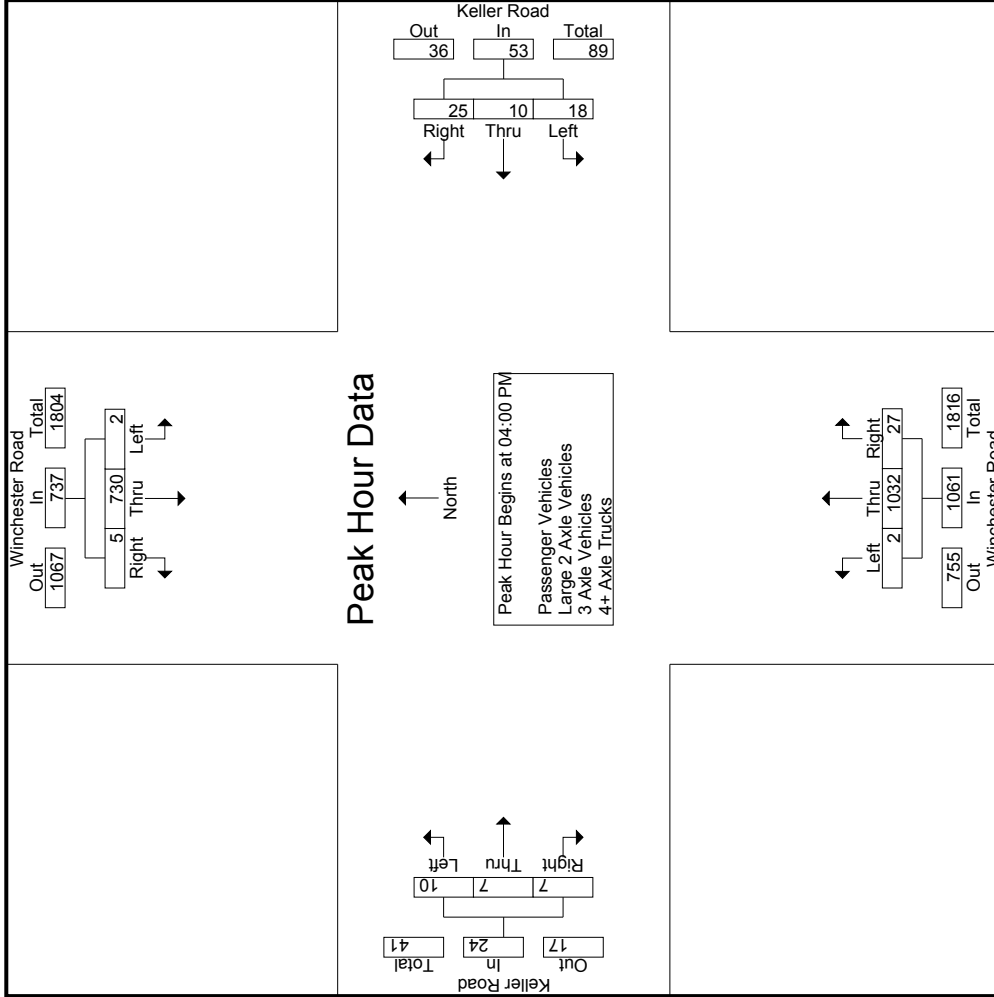


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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Keller Road Westbound			Winchester Road Northbound			Keller Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	0	0	0	3	0	0	0	0
% App. Total	0	100	0	0	0	0	0	100	0	0	0	0
PHF	.000	.500	.000	.000	.000	.000	.000	.375	.000	.000	.000	.000
			.500	.000	.000	.000	.000	.375	.000	.000	.000	.000



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Keller Road Westbound			Winchester Road Northbound			Keller Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:00 PM				04:00 PM				05:00 PM				04:45 PM			
+0 mins.	0	181	0	181	9	2	7	18	2	242	1	245	1	3	5	
+15 mins.	1	202	2	205	4	2	5	11	0	288	0	294	3	4	8	
+30 mins.	0	182	2	184	5	3	8	16	0	260	0	269	3	2	9	
+45 mins.	1	165	1	167	0	3	5	8	0	269	0	275	5	1	8	
Total Volume	2	730	5	737	18	10	25	53	2	1059	22	1083	12	8	30	
% App. Total	0.3	99.1	0.7		34	18.9	47.2		0.2	97.8	2		40	26.7	33.3	
PHF	.500	.903	.625	.899	.500	.833	.781	.736	.250	.919	.611	.921	.600	.500	.625	.833

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound					Keller Road Westbound					Winchester Road Northbound					Keller Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	176	0	0	176	9	1	2	1	12	1	280	7	0	288	4	0	2	2	6	3	482	485
04:15 PM	1	199	1	0	201	4	2	1	1	7	0	221	5	0	226	4	0	1	1	5	2	439	441
04:30 PM	0	179	1	0	180	3	0	0	0	3	0	254	6	0	260	1	6	0	0	7	0	450	450
04:45 PM	1	165	1	0	167	0	2	2	0	4	0	260	8	0	268	1	1	3	1	5	1	444	445
Total	2	719	3	0	724	16	5	5	2	26	1	1015	26	0	1042	10	7	6	4	23	6	1815	1821
05:00 PM	0	168	0	0	168	2	2	2	2	6	2	240	1	0	243	3	4	1	1	8	3	425	428
05:15 PM	1	198	0	0	199	4	2	1	1	7	0	287	6	0	293	3	2	4	4	9	5	508	513
05:30 PM	0	178	1	0	179	3	0	0	0	3	0	258	9	0	267	5	1	2	1	8	1	457	458
05:45 PM	2	151	1	0	154	3	3	0	0	6	0	266	5	1	271	2	3	0	0	5	1	436	437
Total	3	695	2	0	700	12	7	3	3	22	2	1051	21	1	1074	13	10	7	6	30	10	1826	1836
Grand Total	5	1414	5	0	1424	28	12	8	5	48	3	2066	47	1	2116	23	17	13	10	53	16	3641	3657
% Approach	0.4	99.3	0.4			58.3	25	16.7		1.3	0.1	97.6	2.2		58.1	43.4	32.1	24.5		1.5	0.4	99.6	
% Total	0.1	38.8	0.1		39.1	0.8	0.3	0.2		1.3	0.1	56.7	1.3		58.1	0.6	0.5	0.4		1.5	0.4	99.6	

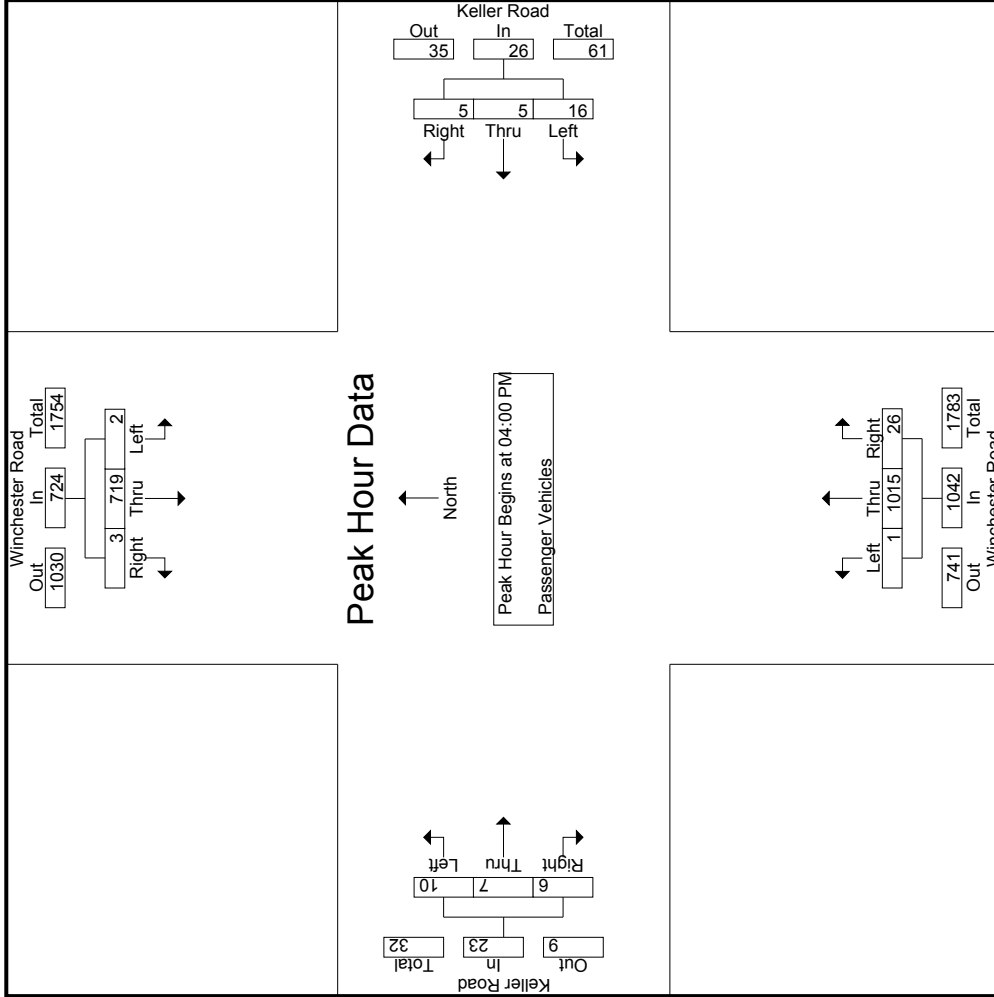
Start Time	Winchester Road Southbound					Keller Road Westbound					Winchester Road Northbound					Keller Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	176	0	0	176	9	1	2	1	12	1	280	7	0	288	4	0	2	2	6	3	482	485
04:15 PM	1	199	1	0	201	4	2	1	1	7	0	221	5	0	226	4	0	1	1	5	2	439	441
04:30 PM	0	179	1	0	180	3	0	0	0	3	0	254	6	0	260	1	6	0	0	7	0	450	450
04:45 PM	1	165	1	0	167	0	2	2	0	4	0	260	8	0	268	1	1	3	1	5	1	444	445
Total	2	719	3	0	724	16	5	5	2	26	1	1015	26	0	1042	10	7	6	4	23	6	1815	1821
% App. Total	0.3	99.3	0.4			61.5	19.2	19.2		1.3	0.1	97.4	2.5		58.1	43.5	30.4	26.1		1.5	0.4	99.6	
PHF	.500	.903	.750		.900	.444	.625	.625		.542	.250	.906	.813		.905	.625	.292	.500		.821	.821	.941	

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:00 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Keller Road Westbound			Winchester Road Northbound			Keller Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
+0 mins.	0	176	0	176	0	176	9	1	2	12	1	288	4	0	2
+15 mins.	1	199	1	201	1	201	4	2	1	7	0	226	4	0	1
+30 mins.	0	179	1	180	0	180	3	0	0	6	0	260	1	6	0
+45 mins.	1	165	1	167	2	167	0	2	2	8	0	268	1	1	3
Total Volume	2	719	3	724	5	724	16	5	5	26	1	1042	10	7	6
% App. Total	0.3	99.3	0.4	99.3	19.2	19.2	61.5	19.2	19.2	0.1	97.4	2.5	43.5	30.4	26.1
PHF	.500	.903	.750	.900	.625	.625	.444	.625	.542	.250	.813	.905	.625	.292	.500

Groups Printed- Large 2-Axle Vehicles

Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	3	0	0	3	0	0	0	0	0	0	4	0	0	1	0	8	8
04:15 PM	0	3	0	0	3	0	0	1	0	1	0	2	0	0	0	0	6	6
04:30 PM	0	3	0	0	3	2	0	0	0	2	0	4	1	0	0	0	10	10
04:45 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6	6
Total	0	9	0	0	9	2	0	1	0	3	0	16	1	0	1	0	30	30
05:00 PM	0	3	0	0	3	0	0	0	0	0	1	0	0	0	0	0	4	4
05:15 PM	0	3	0	0	3	0	0	0	0	0	1	0	0	0	0	0	4	4
05:30 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	2	2	2
05:45 PM	0	2	0	0	2	0	0	0	0	0	3	0	0	0	0	0	5	5
Total	0	9	0	0	9	0	0	0	0	0	6	0	0	0	0	0	15	15
Grand Total	0	18	0	0	18	2	0	1	0	3	0	22	1	0	1	0	45	45
% Approach	0	100	0	0	66.7	0	33.3	0	0	6.7	0	95.7	4.3	0	100	0	100	100
% Total	0	40	0	0	40	4.4	2.2	0	0	6.7	0	48.9	2.2	0	2.2	0	100	100

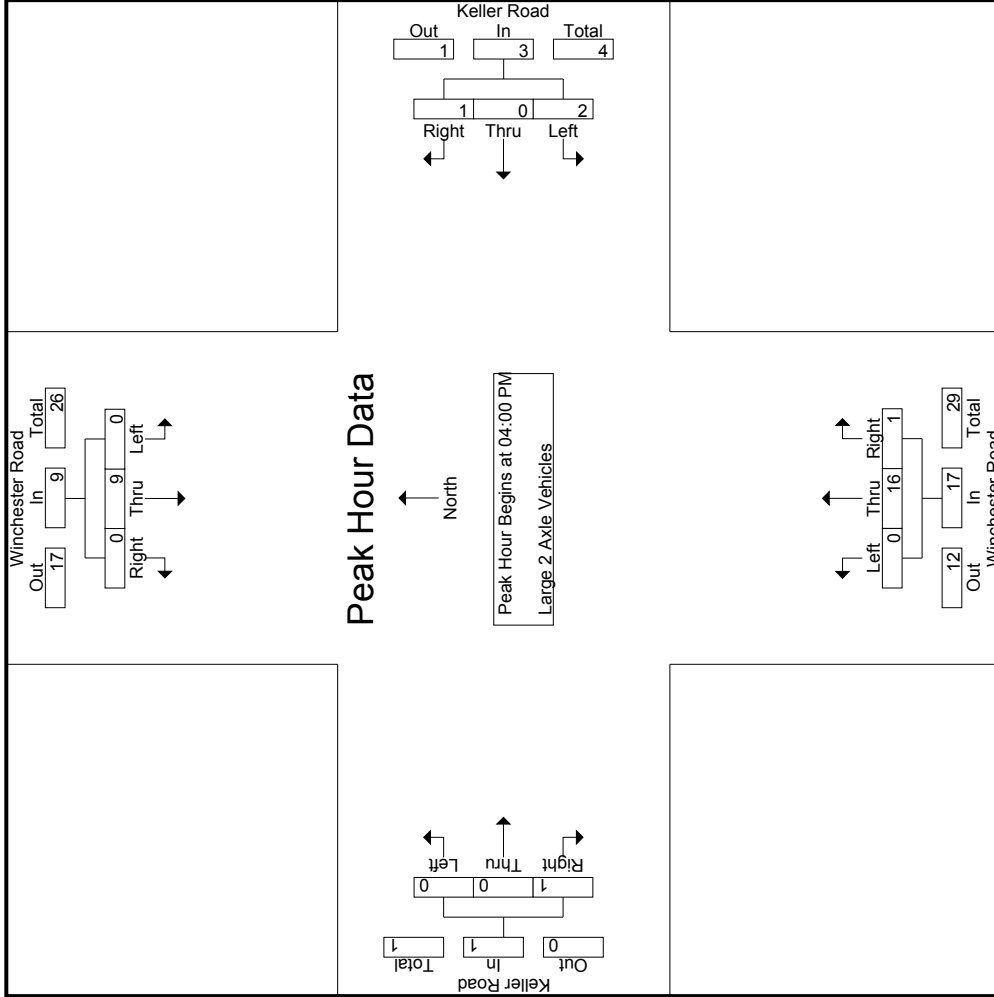
Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	3	0	0	3	0	0	0	0	0	0	4	0	0	1	0	8	8
04:15 PM	0	3	0	0	3	0	0	1	0	1	0	2	0	0	0	0	6	6
04:30 PM	0	3	0	0	3	2	0	0	0	2	0	4	1	0	0	0	10	10
04:45 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6	6
Total	0	9	0	0	9	2	0	1	0	3	0	16	1	0	1	0	30	30
% App. Total	0	100	0	0	66.7	0	33.3	0	0	6.7	0	94.1	5.9	0	100	0	100	100
PHF	.000	.750	.000	.000	.750	.250	.000	.375	.000	.667	.250	.708	.250	.000	.250	.250	.750	.750

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:00 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3	3
Grand Total	0	1	0	0	1	0	0	0	0	0	3	1	0	0	0	0	5	5
% Approach	0	100	0	0	0	0	0	0	0	0	75	25	0	0	0	0	100	100
Total %	0	20	0	0	20	0	0	0	0	80	0	0	0	0	0	0	100	100

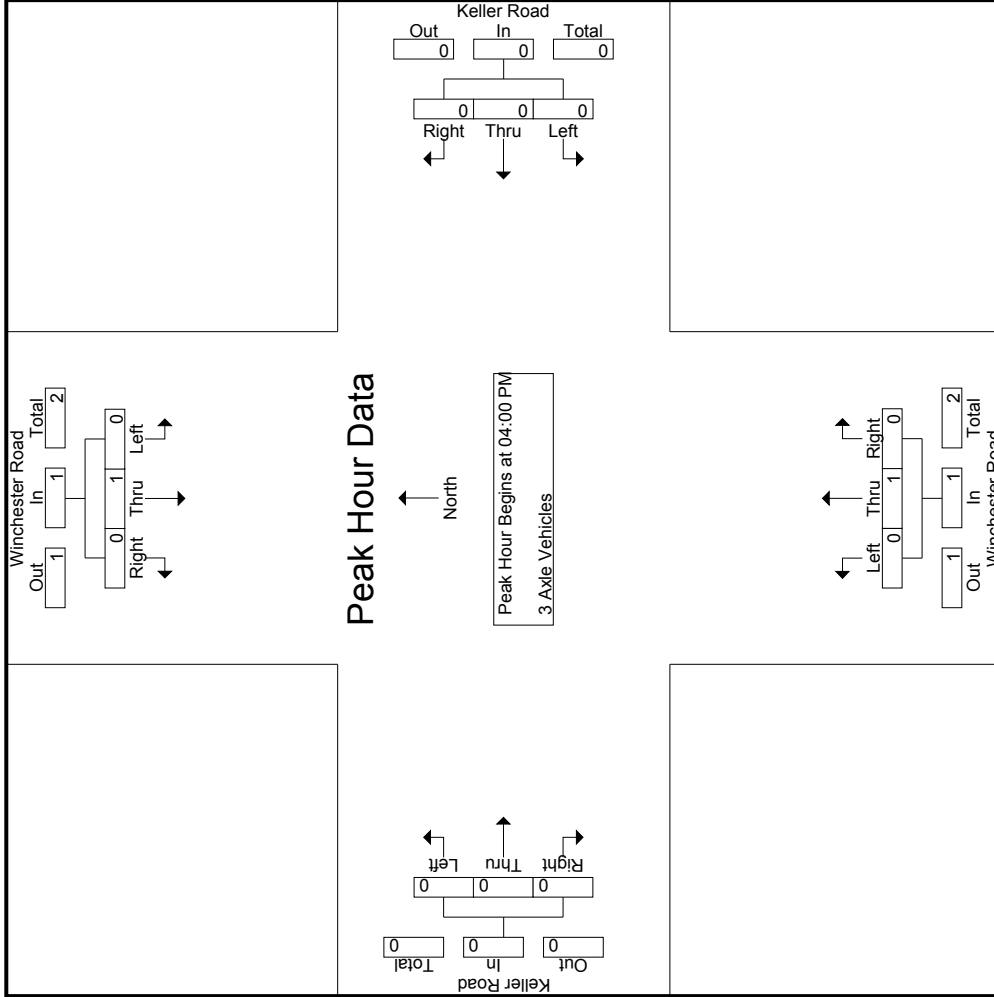
Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	2
% App. Total	0	100	0	0	100	0	0	0	0	0	100	0	0	0	0	0	100	100
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.250	.000	.000	.000	.000	.000	.250	.250

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:00 PM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Start Time	Winchester Road Southbound			Keller Road Westbound			Winchester Road Northbound			Keller Road Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	04:00 PM				04:00 PM				04:00 PM				04:00 PM		
+0 mins.	0	1	0	1	0	0	0	0	1	0	0	1	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	1	0	1	0	0	0	0	1	0	0	1	0	0	
% App. Total	0	100	0	100	0	0	0	0	100	0	0	100	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	1	5	0	6	0	0	0	0	0	0	7	7
04:15 PM	0	0	1	0	1	0	3	2	0	3	1	0	0	0	1	2	5	7
04:30 PM	0	0	1	0	1	0	3	8	2	11	0	0	0	0	0	2	12	14
04:45 PM	0	0	0	0	0	0	1	3	2	4	0	0	0	0	0	2	4	6
Total	0	1	2	0	3	0	5	19	6	24	1	0	0	0	1	6	28	34
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
Grand Total	0	1	2	0	3	1	5	19	6	25	1	0	0	0	1	6	29	35
% Approach	0	33.3	66.7			4	20	76		100	0	0	0		0	0	0	
% Total	0	3.4	6.9		10.3	3.4	17.2	65.5		86.2	0	0	0		3.4	17.1	82.9	

Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	1	5	0	6	0	0	0	0	0	0	7	7
04:15 PM	0	0	1	0	1	0	3	2	0	3	1	0	0	0	1	2	5	7
04:30 PM	0	0	1	0	1	0	3	8	2	11	0	0	0	0	0	2	12	14
04:45 PM	0	0	0	0	0	0	1	3	2	4	0	0	0	0	0	2	4	6
Total	0	1	2	0	3	0	5	19	6	24	1	0	0	0	1	6	28	34
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
Grand Total	0	1	2	0	3	1	5	19	6	25	1	0	0	0	1	6	29	35
% Approach	0	33.3	66.7			4	20	76		100	0	0	0		0	0	0	
% Total	0	3.4	6.9		10.3	3.4	17.2	65.5		86.2	0	0	0		3.4	17.1	82.9	

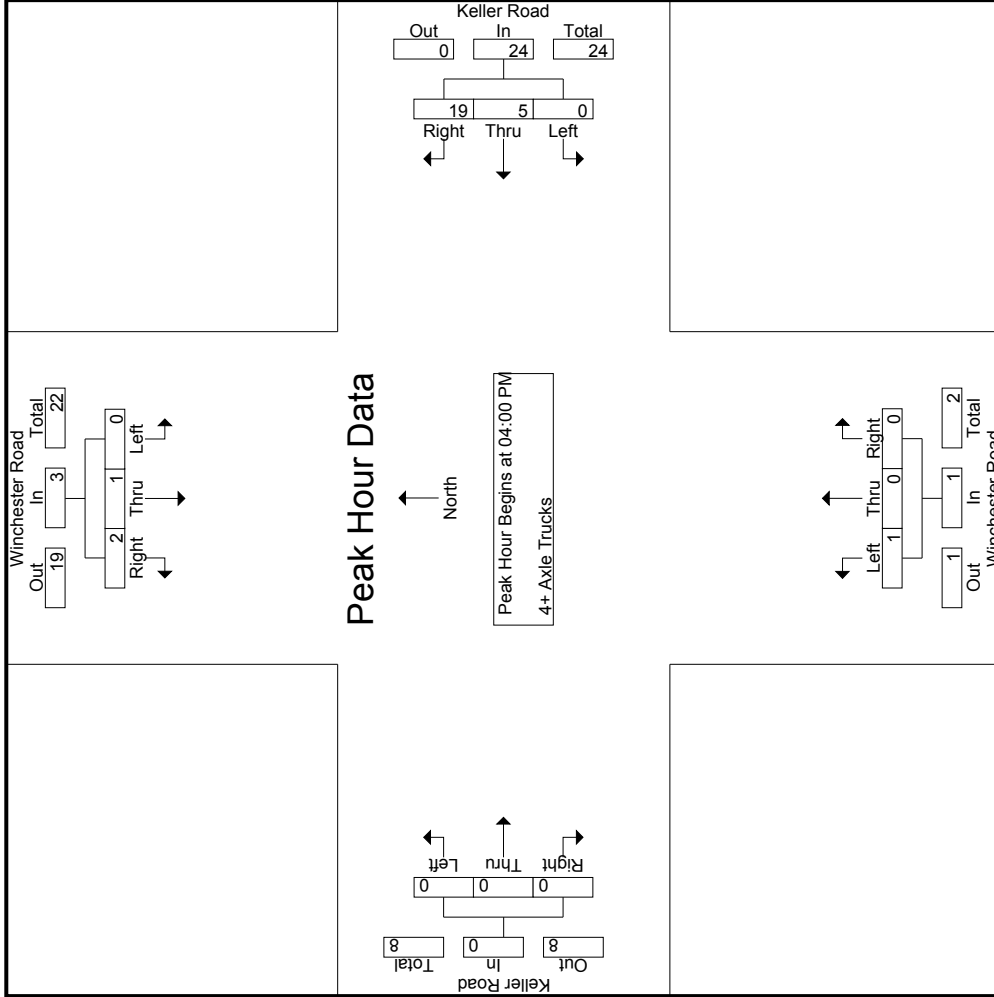
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:00 PM

Start Time	Winchester Road Southbound				Keller Road Westbound				Winchester Road Northbound				Keller Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	1	5	0	6	0	0	0	0	0	0	7	7
04:15 PM	0	0	1	0	1	0	3	2	0	3	1	0	0	0	1	2	5	7
04:30 PM	0	0	1	0	1	0	3	8	2	11	0	0	0	0	0	2	12	14
04:45 PM	0	0	0	0	0	0	1	3	2	4	0	0	0	0	0	2	4	6
Total	0	1	2	0	3	0	5	19	6	24	1	0	0	0	1	6	28	34
% App. Total	0	33.3	66.7			0	20.8	79.2		100	0	0	0		0	0	0	
PHF	.000	.250	.500		.750	.000	.417	.594		.545	.250	.000	.000		.250	.000	.583	

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Keller Road
 Weather: Clear

File Name : 18_CRV_79_Keller PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Keller Road Westbound			Winchester Road Northbound			Keller Road Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	04:00 PM				04:00 PM				04:00 PM				04:00 PM		
+0 mins.	0	1	0	1	0	0	1	5	6	0	0	0	0	0	
+15 mins.	0	0	1	1	0	0	0	3	3	1	0	0	0	0	
+30 mins.	0	0	1	1	0	0	3	8	11	0	0	0	0	0	
+45 mins.	0	0	0	0	0	1	1	3	4	0	0	0	0	0	
Total Volume	0	1	2	3	0	5	19	24	24	1	0	0	0	0	
% App. Total	0	33.3	66.7		0	20.8	79.2		100	0	0	0	0	0	
PHF	.000	.250	.500	.750	.000	.417	.594	.545	.250	.250	.000	.000	.000	.000	

Location: County of Riverside
 N/S: Winchester Road
 E/W: Keller Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road	East Leg Keller Road	South Leg Winchester Road	West Leg Keller Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Winchester Road	East Leg Keller Road	South Leg Winchester Road	West Leg Keller Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Winchester Road
 E/W: Keller Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

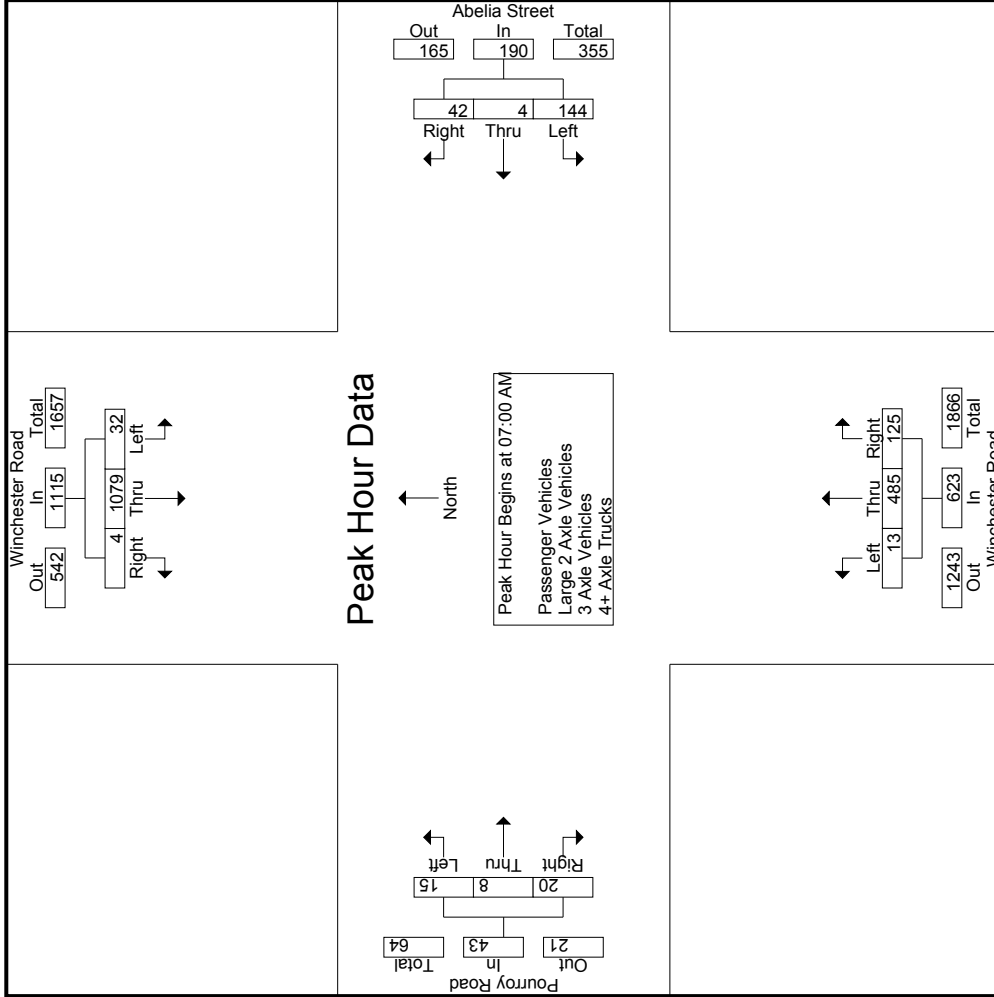
	Southbound Winchester Road			Westbound Keller Road			Northbound Winchester Road			Eastbound Keller Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	1	0	1	0	0	0	2

	Southbound Winchester Road			Westbound Keller Road			Northbound Winchester Road			Eastbound Keller Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	0	0	0	1	2	0	1	0	5

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2

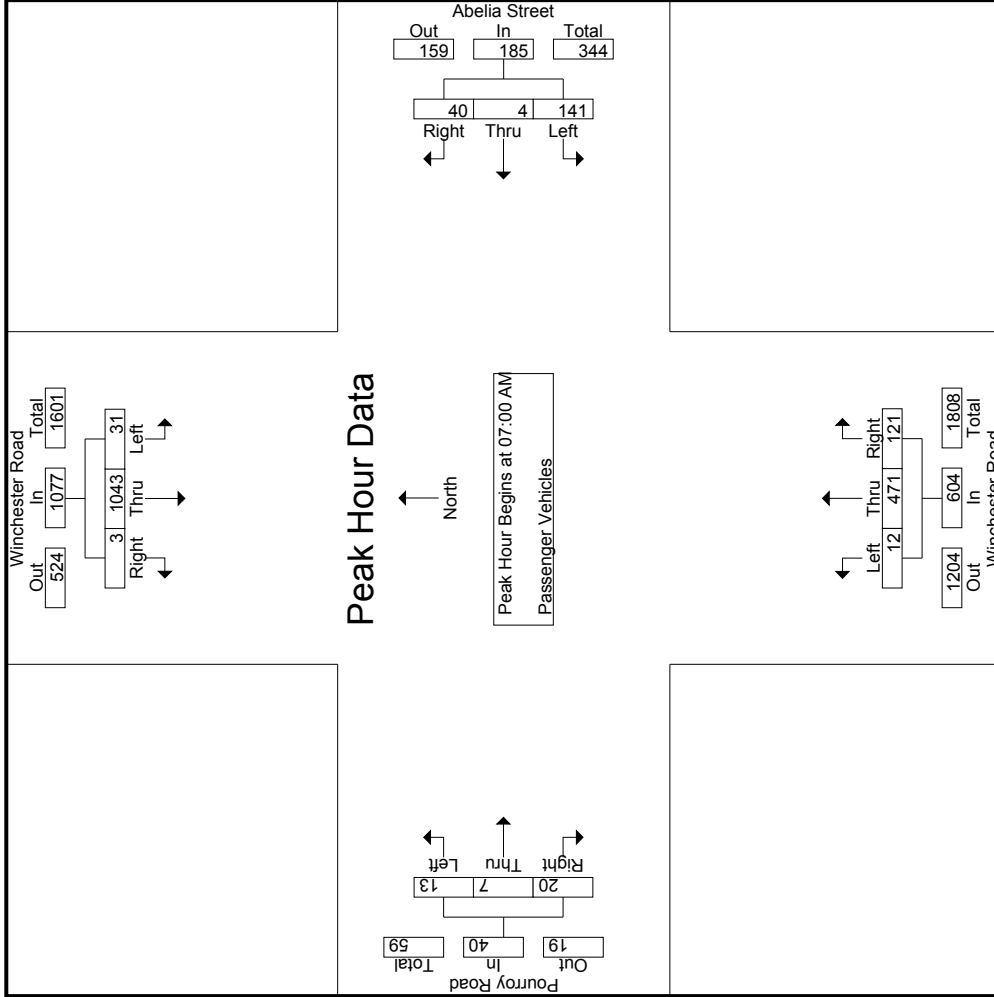


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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Abelia Street Westbound			Winchester Road Northbound			Pourroy Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:															
	07:00 AM			07:30 AM			07:15 AM			07:00 AM						
+0 mins.	2	254	0	256	43	3	10	56	2	118	23	143	7	1	5	13
+15 mins.	4	294	1	299	33	0	12	45	4	134	37	175	5	1	4	10
+30 mins.	10	311	1	322	62	5	10	77	4	105	56	165	1	3	1	5
+45 mins.	16	260	2	278	46	3	12	61	2	116	26	144	2	3	10	15
Total Volume	32	1079	4	1115	184	11	44	239	12	473	142	627	15	8	20	43
% App. Total	2.9	96.8	0.4		77	4.6	18.4		1.9	75.4	22.6		34.9	18.6	46.5	
PHF	.500	.867	.500	.866	.742	.550	.917	.776	.750	.882	.634	.896	.536	.667	.500	.717



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Abelia Street Westbound			Winchester Road Northbound			Pourroy Road Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:													
	07:00 AM			07:00 AM	07:00 AM			07:00 AM	07:00 AM			07:00 AM		
+0 mins.	2	243	0	245	36	1	9	46	3	123	8	134	6	
+15 mins.	4	248	1	253	31	0	11	42	1	114	21	136	5	
+30 mins.	9	301	1	311	42	3	10	55	4	132	36	172	0	
+45 mins.	16	251	1	268	32	0	10	42	4	102	56	162	2	
Total Volume	31	1043	3	1077	141	4	40	185	12	471	121	604	13	
% App. Total	2.9	96.8	0.3		76.2	2.2	21.6		2	78	20		32.5	
PHF	.484	.866	.750	.866	.839	.333	.909	.841	.750	.892	.540	.878	.542	.500
														.714

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	11	0	0	11	1	0	0	0	1	0	3	0	0	3	0	16	16	
07:15 AM	0	4	0	0	4	0	0	0	0	0	3	1	0	0	5	0	9	9	
07:30 AM	1	8	0	0	9	1	0	0	0	1	0	2	1	0	3	1	14	14	
07:45 AM	0	6	1	1	7	1	0	2	0	3	0	3	0	0	3	1	14	15	
Total	1	29	1	1	31	3	0	2	0	5	1	11	2	0	14	1	53	54	
08:00 AM	1	3	0	0	4	0	0	0	0	0	1	0	0	0	1	0	5	5	
08:15 AM	0	8	0	0	8	0	0	1	0	1	0	2	1	0	3	0	12	12	
08:30 AM	2	4	0	0	6	1	0	0	0	1	0	2	1	0	3	0	10	10	
08:45 AM	1	5	0	0	6	0	0	0	0	0	1	2	0	0	3	0	9	9	
Total	4	20	0	0	24	1	0	1	0	2	1	7	2	0	10	0	36	36	
Grand Total	5	49	1	1	55	4	0	3	0	7	2	18	4	0	24	2	1	0	3
% Approach	9.1	89.1	1.8		57.1	4.5	0	42.9		7.9	8.3	75	16.7		66.7	33.3	0	0	1
% Total	5.6	55.1	1.1		61.8	4.5	0	3.4		7.9	2.2	20.2	4.5		2.2	1.1	0	0	3.4
																1.1	98.9		

Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	11	0	0	11	1	0	0	0	1	0	3	0	0	3	0	16	16	
07:15 AM	0	4	0	0	4	0	0	0	0	0	3	1	0	0	5	0	9	9	
07:30 AM	1	8	0	0	9	1	0	0	0	1	0	2	1	0	3	1	14	14	
07:45 AM	0	6	1	1	7	1	0	2	0	3	0	3	0	0	3	1	14	15	
Total	1	29	1	1	31	3	0	2	0	5	1	11	2	0	14	1	53	54	
08:00 AM	1	3	0	0	4	0	0	0	0	0	1	0	0	0	1	0	5	5	
08:15 AM	0	8	0	0	8	0	0	1	0	1	0	2	1	0	3	0	12	12	
08:30 AM	2	4	0	0	6	1	0	0	0	1	0	2	1	0	3	0	10	10	
08:45 AM	1	5	0	0	6	0	0	0	0	0	1	2	0	0	3	0	9	9	
Total	4	20	0	0	24	1	0	1	0	2	1	7	2	0	10	0	36	36	
Grand Total	5	49	1	1	55	4	0	3	0	7	2	18	4	0	24	2	1	0	3
% Approach	9.1	89.1	1.8		57.1	4.5	0	42.9		7.9	8.3	75	16.7		66.7	33.3	0	0	1
% Total	5.6	55.1	1.1		61.8	4.5	0	3.4		7.9	2.2	20.2	4.5		2.2	1.1	0	0	3.4
																1.1	98.9		

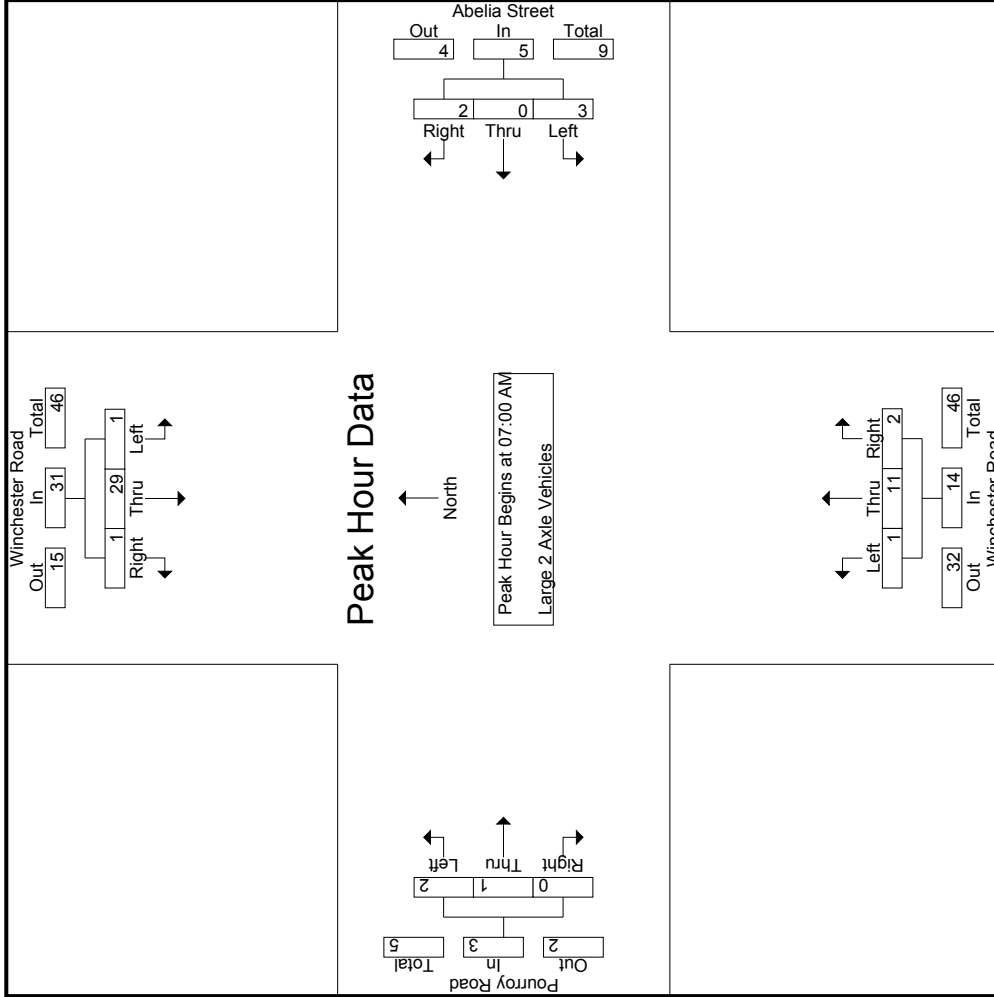
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound						
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	0	11	0	0	11	1	0	0	0	1	0	3	0	0	3	0	16	16	
07:15 AM	0	4	0	0	4	0	0	0	0	0	3	1	0	0	5	0	9	9	
07:30 AM	1	8	0	0	9	1	0	0	0	1	0	2	1	0	3	1	14	14	
07:45 AM	0	6	1	1	7	1	0	2	0	3	0	3	0	0	3	1	14	14	
Total	1	29	1	1	31	3	0	2	0	5	1	11	2	0	14	1	53	53	
% App. Total	3.2	93.5	3.2		93.5	6.0	0	40		7.1	78.6	14.3			66.7	33.3	0	0	3
PHF	.250	.659	.250		.705	.750	.000	.250		.417	.250	.917	.500		.700	.000	.750		.828

Counts Unlimited, Inc.
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Abelia Street Westbound			Winchester Road Northbound			Pourroy Road Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	07:00 AM													
Peak Hour for Each Approach Begins at:	07:00 AM													
+0 mins.	0	11	0	11	1	0	0	1	0	0	0	0	1	
+15 mins.	0	4	0	4	0	0	0	0	1	3	1	5	0	
+30 mins.	1	8	0	9	1	0	0	1	0	2	1	3	1	
+45 mins.	0	6	1	7	1	0	2	3	0	3	0	3	1	
Total Volume	1	29	1	31	3	0	2	5	1	11	2	14	3	
% App. Total	3.2	93.5	3.2	96.9	60	0	40	77.1	7.1	78.6	14.3	99.0	66.7	
PHF	.250	.659	.250	.705	.750	.000	.250	.417	.250	.917	.500	.700	.500	.750

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:15 AM	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	2
07:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	5	0	0	5	0	0	0	0	0	0	2	0	0	0	0	7	7
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	2
Total	1	1	0	0	2	1	0	0	1	1	0	0	0	0	0	1	4	5
Grand Total	1	6	0	0	7	1	0	0	0	1	0	0	0	0	0	1	11	12
% Approach	14.3	85.7	0	0	9.1	100	0	0	100	27.3	0	0	0	0	0	8.3	91.7	
Total %	9.1	54.5	0	0	63.6	9.1	0	0	27.3	27.3	0	0	0	0	0			

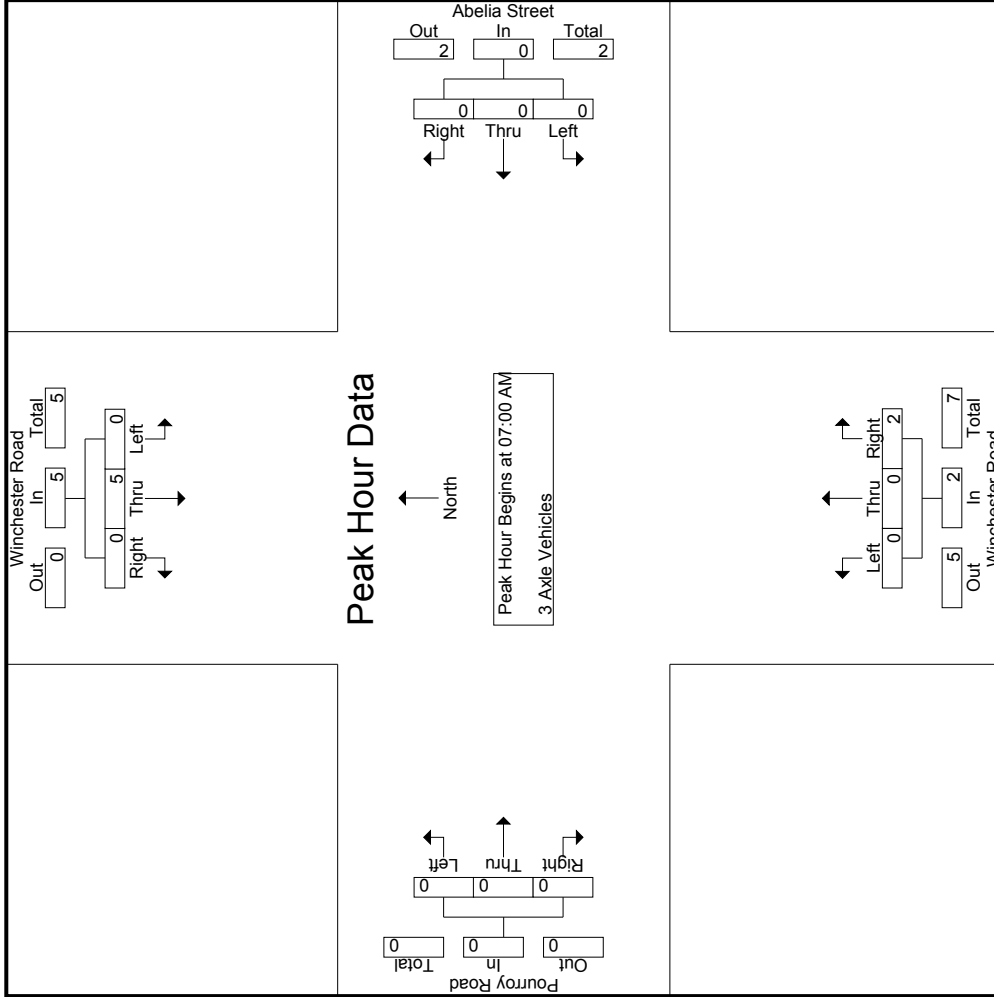
Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.625	.000	.000	.625	.000	.000	.000	.000	.500	.000	.000	.000	.000	.500	.000	.000	.875

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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File Name : 19_CRV_79_Abelia AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

Start Time	Winchester Road Southbound			Abelia Street Westbound			Winchester Road Northbound			Pourroy Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:	07:00 AM											
+0 mins.	0	0	0	0	0	0	0	0	1	0	0	0
+15 mins.	0	1	0	0	0	0	0	0	1	0	0	0
+30 mins.	0	2	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	0	0	0	0	0	0	0	0	0
Total Volume	0	5	0	0	0	0	0	0	2	0	0	0
% App. Total	0	100	0	0	0	0	0	0	100	0	0	0
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.500	.000	.000	.000

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
07:15 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	2	0	0	2	0	0	0	0	0	3	0	0	0	0	0	5	5
08:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
08:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
08:30 AM	1	3	0	0	4	0	0	0	0	2	0	0	0	0	0	0	6	6
08:45 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
Total	1	10	0	0	11	0	0	0	0	2	0	0	0	0	0	0	13	13
Grand Total	1	12	0	0	13	0	0	0	0	5	0	0	0	0	0	0	18	18
% Approach	7.7	92.3	0	0	0	0	0	0	0	100	0	0	0	0	0	0	100	100
Total %	5.6	66.7	0	0	72.2	0	0	0	0	27.8	0	0	0	0	0	0	100	100

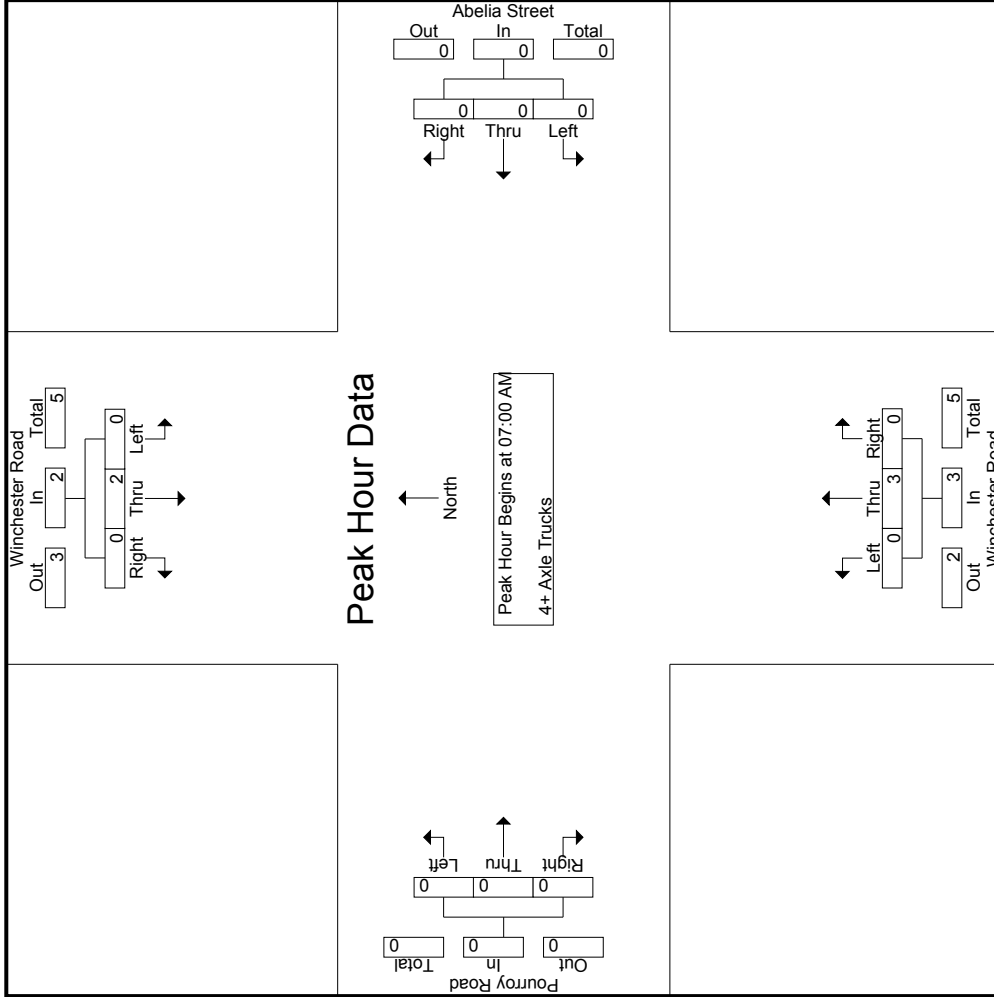
Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	100	0	0	0	0	100	0	0	0	0	0	0	0	0
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.375	.000	.000	.000	.000	.375	.000	.000	.625

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Abelia Street Westbound			Winchester Road Northbound			Pourroy Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	100	0	0	0	0
PHF	.000	.500	.000	.500	.000	.000	.000	.375	.000	.000	.000	.000

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound					Abelia Street Westbound					Winchester Road Northbound					Pourroy Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
	04:00 PM	11	184	2	1	197	27	2	14	8	43	3	263	34	12	300	5	3	8	6	16	27	556
04:15 PM	9	178	3	0	190	19	1	13	5	33	6	217	38	19	261	0	1	5	4	6	28	490	518
04:30 PM	14	150	2	1	166	41	1	7	4	49	12	243	28	10	283	0	4	2	2	6	17	504	521
04:45 PM	17	178	2	0	197	30	4	9	4	43	4	257	30	8	291	1	1	4	2	6	14	537	551
Total	51	690	9	2	750	117	8	43	21	168	25	980	130	49	1135	6	9	19	14	34	86	2087	2173
05:00 PM	8	156	4	0	168	28	2	3	1	33	5	233	41	14	279	1	1	8	1	10	16	490	506
05:15 PM	13	184	4	0	201	36	1	6	4	43	1	285	44	9	330	3	1	7	7	11	20	585	605
05:30 PM	14	175	4	1	193	43	2	10	8	55	1	277	44	13	322	2	2	4	3	8	25	578	603
05:45 PM	8	131	3	2	142	44	3	4	0	51	7	282	37	16	326	2	1	2	2	5	20	524	544
Total	43	646	15	3	704	151	8	23	13	182	14	1077	166	52	1257	8	5	21	13	34	81	2177	2258
Grand Total	94	1336	24	5	1454	268	16	66	34	350	39	2057	296	101	2392	14	14	40	27	68	167	4264	4431
% Approach	6.5	91.9	1.7			76.6	4.6	18.9			1.6	86	12.4			20.6	20.6	58.8					
% Total	2.2	31.3	0.6			6.3	0.4	1.5			8.2	0.9	48.2	6.9		56.1	0.3	0.3	0.9	1.6	3.8	96.2	
Passenger Vehicles	92	1310	24		1431	262	16	65		376	39	2030	294		2463	13	14	40		94	0	0	4364
Large 2 Axle Vehicles	97.9	98.1	100	100	98.1	97.8	100	98.5	97.1	97.9	100	98.7	99.3	99	98.8	92.9	100	100	100	98.9	0	0	98.5
% Large 2 Axle Vehicles	2	24	0	0	26	4	0	1	1.5	6	0	23	2	1	26	1	0	0	0	1	0	0	59
% 3 Axle Vehicles	2.1	1.8	0	0	1.8	1.5	0	0	2.9	1.6	0	1.1	0.7	1	1	7.1	0	0	0	1.1	0	0	1.3
% 4+ Axle Trucks	0	0	0	0	0	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	0	5
% 4+ Axle Trucks	0	2	0	0	2	0	0	0	0	0.5	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0.1
% 4+ Axle Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1

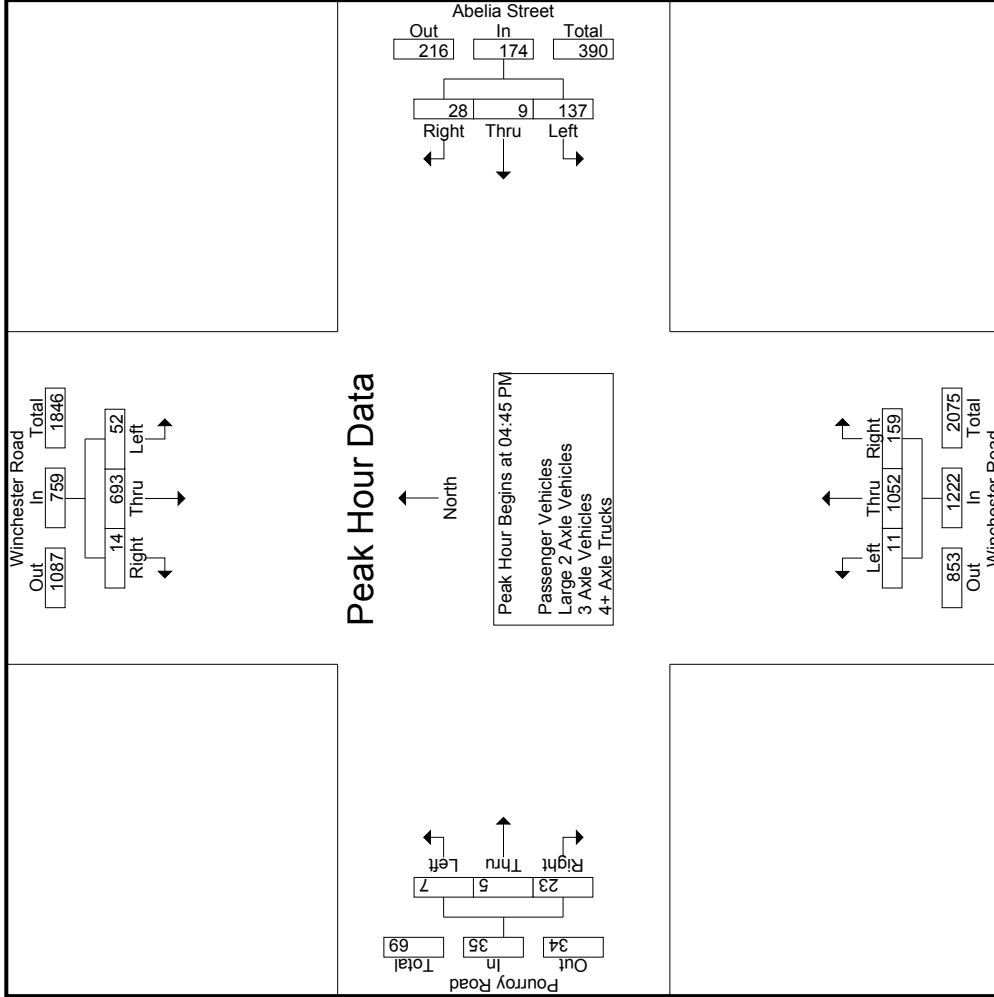
Start Time	Winchester Road Southbound					Abelia Street Westbound					Winchester Road Northbound					Pourroy Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
	04:45 PM	17	178	2		197	30	4	9	43	4	257	30		291	1	1	4		6			
05:00 PM	8	156	4		168	28	2	3	33	5	233	41		279	1	1	8		10				
05:15 PM	13	184	4		201	36	1	6	43	1	285	44		330	3	1	7		11				
05:30 PM	14	175	4		193	43	2	10	55	2	277	44		322	2	2	4		8				
Total Volume	52	693	14		759	137	9	28	174	11	1052	159		1222	7	5	23		35				
% App. Total	6.9	91.3	1.8			78.7	5.2	16.1			0.9	86.1	13			20	14.3	65.7					
PHF	.765	.942	.875		.944	.797	.563	.700	.791	.550	.923	.903		.926	.583	.625	.719		.795				.936

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Abelia Street Westbound			Winchester Road Northbound			Pourroy Road Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:													
	04:45 PM			05:00 PM			05:00 PM			04:45 PM				
+0 mins.	17	178	2	28	2	3	33	5	233	41	279	1	4	6
+15 mins.	8	156	4	36	1	6	43	1	285	44	330	1	1	10
+30 mins.	13	184	4	43	2	10	55	1	277	44	322	3	1	11
+45 mins.	14	175	4	44	3	4	51	7	282	37	326	2	2	8
Total Volume	52	693	14	151	8	23	182	14	1077	166	1257	7	5	23
% App. Total	6.9	91.3	1.8	83	4.4	12.6	827	1.1	85.7	13.2	952	20	14.3	65.7
PHF	.765	.942	.875	.858	.667	.575	.827	.500	.945	.943	.952	.583	.625	.719

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 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
04:00 PM	11	178	2	1	191	27	2	13	7	42	3	260	34	12	297	5	3	8	6	16	26	546	572
04:15 PM	9	173	3	0	185	18	1	13	5	32	6	212	38	19	256	0	1	5	4	6	28	479	507
04:30 PM	13	147	2	1	162	39	1	7	4	47	12	240	28	10	280	0	4	2	2	6	17	495	512
04:45 PM	17	177	2	0	196	29	4	9	4	42	4	252	29	7	285	0	1	4	2	5	13	528	541
Total	50	675	9	2	734	113	8	42	20	163	25	964	129	48	1118	5	9	19	14	33	84	2048	2132
05:00 PM	8	152	4	0	164	28	2	3	1	33	5	231	41	14	277	1	1	8	1	10	16	484	500
05:15 PM	13	181	4	0	198	35	1	6	4	42	1	284	43	9	328	3	1	7	7	11	20	579	599
05:30 PM	14	175	4	1	193	42	2	10	8	54	1	274	44	13	319	2	2	4	3	8	25	574	599
05:45 PM	7	127	3	2	137	44	3	4	0	51	7	277	37	16	321	2	1	2	2	5	20	514	534
Total	42	635	15	3	692	149	8	23	13	180	14	1066	165	52	1245	8	5	21	13	34	81	2151	2232
Grand Total	92	1310	24	5	1426	262	16	65	33	343	39	2030	294	100	2363	13	14	40	27	67	165	4199	4364
% Approach	6.5	91.9	1.7			76.4	4.7	19		8.2	1.7	85.9	12.4		56.3	19.4	20.9	59.7		1.6	3.8	96.2	
Total %	2.2	31.2	0.6		34	6.2	0.4	1.5		8.2	0.9	48.3	7		56.3	0.3	0.3	1		1.6	3.8	96.2	

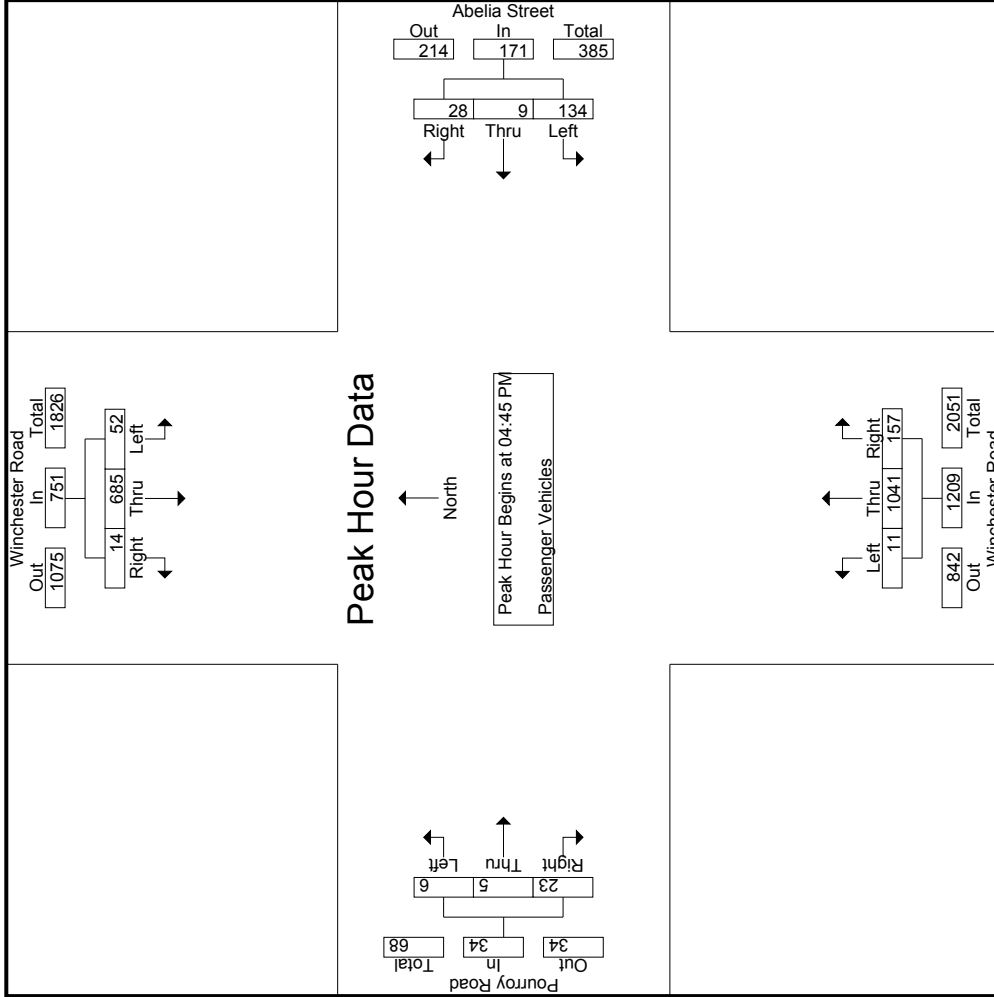
Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
04:45 PM	17	177	2		196	29	4	9		42	4	252	29		285	0	1	4		5	528		
05:00 PM	8	152	4		164	28	2	3		33	5	231	41		277	1	1	8		10	484		
05:15 PM	13	181	4		198	35	1	6		42	1	284	43		328	3	1	7		11	579		
05:30 PM	14	175	4		193	42	2	10		54	1	274	44		319	2	2	4		8	574		
Total Volume	52	685	14		751	134	9	28		171	11	1041	157		1209	6	5	23		34	2165		
% App. Total	6.9	91.2	1.9			78.4	5.3	16.4		8.2	0.9	86.1	13		56.3	17.6	14.7	67.6		1.6	3.8	96.2	
PHF	.765	.946	.875		.948	.798	.563	.700		.792	.550	.916	.892		.921	.500	.625	.719		.773	.935		

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	5	0	0	5	0	0	1	1	1	0	3	0	0	0	1	9	10
04:15 PM	0	5	0	0	5	0	0	0	0	0	4	0	0	0	0	0	9	9
04:30 PM	1	3	0	0	4	2	0	0	0	2	3	0	0	0	0	0	9	9
04:45 PM	0	1	0	0	1	1	0	0	1	1	5	1	0	0	1	1	9	10
Total	1	14	0	0	15	3	0	1	1	4	0	15	1	1	16	2	36	38
05:00 PM	0	3	0	0	3	0	0	0	0	0	1	0	0	0	0	0	4	4
05:15 PM	0	3	0	0	3	0	0	0	0	0	1	1	0	0	0	0	5	5
05:30 PM	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0	3	3
05:45 PM	1	4	0	0	5	0	0	0	0	0	4	0	0	0	0	0	9	9
Total	1	10	0	0	11	1	0	0	0	1	0	8	1	0	9	0	21	21
Grand Total	2	24	0	0	26	4	0	1	1	5	0	23	2	1	25	2	57	59
% Approach	7.7	92.3	0	0	45.6	80	0	20	1.8	8.8	0	40.4	3.5	43.9	1.8	3.4	96.6	
Total %	3.5	42.1	0	0	45.6	7	0	1.8										

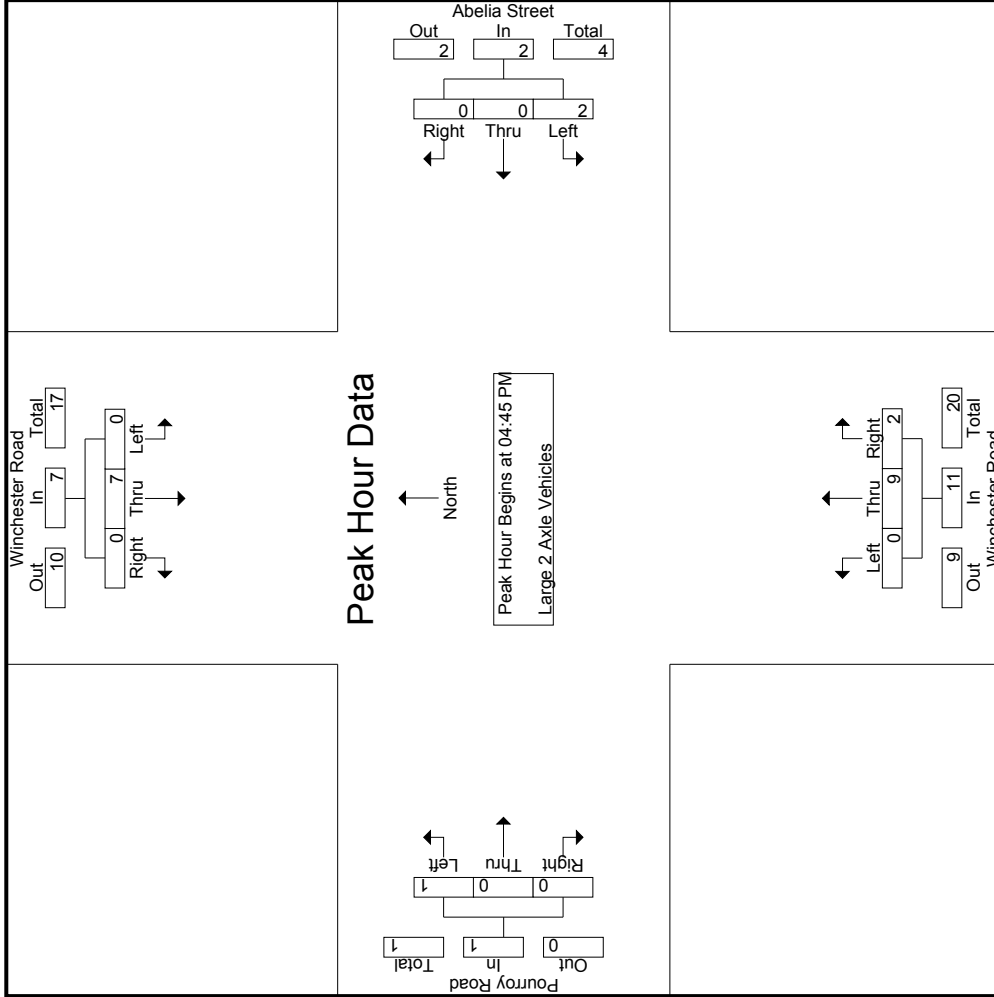
Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	1	0	0	1	1	0	0	0	1	0	5	1	0	6	1	0	9
05:00 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	4
05:15 PM	0	3	0	0	3	0	0	0	0	0	0	1	1	0	2	0	0	5
05:30 PM	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	0	0	3
Total Volume	0	7	0	0	7	2	0	0	0	2	0	9	2	11	11	0	0	21
% App. Total	0	100	0	0	100	100	0	0	0	81.8	18.2	45.0	50.0	45.8	45.8	0.000	.250	.583
PHF	.000	.583	.000	.000	.583	.500	.000	.000	.500	.500	.000	.450	.500	.458	.000	.000	.250	.583

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Abelia Street Westbound			Winchester Road Northbound			Pourroy Road Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
+0 mins.	0	1	0	1	0	0	1	0	0	5	1	1	0	0	0
+15 mins.	0	3	0	3	0	0	0	0	0	1	0	0	0	0	0
+30 mins.	0	3	0	3	0	0	0	0	0	1	1	1	0	0	0
+45 mins.	0	0	0	0	0	1	0	0	1	2	0	0	0	0	0
Total Volume	0	7	0	7	2	0	2	0	0	9	2	11	1	0	0
% App. Total	0	100	0	100	0	0	0	0	0	81.8	18.2	100	0	0	0
PHF	.000	.583	.000	.500	.500	.000	.500	.000	.000	.450	.500	.250	.000	.000	.250

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Total	0	0	0	0	1	0	0	0	0	3	0	0	0	0	0	0	4	4
Grand Total	0	0	0	0	2	0	0	0	0	3	0	0	0	0	0	0	5	5
% Approach	0	0	0	0	100	0	0	0	0	100	0	0	0	0	0	0	100	100
Total %	0	0	0	0	40	0	0	0	0	60	0	0	0	0	0	0	100	100

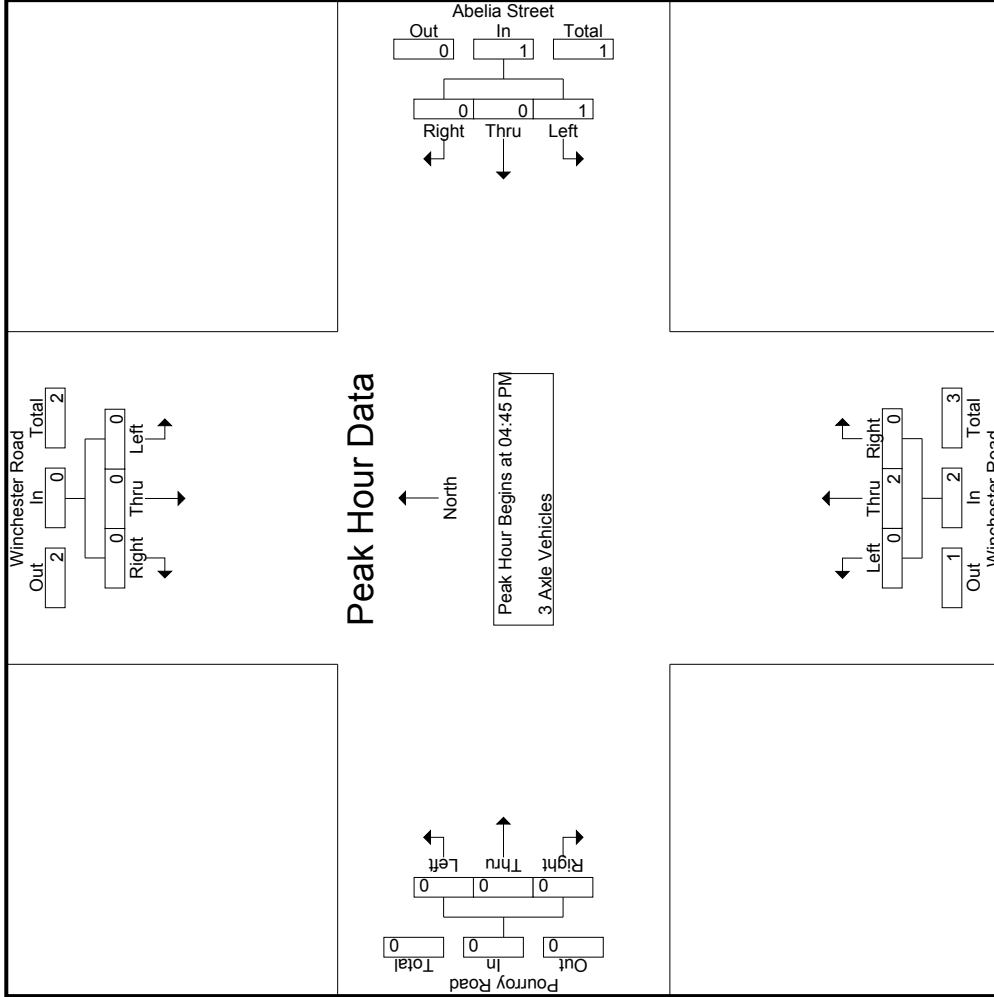
Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	100	0	0	0	0	100	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.500	.000	.000	.500	.000	.000	.750

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2	2
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Grand Total	0	2	0	0	2	0	0	0	0	0	1	0	0	0	0	0	3	3
% Approach	0	100	0	0	66.7	0	0	0	0	0	100	0	0	0	0	0	100	100
Total %	0	66.7	0	0	66.7	0	0	0	0	33.3	0	0	0	0	0	0	100	100

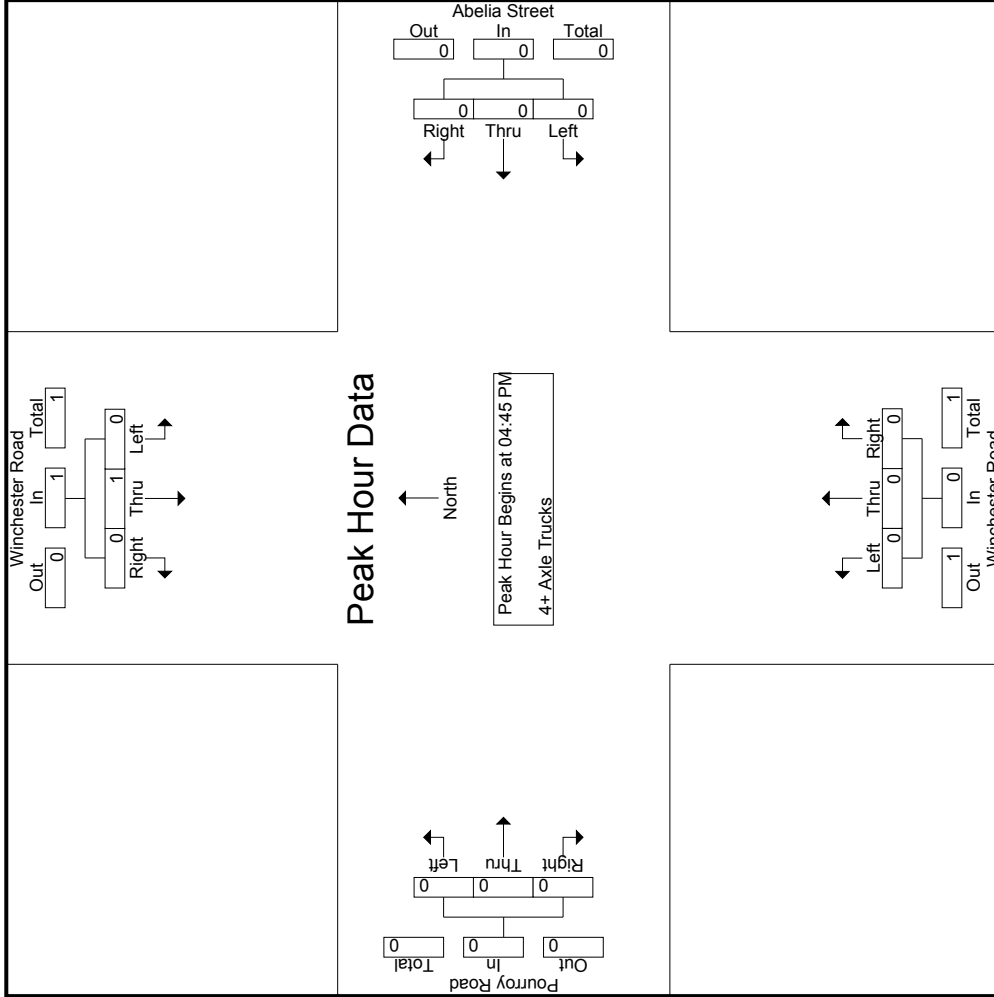
Start Time	Winchester Road Southbound				Abelia Street Westbound				Winchester Road Northbound				Pourroy Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	100
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Pourroy Road/Abelia Street
 Weather: Clear

File Name : 19_CRV_79_Abelia PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Abelia Street Westbound			Winchester Road Northbound			Pourroy Road Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	04:45 PM				04:45 PM				04:45 PM				04:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	
% App. Total	0	100	0	100	0	0	0	0	0	0	0	0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	

Location: County of Riverside
 N/S: Winchester Road
 E/W: Pourroy Rd/Abelia St



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road	East Leg Abelia Street	South Leg Winchester Road	West Leg Pourroy Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	1	0	0	1
7:15 AM	2	0	0	0	2
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	2	2	0	0	4

	North Leg Winchester Road	East Leg Abelia Street	South Leg Winchester Road	West Leg Pourroy Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	3	0	3
4:30 PM	0	1	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	1	3	0	4

Location: County of Riverside
 N/S: Winchester Road
 E/W: Pourroy Rd/Abelia St



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Winchester Road			Westbound Abelia Street			Northbound Winchester Road			Eastbound Pourroy Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	2	0	0	0	0	2

	Southbound Winchester Road			Westbound Abelia Street			Northbound Winchester Road			Eastbound Pourroy Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	1	0	0	1	0	0	4	0	0	5	0	11

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound						Pourroy Road Westbound						Winchester Road Northbound						Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total
	Exclu. Total	Int. Total	Exclu. Total	Int. Total	Exclu. Total	Int. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total
07:00 AM	43	281	3	0	327	63	31	29	20	7	165	165	1	4	3	3	8	8	1	4	3	3	3	30
07:15 AM	29	263	2	0	294	61	34	25	11	6	150	150	2	3	1	0	6	6	2	3	1	0	6	17
07:30 AM	25	316	2	0	343	63	30	24	16	6	140	140	0	1	3	3	4	4	0	1	3	3	4	25
07:45 AM	36	254	5	1	295	64	37	3	24	18	64	64	1	4	4	3	9	9	1	4	4	3	9	32
Total	133	1114	12	1	1259	251	132	17	102	65	251	251	4	12	11	9	27	27	4	12	11	9	27	104
08:00 AM	15	250	2	0	267	63	38	2	23	16	157	157	1	2	0	0	3	3	1	2	0	0	3	22
08:15 AM	19	234	1	0	254	49	26	3	20	14	107	107	1	3	3	3	7	7	1	3	3	3	7	24
08:30 AM	12	238	0	0	250	43	24	1	18	11	131	131	5	4	9	8	18	18	5	4	9	8	18	25
08:45 AM	7	193	6	2	206	42	26	1	15	13	42	42	1	118	19	8	138	138	0	6	1	1	7	24
Total	53	915	9	2	977	197	114	7	76	54	197	197	3	459	71	27	533	533	7	15	13	12	35	95
Grand Total	186	2029	21	3	2236	448	246	24	178	119	448	448	16	976	151	56	1143	1143	11	27	24	21	62	199
% Approach	8.3	90.7	0.9				54.9	5.4	39.7				1.4	85.4	13.2				17.7	43.5	38.7			
% Total	4.8	52.2	0.5				6.3	0.6	4.6				0.4	25.1	3.9				0.3	0.7	0.6			
Passenger Vehicles	177	1987	21		2188	556	243	24	173		556	556	16	960	149		1181	1181	11	27	24		83	0
% Passenger Vehicles	95.2	97.9	100		97.7	98.1	98.8	100	97.2	97.5	98.1	98.1	100	98.4	98.7	100	98.5	100	100	100	100		100	0
Large 2 Axle Vehicles	8	20	0		28	10	2	0	5		10	10	0	10	1		11	11	0	0	0		0	0
% Large 2 Axle Vehicles	4.3	1	0		1.3	1.8	0.8	0	2.8	2.5	1.8	1.8	0	1	0.7		0.9	0.9	0	0	0		0	0
3 Axle Vehicles	1	8	0		9	1	1	0	0		1	1	0	2	0		2	2	0	0	0		0	0
% 3 Axle Vehicles	0.5	0.4	0		0.4	0.2	0.4	0	0		0.2	0.2	0	0.2	0		0.2	0.2	0	0	0		0	0
4+ Axle Trucks	0	14	0		14	0	0	0	0		0	0	0	4	1		5	5	0	0	0		0	0
% 4+ Axle Trucks	0	0.7	0		0.6	0	0	0	0		0	0	0	0.4	0.7		0.4	0.4	0	0	0		0	0

Start Time	Winchester Road Southbound						Pourroy Road Westbound						Winchester Road Northbound						Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total
	Exclu. Total	Int. Total	Exclu. Total	Int. Total	Exclu. Total	Int. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total
07:00 AM	43	281	3	0	327	63	31	29	20	7	165	165	1	4	3	3	8	8	1	4	3	3	3	30
07:15 AM	29	263	2	0	294	61	34	25	11	6	150	150	2	3	1	0	6	6	2	3	1	0	6	17
07:30 AM	25	316	2	0	343	63	30	24	16	6	140	140	0	1	3	3	4	4	0	1	3	3	4	25
07:45 AM	36	254	5	1	295	64	37	3	24	18	64	64	1	4	4	3	9	9	1	4	4	3	9	32
Total	133	1114	12	1	1259	251	132	17	102	65	251	251	4	12	11	9	27	27	4	12	11	9	27	104
08:00 AM	15	250	2	0	267	63	38	2	23	16	157	157	1	2	0	0	3	3	1	2	0	0	3	22
08:15 AM	19	234	1	0	254	49	26	3	20	14	107	107	1	3	3	3	7	7	1	3	3	3	7	24
08:30 AM	12	238	0	0	250	43	24	1	18	11	131	131	5	4	9	8	18	18	5	4	9	8	18	25
08:45 AM	7	193	6	2	206	42	26	1	15	13	42	42	1	118	19	8	138	138	0	6	1	1	7	24
Total	53	915	9	2	977	197	114	7	76	54	197	197	3	459	71	27	533	533	7	15	13	12	35	95
Grand Total	186	2029	21	3	2236	448	246	24	178	119	448	448	16	976	151	56	1143	1143	11	27	24	21	62	199
% Approach	8.3	90.7	0.9				54.9	5.4	39.7				1.4	85.4	13.2				17.7	43.5	38.7			
% Total	4.8	52.2	0.5				6.3	0.6	4.6				0.4	25.1	3.9				0.3	0.7	0.6			
Passenger Vehicles	177	1987	21		2188	556	243	24	173		556	556	16	960	149		1181	1181	11	27	24		83	0
% Passenger Vehicles	95.2	97.9	100		97.7	98.1	98.8	100	97.2	97.5	98.1	98.1	100	98.4	98.7	100	98.5	100	100	100	100		100	0
Large 2 Axle Vehicles	8	20	0		28	10	2	0	5		10	10	0	10	1		11	11	0	0	0		0	0
% Large 2 Axle Vehicles	4.3	1	0		1.3	1.8	0.8	0	2.8	2.5	1.8	1.8	0	1	0.7		0.9	0.9	0	0	0		0	0
3 Axle Vehicles	1	8	0		9	1	1	0	0		1	1	0	2	0		2	2	0	0	0		0	0
% 3 Axle Vehicles	0.5	0.4	0		0.4	0.2	0.4	0	0		0.2	0.2	0	0.2	0		0.2	0.2	0	0	0		0	0
4+ Axle Trucks	0	14	0		14	0	0	0	0		0	0	0	4	1		5	5	0	0	0		0	0
% 4+ Axle Trucks	0	0.7	0		0.6	0	0	0	0		0	0	0	0.4	0.7		0.4	0.4	0	0	0		0	0

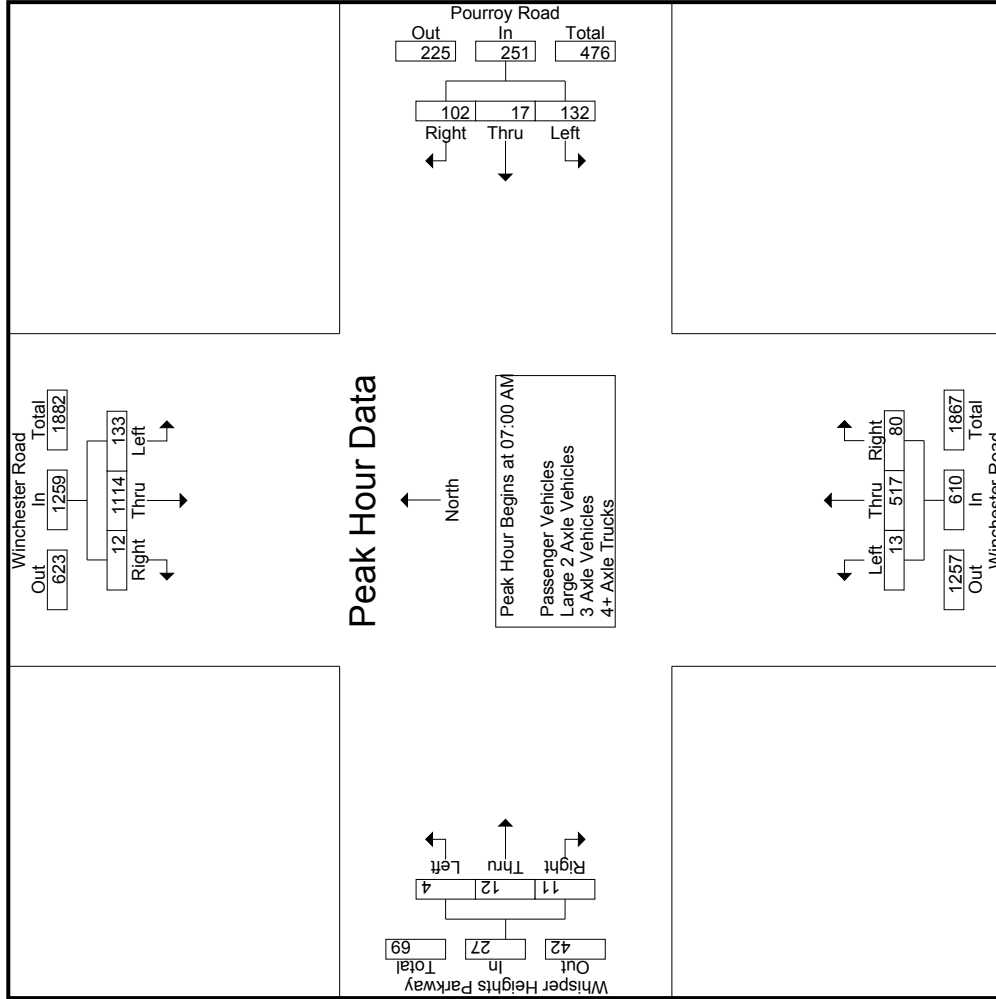
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Winchester Road Southbound						Pourroy Road Westbound						Winchester Road Northbound						Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total
	Exclu. Total	Int. Total	Exclu. Total	Int. Total	Exclu. Total	Int. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total
07:00 AM	43	281	3	0	327	63	31	29	20	7	165	165	1	4	3	3	8	8	1	4	3	3	3	30
07:15 AM	29	263	2	0	294	61	34	25	11	6	150	150	2	3	1	0	6	6	2	3	1	0	6	17
07:30 AM	25	316	2	0	343	63	30	24	16	6	140	140	0	1	3	3	4	4	0	1	3	3	4	25
07:45 AM	36	254	5	1	295	64	37	3	24	18	64	64	1	4	4	3	9	9	1	4	4	3	9	32
Total	133	1114	12	1	1259	251	132	17	102	65	251	251	4	12	11	9	27	27	4	12	11	9	27	104
% App. Total	10.6	88.5	1				52.6	6.8	40.6				2.1	84.8	13.1				14.8	44.4	40.7			
PHF	.773	.881	.600		.918	.879	.892	.472	.879	.800	.980	.980	.464	.898	.800		.924	.800	.500	.750	.688		.750	.953

Counts Unlimited, Inc.
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

File Name : 20_CRV_79_Whisper AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 20_CRV_79_Whisper AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

Start Time	Winchester Road Southbound			Pourroy Road Westbound			Winchester Road Northbound			Whisper Heights Parkway Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:															
	07:00 AM			07:00 AM			07:00 AM			07:45 AM						
+0 mins.	43	281	3	327	31	3	29	63	1	144	20	165	1	4	4	9
+15 mins.	29	263	2	294	34	2	25	61	2	123	25	150	1	2	0	3
+30 mins.	25	316	2	343	30	9	24	63	3	123	14	140	1	3	3	7
+45 mins.	36	254	5	295	37	3	24	64	7	127	21	155	5	4	9	18
Total Volume	133	1114	12	1259	132	17	102	251	13	517	80	610	8	13	16	37
% App. Total	10.6	88.5	1		52.6	6.8	40.6		2.1	84.8	13.1		21.6	35.1	43.2	
PHF	.773	.881	.600	.918	.892	.472	.879	.980	.464	.898	.800	.924	.400	.813	.444	.514

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File Name : 20_CRV_79_Whisper AMC
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County of Riverside
 N/S: Winchester Road (SR-79)
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 Weather: Clear

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound				Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru
07:00 AM	40	277	3	0	320	31	27	19	61	143	20	7	164	1	4	3	8	29	553	582
07:15 AM	29	258	2	0	289	33	25	11	60	121	25	6	148	2	3	1	6	17	503	520
07:30 AM	23	313	2	0	338	30	23	15	62	122	13	6	138	0	1	3	4	24	542	566
07:45 AM	36	245	5	1	286	37	24	18	64	125	21	10	153	1	4	4	9	32	512	544
Total	128	1093	12	1	1233	131	17	63	247	511	79	29	603	4	12	11	27	102	2110	2212
08:00 AM	13	244	2	0	259	38	23	16	63	138	17	6	156	1	2	0	3	22	481	503
08:15 AM	18	230	1	0	249	26	3	13	48	87	15	7	102	1	3	3	7	23	406	429
08:30 AM	12	235	0	0	247	23	1	11	41	107	19	6	127	5	4	9	18	25	433	458
08:45 AM	6	185	6	2	197	25	1	13	41	117	19	8	137	0	6	1	7	24	382	406
Total	49	894	9	2	952	112	7	53	193	449	70	27	522	7	15	13	35	94	1702	1796
Grand Total	177	1987	21	3	2185	243	24	116	440	960	149	56	1125	11	27	24	62	196	3812	4008
% Approach	8.1	90.9	1			55.2	5.5	39.3	11.5	1.4	85.3	13.2	29.5	17.7	43.5	38.7	1.6	4.9	95.1	
% Total	4.6	52.1	0.6		57.3	6.4	0.6	4.5		0.4	25.2	3.9		0.3	0.7	0.6				

Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound				Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru
07:00 AM	40	277	3		320	31	3		61	143	20		164	1	4		8	29	553	582
07:15 AM	29	258	2		289	33	2		60	121	25		148	2	3		6	17	503	520
07:30 AM	23	313	2		338	30	9		62	122	13		138	0	1		4	24	542	566
07:45 AM	36	245	5		286	37	3		64	125	21		153	1	4		9	32	512	544
Total	128	1093	12		1233	131	17		247	511	79		603	4	12		27	102	2110	2212
08:00 AM	13	244	2		259	38	2		63	138	17		156	1	2		3	22	481	503
08:15 AM	18	230	1		249	26	3		48	87	15		102	1	3		7	23	406	429
08:30 AM	12	235	0		247	23	1		41	107	19		127	5	4		18	25	433	458
08:45 AM	6	185	6		197	25	1		41	117	19		137	0	6		7	24	382	406
Total	49	894	9		952	112	7		193	449	70		522	7	15		35	94	1702	1796
Grand Total	177	1987	21		2185	243	24		440	960	149		1125	11	27		62	196	3812	4008
% Approach	8.1	90.9	1			55.2	5.5		11.5	1.4	85.3		29.5	17.7	43.5		1.6	4.9	95.1	
% Total	4.6	52.1	0.6		57.3	6.4	0.6			0.4	25.2		3.9	0.3	0.7					

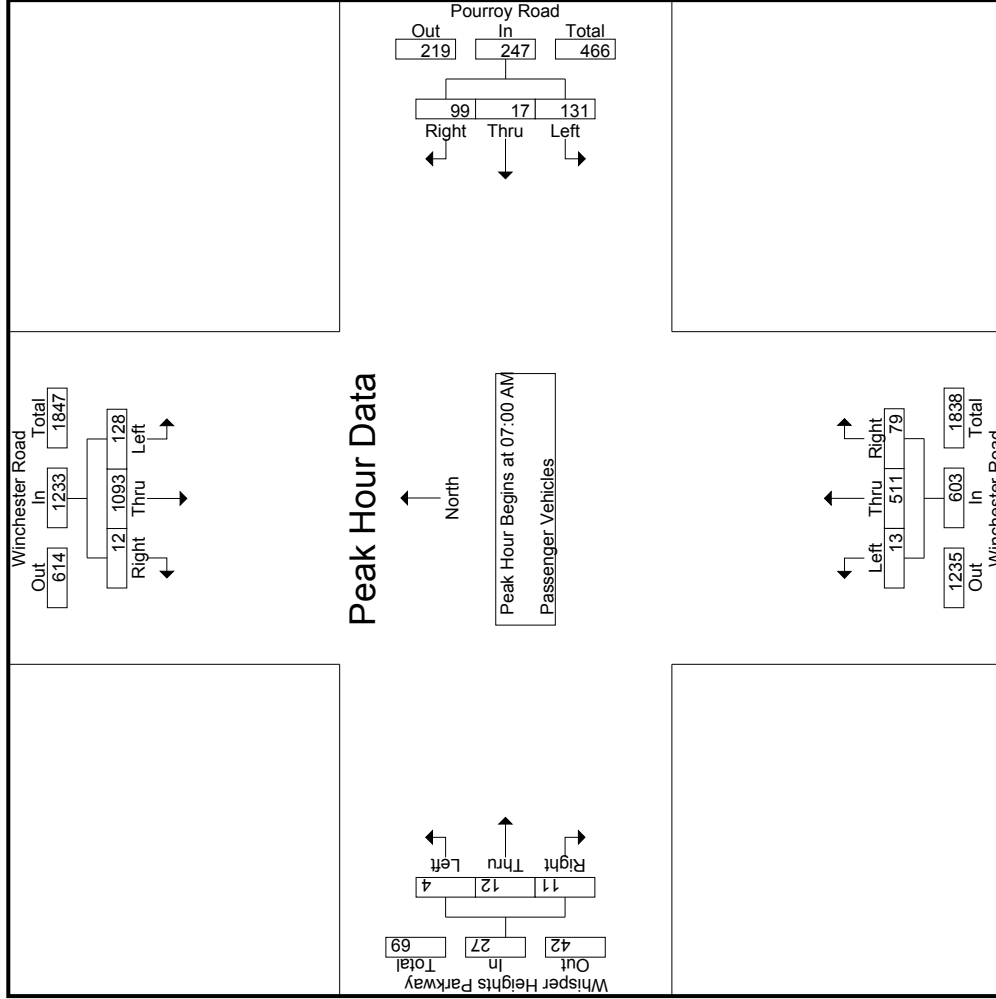
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound				Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left				Thru
07:00 AM	40	277	3		320	31	3		61	143	20		164	1	4		8	29	553	582
07:15 AM	29	258	2		289	33	2		60	121	25		148	2	3		6	17	503	520
07:30 AM	23	313	2		338	30	9		62	122	13		138	0	1		4	24	542	566
07:45 AM	36	245	5		286	37	3		64	125	21		153	1	4		9	32	512	544
Total	128	1093	12		1233	131	17		247	511	79		603	4	12		27	102	2110	2212
% App. Total	10.4	88.6	1		40.1	53	6.9		40.1	2.2	84.7		13.1	14.8	44.4		40.7			
PHF	.800	.873	.600		.912	.885	.472		.917	.464	.893		.790	.500	.688		.750		.750	.954

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

File Name : 20_CRV_79_Whisper AMC
 Site Code : 05121212
 Start Date : 5/12/2021
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File Name : 20_CRV_79_Whisper AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

Start Time	Winchester Road Southbound			Pourroy Road Westbound			Winchester Road Northbound			Whisper Heights Parkway Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:															
	07:00 AM															
+0 mins.	40	277	3	320	31	3	27	61	1	143	20	164	1	4	3	8
+15 mins.	29	258	2	289	33	2	25	60	2	121	25	148	2	3	1	6
+30 mins.	23	313	2	338	30	9	23	62	3	122	13	138	0	1	3	4
+45 mins.	36	245	5	286	37	3	24	64	7	125	21	153	1	4	4	9
Total Volume	128	1093	12	1233	131	17	99	247	13	511	79	603	4	12	11	27
% App. Total	10.4	88.6	1		53	6.9	40.1		2.2	84.7	13.1		14.8	44.4	40.7	
PHF	.800	.873	.600	.912	.885	.472	.917	.965	.464	.893	.790	.919	.500	.750	.688	.750

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

File Name : 20_CRV_79_Whisper AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	2	0	0	4	0	0	2	1	2	0	1	0	0	0	1	7	8
07:15 AM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	0	0	4	4
07:30 AM	2	2	0	0	4	0	0	1	1	1	0	1	0	0	0	1	7	8
07:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	4
Total	4	11	0	0	15	0	0	3	2	3	0	3	1	0	4	2	22	24
08:00 AM	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5	5
08:15 AM	1	1	0	0	2	0	0	1	1	1	0	4	0	0	0	1	7	8
08:30 AM	0	1	0	0	1	0	0	1	0	2	0	2	0	0	0	0	5	5
08:45 AM	1	4	0	0	5	1	0	0	0	1	0	1	0	0	0	0	7	7
Total	4	9	0	0	13	2	0	2	1	4	0	7	0	0	7	1	24	25
Grand Total	8	20	0	0	28	2	0	5	3	7	0	10	1	0	11	3	46	49
% Approach	28.6	71.4	0	0	60.9	28.6	0	71.4	0	15.2	0	90.9	9.1	0	23.9	6.1	93.9	0
Total %	17.4	43.5	0	0	60.9	4.3	0	10.9	0	15.2	0	21.7	2.2	0	23.9	6.1	93.9	0

Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	2	0	0	4	0	0	2	1	2	0	1	0	0	0	1	7	8
07:15 AM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	0	0	4	4
07:30 AM	2	2	0	0	4	0	0	1	1	1	0	1	0	0	0	1	7	8
07:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	4
Total	4	11	0	0	15	0	0	3	2	3	0	3	1	0	4	2	22	24
08:00 AM	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5	5
08:15 AM	1	1	0	0	2	0	0	1	1	1	0	4	0	0	0	1	7	8
08:30 AM	0	1	0	0	1	0	0	1	0	2	0	2	0	0	0	0	5	5
08:45 AM	1	4	0	0	5	1	0	0	0	1	0	1	0	0	0	0	7	7
Total	4	9	0	0	13	2	0	2	1	4	0	7	0	0	7	1	24	25
Grand Total	8	20	0	0	28	2	0	5	3	7	0	10	1	0	11	3	46	49
% Approach	28.6	71.4	0	0	60.9	28.6	0	71.4	0	15.2	0	90.9	9.1	0	23.9	6.1	93.9	0
Total %	17.4	43.5	0	0	60.9	4.3	0	10.9	0	15.2	0	21.7	2.2	0	23.9	6.1	93.9	0

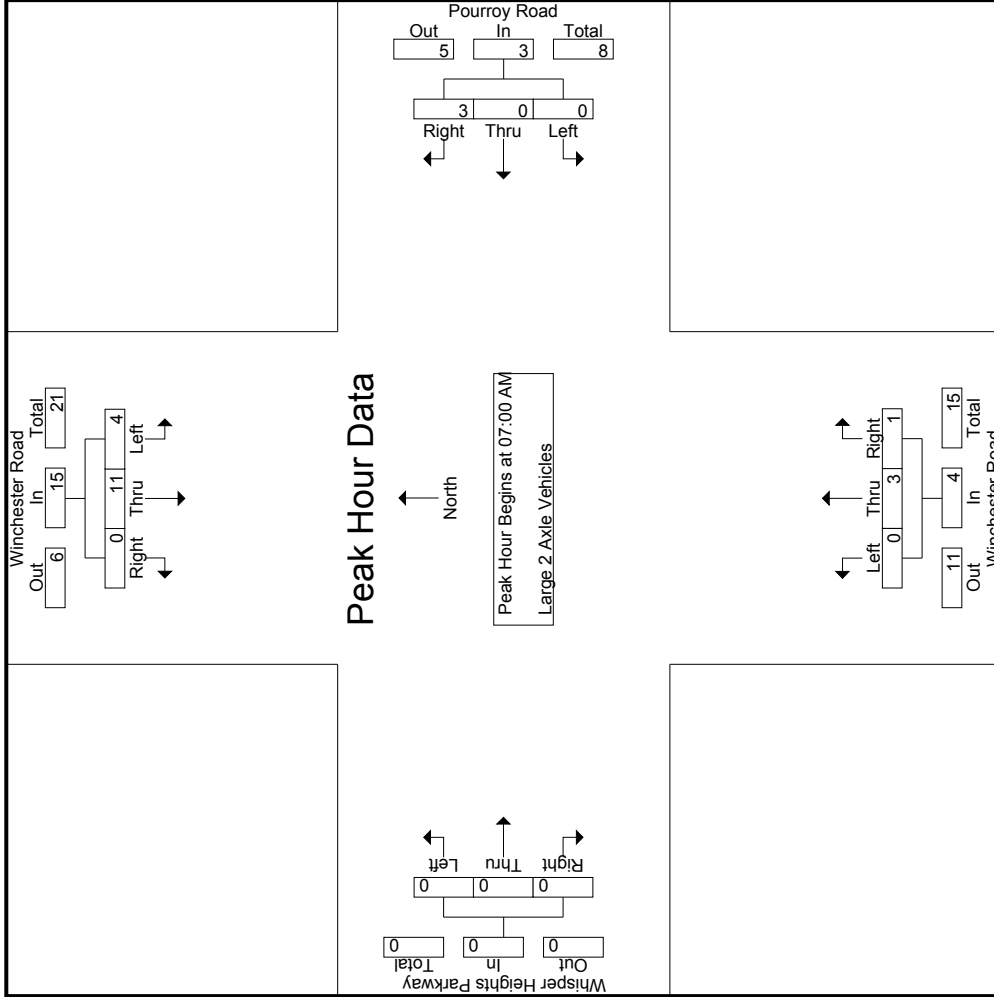
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	2	0	0	4	0	0	2	1	2	0	1	0	0	0	1	7	8
07:15 AM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	0	0	4	4
07:30 AM	2	2	0	0	4	0	0	1	1	1	0	1	0	0	0	1	7	8
07:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	4
Total	4	11	0	0	15	0	0	3	2	3	0	3	1	0	4	2	22	24
% App. Total	26.7	73.3	0	0	60.9	26.7	0	73.3	0	15.2	0	90.9	9.1	0	23.9	6.1	93.9	0
PHF	.500	.688	.000	.000	.938	.000	.000	.375	.000	.375	.000	.750	.250	.500	.000	.000	.786	.000

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File Name : 20_CRV_79_Whisper AMC
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County of Riverside
 N/S: Winchester Road (SR-79)
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Start Time	Winchester Road Southbound			Pourroy Road Westbound			Winchester Road Northbound			Whisper Heights Parkway Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	07:00 AM												
Peak Hour for Each Approach Begins at:	07:00 AM												
+0 mins.	2	2	0	4	0	0	2	2	0	0	0	0	0
+15 mins.	0	3	0	3	0	0	0	0	1	0	0	0	0
+30 mins.	2	2	0	4	0	0	1	1	0	0	0	0	0
+45 mins.	0	4	0	4	0	0	0	0	0	0	0	0	0
Total Volume	4	11	0	15	0	0	3	3	0	1	0	0	0
% App. Total	26.7	73.3	0	100	0	0	75	25	0	0	0	0	0
PHF	.500	.688	.000	.938	.000	.000	.375	.375	.000	.750	.250	.500	.000

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

File Name : 20_CRV_79_Whisper AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
07:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	2	0	0	3	1	0	0	0	1	0	0	0	0	0	0	5	5
08:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
08:15 AM	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	3	3
08:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
08:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	6	0	0	6	0	1	0	0	1	0	0	0	0	0	0	7	7
Grand Total	1	8	0	0	9	1	2	0	0	2	0	0	0	0	0	0	12	12
% Approach	11.1	88.9	0	0	0	8.3	0	16.7	0	16.7	0	0	0	0	0	0	100	100
Total %	8.3	66.7	0	0	75	8.3	0	16.7	0	16.7	0	0	0	0	0	0	100	100

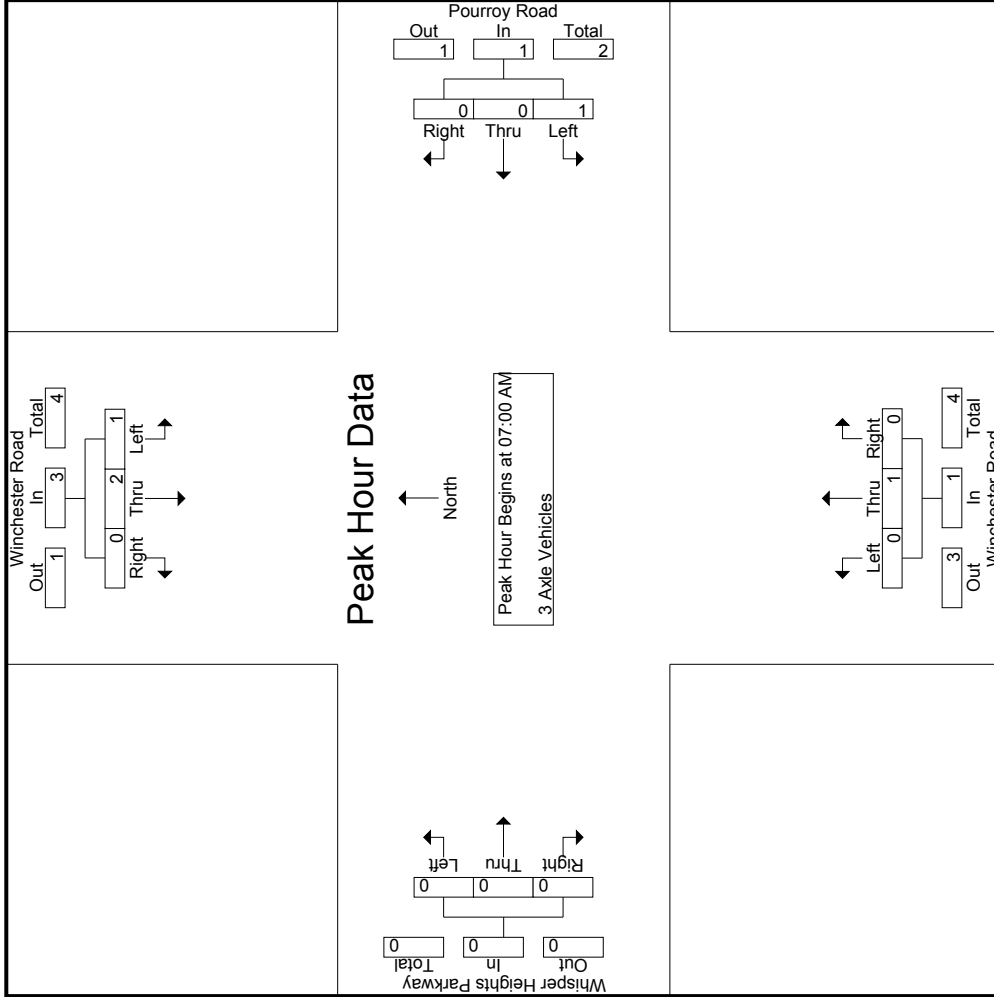
Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	2	0	0	3	1	0	0	0	1	0	0	0	0	0	0	0	0
% App. Total	33.3	66.7	0	0	0	100	0	100	0	0	0	0	0	0	0	0	0	0
PHF	.250	.250	.000	.000	.250	.250	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000	.000	.417

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

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 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

File Name : 20_CRV_79_Whisper AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

File Name : 20_CRV_79_Whisper AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

Start Time	Winchester Road Southbound			Pourroy Road Westbound			Winchester Road Northbound			Whisper Heights Parkway Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:	07:00 AM												
+0 mins.	1	2	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	1	0	0	0	1	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	2	0	1	0	0	1	1	0	0	0	0	0
% App. Total	33.3	66.7	0	100	0	0	100	0	0	0	0	0	0
PHF	.250	.250	.000	.250	.000	.000	.250	.000	.250	.000	.000	.000	.000

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

File Name : 20_CRV_79_Whisper AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
07:45 AM	0	5	0	0	5	0	0	0	0	2	0	0	0	0	2	0	7	7
Total	0	8	0	0	8	0	0	0	0	2	0	0	0	0	2	0	10	10
08:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	0	0	1	0	0	0	0	2	0	0	0	0	2	0	3	3
08:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	6	0	0	6	0	0	0	0	2	1	0	0	0	3	0	9	9
Grand Total	0	14	0	0	14	0	0	0	0	4	1	0	0	0	5	0	19	19
% Approach	0	100	0	0	0	0	80	20	0	0	21.1	5.3	0	0	26.3	0	100	100
Total %	0	73.7	0	0	73.7	0	0	0	0	0	21.1	5.3	0	0	26.3	0	100	100

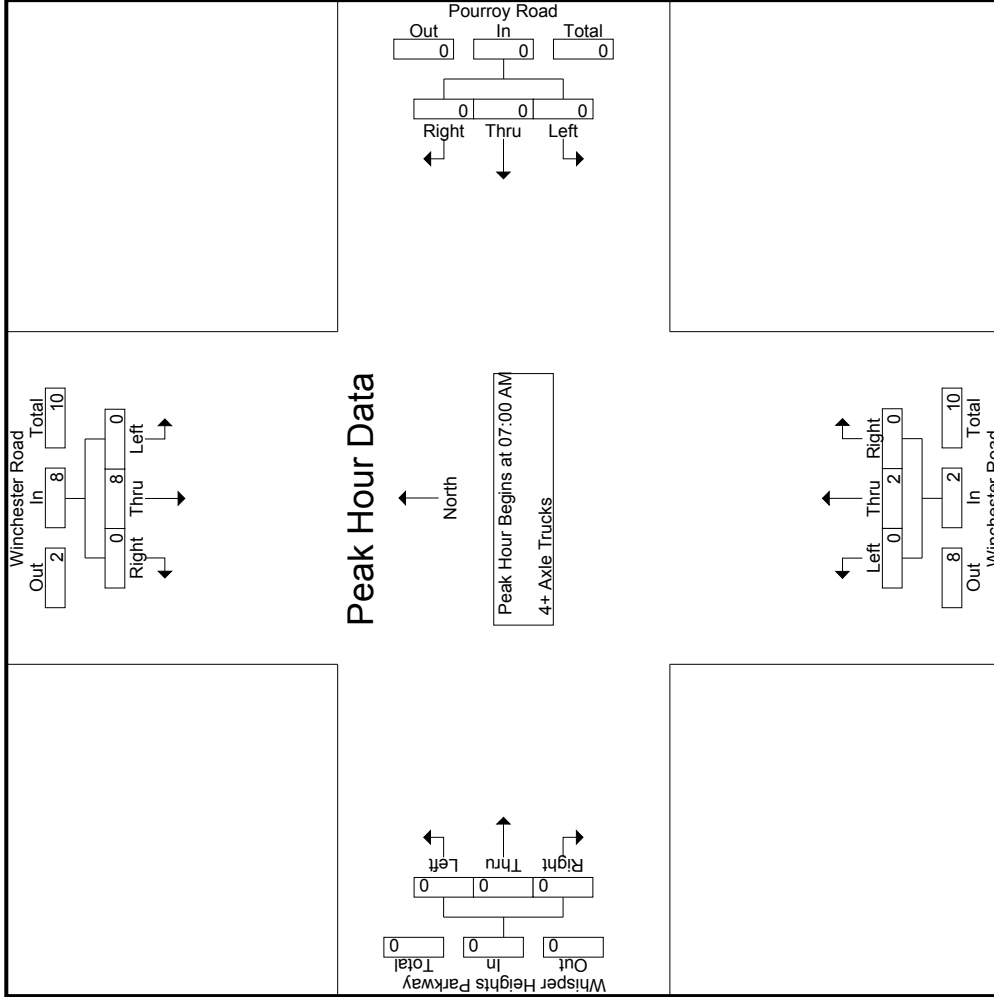
Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	2	0	7	7
Total Volume	0	8	0	0	8	0	0	0	0	0	0	0	0	0	2	0	10	10
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.400	.000	.000	.400	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.357

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

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 PO Box 1178
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

File Name : 20_CRV_79_Whisper AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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File Name : 20_CRV_79_Whisper AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

Start Time	Winchester Road Southbound			Pourroy Road Westbound			Winchester Road Northbound			Whisper Heights Parkway Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1	07:00 AM												
Peak Hour for Each Approach Begins at:	07:00 AM												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0
+45 mins.	0	5	0	5	0	0	0	2	0	0	0	2	0
Total Volume	0	8	0	8	0	0	0	2	0	0	0	2	0
% App. Total	0	100	0	100	0	0	0	100	0	0	0	100	0
PHF	.000	.400	.000	.400	.000	.000	.000	.250	.000	.000	.000	.250	.000

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File Name : 20_CRV_79_Whisper PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

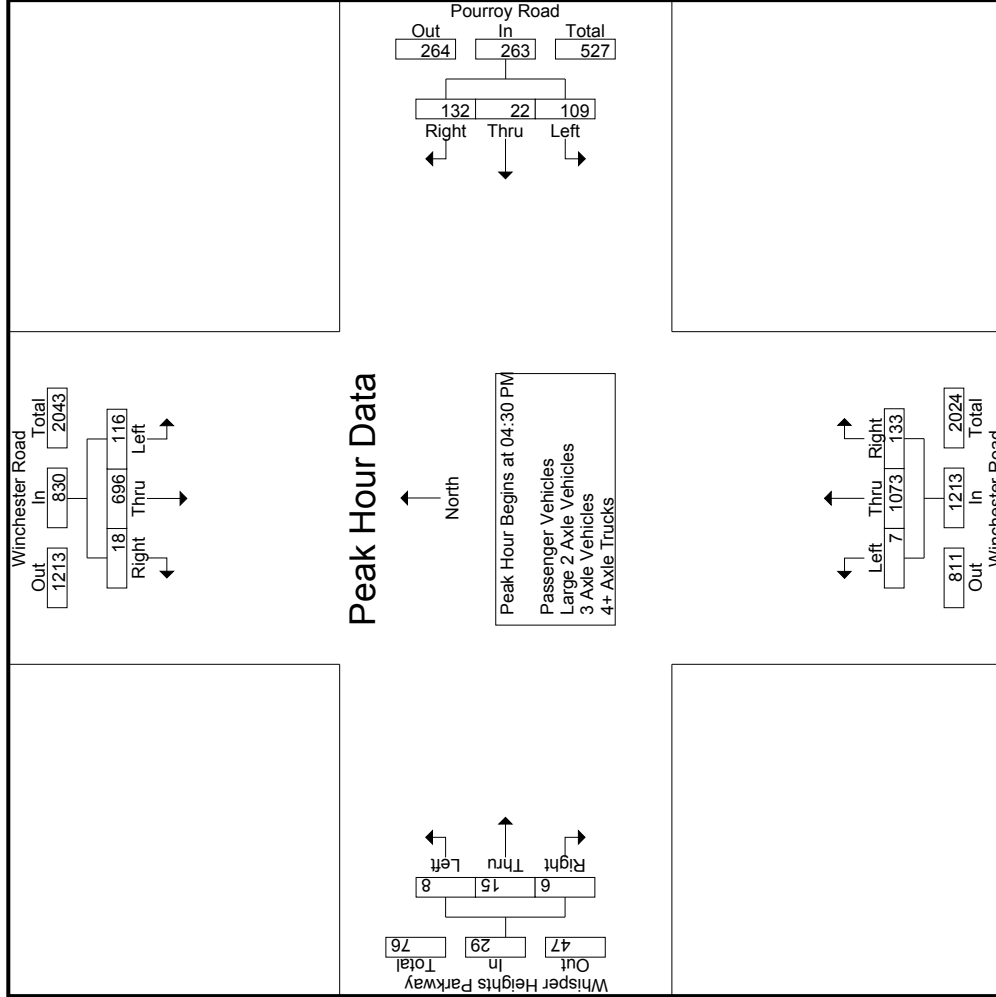
County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound					Pourroy Road Westbound					Winchester Road Northbound					Whisper Heights Parkway Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	17	181	2	0	200	30	6	38	16	74	1	257	43	11	301	0	5	2	0	7	27	582	609
04:15 PM	31	182	3	0	216	32	8	38	19	78	4	220	31	10	255	2	2	1	0	5	29	554	583
04:30 PM	41	160	3	0	204	23	5	32	16	60	2	258	42	18	302	2	6	2	1	10	35	576	611
04:45 PM	30	190	5	1	225	39	2	39	14	80	1	266	26	9	293	1	2	1	1	4	25	602	627
Total	119	713	13	1	845	124	21	147	65	292	8	1001	142	48	1151	5	15	6	2	26	116	2314	2430
05:00 PM	23	166	4	1	193	28	8	32	19	68	2	277	28	9	307	2	5	1	1	8	30	576	606
05:15 PM	22	180	6	1	208	19	7	29	17	55	2	272	37	15	311	3	2	2	2	7	35	581	616
05:30 PM	14	174	1	0	189	27	5	28	13	60	0	269	43	6	312	1	3	0	0	4	19	565	584
05:45 PM	28	154	1	0	183	25	6	27	12	58	3	256	39	14	298	2	1	5	2	8	28	547	575
Total	87	674	12	2	773	99	26	116	61	241	7	1074	147	44	1228	8	11	8	5	27	112	2269	2381
Grand Total	206	1387	25	3	1618	223	47	263	126	533	15	2075	289	92	2379	13	26	14	7	53	228	4583	4811
% Approach	12.7	85.7	1.5			41.8	8.8	49.3			0.6	87.2	12.1			24.5	49.1	26.4					
% Total	4.5	30.3	0.5			4.9	1	5.7			11.6	0.3	45.3	6.3		0.3	0.6	0.3			4.7	95.3	
Passenger Vehicles	199	1378	25		1605	223	47	255		649	15	2062	286		2455	13	26	14		60	0	0	4769
Large 2 Axle Vehicles	96.6	99.4	100	100	99	100	100	97	98.4	98.5	100	99.4	99	100	99.4	100	100	100	100	100	0	0	99.1
% Large 2 Axle Vehicles	7	7	0	0	0.9	0	0	6	1.6	1.2	0	0.5	0.3	0	0.5	0	0	0	0	0	0	0	34
% 3 Axle Vehicles	3.4	0.5	0	0	0.9	0	0	2.3	1.6	1.2	0	0.5	0.3	0	0.5	0	0	0	0	0	0	0	0.7
% 3 Axle Vehicles	0	1	0	0	1	0	0	2		2	0	1	1		2	0	0	0		0	0	0	5
% 4+ Axle Trucks	0	0.1	0	0	0.1	0	0	0.8	0	0.3	0	0	0.3	0	0.1	0	0	0	0	0	0	0	0.1
% 4+ Axle Trucks	0	1	0	0	1	0	0	0		0	0	1	1		2	0	0	0		0	0	0	3
% 4+ Axle Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0.3	0	0.1	0	0	0	0	0	0	0	0.1

Start Time	Winchester Road Southbound					Pourroy Road Westbound					Winchester Road Northbound					Whisper Heights Parkway Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	41	160	3		204	23	5	32		60	2	258	42		302	2	6	2		10			576
04:45 PM	30	190	5		225	39	2	39		80	1	266	26		293	1	2	1		4			602
05:00 PM	23	166	4		193	28	8	32		68	2	277	28		307	2	5	1		8			576
05:15 PM	22	180	6		208	19	7	29		55	2	272	37		311	3	2	2		7			581
Total Volume	116	696	18		830	109	22	132		263	7	1073	133		1213	8	15	6		29			2335
% App. Total	14	83.9	2.2			41.4	8.4	50.2			0.6	88.5	11			27.6	51.7	20.7					
PHF	.707	.916	.750		.922	.699	.688	.846		.822	.875	.968	.792		.975	.667	.625	.750		.725			.970

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM



Counts Unlimited, Inc.
 PO Box 1178
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File Name : 20_CRV_79_Whisper PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

Start Time	Winchester Road Southbound			Pourroy Road Westbound			Winchester Road Northbound			Whisper Heights Parkway Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	04:00 PM			04:00 PM			05:00 PM			04:30 PM				
+0 mins.	17	181	2	30	6	38	74	2	277	28	307	2	6	10
+15 mins.	31	182	3	32	8	38	78	2	272	37	311	1	2	4
+30 mins.	41	160	3	23	5	32	60	0	269	43	312	2	5	8
+45 mins.	30	190	5	39	2	39	80	3	256	39	298	3	2	7
Total Volume	119	713	13	124	21	147	292	7	1074	147	1228	8	15	29
% App. Total	14.1	84.4	1.5	42.5	7.2	50.3	91.3	0.6	87.5	12	98.4	27.6	51.7	20.7
PHF	.726	.938	.650	.795	.656	.942	.913	.583	.969	.855	.984	.667	.625	.750

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File Name : 20_CRV_79_Whisper PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound						Pourroy Road Westbound						Winchester Road Northbound						Whisper Heights Parkway Eastbound											
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total							
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total									
04:00 PM	16	180	2	0	198		30	6	36	16	72		1	254	42	11	297		0	5	2	0	7		27	574	601			
04:15 PM	29	181	3	0	213		32	8	37	19	77		4	219	31	10	254		2	2	1	0	5		29	549	578			
04:30 PM	40	159	3	0	202		23	5	32	16	60		2	295	42	18	299		2	6	2	1	10		35	571	606			
04:45 PM	30	188	5	1	223		39	2	38	14	79		1	265	26	9	292		1	2	1	1	4		25	598	623			
Total	115	708	13	1	836		124	21	143	65	288		8	993	141	48	1142		5	15	6	2	26		116	2292	2408			
05:00 PM	23	166	4	1	193		28	8	31	18	67		2	276	28	9	306		2	5	1	1	8		29	574	603			
05:15 PM	22	177	6	1	205		19	7	28	16	54		2	269	36	15	307		3	2	2	2	7		34	573	607			
05:30 PM	13	174	1	0	188		27	5	26	13	58		0	269	42	6	311		1	3	0	0	4		19	561	580			
05:45 PM	26	153	1	0	180		25	6	27	12	58		3	255	39	14	297		2	1	5	2	8		28	543	571			
Total	84	670	12	2	766		99	26	112	59	237		7	1069	145	44	1221		8	11	8	5	27		110	2251	2361			
Grand Total	199	1378	25	3	1602		223	47	255	124	525		15	2062	286	92	2363		13	26	14	7	53		226	4543	4769			
% Approach	12.4	86	1.6				42.5	9	48.6		11.6		0.6	87.3	12.1		52		24.5	49.1	26.4		1.2		4.7	95.3				
Total %	4.4	30.3	0.6		35.3		4.9	1	5.6				0.3	45.4	6.3				0.3	0.6	0.3									

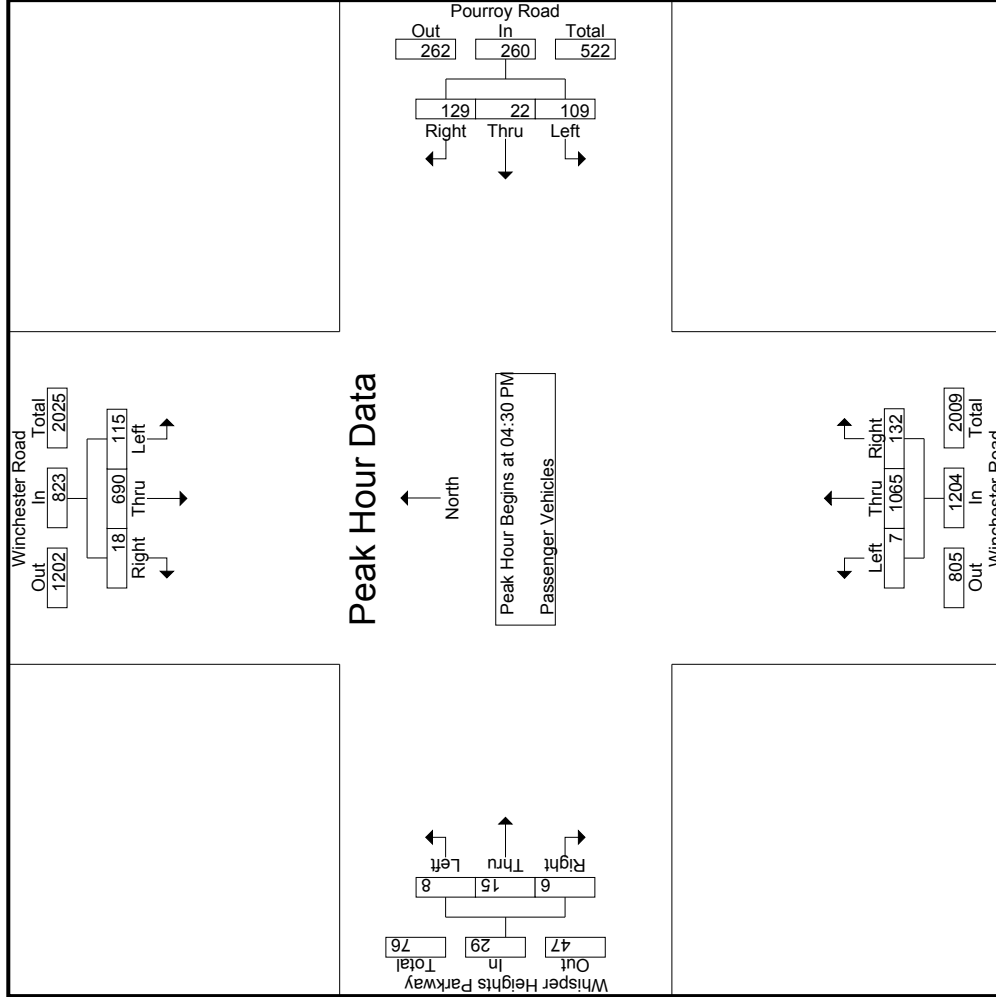
Start Time	Winchester Road Southbound						Pourroy Road Westbound						Winchester Road Northbound						Whisper Heights Parkway Eastbound											
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total							
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total									
04:30 PM	40	159	3		202		23	5	32		60		2	255	42		299		2	6	2		10		10	571				
04:45 PM	30	188	5		223		39	2	38		79		1	265	26		292		1	2	1		4		4	598				
05:00 PM	23	166	4		193		28	8	31		67		2	276	28		306		2	5	1		8		8	574				
05:15 PM	22	177	6		205		19	7	28		54		2	269	36		307		3	2	2		7		7	573				
Total Volume	115	690	18		823		109	22	129		260		7	1065	132		1204		8	15	6		29		29	2316				
% App. Total	14	83.8	2.2				41.9	8.5	49.6				0.6	88.5	11				27.6	51.7	20.7				.725	.968				
PHF	.719	.918	.750		.923		.699	.688	.849		.823		.875	.965	.786		.980		.667	.625	.750		.725							

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 20_CRV_79_Whisper PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear



Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

File Name : 20_CRV_79_Whisper PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

Start Time	Winchester Road Southbound			Pourroy Road Westbound			Winchester Road Northbound			Whisper Heights Parkway Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	40	159	3	202	23	5	32	60	2	255	42	299	2	6	2	10
+15 mins.	30	188	5	223	39	2	38	79	1	265	26	292	1	2	1	4
+30 mins.	23	166	4	193	28	8	31	67	2	276	28	306	2	5	1	8
+45 mins.	22	177	6	205	19	7	28	54	2	269	36	307	3	2	2	7
Total Volume	115	690	18	823	109	22	129	260	7	1065	132	1204	8	15	6	29
% App. Total	14	83.8	2.2		41.9	8.5	49.6		0.6	88.5	11		27.6	51.7	20.7	
PHF	.719	.918	.750	.923	.699	.688	.849	.823	.875	.965	.786	.980	.667	.625	.750	.725

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	7	7
04:15 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	3
04:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	4
04:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	3
Total	4	3	0	7	2	0	0	0	0	8	0	0	0	0	0	0	17	17
05:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
05:15 PM	0	3	0	3	1	0	1	1	0	2	0	0	0	0	0	1	6	7
05:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	3
05:45 PM	2	1	0	3	0	0	0	0	0	1	0	0	0	0	0	0	4	4
Total	3	4	0	7	4	0	0	0	0	3	1	0	0	0	0	2	15	17
Grand Total	7	7	0	14	6	0	0	0	0	11	1	0	0	0	0	2	32	34
% Approach	50	50	0	0	100	0	0	0	0	91.7	8.3	0	0	0	0	5.9	94.1	
Total %	21.9	21.9	0	43.8	18.8	0	0	0	0	34.4	3.1	0	0	0	0			

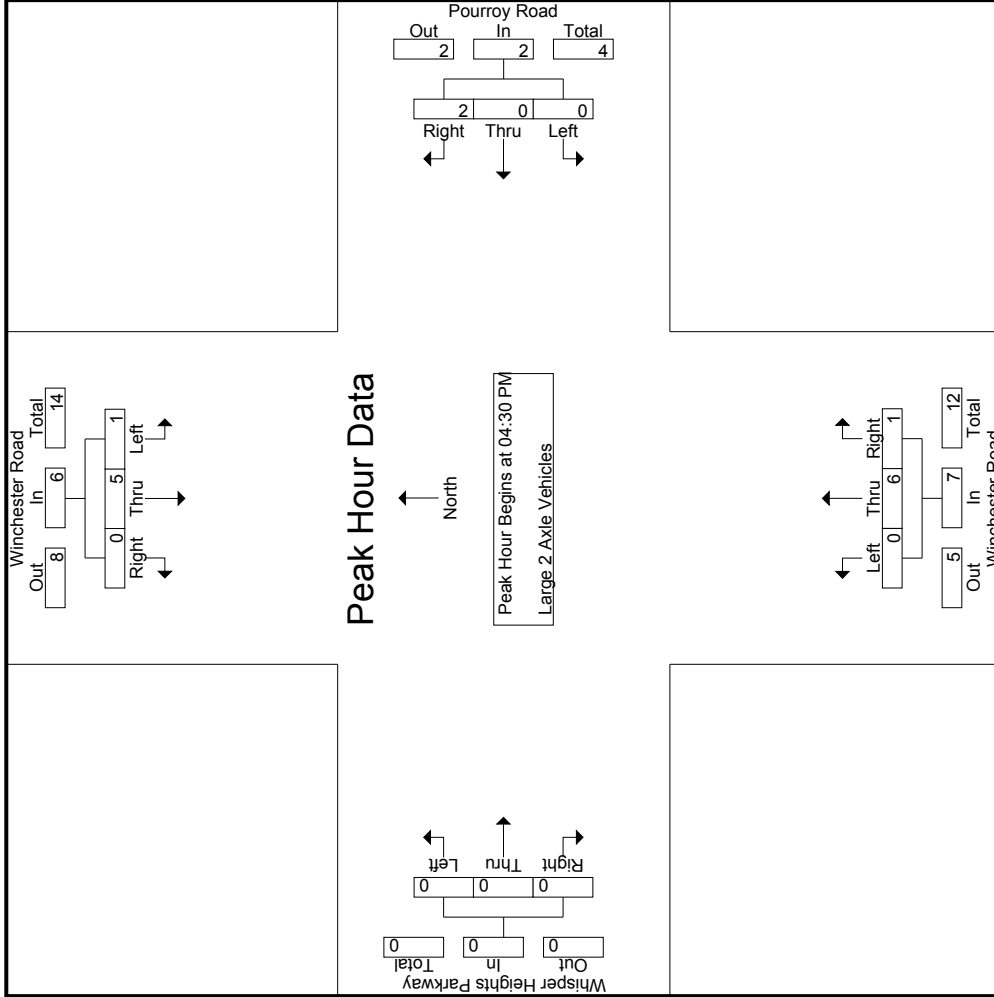
Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	5	0	6	0	0	0	0	0	6	1	0	0	0	0	0	0	0
% App. Total	16.7	83.3	0	0	0	0	0	0	0	85.7	14.3	0	0	0	0	0	0	0
PHF	.250	.417	.000	.500	.000	.000	.500	.500	.000	.250	.250	.000	.000	.000	.583	.000	.000	.625

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 20_CRV_79_Whisper PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 20_CRV_79_Whisper PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

Start Time	Winchester Road Southbound			Pourroy Road Westbound			Winchester Road Northbound			Whisper Heights Parkway Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	04:30 PM			04:30 PM			04:30 PM			04:30 PM			04:30 PM		
+0 mins.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	2	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
+45 mins.	0	3	0	0	0	1	0	0	0	0	0	0	0	0	
Total Volume	1	5	0	0	0	2	0	0	0	0	0	0	0	0	
% App. Total	16.7	83.3	0	0	0	100	0	0	0	0	0	0	0	0	
PHF	.250	.417	.000	.000	.500	.500	.000	.000	.583	.250	.000	.000	.000	.000	

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	1	0	0	2	0	0	1	0	1	0	0	0	0	0	0	4	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
Grand Total	0	1	0	0	2	0	2	1	1	0	2	0	0	0	0	0	5	5
% Approach	0	100	0	0	100	0	50	50	50	20	40	0	0	0	0	0	100	100
Total %	0	20	0	0	20	0	20	20	20	40	0	0	0	0	0	0	100	100

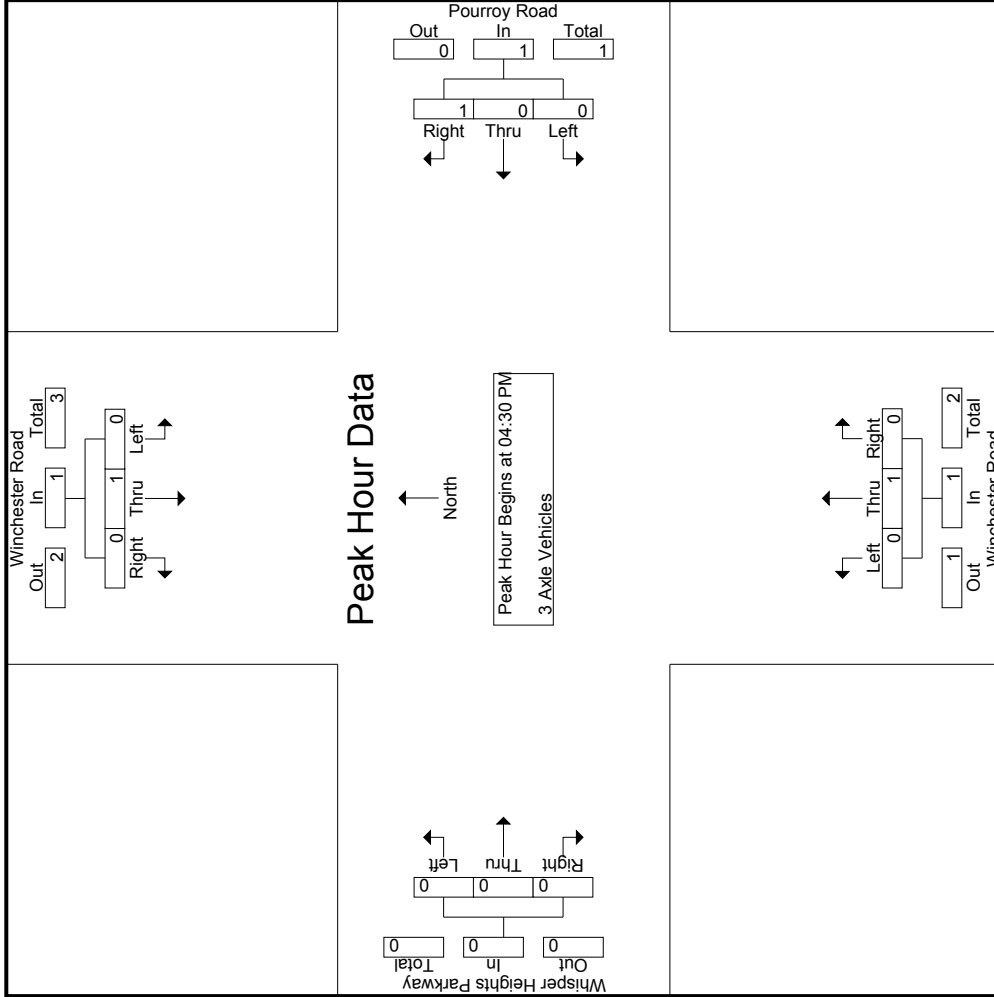
Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	1	0	1	0	0	0	0	1	0	0	0
% App. Total	0	100	0	0	100	0	0	100	0	100	0	0	0	0	100	0	0	0
PHF	.000	.250	.000	.000	.250	.000	.250	.250	.000	.250	.000	.250	.000	.000	.250	.000	.000	.750

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

File Name : 20_CRV_79_Whisper PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 20_CRV_79_Whisper PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

Start Time	Winchester Road Southbound			Pourroy Road Westbound			Winchester Road Northbound			Whisper Heights Parkway Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1	04:30 PM													
Peak Hour for Each Approach Begins at:	04:30 PM													
+0 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Total Volume	0	1	0	0	0	1	0	1	0	0	0	0	0	0
% App. Total	0	100	0	0	0	100	0	100	0	0	0	0	0	0
PHF	.000	.250	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	2
Grand Total	0	1	0	0	1	0	1	1	0	2	0	0	0	0	0	0	0	3
% Approach	0	100	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0	100
Total %	0	33.3	0	0	33.3	0	33.3	33.3	0	66.7	0	0	0	0	0	0	0	100

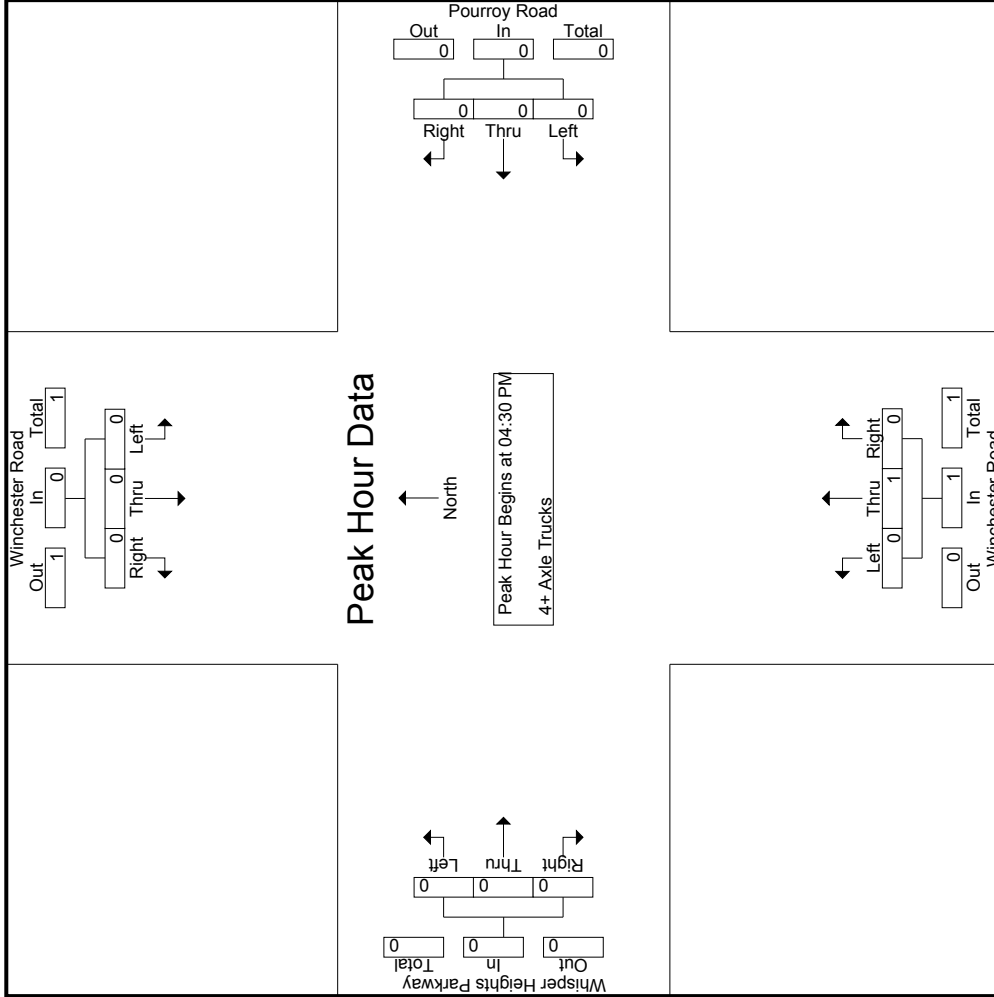
Start Time	Winchester Road Southbound				Pourroy Road Westbound				Winchester Road Northbound				Whisper Heights Parkway Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
% App. Total	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000	.000	.250

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 20_CRV_79_Whisper PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 20_CRV_79_Whisper PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Whisper Heights Pkwy/Pourroy Rd
 Weather: Clear

Start Time	Winchester Road Southbound			Pourroy Road Westbound			Winchester Road Northbound			Whisper Heights Parkway Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	04:30 PM			04:30 PM			04:30 PM			04:30 PM					
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	

Location: County of Riverside
 N/S: Winchester Road
 E/W: Whisper Heights Pkwy/Pourroy Rd



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road Pedestrians	East Leg Pourroy Road Pedestrians	South Leg Winchester Road Pedestrians	West Leg Whisper Heights Pkwy Pedestrians	
7:00 AM	4	0	0	0	4
7:15 AM	0	0	0	0	0
7:30 AM	1	0	0	0	1
7:45 AM	0	1	0	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	2	0	0	0	2
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	7	1	0	0	8

	North Leg Winchester Road Pedestrians	East Leg Pourroy Road Pedestrians	South Leg Winchester Road Pedestrians	West Leg Whisper Heights Pkwy Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	2	0	0	0	2
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	1	1	0	0	2
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	3	1	0	0	4

Location: County of Riverside
 N/S: Winchester Road
 E/W: Whisper Heights Pkwy/Pourroy Rd



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Winchester Road			Westbound Pourroy Road			Northbound Winchester Road			Eastbound Whisper Heights Pkwy			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	1	0	0	0	1	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
8:30 AM	1	0	0	0	0	1	0	0	2	0	0	0	4
8:45 AM	1	0	0	0	2	0	0	0	0	0	0	0	3
TOTAL VOLUMES:	2	0	1	1	2	2	0	2	2	0	0	1	13

	Southbound Winchester Road			Westbound Pourroy Road			Northbound Winchester Road			Eastbound Whisper Heights Pkwy			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	1	0	0	1	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
TOTAL VOLUMES:	0	1	0	0	1	2	0	0	2	0	0	0	6

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound						Skyview Road Westbound						Winchester Road Northbound						Jean Nicholas Road Eastbound											
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total							
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total									
07:00 AM	1	324	10	4	335		5	2	0	0	7		11	112	2	0	125		9	1	19	13	29		17	496	513			
07:15 AM	0	259	19	11	278		5	2	1	1	8		12	106	1	0	119		14	0	16	8	30		20	435	455			
07:30 AM	0	359	12	6	371		11	2	5	3	18		12	154	5	2	171		24	1	18	14	43		25	603	628			
07:45 AM	0	271	29	15	300		8	2	0	0	10		16	141	2	0	159		21	0	22	19	43		34	512	546			
Total	1	1213	70	36	1284		29	8	6	4	43		51	513	10	2	574		68	2	75	54	145		96	2046	2142			
08:00 AM	1	245	34	9	280		4	0	2	2	6		33	89	0	0	122		30	0	19	15	49		26	457	483			
08:15 AM	0	263	15	4	278		9	0	2	1	11		34	113	2	1	149		13	1	27	19	41		25	479	504			
08:30 AM	2	279	14	4	295		6	0	1	1	7		22	124	9	3	155		17	2	22	16	41		24	498	522			
08:45 AM	0	223	11	4	234		3	2	1	0	6		17	121	6	2	144		16	2	17	12	35		18	419	437			
Total	3	1010	74	21	1087		22	2	6	4	30		106	447	17	6	570		76	5	85	62	166		93	1853	1946			
Grand Total	4	2223	144	57	2371		51	10	12	8	73		157	960	27	8	1144		144	7	160	116	311		189	3899	4088			
% Approach	0.2	93.8	6.1				69.9	13.7	16.4				13.7	83.9	2.4				46.3	2.3	51.4				4.6	95.4				
% Total	0.1	57	3.7		60.8		1.3	0.3	0.3		1.9		4	24.6	0.7		29.3		3.7	0.2	4.1		8							
% Passenger Vehicles	3	2183	144		2387		50	10	11		78		154	937	26		1125		144	7	157		422		0	0	4012			
% Large 2 Axle Vehicles	75	98.2	100	100	98.3		98	100	91.7	87.5	96.3		98.1	97.6	96.3	100	97.7		100	100	98.1	98.3	98.8		0	0	98.1			
% 3 Axle Vehicles	0	22	0	0	22		1	0	0	0	1		14	1	1		16		0	0	1		2		0	0	41			
% 4+ Axle Trucks	0	1	0	0	0.9		2	0	0	0	1.2		0.6	1.5	3.7	0	1.4		0	0	0.6	0.9	0.5		0	0	1			
% Total	0	7	0	0	7		0	0	0	0	0		2	3	0	0	5		0	0	1		1		0	0	13			
% 4+ Axle Trucks	1	11	0	0	0.3		0	0	0	0	0		1.3	0.3	0	0	0.4		0	0	0.6	0	0.2		0	0	0.3			
% 4+ Axle Trucks	25	0.5	0	0	0.5		0	0	1	12.5	2.5		0	0.6	0	0	0.5		0	0	0.6	0.9	0.5		0	0	0			

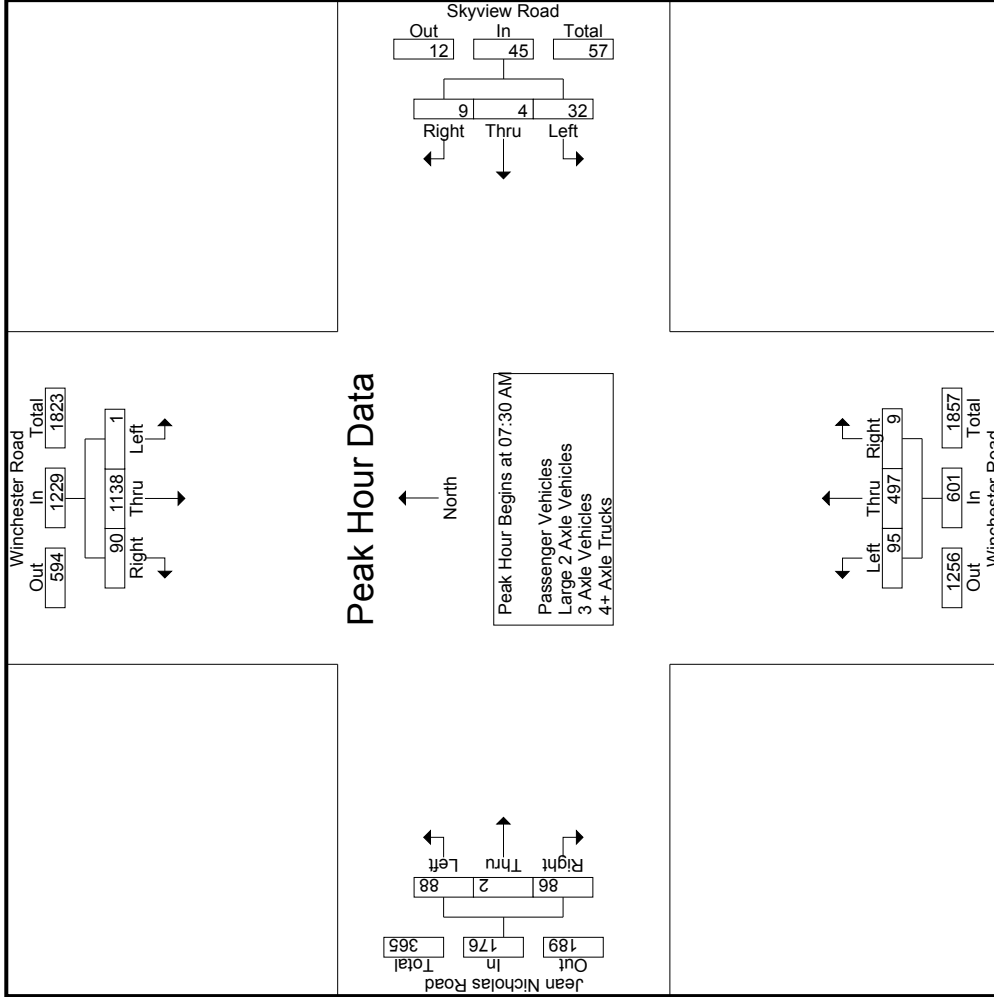
Start Time	Winchester Road Southbound						Skyview Road Westbound						Winchester Road Northbound						Jean Nicholas Road Eastbound						
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				
07:30 AM	0	359	12		371		11	2	5	18		12	154	5		171		24	1	18		43		603	
07:45 AM	0	271	29		300		8	2	0	10		16	141	2		159		21	0	22		43		512	
08:00 AM	1	245	34		280		4	0	2	6		33	89	0		122		30	0	19		49		457	
08:15 AM	0	263	15		278		9	0	2	11		34	113	2		149		13	1	27		41		479	
Total Volume	1	1138	90		1229		32	4	9	45		95	497	9		601		88	2	86		176		2051	
% App. Total	0.1	92.6	7.3				71.1	8.9	20				15.8	82.7	1.5				50	1.1	48.9				.850
PHF	.250	.792	.662		.828		.727	.500	.450		.625		.699	.807	.450		.879		.733	.500	.796		.898		

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Skyview Road Westbound			Winchester Road Northbound			Jean Nicholas Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:															
	07:00 AM			07:30 AM			07:30 AM			07:30 AM						
+0 mins.	1	324	10	335	11	2	5	18	12	154	5	171	24	1	18	43
+15 mins.	0	259	19	278	8	2	0	10	16	141	2	159	21	0	22	43
+30 mins.	0	359	12	371	4	0	2	6	33	89	0	122	30	0	19	49
+45 mins.	0	271	29	300	9	0	2	11	34	113	2	149	13	1	27	41
Total Volume	1	1213	70	1284	32	4	9	45	95	497	9	601	88	2	86	176
% App. Total	0.1	94.5	5.5		71.1	8.9	20		15.8	82.7	1.5		50	1.1	48.9	
PHF	.250	.845	.603	.865	.727	.500	.450	.625	.699	.807	.450	.879	.733	.500	.796	.898

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
07:00 AM	1	318	10	4	329	4	2	0	0	6	9	107	2	0	118	9	1	19	13	29	17	482	499
07:15 AM	0	255	19	11	274	5	2	1	1	8	12	99	1	0	112	14	0	15	7	29	19	423	442
07:30 AM	0	354	12	6	366	11	2	5	3	18	12	153	5	2	170	24	1	18	14	43	25	597	622
07:45 AM	0	268	29	15	297	8	2	0	0	10	16	141	2	0	159	21	0	21	18	42	33	508	541
Total	1	1195	70	36	1266	28	8	6	4	42	49	500	10	2	559	68	2	73	52	143	94	2010	2104
08:00 AM	1	241	34	9	276	4	0	2	2	6	33	87	0	0	120	30	0	18	15	48	26	450	476
08:15 AM	0	297	15	4	272	9	0	2	1	11	34	111	2	1	147	13	1	27	19	41	25	471	496
08:30 AM	1	272	14	4	287	6	0	0	0	6	22	121	9	3	152	17	2	22	16	41	23	486	509
08:45 AM	0	218	11	4	229	3	2	1	0	6	16	118	5	2	139	16	2	17	12	35	18	409	427
Total	2	988	74	21	1064	22	2	5	3	29	105	437	16	6	558	76	5	84	62	165	92	1816	1908
Grand Total	3	2183	144	57	2330	50	10	11	7	71	154	937	26	8	1117	144	7	157	114	308	186	3826	4012
% Apprch %	0.1	93.7	6.2			70.4	14.1	15.5		1.9	13.8	83.9	2.3		29.2	46.8	2.3	51		8.1	4.6	95.4	
% Total %	0.1	57.1	3.8			1.3	0.3	0.3			4	24.5	0.7			3.8	0.2	4.1					

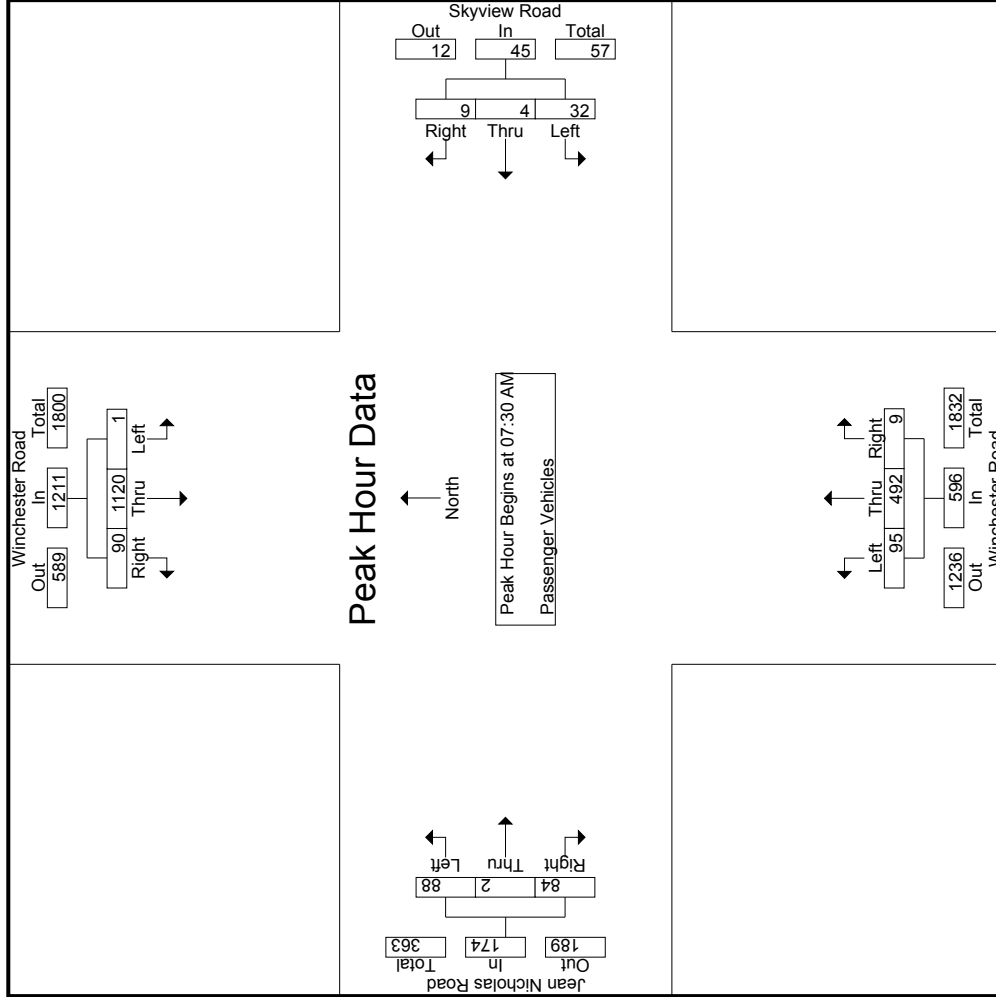
Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total				
07:30 AM	0	354	12		366	11	2	5		18	12	153	5		170	24	1	18		43	597	
07:45 AM	0	268	29		297	8	2	0		10	16	141	2		159	21	0	21		42	508	
08:00 AM	1	241	34		276	4	0	2		6	33	87	0		120	30	0	18		48	450	
08:15 AM	0	257	15		272	9	0	2		11	34	111	2		147	13	1	27		41	471	
Total Volume	1	1120	90		1211	32	4	9		45	95	492	9		596	88	2	84		174	2026	
% App. Total	0.1	92.5	7.4			71.1	8.9	20		1.5	15.9	82.6	1.5		48.3	50.6	1.1	48.3				
PHF	.250	.791	.662		.827	.727	.500	.450		.625	.699	.804	.450		.876	.733	.500	.778		.906	.848	

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Skyview Road Westbound			Winchester Road Northbound			Jean Nicholas Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:															
	07:30 AM				07:30 AM				07:30 AM							
+0 mins.	0	354	12	366	11	2	5	18	12	153	5	170	24	1	18	43
+15 mins.	0	268	29	297	8	2	0	10	16	141	2	159	21	0	21	42
+30 mins.	1	241	34	276	4	0	2	6	33	87	0	120	30	0	18	48
+45 mins.	0	257	15	272	9	0	2	11	34	111	2	147	13	1	27	41
Total Volume	1	1120	90	1211	32	4	9	45	95	492	9	596	88	2	84	174
% App. Total	0.1	92.5	7.4		71.1	8.9	20		15.9	82.6	1.5		50.6	1.1	48.3	
PHF	.250	.791	.662	.827	.727	.500	.450	.625	.699	.804	.450	.876	.733	.500	.778	.906

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	6	0	0	6	1	0	0	0	1	1	2	0	0	3	0	0	10
07:15 AM	0	2	0	0	2	0	0	0	0	0	4	0	0	0	4	0	6	6
07:30 AM	0	3	0	0	3	0	0	0	0	0	1	0	0	0	1	0	4	4
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	2	3
Total	0	12	0	0	12	1	0	0	0	1	7	0	0	1	8	1	22	23
08:00 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	2	2
08:15 AM	0	4	0	0	4	0	0	0	0	0	2	0	0	2	0	0	6	6
08:30 AM	0	4	0	0	4	0	0	0	0	0	1	0	0	0	0	0	5	5
08:45 AM	0	1	0	0	1	0	0	0	0	0	3	1	0	4	0	0	5	5
Total	0	10	0	0	10	0	0	0	0	0	7	1	0	8	0	0	18	18
Grand Total	0	22	0	0	22	1	0	0	0	1	14	1	0	16	0	1	40	41
% Approach	0	100	0	0	0	6.2	87.5	6.2	0	2.5	35	2.5	0	40	0	2.4	97.6	0
Total %	0	55	0	0	55	2.5	55	2.5	0	2.5	40	2.5	0	40	0	97.6	0	

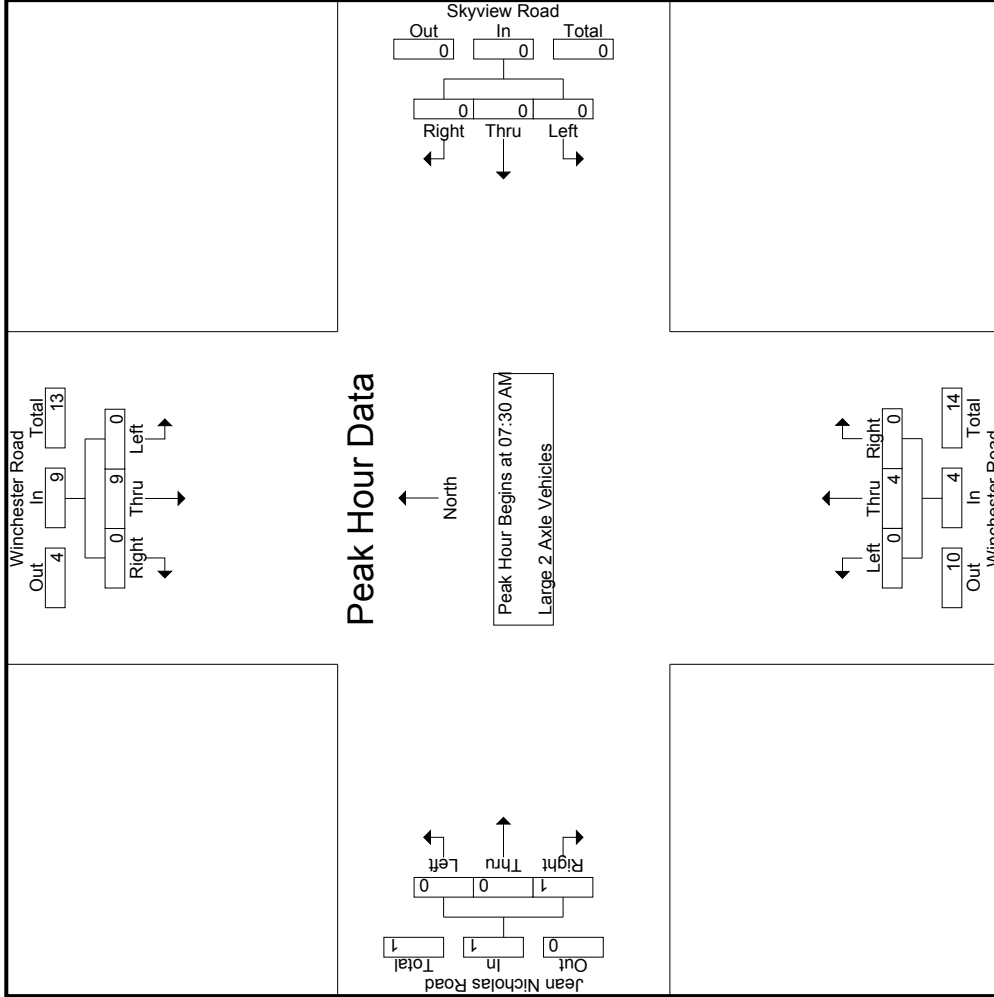
Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	4
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
08:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	4	0	0	4	0	0	0	0	0	0	2	0	2	0	0	6	6
Total Volume	0	9	0	0	9	0	0	0	0	0	4	0	4	0	4	1	14	14
% App. Total	0	100	0	0	0	0	0	0	0	0	100	0	100	0	100	0	.583	.583
PHF	.000	.563	.000	.000	.563	.000	.000	.000	.000	.500	.000	.500	.000	.000	.250	.250	.583	.583

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Skyview Road Westbound			Winchester Road Northbound			Jean Nicholas Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	3	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	0	0	0	0	0	0	0	0	1
+30 mins.	0	1	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	4	0	0	0	0	0	2	0	0	0	0
Total Volume	0	9	0	0	0	0	0	4	0	0	0	1
% App. Total	0	100	0	0	0	0	0	100	0	0	0	100
PHF	.000	.563	.000	.000	.000	.000	.000	.500	.000	.000	.000	.250

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
07:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	2
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	4	0	0	4	0	0	0	0	0	1	2	0	0	3	0	0	7
08:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	3
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	2
Total	0	3	0	0	3	0	0	0	0	0	1	1	0	0	2	0	0	6
Grand Total	0	7	0	0	7	0	0	0	0	0	2	3	0	0	5	0	0	13
% Apprch %	0	100	0	0	0	0	0	0	0	0	40	60	0	0	0	0	0	100
% Total %	0	53.8	0	0	53.8	0	0	0	0	0	15.4	23.1	0	0	38.5	0	0	7.7

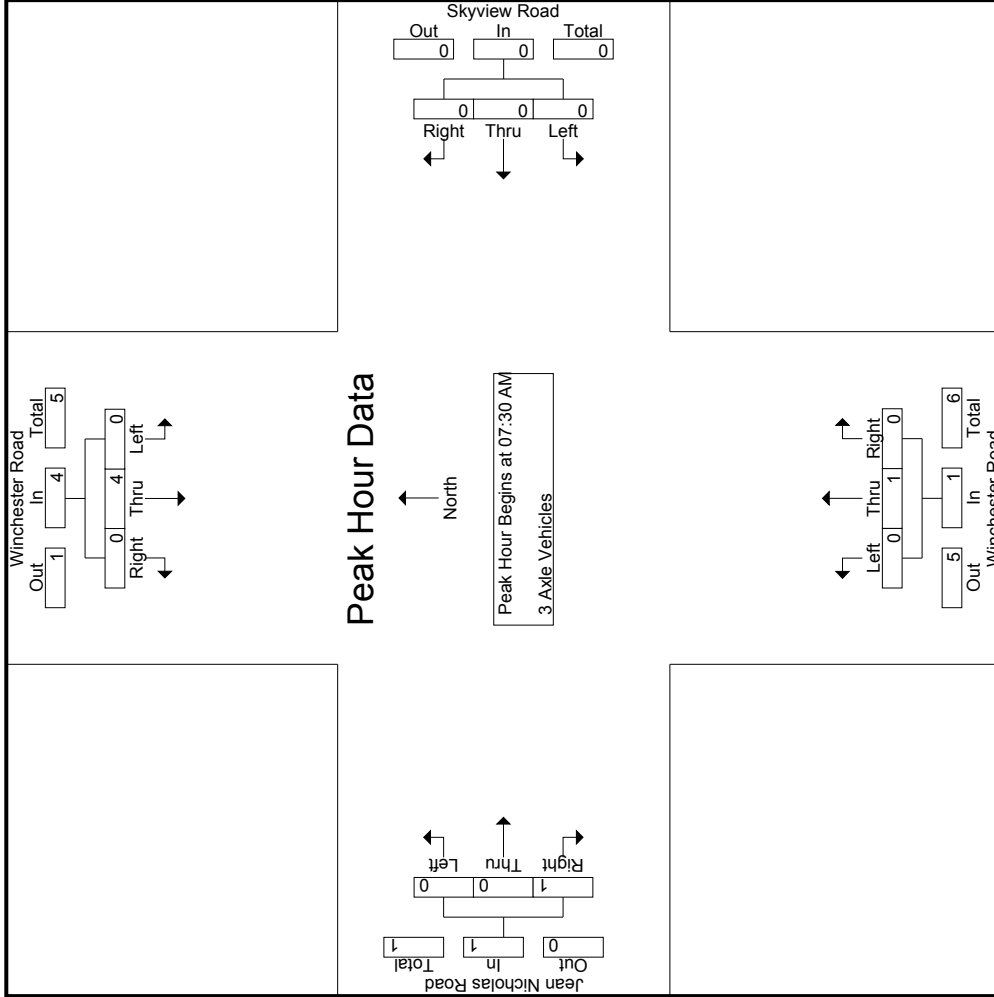
Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound											
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
% App. Total	0	100	0	0	100	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.250	.250	.000	.000	.250	.250	.500

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
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 Weather: Clear

File Name : 21_CRV_79_Jean AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Skyview Road Westbound			Winchester Road Northbound			Jean Nicholas Road Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
+0 mins.	0	2	0	07:30 AM	0	0	0	07:30 AM	0	0	0	0	0	0
+15 mins.	0	1	0		0	0	0		0	0	0	0	0	0
+30 mins.	0	1	0		0	0	0		1	0	0	0	0	1
+45 mins.	0	0	0		0	0	0		0	0	0	0	0	0
Total Volume	0	4	0		0	0	0		1	0	0	0	0	1
% App. Total	0	100	0		0	0	0		100	0	0	0	0	100
PHF	.000	.500	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.250

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	4	5
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	2	0	0	2	0	0	0	0	4	0	0	1	1	1	1	7	8
08:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
08:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
08:30 AM	1	2	0	0	3	0	0	1	1	1	0	2	0	0	0	1	6	7
08:45 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
Total	1	9	0	0	10	0	0	1	1	1	0	2	0	0	0	1	13	14
Grand Total	1	11	0	0	12	0	0	1	1	1	0	6	0	0	1	1	2	22
% Approach	8.3	91.7	0	0	60	0	0	100	0	5	0	100	0	0	5	9.1	90.9	
Total %	5	55	0	0	60	0	0	5	0	5	0	30	0	0	5	9.1	90.9	

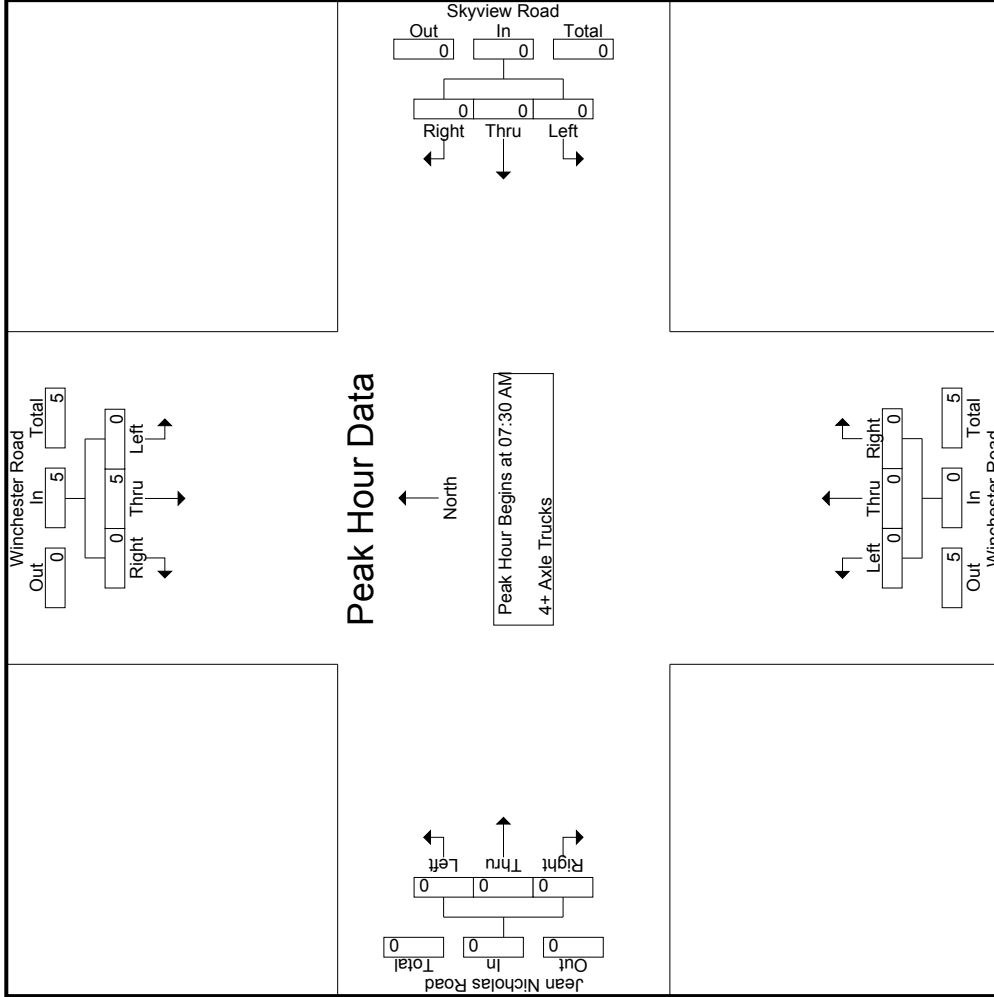
Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
% App. Total	0	100	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	.625
PHF	.000	.625	.000	.000	.625	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.625

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Skyview Road Westbound			Winchester Road Northbound			Jean Nicholas Road Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:												
	07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0
+30 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0
Total Volume	0	5	0	5	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	100	0	0	0	0	0	0	0	0	0
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.000	.000	.000	.000	.000

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound						Skyview Road Westbound						Winchester Road Northbound						Jean Nicholas Road Eastbound																	
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total							
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total									
04:00 PM	0	202	19	10	221		2	2	3	2	7		33	290	6	2	329		18	0	12	8	30		22	587	609				22	587	609			
04:15 PM	0	181	11	7	192		3	2	3	3	8		33	245	7	2	285		25	3	12	9	40		21	525	546				21	525	546			
04:30 PM	1	183	20	8	204		2	0	2	1	4		44	245	8	1	297		14	2	21	16	37		26	542	568				26	542	568			
04:45 PM	1	216	17	7	234		1	1	1	1	9		51	267	5	1	323		22	1	16	14	39		23	605	628				23	605	628			
Total	2	782	67	32	851		14	5	9	7	28		161	1047	26	6	1234		79	6	61	47	146		92	2259	2351				92	2259	2351			
05:00 PM	1	176	16	7	193		7	2	1	0	10		45	263	4	0	312		25	0	17	12	42		19	557	576				19	557	576			
05:15 PM	0	191	17	8	208		2	2	1	1	5		62	301	3	1	366		26	2	12	10	40		20	619	639				20	619	639			
05:30 PM	1	189	17	5	207		5	0	2	1	7		56	293	12	1	361		16	1	14	13	31		31	606	626				31	606	626			
05:45 PM	0	174	13	5	187		7	1	0	0	8		55	290	9	1	354		19	2	19	15	40		21	589	610				21	589	610			
Total	2	730	63	25	795		21	5	4	2	30		218	1147	28	3	1393		86	5	62	50	153		80	2371	2451				80	2371	2451			
Grand Total	4	1512	130	57	1646		35	10	13	9	58		379	2194	54	9	2627		165	11	123	97	299		172	4630	4802				172	4630	4802			
% Approach	0.2	91.9	7.9				60.3	17.2	22.4				14.4	83.5	2.1				55.2	3.7	41.1				3.6	96.4					3.6	96.4				
% Total	0.1	32.7	2.8				0.8	0.2	0.3				8.2	47.4	1.2				3.6	0.2	2.7				3.6	96.4					3.6	96.4				
% Passenger Vehicles	4	1498	128		1687		35	9	13		66		378	2176	54		2617		165	11	121		394		0	0	4764				0	0	4764			
% Large 2 Axle Vehicles	100	99.1	98.5	100	99.1		100	90	100	100	98.5		99.7	99.2	100	100	99.3		100	100	98.4	100	99.5		0	0	0		0		0	0	0		0	
% 3 Axle Vehicles	0	0.8	0	0	0.7		0	10	0	0	1.5		0.3	0.7	0	0	0.6		0	0	0	0	0		0	0	0		0		0	0	0		0	
% 4+ Axle Trucks	0	1	1	1	2		0	0	0	0	0		0	2	0	0	2		0	0	1	0	1		0	0	0		0		0	0	0		0	
% 4+ Axle Trucks	0	0.1	0.8	0	0.1		0	0	0	0	0		0	1	0	0	1		0	0	0.8	0	0.3		0	0	0		0		0	0	0		0	

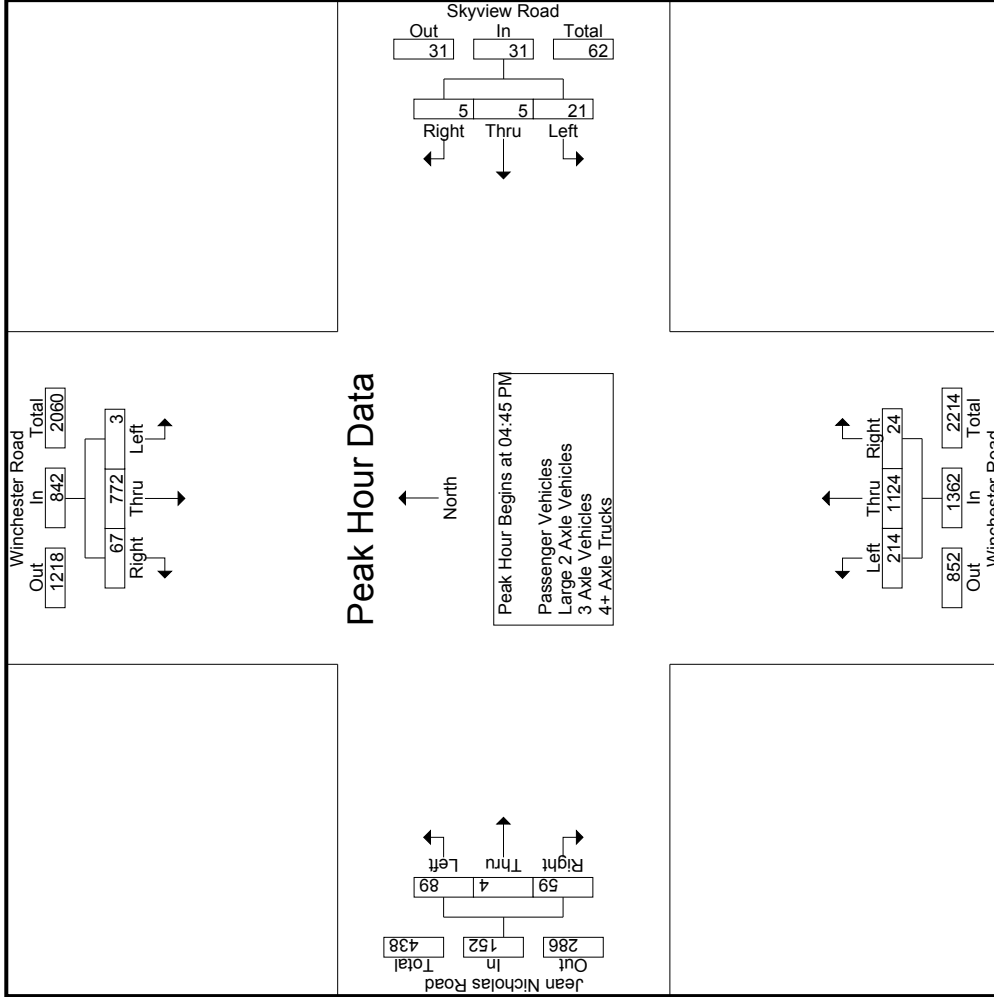
Start Time	Winchester Road Southbound						Skyview Road Westbound						Winchester Road Northbound						Jean Nicholas Road Eastbound																	
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total							
	Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total				Exclu. Total	Inclu. Total	Int. Total									
04:45 PM	1	216	17		234		7	1	1	1	9		51	267	5		323		22	1	16		39		39	605	605				39	605	605			
05:00 PM	1	176	16		193		7	2	1	1	10		45	263	4		312		25	0	17		42		42	557	557				42	557	557			
05:15 PM	0	191	17	5	207		2	2	1	1	5		62	301	3		366		26	2	12		40		40	619	619				40	619	619			
05:30 PM	1	189	17	5	207		5	0	2	0	7		56	293	12		361		16	1	14		31		31	606	606				31	606	606			
Total Volume	3	772	67	842	1646		21	5	5	31	775		214	1124	24	1362	1362		89	4	59	152	2387		152	2387	2387				152	2387	2387			
% App. Total	0.4	91.7	8				67.7	16.1	16.1		62.5		15.7	82.5	1.8		930		58.6	2.6	38.8	.905	.964		38.8	.905	.964				38.8	.905	.964			
PHF	.750	.894	.985	.900	.900		.750	.625	.625	.625	.775		.863	.934	.500	.930	.930		.856	.500	.868	.905	.964		.868	.905	.964				.868	.905	.964			

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Skyview Road Westbound			Winchester Road Northbound			Jean Nicholas Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:															
	04:00 PM			04:15 PM			05:00 PM			04:15 PM						
+0 mins.	0	202	19	221	3	2	3	8	45	263	4	312	25	3	12	40
+15 mins.	0	181	11	192	2	0	2	4	62	301	3	366	14	2	21	37
+30 mins.	1	183	20	204	7	1	1	9	56	293	12	361	22	1	16	39
+45 mins.	1	216	17	234	7	2	1	10	55	290	9	354	25	0	17	42
Total Volume	2	782	67	851	19	5	7	31	218	1147	28	1393	86	6	66	158
% App. Total	0.2	91.9	7.9	909	61.3	16.1	22.6	77.5	15.6	82.3	2	952	54.4	3.8	41.8	940
PHF	.500	.905	.838	.909	.679	.625	.583	.775	.879	.953	.583	.952	.860	.500	.786	.940

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
04:00 PM	0	198	18	10	216	2	2	3	2	7	33	286	6	2	325	18	0	12	8	30	22	578	600
04:15 PM	0	178	11	7	189	3	1	3	3	7	33	244	7	2	284	25	3	12	9	40	21	520	541
04:30 PM	1	179	20	8	200	2	0	2	1	4	43	243	8	1	294	14	2	21	16	37	26	535	561
04:45 PM	1	216	17	7	234	7	1	1	1	9	51	264	5	1	320	22	1	15	14	38	23	601	624
Total	2	771	66	32	839	14	4	9	7	27	160	1037	26	6	1223	79	6	60	47	145	92	2234	2326
05:00 PM	1	175	16	7	192	7	2	1	0	10	45	262	4	0	311	25	0	16	12	41	19	554	573
05:15 PM	0	190	16	8	206	2	2	1	1	5	62	299	3	1	364	26	2	12	10	40	20	615	635
05:30 PM	1	189	17	5	207	5	0	2	1	7	56	292	12	1	360	16	1	14	13	31	20	605	625
05:45 PM	0	173	13	5	186	7	1	0	0	8	55	286	9	1	350	19	2	19	15	40	21	584	605
Total	2	727	62	25	791	21	5	4	2	30	218	1139	28	3	1385	86	5	61	50	152	80	2358	2438
Grand Total	4	1498	128	57	1630	35	9	13	9	57	378	2176	54	9	2608	165	11	121	97	297	172	4592	4764
% Approach	0.2	91.9	7.9			61.4	15.8	22.8		1.2	14.5	83.4	2.1		56.8	55.6	3.7	40.7		6.5	3.6	96.4	
% Total	0.1	32.6	2.8		35.5	0.8	0.2	0.3			8.2	47.4	1.2			3.6	0.2	2.6					

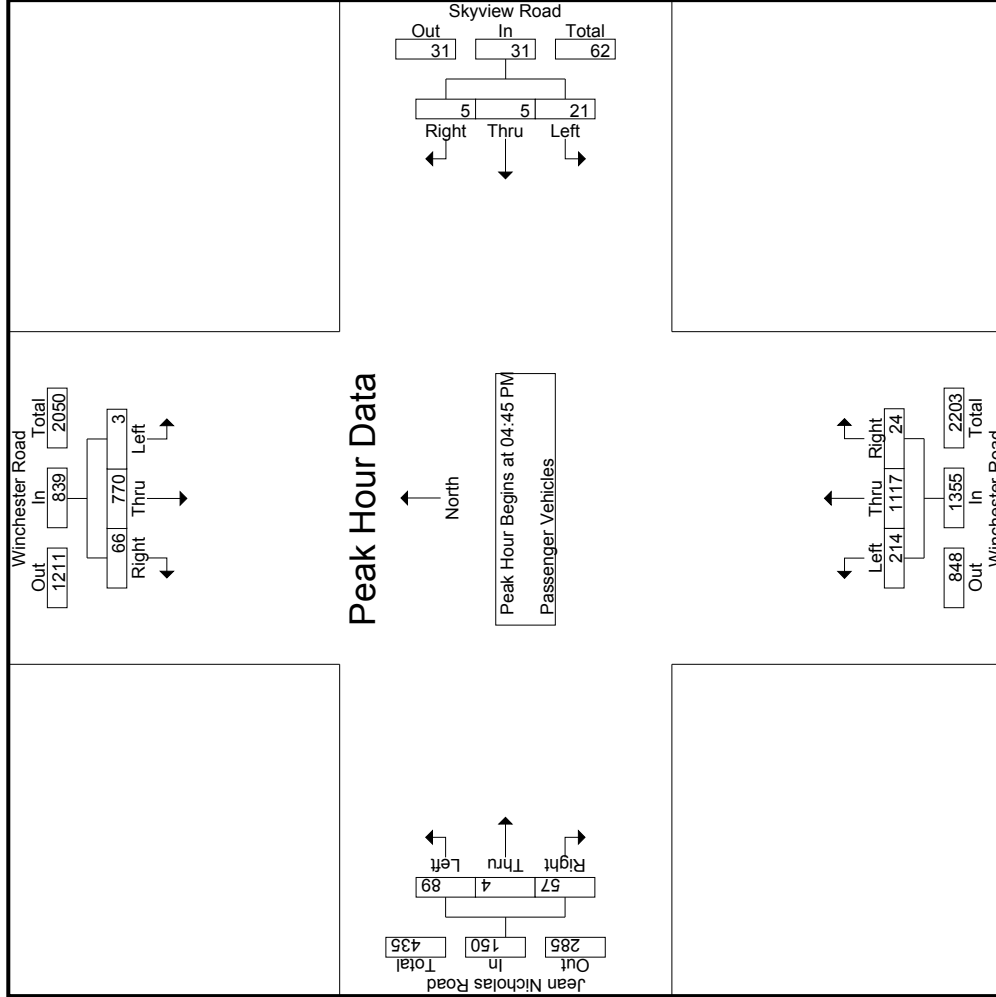
Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound																				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	1	216	17		234	7	1	1		9	51	264	5		320	22	1	15		38	601												
05:00 PM	1	175	16		192	7	2	1		10	45	262	4		311	25	0	16		41	554												
05:15 PM	0	190	16		206	2	2	1		5	62	299	3		364	26	2	12		40	615												
05:30 PM	1	189	17		207	5	0	2		7	56	292	12		360	16	1	14		31	605												
Total Volume	3	770	66		839	21	5	5		31	214	1117	24		1355	89	4	57		150	2375												
% App. Total	0.4	91.8	7.9			67.7	16.1	16.1			15.8	82.4	1.8			59.3	2.7	38															
PHF	.750	.891	.971		.896	.750	.625	.625		.775	.863	.934	.500		.931	.856	.500	.891		.915	.965												

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Skyview Road Westbound			Winchester Road Northbound			Jean Nicholas Road Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:															
	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	1	216	17	234	7	1	1	9	51	264	5	320	22	1	15	38
+15 mins.	1	175	16	192	7	2	1	10	45	262	4	311	25	0	16	41
+30 mins.	0	190	16	206	2	2	1	5	62	299	3	364	26	2	12	40
+45 mins.	1	189	17	207	5	0	2	7	56	292	12	360	16	1	14	31
Total Volume	3	770	66	839	21	5	5	31	214	1117	24	1355	89	4	57	150
% App. Total	0.4	91.8	7.9		67.7	16.1	16.1		15.8	82.4	1.8		59.3	2.7	38	
PHF	.750	.891	.971	.896	.750	.625	.625	.775	.863	.934	.500	.931	.856	.500	.891	.915

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	4	0	0	4	0	0	0	0	0	0	4	0	0	0	0	8	8
04:15 PM	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	3	3
04:30 PM	0	4	0	0	4	0	0	0	0	0	1	0	0	0	0	0	6	6
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
Total	0	10	0	0	10	0	1	0	0	1	1	8	0	0	0	0	20	20
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
05:15 PM	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	3	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
05:45 PM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	0	0	4	4
Total	0	2	0	0	2	0	0	0	0	0	7	0	0	0	0	0	9	9
Grand Total	0	12	0	0	12	0	1	0	0	1	15	0	0	0	0	0	29	29
% Approach	0	100	0	0	100	0	100	0	0	6.2	93.8	0	0	0	0	0	100	100
Total %	0	41.4	0	0	41.4	0	3.4	0	0	3.4	51.7	0	0	0	55.2	0	100	100

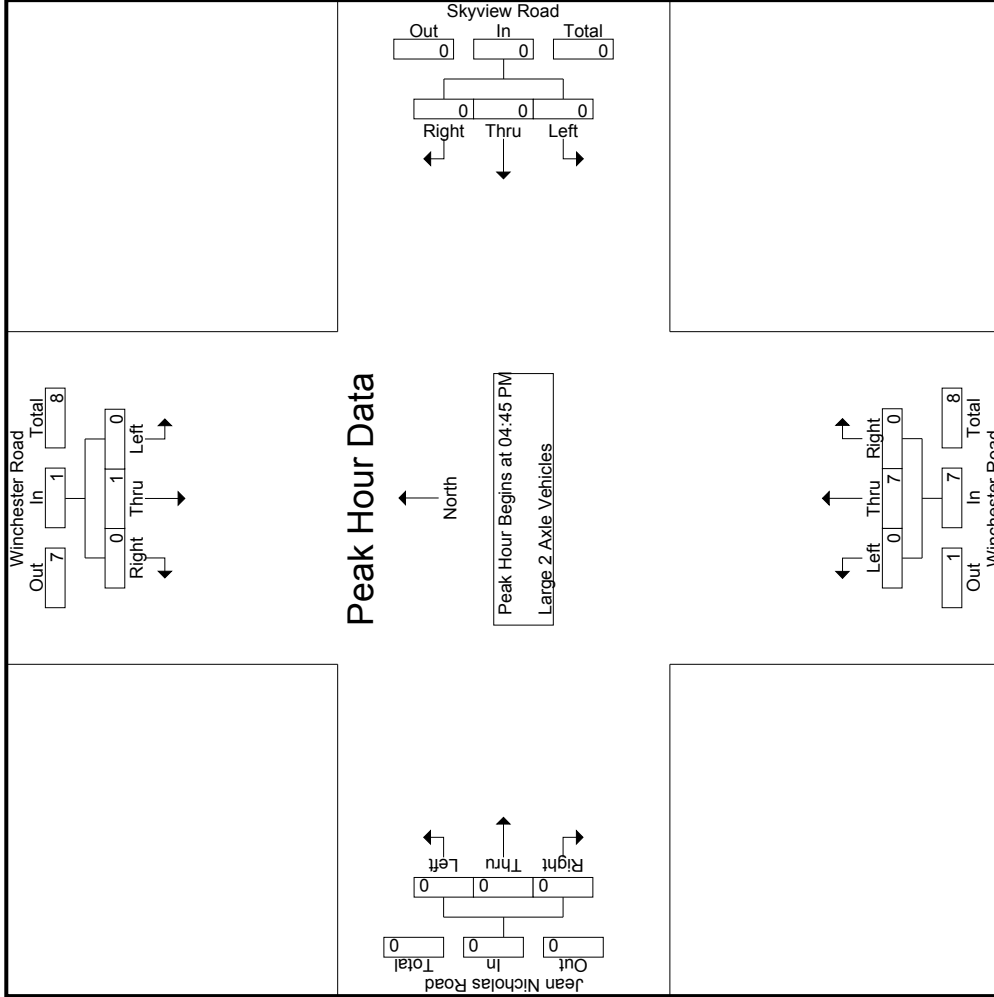
Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	7	0	0	0	7	0	0	0
% App. Total	0	100	0	0	100	0	0	0	0	0	100	0	0	0	0	0	0	0
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.583	.000	.000	.000	.583	.000	.000	.667

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Skyview Road Westbound			Winchester Road Northbound			Jean Nicholas Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	100	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.583	.000	.000	.000	.000

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
Total	0	1	0	0	1	0	1	0	0	1	0	0	1	0	1	0	3	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
Total	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	2	2
Grand Total	0	1	1	0	2	0	2	0	0	2	0	0	1	0	1	0	5	5
% Approach	0	50	50	0	0	0	100	0	0	40	0	0	20	0	20	0	100	100
Total %	0	20	20	0	40	0	40	0	0	40	0	0	20	0	20	0	100	100

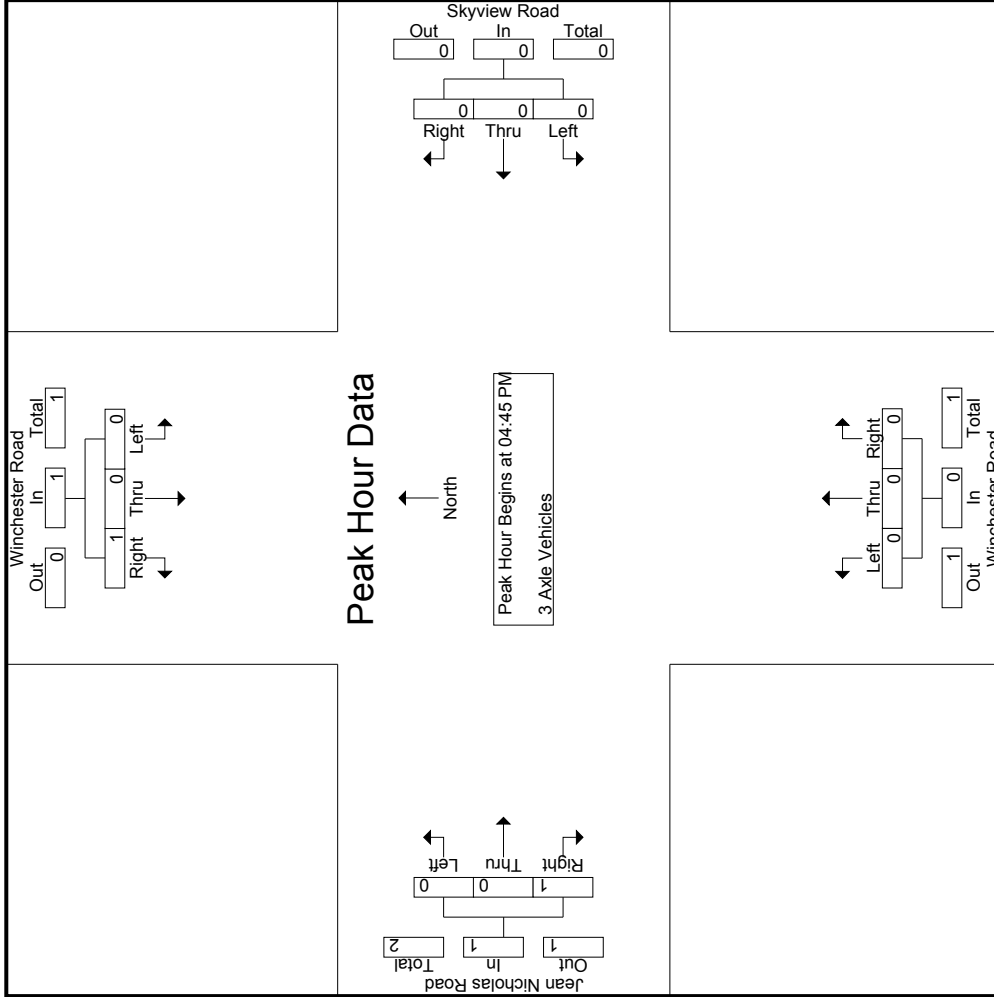
Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.250	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.500

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Skyview Road Westbound			Winchester Road Northbound			Jean Nicholas Road Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:													
	04:45 PM			04:45 PM			04:45 PM			04:45 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	1	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	0	100	0	0	0	0	0	0	0	0	0	100	1
PHF	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	2	2
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2	2
Grand Total	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	0	4	4
% Approach	0	50	50			0	0	0			0	100	0	0	0	0	100	
Total %	0	25	25		50	0	0	0			0	25	0	0	25	0	100	

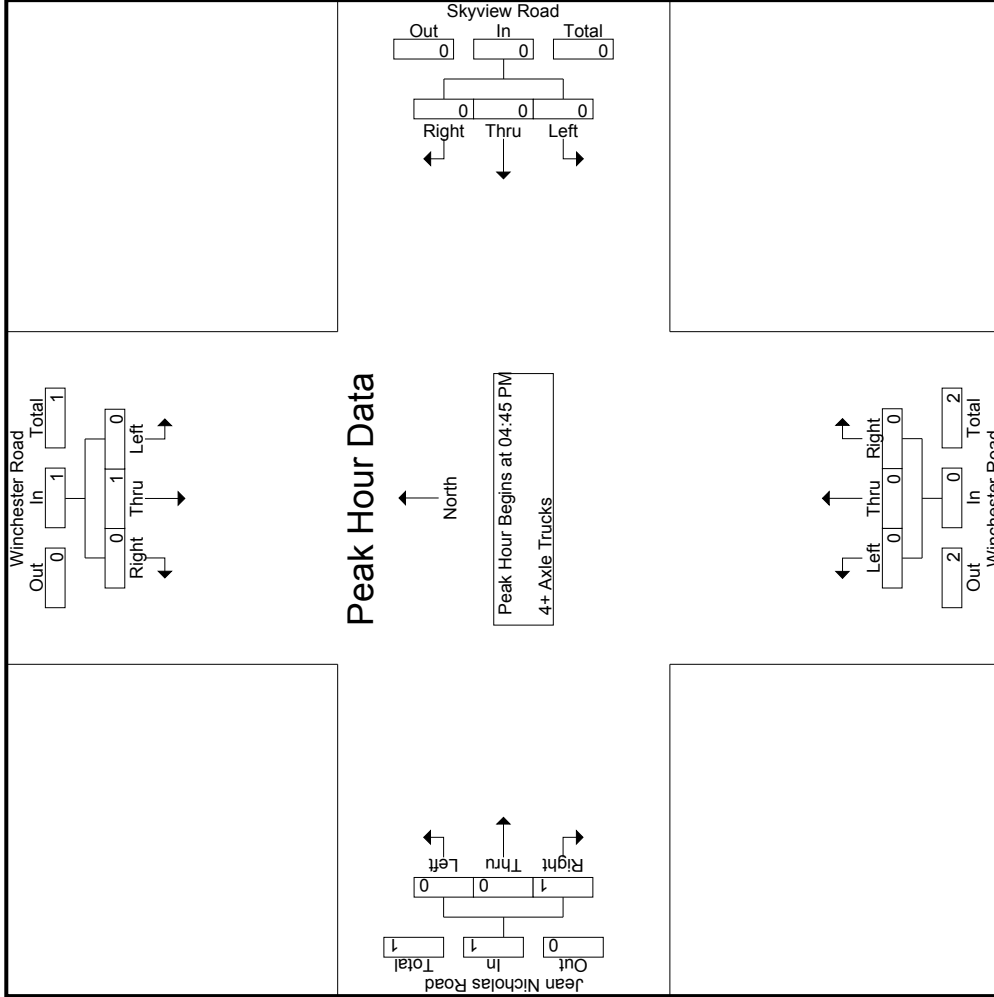
Start Time	Winchester Road Southbound				Skyview Road Westbound				Winchester Road Northbound				Jean Nicholas Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
% App. Total	0	100	0			0	0	0			0	0	0	0	0	0	100	
PHF	.000	.250	.000		.250	.000	.000	.000		.000	.000	.000	.000	.000	.000	.250	.250	.250

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Jean Nicholas Rd/Skyview Rd
 Weather: Clear

File Name : 21_CRV_79_Jean PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Skyview Road Westbound			Winchester Road Northbound			Jean Nicholas Road Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	0	0	0	0	0	0	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0	0	0	0	0	0	0	0	0	100
PHF	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Location: County of Riverside
 N/S: Winchester Road
 E/W: Jean Nicholas Rd/Skyview Rd



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road	East Leg Skyview Rd	South Leg Winchester Road	West Leg Jean Nicholas Rd	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	1	1	0	2
8:30 AM	0	0	2	0	2
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	1	3	0	4

	North Leg Winchester Road	East Leg Skyview Rd	South Leg Winchester Road	West Leg Jean Nicholas Rd	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	4	0	4
4:30 PM	0	0	0	0	0
4:45 PM	0	0	4	0	4
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	1	0	0	1
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	1	8	0	9

Location: County of Riverside
 N/S: Winchester Road
 E/W: Jean Nicholas Rd/Skyview Rd



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Winchester Road			Westbound Skyview Rd			Northbound Winchester Road			Eastbound Jean Nicholas Rd			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	2
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	1	3	1	0	0	1	0	0	0	0	0	6

	Southbound Winchester Road			Westbound Skyview Rd			Northbound Winchester Road			Eastbound Jean Nicholas Rd			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL VOLUMES:	0	1	0	0	0	0	0	2	0	0	0	1	4

Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound					Thompson Road Westbound					Winchester Road Northbound					Max Gilliss Boulevard Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	6	215	47	23	268	47	98	1	0	146	71	86	8	4	165	30	43	80	62	153	89	732	821
07:15 AM	7	255	44	20	306	23	83	1	1	107	76	114	14	7	204	29	42	136	79	207	107	824	931
07:30 AM	4	264	43	14	311	27	92	4	0	123	73	145	12	3	230	28	41	148	101	217	118	881	999
07:45 AM	14	255	41	14	310	25	77	1	0	103	86	129	11	6	226	36	69	181	108	286	128	925	1053
Total	31	989	175	71	1195	122	350	7	1	479	306	474	45	20	825	123	195	545	350	863	442	3362	3804
08:00 AM	13	242	40	16	295	30	95	0	0	125	90	130	11	4	231	23	71	178	100	272	120	923	1043
08:15 AM	9	245	35	12	289	16	59	4	0	79	84	151	12	3	247	31	64	176	104	271	119	886	1005
08:30 AM	5	211	35	15	251	32	85	7	2	124	91	105	9	5	205	18	51	130	95	199	117	779	896
08:45 AM	5	219	34	19	258	30	58	3	1	91	67	109	14	1	190	23	32	117	75	172	96	711	807
Total	32	917	144	62	1093	108	297	14	3	419	332	495	46	13	873	95	218	601	374	914	452	3299	3751
Grand Total	63	1906	319	133	2288	230	647	21	4	898	638	969	91	33	1698	218	413	1146	724	1777	894	6661	7555
% Approach	2.8	83.3	13.9			25.6	72	2.3			37.6	57.1	5.4			12.3	23.2	64.5					
% Total	0.9	28.6	4.8			3.5	9.7	0.3			9.6	14.5	1.4			3.3	6.2	17.2			11.8	88.2	
Passenger Vehicles	61	1852	311		2354	223	645	21		893	614	923	88		1658	210	401	1118		2436	0	0	7341
Large 2 Axle Vehicles	96.8	97.2	97.5	97.7	97.2	97	99.7	100	100	99	96.2	95.3	96.7	100	95.8	96.3	97.1	97.6	97.7	97.4	0	0	97.2
% Large 2 Axle Vehicles	2	38	1		42	7	2	0	0	9	21	18	3		42	1	9	22		44	0	0	137
% 3 Axle Vehicles	3.2	2	0.3	0.8	1.7	3	0.3	0	0	1	3.3	1.9	3.3	0	2.4	0.5	2.2	1.9	1.7	1.8	0	0	1.8
% 4+ Axle Trucks	0	6	7		15	0	0	0	0	0	1	6	0		7	6	3	2		12	0	0	34
% 4+ Axle Trucks	0	0.3	2.2	1.5	0.6	0	0	0	0	0	0.2	0.6	0	0	0.4	2.8	0.7	0.2	0.1	0.5	0	0	0.5
% 4+ Axle Trucks	0	10	0		10	0	0	0	0	0	2	22	0		24	1	0	4		9	0	0	43
% 4+ Axle Trucks	0	0.5	0	0	0.4	0	0	0	0	0	0.3	2.3	0		1.4	0.5	0	0.3	0.6	0.4	0	0	0.6

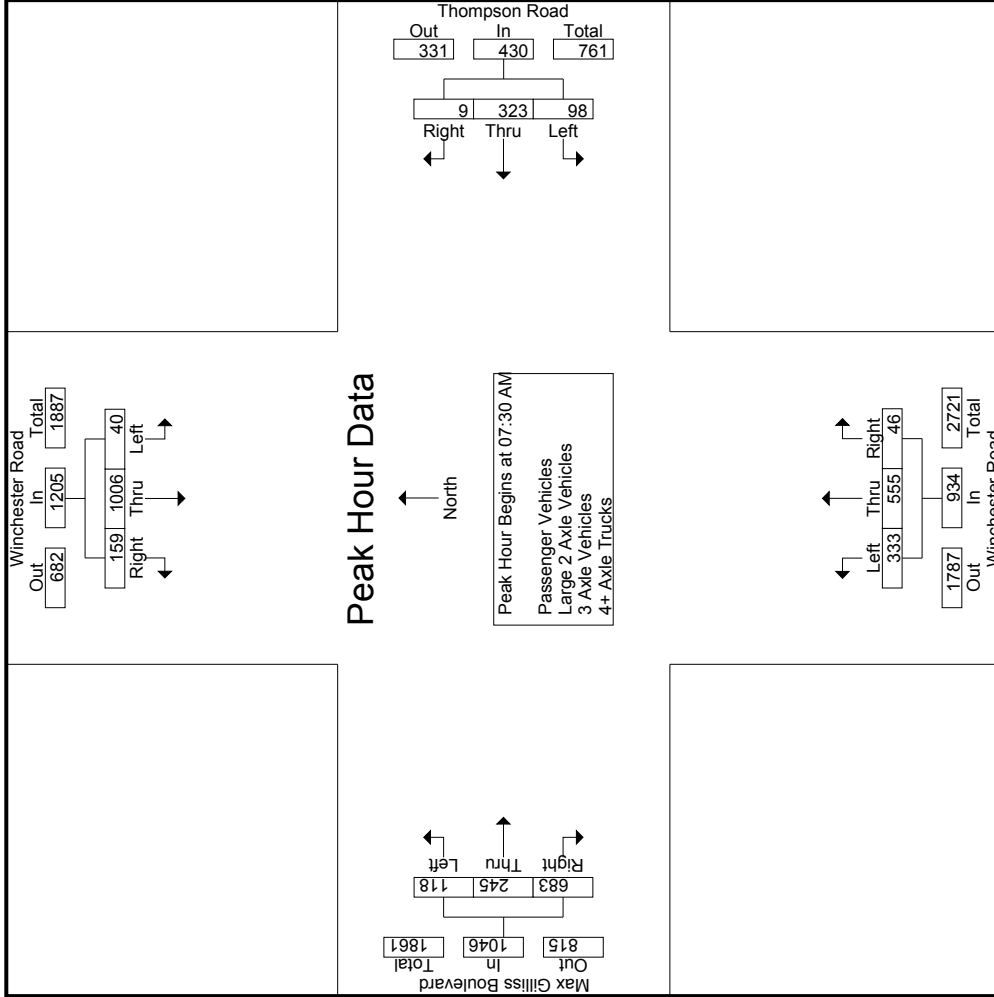
Start Time	Winchester Road Southbound					Thompson Road Westbound					Winchester Road Northbound					Max Gilliss Boulevard Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	4	264	43		311	27	92			4	123	73	145	12	230	28	41	148		217			881
07:45 AM	14	255	41		310	25	77			1	103	86	129	11	226	36	69	181		286			925
08:00 AM	13	242	40		295	30	95			0	125	90	130	11	231	23	71	178		272			923
08:15 AM	9	245	35		289	16	59			4	79	84	151	12	247	31	64	176		271			886
Total Volume	40	1006	159		1205	98	323			9	430	333	555	46	934	118	245	683		1046			3615
% App. Total	3.3	83.5	13.2			22.8	75.1			2.1	35.7	59.4	4.9		95.8	11.3	23.4	65.3		9.14			.977
PHF	.714	.953	.924		.969	.817	.850			.563	.860	.925	.919		.945	.819	.863	.943		.914			.977

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
 PO Box 1178
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 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Thompson Road Westbound			Winchester Road Northbound			Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:15 AM			07:00 AM			07:30 AM			07:30 AM					
+0 mins.	7	255	44	47	98	1	146	73	145	12	230	28	41	148	217
+15 mins.	4	264	43	23	83	1	107	86	129	11	226	36	69	181	286
+30 mins.	14	255	41	27	92	4	123	90	130	11	231	23	71	178	272
+45 mins.	13	242	40	25	77	1	103	84	151	12	247	31	64	176	271
Total Volume	38	1016	168	122	350	7	479	333	555	46	934	118	245	683	1046
% App. Total	3.1	83.1	13.7	25.5	73.1	1.5	35.7	35.7	59.4	4.9	11.3	11.3	23.4	65.3	65.3
PHF	.679	.962	.955	.649	.893	.438	.820	.925	.919	.958	.945	.819	.863	.943	.914

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
07:00 AM	5	205	47	23	257	47	98	1	0	146	68	78	8	4	154	27	41	78	61	146	88	703	791
07:15 AM	7	248	44	20	299	22	83	1	1	106	74	112	14	7	200	29	41	131	76	201	104	806	910
07:30 AM	4	259	40	14	303	27	92	4	0	123	72	141	11	3	224	28	39	143	99	210	116	860	976
07:45 AM	14	250	40	13	304	23	75	1	0	99	83	120	11	6	214	36	67	180	108	283	127	900	1027
Total	30	962	171	70	1163	119	348	7	1	474	297	451	44	20	792	120	188	532	344	840	435	3269	3704
08:00 AM	12	233	39	16	284	28	95	0	0	123	84	124	10	4	218	23	69	176	98	268	118	893	1011
08:15 AM	9	242	34	12	285	16	59	4	0	79	81	144	12	3	237	29	63	171	102	263	117	864	981
08:30 AM	5	204	35	15	244	30	85	7	2	122	87	101	8	5	196	18	51	126	92	195	114	757	871
08:45 AM	5	211	32	17	248	30	58	3	1	91	65	103	14	1	182	20	30	113	71	163	90	684	774
Total	31	890	140	60	1061	104	297	14	3	415	317	472	44	13	833	90	213	586	363	889	439	3198	3637
Grand Total	61	1852	311	130	2224	223	645	21	4	889	614	923	88	33	1625	210	401	1118	707	1729	874	6467	7341
% Approach	2.7	83.3	14			25.1	72.6	2.4		13.7	37.8	56.8	5.4		25.1	12.1	23.2	64.7		26.7	11.9	88.1	
% Total	0.9	28.6	4.8		34.4	3.4	10	0.3			9.5	14.3	1.4			3.2	6.2	17.3					

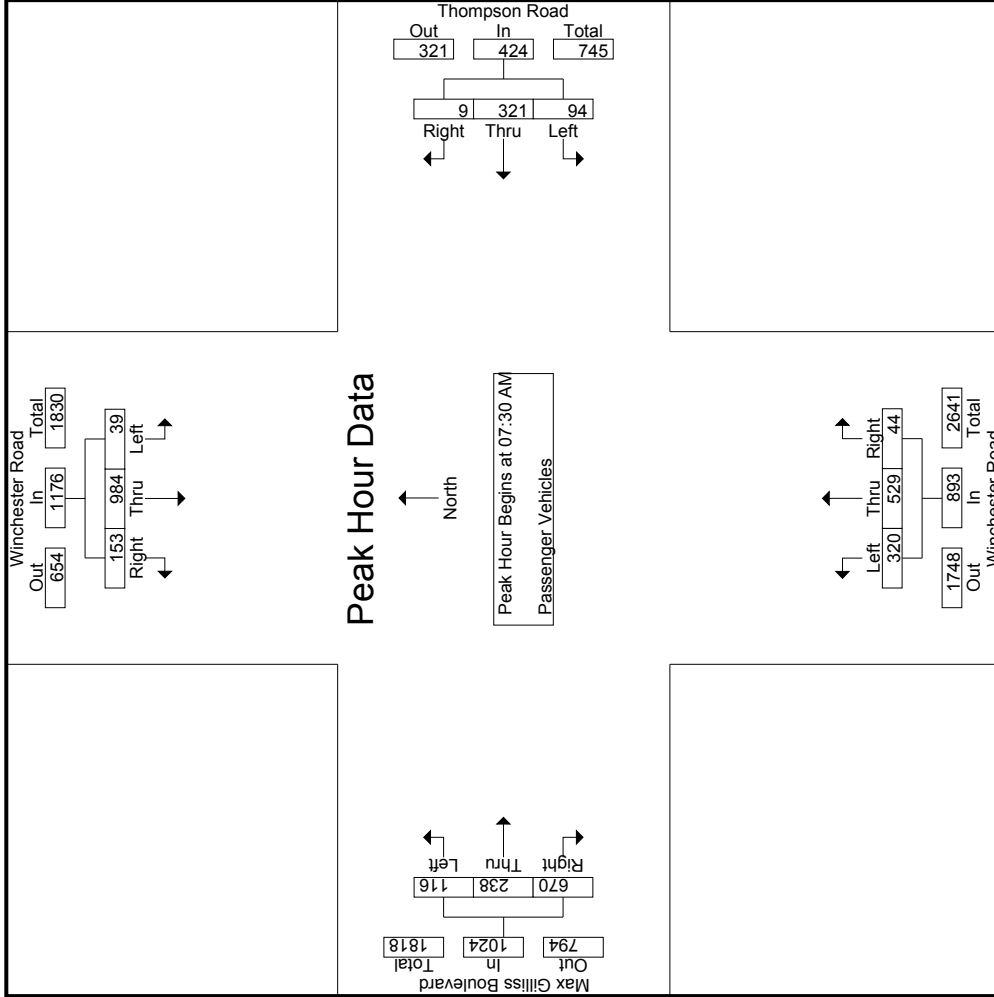
Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total				
07:30 AM	4	259	40		303	27	92	1		123	72	141	11		224	28	39	143		210		860
07:45 AM	14	250	40		304	23	75	1		99	83	120	11		214	36	67	180		283		900
08:00 AM	12	233	39		284	28	95	0		123	84	124	10		218	23	69	176		268		893
08:15 AM	9	242	34		285	16	59	4		79	81	144	12		237	29	63	171		263		864
Total Volume	39	984	153		1176	94	321	9		424	320	529	44		893	116	238	670		1024		3517
% App. Total	3.3	83.7	13		34.4	22.2	75.7	2.1		13.7	35.8	59.2	4.9		25.1	11.3	23.2	65.4		26.7		88.1
PHF	.696	.950	.956		.967	.839	.845	.563		.862	.952	.918	.917		.942	.806	.862	.931		.905		.977

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

Start Time	Winchester Road Southbound			Thompson Road Westbound			Winchester Road Northbound			Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:30 AM			07:30 AM			07:30 AM			07:30 AM			07:30 AM		
+0 mins.	4	259	40	27	92	4	123	141	11	224	28	39	143	210	
+15 mins.	14	250	40	23	75	1	99	120	11	214	36	67	180	283	
+30 mins.	12	233	39	28	95	0	123	124	10	218	23	69	176	268	
+45 mins.	9	242	34	16	59	4	79	81	12	237	29	63	171	263	
Total Volume	39	984	153	94	321	9	424	529	44	893	116	238	670	1024	
% App. Total	3.3	83.7	13	22.2	75.7	2.1	35.8	59.2	4.9	11.3	23.2	65.4			
PHF	.696	.950	.956	.839	.845	.563	.862	.918	.917	.942	.806	.862	.931	.905	

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound								
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:00 AM	1	7	0	0	0	0	0	0	3	3	0	0	0	1	2	1	3	1	17	18	
07:15 AM	0	6	0	0	1	0	0	0	2	1	0	0	3	0	0	3	3	2	13	15	
07:30 AM	0	4	0	0	0	0	0	0	1	1	1	0	3	0	2	5	7	2	14	16	
07:45 AM	0	3	0	0	2	2	0	0	2	1	0	0	3	0	2	1	0	3	0	13	13
Total	1	20	0	0	3	2	0	0	8	6	1	0	15	0	5	11	5	16	5	57	62
08:00 AM	1	8	0	0	2	0	0	0	6	3	1	0	10	0	2	2	4	2	25	27	
08:15 AM	0	1	0	0	1	0	0	0	2	3	0	0	5	1	1	4	6	1	12	13	
08:30 AM	0	5	0	0	2	0	0	0	4	4	1	0	9	0	0	2	1	1	18	19	
08:45 AM	0	4	1	1	5	0	0	0	1	2	0	0	3	0	1	3	4	4	12	16	
Total	1	18	1	1	4	0	0	0	13	12	2	0	27	1	4	11	7	16	8	67	75
Grand Total	2	38	1	1	7	2	0	0	21	18	3	0	42	1	9	22	12	32	13	124	137
% Approach	4.9	92.7	2.4	0	77.8	22.2	0	0	50	42.9	7.1	0	33.9	3.1	28.1	68.8	25.8	9.5	90.5		
Total %	1.6	30.6	0.8	0	5.6	1.6	0	0	16.9	14.5	2.4	0	7.3	0.8	7.3	17.7					

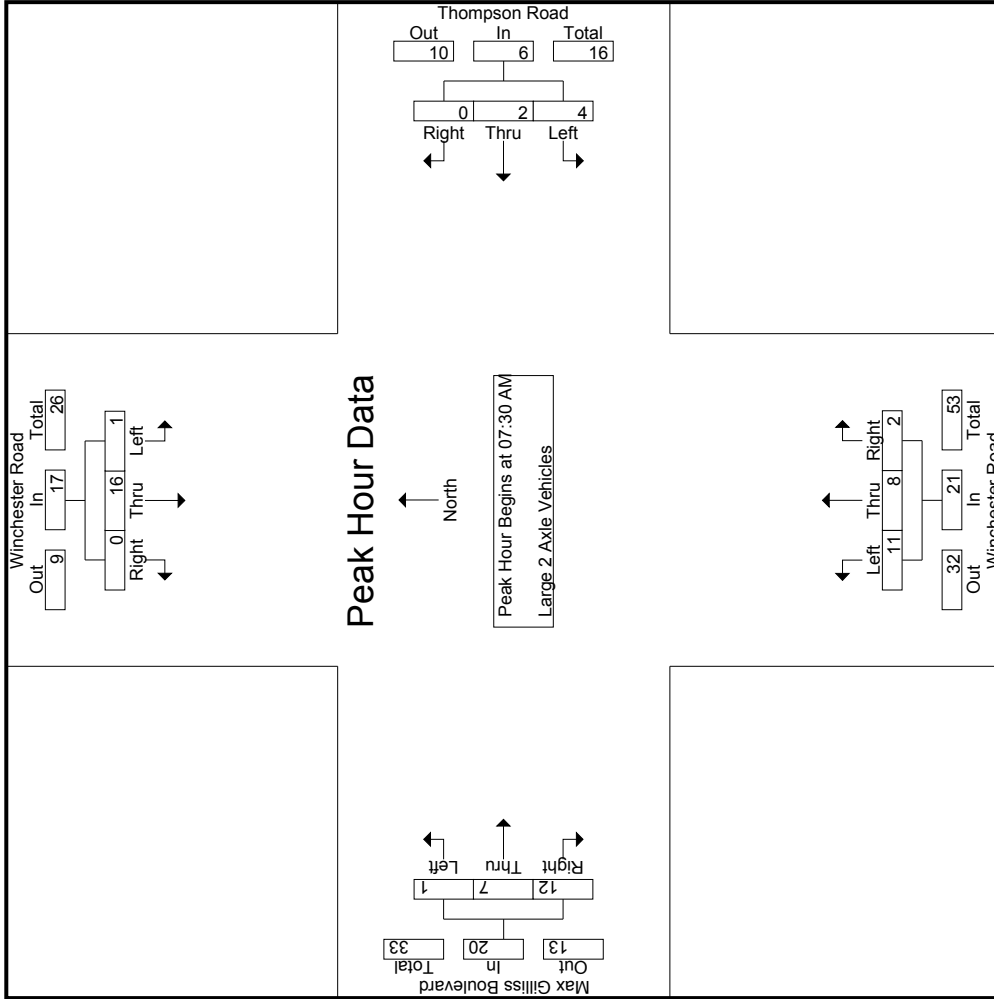
Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound								
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
07:30 AM	0	4	0	0	0	0	0	0	1	1	1	0	1	1	0	0	3	0	7	14	
07:45 AM	0	3	0	0	2	0	0	0	4	2	1	0	0	2	2	1	2	1	3	13	
08:00 AM	1	8	0	0	2	0	0	0	6	3	1	0	10	0	0	2	10	2	4	25	
08:15 AM	0	1	0	0	0	0	0	0	2	3	0	0	5	1	1	4	6	4	12	12	
Total Volume	1	16	0	0	4	2	0	0	11	8	2	0	21	1	7	12	20	6	64	64	
% App. Total	5.9	94.1	0	0	66.7	33.3	0	0	52.4	38.1	9.5	0	5	35	60	60	71.4	9.5	90.5		
PHF	.250	.500	.000	.472	.500	.250	.000	.375	.458	.667	.500	.000	.525	.250	.875	.600	.714				

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

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 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Thompson Road Westbound			Winchester Road Northbound			Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	07:30 AM			07:30 AM			07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	4	0	0	0	0	0	0	1	1	1	2	5	7	
+15 mins.	0	3	0	2	2	0	4	0	2	1	0	2	1	3	
+30 mins.	1	8	0	2	0	0	2	0	6	3	1	2	2	4	
+45 mins.	0	1	0	0	0	0	0	0	2	3	0	1	1	4	
Total Volume	1	16	0	4	2	0	6	0	11	8	2	7	12	20	
% App. Total	5.9	94.1	0	66.7	33.3	0	52.4	38.1	9.5	9.5	5	35	60	60	
PHF	.250	.500	.000	.500	.250	.000	.375	.458	.667	.500	.250	.875	.600	.714	

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	7
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
07:45 AM	0	1	1	1	2	0	0	0	0	0	1	0	0	0	2	0	1	4
Total	0	4	4	1	8	0	0	0	0	0	1	2	0	0	3	1	1	17
08:00 AM	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	0	0	3
08:15 AM	0	1	1	0	2	0	0	0	0	0	1	0	0	0	1	0	0	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	1	1	1	0	0	0	0	0	2	0	1	1	4	2	7	9
Total	0	2	3	1	5	0	0	0	0	0	4	0	0	1	5	2	14	16
Grand Total	0	6	7	2	13	0	0	0	0	0	1	6	0	0	7	6	3	31
% Approach	0	46.2	53.8			0	0	0			14.3	85.7	0		54.5	27.3	18.2	
Total %	0	19.4	22.6		41.9	0	0	0		0	3.2	19.4	0		19.4	9.7	6.5	
										22.6					35.5	8.8	91.2	

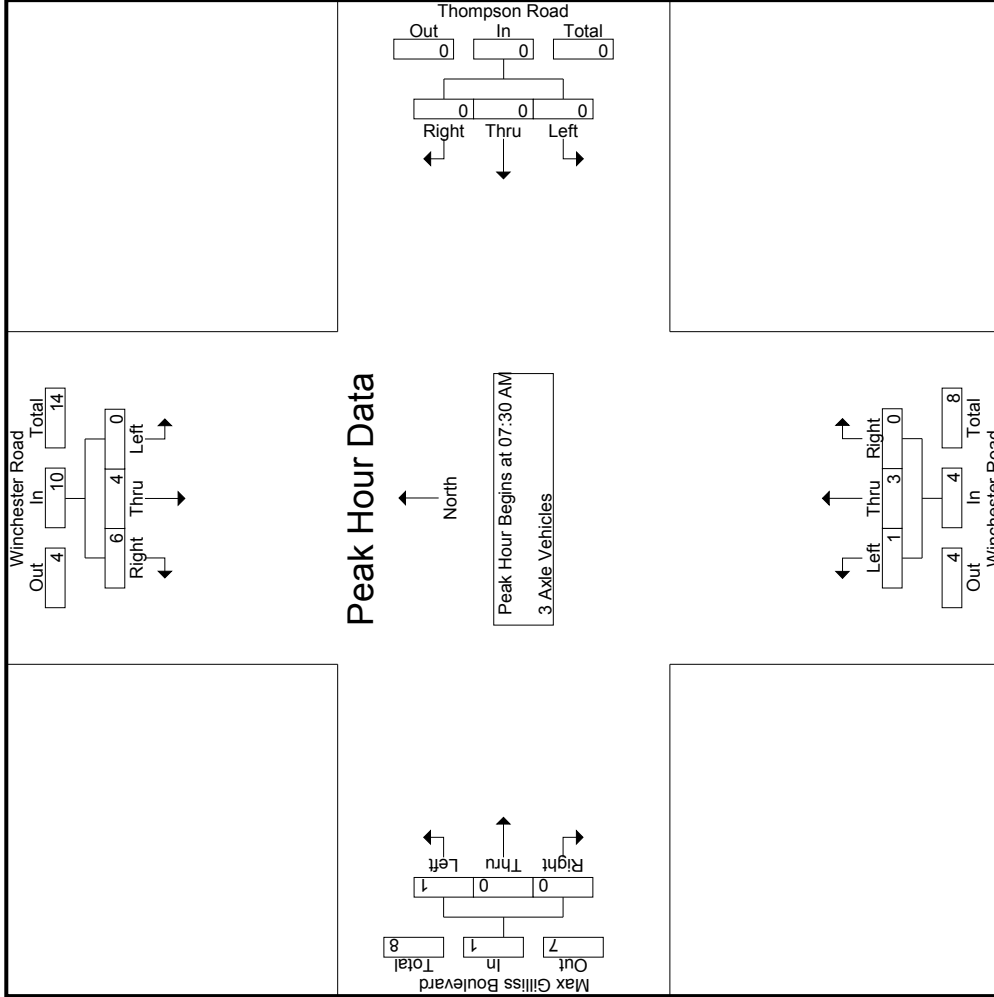
Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	0	1	3		4	0	0	0		0	0	0	0		0	0	0	4
07:45 AM	0	1	1		2	0	0	0		0	1	0	0		2	0	0	4
08:00 AM	0	1	1		2	0	0	0		0	0	0	0		1	0	0	3
08:15 AM	0	1	1		2	0	0	0		0	0	0	0		1	0	1	4
Total Volume	0	4	6		10	0	0	0		0	1	3	0		4	1	0	15
% App. Total	0	40	60		60	0	0	0		0	25	75	0		100	0	0	
PHF	.000	1.00	.500		.625	.000	.000	.000		.000	.250	.750	.000		.500	.000	.250	.938

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

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 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Thompson Road Westbound			Winchester Road Northbound			Max Gilliss Boulevard Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1	07:30 AM													
Peak Hour for Each Approach Begins at:	07:30 AM													
+0 mins.	0	1	3	4	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	1	2	0	0	0	0	1	1	0	0	2	0
+30 mins.	0	1	1	2	0	0	0	0	0	1	0	0	1	0
+45 mins.	0	1	1	2	0	0	0	0	0	1	0	0	1	0
Total Volume	0	4	6	10	0	0	0	0	1	3	0	0	4	1
% App. Total	0	40	60	625	0	0	0	0	25	75	0	0	100	0
PHF	.000	1.000	.500	.625	.000	.000	.000	.000	.250	.750	.000	.000	.250	.250

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	0	0	5	5
07:15 AM	0	1	0	0	1	0	0	0	0	0	1	1	0	1	1	1	3	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	3
07:45 AM	0	1	0	0	1	0	0	0	0	0	7	0	0	0	0	0	8	8
Total	0	3	0	0	3	0	0	0	0	0	15	0	0	1	1	1	19	20
08:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
08:15 AM	0	1	0	0	1	0	0	0	0	0	3	0	0	1	1	1	6	7
08:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	2	2	2	4	6
08:45 AM	0	4	0	0	4	0	0	0	0	0	2	0	0	0	0	0	8	8
Total	0	7	0	0	7	0	0	0	0	0	7	0	0	3	3	3	20	23
Grand Total	0	10	0	0	10	0	0	0	0	0	22	0	0	4	4	4	39	43
% Approach	0	100	0	0	0	0	0	0	0	0	8.3	91.7	0	20	0	80	9.3	90.7
Total %	0	25.6	0	0	25.6	0	0	0	0	0	5.1	56.4	0	2.6	0	10.3	12.8	90.7

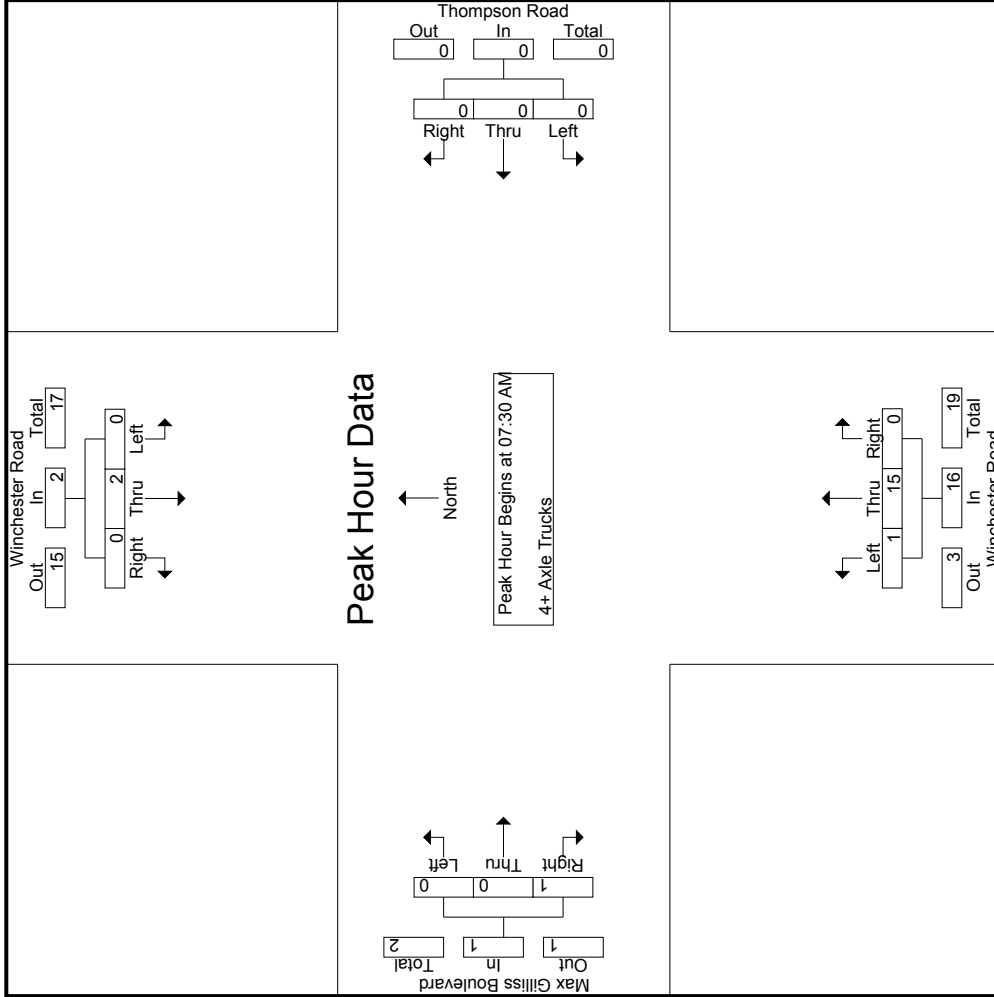
Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	1	0	0	1	0	0	0	0	0	1	3	0	0	0	1	1	6
Total Volume	0	2	0	0	2	0	0	0	0	0	1	15	0	0	0	0	1	19
% App. Total	0	100	0	0	0	0	0	0	0	0	6.2	93.8	0	0	0	100	.250	.594
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.250	.536	.000	.571	.000	.250	.250	.594

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Thompson Road Westbound			Winchester Road Northbound			Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:30 AM			07:30 AM			07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	1	0	0	0	0	1	3	0	0	0	0	0	1	
Total Volume	0	2	0	0	0	0	1	15	0	0	0	0	0	1	
% App. Total	0	100	0	0	0	0	6.2	93.8	0	0	0	0	100	0	
PHF	.000	.500	.000	.000	.000	.000	.250	.536	.000	.571	.000	.000	.250	.250	

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound						Thompson Road Westbound						Winchester Road Northbound						Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total
04:00 PM	9	159	46	16	214	214	21	83	0	0	104	104	136	268	23	13	427	427	37	70	146	90	253	253
04:15 PM	7	145	31	21	183	183	18	66	5	0	89	89	131	305	17	3	453	453	35	64	134	87	233	233
04:30 PM	8	205	57	21	270	270	12	84	2	0	98	98	138	315	18	6	471	471	52	82	114	95	248	248
04:45 PM	14	164	32	11	210	210	11	100	6	1	117	117	118	298	23	9	439	439	46	85	128	87	259	259
Total	38	673	166	69	877	877	62	333	13	1	408	408	523	1186	81	31	1790	1790	170	301	522	359	993	993
05:00 PM	11	149	40	11	200	200	15	77	8	1	100	100	144	289	22	4	455	455	47	81	141	95	269	269
05:15 PM	11	134	43	18	188	188	14	93	2	0	109	109	133	322	30	13	485	485	63	79	139	81	281	281
05:30 PM	10	174	43	18	227	227	21	79	5	1	105	105	117	338	22	9	477	477	65	91	161	99	317	317
05:45 PM	15	156	36	13	207	207	18	63	5	0	86	86	132	308	17	8	457	457	47	73	115	92	235	235
Total	47	613	162	60	822	822	68	312	20	2	400	400	526	1257	91	34	1874	1874	222	324	556	367	1102	1102
Grand Total	85	1286	328	129	1699	1699	130	645	33	3	808	808	1049	2443	172	65	3664	3664	392	625	1078	726	2095	2095
% Approach	5	75.7	19.3				16.1	79.8	4.1				28.6	66.7	4.7				18.7	29.8	51.5			
% Total	1	15.6	4				1.6	7.8	0.4				12.7	29.6	2.1				4.7	7.6	13			
Passenger Vehicles	85	1274	322		1808	1808	128	638	30		798	798	1045	2421	170		3701	3701	386	619	1064		2786	2786
Large 2 Axle Vehicles	100	99.1	98.2	98.4	98.9	98.9	98.5	98.9	90.9	66.7	98.4	98.4	99.6	99.1	98.8	100	99.2	99.2	98.5	99	98.7	98.8	98.8	98.8
% Large 2 Axle Vehicles	0	11	3	0.8	0.8	0.8	1.5	0.5	3	33.3	0.9	0.9	3	14	2	0	19	19	6	6	11	1	30	30
% 3 Axle Vehicles	0	0	3	0.8	0.2	0.2	0	4	2	0	6	6	1	5	0	0	6	6	0	0	1	1	2	2
% 4+ Axle Trucks	0	0	0	0.8	0.2	0.2	0	0.6	6.1	0	0.7	0.7	0.1	0.2	0	0	0.2	0.2	0	0	0.1	0.1	0.1	0.1
% 4+ Axle Trucks	0	1	0	0	1	1	0	0	0	0	0	0	0	3	0	0	3	3	0	0	2	0.2	0.1	0.1

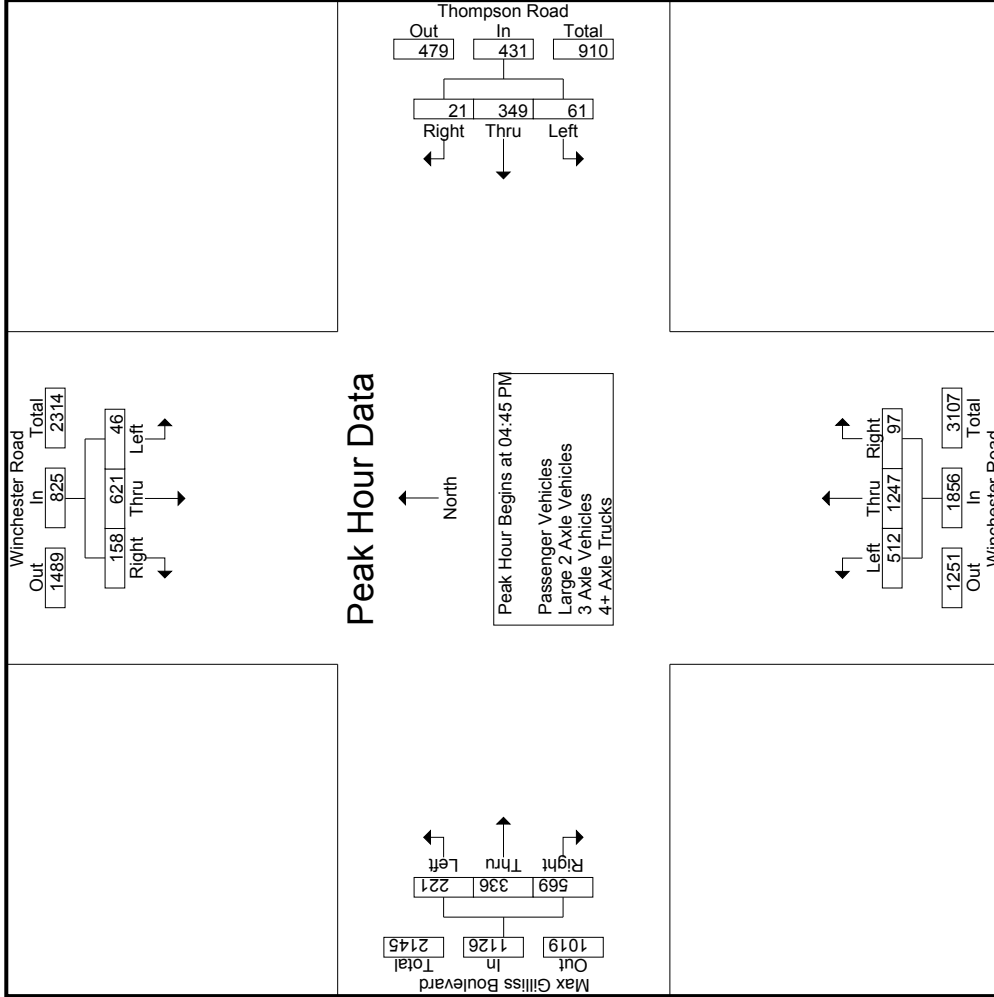
Start Time	Winchester Road Southbound						Thompson Road Westbound						Winchester Road Northbound						Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total
04:45 PM	14	164	32		210	210	11	100	6		117	117	118	298	23		439	439	46	85	128		259	259
05:00 PM	11	149	40		200	200	15	77	8		100	100	144	289	22		455	455	47	81	141		269	269
05:15 PM	11	134	43		188	188	14	93	2		109	109	133	322	30		485	485	63	79	139		281	281
05:30 PM	10	174	43		227	227	21	79	5		105	105	117	338	22		477	477	65	91	161		317	317
Total Volume	46	621	158		825	825	61	349	21		431	431	512	1247	97		1856	1856	221	336	569		1126	1126
% App. Total	5.6	75.3	19.2		14.2	14.2	8.1	81	4.9		4.9	4.9	27.6	67.2	5.2		5.2	5.2	19.6	29.8	50.5		50.5	50.5
PHF	.821	.892	.919		.909	.909	.726	.873	.656		.921	.921	.889	.922	.808		.957	.957	.850	.923	.884		.888	.888

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Thompson Road Westbound			Winchester Road Northbound			Max Gilliss Boulevard Eastbound				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	04:00 PM			04:45 PM			05:00 PM			04:45 PM				
+0 mins.	9	159	46	11	100	6	117	144	289	22	455	46	85	259
+15 mins.	7	145	31	15	77	8	100	133	322	30	485	47	81	269
+30 mins.	8	205	57	14	93	2	109	117	338	22	477	63	79	281
+45 mins.	14	164	32	21	79	5	105	132	308	17	457	65	91	317
Total Volume	38	673	166	61	349	21	431	526	1257	91	1874	221	336	569
% App. Total	4.3	76.7	18.9	14.2	81	4.9	28.1	28.1	67.1	4.9	19.6	19.6	29.8	50.5
PHF	.679	.821	.728	.726	.873	.656	.921	.913	.930	.758	.966	.850	.923	.884

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 Weather: Clear

File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound					Thompson Road Westbound					Winchester Road Northbound					Max Gilliss Boulevard Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	9	156	44	15	209	20	83	0	0	103	136	264	23	13	423	36	68	144	89	248	117	983	1100
04:15 PM	7	144	31	21	182	18	66	4	0	88	131	305	16	3	452	35	62	130	85	227	109	949	1058
04:30 PM	8	205	56	20	269	12	82	2	0	96	137	312	18	6	467	52	82	112	93	246	119	1078	1197
04:45 PM	14	161	32	11	207	11	100	5	0	116	117	296	23	9	436	46	85	128	87	259	107	1018	1125
Total	38	666	163	67	867	61	331	11	0	403	521	1177	80	31	1778	169	297	514	354	980	452	4028	4480
05:00 PM	11	148	38	11	197	15	75	7	1	97	143	285	22	4	450	45	81	137	92	263	108	1007	1115
05:15 PM	11	131	42	18	184	13	90	2	0	105	133	319	30	13	482	60	79	137	80	276	111	1047	1158
05:30 PM	10	174	43	18	227	21	79	5	1	105	116	333	21	9	470	65	89	161	99	315	127	1117	1244
05:45 PM	15	155	36	13	206	18	63	5	0	86	132	307	17	8	456	47	73	115	92	235	113	983	1096
Total	47	608	159	60	814	67	307	19	2	393	524	1244	90	34	1858	217	322	550	363	1089	459	4154	4613
Grand Total	85	1274	322	127	1681	128	638	30	2	796	1045	2421	170	65	3636	386	619	1064	717	2069	911	8182	9093
% Approach	5.1	75.8	19.2		20.5	16.1	80.2	3.8		9.7	28.7	66.6	4.7		44.4	18.7	29.9	51.4		25.3	10	90	
% Total	1	15.6	3.9			1.6	7.8	0.4			12.8	29.6	2.1			4.7	7.6	13					

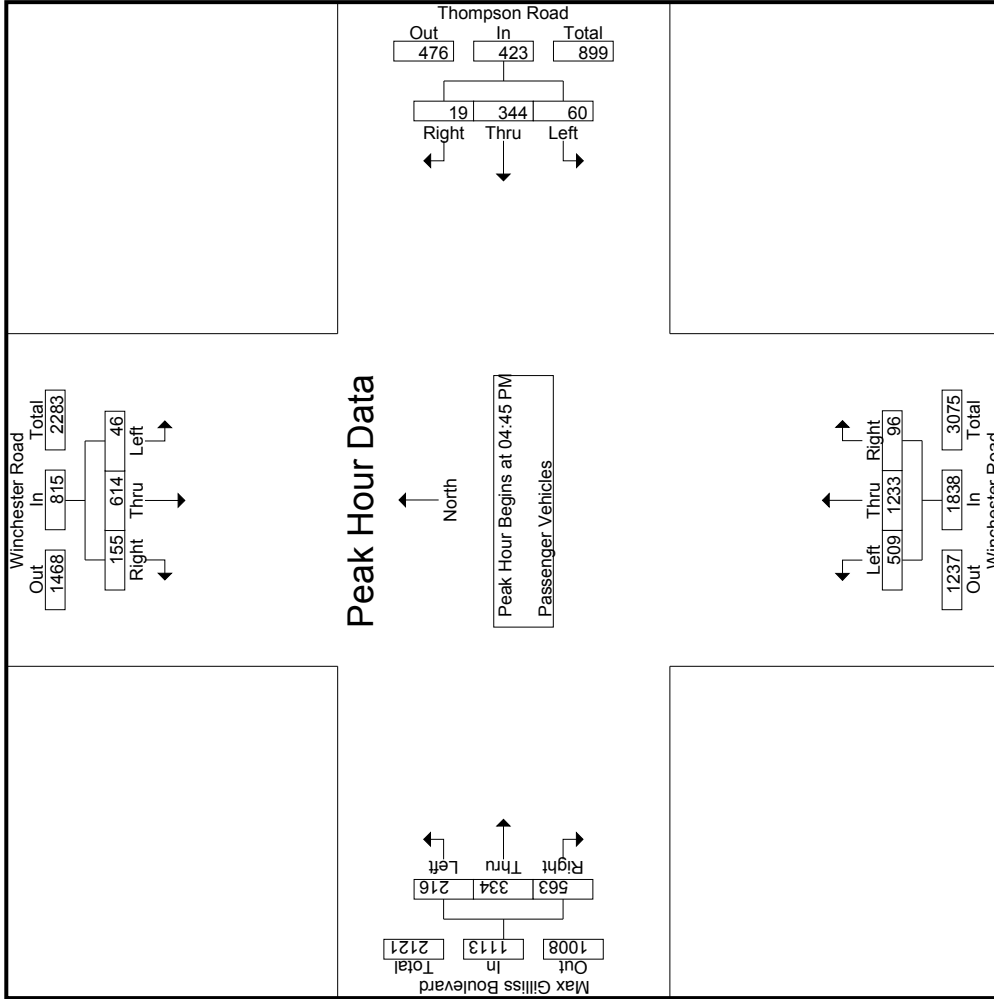
Start Time	Winchester Road Southbound					Thompson Road Westbound					Winchester Road Northbound					Max Gilliss Boulevard Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	14	161	32		207	11	100	5		116	117	296	23		436	46	85	128		259			1018
05:00 PM	11	148	38		197	15	75	7		97	143	285	22		450	45	81	137		263			1007
05:15 PM	11	131	42		184	13	90	2		105	133	319	30		482	60	79	137		276			1047
05:30 PM	10	174	43		227	21	79	5		105	116	333	21		470	65	89	161		315			1117
Total Volume	46	614	155		815	60	344	19		423	509	1233	96		1838	216	334	563		1113			4189
% App. Total	5.6	75.3	19		20.5	14.2	81.3	4.5		9.7	27.7	67.1	5.2		50.6	19.4	30	50.6					
PHF	.821	.882	.901		.898	.714	.860	.679		.912	.890	.926	.800		.953	.831	.938	.874		.883			

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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County of Riverside
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File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Thompson Road Westbound			Winchester Road Northbound			Max Gilliss Boulevard Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	14	161	32	207	11	100	5	116	117	296	23	436	46	85	128	259
+15 mins.	11	148	38	197	15	75	7	97	143	285	22	450	45	81	137	263
+30 mins.	11	131	42	184	13	90	2	105	133	319	30	482	60	79	137	276
+45 mins.	10	174	43	227	21	79	5	105	116	333	21	470	65	89	161	315
Total Volume	46	614	155	815	60	344	19	423	509	1233	96	1838	216	334	563	1113
% App. Total	5.6	75.3	19		14.2	81.3	4.5		27.7	67.1	5.2		19.4	30	50.6	
PHF	.821	.882	.901	.898	.714	.860	.679	.912	.890	.926	.800	.953	.831	.938	.874	.883

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County of Riverside
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File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound							
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	3	2	1	0	0	0	0	1	0	2	0	2	1	2	2	1	2	13	15
04:15 PM	0	1	0	0	0	0	0	0	0	0	1	0	1	0	2	4	2	2	8	10
04:30 PM	0	0	0	0	0	0	0	0	1	2	0	3	0	0	2	2	2	2	6	8
04:45 PM	0	3	0	0	0	1	1	1	1	1	2	0	3	0	0	0	0	1	7	8
Total	0	7	2	1	1	1	1	1	3	2	6	1	9	1	4	8	5	7	34	41
05:00 PM	0	1	0	0	0	0	0	0	0	1	1	0	2	2	0	1	1	1	6	7
05:15 PM	0	2	1	0	3	1	2	0	3	0	2	0	2	3	0	2	1	5	13	14
05:30 PM	0	0	0	0	0	0	0	0	0	4	1	0	5	0	2	0	2	0	7	7
05:45 PM	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	2
Total	0	4	1	0	3	1	2	0	3	1	8	1	10	5	2	3	2	2	28	30
Grand Total	0	11	3	1	6	3	14	2	19	6	6	11	7	23	6	11	7	9	62	71
% Approach	0	78.6	21.4		16.7	50	73.7	10.5	30.6	26.1	26.1	47.8	37.1	26.1	9.7	17.7		12.7	87.3	
% Total	0	17.7	4.8		1.6	4.8	22.6	3.2	9.7	4.8	22.6	3.2	9.7	9.7	9.7	17.7		12.7	87.3	

Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound							
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	3	0	0	0	0	0	0	1	0	2	0	2	1	2	2	1	2	13	15
05:00 PM	0	1	0	0	0	0	0	0	0	0	1	0	1	0	2	4	2	2	8	10
05:15 PM	0	0	0	0	0	0	0	0	1	2	0	3	0	0	2	2	2	2	6	8
05:30 PM	0	3	0	0	0	1	1	1	1	1	2	0	3	0	0	0	0	1	7	8
Total	0	7	2	1	1	1	1	1	3	2	6	1	9	1	4	8	5	7	34	41
05:00 PM	0	1	0	0	0	0	0	0	0	1	1	0	2	2	0	1	1	1	6	7
05:15 PM	0	2	1	0	3	1	2	0	3	0	2	0	2	3	0	2	1	5	13	14
05:30 PM	0	0	0	0	0	0	0	0	0	4	1	0	5	0	2	0	2	0	7	7
05:45 PM	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	2
Total	0	4	1	0	3	1	8	1	10	5	2	3	2	10	2	3	2	2	28	30
Grand Total	0	11	3	1	6	3	14	2	19	6	6	11	7	23	6	11	7	9	62	71
% Approach	0	78.6	21.4		16.7	50	73.7	10.5	30.6	26.1	26.1	47.8	37.1	26.1	9.7	17.7		12.7	87.3	
% Total	0	17.7	4.8		1.6	4.8	22.6	3.2	9.7	4.8	22.6	3.2	9.7	9.7	9.7	17.7		12.7	87.3	

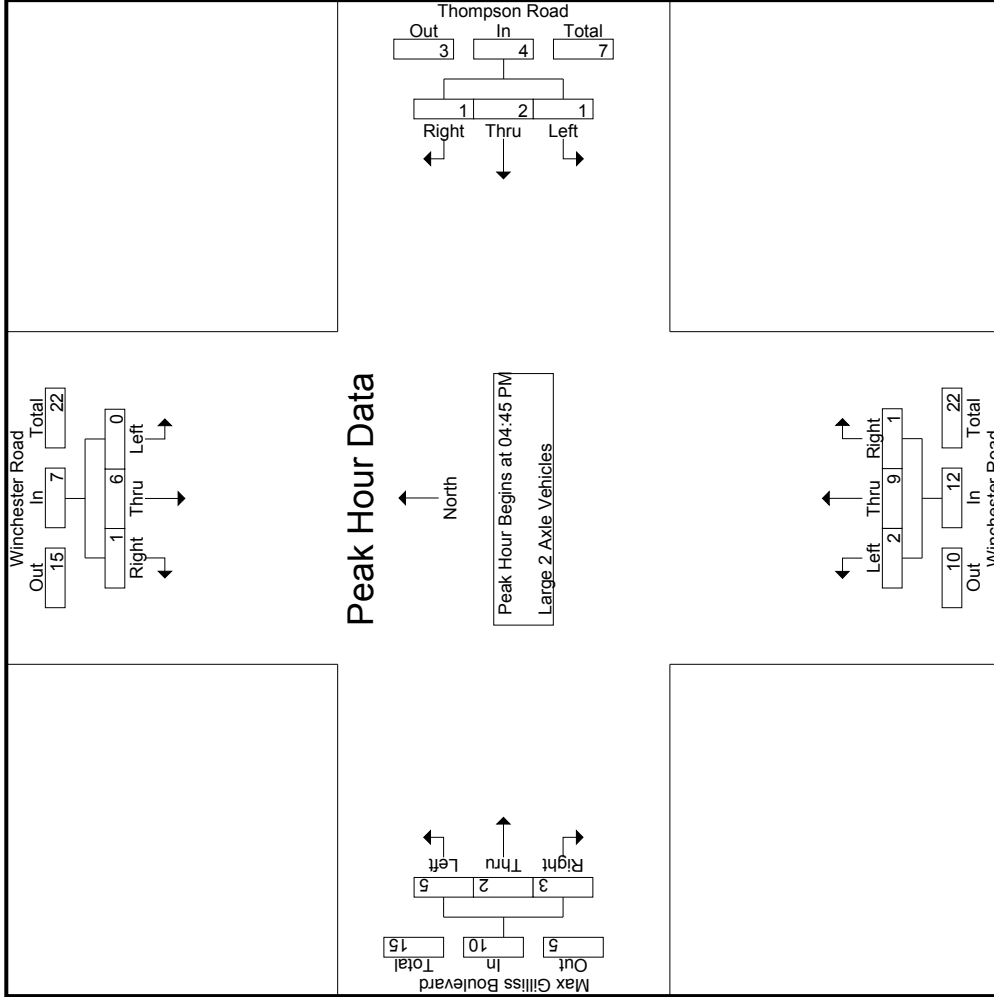
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound							
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	3	0	0	0	0	0	0	1	0	2	0	2	1	2	2	1	2	13	15
05:00 PM	0	1	0	0	0	0	0	0	0	0	1	0	1	0	2	4	2	2	8	10
05:15 PM	0	0	0	0	0	0	0	0	1	2	0	3	0	0	2	2	2	2	6	8
05:30 PM	0	3	0	0	0	1	1	1	1	1	2	0	3	0	0	0	0	1	7	8
Total	0	7	2	1	1	1	1	1	3	2	6	1	9	1	4	8	5	7	34	41
% App. Total	0	85.7	14.3		25	50	75	8.3	25	16.7	75	8.3	25	20	30	30	20	30	37.5	50
PHF	.000	.500	.250		.250	.250	.563	.250	.333	.500	.563	.250	.600	.250	.375	.500	.250	.375	.500	.635

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County of Riverside
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 Weather: Clear

File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 22_CRV_79_Max PMC
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 Page No : 3

Start Time	Winchester Road Southbound			Thompson Road Westbound			Winchester Road Northbound			Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	04:45 PM			04:45 PM			04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	3	0	0	0	1	1	1	2	0	0	0	0	0	
+15 mins.	0	1	0	0	0	0	0	1	1	0	0	0	1	3	
+30 mins.	0	2	1	1	2	0	3	0	2	0	0	0	2	5	
+45 mins.	0	0	0	0	0	0	0	0	4	1	0	2	0	2	
Total Volume	0	6	1	1	2	1	4	2	9	1	12	2	2	10	
% App. Total	0	85.7	14.3	.25	.50	.25	.333	16.7	.75	8.3	.600	.250	.20	.30	
PHF	.000	.500	.250	.250	.250	.250	.333	.500	.563	.250	.600	.250	.417	.375	
														.500	

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	1	3	4
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	2	0	0	2	0	2	0	0	0	0	0	1	5	6
05:00 PM	0	0	2	0	2	0	1	0	0	1	0	0	1	1	1	1	7	8
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	2
05:30 PM	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	0	2	0	3	1	0	4	1	3	0	0	1	1	11	12
Grand Total	0	0	3	1	3	0	4	2	0	6	1	5	0	0	1	1	2	16
% Apprch %	0	0	100		66.7	33.3				16.7	83.3	0	0	0	100			
Total %	0	0	18.8		37.5	12.5				37.5	31.2	0	0	6.2	6.2	11.1	88.9	

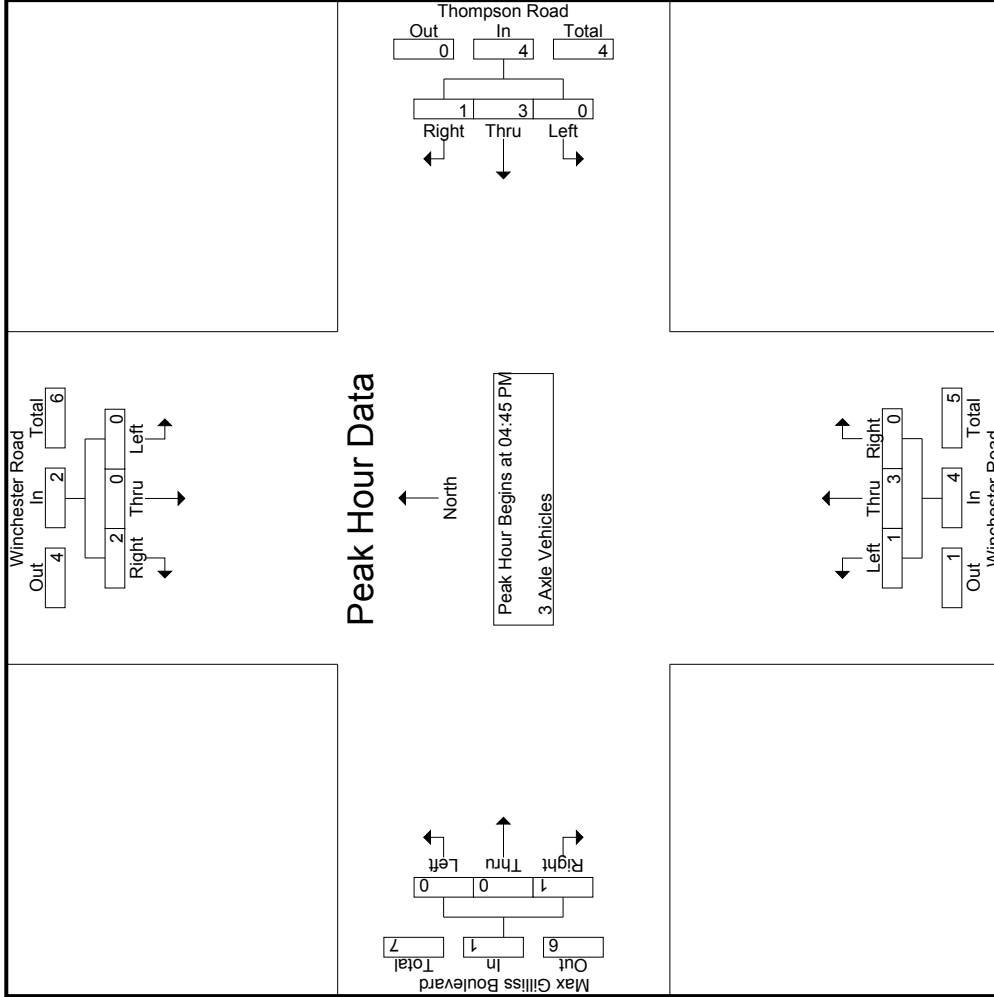
Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	2	0	2	0	1	0	0	3	0	1	0	0	1	1	1	7
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Total Volume	0	0	2	0	2	0	3	1	0	4	1	3	0	0	1	1	1	11
% App. Total	0	0	100		75	25				75	25	0	0	0	100			
PHF	.000	.000	.250		.333	.250	.375	.250		.500	.250	.750	.000	.000	.250	.250	.250	.393

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Thompson Road Westbound			Winchester Road Northbound			Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	04:45 PM			04:45 PM			04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	0	2	0	2	1	3	0	1	0	0	0	0	1	
+30 mins.	0	0	0	0	1	0	1	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	1	1	0	0	0	0	0	
Total Volume	0	0	2	0	3	1	4	1	3	0	0	0	0	1	
% App. Total	0	0	100	0	75	25	25	25	75	0	0	0	0	100	
PHF	.000	.000	.250	.000	.375	.250	.333	.250	.750	.000	.000	.000	.250	.250	

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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Apprch %	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Total %	0	16.7	0	0	16.7	0	0	0	0	50	0	0	0	0	33.3	14.3	85.7	0

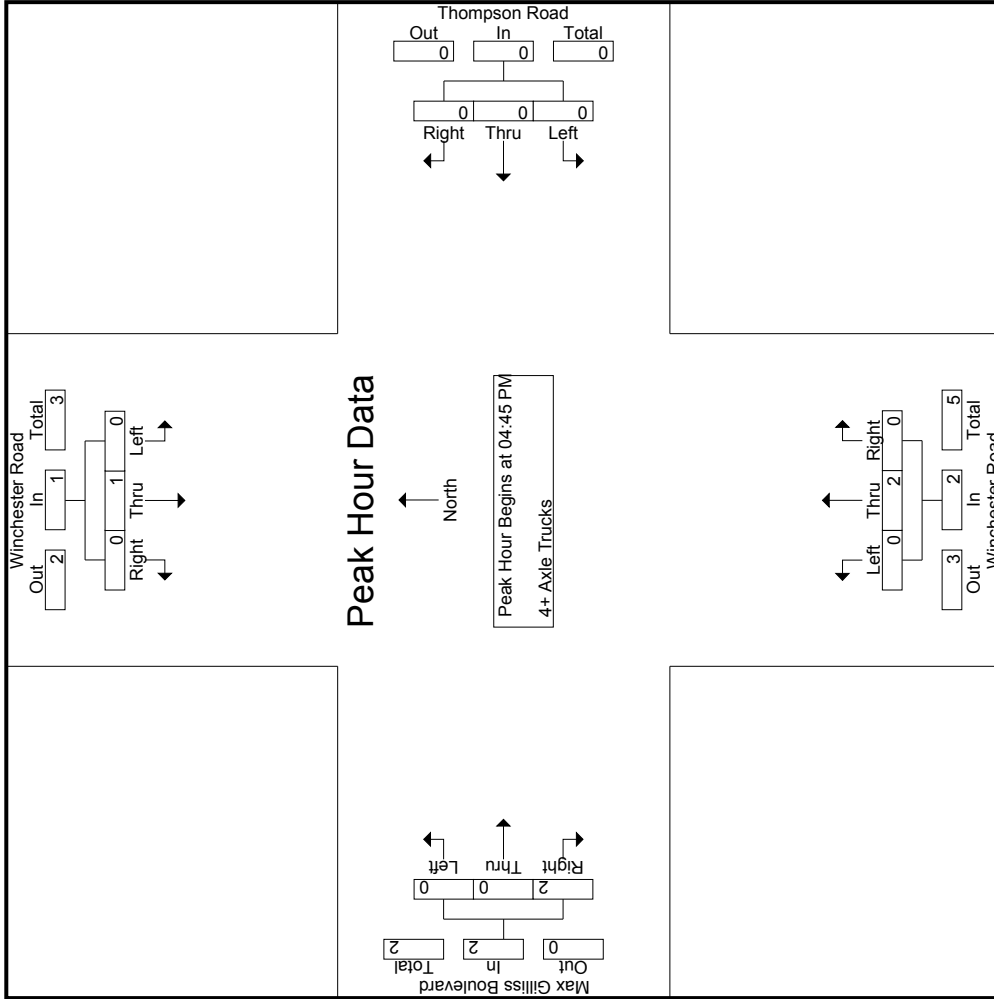
Start Time	Winchester Road Southbound				Thompson Road Westbound				Winchester Road Northbound				Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.250	.000	.250	.000	.000	.250	.250	.250	.313

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
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County of Riverside
 N/S: Winchester Road (SR-79)
 E/W: Max Gilliss Blvd/Thompson Rd
 Weather: Clear

File Name : 22_CRV_79_Max PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Thompson Road Westbound			Winchester Road Northbound			Max Gilliss Boulevard Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	04:45 PM				04:45 PM				04:45 PM				04:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	2	0	0	2	0	
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	1	0	1	0	0	0	0	0	2	0	0	2	2	
% App. Total	0	100	0	100	0	0	0	0	0	100	0	0	100	100	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250	

Location: County of Riverside
 N/S: Winchester Road
 E/W: Max Gilliss Blvd/Thompson Rd



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road	East Leg Thompson Rd	South Leg Winchester Road	West Leg Max Gilliss Blvd	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	1	1	2
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	1	2

	North Leg Winchester Road	East Leg Thompson Rd	South Leg Winchester Road	West Leg Max Gilliss Blvd	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	6	0	0	6
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	6	0	0	6

Location: County of Riverside
 N/S: Winchester Road
 E/W: Max Gilliss Blvd/Thompson Rd



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Winchester Road			Westbound Thompson Rd			Northbound Winchester Road			Eastbound Max Gilliss Blvd			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
8:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	0	1	0	0	1	0	0	2	1	7

	Southbound Winchester Road			Westbound Thompson Rd			Northbound Winchester Road			Eastbound Max Gilliss Blvd			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	1	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES:	0	0	2	0	2	0	0	1	0	0	1	2	8

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

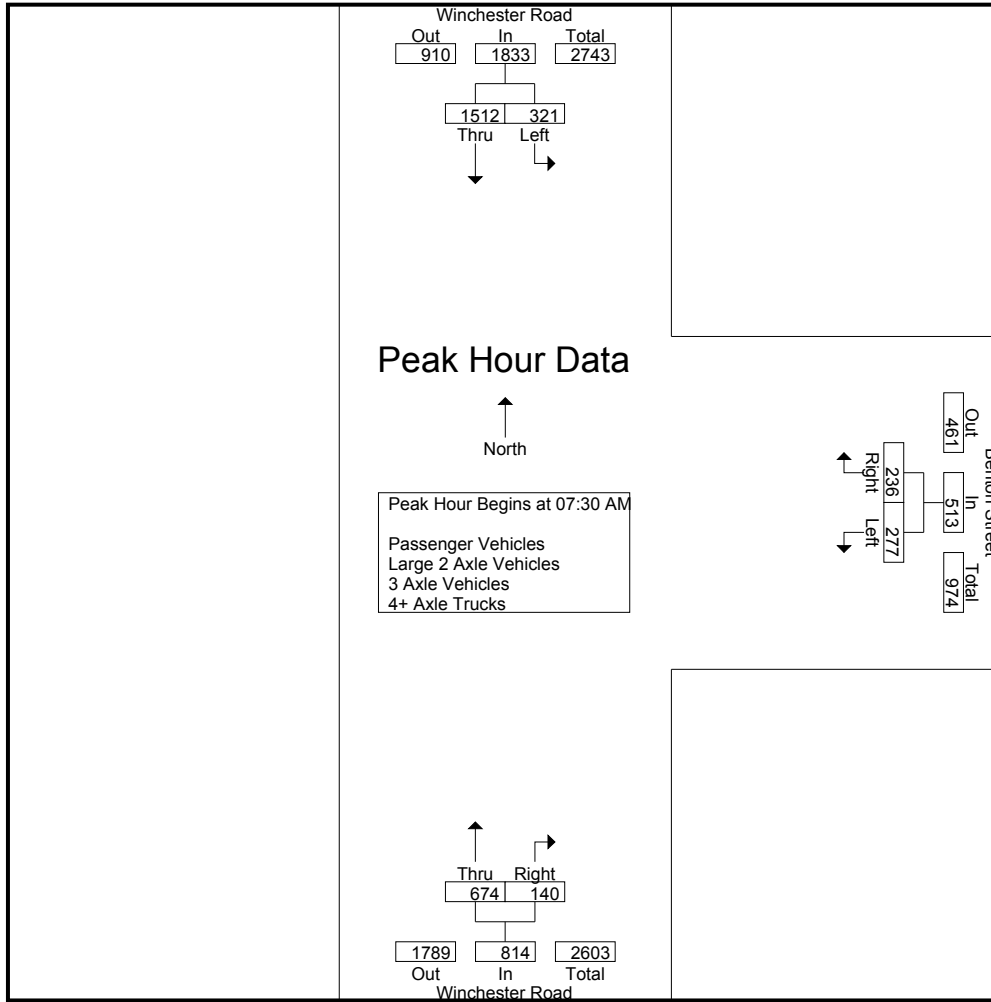
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound				Benton Street Westbound				Winchester Road Northbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
07:00 AM	60	316	0	376	100	64	39	164	140	29	9	169	48	709	757
07:15 AM	82	330	0	412	54	50	36	104	144	48	11	192	47	708	755
07:30 AM	79	358	0	437	73	57	43	130	184	35	6	219	49	786	835
07:45 AM	88	438	0	526	59	55	35	114	159	31	11	190	46	830	876
Total	309	1442	0	1751	286	226	153	512	627	143	37	770	190	3033	3223
08:00 AM	72	329	0	401	67	68	41	135	197	36	15	233	56	769	825
08:15 AM	82	387	0	469	78	56	40	134	134	38	16	172	56	775	831
08:30 AM	85	300	0	385	85	56	38	141	131	39	6	170	44	696	740
08:45 AM	68	316	0	384	74	63	42	137	121	43	15	164	57	685	742
Total	307	1332	0	1639	304	243	161	547	583	156	52	739	213	2925	3138
Grand Total	616	2774	0	3390	590	469	314	1059	1210	299	89	1509	403	5958	6361
Apprch %	18.2	81.8			55.7	44.3			80.2	19.8					
Total %	10.3	46.6		56.9	9.9	7.9		17.8	20.3	5		25.3	6.3	93.7	
Passenger Vehicles	601	2702		3303	576	447		1320	1170	283		1537	0	0	6160
% Passenger Vehicles	97.6	97.4	0	97.4	97.6	95.3	94.6	96.1	96.7	94.6	94.4	96.2	0	0	96.8
Large 2 Axle Vehicles	13	47		60	11	21		48	32	14		51	0	0	159
% Large 2 Axle Vehicles	2.1	1.7	0	1.8	1.9	4.5	5.1	3.5	2.6	4.7	5.6	3.2	0	0	2.5
3 Axle Vehicles	1	14		15	0	0		0	2	1		3	0	0	18
% 3 Axle Vehicles	0.2	0.5	0	0.4	0	0	0	0	0.2	0.3	0	0.2	0	0	0.3
4+ Axle Trucks	1	11		12	3	1		5	6	1		7	0	0	24
% 4+ Axle Trucks	0.2	0.4	0	0.4	0.5	0.2	0.3	0.4	0.5	0.3	0	0.4	0	0	0.4

Start Time	Winchester Road Southbound			Benton Street Westbound			Winchester Road Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	79	358	437	73	57	130	184	35	219	786
07:45 AM	88	438	526	59	55	114	159	31	190	830
08:00 AM	72	329	401	67	68	135	197	36	233	769
08:15 AM	82	387	469	78	56	134	134	38	172	775
Total Volume	321	1512	1833	277	236	513	674	140	814	3160
% App. Total	17.5	82.5		54	46		82.8	17.2		
PHF	.912	.863	.871	.888	.868	.950	.855	.921	.873	.952

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM			08:00 AM			07:15 AM		
+0 mins.	79	358	437	67	68	135	144	48	192
+15 mins.	88	438	526	78	56	134	184	35	219
+30 mins.	72	329	401	85	56	141	159	31	190
+45 mins.	82	387	469	74	63	137	197	36	233
Total Volume	321	1512	1833	304	243	547	684	150	834
% App. Total	17.5	82.5		55.6	44.4		82	18	
PHF	.912	.863	.871	.894	.893	.970	.868	.781	.895

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

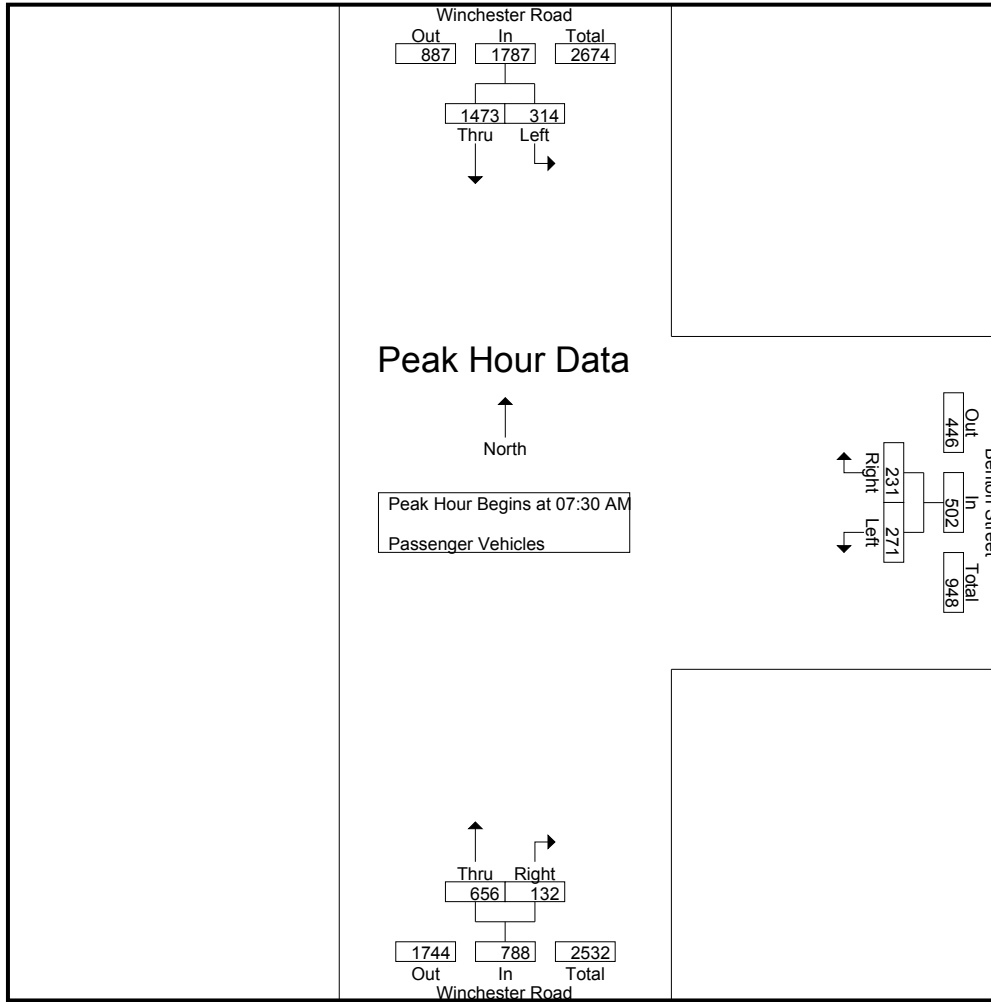
Start Time	Winchester Road Southbound				Benton Street Westbound				Winchester Road Northbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
07:00 AM	58	309	0	367	99	57	33	156	132	29	9	161	42	684	726
07:15 AM	80	325	0	405	53	43	31	96	140	45	11	185	42	686	728
07:30 AM	74	347	0	421	71	55	42	126	181	32	6	213	48	760	808
07:45 AM	87	426	0	513	57	54	35	111	156	30	11	186	46	810	856
Total	299	1407	0	1706	280	209	141	489	609	136	37	745	178	2940	3118
08:00 AM	71	319	0	390	65	66	39	131	190	32	12	222	51	743	794
08:15 AM	82	381	0	463	78	56	40	134	129	38	16	167	56	764	820
08:30 AM	84	292	0	376	81	54	36	135	127	38	5	165	41	676	717
08:45 AM	65	303	0	368	72	62	41	134	115	39	14	154	55	656	711
Total	302	1295	0	1597	296	238	156	534	561	147	47	708	203	2839	3042
Grand Total	601	2702	0	3303	576	447	297	1023	1170	283	84	1453	381	5779	6160
Apprch %	18.2	81.8			56.3	43.7			80.5	19.5					
Total %	10.4	46.8		57.2	10	7.7		17.7	20.2	4.9		25.1	6.2	93.8	

Start Time	Winchester Road Southbound			Benton Street Westbound			Winchester Road Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:30 AM	74	347	421	71	55	126	181	32	213	760
07:45 AM	87	426	513	57	54	111	156	30	186	810
08:00 AM	71	319	390	65	66	131	190	32	222	743
08:15 AM	82	381	463	78	56	134	129	38	167	764
Total Volume	314	1473	1787	271	231	502	656	132	788	3077
% App. Total	17.6	82.4		54	46		83.2	16.8		
PHF	.902	.864	.871	.869	.875	.937	.863	.868	.887	.950

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	74	347	421	71	55	126	181	32	213
+15 mins.	87	426	513	57	54	111	156	30	186
+30 mins.	71	319	390	65	66	131	190	32	222
+45 mins.	82	381	463	78	56	134	129	38	167
Total Volume	314	1473	1787	271	231	502	656	132	788
% App. Total	17.6	82.4		54	46		83.2	16.8	
PHF	.902	.864	.871	.869	.875	.937	.863	.868	.887

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

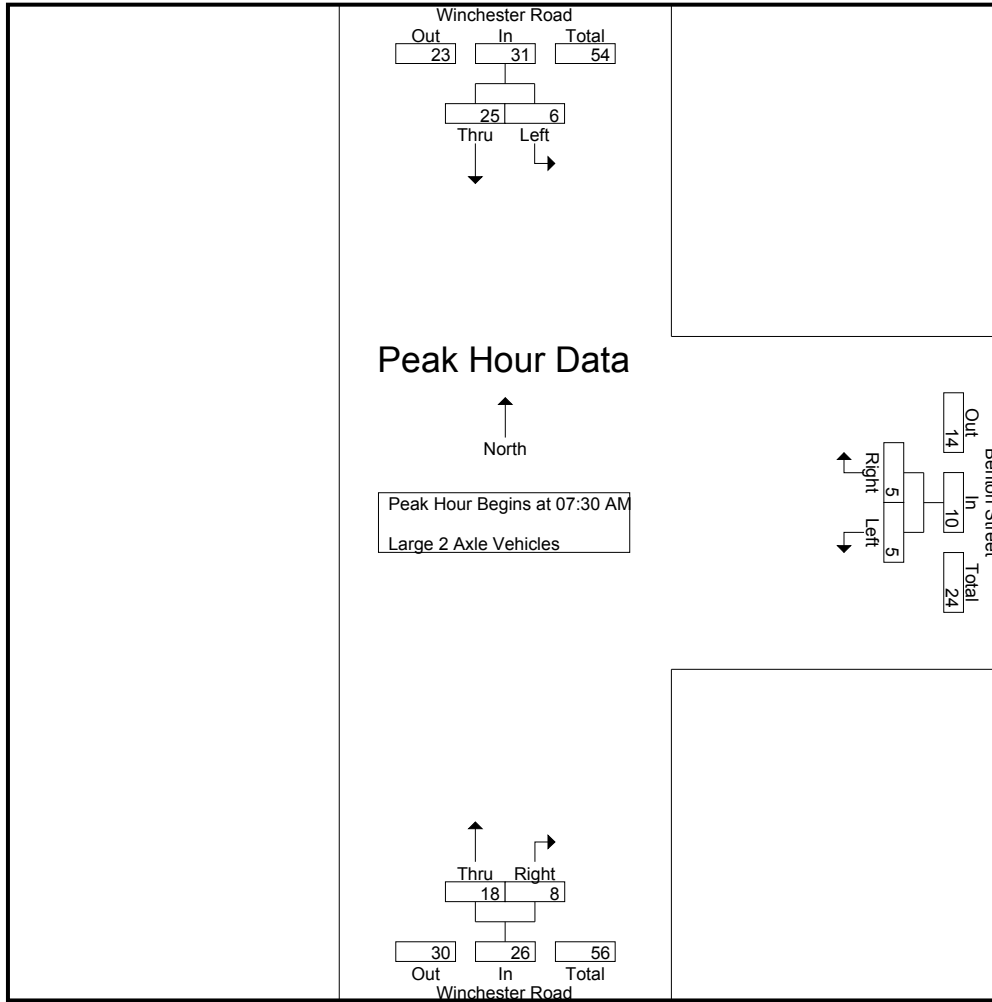
Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Benton Street Westbound				Winchester Road Northbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
07:00 AM	2	7	0	9	1	7	6	8	5	0	0	5	6	22	28
07:15 AM	2	3	0	5	1	6	4	7	2	2	0	4	4	16	20
07:30 AM	4	9	0	13	2	2	1	4	3	3	0	6	1	23	24
07:45 AM	1	9	0	10	2	1	0	3	3	1	0	4	0	17	17
Total	9	28	0	37	6	16	11	22	13	6	0	19	11	78	89
08:00 AM	1	4	0	5	1	2	2	3	7	4	3	11	5	19	24
08:15 AM	0	3	0	3	0	0	0	0	5	0	0	5	0	8	8
08:30 AM	0	6	0	6	3	2	2	5	2	1	1	3	3	14	17
08:45 AM	3	6	0	9	1	1	1	2	5	3	1	8	2	19	21
Total	4	19	0	23	5	5	5	10	19	8	5	27	10	60	70
Grand Total	13	47	0	60	11	21	16	32	32	14	5	46	21	138	159
Apprch %	21.7	78.3			34.4	65.6			69.6	30.4					
Total %	9.4	34.1		43.5	8	15.2		23.2	23.2	10.1		33.3	13.2	86.8	

Start Time	Winchester Road Southbound			Benton Street Westbound			Winchester Road Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:30 AM	4	9	13	2	2	4	3	3	6	23
07:45 AM	1	9	10	2	1	3	3	1	4	17
08:00 AM	1	4	5	1	2	3	7	4	11	19
08:15 AM	0	3	3	0	0	0	5	0	5	8
Total Volume	6	25	31	5	5	10	18	8	26	67
% App. Total	19.4	80.6		50	50		69.2	30.8		
PHF	.375	.694	.596	.625	.625	.625	.643	.500	.591	.728

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	4	9	13	2	2	4	3	3	6
+15 mins.	1	9	10	2	1	3	3	1	4
+30 mins.	1	4	5	1	2	3	7	4	11
+45 mins.	0	3	3	0	0	0	5	0	5
Total Volume	6	25	31	5	5	10	18	8	26
% App. Total	19.4	80.6		50	50		69.2	30.8	
PHF	.375	.694	.596	.625	.625	.625	.643	.500	.591

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

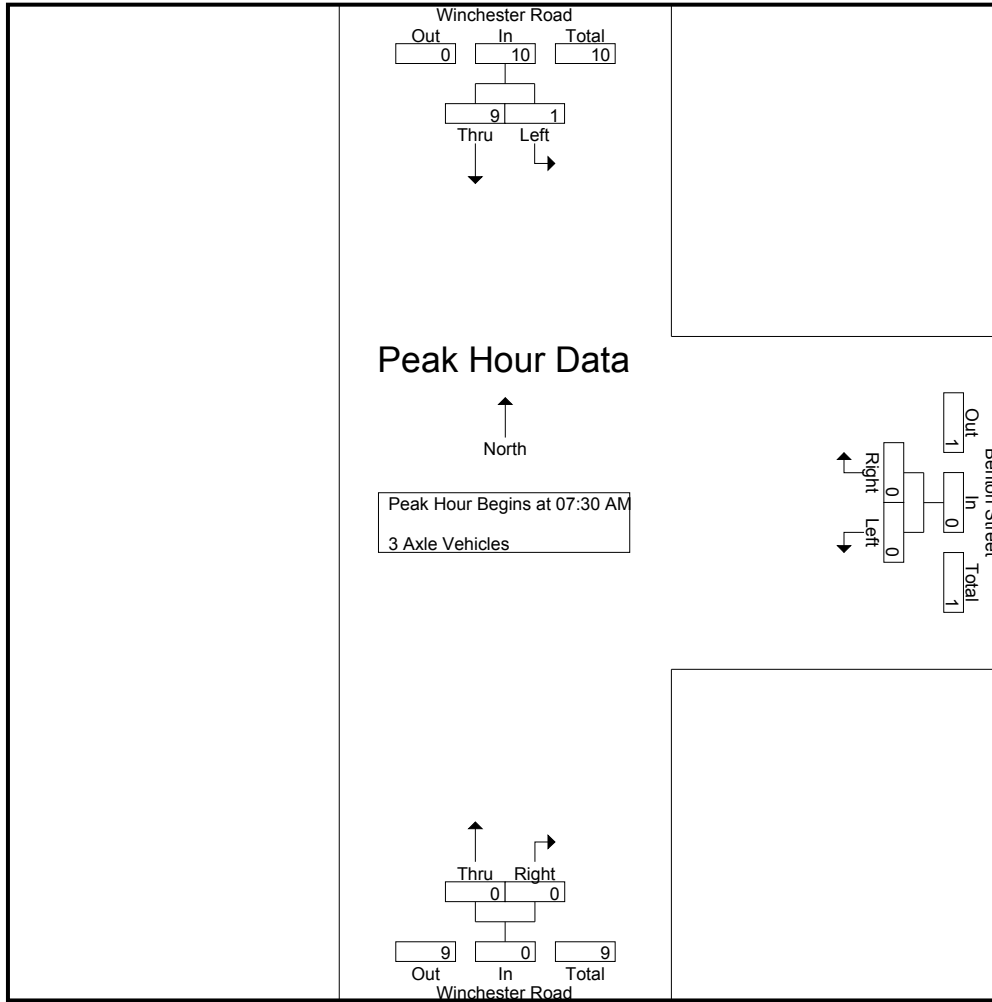
Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Benton Street Westbound				Winchester Road Northbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1
07:30 AM	1	2	0	3	0	0	0	0	0	0	0	0	0	0	3
07:45 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	1	4	0	5	0	0	0	0	1	0	0	1	0	0	6
08:00 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	3
08:15 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	4	0	4	0	0	0	0	1	1	0	2	0	0	6
Total	0	10	0	10	0	0	0	0	1	1	0	2	0	0	12
Grand Total	1	14	0	15	0	0	0	0	2	1	0	3	0	0	18
Apprch %	6.7	93.3			0	0			66.7	33.3					
Total %	5.6	77.8		83.3	0	0		0	11.1	5.6		16.7	0	0	100

Start Time	Winchester Road Southbound			Benton Street Westbound			Winchester Road Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:30 AM	1	2	3	0	0	0	0	0	0	3
07:45 AM	0	2	2	0	0	0	0	0	0	2
08:00 AM	0	3	3	0	0	0	0	0	0	3
08:15 AM	0	2	2	0	0	0	0	0	0	2
Total Volume	1	9	10	0	0	0	0	0	0	10
% App. Total	10	90		0	0		0	0		
PHF	.250	.750	.833	.000	.000	.000	.000	.000	.000	.833

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	1	2	3	0	0	0	0	0	0
+15 mins.	0	2	2	0	0	0	0	0	0
+30 mins.	0	3	3	0	0	0	0	0	0
+45 mins.	0	2	2	0	0	0	0	0	0
Total Volume	1	9	10	0	0	0	0	0	0
% App. Total	10	90		0	0		0	0	
PHF	.250	.750	.833	.000	.000	.000	.000	.000	.000

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

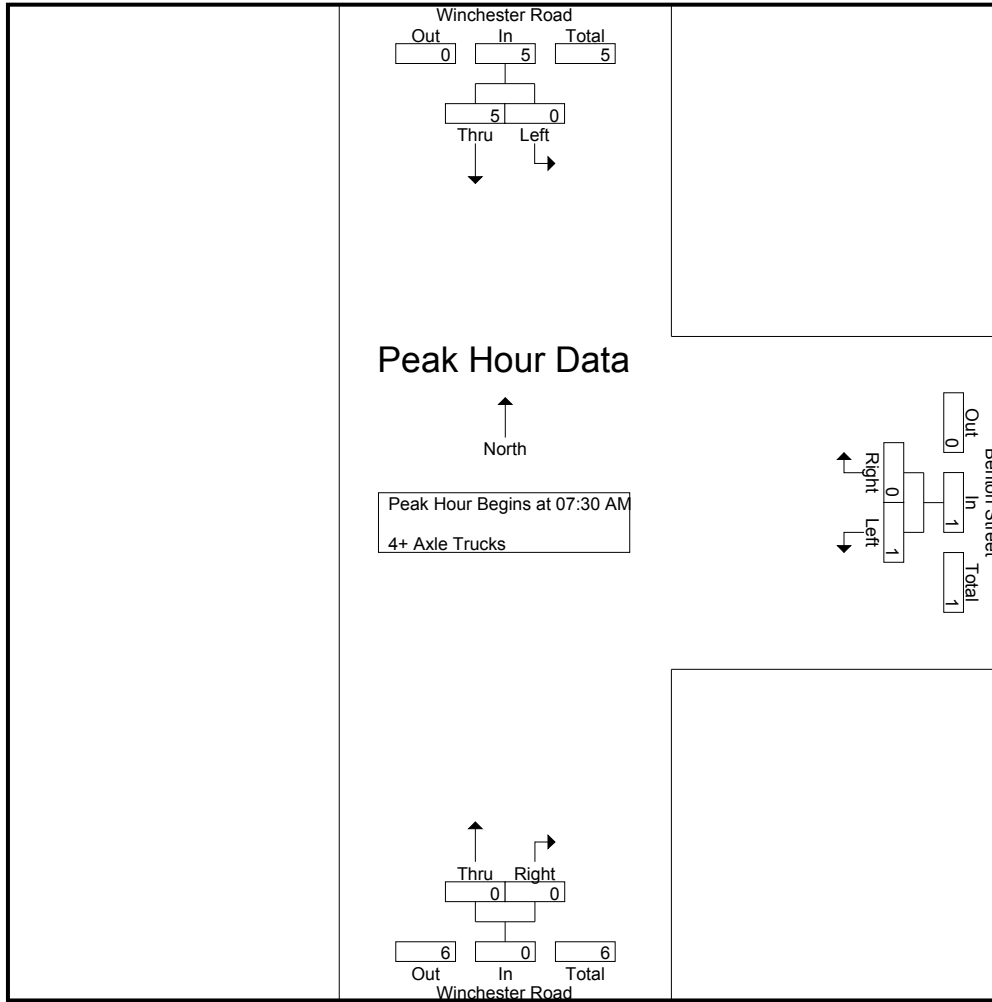
Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Benton Street Westbound				Winchester Road Northbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
07:00 AM	0	0	0	0	0	0	0	0	3	0	0	3	0	3	3
07:15 AM	0	2	0	2	0	1	1	1	1	1	0	2	1	5	6
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1
Total	0	3	0	3	0	1	1	1	4	1	0	5	1	9	10
08:00 AM	0	3	0	3	1	0	0	1	0	0	0	0	0	4	4
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1
08:30 AM	1	1	0	2	1	0	0	1	2	0	0	2	0	5	5
08:45 AM	0	3	0	3	1	0	0	1	0	0	0	0	0	4	4
Total	1	8	0	9	3	0	0	3	2	0	0	2	0	14	14
Grand Total	1	11	0	12	3	1	1	4	6	1	0	7	1	23	24
Apprch %	8.3	91.7			75	25			85.7	14.3					
Total %	4.3	47.8		52.2	13	4.3		17.4	26.1	4.3		30.4	4.2	95.8	

Start Time	Winchester Road Southbound			Benton Street Westbound			Winchester Road Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	1	0	0	0	0	0	0	1
08:00 AM	0	3	3	1	0	1	0	0	0	4
08:15 AM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	5	5	1	0	1	0	0	0	6
% App. Total	0	100		100	0		0	0		
PHF	.000	.417	.417	.250	.000	.250	.000	.000	.000	.375

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	1	0	0	0	0	0	0
+30 mins.	0	3	3	1	0	1	0	0	0
+45 mins.	0	1	1	0	0	0	0	0	0
Total Volume	0	5	5	1	0	1	0	0	0
% App. Total	0	100		100	0		0	0	
PHF	.000	.417	.417	.250	.000	.250	.000	.000	.000

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

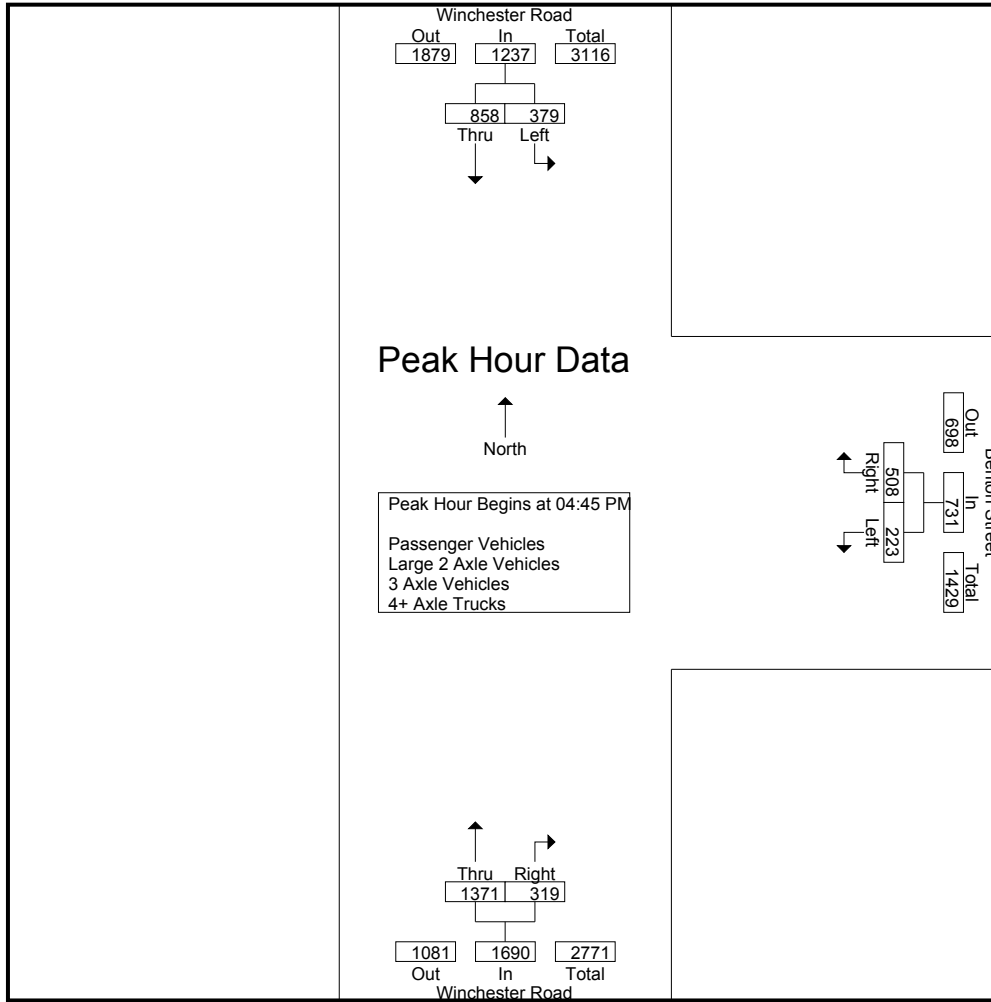
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound				Benton Street Westbound				Winchester Road Northbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
04:00 PM	72	186	0	258	60	126	45	186	333	80	25	413	70	857	927
04:15 PM	100	201	0	301	70	116	56	186	263	81	32	344	88	831	919
04:30 PM	83	188	0	271	47	154	73	201	292	84	33	376	106	848	954
04:45 PM	97	258	0	355	53	133	52	186	355	83	28	438	80	979	1059
Total	352	833	0	1185	230	529	226	759	1243	328	118	1571	344	3515	3859
05:00 PM	83	179	0	262	61	135	41	196	288	61	22	349	63	807	870
05:15 PM	106	214	0	320	53	109	50	162	366	85	34	451	84	933	1017
05:30 PM	93	207	0	300	56	131	47	187	362	90	44	452	91	939	1030
05:45 PM	100	223	0	323	82	104	47	186	331	79	18	410	65	919	984
Total	382	823	0	1205	252	479	185	731	1347	315	118	1662	303	3598	3901
Grand Total	734	1656	0	2390	482	1008	411	1490	2590	643	236	3233	647	7113	7760
Apprch %	30.7	69.3			32.3	67.7			80.1	19.9					
Total %	10.3	23.3		33.6	6.8	14.2		20.9	36.4	9		45.5	8.3	91.7	
Passenger Vehicles	721	1634		2355	472	990		1863	2565	639		3439	0	0	7657
% Passenger Vehicles	98.2	98.7	0	98.5	97.9	98.2	97.6	98	99	99.4	99.6	99.1	0	0	98.7
Large 2 Axle Vehicles	12	17		29	10	16		34	23	3		27	0	0	90
% Large 2 Axle Vehicles	1.6	1	0	1.2	2.1	1.6	1.9	1.8	0.9	0.5	0.4	0.8	0	0	1.2
3 Axle Vehicles	0	2		2	0	1		2	1	0		1	0	0	5
% 3 Axle Vehicles	0	0.1	0	0.1	0	0.1	0.2	0.1	0	0	0	0	0	0	0.1
4+ Axle Trucks	1	3		4	0	1		2	1	1		2	0	0	8
% 4+ Axle Trucks	0.1	0.2	0	0.2	0	0.1	0.2	0.1	0	0.2	0	0.1	0	0	0.1

Start Time	Winchester Road Southbound			Benton Street Westbound			Winchester Road Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	97	258	355	53	133	186	355	83	438	979
05:00 PM	83	179	262	61	135	196	288	61	349	807
05:15 PM	106	214	320	53	109	162	366	85	451	933
05:30 PM	93	207	300	56	131	187	362	90	452	939
Total Volume	379	858	1237	223	508	731	1371	319	1690	3658
% App. Total	30.6	69.4		30.5	69.5		81.1	18.9		
PHF	.894	.831	.871	.914	.941	.932	.936	.886	.935	.934

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:15 PM			04:45 PM		
+0 mins.	97	258	355	70	116	186	355	83	438
+15 mins.	83	179	262	47	154	201	288	61	349
+30 mins.	106	214	320	53	133	186	366	85	451
+45 mins.	93	207	300	61	135	196	362	90	452
Total Volume	379	858	1237	231	538	769	1371	319	1690
% App. Total	30.6	69.4		30	70		81.1	18.9	
PHF	.894	.831	.871	.825	.873	.956	.936	.886	.935

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

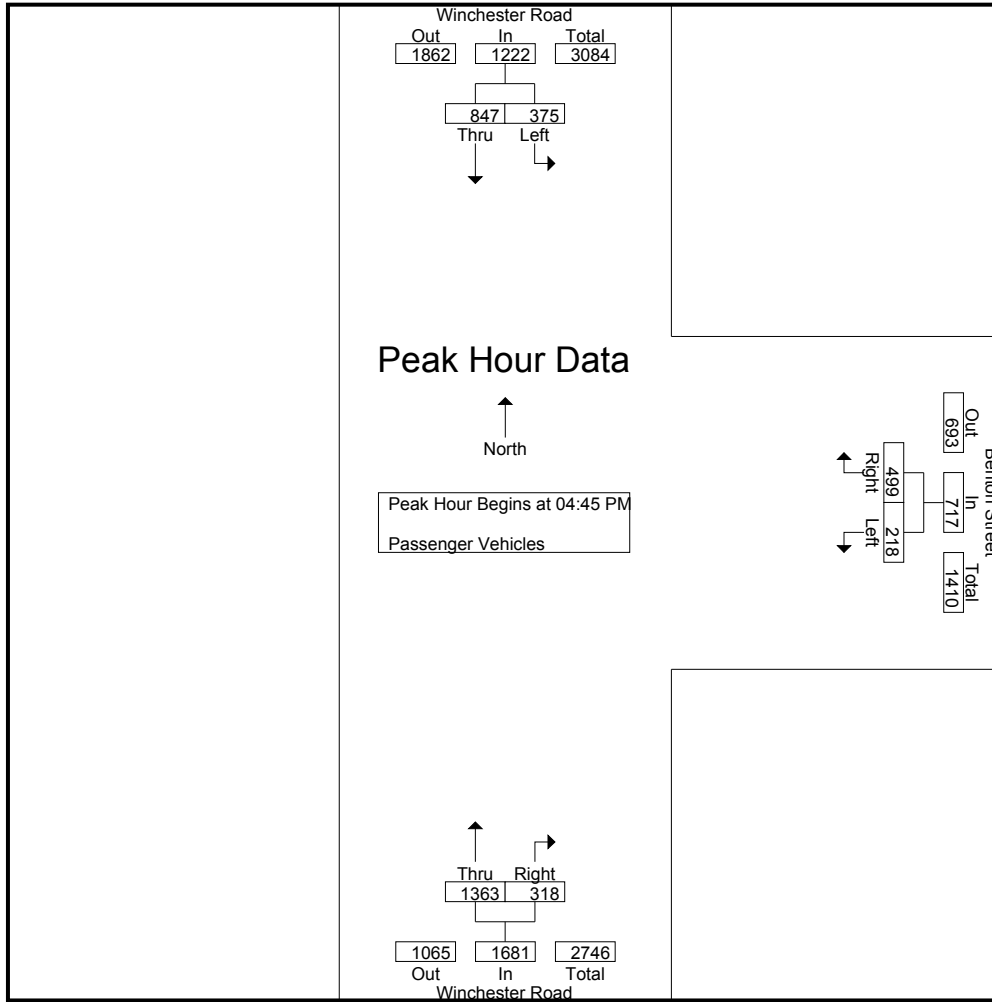
Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Benton Street Westbound				Winchester Road Northbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
04:00 PM	68	181	0	249	59	123	43	182	329	80	25	409	68	840	908
04:15 PM	98	198	0	296	69	115	55	184	258	80	32	338	87	818	905
04:30 PM	81	186	0	267	45	151	72	196	292	84	33	376	105	839	944
04:45 PM	96	255	0	351	52	130	50	182	352	82	28	434	78	967	1045
Total	343	820	0	1163	225	519	220	744	1231	326	118	1557	338	3464	3802
05:00 PM	82	178	0	260	61	134	40	195	288	61	22	349	62	804	866
05:15 PM	105	211	0	316	50	107	49	157	366	85	34	451	83	924	1007
05:30 PM	92	203	0	295	55	128	46	183	357	90	44	447	90	925	1015
05:45 PM	99	222	0	321	81	102	46	183	323	77	17	400	63	904	967
Total	378	814	0	1192	247	471	181	718	1334	313	117	1647	298	3557	3855
Grand Total	721	1634	0	2355	472	990	401	1462	2565	639	235	3204	636	7021	7657
Apprch %	30.6	69.4			32.3	67.7			80.1	19.9					
Total %	10.3	23.3		33.5	6.7	14.1		20.8	36.5	9.1		45.6	8.3	91.7	

Start Time	Winchester Road Southbound			Benton Street Westbound			Winchester Road Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	96	255	351	52	130	182	352	82	434	967
05:00 PM	82	178	260	61	134	195	288	61	349	804
05:15 PM	105	211	316	50	107	157	366	85	451	924
05:30 PM	92	203	295	55	128	183	357	90	447	925
Total Volume	375	847	1222	218	499	717	1363	318	1681	3620
% App. Total	30.7	69.3		30.4	69.6		81.1	18.9		
PHF	.893	.830	.870	.893	.931	.919	.931	.883	.932	.936

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	96	255	351	52	130	182	352	82	434
+15 mins.	82	178	260	61	134	195	288	61	349
+30 mins.	105	211	316	50	107	157	366	85	451
+45 mins.	92	203	295	55	128	183	357	90	447
Total Volume	375	847	1222	218	499	717	1363	318	1681
% App. Total	30.7	69.3		30.4	69.6		81.1	18.9	
PHF	.893	.830	.870	.893	.931	.919	.931	.883	.932

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

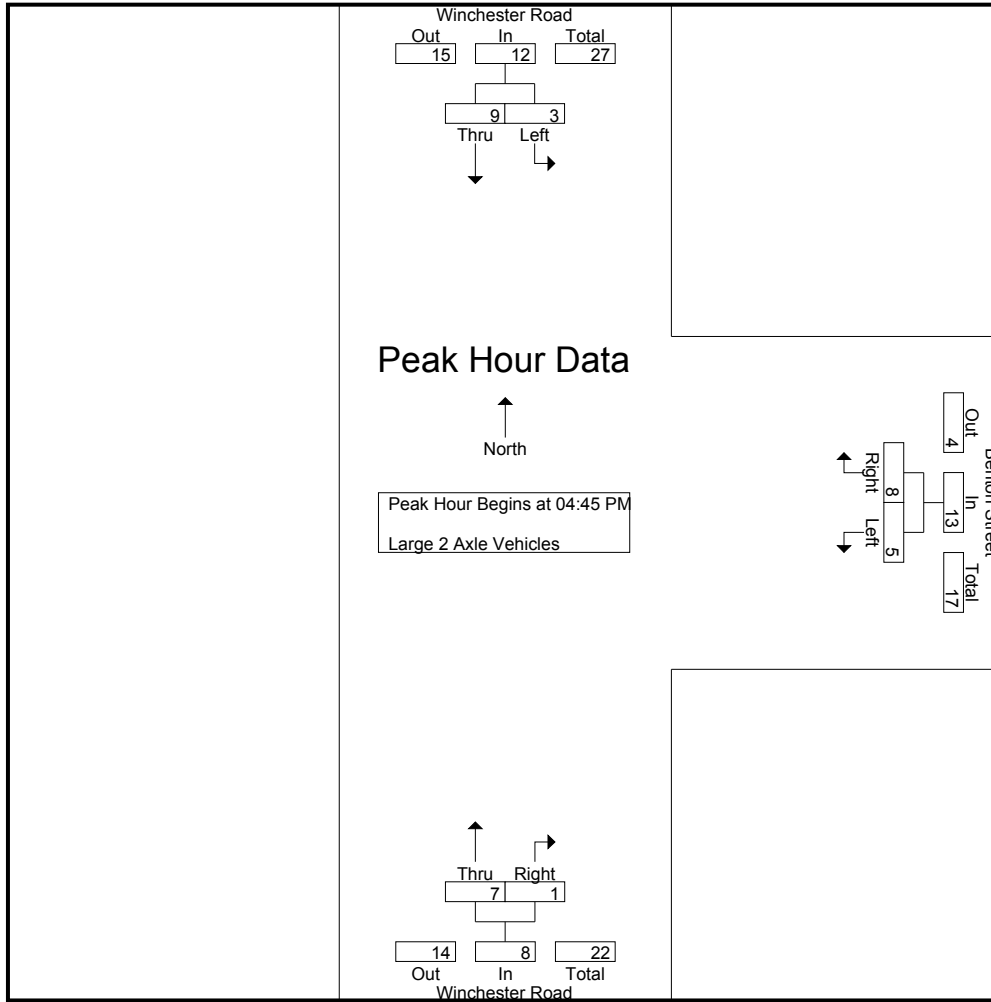
Start Time	Winchester Road Southbound				Benton Street Westbound				Winchester Road Northbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
04:00 PM	4	3	0	7	1	3	2	4	4	0	0	4	2	15	17
04:15 PM	2	3	0	5	1	1	1	2	5	1	0	6	1	13	14
04:30 PM	2	1	0	3	2	2	0	4	0	0	0	0	0	7	7
04:45 PM	1	2	0	3	1	3	2	4	3	1	0	4	2	11	13
Total	9	9	0	18	5	9	5	14	12	2	0	14	5	46	51
05:00 PM	0	1	0	1	0	1	1	1	0	0	0	0	1	2	3
05:15 PM	1	3	0	4	3	1	0	4	0	0	0	0	0	8	8
05:30 PM	1	3	0	4	1	3	1	4	4	0	0	4	1	12	13
05:45 PM	1	1	0	2	1	2	1	3	7	1	1	8	2	13	15
Total	3	8	0	11	5	7	3	12	11	1	1	12	4	35	39
Grand Total	12	17	0	29	10	16	8	26	23	3	1	26	9	81	90
Apprch %	41.4	58.6			38.5	61.5			88.5	11.5					
Total %	14.8	21		35.8	12.3	19.8		32.1	28.4	3.7		32.1	10	90	

Start Time	Winchester Road Southbound			Benton Street Westbound			Winchester Road Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	1	2	3	1	3	4	3	1	4	11
05:00 PM	0	1	1	0	1	1	0	0	0	2
05:15 PM	1	3	4	3	1	4	0	0	0	8
05:30 PM	1	3	4	1	3	4	4	0	4	12
Total Volume	3	9	12	5	8	13	7	1	8	33
% App. Total	25	75		38.5	61.5		87.5	12.5		
PHF	.750	.750	.750	.417	.667	.813	.438	.250	.500	.688

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	1	2	3	1	3	4	3	1	4
+15 mins.	0	1	1	0	1	1	0	0	0
+30 mins.	1	3	4	3	1	4	0	0	0
+45 mins.	1	3	4	1	3	4	4	0	4
Total Volume	3	9	12	5	8	13	7	1	8
% App. Total	25	75		38.5	61.5		87.5	12.5	
PHF	.750	.750	.750	.417	.667	.813	.438	.250	.500

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

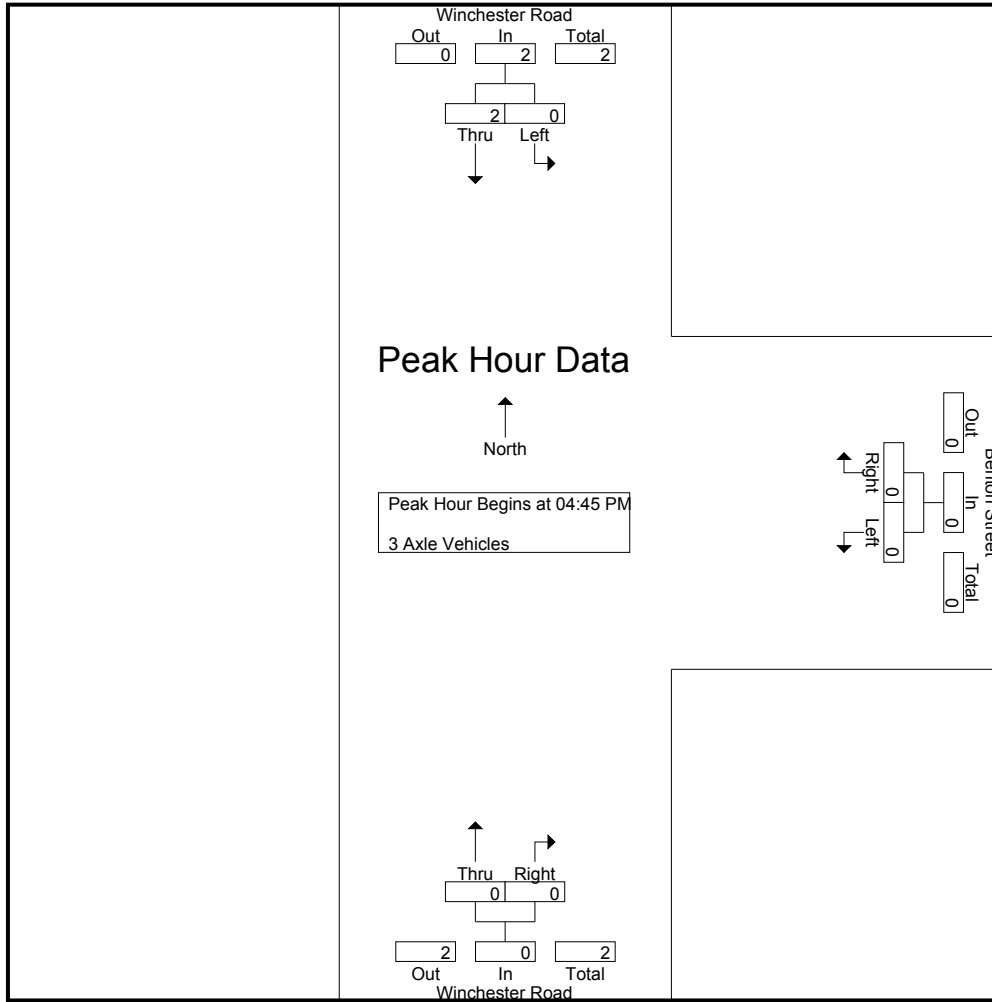
Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Benton Street Westbound				Winchester Road Northbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	1	1	1	0	0	0	0	1	1	2
04:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1
Total	0	1	0	1	0	1	1	1	0	0	0	0	1	2	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
Total	0	1	0	1	0	0	0	0	1	0	0	1	0	2	2
Grand Total	0	2	0	2	0	1	1	1	1	0	0	1	1	4	5
Apprch %	0	100			0	100			100	0					
Total %	0	50		50	0	25		25	25	0		25	20	80	

Start Time	Winchester Road Southbound			Benton Street Westbound			Winchester Road Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	0	1	1	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	2	2	0	0	0	0	0	0	2
% App. Total	0	100		0	0		0	0		
PHF	.000	.500	.500	.000	.000	.000	.000	.000	.000	.500

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	1	1	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	1	0	0	0	0	0	0
Total Volume	0	2	2	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.500	.500	.000	.000	.000	.000	.000	.000

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

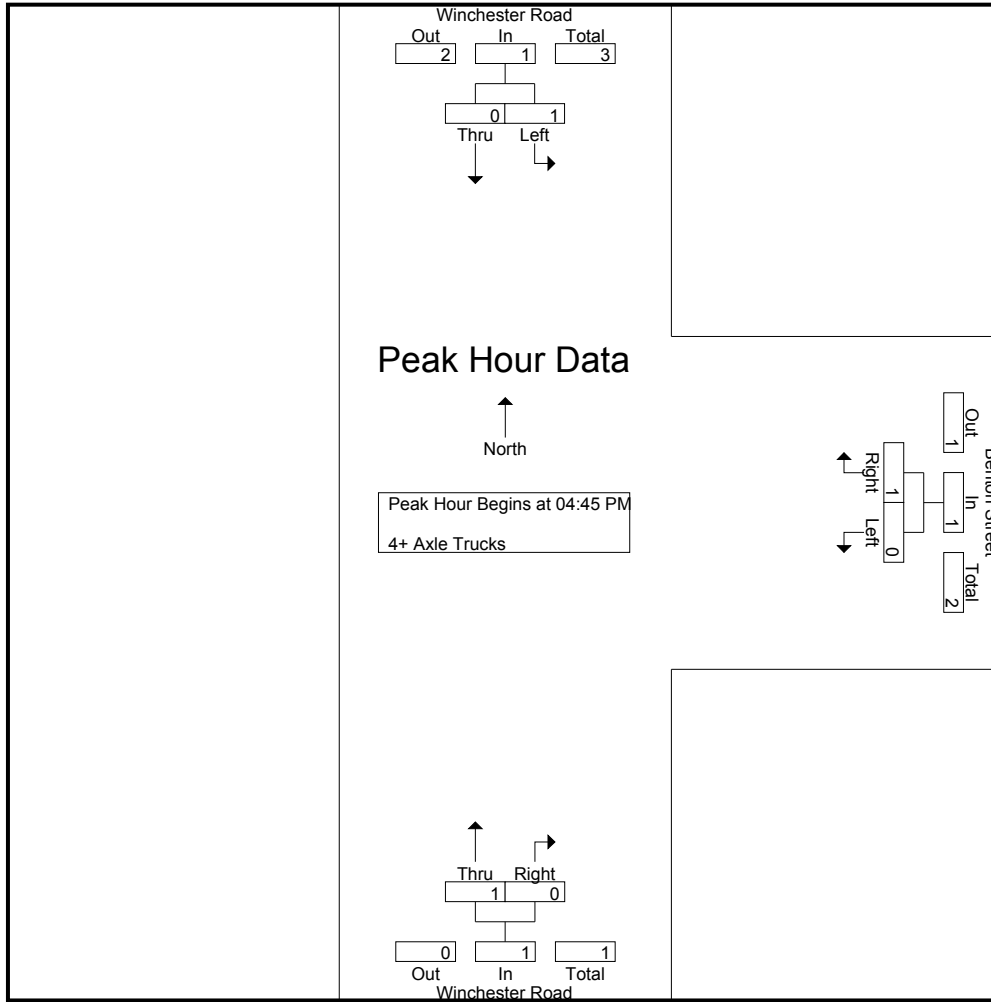
Start Time	Winchester Road Southbound				Benton Street Westbound				Winchester Road Northbound				Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total				
04:00 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	0	3	0	0	0	0	0	0	0	0	0	0	3	3
05:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	1	1	1	0	0	0	0	1	1	1	2
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	1
Total	1	0	0	1	0	1	1	1	1	1	0	2	1	4	5	5
Grand Total	1	3	0	4	0	1	1	1	1	1	0	2	1	7	8	8
Apprch %	25	75			0	100			50	50						
Total %	14.3	42.9		57.1	0	14.3		14.3	14.3	14.3		28.6	12.5	87.5		

Start Time	Winchester Road Southbound			Benton Street Westbound			Winchester Road Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	1	0	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	1	1	0	0	0	1
05:30 PM	0	0	0	0	0	0	1	0	1	1
Total Volume	1	0	1	0	1	1	1	0	1	3
% App. Total	100	0		0	100		100	0		
PHF	.250	.000	.250	.000	.250	.250	.250	.000	.250	.750

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Benton Street
 Weather: Clear

File Name : 23_MUR_79_Benton PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	1	0	1	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	1	0	0	0
+45 mins.	0	0	0	0	0	0	1	0	1
Total Volume	1	0	1	0	1	1	1	0	1
% App. Total	100	0		0	100		100	0	
PHF	.250	.000	.250	.000	.250	.250	.250	.000	.250

Location: Murrieta
 N/S: Winchester Road
 E/W: Benton Street



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road	East Leg Benton Street	South Leg Winchester Road	West Leg Dead End	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Winchester Road	East Leg Benton Street	South Leg Winchester Road	West Leg Dead End	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	1	0	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	1

Location: Murrieta
 N/S: Winchester Road
 E/W: Benton Street



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Winchester Road			Westbound Benton Street			Northbound Winchester Road			Eastbound Dead End			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	0	0	0	0	1	0	0	0	0	4

	Southbound Winchester Road			Westbound Benton Street			Northbound Winchester Road			Eastbound Dead End			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	6	0	0	0	0	0	0	0	0	0	0	6
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	0	0	0	0	0	1	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	7	0	1	0	0	0	1	1	0	0	0	10

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound						Auld Road Westbound						Winchester Road Northbound						Via Mira Mosa Eastbound																	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right							
	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total						
07:00 AM	16	402	8	0	426	58	1	4	3	63	2	135	46	16	183	43	3	3	0	49	19	721	740	740	740	740	740	740	740	740	740					
07:15 AM	35	363	11	2	409	42	2	0	0	44	12	139	77	16	228	24	3	10	7	37	25	718	743	743	743	743	743	743	743	743	743					
07:30 AM	32	381	33	6	446	58	3	5	3	66	6	195	52	17	253	23	7	17	4	47	30	812	842	842	842	842	842	842	842	842	842					
07:45 AM	35	417	42	8	494	46	8	5	2	59	1	167	47	11	215	21	5	6	2	32	23	800	823	823	823	823	823	823	823	823	823	823				
Total	118	1563	94	16	1775	204	14	14	8	232	21	636	222	60	879	111	18	36	13	165	97	3051	3148	3148	3148	3148	3148	3148	3148	3148	3148	3148				
08:00 AM	27	383	32	10	442	57	10	9	4	76	5	170	57	29	232	50	6	11	3	67	46	817	863	863	863	863	863	863	863	863	863	863				
08:15 AM	24	414	24	7	462	48	5	5	3	58	4	131	43	15	178	29	4	7	2	40	27	738	765	765	765	765	765	765	765	765	765	765	765			
08:30 AM	18	396	22	3	436	66	5	5	3	76	5	166	36	12	207	13	6	11	5	30	23	749	772	772	772	772	772	772	772	772	772	772	772	772		
08:45 AM	19	366	16	8	391	51	2	6	3	59	3	133	38	13	174	11	1	5	3	17	27	641	668	668	668	668	668	668	668	668	668	668	668	668		
Total	88	1549	94	28	1731	222	22	25	13	269	17	600	174	69	791	103	17	34	13	154	123	2945	3068	3068	3068	3068	3068	3068	3068	3068	3068	3068	3068	3068		
Grand Total	206	3112	188	44	3506	426	36	39	21	501	38	1236	396	129	1670	214	35	70	26	319	220	5996	6216	6216	6216	6216	6216	6216	6216	6216	6216	6216	6216	6216		
% Approach	5.9	88.8	5.4			85	7.2	7.8			2.3	74	23.7			67.1	11	21.9																		
% Total %	3.4	51.9	3.1			7.1	0.6	0.7			8.4	0.6	20.6	6.6		3.6	0.6	1.2			3.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5		
Passenger Vehicles	202	3052	185			406	34	37			36	1199	378			210	35	69			0	0	6056	6056	6056	6056	6056	6056	6056	6056	6056	6056	6056	6056	6056	
Large 2 Axle Vehicles	98.1	98.1	98.4			95.3	94.4	94.9			95	94.7	95.5	96.9		98.1	100	98.6			0	0	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	
% Large 2 Axle Vehicles	1	41	2			13	1	2			18	1	28	12		4	0	0			0	0	110	110	110	110	110	110	110	110	110	110	110	110	110	
% 3 Axle Vehicles	0.5	1.3	1.1			3.1	2.8	5.1			3.4	2.6	2.3	3		1.9	0	0			0	0	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	
% 3 Axle Vehicles	2	6	0			5	1	0			6	1	2	3		0	0	1			0	0	22	22	22	22	22	22	22	22	22	22	22	22	22	22
% 4+ Axle Trucks	1	0.2	0			1.2	2.8	0			1.1	2.6	0.2	0.8		0	0	1.4			0	0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
% 4+ Axle Trucks	1	13	1			2	0	0			2	0	7	3		0	0	0			0	0	28	28	28	28	28	28	28	28	28	28	28	28	28	28
% 4+ Axle Trucks	0.5	0.4	0.5			0.5	0	0			0.4	0	0.6	0.8		0	0	0			0	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

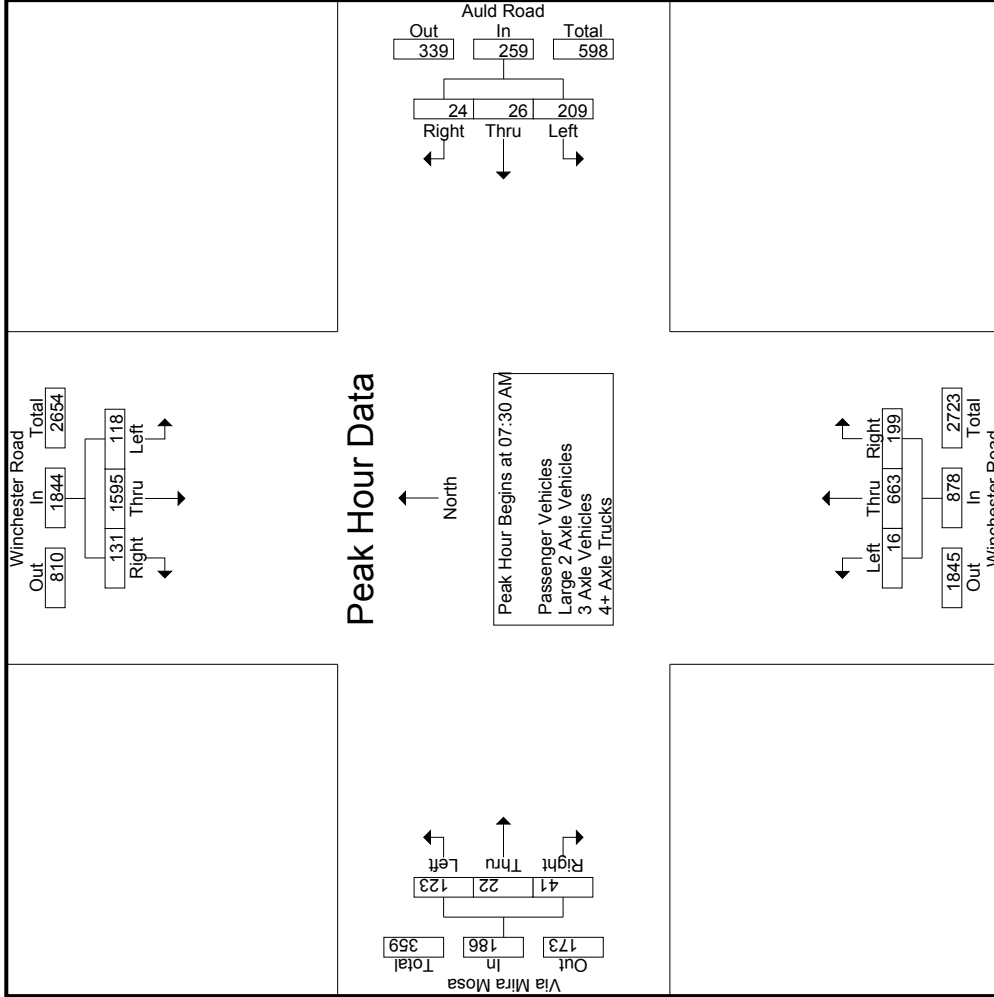
Start Time	Winchester Road Southbound						Auld Road Westbound						Winchester Road Northbound						Via Mira Mosa Eastbound																	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right							
	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total						
07:30 AM	32	381	33			446	58	3			66	6	195	52		253	23	7			47	812	812	812	812	812	812	812	812	812	812	812	812	812	812	812
07:45 AM	35	417	42			494	46	8			59	1	167	47		215	21	5			32	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
08:00 AM	27	383	32			442	57	10			76	5	170	57		232	50	6			6	863	863	863	863	863	863	863	863	863	863	863	863	863	863	863
08:15 AM	24	414	24			462	48	5			58	4	131	43		178	29	4			7	765	765	765	765	765	765	765	765	765	765	765	765	765	765	765
Total Volume	118	1595	131			1844	209	26			259	16	663	199		878	123	22			41	3167	3167	3167	3167	3167	3167	3167	3167	3167	3167	3167	3167	3167	3167	3167
% App. Total	6.4	86.5	7.1			93.3	90.1	65.0			66.7	1.8	75.5	22.7		86.8	66.1	11.8			22	969	969	969	969	969	969	969	969	969	969	969	969	969	969	969
PHF	.843	.956	.780			.933	.901	.650			.667	.852	.850	.873		.868	.615	.786			.603	.694	.694	.694	.694	.694	.694	.694	.694	.694	.694	.694	.694	.694	.694	.694

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

File Name : 24_MUR_79_Auld AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

File Name : 24_MUR_79_Auld AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Auld Road Westbound			Winchester Road Northbound			Via Mira Mosa Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	07:30 AM				07:45 AM				07:15 AM				07:30 AM			
+0 mins.	32	381	33	446	46	8	5	59	12	139	77	228	23	7	17	47
+15 mins.	35	417	42	494	57	10	9	76	6	195	52	253	21	5	6	32
+30 mins.	27	383	32	442	48	5	5	58	1	167	47	215	50	6	11	67
+45 mins.	24	414	24	462	66	5	5	76	5	170	57	232	29	4	7	40
Total Volume	118	1595	131	1844	217	28	24	269	24	671	233	928	123	22	41	186
% App. Total	6.4	86.5	7.1		80.7	10.4	8.9		2.6	72.3	25.1		66.1	11.8	22	
PHF	.843	.956	.780	.933	.822	.700	.667	.885	.500	.860	.756	.917	.615	.786	.603	.694

Counts Unlimited, Inc.
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File Name : 24_MUR_79_Auld AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	16	396	8	0	420	54	1	3	2	58	2	128	42	16	172	18	698	716
07:15 AM	34	356	11	2	401	39	2	0	0	41	11	133	75	15	219	24	698	722
07:30 AM	31	372	31	6	434	55	2	5	3	62	6	191	49	16	246	29	789	818
07:45 AM	34	411	42	8	487	44	7	5	2	56	1	166	45	11	212	23	787	810
Total	115	1535	92	16	1742	192	12	13	7	217	20	618	211	58	849	94	2972	3066
08:00 AM	26	374	32	10	432	56	10	8	3	74	5	164	54	28	223	44	793	837
08:15 AM	24	408	24	7	456	47	5	5	3	57	4	130	42	15	176	28	728	755
08:30 AM	18	387	22	3	427	62	5	5	3	72	5	162	34	12	201	30	730	753
08:45 AM	19	348	15	7	382	49	2	6	3	57	2	125	37	12	164	25	620	645
Total	87	1517	93	27	1697	214	22	24	12	260	16	581	167	67	764	119	2871	2990
Grand Total	202	3052	185	43	3439	406	34	37	19	477	36	1199	378	125	1613	210	5843	6056
% Approach	5.9	88.7	5.4		85.1	6.9	0.6	0.6		8.2	2.2	74.3	23.4		66.9	3.5	96.5	
% Total	3.5	52.2	3.2		58.9	6.9	0.6	0.6		8.2	0.6	20.5	6.5		27.6	3.6	96.5	

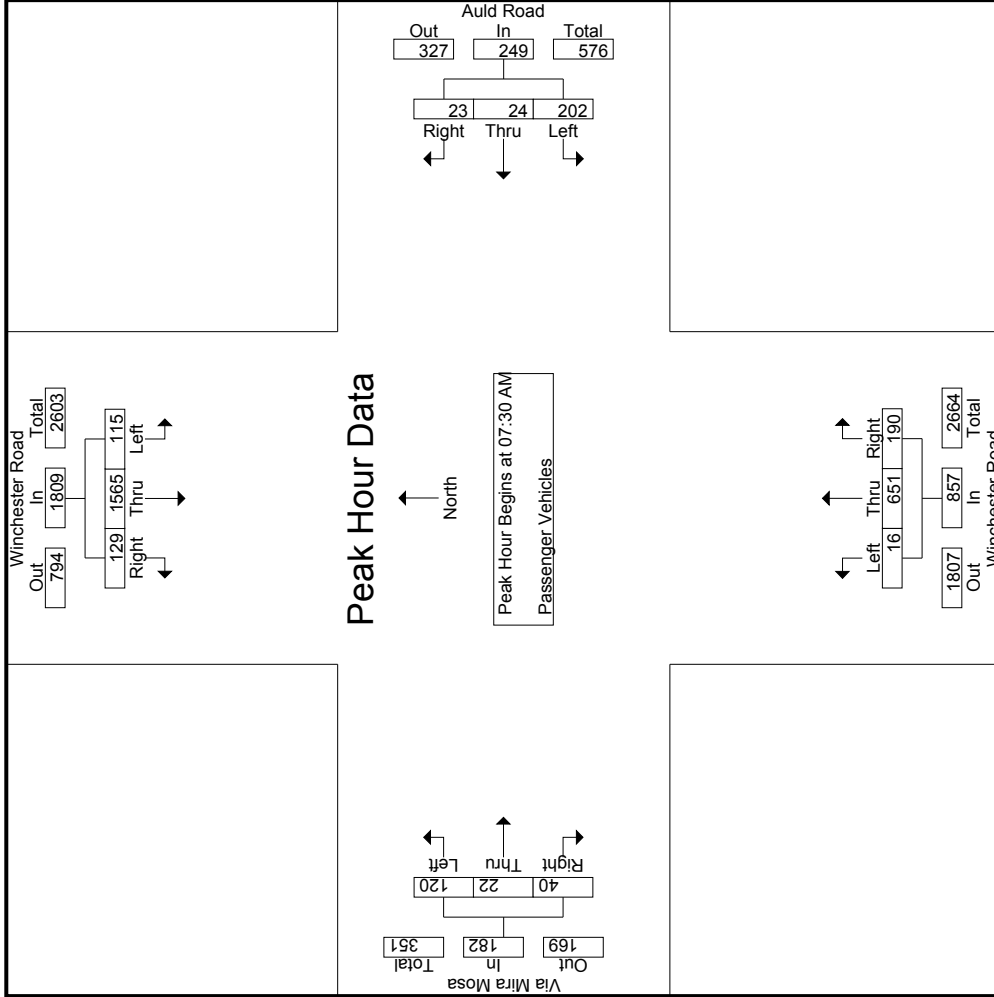
Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	31	372	31		434	55	2	5		62	6	191	49		246	7	17	47
07:45 AM	34	411	42		487	44	7	5		56	1	166	45		212	5	6	32
08:00 AM	26	374	32		432	56	10	8		74	5	164	54		223	6	10	64
08:15 AM	24	408	24		456	47	5	5		57	4	130	42		176	4	7	39
Total Volume	115	1565	129		1809	202	24	23		249	16	651	190		857	40	40	182
% App. Total	6.4	86.5	7.1		81.1	6.9	0.6	0.6		9.2	1.9	76	22.2		65.9	12.1	22	
PHF	.846	.952	.768		.929	.902	.600	.719		.841	.667	.852	.880		.871	.625	.588	.711

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

File Name : 24_MUR_79_Auld AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 24_MUR_79_Auld AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

Start Time	Winchester Road Southbound			Auld Road Westbound			Winchester Road Northbound			Via Mira Mosa Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:30 AM				07:30 AM				07:30 AM				07:30 AM		
+0 mins.	31	372	31	434	55	2	5	62	191	49	7	17	246	23	47
+15 mins.	34	411	42	487	44	7	5	56	166	45	5	6	212	21	32
+30 mins.	26	374	32	432	56	10	8	74	164	54	6	10	223	48	64
+45 mins.	24	408	24	456	47	5	5	57	130	42	4	7	176	28	39
Total Volume	115	1565	129	1809	202	24	23	249	651	190	22	40	857	120	182
% App. Total	6.4	86.5	7.1		81.1	9.6	9.2		1.9	22.2	12.1	22	65.9	62.5	71.1
PHF	.846	.952	.768	.929	.902	.600	.719	.841	.667	.852	.786	.588	.871	.625	.711

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 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

File Name : 24_MUR_79_Auld AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound								
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total			
07:00 AM	0	5	0	0	5	3	0	1	1	4	0	4	3	0	7	1	0	0	1	17	18
07:15 AM	1	5	0	0	6	3	0	0	0	3	0	4	0	0	4	0	0	0	0	13	13
07:30 AM	0	9	1	0	10	3	0	0	0	3	0	4	1	0	5	0	0	0	0	18	18
07:45 AM	0	4	0	0	4	1	1	0	0	2	0	0	1	0	2	0	0	0	0	8	8
Total	1	23	1	0	25	10	1	1	1	12	0	13	5	0	18	1	0	0	1	56	57
08:00 AM	0	4	0	0	4	1	0	1	1	2	0	6	3	1	9	2	0	0	2	17	19
08:15 AM	0	4	0	0	4	1	0	0	0	1	0	1	1	0	2	1	0	0	1	8	8
08:30 AM	0	7	0	0	7	1	0	0	0	1	0	2	2	0	4	0	0	0	0	12	12
08:45 AM	0	3	1	1	4	0	0	0	0	0	1	6	1	1	8	0	0	0	2	12	14
Total	0	18	1	1	19	3	0	1	1	4	1	15	7	2	23	3	0	0	3	49	53
Grand Total	1	41	2	1	44	13	1	2	2	16	1	28	12	2	41	4	0	0	4	105	110
% Approach	2.3	93.2	4.5			81.2	6.2	12.5		15.2	2.4	68.3	29.3		39	100	0	0	3.8	95.5	
% Total	1	39	1.9			12.4	1	1.9			1	26.7	11.4			3.8	0	0			

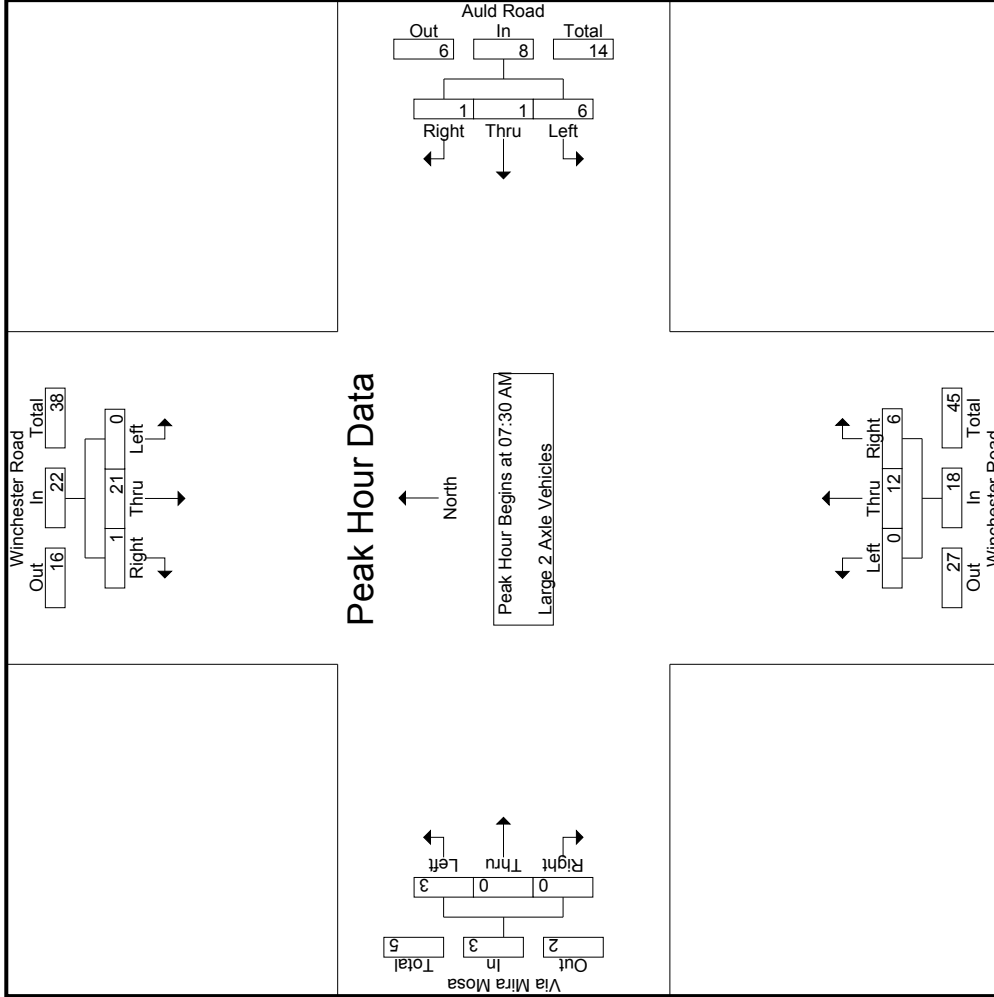
Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total		
07:30 AM	0	9	1	0	10	3	0	0	0	3	0	4	1	1	5	0	0	0	0	18
07:45 AM	0	4	0	0	4	1	1	0	0	2	0	1	1	1	2	0	0	0	0	8
08:00 AM	0	4	0	0	4	1	0	1	0	2	0	6	3	0	9	0	0	0	2	17
08:15 AM	0	4	0	0	4	1	0	0	0	1	0	1	1	1	2	0	0	0	1	8
Total Volume	0	21	1	1	22	6	1	1	1	8	0	12	6	18	3	0	0	0	3	51
% App. Total	0	95.5	4.5			75	12.5	12.5		33.3	0	66.7	33.3		100	0	0	0	0	708
PHF	.000	.583	.250		.550	.500	.250	.250		.667	.000	.500	.500		.375	.000	.000	.375		

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

File Name : 24_MUR_79_Auld AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
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File Name : 24_MUR_79_Auid AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auid Road
 Weather: Clear

Start Time	Winchester Road Southbound			Auid Road Westbound			Winchester Road Northbound			Via Mira Mosa Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	9	1	3	0	0	0	4	1	0	0	0
+15 mins.	0	4	0	1	1	0	0	1	1	0	0	0
+30 mins.	0	4	0	1	0	1	0	6	3	0	0	0
+45 mins.	0	4	0	1	0	0	0	1	1	0	0	0
Total Volume	0	21	1	6	1	1	0	12	6	3	0	0
% App. Total	0	95.5	4.5	.75	12.5	12.5	0	66.7	33.3	100	0	0
PHF	.000	.583	.250	.500	.250	.250	.000	.500	.500	.375	.000	.000

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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

File Name : 24_MUR_79_Auld AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound					Auld Road Westbound					Winchester Road Northbound					Via Mira Mosa Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total		
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3	0	0	0	0	0	0	0	0	0	3
07:30 AM	1	0	0	0	1	0	0	1	0	1	0	0	1	1	1	0	0	0	0	0	0	1	0	0	3
07:45 AM	1	1	0	0	2	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	4
Total	2	1	0	0	3	1	1	1	3	5	1	1	3	1	5	0	0	0	0	0	1	10	1	10	11
08:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	3	0	3
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
08:45 AM	0	2	0	0	2	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	4	0	4
Total	0	5	0	0	5	4	0	0	0	4	0	1	0	0	1	0	0	1	0	1	0	0	11	0	11
Grand Total	2	6	0	0	8	5	1	0	0	6	1	2	3	1	6	0	0	1	0	1	0	1	21	0	22
% Approach	25	75	0	0	83.3	16.7	0	0	0	16.7	33.3	50	14.3	28.6	28.6	0	0	100	0	4.8	4.5	95.5	95.5	0	95.5
Total %	9.5	28.6	0	0	38.1	23.8	4.8	0	0	28.6	4.8	9.5	14.3	28.6	28.6	0	0	4.8	0	4.8	4.5	95.5	95.5	0	95.5

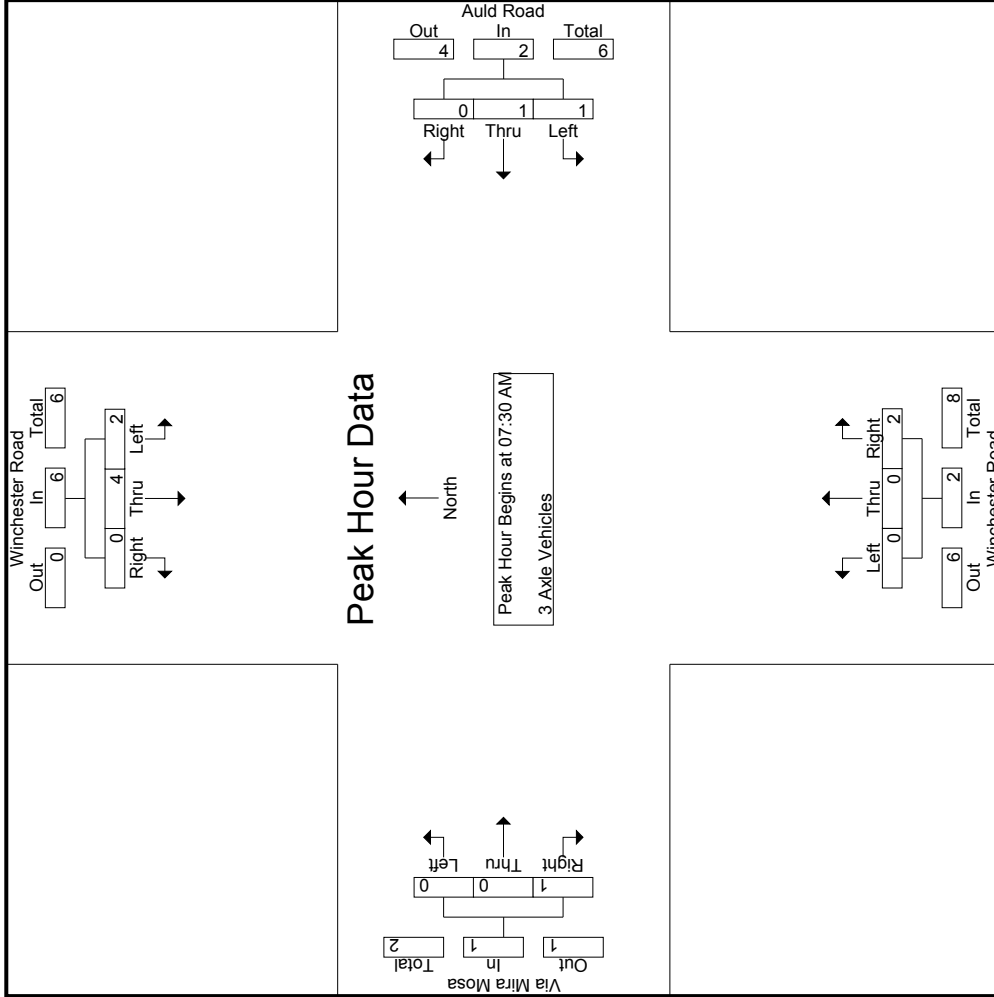
Start Time	Winchester Road Southbound					Auld Road Westbound					Winchester Road Northbound					Via Mira Mosa Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total		
07:30 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	1	1	0	0	2	1	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	4	0	0	6	1	1	0	0	2	0	0	2	2	2	0	0	0	0	0	0	1	0	0	1
% App. Total	33.3	66.7	0	0	66.7	16.7	16.7	0	0	33.3	16.7	33.3	50	28.6	28.6	0	0	100	0	100	4.5	95.5	95.5	0	95.5
PHF	.500	.500	.000	.000	.750	.250	.250	.000	.000	.500	.000	.500	.500	.500	.500	.000	.000	.250	.250	.250	.250	.688	.688	.250	.688

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
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 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

File Name : 24_MUR_79_Auld AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Start Time	Winchester Road Southbound			Auld Road Westbound			Winchester Road Northbound			Via Mira Mosa Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
07:30 AM	1	0	0	0	1	0	0	0	1	0	0	0
+0 mins.	1	1	0	1	0	0	0	0	1	0	0	0
+15 mins.	0	2	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	2	0	0	0	0	0	0	0	0	0	1
+45 mins.	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	2	4	0	1	1	0	0	0	2	0	0	1
% App. Total	33.3	66.7	0	50	50	0	0	0	100	0	0	100
PHF	.500	.500	.000	.250	.250	.000	.000	.000	.500	.000	.000	.250

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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

File Name : 24_MUR_79_Auld AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	3	1	0	0	0	0	6
07:15 AM	0	2	0	0	2	0	0	0	0	0	0	1	1	0	0	1	4	5
07:30 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	2	2
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	4	1	0	5	1	0	0	0	1	0	4	3	1	7	1	13	14
08:00 AM	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	4
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
08:30 AM	0	2	0	0	2	0	0	0	0	0	2	0	0	0	0	0	4	4
08:45 AM	0	3	0	0	3	1	0	0	0	1	0	1	0	0	0	0	5	5
Total	1	9	0	0	10	1	0	0	0	1	0	3	0	0	3	0	14	14
Grand Total	1	13	1	0	15	2	0	0	0	2	0	7	3	1	10	1	27	28
% Approach	6.7	86.7	6.7			100	0	0		7.4	0	70	30			3.6	96.4	
% Total	3.7	48.1	3.7		55.6	7.4	0	0		37	0	25.9	11.1			0	96.4	

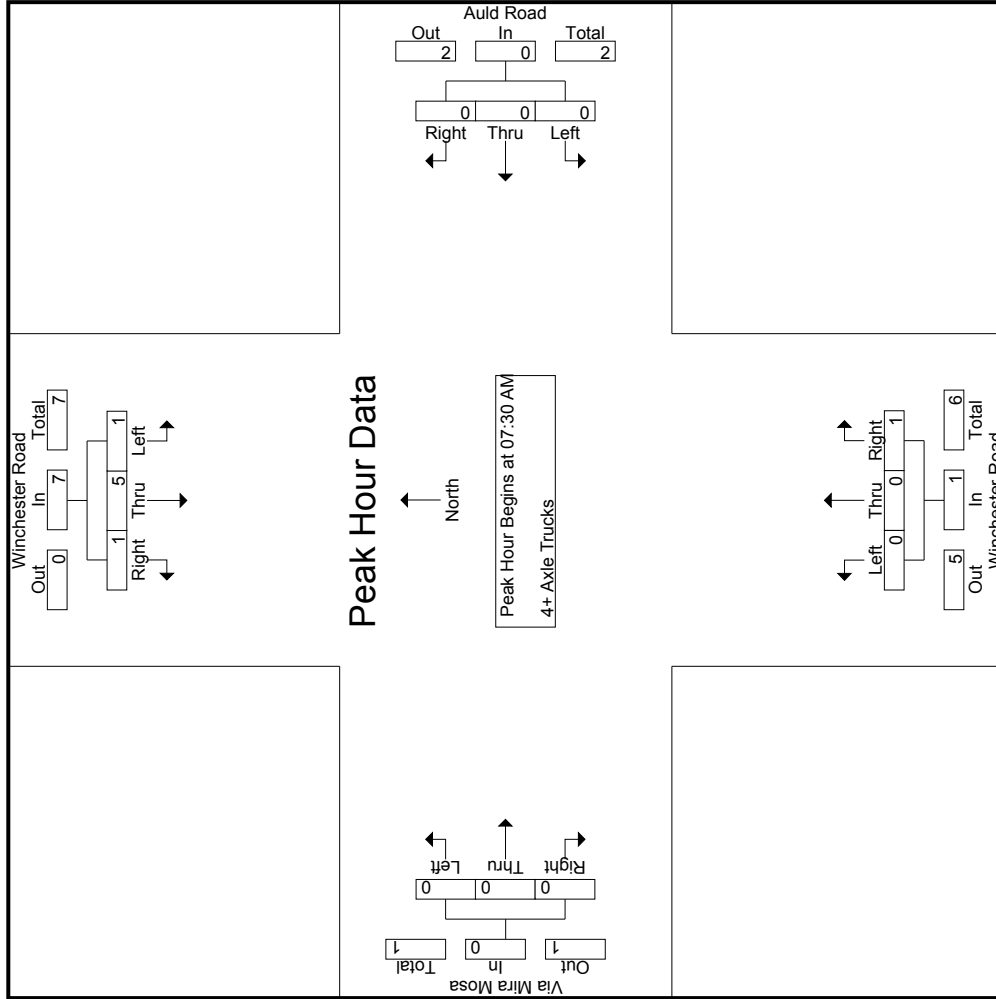
Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	1	5	1	0	7	0	0	0	0	0	0	0	1	1	1	0	0	8
% App. Total	14.3	71.4	14.3		43.8	0	0	0		0	0	0	100			0	0	50
PHF	.250	.417	.250		.438	.000	.000	.000		.250	.000	.250	.250		.250	.000	.000	.500

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 24_MUR_79_Auld AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear



Start Time	Winchester Road Southbound			Auld Road Westbound			Winchester Road Northbound			Via Mira Mosa Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	1	0	0	0	0	0	1	0	0	0
+15 mins.	0	1	0	0	0	0	0	0	0	0	0	0
+30 mins.	1	3	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	1	5	1	0	0	0	0	0	1	0	0	0
% App. Total	14.3	71.4	14.3	0	0	0	0	0	100	0	0	0
PHF	.250	.417	.250	.000	.000	.000	.000	.000	.250	.000	.000	.000

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound						Auld Road Westbound						Winchester Road Northbound						Via Mira Mosa Eastbound												
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	
04:00 PM	8	220	14	1	242	1	242	53	10	18	6	81	12	378	52	27	442	16	4	8	4	28	38	793	831	42	778	820	30	818	848
04:15 PM	12	258	28	11	298	6	12	3	64	11	328	44	25	383	19	8	6	3	33	19	8	6	3	42	778	820	30	818	848		
04:30 PM	9	219	20	3	248	11	16	2	125	3	361	57	22	421	17	1	6	3	24	13	5	7	25	777	802	25	777	802	25	777	
04:45 PM	9	252	16	4	277	3	9	4	66	4	359	46	13	409	13	5	7	4	25	13	5	7	25	777	802	25	777	802	25	777	
Total	38	949	78	19	1065	251	30	55	15	336	30	1426	199	87	1655	65	18	27	14	110	135	3166	3301	40	878	918	31	808	839		
05:00 PM	9	271	16	7	296	6	30	3	104	14	383	45	24	442	20	4	12	6	36	20	4	12	6	36	40	878	918	31	808	839	
05:15 PM	20	223	25	8	268	60	7	14	0	81	7	377	45	22	429	18	6	6	30	18	6	6	30	31	808	839	27	905	932		
05:30 PM	8	260	24	5	292	46	7	5	58	11	456	57	20	524	18	7	6	2	31	18	7	6	2	31	27	905	932	27	905	932	
05:45 PM	7	284	25	6	316	34	7	11	2	52	11	393	40	16	444	9	6	13	7	9	6	13	7	31	840	871	31	840	871		
Total	44	1038	90	26	1172	208	27	60	5	295	43	1609	187	82	1839	65	23	37	16	125	129	3431	3560	40	878	918	264	6597	6861		
Grand Total	82	1987	168	45	2237	459	57	115	20	631	73	3035	386	169	3494	130	41	64	30	235	264	6597	6861	40	878	918	264	6597	6861		
% Approach	3.7	88.8	7.5			72.7	9	18.2			2.1	86.9	11			55.3	17.4	27.2													
% Total	1.2	30.1	2.5			7	0.9	1.7			1.1	46	5.9			2	0.6	1													
Passenger Vehicles	82	1969	167		2263	451	57	115		643	72	3015	380		3635	130	41	64		265	0	0	0	0	0	0	0	0	0	0	0
% Passenger Vehicles	100	99.1	99.4	100	99.2	98.3	100	100	100	98.8	98.6	99.3	98.4	99.4	99.2	100	100	100	100	100	0	0	0	0	0	0	0	0	0	0	0
Large 2 Axle Vehicles	0	14	1		15	7	0	0		7	1	17	4		23	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0
% Large 2 Axle Vehicles	0	0.7	0.6	0	0.7	1.5	0	0	0	1.1	1.4	0.6	1	0.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Axle Vehicles	0	2	0		2	1	0	0		1	0	1	1		2	0	0	0		2	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0.1	0	0	0.1	0.2	0	0	0	0.2	0	0	0.3	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	2	0		2	0	0	0		0	0	2	1		3	0	0	0		3	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0.3	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Winchester Road Southbound						Auld Road Westbound						Winchester Road Northbound						Via Mira Mosa Eastbound												
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	
05:00 PM	9	271	16	7	296	68	6	30	3	104	14	383	45	24	442	20	4	12	6	36	40	878	918	31	808	839	27	905	932		
05:15 PM	20	223	25	8	268	60	7	14	0	81	7	377	45	22	429	18	6	6	30	18	6	6	30	31	808	839	27	905	932		
05:30 PM	8	260	24	5	292	46	7	5	58	11	456	57	20	524	18	7	6	2	31	18	7	6	2	31	27	905	932	27	905	932	
05:45 PM	7	284	25	6	316	34	7	11	2	52	11	393	40	16	444	9	6	13	7	9	6	13	7	31	840	871	31	840	871		
Total	44	1038	90	26	1172	208	27	60	5	295	43	1609	187	82	1839	65	23	37	16	125	129	3431	3560	40	878	918	264	6597	6861		
Grand Total	82	1987	168	45	2237	459	57	115	20	631	73	3035	386	169	3494	130	41	64	30	235	264	6597	6861	40	878	918	264	6597	6861		
% Approach	3.7	88.8	7.5			72.7	9	18.2			2.1	86.9	11			55.3	17.4	27.2													
% Total	1.2	30.1	2.5			7	0.9	1.7			1.1	46	5.9			2	0.6	1													
Passenger Vehicles	82	1969	167		2263	451	57	115		643	72	3015	380		3635	130	41	64		265	0	0	0	0	0	0	0	0	0	0	0
% Passenger Vehicles	100	99.1	99.4	100	99.2	98.3	100	100	100	98.8	98.6	99.3	98.4	99.4	99.2	100	100	100	100	100	0	0	0	0	0	0	0	0	0	0	0
Large 2 Axle Vehicles	0	14	1		15	7	0	0		7	1	17	4		23	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0
% Large 2 Axle Vehicles	0	0.7	0.6	0	0.7	1.5	0	0	0	1.1	1.4	0.6	1	0.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Axle Vehicles	0	2	0		2	1	0	0		1	0	1	1		2	0	0	0		2	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0.1	0	0	0.1	0.2	0	0	0	0.2	0	0	0.3	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	2	0		2	0	0	0		0	0	2	1		3	0	0	0		3	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0.3	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

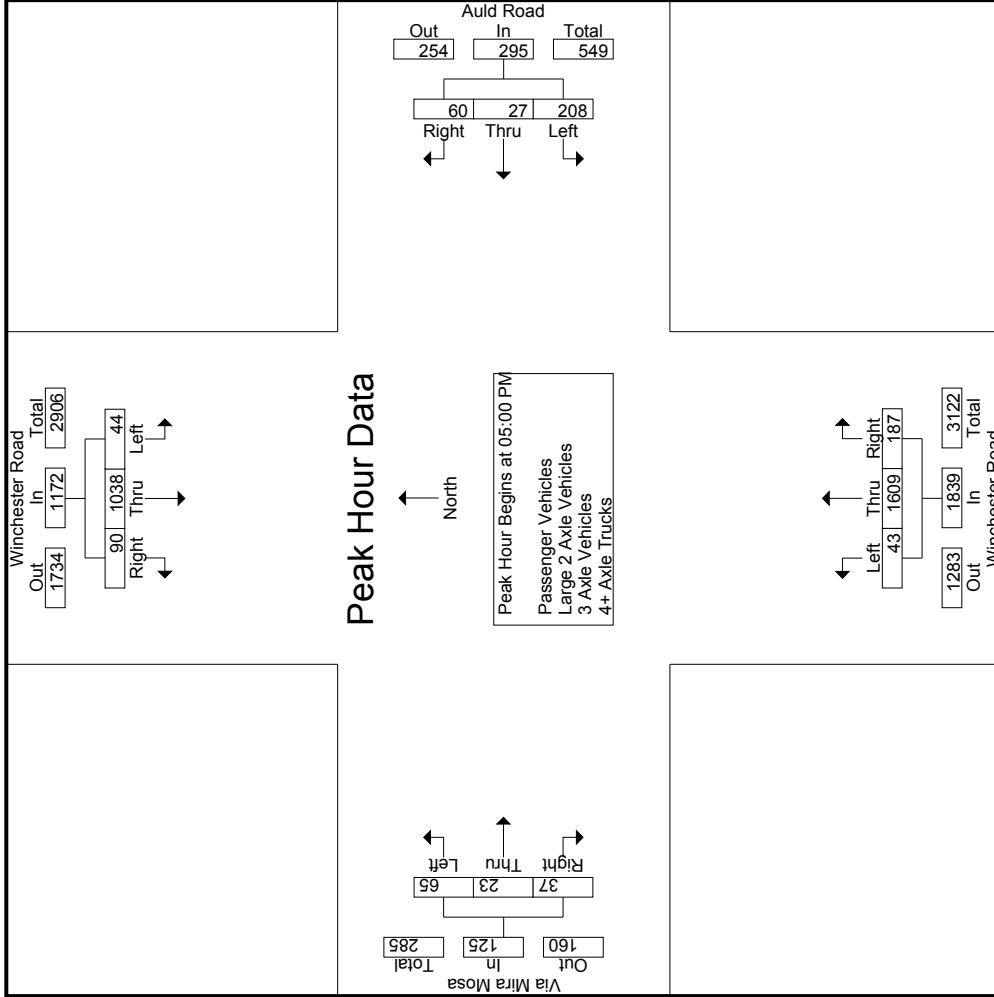
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
05:00 PM	9	271	16	296	68	6	30	104	14	383	45	442	20	4	12	36	40	878	918	31	808	839	27	905	932	27	905	932	27	905	932	
05:15 PM	20	223	25	268	60	7	14	81	7	377	45	429	18	6	6	30	31	808	839	27	905	932	27	905	932	27	905	932	27	905	932	
05:30 PM	8	260	24	292	46	7	5	58	11	456	57	524	18	7	6	31	27	905	932	27	905	932	27	905	932	27	905	932	27	905	932	
05:45 PM	7	284	25	316	34	7	11	52	11	393	40	444	9	6	13	28	31	840	871	31	840	871	31	840	871	31	840	871	31	840	871	
Total Volume	44	1038	90	1172	208	27	60	295	43	1609	187	1839	65	23	37	125	129	3431	3560	40	878	918	264	6597	6861	40	878	9				

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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

File Name : 24_MUR_79_Auld PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 24_MUR_79_Auld PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

Start Time	Winchester Road Southbound			Auld Road Westbound			Winchester Road Northbound			Via Mira Mosa Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	05:00 PM				04:30 PM				05:00 PM				05:00 PM			
+0 mins.	9	271	16	296	98	11	16	125	14	383	45	442	20	4	12	36
+15 mins.	20	223	25	268	54	3	9	66	7	377	45	429	18	6	6	30
+30 mins.	8	260	24	292	68	6	30	104	11	456	57	524	18	7	6	31
+45 mins.	7	284	25	316	60	7	14	81	11	393	40	444	9	6	13	28
Total Volume	44	1038	90	1172	280	27	69	376	43	1609	187	1839	65	23	37	125
% App. Total	3.8	88.6	7.7		74.5	7.2	18.4		2.3	87.5	10.2		52	18.4	29.6	
PHF	.550	.914	.900	.927	.714	.614	.575	.752	.768	.882	.820	.877	.813	.821	.712	.868

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File Name : 24_MUR_79_Auld PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
04:00 PM	8	215	13	1	236	51	10	18	6	79	12	375	49	26	436	16	4	8	4	28	37	779	816
04:15 PM	12	256	28	11	296	46	6	12	3	64	10	325	44	25	379	19	8	6	3	33	42	772	814
04:30 PM	9	215	20	3	244	97	11	16	2	124	3	360	56	22	419	17	1	6	3	24	30	811	841
04:45 PM	9	250	16	4	275	51	3	9	4	63	4	354	46	13	404	13	5	7	4	25	25	767	792
Total	38	936	77	19	1051	245	30	55	15	330	29	1414	195	86	1638	65	18	27	14	110	134	3129	3263
05:00 PM	9	271	16	7	296	67	6	30	3	103	14	383	45	24	442	20	4	12	6	36	40	877	917
05:15 PM	20	221	25	8	266	59	7	14	0	80	7	377	43	22	427	18	6	6	1	30	31	803	834
05:30 PM	8	258	24	5	290	46	7	5	0	58	11	453	57	20	521	18	7	6	2	31	27	900	927
05:45 PM	7	283	25	6	315	34	7	11	2	52	11	388	40	16	439	9	6	13	7	28	31	834	865
Total	44	1033	90	26	1167	206	27	60	5	293	43	1601	185	82	1829	65	23	37	16	125	129	3414	3543
Grand Total	82	1969	167	45	2218	451	57	115	20	623	72	3015	380	168	3467	130	41	64	30	235	263	6543	6806
% Approach	3.7	88.8	7.5			72.4	9.1	18.5			2.1	87	11		55.3	17.4	27.2			3.6			
% Total	1.3	30.1	2.6			6.9	0.9	1.8		9.5	1.1	46.1	5.8		2	0.6	1				3.9	96.1	

Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total				
05:00 PM	9	271	16		296	67	6	30		30	14	383	45		442	12	4		4	12	36	877
05:15 PM	20	221	25		266	59	7	14		14	7	377	43		427	6	6		6	6	30	803
05:30 PM	8	258	24		290	46	7	5		5	11	453	57		521	6	7		7	6	31	900
05:45 PM	7	283	25		315	34	7	11		11	11	388	40		439	6	13		6	13	28	834
Total Volume	44	1033	90		1167	206	27	60		60	43	1601	185		1829	65	23		37	23	37	3414
% App. Total	3.8	88.5	7.7			70.3	9.2	20.5			2.4	87.5	10.1		18.4	29.6	18.4		18.4	29.6	125	3414
PHF	.550	.913	.900		.926	.769	.964	.500		.711	.768	.884	.811		.878	.813	.821		.821	.712	.868	.948

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Start Time	Winchester Road Southbound			Auld Road Westbound			Winchester Road Northbound			Via Mira Mosa Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	9	271	16	67	6	30	103	383	45	20	4	12
+15 mins.	20	221	25	59	7	14	80	377	43	18	6	6
+30 mins.	8	258	24	46	7	5	58	453	57	18	7	6
+45 mins.	7	283	25	34	7	11	52	388	40	9	6	13
Total Volume	44	1033	90	206	27	60	293	1601	185	65	23	37
% App. Total	3.8	88.5	7.7	70.3	9.2	20.5	2.4	87.5	10.1	52	18.4	29.6
PHF	.550	.913	.900	.769	.964	.500	.711	.884	.811	.813	.821	.712
			.926					.878				.868

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File Name : 24_MUR_79_Auld PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	3	1	0	4	2	0	0	0	2	0	3	2	1	5	0	0	0
04:15 PM	0	2	0	0	2	0	0	0	0	0	1	3	0	0	4	0	0	0
04:30 PM	0	3	0	0	3	1	0	0	0	1	0	1	0	0	1	0	0	0
04:45 PM	0	1	0	0	1	3	0	0	0	3	0	5	0	0	5	0	0	0
Total	0	9	1	0	10	6	0	0	0	6	1	12	2	1	15	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	2	0	0	2	1	0	0	0	1	0	0	2	0	2	0	0	0
05:30 PM	0	2	0	0	2	0	0	0	0	0	2	0	0	2	0	0	0	0
05:45 PM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0
Total	0	5	0	0	5	1	0	0	0	1	0	5	2	0	7	0	0	0
Grand Total	0	14	1	0	15	7	0	0	0	7	1	17	4	1	22	0	0	0
% Approach	0	93.3	6.7	0	0	100	0	0	0	0	4.5	77.3	18.2	0	0	0	0	0
% Total	0	31.8	2.3	0	0	15.9	0	0	0	15.9	2.3	38.6	9.1	0	50	0	0	0

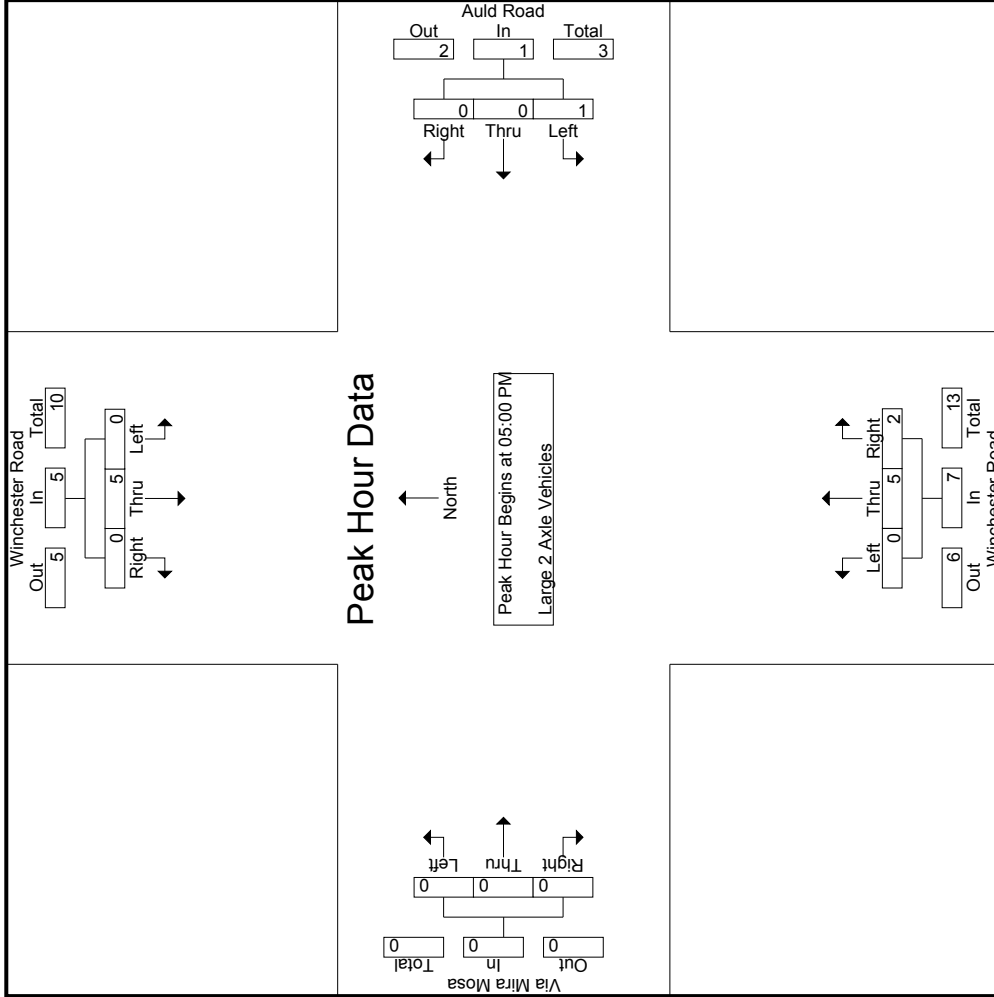
Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	2	0	0	2	1	0	0	0	1	0	0	2	0	2	0	0	0
05:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	5	0	0	5	1	0	0	0	1	0	0	2	0	7	0	0	0
% App. Total	0	100	0	0	0	100	0	0	0	0	0	71.4	28.6	0	0	0	0	0
PHF	.000	.625	.000	.000	.625	.250	.000	.250	.417	.250	.000	.583	.250	.000	.000	.000	.000	.650

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

File Name : 24_MUR_79_Auld PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 24_MUR_79_Auid PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auid Road
 Weather: Clear

Start Time	Winchester Road Southbound			Auid Road Westbound			Winchester Road Northbound			Via Mira Mosa Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	05:00 PM				05:00 PM				05:00 PM				05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	2	0	2	1	0	0	1	0	0	2	0	0	0	
+30 mins.	0	2	0	2	0	0	0	0	0	2	0	0	0	0	
+45 mins.	0	1	0	1	0	0	0	0	0	3	0	0	0	0	
Total Volume	0	5	0	5	1	0	0	1	0	5	2	7	0	0	
% App. Total	0	100	0	100	100	0	0	100	0	71.4	28.6	100	0	0	
PHF	.000	.625	.000	.625	.250	.000	.000	.250	.000	.417	.250	.583	.000	.000	

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	3
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2
Grand Total	0	2	0	0	2	1	0	0	0	1	0	1	1	0	2	0	5	5
% Approach	0	100	0	0	20	0	50	50	0	40	0	20	20	0	0	0	100	0
% Total	0	40	0	0	40	20	0	20	0	40	0	0	0	0	0	0	100	0

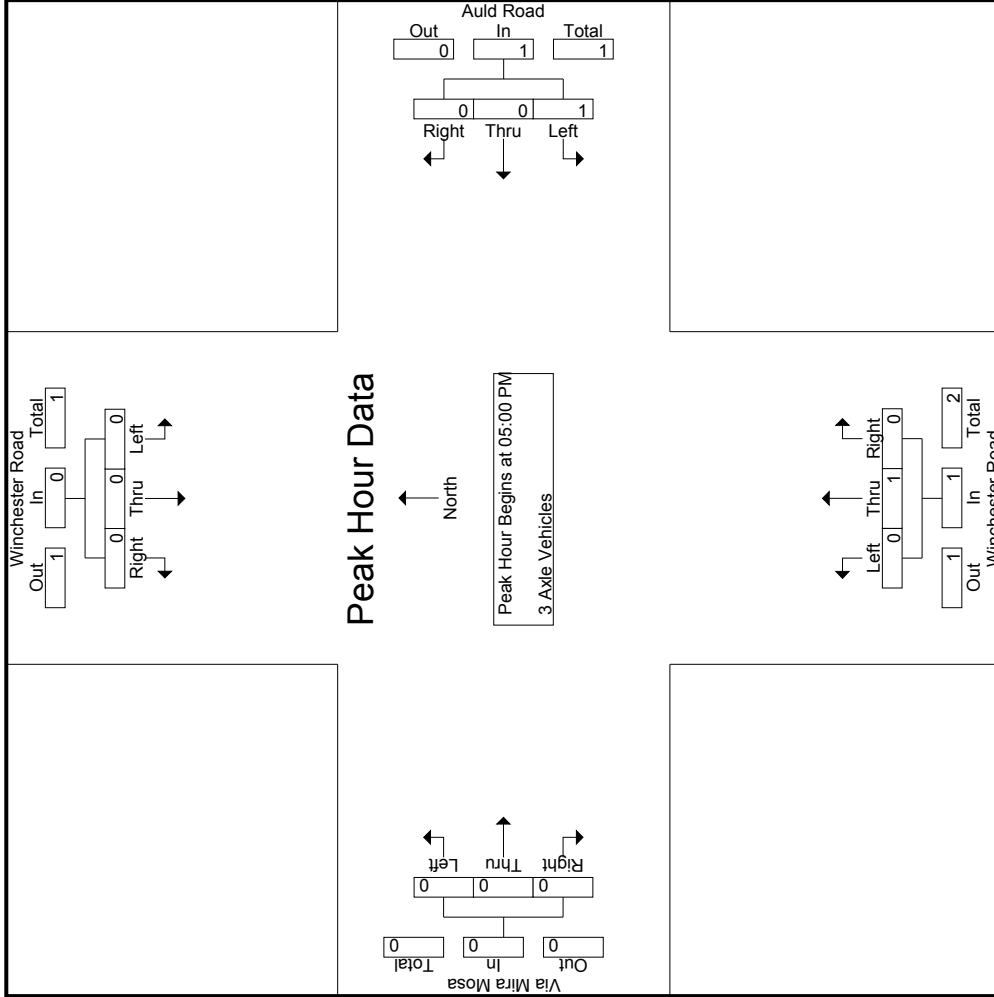
Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0	100	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.250	.000	.250	.000	.000	.250	.000	.000	.500

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

File Name : 24_MUR_79_Auld PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 24_MUR_79_Auid PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auid Road
 Weather: Clear

Start Time	Winchester Road Southbound			Auid Road Westbound			Winchester Road Northbound			Via Mira Mosa Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	1	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	0	0	0	0
Total Volume	0	0	0	1	0	0	1	1	0	0	0	0
% App. Total	0	0	0	100	0	0	0	100	0	0	0	0
PHF	.000	.000	.000	.250	.000	.000	.250	.000	.250	.000	.000	.000

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear

File Name : 24_MUR_79_Auld PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	0	0	0	0	1	0	0	0	0	0	0	3	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	2
Grand Total	0	2	0	0	2	0	2	1	0	3	0	0	0	0	0	0	5	5
% Approach	0	100	0	0	0	0	66.7	33.3	0	60	0	0	0	0	0	0	100	100
Total %	0	40	0	0	40	0	40	20	0	60	0	0	0	0	0	0	100	100

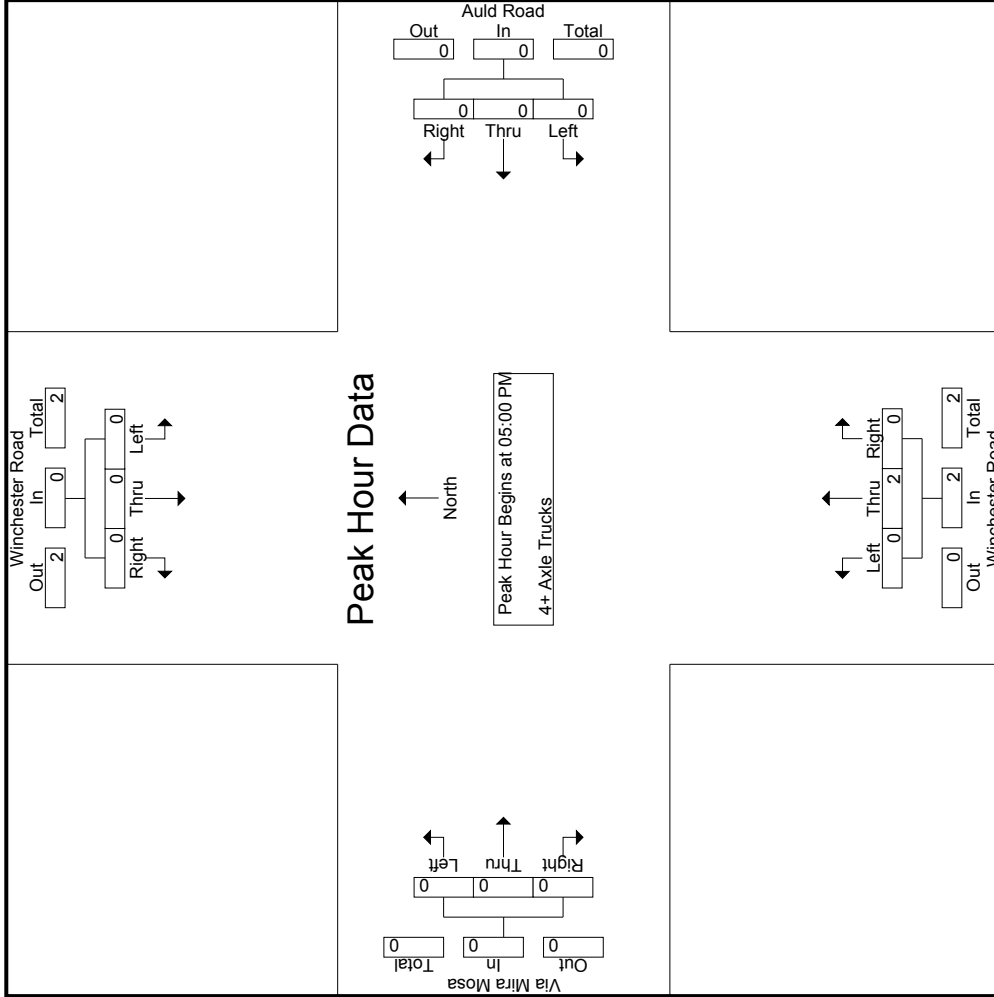
Start Time	Winchester Road Southbound				Auld Road Westbound				Winchester Road Northbound				Via Mira Mosa Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
% App. Total	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	100
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

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File Name : 24_MUR_79_Auld PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auld Road
 Weather: Clear



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 Corona, CA 92878
 (951)268-6268

File Name : 24_MUR_79_Auid PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: Via Mira Mosa/Auid Road
 Weather: Clear

Start Time	Winchester Road Southbound			Auid Road Westbound			Winchester Road Northbound			Via Mira Mosa Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	05:00 PM				05:00 PM				05:00 PM				05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	2	0	0	0	0	0	0	
% App. Total	0	0	0	0	0	0	0	100	0	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	

Location: Murrieta
 N/S: Winchester Road
 E/W: Via Mira Mosa/Auld Road



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road	East Leg Auld Road	South Leg Winchester Road	West Leg Via Mira Mosa	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Winchester Road	East Leg Auld Road	South Leg Winchester Road	West Leg Via Mira Mosa	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Murrieta
 N/S: Winchester Road
 E/W: Via Mira Mosa/Auld Road



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Winchester Road			Westbound Auld Road			Northbound Winchester Road			Eastbound Via Mira Mosa			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	3	0	0	1	0	0	0	0	1	0	0	5

	Southbound Winchester Road			Westbound Auld Road			Northbound Winchester Road			Eastbound Via Mira Mosa			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	6	0	0	0	0	0	0	0	0	2	0	8
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	1	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	8	1	0	0	0	0	1	0	1	2	0	13

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound						Sparkman Way Westbound						Winchester Road Northbound						La Alba Drive Eastbound										
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Exclu. Total	Inclu. Total	Int. Total		
07:00 AM	2	417	9	1	428		2	0	0	0	2		8	169	3	1	180		23	0	27	14	50		16	660	676		
07:15 AM	2	416	11	2	429		2	0	1	1	3		7	210	6	2	223		12	0	39	18	51		23	706	729		
07:30 AM	0	427	11	4	438		2	0	1	1	3		16	242	6	1	264		12	1	29	19	42		25	747	772		
07:45 AM	2	443	6	1	451		1	1	0	0	2		13	187	12	3	212		17	0	35	15	52		19	717	736		
Total	6	1703	37	8	1746		7	1	2	2	10		44	808	27	7	879		64	1	130	66	195		83	2830	2913		
08:00 AM	3	408	15	2	426		5	0	0	0	5		22	184	7	1	213		41	2	26	12	69		15	713	728		
08:15 AM	0	429	25	1	454		1	1	0	0	2		11	159	12	2	182		12	1	37	17	50		20	688	708		
08:30 AM	2	468	14	1	484		2	1	1	1	2		11	211	7	1	229		11	0	30	20	41		23	756	779		
08:45 AM	3	401	8	4	412		3	0	1	1	4		14	166	7	1	187		8	0	31	19	39		25	642	667		
Total	8	1706	62	8	1776		10	1	2	2	13		58	720	33	5	811		72	3	124	68	199		83	2799	2882		
Grand Total	14	3409	99	16	3522		17	2	4	4	23		102	1528	60	12	1690		136	4	254	134	394		166	5629	5795		
% Approach	0.4	96.8	2.8				73.9	8.7	17.4			6	90.4	3.6			34.5	1	64.5			2.4	0.1	4.5			7	2.9	97.1
% Total	0.2	60.6	1.8				0.3	0	0.1			0.4	1.8	0.7			0.4	1.8	27.1			1.1	30				30		
Passenger Vehicles	14	3332	99		3461		16	2	4		26		100	1478	58		1647		134	4	251		521		0	0	5655		
Large 2 Axle Vehicles	100	97.7	100	100	97.8		94.1	100	100	100	96.3		98	96.7	96.7	91.7	96.8		98.5	100	98.8	98.5	98.7		0	0	97.6		
% Large 2 Axle Vehicles	0	51	0	0	51		1	0	0	0	1		2	34	2		39		2	0	3		7		0	0	98		
% 3 Axle Vehicles	0	1.5	0	0	1.4		5.9	0	0	0	3.7		2	2.2	3.3	8.3	2.3		1.5	0	1.2	1.5	1.3		0	0	1.7		
% 4+ Axle Trucks	0	0.3	0	0	0.3		0	0	0	0	0		0	6	0		6		0	0	0		0		0	0	0.3		
% 4+ Axle Trucks	0	15	0	0	15		0	0	0	0	0		0	10	0		10		0	0	0		0		0	0	25		
% 4+ Axle Trucks	0	0.4	0	0	0.4		0	0	0	0	0		0	0.7	0		0.6		0	0	0		0		0	0	0.4		

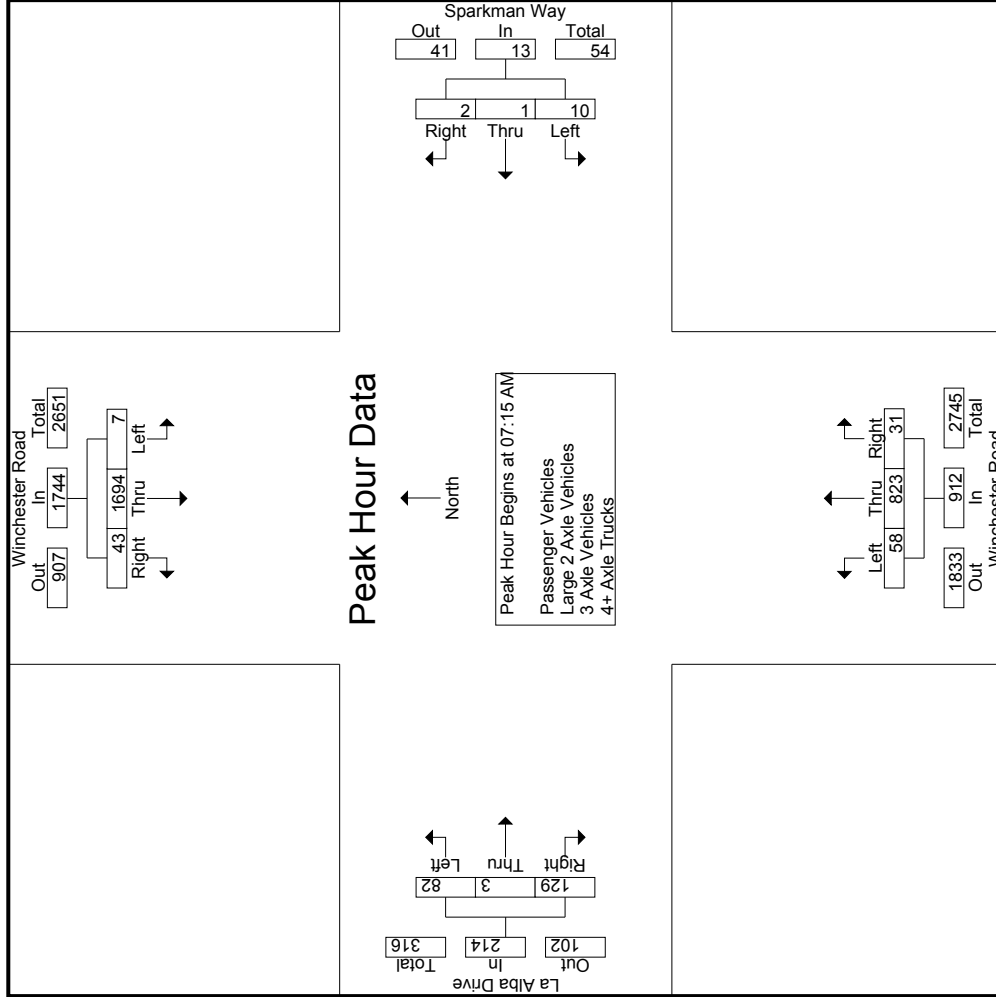
Start Time	Winchester Road Southbound						Sparkman Way Westbound						Winchester Road Northbound						La Alba Drive Eastbound										
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Exclu. Total	Inclu. Total	Int. Total		
07:15 AM	2	416	11		429		2	0	1		3		7	210	6		223		12	0	39		51		16	660	676		
07:30 AM	0	427	11		438		2	0	1		3		16	242	6		264		12	1	29		42		23	706	729		
07:45 AM	2	443	6		451		1	1	0		2		13	187	12		212		17	0	35		52		19	717	736		
08:00 AM	3	408	15		426		5	0	0		5		22	184	7		213		41	2	26		69		25	642	667		
Total Volume	7	1694	43		1744		10	1	2		13		58	823	31		912		82	3	129		214		83	2830	2913		
% App. Total	0.4	97.1	2.5				76.9	7.7	15.4			6.4	90.2	3.4			38.3	1.4	60.3										
PHF	.583	.956	.717		.967		.500	.250	.500		.650		.659	.850	.646		.864		.500	.375	.827		.775						

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
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 (951)268-6268

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

Start Time	Winchester Road Southbound			Sparkman Way Westbound			Winchester Road Northbound			La Alba Drive Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1	Peak Hour for Each Approach Begins at:														
	07:45 AM			07:15 AM			07:15 AM			07:15 AM					
+0 mins.	2	443	6	451	2	0	1	3	7	210	6	223	0	39	51
+15 mins.	3	408	15	426	2	0	1	3	16	242	6	264	1	29	42
+30 mins.	0	429	25	454	1	1	0	2	13	187	12	212	0	35	52
+45 mins.	2	468	14	484	5	0	0	5	22	184	7	213	2	26	69
Total Volume	7	1748	60	1815	10	1	2	13	58	823	31	912	3	129	214
% App. Total	0.4	96.3	3.3		76.9	7.7	15.4		6.4	90.2	3.4		1.4	60.3	
PHF	.583	.934	.600	.938	.500	.250	.500	.650	.659	.850	.646	.864	.375	.827	.775

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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
07:00 AM	2	410	9	1	421	2	0	0	0	2	8	158	3	1	169	23	0	27	14	50	16	642	658
07:15 AM	2	408	11	2	421	2	0	1	1	3	7	202	6	2	215	12	0	38	18	50	23	689	712
07:30 AM	0	416	11	4	427	2	0	1	1	3	15	232	6	1	253	12	1	29	19	42	25	725	750
07:45 AM	2	434	6	1	442	1	1	0	0	2	13	184	11	3	208	17	0	35	15	52	19	704	723
Total	6	1668	37	8	1711	7	1	2	2	10	43	776	26	7	845	64	1	129	66	194	83	2760	2843
08:00 AM	3	397	15	2	415	5	0	0	0	5	22	179	7	1	208	39	2	25	11	66	14	694	708
08:15 AM	0	421	25	1	446	2	1	0	0	2	11	158	11	1	180	12	1	36	16	49	18	677	695
08:30 AM	2	455	14	1	471	0	0	1	1	1	10	205	7	1	222	11	0	30	20	41	23	735	758
08:45 AM	3	391	8	4	402	3	0	1	1	4	14	160	7	1	181	8	0	31	19	39	25	626	651
Total	8	1664	62	8	1734	9	1	2	2	12	57	702	32	4	791	70	3	122	66	195	80	2732	2812
Grand Total	14	3332	99	16	3445	16	2	4	4	22	100	1478	58	11	1636	134	4	251	132	389	163	5492	5655
% Approach	0.4	96.7	2.9			72.7	9.1	18.2		0.4	6.1	90.3	3.5		29.8	34.4	1	64.5		7.1		2.9	97.1
Total %	0.3	60.7	1.8		62.7	0.3	0	0.1			1.8	26.9	1.1			2.4	0.1	4.6					

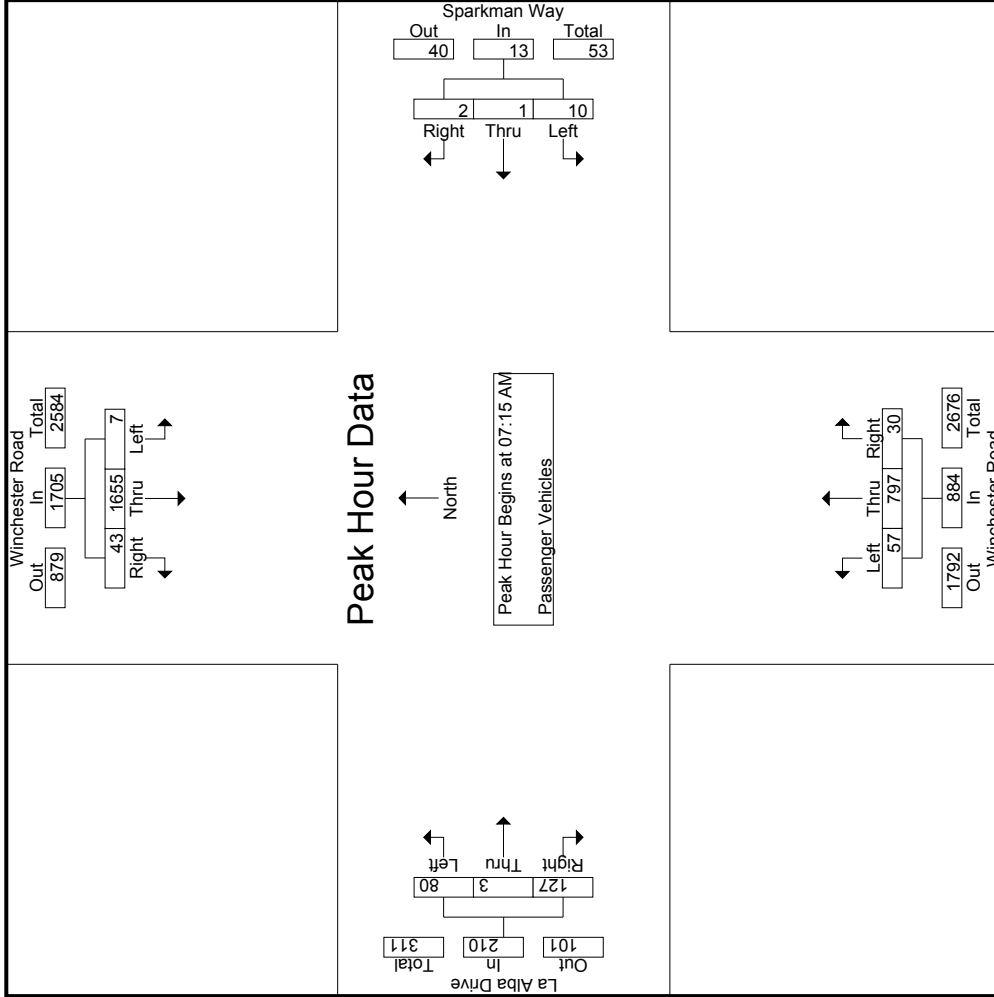
Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total				
07:15 AM	2	408	11		421	2	0	1	3	3	7	202	6		215	12	0	38	50	689		
07:30 AM	0	416	11		427	2	0	1	3	3	15	232	6		253	12	1	29	42	725		
07:45 AM	2	434	6		442	1	1	0	2	2	13	184	11		208	17	0	35	52	704		
08:00 AM	3	397	15		415	5	0	0	5	5	22	179	7		208	39	2	25	66	694		
Total Volume	7	1655	43		1705	10	1	2	13	13	57	797	30		884	80	3	127	210	2812		
% App. Total	0.4	97.1	2.5			76.9	7.7	15.4		0.4	6.4	90.2	3.4			38.1	1.4	60.5				
PHF	.583	.953	.717		.964	.500	.250	.500	.650	.650	.648	.859	.682		.874	.513	.375	.836		.795		.970

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

Start Time	Winchester Road Southbound			Sparkman Way Westbound			Winchester Road Northbound			La Alba Drive Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total		
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
	07:15 AM				07:15 AM				07:15 AM				07:15 AM		
+0 mins.	2	408	11	421	0	1	3	4	202	6	215	0	38	50	
+15 mins.	0	416	11	427	0	1	3	4	232	6	253	1	29	42	
+30 mins.	2	434	6	442	1	0	2	3	184	11	208	0	35	52	
+45 mins.	3	397	15	415	0	0	5	5	179	7	208	2	25	66	
Total Volume	7	1655	43	1705	1	2	13	16	797	30	884	3	127	210	
% App. Total	0.4	97.1	2.5	964	76.9	7.7	15.4	15.4	90.2	3.4	874	38.1	60.5	210	
PHF	.583	.953	.717	.964	.500	.250	.650	.648	.859	.682	.874	.513	.836	.795	

Counts Unlimited, Inc.
 PO Box 1178
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 (951)268-6268

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

Groups Printed- Large 2-Axle Vehicles

Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	5	0	0	5	0	0	0	0	0	0	7	0	0	0	0	12	12
07:15 AM	0	6	0	0	6	0	0	0	0	0	3	0	1	0	1	0	10	10
07:30 AM	0	11	0	0	11	0	0	0	0	0	8	0	0	0	0	0	20	20
07:45 AM	0	6	0	0	6	0	0	0	0	0	2	1	0	0	0	0	9	9
Total	0	28	0	0	28	0	0	0	0	0	20	1	0	0	1	0	51	51
08:00 AM	0	7	0	0	7	0	0	0	0	0	5	0	1	1	3	1	15	16
08:15 AM	0	5	0	0	5	0	0	0	0	0	1	1	1	1	1	2	8	10
08:30 AM	0	8	0	0	8	1	0	0	0	1	4	0	0	0	0	0	14	14
08:45 AM	0	3	0	0	3	0	0	0	0	0	4	0	0	0	0	0	7	7
Total	0	23	0	0	23	1	0	0	0	1	14	1	1	2	4	3	44	47
Grand Total	0	51	0	0	51	1	0	0	0	1	34	2	1	3	5	3	95	98
% Approach	0	100	0	0	100	0	0	0	0	0	5.3	89.5	5.3	60	5.3	3.1	96.9	
% Total	0	53.7	0	0	53.7	1.1	0	0	0	1.1	2.1	35.8	2.1	3.2	5.3	3.1	96.9	

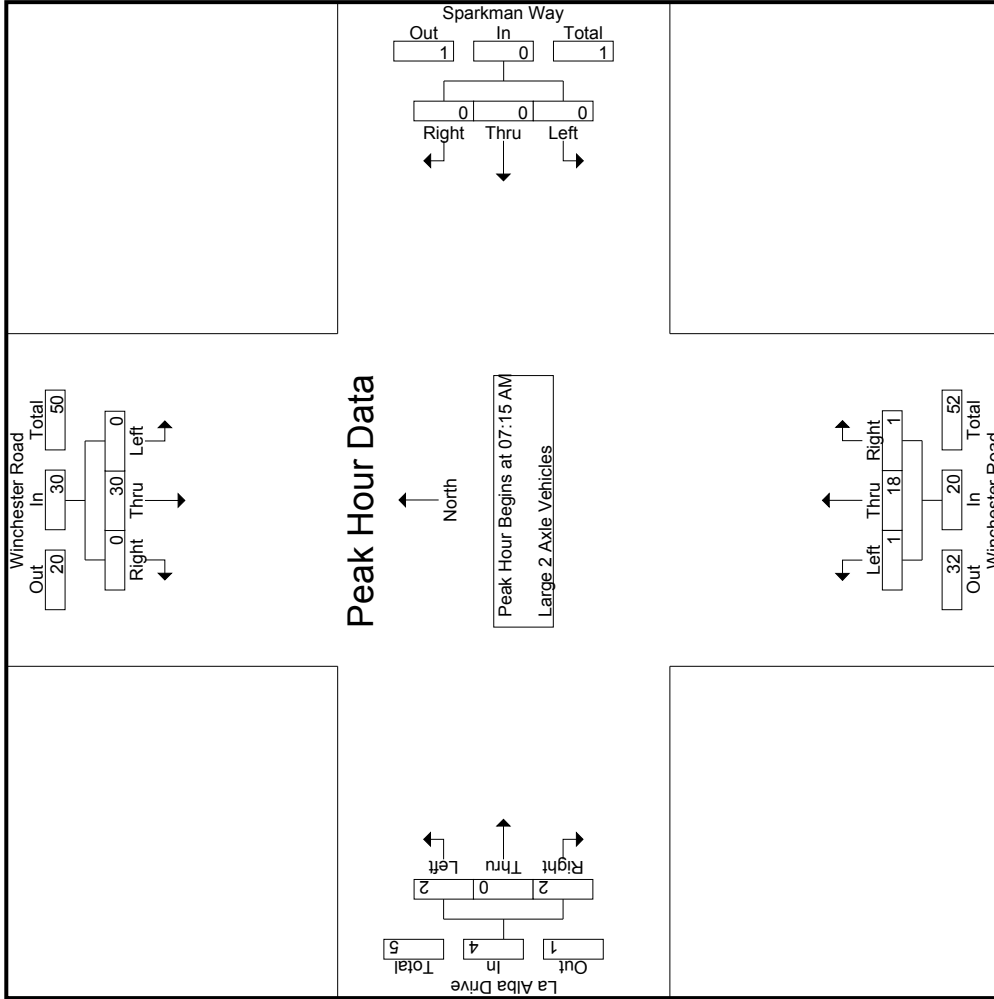
Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	0	6	0	0	6	0	0	0	0	0	0	3	0	0	1	0	1	10
07:30 AM	0	11	0	0	11	0	0	0	0	0	1	8	0	0	0	0	0	20
07:45 AM	0	6	0	0	6	0	0	0	0	0	0	2	1	0	0	0	0	9
08:00 AM	0	7	0	0	7	0	0	0	0	0	0	5	0	1	1	0	3	15
Total Volume	0	30	0	0	30	0	0	0	0	0	1	18	1	2	2	0	4	54
% App. Total	0	100	0	0	100	0	0	0	0	0	5	90	5	50	50	0	.675	
PHF	.000	.682	.000	.000	.682	.000	.000	.000	.000	.000	.250	.563	.250	.556	.333			

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Sparkman Way Westbound			Winchester Road Northbound			La Alba Drive Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:	07:15 AM														
+0 mins.	0	6	0	0	0	0	0	0	0	3	0	0	0	0	1
+15 mins.	0	11	0	0	0	0	1	8	0	9	0	0	0	0	0
+30 mins.	0	6	0	0	0	0	0	2	1	3	0	0	0	0	0
+45 mins.	0	7	0	0	0	0	0	5	0	5	0	0	0	1	3
Total Volume	0	30	0	0	0	0	1	18	1	20	2	0	2	0	2
% App. Total	0	100	0	0	0	0	5	90	5	56	50	0	50	0	50
PHF	.000	.682	.000	.000	.000	.000	.250	.563	.250	.556	.250	.000	.500	.000	.333

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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
07:45 AM	0	2	0	0	2	0	0	0	0	0	1	0	0	0	0	0	3	3
Total	0	2	0	0	2	0	0	0	0	0	5	0	0	0	0	0	7	7
08:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
08:45 AM	0	2	0	0	2	0	0	0	0	1	0	0	0	0	0	0	3	3
Total	0	9	0	0	9	0	0	0	0	1	0	0	0	0	0	0	10	10
Grand Total	0	11	0	0	11	0	0	0	0	6	0	0	0	0	0	0	17	17
% Approach	0	100	0	0	64.7	0	0	0	0	100	0	0	0	0	0	0	100	100
Total %	0	64.7	0	0	64.7	0	0	0	0	35.3	0	0	0	0	0	0	100	100

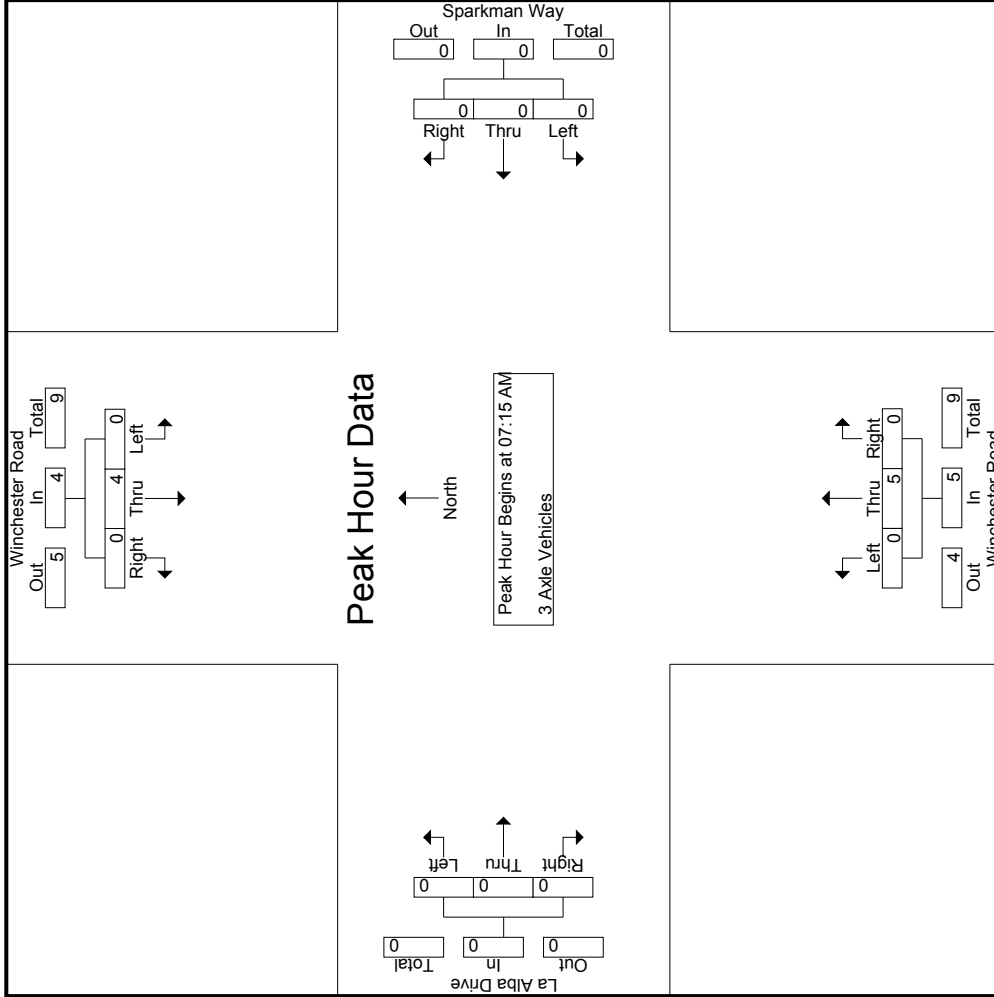
Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	4	0	0	4	0	0	0	0	0	5	0	0	0	0	0	0	9
% App. Total	0	100	0	0	500	0	0	0	0	0	100	0	0	0	0	0	0	750
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.417	.000	.000	.000	.417	.000	.000	.750

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Counts Unlimited, Inc.
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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Sparkman Way Westbound			Winchester Road Northbound			La Alba Drive Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	2	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	0	0	0	0	0	0	0	0	0
Total Volume	0	4	0	0	0	0	0	5	0	0	0	0
% App. Total	0	100	0	0	0	0	0	100	0	0	0	0
PHF	.000	.500	.000	.000	.000	.000	.000	.417	.000	.000	.000	.000

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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	2	0	0	2	0	0	0	0	0	0	4	0	0	0	0	6	6
07:15 AM	0	2	0	0	2	0	0	0	0	0	2	0	0	0	0	0	4	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	5	0	0	5	0	0	0	0	0	7	0	0	0	0	0	12	12
08:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
08:30 AM	0	2	0	0	2	0	0	0	0	0	2	0	0	0	0	0	4	4
08:45 AM	0	5	0	0	5	0	0	0	0	0	1	0	0	0	0	0	6	6
Total	0	10	0	0	10	0	0	0	0	0	3	0	0	0	0	0	13	13
Grand Total	0	15	0	0	15	0	0	0	0	0	10	0	0	0	0	0	25	25
% Approach	0	100	0	0	60	0	0	0	0	0	40	0	0	0	0	0	100	
Total %	0	60	0	0	60	0	0	0	0	0	40	0	0	0	0	0	100	

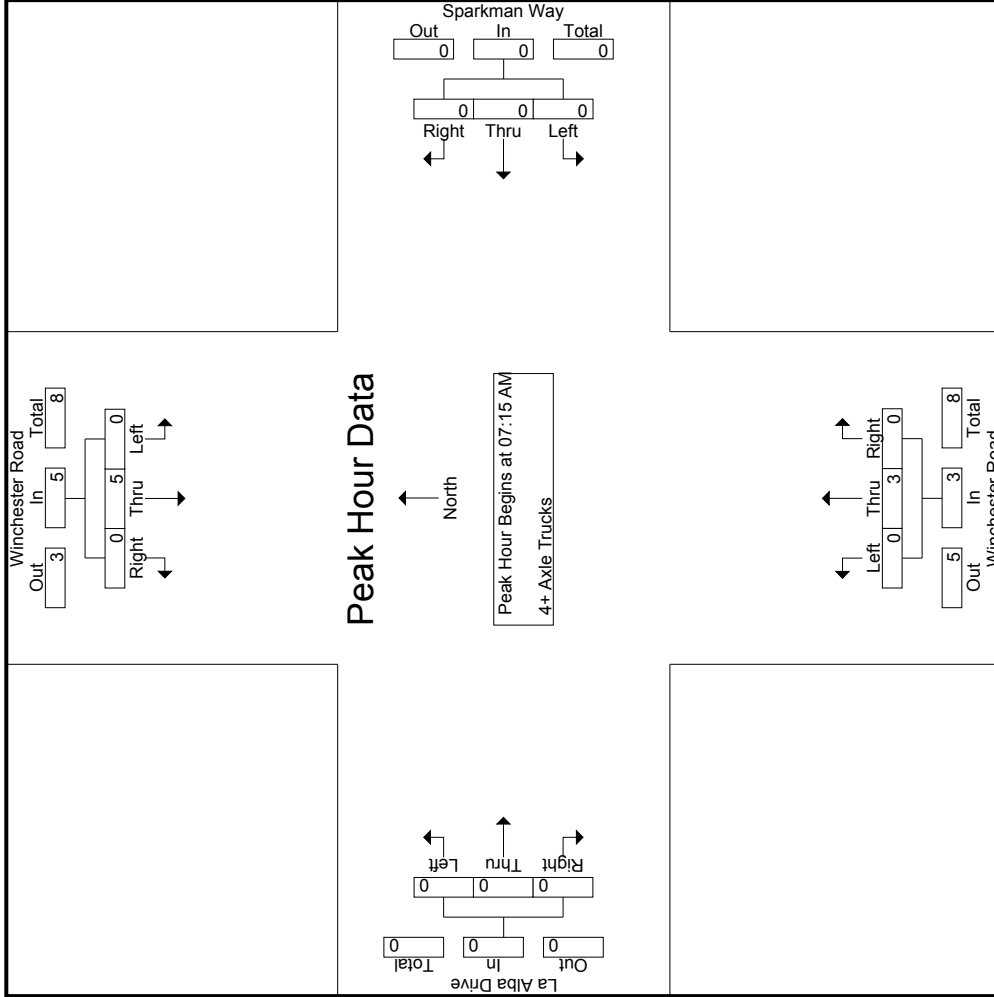
Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:15 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	5	0	0	5	0	0	0	0	0	3	0	0	0	0	0	0	0
% App. Total	0	100	0	0	60	0	0	0	0	0	40	0	0	0	0	0	0	0
PHF	.000	.625	.000	.000	.625	.000	.000	.000	.000	.000	.375	.000	.000	.000	.375	.000	.000	.500

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba AMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Sparkman Way Westbound			Winchester Road Northbound			La Alba Drive Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:	07:15 AM														
+0 mins.	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
+30 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	5	0	0	0	0	0	0	0	3	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	100	0	375	0	0	0	0	0
PHF	.000	.625	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.000	.000	.000

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Winchester Road Southbound						Sparkman Way Westbound						Winchester Road Northbound						La Alba Drive Eastbound								
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	242	17	0	260		5	0	3	3	8		39	422	4	1	465		15	0	22	17	37		21	770	791
04:15 PM	1	281	18	0	300		5	1	2	2	8		37	369	7	0	413		12	1	30	27	43		29	764	793
04:30 PM	0	316	19	0	335		7	0	2	2	9		33	398	4	1	435		14	0	27	22	41		25	820	845
04:45 PM	1	283	21	2	305		11	1	2	2	14		39	372	5	1	416		11	0	24	15	35		20	770	790
Total	3	1122	75	2	1200		28	2	9	9	39		148	1561	20	3	1729		52	1	103	81	156		95	3124	3219
05:00 PM	1	313	16	2	330		17	1	4	3	22		40	425	13	4	478		21	0	18	14	39		23	869	892
05:15 PM	4	269	16	8	289		4	0	4	4	8		45	454	11	3	510		14	4	25	16	43		31	850	881
05:30 PM	1	280	13	4	294		5	1	2	2	8		41	462	20	6	523		12	2	22	22	36		34	861	895
05:45 PM	0	287	33	7	320		2	1	2	2	5		29	398	8	1	435		13	1	27	18	41		28	801	829
Total	6	1149	78	21	1233		28	3	12	11	43		155	1739	52	14	1946		60	7	92	70	159		116	3381	3497
Grand Total	9	2271	153	23	2433		56	5	21	20	82		303	3300	72	17	3675		112	8	195	151	315		211	6505	6716
% Approach	0.4	93.3	6.3				68.3	6.1	25.6				8.2	89.8	2				35.6	2.5	61.9						
% Total	0.1	34.9	2.4				0.9	0.1	0.3				1.3	4.7	0.1				1.7	0.1	3				3.1	96.9	
Passenger Vehicles	9	2253	151		2436		55	4	21		100		303	3283	71		3673		112	8	195		466		0	0	6675
Large 2 Axle Vehicles	100	99.2	98.7	100	99.2		98.2	80	100	100	98		100	99.5	98.6	94.1	99.5		100	100	100	100	100		0	0	99.4
% 3 Axle Vehicles	0	0.6	1.3	0	0.7		1.8	0	0	0	1		0	0.4	1.4	5.9	0.4		0	0	0	0	0		0	0	0.5
4+ Axle Trucks	0	0.1	0	0	0.1		0	20	0	0	1		0	0	0	0	0		0	0	0	0	0		0	0	0.1
% 4+ Axle Trucks	0	0.1	0	0	0.1		0	0	0	0	0		0	0.1	0	0	0.1		0	0	0	0	0		0	0	0.1

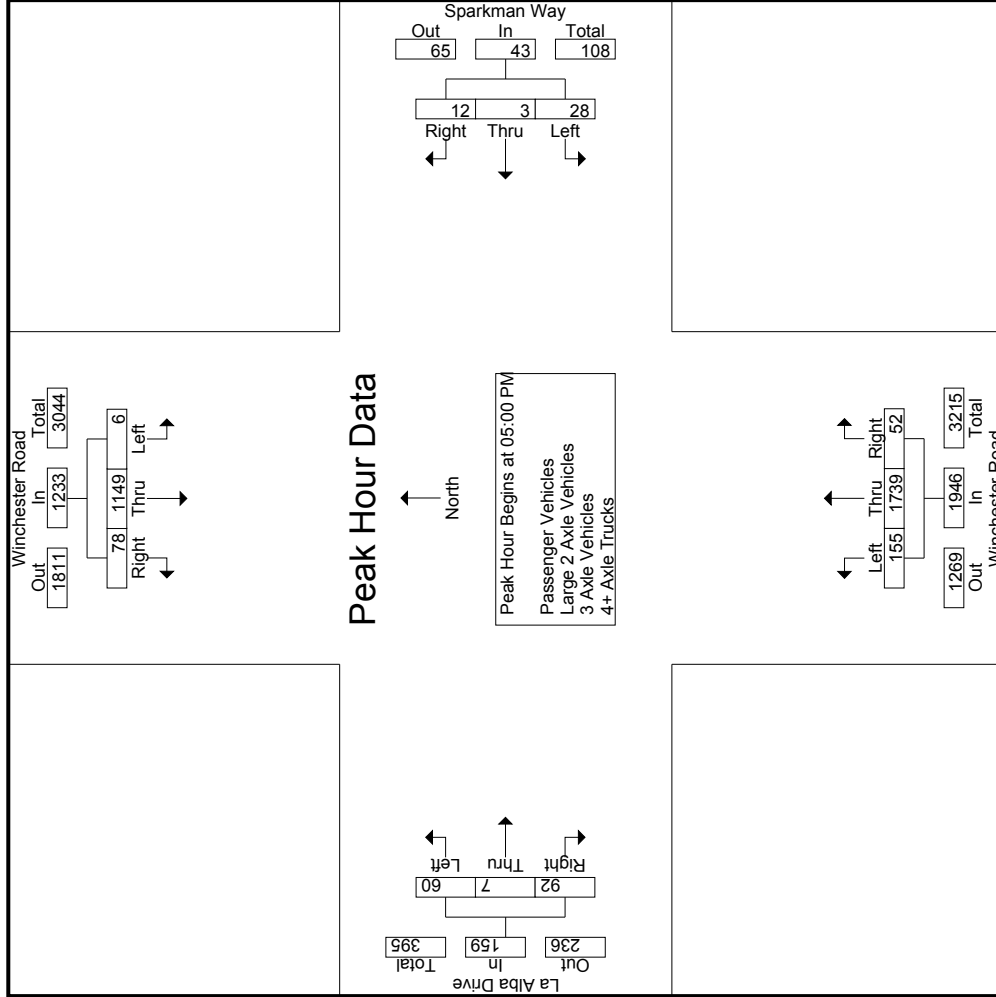
Start Time	Winchester Road Southbound						Sparkman Way Westbound						Winchester Road Northbound						La Alba Drive Eastbound								
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Exclu. Total	Inclu. Total	Int. Total
05:00 PM	1	313	16		330		17	1	4		22		40	425	13		478		21	0	18		39		21	770	791
05:15 PM	4	269	16		289		4	0	4		8		45	454	11		510		14	4	25		43		29	764	793
05:30 PM	1	280	13		294		5	1	2		8		41	462	20		523		12	2	22		36		25	820	845
05:45 PM	0	287	33		320		2	1	2		5		29	398	8		435		13	1	27		41		20	770	790
Total Volume	6	1149	78		1233		28	3	12		43		155	1739	52		1946		60	7	92		159		95	3124	3219
% App. Total	0.5	93.2	6.3				65.1	7	27.9				8	89.4	2.7				37.7	4.4	57.9						
PHF	.375	.918	.591		.934		.412	.750	.750		.489		.861	.941	.650		.930		.714	.438	.852		.924				

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Sparkman Way Westbound			Winchester Road Northbound			La Alba Drive Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins at:																
	04:15 PM			04:15 PM			05:00 PM			05:00 PM						
+0 mins.	1	281	18	300	5	1	2	8	40	425	13	478	21	0	18	39
+15 mins.	0	316	19	335	7	0	2	9	45	454	11	510	14	4	25	43
+30 mins.	1	283	21	305	11	1	2	14	41	462	20	523	12	2	22	36
+45 mins.	1	313	16	330	17	1	4	22	29	398	8	435	13	1	27	41
Total Volume	3	1193	74	1270	40	3	10	53	155	1739	52	1946	60	7	92	159
% App. Total	0.2	93.9	5.8		75.5	5.7	18.9		8	89.4	2.7		37.7	4.4	57.9	
PHF	.750	.944	.881	.948	.588	.750	.625	.602	.861	.941	.650	.930	.714	.438	.852	.924

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 25_MUR_79_La Alba PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

Groups Printed- Passenger Vehicles

Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound										
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total			
04:00 PM	1	236	17	0	254	5	0	3	3	8	39	420	4	1	463	15	0	22	17	37	21	762	783
04:15 PM	1	279	18	0	298	4	0	2	2	6	37	366	7	0	410	12	1	30	27	43	29	757	786
04:30 PM	0	312	19	0	331	7	0	2	9	33	398	4	1	435	14	0	27	22	41	25	816	841	
04:45 PM	1	280	20	2	301	11	1	2	2	14	39	368	4	0	411	11	0	24	15	35	19	761	780
Total	3	1107	74	2	1184	27	1	9	9	37	148	1552	19	2	1719	52	1	103	81	156	94	3096	3190
05:00 PM	1	312	16	2	329	17	1	4	3	22	40	425	13	4	478	21	0	18	14	39	23	868	891
05:15 PM	4	267	16	8	287	4	0	4	4	8	45	451	11	3	507	14	4	25	16	43	31	845	876
05:30 PM	1	280	12	4	293	5	1	2	2	8	41	460	20	6	521	12	2	22	22	36	34	858	892
05:45 PM	0	287	33	7	320	2	1	2	2	5	29	395	8	1	432	13	1	27	18	41	28	798	826
Total	6	1146	77	21	1229	28	3	12	11	43	155	1731	52	14	1938	60	7	92	70	159	116	3369	3485
Grand Total	9	2253	151	23	2413	55	4	21	20	80	303	3283	71	16	3657	112	8	195	151	315	210	6465	6675
% Approach	0.4	93.4	6.3			68.8	5	26.2			8.3	89.8	1.9			35.6	2.5	61.9		4.9	3.1	96.9	
% Total	0.1	34.8	2.3		37.3	0.9	0.1	0.3		1.2	4.7	50.8	1.1		56.6	1.7	0.1	3					

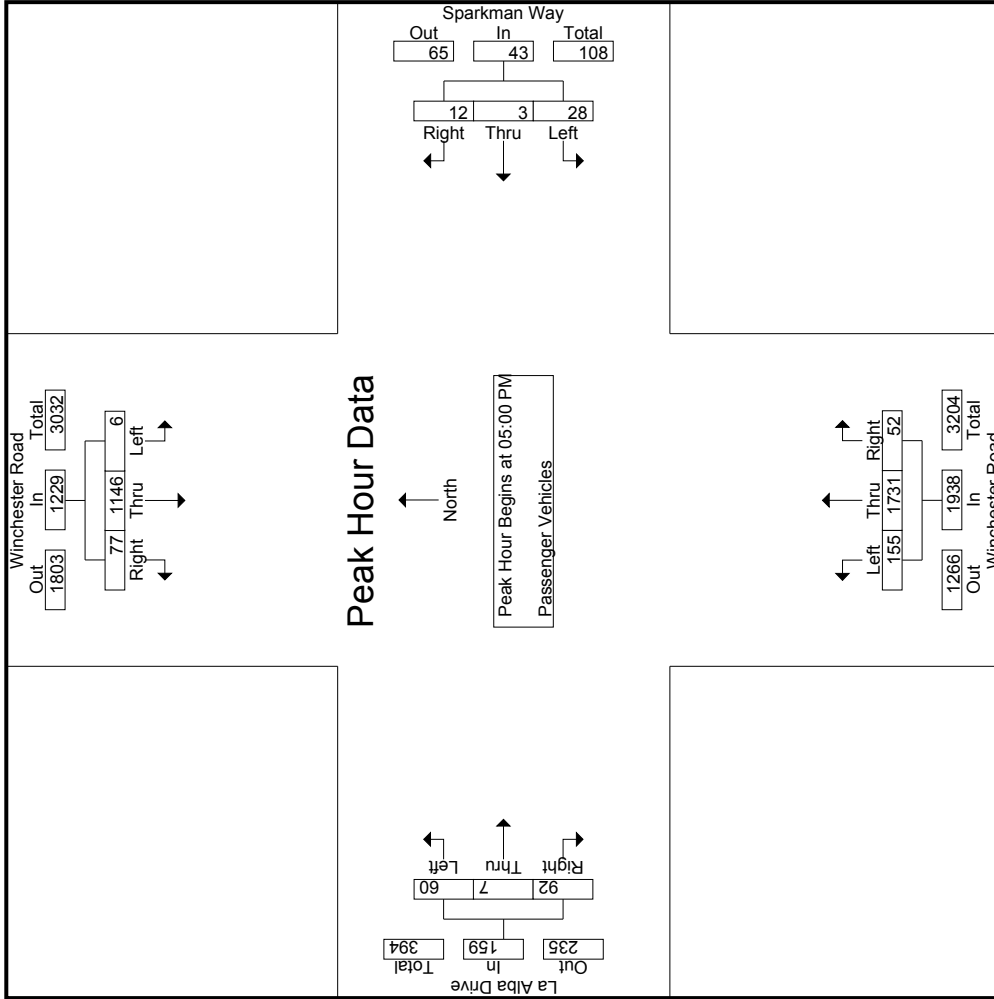
Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound										
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total			
05:00 PM	1	312	16		17	1	4		22	40	425	13		478	21	0	18		39		868		
05:15 PM	4	267	16		4	0	4		8	45	451	11		507	14	4	25		43		845		
05:30 PM	1	280	12		5	1	2		8	41	460	20		521	12	2	22		36		858		
05:45 PM	0	287	33		2	1	2		5	29	395	8		432	13	1	27		41		798		
Total Volume	6	1146	77		28	3	12		43	155	1731	52		1938	60	7	92		159		3369		
% App. Total	0.5	93.2	6.3		65.1	7	27.9			8	89.3	2.7			37.7	4.4	57.9						
PHF	.375	.918	.583		.412	.750	.750		.489	.861	.941	.650		.930	.714	.438	.852		.924				.970

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 25_MUR_79_La Alba PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

Start Time	Winchester Road Southbound			Sparkman Way Westbound			Winchester Road Northbound			La Alba Drive Eastbound						
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1	Peak Hour for Each Approach Begins at:															
	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	1	312	16	329	17	1	4	22	40	425	13	478	21	0	18	39
+15 mins.	4	267	16	287	4	0	4	8	45	451	11	507	14	4	25	43
+30 mins.	1	280	12	293	5	1	2	8	41	460	20	521	12	2	22	36
+45 mins.	0	287	33	320	2	1	2	5	29	395	8	432	13	1	27	41
Total Volume	6	1146	77	1229	28	3	12	43	155	1731	52	1938	60	7	92	159
% App. Total	0.5	93.2	6.3		65.1	7	27.9		8	89.3	2.7		37.7	4.4	57.9	
PHF	.375	.918	.583	.934	.412	.750	.750	.489	.861	.941	.650	.930	.714	.438	.852	.924

Groups Printed- Large 2 Axle Vehicles

Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	0	0	7	7
04:15 PM	0	2	0	0	2	1	0	0	0	1	0	3	0	0	0	0	6	6
04:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
04:45 PM	0	2	1	0	3	0	0	0	0	0	4	1	1	5	0	1	8	9
Total	0	12	1	0	13	1	0	0	0	1	9	1	1	10	0	1	24	25
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	2	0	0	2	0	0	0	0	0	2	0	0	2	0	0	4	4
05:30 PM	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1
Total	0	2	1	0	3	0	0	0	0	0	4	0	0	4	0	0	7	7
Grand Total	0	14	2	0	16	1	0	0	0	1	13	1	1	14	0	1	31	32
% Approach	0	87.5	12.5			100	0	0		3.2	92.9	7.1			0	3.1	96.9	
% Total	0	45.2	6.5		51.6	3.2	0	0		41.9	3.2	45.2			0	3.1	96.9	

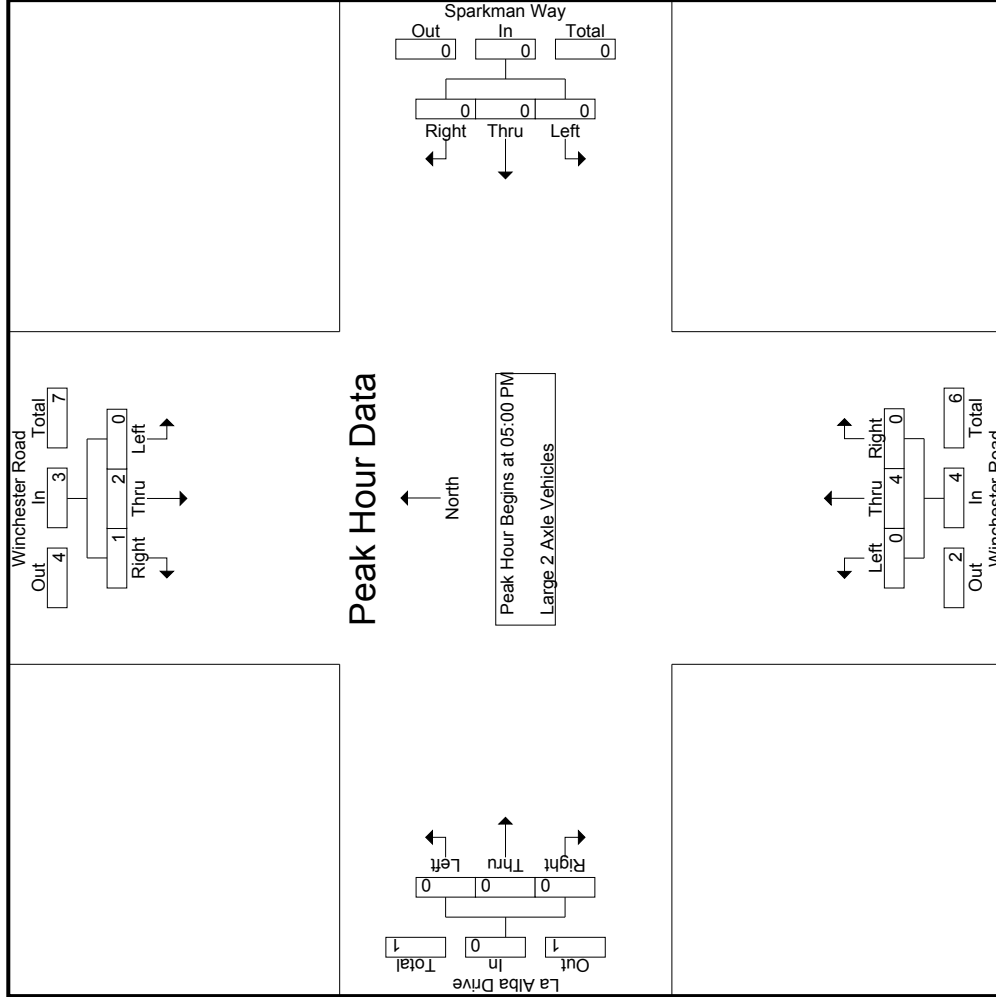
Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	4
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1
Total Volume	0	2	1		3	0	0	0		0	4	0	4		4	0	0	7
% App. Total	0	66.7	33.3			0	0	0		0	100	0	0		0	0	0	0
PHF	.000	.250	.250		.375	.000	.000	.000		.000	.500	.000	.500		.000	.000	.438	

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

File Name : 25_MUR_79_La Alba PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

Start Time	Winchester Road Southbound			Sparkman Way Westbound			Winchester Road Northbound			La Alba Drive Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	2	0	0	0	0	0	2	0	0	0	0
+30 mins.	0	0	1	0	0	0	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	0	0	0	0
Total Volume	0	2	1	0	0	0	0	4	0	0	0	0
% App. Total	0	66.7	33.3	0	0	0	0	100	0	0	0	0
PHF	.000	.250	.250	.375	.000	.000	.000	.500	.000	.000	.000	.000

Groups Printed- 3 Axle Vehicles

Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
Total	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2	2
Grand Total	0	2	0	0	2	0	1	0	0	1	0	1	0	0	0	0	4	4
% Approach	0	100	0	0	25	0	100	0	0	25	0	100	0	0	0	0	100	100
% Total	0	50	0	0	50	0	25	0	0	25	0	25	0	0	0	0	100	100

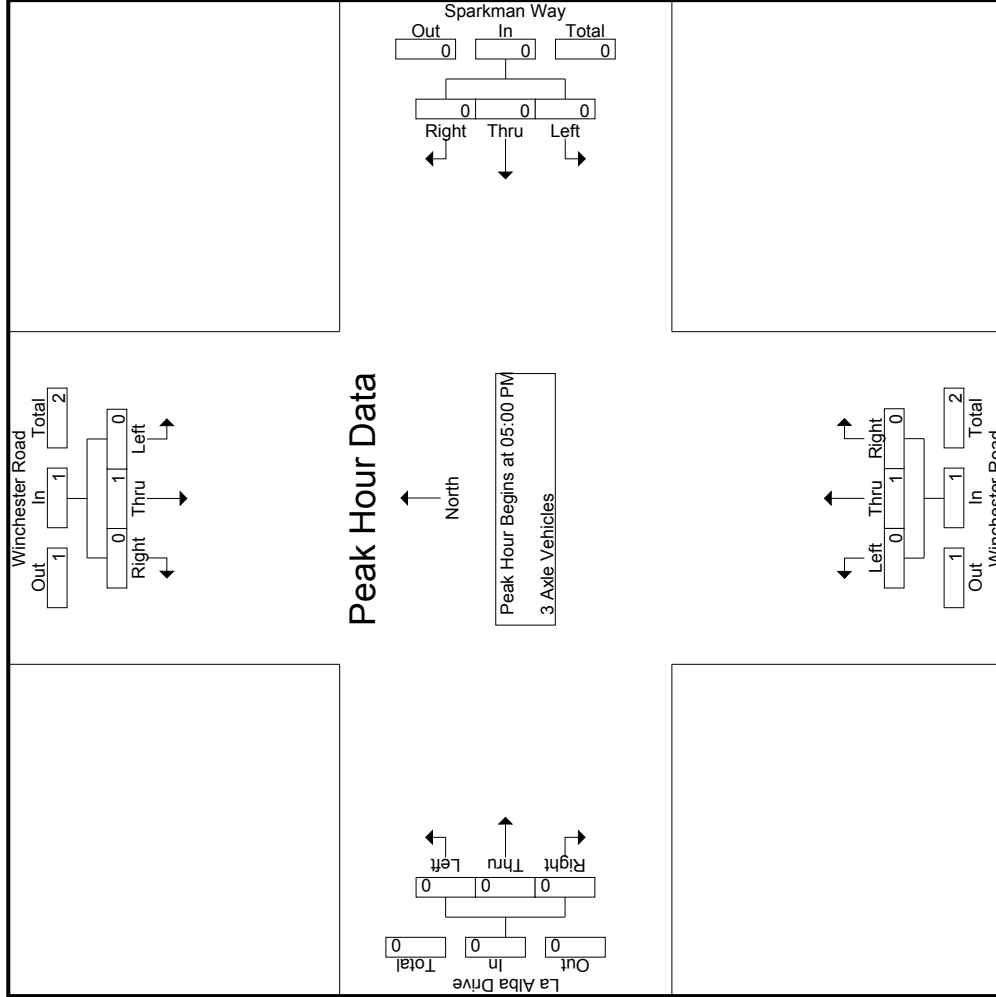
Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.000	.250	.000	.000	.000	.000	.250	.000	.250	.000	.000	.250	.000	.000	.500

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Sparkman Way Westbound			Winchester Road Northbound			La Alba Drive Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	1	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	0	0	0	0	0
Total Volume	0	1	0	0	0	0	1	0	0	0	0	0
% App. Total	0	100	0	0	0	0	100	0	0	0	0	0
PHF	.000	.250	.000	.000	.000	.000	.250	.000	.000	.000	.000	.000

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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	3
Grand Total	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	0	5	5
% Approach	0	100	0	0	0	0	100	0	0	60	0	0	0	0	0	0	100	100
Total %	0	40	0	0	40	0	60	0	0	60	0	0	0	0	0	0	100	100

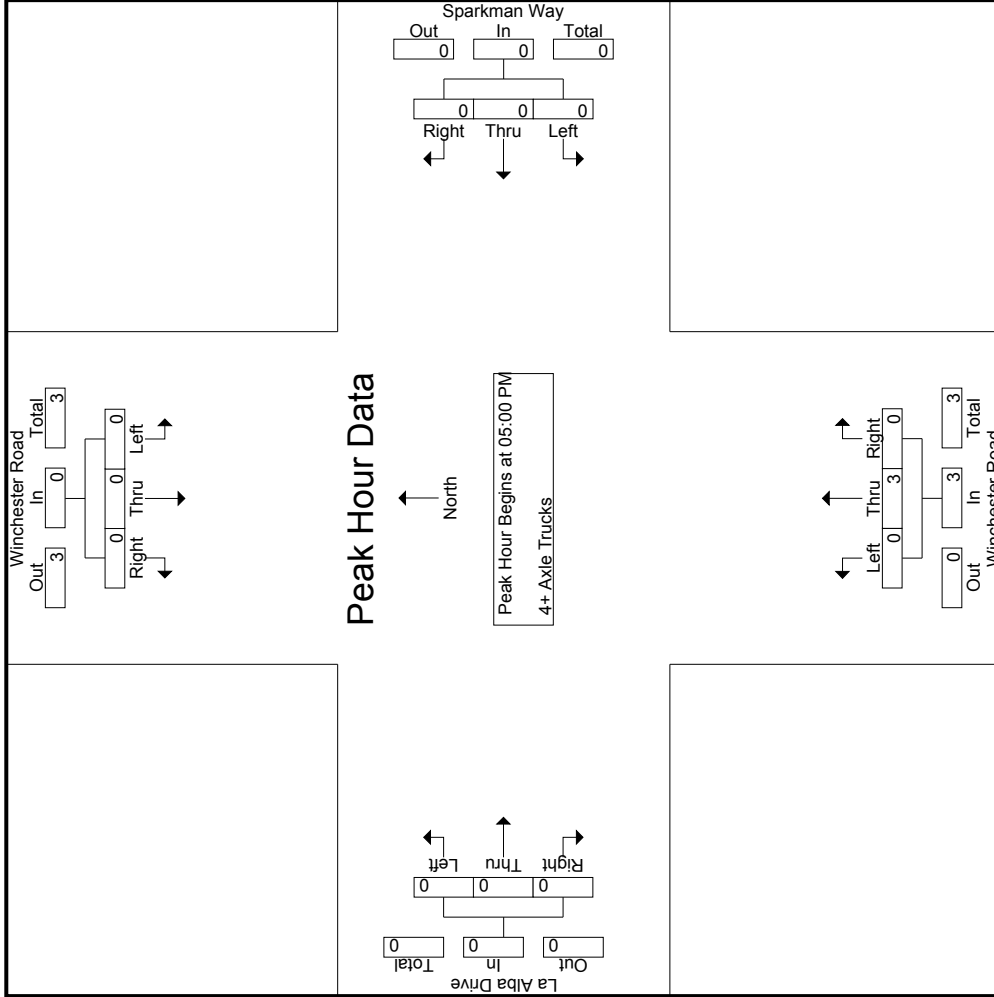
Start Time	Winchester Road Southbound				Sparkman Way Westbound				Winchester Road Northbound				La Alba Drive Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	3
% App. Total	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	0	0	3
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951)268-6268

City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 2



Counts Unlimited, Inc.
 PO Box 1178
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City of Murrieta
 N/S: Winchester Road (SR-79)
 E/W: La Alba Drive/Sparkman Way
 Weather: Clear

File Name : 25_MUR_79_La Alba PMC
 Site Code : 05121212
 Start Date : 5/12/2021
 Page No : 3

Start Time	Winchester Road Southbound			Sparkman Way Westbound			Winchester Road Northbound			La Alba Drive Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	0	0	0	0
Total Volume	0	0	0	0	0	0	0	3	0	0	0	0
% App. Total	0	0	0	0	0	0	0	100	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.750	.000	.000	.000	.000

Location: Murrieta
 N/S: Winchester Road
 E/W: La Alba Dr/Sparkman Way



Date: 5/12/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Winchester Road	East Leg Sparkman Way	South Leg Winchester Road	West Leg La Alba Drive	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

	North Leg Winchester Road	East Leg Sparkman Way	South Leg Winchester Road	West Leg La Alba Drive	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

Location: Murrieta
 N/S: Winchester Road
 E/W: La Alba Dr/Sparkman Way



Date: 5/12/2021
 Day: Wednesday

BICYCLES

	Southbound Winchester Road			Westbound Sparkman Way			Northbound Winchester Road			Eastbound La Alba Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	1	1	0	0	0	0	0	0	0	1	0	3

	Southbound Winchester Road			Westbound Sparkman Way			Northbound Winchester Road			Eastbound La Alba Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	6	0	0	0	0	0	0	0	0	0	0	6
4:15 PM	1	0	0	0	0	0	0	2	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	1	8	0	0	0	0	0	2	1	0	0	0	12

County of Riverside
 N/S: Pat Road
 E/W: Pourroy Road
 Weather: Clear

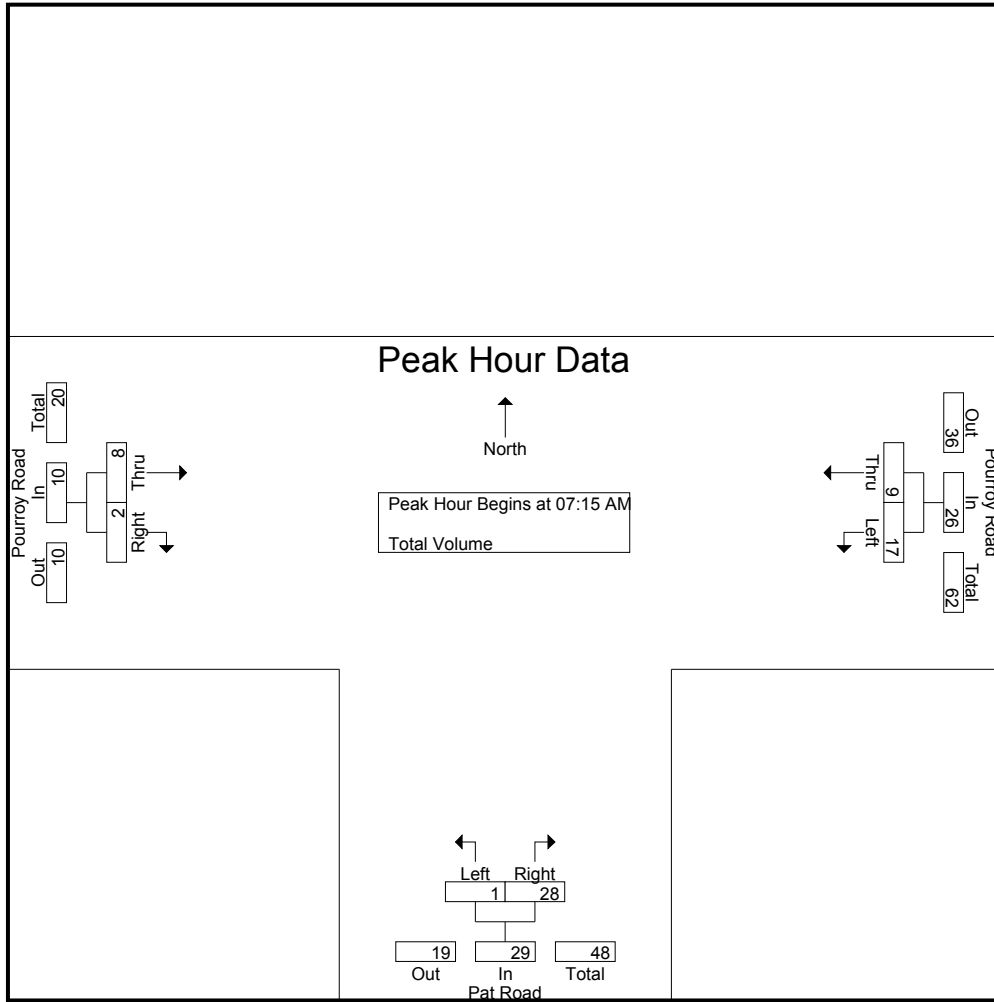
Groups Printed- Total Volume

Start Time	Pourroy Road Westbound			Pat Road Northbound			Pourroy Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	1	3	4	0	5	5	5	1	6	15
07:15 AM	1	1	2	1	9	10	0	1	1	13
07:30 AM	4	4	8	0	4	4	4	0	4	16
07:45 AM	3	1	4	0	8	8	3	1	4	16
Total	9	9	18	1	26	27	12	3	15	60
08:00 AM	9	3	12	0	7	7	1	0	1	20
08:15 AM	2	2	4	0	5	5	1	0	1	10
08:30 AM	4	2	6	0	4	4	1	0	1	11
08:45 AM	5	5	10	1	5	6	1	0	1	17
Total	20	12	32	1	21	22	4	0	4	58
Grand Total	29	21	50	2	47	49	16	3	19	118
Apprch %	58	42		4.1	95.9		84.2	15.8		
Total %	24.6	17.8	42.4	1.7	39.8	41.5	13.6	2.5	16.1	

Start Time	Pourroy Road Westbound			Pat Road Northbound			Pourroy Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	1	1	2	1	9	10	0	1	1	13
07:30 AM	4	4	8	0	4	4	4	0	4	16
07:45 AM	3	1	4	0	8	8	3	1	4	16
08:00 AM	9	3	12	0	7	7	1	0	1	20
Total Volume	17	9	26	1	28	29	8	2	10	65
% App. Total	65.4	34.6		3.4	96.6		80	20		
PHF	.472	.563	.542	.250	.778	.725	.500	.500	.625	.813

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

County of Riverside
 N/S: Pat Road
 E/W: Pourroy Road
 Weather: Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM			07:15 AM			07:00 AM		
+0 mins.	9	3	12	1	9	10	5	1	6
+15 mins.	2	2	4	0	4	4	0	1	1
+30 mins.	4	2	6	0	8	8	4	0	4
+45 mins.	5	5	10	0	7	7	3	1	4
Total Volume	20	12	32	1	28	29	12	3	15
% App. Total	62.5	37.5		3.4	96.6		80	20	
PHF	.556	.600	.667	.250	.778	.725	.600	.750	.625

County of Riverside
 N/S: Pat Road
 E/W: Pourroy Road
 Weather: Clear

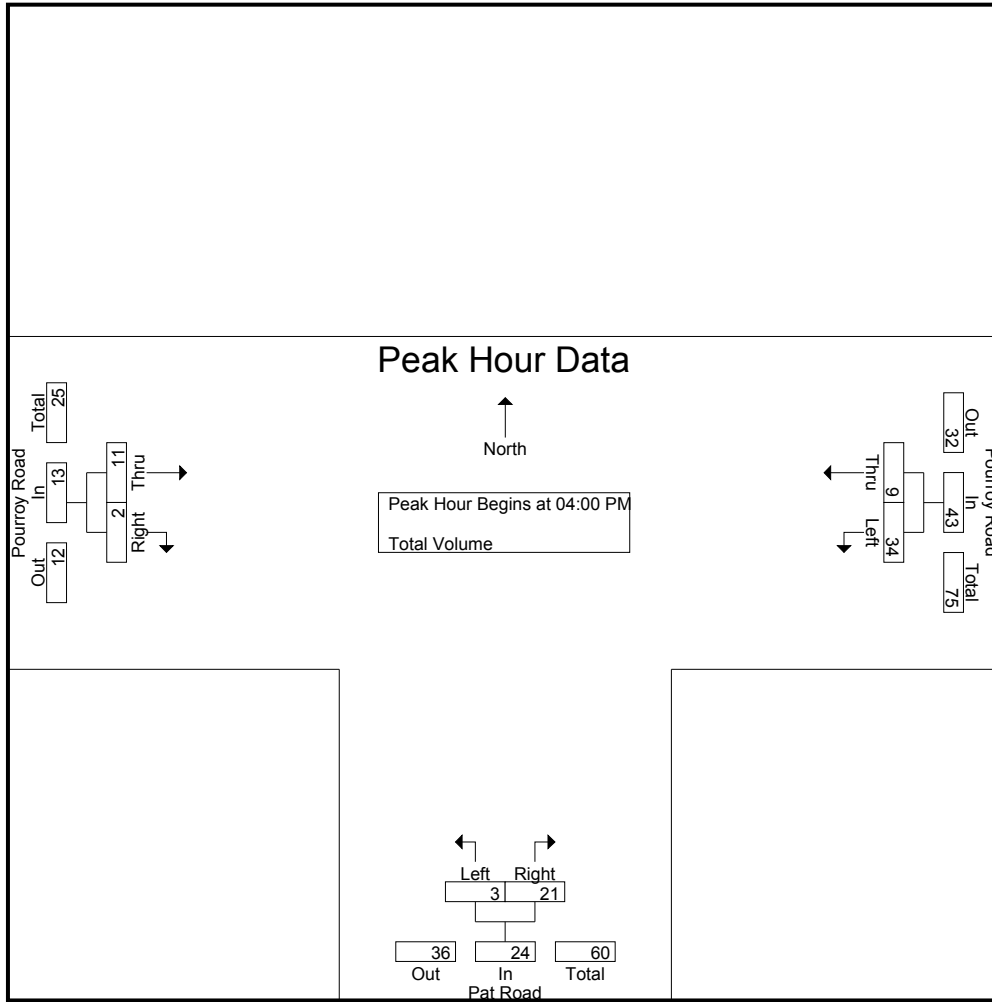
Groups Printed- Total Volume

Start Time	Pourroy Road Westbound			Pat Road Northbound			Pourroy Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	7	2	9	1	11	12	4	0	4	25
04:15 PM	6	3	9	0	4	4	3	0	3	16
04:30 PM	13	1	14	1	2	3	3	2	5	22
04:45 PM	8	3	11	1	4	5	1	0	1	17
Total	34	9	43	3	21	24	11	2	13	80
05:00 PM	9	2	11	1	9	10	2	0	2	23
05:15 PM	5	1	6	0	8	8	2	1	3	17
05:30 PM	6	0	6	1	5	6	1	1	2	14
05:45 PM	10	1	11	0	4	4	0	0	0	15
Total	30	4	34	2	26	28	5	2	7	69
Grand Total	64	13	77	5	47	52	16	4	20	149
Apprch %	83.1	16.9		9.6	90.4		80	20		
Total %	43	8.7	51.7	3.4	31.5	34.9	10.7	2.7	13.4	

Start Time	Pourroy Road Westbound			Pat Road Northbound			Pourroy Road Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	7	2	9	1	11	12	4	0	4	25
04:15 PM	6	3	9	0	4	4	3	0	3	16
04:30 PM	13	1	14	1	2	3	3	2	5	22
04:45 PM	8	3	11	1	4	5	1	0	1	17
Total Volume	34	9	43	3	21	24	11	2	13	80
% App. Total	79.1	20.9		12.5	87.5		84.6	15.4		
PHF	.654	.750	.768	.750	.477	.500	.688	.250	.650	.800

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:00 PM

County of Riverside
 N/S: Pat Road
 E/W: Pourroy Road
 Weather: Clear



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:15 PM			04:45 PM			04:00 PM		
+0 mins.	6	3	9	1	4	5	4	0	4
+15 mins.	13	1	14	1	9	10	3	0	3
+30 mins.	8	3	11	0	8	8	3	2	5
+45 mins.	9	2	11	1	5	6	1	0	1
Total Volume	36	9	45	3	26	29	11	2	13
% App. Total	80	20		10.3	89.7		84.6	15.4	
PHF	.692	.750	.804	.750	.722	.725	.688	.250	.650

Location: County of Riverside
 N/S: Pat Road
 E/W: Pourroy Road



Date: 5/26/2021
 Day: Wednesday

PEDESTRIANS

	North Leg Dead End	East Leg Pourroy Road	South Leg Pat Road	West Leg Pourroy Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Dead End	East Leg Pourroy Road	South Leg Pat Road	West Leg Pourroy Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	0	1

Location: County of Riverside
 N/S: Pat Road
 E/W: Pourroy Road



Date: 5/26/2021
 Day: Wednesday

BICYCLES

	Southbound Dead End			Westbound Pourroy Road			Northbound Pat Road			Eastbound Pourroy Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Dead End			Westbound Pourroy Road			Northbound Pat Road			Eastbound Pourroy Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	0	2	0	0	1	3
5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	0	0	1	0	0	0	0	4	0	1	1	7

APPENDIX 3.2:

EXISTING (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)
06/21/2021

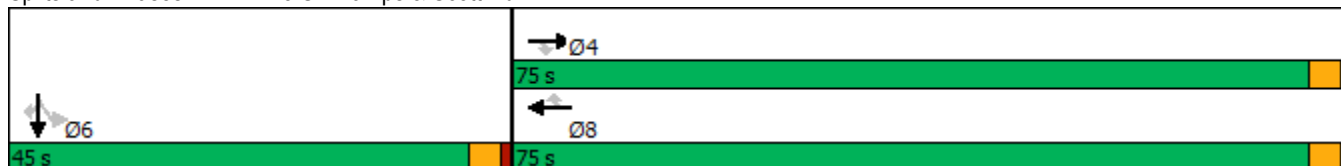


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	607	607	782	563	533	0	227
Future Volume (vph)	607	607	782	563	533	0	227
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	75.0	75.0	75.0	75.0	45.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	62.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	27.4	27.4	27.4	27.4	17.4	17.4	17.4
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.33	0.33	0.33
v/c Ratio	0.39	0.61	0.50	0.58	0.56	0.23	0.23
Control Delay	8.9	3.4	9.9	3.2	17.9	4.1	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	3.4	9.9	3.2	17.9	4.1	4.1
LOS	A	A	A	A	B	A	A
Approach Delay	6.1		7.1			13.8	
Approach LOS	A		A			B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 53.4
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 8.3
 Intersection Capacity Utilization 48.9%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

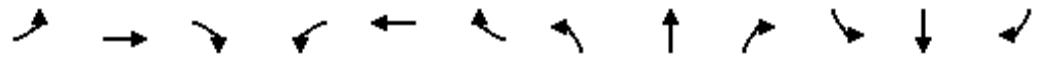
Splits and Phases: 1: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↖	↗
Traffic Volume (veh/h)	0	607	607	0	782	563	0	0	0	533	0	227
Future Volume (veh/h)	0	607	607	0	782	563	0	0	0	533	0	227
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	706	698	0	909	561				620	0	165
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2032	906	0	2032	906				928	0	825
Arrive On Green	0.00	0.57	0.57	0.00	0.57	0.57				0.26	0.00	0.26
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	706	698	0	909	561				620	0	165
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	5.1	16.1	0.0	7.0	11.2				7.4	0.0	1.9
Cycle Q Clear(g_c), s	0.0	5.1	16.1	0.0	7.0	11.2				7.4	0.0	1.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2032	906	0	2032	906				928	0	825
V/C Ratio(X)	0.00	0.35	0.77	0.00	0.45	0.62				0.67	0.00	0.20
Avail Cap(c_a), veh/h	0	5294	2361	0	5294	2361				3065	0	2727
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.5	7.8	0.0	5.9	6.8				15.8	0.0	13.8
Incr Delay (d2), s/veh	0.0	0.1	1.4	0.0	0.2	0.7				0.8	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.0	3.0	0.0	1.3	2.0				2.4	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.6	9.2	0.0	6.0	7.5				16.6	0.0	13.9
LnGrp LOS	A	A	A	A	A	A				B	A	B
Approach Vol, veh/h		1404			1470						785	
Approach Delay, s/veh		7.4			6.6						16.0	
Approach LOS		A			A						B	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				31.3		16.4		31.3				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				71.0		41.0		71.0				
Max Q Clear Time (g_c+I1), s				18.1		9.4		13.2				
Green Ext Time (p_c), s				9.2		3.0		10.6				

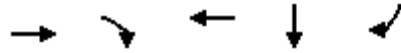
Intersection Summary

HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

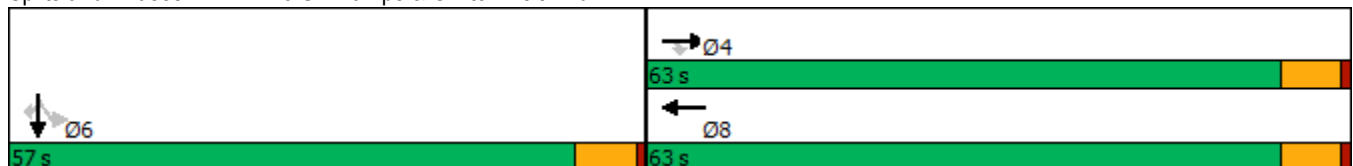


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↑↑
Traffic Volume (vph)	1280	447	1154	0	763
Future Volume (vph)	1280	447	1154	0	763
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	63.0	63.0	63.0	57.0	57.0
Total Split (%)	52.5%	52.5%	52.5%	47.5%	47.5%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	42.8	42.8	42.8	35.3	35.3
Actuated g/C Ratio	0.47	0.47	0.47	0.38	0.38
v/c Ratio	0.57	0.49	0.76	0.35	0.73
Control Delay	19.6	3.5	21.8	22.8	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	3.5	21.8	22.8	27.5
LOS	B	A	C	C	C
Approach Delay	15.5		21.8	26.4	
Approach LOS	B		C	C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91.9
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 20.3
 Intersection LOS: C
 Intersection Capacity Utilization 71.0%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)

06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1280	447	0	1154	499	0	0	0	227	0	763
Future Volume (veh/h)	0	1280	447	0	1154	499	0	0	0	227	0	763
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1362	393	0	1228	531				241	0	478
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2752	836	0	1886	811				445	0	696
Arrive On Green	0.00	0.54	0.54	0.00	0.54	0.54				0.25	0.00	0.25
Sat Flow, veh/h	0	5274	1551	0	3668	1504				1781	0	2790
Grp Volume(v), veh/h	0	1362	393	0	1194	565				241	0	478
Grp Sat Flow(s),veh/h/ln	0	1702	1551	0	1702	1600				1781	0	1395
Q Serve(g_s), s	0.0	10.3	9.6	0.0	15.3	15.5				7.2	0.0	9.5
Cycle Q Clear(g_c), s	0.0	10.3	9.6	0.0	15.3	15.5				7.2	0.0	9.5
Prop In Lane	0.00		1.00	0.00		0.94				1.00		1.00
Lane Grp Cap(c), veh/h	0	2752	836	0	1835	862				445	0	696
V/C Ratio(X)	0.00	0.49	0.47	0.00	0.65	0.65				0.54	0.00	0.69
Avail Cap(c_a), veh/h	0	4693	1425	0	3129	1470				1463	0	2292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.9	8.8	0.0	10.1	10.1				20.0	0.0	20.9
Incr Delay (d2), s/veh	0.0	0.1	0.4	0.0	0.4	0.9				1.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	2.1	0.0	3.7	3.6				2.9	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.0	9.2	0.0	10.5	10.9				21.0	0.0	22.1
LnGrp LOS	A	A	A	A	B	B				C	A	C
Approach Vol, veh/h		1755			1759						719	
Approach Delay, s/veh		9.1			10.6						21.7	
Approach LOS		A			B						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				39.6		21.8		39.6				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				56.5		50.5		56.5				
Max Q Clear Time (g_c+I1), s				12.3		11.5		17.5				
Green Ext Time (p_c), s				13.9		3.8		15.7				
Intersection Summary												
HCM 6th Ctrl Delay				11.9								
HCM 6th LOS				B								

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗↗	↖↖	↖	↕	↗	↘	↘
Traffic Volume (vph)	181	959	1081	375	0	253	0	262
Future Volume (vph)	181	959	1081	375	0	253	0	262
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	103.0	103.0	103.0	103.0	17.0	17.0	17.0	17.0
Total Split (%)	85.8%	85.8%	85.8%	85.8%	14.2%	14.2%	14.2%	14.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	32.1	32.1	32.1	32.1	6.9	6.9	6.9	6.9
Actuated g/C Ratio	0.66	0.66	0.66	0.66	0.14	0.14	0.14	0.14
v/c Ratio	0.77	0.45	0.51	0.35	0.36	0.36	0.40	0.40
Control Delay	26.8	3.8	4.2	1.1	4.2	4.2	8.7	8.7
Queue Delay	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay	26.8	3.9	4.2	1.1	4.2	4.2	8.7	8.7
LOS	C	A	A	A	A	A	A	A
Approach Delay		7.5	3.5		4.2		8.7	
Approach LOS		A	A		A		A	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 48.3	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 5.4	Intersection LOS: A
Intersection Capacity Utilization 55.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗		↗	↗		↗	↗
Traffic Volume (veh/h)	181	959	0	0	1081	375	0	0	253	0	0	262
Future Volume (veh/h)	181	959	0	0	1081	375	0	0	253	0	0	262
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	199	1054	0	0	1188	289	0	0	257	0	0	136
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	337	2769	0	0	2769	1235	0	208	353	0	208	353
Arrive On Green	0.78	0.78	0.00	0.00	0.78	0.78	0.00	0.00	0.11	0.00	0.00	0.11
Sat Flow, veh/h	358	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	199	1054	0	0	1188	289	0	0	257	0	0	136
Grp Sat Flow(s),veh/h/ln	358	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	30.5	6.8	0.0	0.0	8.1	3.6	0.0	0.0	5.7	0.0	0.0	2.9
Cycle Q Clear(g_c), s	38.6	6.8	0.0	0.0	8.1	3.6	0.0	0.0	5.7	0.0	0.0	2.9
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	337	2769	0	0	2769	1235	0	208	353	0	208	353
V/C Ratio(X)	0.59	0.38	0.00	0.00	0.43	0.23	0.00	0.00	0.73	0.00	0.00	0.38
Avail Cap(c_a), veh/h	543	4812	0	0	4812	2146	0	333	564	0	333	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	9.1	2.5	0.0	0.0	2.7	2.2	0.0	0.0	31.4	0.0	0.0	30.2
Incr Delay (d2), s/veh	1.6	0.1	0.0	0.0	0.1	0.1	0.0	0.0	2.9	0.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.7	0.0	0.0	0.9	0.4	0.0	0.0	2.2	0.0	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	2.6	0.0	0.0	2.8	2.3	0.0	0.0	34.3	0.0	0.0	30.8
LnGrp LOS	B	A	A	A	A	A	A	A	C	A	A	C
Approach Vol, veh/h		1253			1477			257				136
Approach Delay, s/veh		3.9			2.7			34.3				30.8
Approach LOS		A			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.2		61.0		12.2		61.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		13.0		99.0		13.0		99.0				
Max Q Clear Time (g_c+I1), s		7.7		40.6		4.9		10.1				
Green Ext Time (p_c), s		0.4		16.5		0.2		12.8				

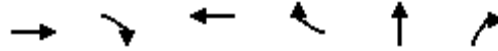
Intersection Summary

HCM 6th Ctrl Delay	7.0
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

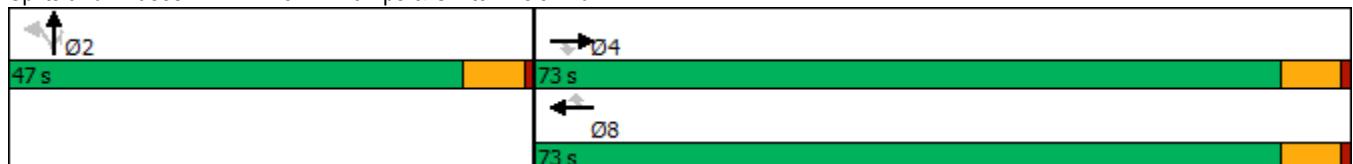


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↔	↑
Traffic Volume (vph)	881	639	1369	225	0	341
Future Volume (vph)	881	639	1369	225	0	341
Turn Type	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		4		8		2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5	16.5
Total Split (s)	73.0	73.0	73.0	73.0	47.0	47.0
Total Split (%)	60.8%	60.8%	60.8%	60.8%	39.2%	39.2%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	28.9	28.9	28.9	28.9	17.2	17.2
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.29	0.29
v/c Ratio	0.37	0.61	0.58	0.26	0.60	0.52
Control Delay	10.5	3.8	12.4	2.5	23.1	15.0
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0
Total Delay	10.5	4.0	12.4	2.5	23.1	15.0
LOS	B	A	B	A	C	B
Approach Delay	7.8		11.0		19.2	
Approach LOS	A		B		B	

Intersection Summary













Cycle Length: 120	
Actuated Cycle Length: 60	
Natural Cycle: 40	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.9	Intersection LOS: B
Intersection Capacity Utilization 55.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	881	639	0	1369	225	207	0	341	0	0	0
Future Volume (veh/h)	0	881	639	0	1369	225	207	0	341	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	908	659	0	1411	232	213	0	164			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2849	880	0	2849	884	342	0	304			
Arrive On Green	0.00	0.56	0.56	0.00	0.56	0.56	0.19	0.00	0.19			
Sat Flow, veh/h	0	5274	1578	0	5274	1585	1781	0	1585			
Grp Volume(v), veh/h	0	908	659	0	1411	232	213	0	164			
Grp Sat Flow(s),veh/h/ln	0	1702	1578	0	1702	1585	1781	0	1585			
Q Serve(g_s), s	0.0	5.0	16.5	0.0	8.8	3.9	5.7	0.0	4.8			
Cycle Q Clear(g_c), s	0.0	5.0	16.5	0.0	8.8	3.9	5.7	0.0	4.8			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2849	880	0	2849	884	342	0	304			
V/C Ratio(X)	0.00	0.32	0.75	0.00	0.50	0.26	0.62	0.00	0.54			
Avail Cap(c_a), veh/h	0	6539	2021	0	6539	2030	1389	0	1236			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	6.2	8.7	0.0	7.0	5.9	19.3	0.0	18.9			
Incr Delay (d2), s/veh	0.0	0.1	1.3	0.0	0.1	0.2	1.9	0.0	1.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.9	3.0	0.0	1.6	0.7	2.3	0.0	1.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.2	10.0	0.0	7.1	6.1	21.1	0.0	20.4			
LnGrp LOS	A	A	B	A	A	A	C	A	C			
Approach Vol, veh/h		1567			1643			377				
Approach Delay, s/veh		7.8			7.0			20.8				
Approach LOS		A			A			C				
Timer - Assigned Phs		2		4		8						
Phs Duration (G+Y+Rc), s		16.5		35.5		35.5						
Change Period (Y+Rc), s		6.5		6.5		6.5						
Max Green Setting (Gmax), s		40.5		66.5		66.5						
Max Q Clear Time (g_c+I1), s		7.7		18.5		10.8						
Green Ext Time (p_c), s		1.9		10.5		13.9						
Intersection Summary												
HCM 6th Ctrl Delay		8.8										
HCM 6th LOS		A										
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021

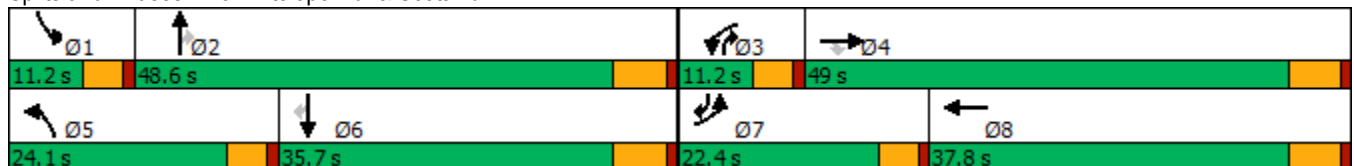


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘↘	↑↑	↗	↘↘	↑↑↑	↘↘	↑↑	↗	↘	↑	↗
Traffic Volume (vph)	123	650	438	69	753	333	41	58	35	133	371
Future Volume (vph)	123	650	438	69	753	333	41	58	35	133	371
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	22.4	49.0	49.0	11.2	37.8	24.1	48.6	11.2	11.2	35.7	22.4
Total Split (%)	18.7%	40.8%	40.8%	9.3%	31.5%	20.1%	40.5%	9.3%	9.3%	29.8%	18.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	9.2	27.3	27.3	6.1	21.6	13.3	24.9	37.0	6.1	12.8	28.0
Actuated g/C Ratio	0.12	0.35	0.35	0.08	0.28	0.17	0.32	0.47	0.08	0.16	0.36
v/c Ratio	0.33	0.58	0.55	0.28	0.60	0.62	0.04	0.08	0.28	0.48	0.64
Control Delay	36.4	24.3	4.9	42.0	27.6	37.1	23.5	1.0	45.5	38.7	21.0
Queue Delay	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.4	24.4	5.0	42.0	27.6	37.1	23.5	1.0	45.5	38.7	21.0
LOS	D	C	A	D	C	D	C	A	D	D	C
Approach Delay		18.6			28.8		30.9			27.0	
Approach LOS		B			C		C			C	

Intersection Summary

































Cycle Length: 120
 Actuated Cycle Length: 78.5
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 24.7
 Intersection LOS: C
 Intersection Capacity Utilization 59.9%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 		 	 	
Traffic Volume (veh/h)	123	650	438	69	753	18	333	41	58	35	133	371
Future Volume (veh/h)	123	650	438	69	753	18	333	41	58	35	133	371
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	707	334	75	818	15	362	45	33	38	145	229
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	241	1097	489	196	1528	28	480	992	533	68	334	393
Arrive On Green	0.07	0.31	0.31	0.06	0.30	0.30	0.14	0.28	0.28	0.04	0.18	0.18
Sat Flow, veh/h	3456	3554	1585	3456	5163	95	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	134	707	334	75	539	294	362	45	33	38	145	229
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1853	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	2.5	11.3	12.1	1.4	8.7	8.7	6.6	0.6	0.9	1.4	4.5	8.3
Cycle Q Clear(g_c), s	2.5	11.3	12.1	1.4	8.7	8.7	6.6	0.6	0.9	1.4	4.5	8.3
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	241	1097	489	196	1007	548	480	992	533	68	334	393
V/C Ratio(X)	0.56	0.64	0.68	0.38	0.54	0.54	0.75	0.05	0.06	0.56	0.43	0.58
Avail Cap(c_a), veh/h	938	2341	1044	348	1661	904	1028	2319	1125	179	853	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	19.6	19.9	29.8	19.3	19.3	27.2	17.3	14.8	31.0	24.0	21.7
Incr Delay (d2), s/veh	0.8	0.6	1.7	0.5	0.4	0.8	0.9	0.0	0.0	2.7	0.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.1	4.0	0.5	3.0	3.4	2.5	0.2	0.3	0.6	1.9	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	20.2	21.5	30.3	19.8	20.1	28.1	17.3	14.8	33.7	24.9	23.0
LnGrp LOS	C	C	C	C	B	C	C	B	B	C	C	C
Approach Vol, veh/h		1175			908			440			412	
Approach Delay, s/veh		21.7			20.7			26.0			24.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	24.1	8.3	26.0	13.7	17.5	9.2	25.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.6	42.8	6.6	43.2	19.5	29.9	17.8	32.0				
Max Q Clear Time (g_c+I1), s	3.4	2.9	3.4	14.1	8.6	10.3	4.5	10.7				
Green Ext Time (p_c), s	0.0	0.3	0.0	6.1	0.5	1.4	0.2	4.9				
Intersection Summary												
HCM 6th Ctrl Delay			22.5									
HCM 6th LOS			C									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/21/2021

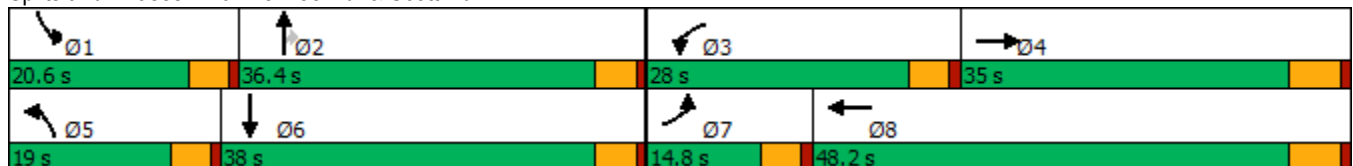


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	65	584	221	731	127	101	173	118	222
Future Volume (vph)	65	584	221	731	127	101	173	118	222
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	14.8	35.0	28.0	48.2	19.0	36.4	36.4	20.6	38.0
Total Split (%)	12.3%	29.2%	23.3%	40.2%	15.8%	30.3%	30.3%	17.2%	31.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	8.0	24.0	16.9	35.8	11.3	22.0	22.0	11.2	21.9
Actuated g/C Ratio	0.08	0.25	0.18	0.38	0.12	0.23	0.23	0.12	0.23
v/c Ratio	0.46	0.78	0.74	0.65	0.64	0.25	0.36	0.60	0.73
Control Delay	57.5	41.1	54.6	29.2	58.6	34.1	7.3	56.4	45.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.5	41.1	54.6	29.2	58.6	34.1	7.3	56.4	45.0
LOS	E	D	D	C	E	C	A	E	D
Approach Delay		42.6		34.6		30.3			48.3
Approach LOS		D		C		C			D

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 94.9	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 38.4	Intersection LOS: D
Intersection Capacity Utilization 70.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	584	70	221	731	89	127	101	173	118	222	72
Future Volume (veh/h)	65	584	70	221	731	89	127	101	173	118	222	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	615	63	233	769	81	134	106	75	124	234	61
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	94	820	84	281	1157	122	171	402	341	159	298	78
Arrive On Green	0.05	0.25	0.25	0.16	0.36	0.36	0.10	0.22	0.22	0.09	0.21	0.21
Sat Flow, veh/h	1781	3254	333	1781	3244	342	1781	1870	1585	1781	1430	373
Grp Volume(v), veh/h	68	335	343	233	421	429	134	106	75	124	0	295
Grp Sat Flow(s),veh/h/ln	1781	1777	1810	1781	1777	1809	1781	1870	1585	1781	0	1803
Q Serve(g_s), s	2.6	12.0	12.0	8.7	13.8	13.8	5.1	3.2	2.7	4.7	0.0	10.7
Cycle Q Clear(g_c), s	2.6	12.0	12.0	8.7	13.8	13.8	5.1	3.2	2.7	4.7	0.0	10.7
Prop In Lane	1.00		0.18	1.00		0.19	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	94	448	456	281	634	645	171	402	341	159	0	376
V/C Ratio(X)	0.72	0.75	0.75	0.83	0.66	0.66	0.78	0.26	0.22	0.78	0.00	0.78
Avail Cap(c_a), veh/h	264	753	768	605	1094	1114	372	861	730	414	0	872
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.1	23.8	23.8	28.1	18.7	18.7	30.4	22.5	22.3	30.7	0.0	25.8
Incr Delay (d2), s/veh	3.9	2.5	2.5	2.4	1.2	1.2	3.0	0.3	0.3	3.1	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.8	4.9	3.6	5.1	5.1	2.2	1.4	0.9	2.1	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	26.3	26.3	30.6	19.9	19.9	33.4	22.8	22.6	33.8	0.0	29.4
LnGrp LOS	D	C	C	C	B	B	C	C	C	C	A	C
Approach Vol, veh/h		746			1083			315			419	
Approach Delay, s/veh		27.2			22.2			27.3			30.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	19.5	15.4	23.1	11.2	19.1	8.2	30.4				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	16.0	* 32	23.4	29.2	14.4	* 33	10.2	42.4				
Max Q Clear Time (g_c+I1), s	6.7	5.2	10.7	14.0	7.1	12.7	4.6	15.8				
Green Ext Time (p_c), s	0.1	0.8	0.2	3.3	0.1	1.7	0.0	5.2				

Intersection Summary

HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
7: Whitewood Rd. & Clinton Keith Rd.

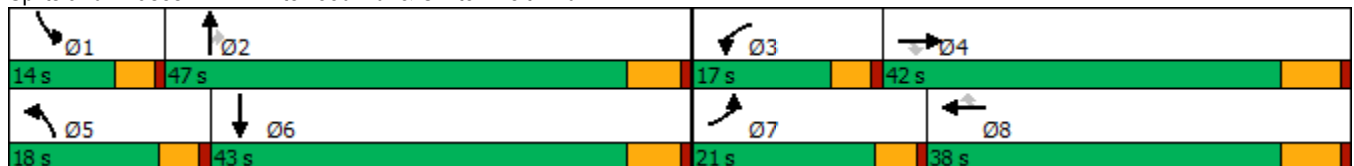
Keller Crossing (JN:13649)
06/21/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	321	768	144	230	1043	104	118	110	90	80	348
Future Volume (vph)	321	768	144	230	1043	104	118	110	90	80	348
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	21.0	42.0	42.0	17.0	38.0	38.0	18.0	47.0	47.0	14.0	43.0
Total Split (%)	17.5%	35.0%	35.0%	14.2%	31.7%	31.7%	15.0%	39.2%	39.2%	11.7%	35.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	14.4	32.1	32.1	11.2	29.0	29.0	11.2	31.7	31.7	8.4	26.1
Actuated g/C Ratio	0.14	0.31	0.31	0.11	0.28	0.28	0.11	0.31	0.31	0.08	0.25
v/c Ratio	0.75	0.77	0.26	0.69	0.81	0.22	0.68	0.21	0.18	0.62	0.79
Control Delay	54.7	38.7	6.0	56.6	40.8	7.4	65.2	29.6	4.6	68.5	31.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	38.7	6.0	56.6	40.8	7.4	65.2	29.6	4.6	68.5	31.8
LOS	D	D	A	E	D	A	E	C	A	E	C
Approach Delay		39.1			40.9			35.7			35.5
Approach LOS		D			D			D			D

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 102.7
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 38.7
 Intersection LOS: D
 Intersection Capacity Utilization 75.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  						 	
Traffic Volume (veh/h)	321	768	144	230	1043	104	118	110	90	80	348	369
Future Volume (veh/h)	321	768	144	230	1043	104	118	110	90	80	348	369
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	357	853	99	256	1159	88	131	122	72	89	387	271
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	439	1145	511	334	1491	463	163	512	434	114	495	342
Arrive On Green	0.13	0.32	0.32	0.10	0.29	0.29	0.09	0.27	0.27	0.06	0.25	0.25
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	2008	1389
Grp Volume(v), veh/h	357	853	99	256	1159	88	131	122	72	89	342	316
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1620
Q Serve(g_s), s	8.9	18.9	4.0	6.4	18.4	3.7	6.4	4.5	3.1	4.4	15.9	16.2
Cycle Q Clear(g_c), s	8.9	18.9	4.0	6.4	18.4	3.7	6.4	4.5	3.1	4.4	15.9	16.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	439	1145	511	334	1491	463	163	512	434	114	438	399
V/C Ratio(X)	0.81	0.74	0.19	0.77	0.78	0.19	0.80	0.24	0.17	0.78	0.78	0.79
Avail Cap(c_a), veh/h	641	1426	636	484	1818	564	270	871	738	189	747	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.6	26.7	21.7	39.0	28.7	23.5	39.4	24.9	24.4	40.8	31.1	31.2
Incr Delay (d2), s/veh	3.2	1.7	0.2	2.3	1.8	0.2	3.5	0.2	0.2	4.3	3.1	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	7.4	1.4	2.6	6.9	1.3	2.8	1.9	1.1	2.0	6.7	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	28.4	21.9	41.3	30.5	23.7	42.9	25.2	24.6	45.1	34.2	34.8
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1309			1503			325			747	
Approach Delay, s/veh		31.3			31.9			32.2			35.7	
Approach LOS		C			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	30.0	13.2	35.0	12.7	27.6	15.8	32.3				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	9.4	41.2	12.4	35.5	13.4	37.2	16.4	31.5				
Max Q Clear Time (g_c+I1), s	6.4	6.5	8.4	20.9	8.4	18.2	10.9	20.4				
Green Ext Time (p_c), s	0.0	0.8	0.2	4.7	0.1	3.6	0.3	5.4				
Intersection Summary												
HCM 6th Ctrl Delay				32.5								
HCM 6th LOS				C								

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/21/2021

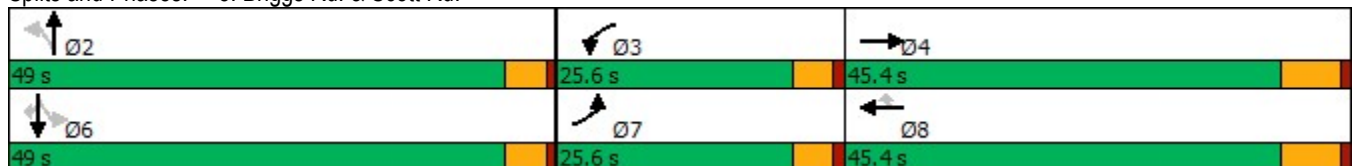


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	18	580	11	744	16	381	11	28	15	49
Future Volume (vph)	18	580	11	744	16	381	11	28	15	49
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	25.6	45.4	25.6	45.4	45.4	49.0	49.0	49.0	49.0	49.0
Total Split (%)	21.3%	37.8%	21.3%	37.8%	37.8%	40.8%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	5.9	36.1	5.6	34.1	34.1		35.6		35.6	35.6
Actuated g/C Ratio	0.07	0.42	0.07	0.40	0.40		0.42		0.42	0.42
v/c Ratio	0.16	0.76	0.10	0.57	0.03		0.79		0.08	0.08
Control Delay	46.6	22.7	46.5	23.9	0.1		34.6		16.9	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	46.6	22.7	46.5	23.9	0.1		34.6		16.9	2.6
LOS	D	C	D	C	A		C		B	A
Approach Delay		23.1		23.7			34.6		9.2	
Approach LOS		C		C			C		A	

Intersection Summary





















Cycle Length: 120
 Actuated Cycle Length: 85.1
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 24.7
 Intersection LOS: C
 Intersection Capacity Utilization 69.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	580	487	11	744	16	381	11	8	28	15	49
Future Volume (veh/h)	18	580	487	11	744	16	381	11	8	28	15	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	624	449	12	800	8	410	12	9	30	16	53
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	768	552	26	1358	606	563	14	10	501	251	602
Arrive On Green	0.02	0.39	0.39	0.01	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1781	1974	1418	1781	3554	1585	1229	36	27	1103	660	1585
Grp Volume(v), veh/h	19	562	511	12	800	8	431	0	0	46	0	53
Grp Sat Flow(s),veh/h/ln	1781	1777	1615	1781	1777	1585	1292	0	0	1764	0	1585
Q Serve(g_s), s	0.8	20.6	20.7	0.5	13.1	0.2	21.9	0.0	0.0	0.0	0.0	1.6
Cycle Q Clear(g_c), s	0.8	20.6	20.7	0.5	13.1	0.2	23.0	0.0	0.0	1.1	0.0	1.6
Prop In Lane	1.00		0.88	1.00		1.00	0.95		0.02	0.65		1.00
Lane Grp Cap(c), veh/h	39	691	629	26	1358	606	587	0	0	751	0	602
V/C Ratio(X)	0.49	0.81	0.81	0.46	0.59	0.01	0.73	0.00	0.00	0.06	0.00	0.09
Avail Cap(c_a), veh/h	512	946	860	512	1892	844	892	0	0	1097	0	961
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.3	19.9	19.9	35.7	18.0	14.0	21.7	0.0	0.0	14.4	0.0	14.5
Incr Delay (d2), s/veh	3.5	3.9	4.3	4.5	0.4	0.0	1.8	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.6	7.0	0.2	4.5	0.1	6.6	0.0	0.0	0.5	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	23.8	24.3	40.2	18.4	14.0	23.5	0.0	0.0	14.4	0.0	14.6
LnGrp LOS	D	C	C	D	B	B	C	A	A	B	A	B
Approach Vol, veh/h		1092			820			431				99
Approach Delay, s/veh		24.3			18.7			23.5				14.5
Approach LOS		C			B			C				B
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.5	5.7	34.9		32.5	6.2	34.4				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 44	21.0	38.9		* 44	21.0	38.9				
Max Q Clear Time (g_c+I1), s		25.0	2.5	22.7		3.6	2.8	15.1				
Green Ext Time (p_c), s		2.7	0.0	5.8		0.4	0.0	5.0				
Intersection Summary												
HCM 6th Ctrl Delay				21.9								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Intersection Delay, s/veh	19.9											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	282	185	21	278	10	223	37	8	32	60	8
Future Vol, veh/h	10	282	185	21	278	10	223	37	8	32	60	8
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	291	191	22	287	10	230	38	8	33	62	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	25.6	16.5	16.7	12
HCM LOS	D	C	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	83%	2%	7%	32%
Vol Thru, %	14%	59%	90%	60%
Vol Right, %	3%	39%	3%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	268	477	309	100
LT Vol	223	10	21	32
Through Vol	37	282	278	60
RT Vol	8	185	10	8
Lane Flow Rate	276	492	319	103
Geometry Grp	1	1	1	1
Degree of Util (X)	0.514	0.775	0.547	0.204
Departure Headway (Hd)	6.702	5.675	6.179	7.114
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	536	639	583	503
Service Time	4.756	3.719	4.23	5.183
HCM Lane V/C Ratio	0.515	0.77	0.547	0.205
HCM Control Delay	16.7	25.6	16.5	12
HCM Lane LOS	C	D	C	B
HCM 95th-tile Q	2.9	7.3	3.3	0.8

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	1	3	26	0	26	1	134	7	15	260	11
Future Vol, veh/h	3	1	3	26	0	26	1	134	7	15	260	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1	4	32	0	32	1	163	9	18	317	13

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	546	534	324	532	536	168	330	0	0	172	0	0
Stage 1	360	360	-	170	170	-	-	-	-	-	-	-
Stage 2	186	174	-	362	366	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	448	452	717	458	451	876	1229	-	-	1405	-	-
Stage 1	658	626	-	832	758	-	-	-	-	-	-	-
Stage 2	816	755	-	657	623	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	426	444	717	449	443	876	1229	-	-	1405	-	-
Mov Cap-2 Maneuver	426	444	-	449	443	-	-	-	-	-	-	-
Stage 1	657	616	-	831	757	-	-	-	-	-	-	-
Stage 2	786	754	-	642	613	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.1		11.8		0.1		0.4	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1229	-	-	519	594	1405	-	-
HCM Lane V/C Ratio	0.001	-	-	0.016	0.107	0.013	-	-
HCM Control Delay (s)	7.9	0	-	12.1	11.8	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0	-	-

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	11	0	12	0	133	7	18	204	4
Future Vol, veh/h	0	0	0	11	0	12	0	133	7	18	204	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	0	13	0	149	8	20	229	4

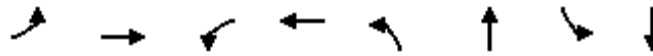
Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	431	428	117	308	426	153	233	0	0	157	0	0
Stage 1	271	271	-	153	153	-	-	-	-	-	-	-
Stage 2	160	157	-	155	273	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	521	518	913	633	520	892	1333	-	-	1422	-	-
Stage 1	712	685	-	849	770	-	-	-	-	-	-	-
Stage 2	842	767	-	832	683	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	507	511	913	626	513	892	1333	-	-	1422	-	-
Mov Cap-2 Maneuver	574	555	-	666	558	-	-	-	-	-	-	-
Stage 1	712	675	-	849	770	-	-	-	-	-	-	-
Stage 2	829	767	-	820	673	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.8	0	0.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1333	-	-	-	666	892	1422	-	-
HCM Lane V/C Ratio	-	-	-	-	0.019	0.015	0.014	-	-
HCM Control Delay (s)	0	-	-	0	10.5	9.1	7.6	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	0	-	-

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/21/2021

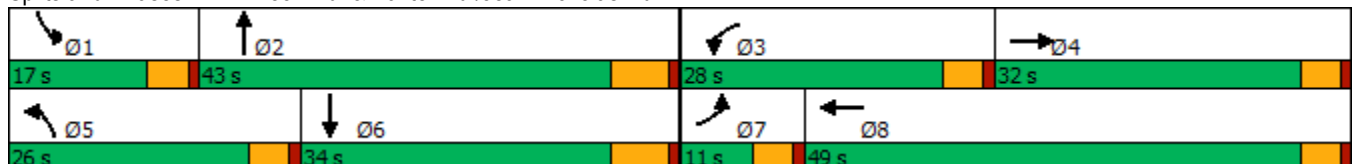


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	14	112	119	197	107	92	47	243
Future Volume (vph)	14	112	119	197	107	92	47	243
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	11.0	32.0	28.0	49.0	26.0	43.0	17.0	34.0
Total Split (%)	9.2%	26.7%	23.3%	40.8%	21.7%	35.8%	14.2%	28.3%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	6.4	11.2	23.5	28.2	11.9	34.0	7.8	27.9
Actuated g/C Ratio	0.07	0.12	0.25	0.30	0.13	0.36	0.08	0.29
v/c Ratio	0.16	0.59	0.36	0.35	0.64	0.18	0.43	0.32
Control Delay	47.1	24.0	33.5	23.6	52.9	12.9	51.3	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.1	24.0	33.5	23.6	52.9	12.9	51.3	27.7
LOS	D	C	C	C	D	B	D	C
Approach Delay		25.4		26.7		28.6		31.5
Approach LOS		C		C		C		C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.6
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 28.0
 Intersection LOS: C
 Intersection Capacity Utilization 67.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	14	112	120	119	197	74	107	92	74	47	243	9
Future Volume (veh/h)	14	112	120	119	197	74	107	92	74	47	243	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	149	107	159	263	70	143	123	71	63	324	4
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	247	166	456	851	221	177	792	427	81	1092	13
Arrive On Green	0.07	0.12	0.12	0.26	0.31	0.31	0.10	0.36	0.36	0.05	0.30	0.30
Sat Flow, veh/h	1781	2031	1366	1781	2769	720	1781	2215	1196	1781	3594	44
Grp Volume(v), veh/h	19	129	127	159	166	167	143	97	97	63	160	168
Grp Sat Flow(s),veh/h/ln	1781	1777	1620	1781	1777	1712	1781	1777	1635	1781	1777	1862
Q Serve(g_s), s	0.9	6.3	6.8	6.7	6.6	6.8	7.2	3.4	3.7	3.2	6.3	6.3
Cycle Q Clear(g_c), s	0.9	6.3	6.8	6.7	6.6	6.8	7.2	3.4	3.7	3.2	6.3	6.3
Prop In Lane	1.00		0.84	1.00		0.42	1.00		0.73	1.00		0.02
Lane Grp Cap(c), veh/h	125	216	197	456	546	526	177	635	584	81	540	566
V/C Ratio(X)	0.15	0.60	0.64	0.35	0.30	0.32	0.81	0.15	0.17	0.78	0.30	0.30
Avail Cap(c_a), veh/h	125	530	483	456	860	829	417	715	657	241	540	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	38.1	38.3	27.8	24.2	24.3	40.4	20.0	20.1	43.2	24.4	24.4
Incr Delay (d2), s/veh	2.6	2.6	3.5	2.1	0.3	0.3	3.3	0.1	0.1	5.8	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.9	2.9	3.1	2.7	2.8	3.1	1.3	1.3	1.5	2.7	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	40.7	41.8	29.9	24.5	24.7	43.7	20.1	20.2	49.0	25.8	25.7
LnGrp LOS	D	D	D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		275			492			337			391	
Approach Delay, s/veh		41.3			26.3			30.2			29.5	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	38.9	28.0	15.8	13.7	34.0	11.0	32.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	12.4	36.8	23.4	* 27	21.4	27.8	6.4	* 44				
Max Q Clear Time (g_c+I1), s	5.2	5.7	8.7	8.8	9.2	8.3	2.9	8.8				
Green Ext Time (p_c), s	0.0	1.0	0.2	1.4	0.1	1.5	0.0	2.1				

Intersection Summary

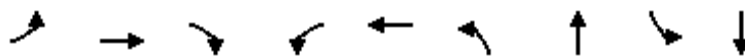
HCM 6th Ctrl Delay	30.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
06/21/2021

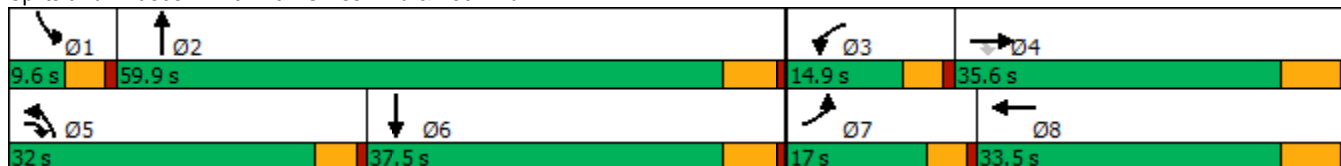


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↔	↔↔	↑↑	↔↔	↑↑	↔↔	↑↑
Traffic Volume (vph)	310	178	673	211	377	707	384	26	581
Future Volume (vph)	310	178	673	211	377	707	384	26	581
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	17.0	35.6	32.0	14.9	33.5	32.0	59.9	9.6	37.5
Total Split (%)	14.2%	29.7%	26.7%	12.4%	27.9%	26.7%	49.9%	8.0%	31.3%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	12.3	20.4	53.2	9.8	17.9	26.3	55.8	5.0	30.4
Actuated g/C Ratio	0.11	0.19	0.49	0.09	0.16	0.24	0.51	0.05	0.28
v/c Ratio	0.83	0.28	0.87	0.71	0.71	0.89	0.26	0.17	0.88
Control Delay	67.1	39.4	35.1	62.5	49.9	54.0	15.7	55.0	46.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.1	39.4	35.1	62.5	49.9	54.0	15.7	55.0	46.6
LOS	E	D	D	E	D	D	B	E	D
Approach Delay		44.3			54.3		39.3		46.8
Approach LOS		D			D		D		D

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 108.5
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 45.0
 Intersection LOS: D
 Intersection Capacity Utilization 84.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (veh/h)	310	178	673	211	377	19	707	384	57	26	581	246
Future Volume (veh/h)	310	178	673	211	377	19	707	384	57	26	581	246
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	323	185	568	220	393	14	736	400	0	27	605	237
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	880	754	276	777	28	787	1651	0	86	653	256
Arrive On Green	0.11	0.25	0.25	0.08	0.22	0.22	0.23	0.46	0.00	0.02	0.26	0.26
Sat Flow, veh/h	3456	3554	1585	3456	3500	124	3456	3647	0	3456	2495	976
Grp Volume(v), veh/h	323	185	568	220	199	208	736	400	0	27	431	411
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1848	1728	1777	0	1728	1777	1695
Q Serve(g_s), s	10.8	4.9	29.1	7.3	11.5	11.6	24.6	8.0	0.0	0.9	27.7	27.8
Cycle Q Clear(g_c), s	10.8	4.9	29.1	7.3	11.5	11.6	24.6	8.0	0.0	0.9	27.7	27.8
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.00	1.00		0.58
Lane Grp Cap(c), veh/h	365	880	754	276	394	410	787	1651	0	86	465	444
V/C Ratio(X)	0.89	0.21	0.75	0.80	0.50	0.51	0.94	0.24	0.00	0.31	0.93	0.93
Avail Cap(c_a), veh/h	365	880	754	303	408	425	806	1651	0	147	479	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	35.1	25.2	53.1	40.0	40.1	44.5	19.0	0.0	56.3	42.3	42.3
Incr Delay (d2), s/veh	21.3	0.1	4.3	11.3	1.0	1.0	17.4	0.1	0.0	0.8	23.8	24.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.0	12.7	3.5	5.0	5.2	12.0	3.2	0.0	0.4	14.7	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.2	35.2	29.5	64.4	41.0	41.0	61.9	19.1	0.0	57.1	66.0	67.1
LnGrp LOS	E	D	C	E	D	D	E	B	A	E	E	E
Approach Vol, veh/h		1076			627			1136			869	
Approach Delay, s/veh		43.6			49.2			46.8			66.3	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	60.4	14.0	35.6	31.4	36.5	17.0	32.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	54.1	10.3	29.1	27.4	31.7	12.4	27.0				
Max Q Clear Time (g_c+I1), s	2.9	10.0	9.3	31.1	26.6	29.8	12.8	13.6				
Green Ext Time (p_c), s	0.0	2.6	0.0	0.0	0.2	0.9	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			50.8									
HCM 6th LOS			D									

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	14	15	1	30	0	9	0	3	1	0	0
Future Vol, veh/h	0	14	15	1	30	0	9	0	3	1	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	17	1	33	0	10	0	3	1	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.8	7.2	7.1	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	75%	0%	3%	100%
Vol Thru, %	0%	48%	97%	0%
Vol Right, %	25%	52%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	12	29	31	1
LT Vol	9	0	1	1
Through Vol	0	14	30	0
RT Vol	3	15	0	0
Lane Flow Rate	13	32	34	1
Geometry Grp	1	1	1	1
Degree of Util (X)	0.015	0.033	0.038	0.001
Departure Headway (Hd)	4.052	3.675	3.99	4.262
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	884	977	900	840
Service Time	2.073	1.687	2	2.286
HCM Lane V/C Ratio	0.015	0.033	0.038	0.001
HCM Control Delay	7.1	6.8	7.2	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.1	0.1	0

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑	
Traffic Vol, veh/h	1	38	23	12	11	3
Future Vol, veh/h	1	38	23	12	11	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	47	28	15	14	4

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	80	16	18	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	64	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	918	1063	1598	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	901	1063	1598	-	-	-
Mov Cap-2 Maneuver	851	-	-	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	951	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	4.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1598	-	1056	-	-
HCM Lane V/C Ratio	0.018	-	0.046	-	-
HCM Control Delay (s)	7.3	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Timings
20: Winchester Rd. & Domenigoni Pkwy

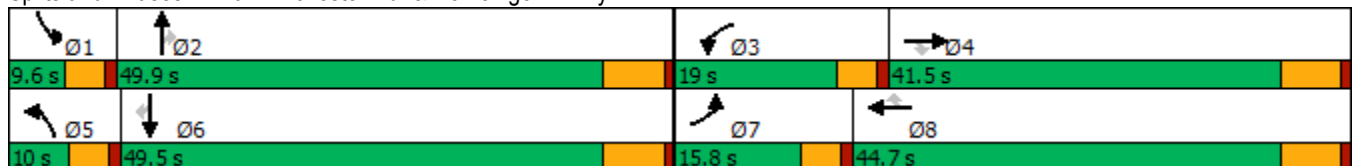
Keller Crossing (JN:13649)
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	901	134	815	815	14	60	341	625	6	942	226
Future Volume (vph)	166	901	134	815	815	14	60	341	625	6	942	226
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	15.8	41.5	41.5	19.0	44.7	44.7	10.0	49.9	49.9	9.6	49.5	49.5
Total Split (%)	13.2%	34.6%	34.6%	15.8%	37.3%	37.3%	8.3%	41.6%	41.6%	8.0%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	9.7	33.7	33.7	14.5	38.5	38.5	5.4	46.4	46.4	5.0	38.2	38.2
Actuated g/C Ratio	0.09	0.30	0.30	0.13	0.34	0.34	0.05	0.41	0.41	0.04	0.33	0.33
v/c Ratio	0.61	0.92	0.26	1.99	0.51	0.02	0.76	0.25	0.79	0.08	0.85	0.35
Control Delay	60.8	53.7	10.3	482.9	32.2	0.1	104.9	23.5	22.4	57.5	43.0	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.8	53.7	10.3	482.9	32.2	0.1	104.9	23.5	22.4	57.5	43.0	5.8
LOS	E	D	B	F	C	A	F	C	C	E	D	A
Approach Delay		49.8			255.4			27.6			35.9	
Approach LOS		D			F			C			D	

Intersection Summary

































Cycle Length: 120
 Actuated Cycle Length: 114.1
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.99
 Intersection Signal Delay: 109.0
 Intersection LOS: F
 Intersection Capacity Utilization 96.9%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

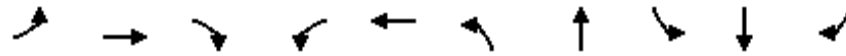
Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		  	  			 			 	
Traffic Volume (veh/h)	166	901	134	815	815	14	60	341	625	6	942	226
Future Volume (veh/h)	166	901	134	815	815	14	60	341	625	6	942	226
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	177	959	87	867	867	9	64	363	469	6	1002	106
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	1056	471	446	1825	567	86	1305	582	14	1160	518
Arrive On Green	0.07	0.30	0.30	0.13	0.36	0.36	0.05	0.37	0.37	0.01	0.33	0.33
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	177	959	87	867	867	9	64	363	469	6	1002	106
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.6	29.0	4.6	14.4	14.7	0.4	4.0	8.0	29.7	0.4	29.5	5.4
Cycle Q Clear(g_c), s	5.6	29.0	4.6	14.4	14.7	0.4	4.0	8.0	29.7	0.4	29.5	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	1056	471	446	1825	567	86	1305	582	14	1160	518
V/C Ratio(X)	0.75	0.91	0.18	1.94	0.48	0.02	0.74	0.28	0.81	0.44	0.86	0.20
Avail Cap(c_a), veh/h	347	1114	497	446	1825	567	86	1382	616	80	1369	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.0	37.8	29.2	48.6	27.8	23.2	52.4	24.9	31.7	55.1	35.2	27.1
Incr Delay (d2), s/veh	2.2	10.5	0.2	433.2	0.2	0.0	25.9	0.1	7.4	8.2	5.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	13.2	1.7	32.7	5.6	0.1	2.3	3.2	11.6	0.2	12.6	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	48.3	29.4	481.8	27.9	23.2	78.3	25.0	39.1	63.4	40.5	27.3
LnGrp LOS	D	D	C	F	C	C	E	C	D	E	D	C
Approach Vol, veh/h		1223			1743			896			1114	
Approach Delay, s/veh		47.6			253.7			36.2			39.4	
Approach LOS		D			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.4	47.5	19.0	39.7	10.0	42.9	12.3	46.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	43.4	14.4	35.0	5.4	43.0	11.2	38.2				
Max Q Clear Time (g_c+I1), s	2.4	31.7	16.4	31.0	6.0	31.5	7.6	16.7				
Green Ext Time (p_c), s	0.0	3.0	0.0	2.2	0.0	4.9	0.1	5.3				
Intersection Summary												
HCM 6th Ctrl Delay				115.9								
HCM 6th LOS				F								

Timings
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↖	↑↑	↗
Traffic Volume (vph)	1	0	1	5	0	1	1020	8	1882	2
Future Volume (vph)	1	0	1	5	0	1	1020	8	1882	2
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)		10.5	10.5		10.5	5.2	67.1	5.2	67.1	67.1
Actuated g/C Ratio		0.15	0.15		0.15	0.07	0.94	0.07	0.94	0.94
v/c Ratio		0.00	0.00		0.03	0.01	0.23	0.07	0.60	0.00
Control Delay		35.0	0.0		0.2	39.0	1.6	39.4	3.8	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		35.0	0.0		0.2	39.0	1.6	39.4	3.8	0.0
LOS		C	A		A	D	A	D	A	A
Approach Delay		17.5			0.2		1.6		4.0	
Approach LOS		B			A		A		A	

Intersection Summary






















Cycle Length: 120
 Actuated Cycle Length: 71.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 3.2
 Intersection LOS: A
 Intersection Capacity Utilization 81.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
 21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	5	0	5	1	1020	0	8	1882	2
Future Volume (veh/h)	1	0	1	5	0	5	1	1020	0	8	1882	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	0	0	5	0	0	1	1085	0	9	2002	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	0	25	137	0	0	3	3714	1153	21	2621	1169
Arrive On Green	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.73	0.00	0.01	0.74	0.74
Sat Flow, veh/h	1494	0	1585	1430	0	0	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	1	0	0	5	0	0	1	1085	0	9	2002	2
Grp Sat Flow(s),veh/h/ln	1494	0	1585	1430	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	4.6	0.0	0.3	21.4	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	4.6	0.0	0.3	21.4	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	0	25	137	0	0	3	3714	1153	21	2621	1169
V/C Ratio(X)	0.01	0.00	0.00	0.04	0.00	0.00	0.35	0.29	0.00	0.44	0.76	0.00
Avail Cap(c_a), veh/h	811	0	778	810	0	0	141	5536	1719	141	3853	1719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	0.0	0.0	30.7	0.0	0.0	31.5	3.0	0.0	31.0	5.0	2.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	25.9	0.0	0.0	5.3	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.2	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	0.0	0.0	30.8	0.0	0.0	57.4	3.0	0.0	36.3	5.5	2.2
LnGrp LOS	C	A	A	C	A	A	E	A	A	D	A	A
Approach Vol, veh/h		1			5			1086			2013	
Approach Delay, s/veh		30.6			30.8			3.1			5.7	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	52.1		5.7	4.7	52.8		5.7				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.0	68.5		* 31	5.0	68.5		* 31				
Max Q Clear Time (g_c+I1), s	2.3	6.6		2.0	2.0	23.4		2.2				
Green Ext Time (p_c), s	0.0	8.2		0.0	0.0	23.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay	4.8
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/21/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↕	↖	↕	↗
Traffic Volume (vph)	1	2	1	3	2	1020	1	1884	3
Future Volume (vph)	1	2	1	3	2	1020	1	1884	3
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	9.6	16.5	16.5
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	75.9	5.0	68.2	68.2
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.77	0.05	0.69	0.69
v/c Ratio	0.01	0.01	0.01	0.02	0.02	0.40	0.01	0.82	0.00
Control Delay	40.0	40.5	40.0	40.3	45.5	4.8	45.0	14.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	40.5	40.0	40.3	45.5	4.8	45.0	14.8	0.0
LOS	D	D	D	D	D	A	D	B	A
Approach Delay		40.3		40.3		4.8		14.8	
Approach LOS		D		D		A		B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 11.4
 Intersection Capacity Utilization 69.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
 22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	1	2	0	1	3	0	2	1020	0	1	1884	3
Future Volume (veh/h)	1	2	0	1	3	0	2	1020	0	1	1884	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	2	0	1	3	0	2	1085	0	1	2004	3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	189	0	214	189	0	90	2623	1170	2	2448	1092
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.00	0.05	0.74	0.00	0.00	0.69	0.69
Sat Flow, veh/h	1414	1870	0	1415	1870	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	1	2	0	1	3	0	2	1085	0	1	2004	3
Grp Sat Flow(s),veh/h/ln	1414	1870	0	1415	1870	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.1	0.1	0.0	0.1	0.1	0.0	0.1	11.4	0.0	0.1	39.8	0.1
Cycle Q Clear(g_c), s	0.2	0.1	0.0	0.2	0.1	0.0	0.1	11.4	0.0	0.1	39.8	0.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	189	0	214	189	0	90	2623	1170	2	2448	1092
V/C Ratio(X)	0.00	0.01	0.00	0.00	0.02	0.00	0.02	0.41	0.00	0.41	0.82	0.00
Avail Cap(c_a), veh/h	513	586	0	514	586	0	90	2623	1170	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	40.0	0.0	40.1	40.1	0.0	44.7	4.9	0.0	49.4	11.0	4.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.0	36.2	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.1	2.5	0.0	0.0	11.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	40.1	0.0	40.1	40.1	0.0	45.1	5.0	0.0	85.6	14.2	4.8
LnGrp LOS	D	D	A	D	D	A	D	A	A	F	B	A
Approach Vol, veh/h		3			4			1087			2008	
Approach Delay, s/veh		40.1			40.1			5.1			14.2	
Approach LOS		D			D			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	79.6		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	2.1	13.4		2.2	2.1	41.8		2.2				
Green Ext Time (p_c), s	0.0	8.4		0.0	0.0	17.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/21/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	9	19	18	1013	1869	16
Future Volume (vph)	9	19	18	1013	1869	16
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	24.5	24.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	11.5	11.5	5.7	72.8	70.0	70.0
Actuated g/C Ratio	0.14	0.14	0.07	0.88	0.84	0.84
v/c Ratio	0.04	0.09	0.16	0.36	0.69	0.01
Control Delay	45.2	20.4	52.5	2.6	8.0	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	20.4	52.5	2.6	8.0	1.9
LOS	D	C	D	A	A	A
Approach Delay	28.4			3.4	8.0	
Approach LOS	C			A	A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 82.9
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 6.6
 Intersection LOS: A
 Intersection Capacity Utilization 69.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/21/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↶	↕	↕	↶
Traffic Volume (veh/h)	9	19	18	1013	1869	16
Future Volume (veh/h)	9	19	18	1013	1869	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	13	20	1113	2054	18
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	90	80	40	2863	2571	1147
Arrive On Green	0.05	0.05	0.02	0.81	0.72	0.72
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	10	13	20	1113	2054	18
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.4	0.6	0.9	6.8	29.2	0.2
Cycle Q Clear(g_c), s	0.4	0.6	0.9	6.8	29.2	0.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	90	80	40	2863	2571	1147
V/C Ratio(X)	0.11	0.16	0.50	0.39	0.80	0.02
Avail Cap(c_a), veh/h	508	452	115	4002	3560	1588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	35.1	37.3	2.1	7.0	3.0
Incr Delay (d2), s/veh	0.5	0.9	3.5	0.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.6	0.4	0.1	5.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.5	36.0	40.8	2.2	7.9	3.0
LnGrp LOS	D	D	D	A	A	A
Approach Vol, veh/h	23			1133	2072	
Approach Delay, s/veh	35.8			2.9	7.9	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		68.7		8.5	6.3	62.3
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+11), s		8.8		2.6	2.9	31.2
Green Ext Time (p_c), s		8.8		0.0	0.0	24.6
Intersection Summary						
HCM 6th Ctrl Delay			6.3			
HCM 6th LOS			A			

Timings

24: Winchester Rd. & Scott Rd./Washington St,

06/21/2021

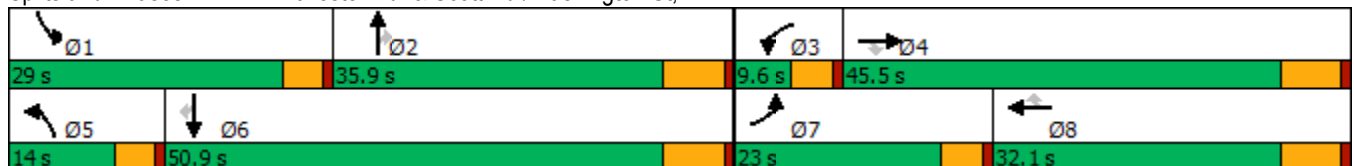


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR	Ø3
Lane Configurations	↖	↗	↘	↖	↗	↖	↑↑↑	↖	↑↑↑	↗	
Traffic Volume (vph)	142	116	88	94	180	87	707	282	1376	229	
Future Volume (vph)	142	116	88	94	180	87	707	282	1376	229	
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4		8		5	2	1	6		3
Permitted Phases			4		8						6
Detector Phase	7	4	4	8	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	45.5	45.5	16.5	16.5	9.6	35.5	9.6	44.5	44.5	9.6
Total Split (s)	23.0	45.5	45.5	32.1	32.1	14.0	35.9	29.0	50.9	50.9	9.6
Total Split (%)	19.2%	37.9%	37.9%	26.8%	26.8%	11.7%	29.9%	24.2%	42.4%	42.4%	8%
Yellow Time (s)	3.6	5.5	5.5	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	6.5	6.5	4.6	6.5	4.6	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	None
Act Effct Green (s)	12.5	28.9	28.9	11.7	11.7	8.5	25.1	20.3	36.9	36.9	
Actuated g/C Ratio	0.14	0.31	0.31	0.13	0.13	0.09	0.27	0.22	0.40	0.40	
v/c Ratio	0.63	0.21	0.16	0.42	0.51	0.57	0.54	0.77	0.72	0.31	
Control Delay	51.9	25.8	1.0	46.7	10.9	58.8	31.3	49.9	26.1	3.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	51.9	25.8	1.0	46.7	10.9	58.8	31.3	49.9	26.1	3.8	
LOS	D	C	A	D	B	E	C	D	C	A	
Approach Delay		30.2		23.2			34.4		26.9		
Approach LOS		C		C			C		C		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92.3
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 28.7
 Intersection LOS: C
 Intersection Capacity Utilization 60.6%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (veh/h)	142	116	88	0	94	180	87	707	0	282	1376	229
Future Volume (veh/h)	142	116	88	0	94	180	87	707	0	282	1376	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	151	123	50	0	100	88	93	752	0	300	1464	212
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	553	468	2	243	206	119	1446	449	344	2088	648
Arrive On Green	0.11	0.30	0.30	0.00	0.13	0.13	0.07	0.28	0.00	0.19	0.41	0.41
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	151	123	50	0	100	88	93	752	0	300	1464	212
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	6.4	3.8	1.8	0.0	3.8	3.9	4.0	9.5	0.0	12.6	18.3	7.0
Cycle Q Clear(g_c), s	6.4	3.8	1.8	0.0	3.8	3.9	4.0	9.5	0.0	12.6	18.3	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	553	468	2	243	206	119	1446	449	344	2088	648
V/C Ratio(X)	0.80	0.22	0.11	0.00	0.41	0.43	0.78	0.52	0.00	0.87	0.70	0.33
Avail Cap(c_a), veh/h	426	947	803	116	622	527	217	1949	605	564	2944	914
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	20.5	19.7	0.0	30.8	30.9	35.4	23.2	0.0	30.2	18.9	15.5
Incr Delay (d2), s/veh	3.0	0.2	0.1	0.0	1.1	1.4	4.1	0.3	0.0	4.6	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	1.5	0.6	0.0	1.6	1.4	1.7	3.4	0.0	5.2	6.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.6	20.7	19.8	0.0	31.9	32.3	39.4	23.5	0.0	34.8	19.3	15.8
LnGrp LOS	D	C	B	A	C	C	D	C	A	C	B	B
Approach Vol, veh/h		324			188			845			1976	
Approach Delay, s/veh		28.0			32.1			25.3			21.3	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.5	28.3	0.0	29.3	9.8	38.0	12.8	16.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	24.4	29.4	5.0	39.0	9.4	44.4	18.4	25.6				
Max Q Clear Time (g_c+I1), s	14.6	11.5	0.0	5.8	6.0	20.3	8.4	5.9				
Green Ext Time (p_c), s	0.3	4.2	0.0	0.7	0.0	11.2	0.1	0.6				

Intersection Summary

HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/21/2021

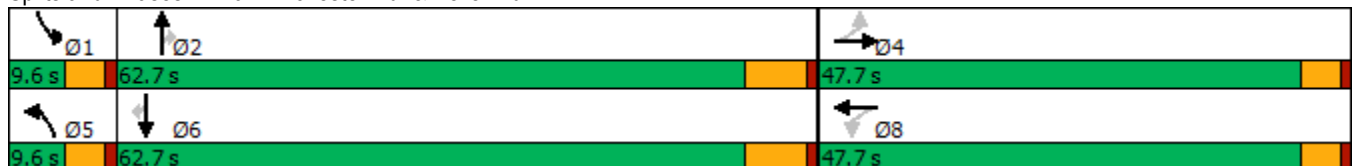


Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations	↕		↕	↙	↕	↗	↕	↗	
Traffic Volume (vph)	24	8	1	17	795	10	1448	17	
Future Volume (vph)	24	8	1	17	795	10	1448	17	
Turn Type	NA	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases	4		8	5	2		6		1
Permitted Phases		8				2		6	
Detector Phase	4	8	8	5	2	2	6	6	
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	9.6	62.7	62.7	62.7	62.7	9.6
Total Split (%)	39.8%	39.8%	39.8%	8.0%	52.3%	52.3%	52.3%	52.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag				Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)	10.9		10.9	5.5	50.8	50.8	49.4	49.4	
Actuated g/C Ratio	0.18		0.18	0.09	0.83	0.83	0.81	0.81	
v/c Ratio	0.16		0.04	0.11	0.29	0.01	0.54	0.01	
Control Delay	20.4		30.2	35.9	3.2	0.0	6.3	0.0	
Queue Delay	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	20.4		30.2	35.9	3.2	0.0	6.3	0.0	
LOS	C		C	D	A	A	A	A	
Approach Delay	20.4		30.2		3.8		6.2		
Approach LOS	C		C		A		A		

Intersection Summary





















Cycle Length: 120	
Actuated Cycle Length: 61.3	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 5.8	Intersection LOS: A
Intersection Capacity Utilization 57.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	24	24	8	1	0	17	795	10	0	1448	17
Future Volume (veh/h)	0	24	24	8	1	0	17	795	10	0	1448	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	26	22	9	1	0	18	846	11	0	1540	18
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	99	84	222	19	0	39	2472	1103	3	2105	939
Arrive On Green	0.00	0.11	0.11	0.11	0.11	0.00	0.02	0.70	0.70	0.00	0.59	0.59
Sat Flow, veh/h	0	936	792	953	175	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	0	0	48	10	0	0	18	846	11	0	1540	18
Grp Sat Flow(s),veh/h/ln	0	0	1728	1128	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	1.4	0.1	0.0	0.0	0.6	5.4	0.1	0.0	17.6	0.3
Cycle Q Clear(g_c), s	0.0	0.0	1.4	1.5	0.0	0.0	0.6	5.4	0.1	0.0	17.6	0.3
Prop In Lane	0.00		0.46	0.90		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	0	183	241	0	0	39	2472	1103	3	2105	939
V/C Ratio(X)	0.00	0.00	0.26	0.04	0.00	0.00	0.46	0.34	0.01	0.00	0.73	0.02
Avail Cap(c_a), veh/h	0	0	1317	1157	0	0	158	3541	1579	158	3541	1579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	23.2	22.9	0.0	0.0	27.3	3.4	2.6	0.0	8.3	4.7
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.1	0.0	0.0	3.2	0.1	0.0	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.6	0.1	0.0	0.0	0.2	0.4	0.0	0.0	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	23.9	23.0	0.0	0.0	30.4	3.5	2.6	0.0	8.8	4.8
LnGrp LOS	A	A	C	C	A	A	C	A	A	A	A	A
Approach Vol, veh/h		48			10			875			1558	
Approach Delay, s/veh		23.9			23.0			4.1			8.7	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	45.7		10.7	5.8	39.9		10.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	5.0	56.2		* 43				
Max Q Clear Time (g_c+I1), s	0.0	7.4		3.4	2.6	19.6		3.5				
Green Ext Time (p_c), s	0.0	5.9		0.2	0.0	13.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	7.4
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/21/2021

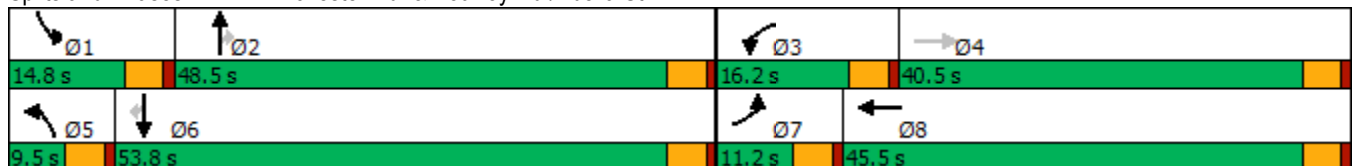


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	32	19	155	8	38	725	8	62	1361	58
Future Volume (vph)	32	19	155	8	38	725	8	62	1361	58
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	11.2	40.5	16.2	45.5	9.5	48.5	48.5	14.8	53.8	53.8
Total Split (%)	9.3%	33.8%	13.5%	37.9%	7.9%	40.4%	40.4%	12.3%	44.8%	44.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	6.0	10.0	11.8	16.6	5.0	48.8	48.8	7.8	51.6	51.6
Actuated g/C Ratio	0.07	0.11	0.13	0.18	0.05	0.54	0.54	0.09	0.57	0.57
v/c Ratio	0.31	0.16	0.77	0.13	0.44	0.43	0.01	0.46	0.77	0.07
Control Delay	48.9	19.7	62.9	11.2	57.7	15.6	0.0	50.4	20.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	19.7	62.9	11.2	57.7	15.6	0.0	50.4	20.4	0.1
LOS	D	B	E	B	E	B	A	D	C	A
Approach Delay		30.3		46.3		17.5			20.9	
Approach LOS		C		D		B			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 22.4
 Intersection LOS: C
 Intersection Capacity Utilization 68.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↗↘	↗	↗	↗↘	↗
Traffic Volume (veh/h)	32	19	36	155	8	65	38	725	8	62	1361	58
Future Volume (veh/h)	32	19	36	155	8	65	38	725	8	62	1361	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	22	17	176	9	26	43	824	9	70	1547	56
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	208	143	210	334	298	65	1882	840	90	1933	862
Arrive On Green	0.03	0.10	0.10	0.12	0.19	0.19	0.04	0.53	0.53	0.05	0.54	0.54
Sat Flow, veh/h	1781	2012	1386	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	36	19	20	176	9	26	43	824	9	70	1547	56
Grp Sat Flow(s),veh/h/ln	1781	1777	1621	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.8	0.9	1.0	8.8	0.4	1.2	2.2	12.9	0.2	3.5	31.9	1.5
Cycle Q Clear(g_c), s	1.8	0.9	1.0	8.8	0.4	1.2	2.2	12.9	0.2	3.5	31.9	1.5
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	59	184	168	210	334	298	65	1882	840	90	1933	862
V/C Ratio(X)	0.61	0.10	0.12	0.84	0.03	0.09	0.66	0.44	0.01	0.78	0.80	0.06
Avail Cap(c_a), veh/h	132	706	644	230	804	717	98	1882	840	202	1933	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	36.8	36.9	39.2	30.0	30.4	43.1	13.0	10.1	42.5	16.7	9.8
Incr Delay (d2), s/veh	3.8	0.2	0.3	20.0	0.0	0.1	4.2	0.7	0.0	5.3	3.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.4	0.4	4.9	0.2	0.5	1.0	4.4	0.1	1.6	11.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	37.1	37.2	59.2	30.1	30.5	47.3	13.8	10.1	47.8	20.3	9.9
LnGrp LOS	D	D	D	E	C	C	D	B	B	D	C	A
Approach Vol, veh/h		75			211			876			1673	
Approach Delay, s/veh		41.9			54.4			15.4			21.1	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	52.5	15.2	13.9	7.8	53.8	7.5	21.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.3	44.0	11.7	36.0	5.0	49.3	6.7	41.0				
Max Q Clear Time (g_c+I1), s	5.5	14.9	10.8	3.0	4.2	33.9	3.8	3.2				
Green Ext Time (p_c), s	0.0	5.4	0.0	0.2	0.0	9.1	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay				22.4								
HCM 6th LOS				C								

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/21/2021

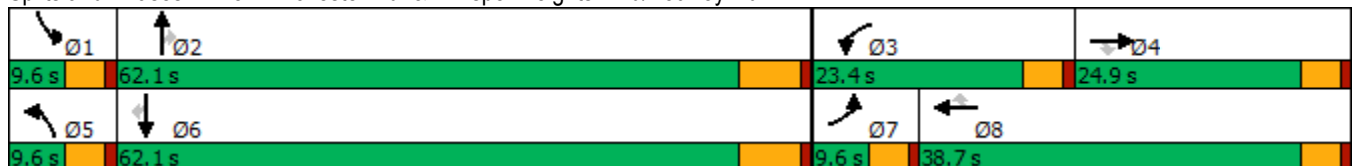


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑	↗↘	↑↑	↗
Traffic Volume (vph)	23	16	18	149	16	103	10	645	41	1498	12
Future Volume (vph)	23	16	18	149	16	103	10	645	41	1498	12
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	9.6	25.5	25.5
Total Split (s)	9.6	24.9	24.9	23.4	38.7	38.7	9.6	62.1	9.6	62.1	62.1
Total Split (%)	8.0%	20.8%	20.8%	19.5%	32.3%	32.3%	8.0%	51.8%	8.0%	51.8%	51.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	5.4	10.7	10.7	13.4	17.6	17.6	5.4	45.0	5.4	48.4	48.4
Actuated g/C Ratio	0.07	0.13	0.13	0.16	0.21	0.21	0.07	0.54	0.07	0.59	0.59
v/c Ratio	0.21	0.07	0.06	0.55	0.04	0.25	0.10	0.35	0.19	0.76	0.01
Control Delay	50.6	42.9	0.3	44.0	31.4	7.9	48.6	13.6	46.9	18.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	42.9	0.3	44.0	31.4	7.9	48.6	13.6	46.9	18.2	0.0
LOS	D	D	A	D	C	A	D	B	D	B	A
Approach Delay		32.5			29.4			14.2		18.8	
Approach LOS		C			C			B		B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 82.6
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 19.0
 Intersection LOS: B
 Intersection Capacity Utilization 71.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	23	16	18	149	16	103	10	645	0	41	1498	12
Future Volume (veh/h)	23	16	18	149	16	103	10	645	0	41	1498	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	17	0	157	17	51	11	679	0	43	1577	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	203	172	193	358	304	24	1799	802	129	1884	840
Arrive On Green	0.03	0.11	0.00	0.11	0.19	0.19	0.01	0.51	0.00	0.04	0.53	0.53
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	24	17	0	157	17	51	11	679	0	43	1577	10
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	1.1	0.7	0.0	7.3	0.6	2.3	0.5	9.9	0.0	1.0	31.9	0.3
Cycle Q Clear(g_c), s	1.1	0.7	0.0	7.3	0.6	2.3	0.5	9.9	0.0	1.0	31.9	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	45	203	172	193	358	304	24	1799	802	129	1884	840
V/C Ratio(X)	0.53	0.08	0.00	0.81	0.05	0.17	0.46	0.38	0.00	0.33	0.84	0.01
Avail Cap(c_a), veh/h	105	443	376	393	746	632	105	2319	1034	203	2319	1034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	34.2	0.0	37.1	28.1	28.8	41.7	12.8	0.0	40.0	16.9	9.5
Incr Delay (d2), s/veh	3.5	0.2	0.0	3.1	0.1	0.3	5.0	0.1	0.0	0.6	2.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.3	0.0	3.3	0.3	0.9	0.2	3.2	0.0	0.4	10.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	34.4	0.0	40.2	28.2	29.0	46.7	13.0	0.0	40.5	19.3	9.5
LnGrp LOS	D	C	A	D	C	C	D	B	A	D	B	A
Approach Vol, veh/h		41			225			690			1630	
Approach Delay, s/veh		40.3			36.8			13.5			19.8	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	49.6	13.8	13.9	5.7	51.7	6.8	21.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.6	18.8	* 20	5.0	55.6	5.0	* 34				
Max Q Clear Time (g_c+I1), s	3.0	11.9	9.3	2.7	2.5	33.9	3.1	4.3				
Green Ext Time (p_c), s	0.0	4.4	0.1	0.0	0.0	11.2	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Notes

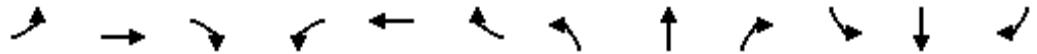
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/21/2021

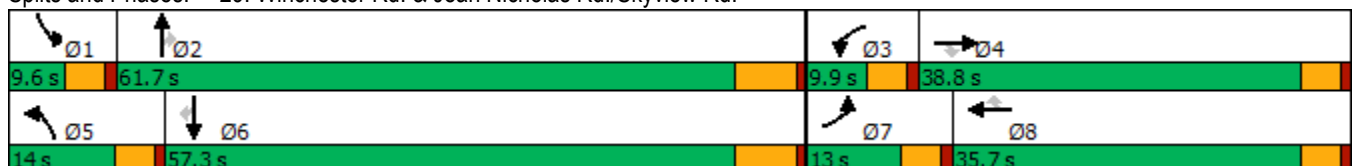


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	83	10	145	14	5	11	94	638	3	7	1212	79
Future Volume (vph)	83	10	145	14	5	11	94	638	3	7	1212	79
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.0	38.8	38.8	9.9	35.7	35.7	14.0	61.7	61.7	9.6	57.3	57.3
Total Split (%)	10.8%	32.3%	32.3%	8.3%	29.8%	29.8%	11.7%	51.4%	51.4%	8.0%	47.8%	47.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.5	11.2	11.2	5.2	10.1	10.1	8.8	62.8	62.8	5.0	51.1	51.1
Actuated g/C Ratio	0.10	0.12	0.12	0.06	0.11	0.11	0.10	0.69	0.69	0.06	0.56	0.56
v/c Ratio	0.50	0.05	0.49	0.16	0.03	0.04	0.62	0.29	0.00	0.08	0.68	0.10
Control Delay	51.2	37.6	12.2	47.4	39.8	0.3	57.3	7.1	0.0	45.9	17.4	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	37.6	12.2	47.4	39.8	0.3	57.3	7.1	0.0	45.9	17.4	2.5
LOS	D	D	B	D	D	A	E	A	A	D	B	A
Approach Delay		26.8			29.4			13.5			16.6	
Approach LOS		C			C			B			B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 90.6
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 16.9
 Intersection LOS: B
 Intersection Capacity Utilization 63.1%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	83	10	145	14	5	11	94	638	3	7	1212	79
Future Volume (veh/h)	83	10	145	14	5	11	94	638	3	7	1212	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	11	90	16	6	2	106	717	3	8	1362	63
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	281	238	32	191	162	134	2149	958	18	1918	855
Arrive On Green	0.07	0.15	0.15	0.02	0.10	0.10	0.07	0.60	0.60	0.01	0.54	0.54
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	93	11	90	16	6	2	106	717	3	8	1362	63
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.8	0.5	4.8	0.8	0.3	0.1	5.5	9.4	0.1	0.4	26.9	1.8
Cycle Q Clear(g_c), s	4.8	0.5	4.8	0.8	0.3	0.1	5.5	9.4	0.1	0.4	26.9	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	118	281	238	32	191	162	134	2149	958	18	1918	855
V/C Ratio(X)	0.79	0.04	0.38	0.49	0.03	0.01	0.79	0.33	0.00	0.45	0.71	0.07
Avail Cap(c_a), veh/h	159	678	574	100	616	522	178	2149	958	95	1918	855
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	34.2	36.0	45.8	38.1	38.0	42.8	9.2	7.4	46.3	16.2	10.4
Incr Delay (d2), s/veh	11.8	0.1	1.0	4.3	0.1	0.0	11.8	0.4	0.0	6.4	2.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.2	1.9	0.4	0.1	0.0	2.7	3.0	0.0	0.2	9.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	34.2	37.0	50.1	38.1	38.0	54.6	9.6	7.4	52.7	18.4	10.6
LnGrp LOS	E	C	D	D	D	D	D	A	A	D	B	B
Approach Vol, veh/h		194			24			826			1433	
Approach Delay, s/veh		45.5			46.1			15.4			18.3	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.5	63.4	6.3	18.9	11.7	57.3	10.9	14.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.2	5.3	* 34	9.4	50.8	8.4	* 31				
Max Q Clear Time (g_c+I1), s	2.4	11.4	2.8	6.8	7.5	28.9	6.8	2.3				
Green Ext Time (p_c), s	0.0	4.7	0.0	0.3	0.0	9.6	0.0	0.0				

Intersection Summary

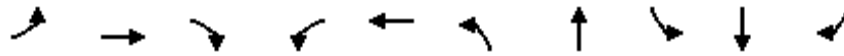
HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

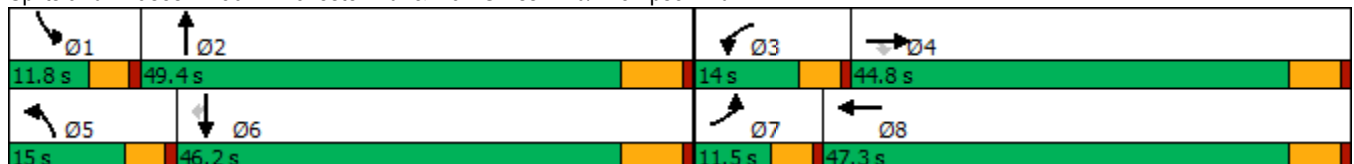


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↗	↘	↗	↘	↗↗	↘	↗↗	↘
Traffic Volume (vph)	36	188	728	288	309	361	769	60	1536	69
Future Volume (vph)	36	188	728	288	309	361	769	60	1536	69
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	11.5	44.8	44.8	14.0	47.3	15.0	49.4	11.8	46.2	46.2
Total Split (%)	9.6%	37.3%	37.3%	11.7%	39.4%	12.5%	41.2%	9.8%	38.5%	38.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	6.3	29.9	29.9	9.4	37.4	10.4	45.7	6.8	39.9	39.9
Actuated g/C Ratio	0.06	0.27	0.27	0.08	0.34	0.09	0.41	0.06	0.36	0.36
v/c Ratio	0.39	0.40	0.85	2.07	0.59	2.34	0.65	0.61	1.30	0.12
Control Delay	64.8	35.3	34.7	531.5	35.5	646.6	30.7	76.4	174.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	35.3	34.7	531.5	35.5	646.6	30.7	76.4	174.0	2.2
LOS	E	D	C	F	D	F	C	E	F	A
Approach Delay		35.9			263.9		211.3		163.4	
Approach LOS		D			F		F		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 111.3
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.34
 Intersection Signal Delay: 163.5
 Intersection LOS: F
 Intersection Capacity Utilization 106.2%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	188	728	288	309	29	361	769	100	60	1536	69
Future Volume (veh/h)	36	188	728	288	309	29	361	769	100	60	1536	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	202	632	310	332	28	388	827	82	65	1652	52
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	500	729	152	545	46	168	1327	132	83	1277	569
Arrive On Green	0.03	0.27	0.27	0.09	0.32	0.32	0.09	0.41	0.41	0.05	0.36	0.36
Sat Flow, veh/h	1781	1870	2730	1781	1699	143	1781	3265	324	1781	3554	1585
Grp Volume(v), veh/h	39	202	632	310	0	360	388	450	459	65	1652	52
Grp Sat Flow(s),veh/h/ln	1781	1870	1365	1781	0	1842	1781	1777	1812	1781	1777	1585
Q Serve(g_s), s	2.4	9.8	24.4	9.4	0.0	18.2	10.4	22.2	22.3	4.0	39.7	2.4
Cycle Q Clear(g_c), s	2.4	9.8	24.4	9.4	0.0	18.2	10.4	22.2	22.3	4.0	39.7	2.4
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	56	500	729	152	0	591	168	722	737	83	1277	569
V/C Ratio(X)	0.69	0.40	0.87	2.05	0.00	0.61	2.31	0.62	0.62	0.78	1.29	0.09
Avail Cap(c_a), veh/h	111	660	963	152	0	692	168	722	737	116	1277	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	33.3	38.6	50.6	0.0	31.7	50.1	26.1	26.1	52.1	35.4	23.5
Incr Delay (d2), s/veh	5.6	0.5	6.7	492.9	0.0	1.2	610.0	1.7	1.6	12.8	138.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.4	8.7	24.9	0.0	8.2	32.8	8.9	9.1	2.0	40.1	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6	33.8	45.3	543.5	0.0	32.9	660.0	27.7	27.7	64.9	173.7	23.5
LnGrp LOS	E	C	D	F	A	C	F	C	C	E	F	C
Approach Vol, veh/h		873			670			1297			1769	
Approach Delay, s/veh		43.2			269.1			216.9			165.3	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	51.4	14.0	35.3	15.0	46.2	8.1	41.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	7.2	42.9	9.4	39.0	10.4	39.7	6.9	41.5				
Max Q Clear Time (g_c+I1), s	6.0	24.3	11.4	26.4	12.4	41.7	4.4	20.2				
Green Ext Time (p_c), s	0.0	4.7	0.0	3.1	0.0	0.0	0.0	2.2				

Intersection Summary

HCM 6th Ctrl Delay	171.8
HCM 6th LOS	F

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/21/2021

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↖↖	↖	↑↑↑	↖	↑↑
Traffic Volume (vph)	375	319	911	434	2119
Future Volume (vph)	375	319	911	434	2119
Turn Type	Prot	pm+ov	NA	Prot	NA
Protected Phases	8	1	2	1	6
Permitted Phases		8			
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	30.6	9.5	38.5	9.5	16.5
Total Split (s)	30.6	42.0	47.4	42.0	89.4
Total Split (%)	25.5%	35.0%	39.5%	35.0%	74.5%
Yellow Time (s)	3.6	3.5	5.5	3.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	6.5	4.5	6.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	17.6	54.1	36.0	31.7	72.3
Actuated g/C Ratio	0.17	0.53	0.36	0.31	0.71
v/c Ratio	0.66	0.39	0.65	0.83	0.88
Control Delay	46.5	14.8	29.2	47.3	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	14.8	29.2	47.3	17.0
LOS	D	B	C	D	B
Approach Delay	31.9		29.2		22.2
Approach LOS	C		C		C

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 101.4
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 25.5
 Intersection LOS: C
 Intersection Capacity Utilization 78.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/21/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	375	319	911	189	434	2119
Future Volume (veh/h)	375	319	911	189	434	2119
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	169	959	147	457	2231
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	516	682	1812	277	500	2608
Arrive On Green	0.15	0.15	0.41	0.41	0.28	0.73
Sat Flow, veh/h	3456	1585	4637	683	1781	3647
Grp Volume(v), veh/h	395	169	730	376	457	2231
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1747	1781	1777
Q Serve(g_s), s	10.4	6.5	15.4	15.5	23.6	42.6
Cycle Q Clear(g_c), s	10.4	6.5	15.4	15.5	23.6	42.6
Prop In Lane	1.00	1.00		0.39	1.00	
Lane Grp Cap(c), veh/h	516	682	1381	709	500	2608
V/C Ratio(X)	0.77	0.25	0.53	0.53	0.91	0.86
Avail Cap(c_a), veh/h	946	879	1466	753	703	3102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	17.3	21.4	21.4	33.0	9.0
Incr Delay (d2), s/veh	2.4	0.2	0.3	0.6	12.9	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	5.5	5.7	11.0	9.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.2	17.4	21.7	22.0	45.9	11.3
LnGrp LOS	D	B	C	C	D	B
Approach Vol, veh/h	564		1106			2688
Approach Delay, s/veh	34.1		21.8			17.1
Approach LOS	C		C			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	31.2	45.0			76.2	18.8
Change Period (Y+Rc), s	4.5	6.5			6.5	4.6
Max Green Setting (Gmax), s	37.5	40.9			82.9	26.0
Max Q Clear Time (g_c+I1), s	25.6	17.5			44.6	12.4
Green Ext Time (p_c), s	1.1	6.8			25.0	1.8
Intersection Summary						
HCM 6th Ctrl Delay			20.5			
HCM 6th LOS			C			

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↘	↗	↘	↑↑	↗	↘	↑↑
Traffic Volume (vph)	166	30	283	35	22	929	276	160	2157
Future Volume (vph)	166	30	283	35	22	929	276	160	2157
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	9.6	60.6	60.6	24.7	75.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	8.0%	50.5%	50.5%	20.6%	63.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	28.4	28.4	28.4	28.4	5.0	54.2	54.2	20.1	69.3
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.04	0.46	0.46	0.17	0.58
v/c Ratio	0.52	0.17	0.92	0.09	0.31	0.59	0.33	0.55	1.18
Control Delay	45.6	18.4	78.8	31.9	67.0	26.1	3.6	53.3	109.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	18.4	78.8	31.9	67.0	26.1	3.6	53.3	109.7
LOS	D	B	E	C	E	C	A	D	F
Approach Delay		37.4		73.1		21.8			106.0
Approach LOS		D		E		C			F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.18
 Intersection Signal Delay: 75.6
 Intersection LOS: E
 Intersection Capacity Utilization 104.9%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↗	
Traffic Volume (veh/h)	166	30	42	283	35	5	22	929	276	160	2157	177
Future Volume (veh/h)	166	30	42	283	35	5	22	929	276	160	2157	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	31	32	292	36	0	23	958	211	165	2224	150
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	383	209	216	356	468	0	74	1602	715	298	1947	130
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.00	0.04	0.45	0.45	0.17	0.58	0.58
Sat Flow, veh/h	1372	837	864	1339	1870	0	1781	3554	1585	1781	3376	225
Grp Volume(v), veh/h	171	0	63	292	36	0	23	958	211	165	1157	1217
Grp Sat Flow(s),veh/h/ln	1372	0	1701	1339	1870	0	1781	1777	1585	1781	1777	1824
Q Serve(g_s), s	13.1	0.0	3.5	26.1	1.8	0.0	1.5	24.3	10.1	10.2	69.2	69.2
Cycle Q Clear(g_c), s	14.8	0.0	3.5	29.5	1.8	0.0	1.5	24.3	10.1	10.2	69.2	69.2
Prop In Lane	1.00		0.51	1.00		0.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	383	0	425	356	468	0	74	1602	715	298	1025	1052
V/C Ratio(X)	0.45	0.00	0.15	0.82	0.08	0.00	0.31	0.60	0.30	0.55	1.13	1.16
Avail Cap(c_a), veh/h	383	0	425	356	468	0	74	1602	715	298	1025	1052
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	0.0	35.0	46.5	34.4	0.0	55.8	24.8	20.9	45.8	25.4	25.4
Incr Delay (d2), s/veh	0.3	0.0	0.1	14.1	0.1	0.0	10.5	0.6	0.2	7.2	70.6	81.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	1.5	10.0	0.8	0.0	0.9	9.5	3.5	4.9	44.6	49.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	0.0	35.1	60.6	34.5	0.0	66.4	25.4	21.1	53.0	96.0	107.1
LnGrp LOS	D	A	D	E	C	A	E	C	C	D	F	F
Approach Vol, veh/h		234			328			1192			2539	
Approach Delay, s/veh		39.0			57.7			25.4			98.5	
Approach LOS		D			E			C			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.7	60.6		34.7	9.6	75.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	20.1	54.1		* 30	5.0	69.2		* 30				
Max Q Clear Time (g_c+I1), s	12.2	26.3		16.8	3.5	71.2		31.5				
Green Ext Time (p_c), s	0.1	7.3		0.4	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	71.9
HCM 6th LOS	E

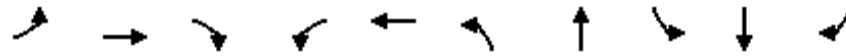
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	111	4	174	14	1	78	1113	9	2414	58
Future Volume (vph)	111	4	174	14	1	78	1113	9	2414	58
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	10.0	73.7	9.6	73.3	73.3
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	8.3%	61.4%	8.0%	61.1%	61.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	14.3	14.3	14.3		14.3	5.4	75.1	5.0	66.9	66.9
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.05	0.73	0.05	0.65	0.65
v/c Ratio	0.60	0.02	0.63		0.09	0.87	0.47	0.10	1.09	0.06
Control Delay	54.4	36.8	33.3		34.0	114.3	7.2	51.3	67.8	2.5
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	36.8	33.3		34.0	114.3	7.2	51.3	67.8	2.5
LOS	D	D	C		C	F	A	D	E	A
Approach Delay		41.4			34.0		14.0		66.2	
Approach LOS		D			C		B		E	

Intersection Summary

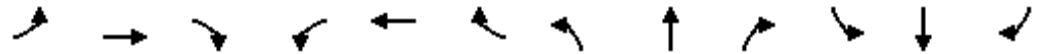
Cycle Length: 120	
Actuated Cycle Length: 102.5	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 48.3	Intersection LOS: D
Intersection Capacity Utilization 99.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way

Ø1	Ø2	Ø4
9.6 s	73.7 s	36.7 s
Ø5	Ø6	Ø8
10 s	73.3 s	36.7 s

HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	4	174	14	1	3	78	1113	42	9	2414	58
Future Volume (veh/h)	111	4	174	14	1	3	78	1113	42	9	2414	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	4	114	15	1	1	81	1159	37	9	2515	51
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	195	165	187	13	8	98	2545	81	20	2417	1078
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.05	0.72	0.72	0.01	0.68	0.68
Sat Flow, veh/h	1415	1870	1585	1129	121	78	1781	3515	112	1781	3554	1585
Grp Volume(v), veh/h	116	4	114	17	0	0	81	586	610	9	2515	51
Grp Sat Flow(s),veh/h/ln	1415	1870	1585	1328	0	0	1781	1777	1850	1781	1777	1585
Q Serve(g_s), s	6.5	0.2	6.8	0.8	0.0	0.0	4.4	13.3	13.3	0.5	66.8	1.0
Cycle Q Clear(g_c), s	7.6	0.2	6.8	1.0	0.0	0.0	4.4	13.3	13.3	0.5	66.8	1.0
Prop In Lane	1.00		1.00	0.88		0.06	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	225	195	165	207	0	0	98	1286	1339	20	2417	1078
V/C Ratio(X)	0.52	0.02	0.69	0.08	0.00	0.00	0.83	0.46	0.46	0.46	1.04	0.05
Avail Cap(c_a), veh/h	538	609	516	498	0	0	98	1286	1339	91	2417	1078
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.7	39.5	42.5	39.9	0.0	0.0	46.0	5.6	5.6	48.3	15.7	5.2
Incr Delay (d2), s/veh	1.8	0.0	5.1	0.2	0.0	0.0	39.7	0.3	0.2	6.0	30.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.1	2.9	0.4	0.0	0.0	2.9	3.2	3.3	0.2	27.9	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	39.5	47.6	40.0	0.0	0.0	85.7	5.8	5.8	54.3	45.7	5.2
LnGrp LOS	D	D	D	D	A	A	F	A	A	D	F	A
Approach Vol, veh/h		234			17			1277			2575	
Approach Delay, s/veh		45.9			40.0			10.9			44.9	
Approach LOS		D			D			B			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	77.6		14.9	10.0	73.3		14.9				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	5.4	66.8		* 32				
Max Q Clear Time (g_c+I1), s	2.5	15.3		9.6	6.4	68.8		3.0				
Green Ext Time (p_c), s	0.0	8.4		0.7	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
1: I-215 SB Ramps & Scott Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	1023	434	1406	388	516	0	265
Future Volume (vph)	1023	434	1406	388	516	0	265
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	82.0	82.0	82.0	82.0	38.0	38.0	38.0
Total Split (%)	68.3%	68.3%	68.3%	68.3%	31.7%	31.7%	31.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	45.3	45.3	45.3	45.3	19.5	19.5	19.5
Actuated g/C Ratio	0.62	0.62	0.62	0.62	0.27	0.27	0.27
v/c Ratio	0.49	0.39	0.67	0.36	0.59	0.32	0.32
Control Delay	8.8	1.8	11.3	1.7	28.4	18.9	18.9
Queue Delay	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Total Delay	8.8	1.8	11.3	1.8	28.4	18.9	18.9
LOS	A	A	B	A	C	B	B
Approach Delay	6.7		9.3			25.2	
Approach LOS	A		A			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 73.5
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 11.4
 Intersection Capacity Utilization 60.3%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B













Splits and Phases: 1: I-215 SB Ramps & Scott Rd.



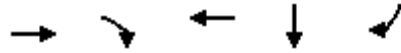
HCM 6th Signalized Intersection Summary
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↗	↗
Traffic Volume (veh/h)	0	1023	434	0	1406	388	0	0	0	516	0	265
Future Volume (veh/h)	0	1023	434	0	1406	388	0	0	0	516	0	265
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1066	449	0	1465	329				538	0	193
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2239	999	0	2239	999				797	0	709
Arrive On Green	0.00	0.63	0.63	0.00	0.63	0.63				0.22	0.00	0.22
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	1066	449	0	1465	329				538	0	193
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	8.7	8.0	0.0	14.2	5.3				7.6	0.0	2.8
Cycle Q Clear(g_c), s	0.0	8.7	8.0	0.0	14.2	5.3				7.6	0.0	2.8
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2239	999	0	2239	999				797	0	709
V/C Ratio(X)	0.00	0.48	0.45	0.00	0.65	0.33				0.68	0.00	0.27
Avail Cap(c_a), veh/h	0	5066	2259	0	5066	2259				2214	0	1970
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.3	5.2	0.0	6.4	4.7				19.4	0.0	17.6
Incr Delay (d2), s/veh	0.0	0.2	0.3	0.0	0.3	0.2				1.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.6	1.4	0.0	2.7	0.9				2.7	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.5	5.5	0.0	6.7	4.9				20.4	0.0	17.8
LnGrp LOS	A	A	A	A	A	A				C	A	B
Approach Vol, veh/h		1515			1794						731	
Approach Delay, s/veh		5.5			6.4						19.7	
Approach LOS		A			A						B	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				38.5		16.2		38.5				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				78.0		34.0		78.0				
Max Q Clear Time (g_c+I1), s				10.7		9.6		16.2				
Green Ext Time (p_c), s				12.0		2.7		18.3				
Intersection Summary												
HCM 6th Ctrl Delay			8.5									
HCM 6th LOS			A									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

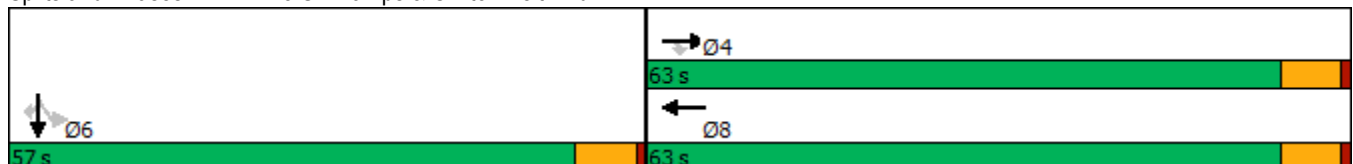


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑↑
Traffic Volume (vph)	1441	346	1033	0	668
Future Volume (vph)	1441	346	1033	0	668
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	63.0	63.0	63.0	57.0	57.0
Total Split (%)	52.5%	52.5%	52.5%	47.5%	47.5%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	37.2	37.2	37.2	27.9	27.9
Actuated g/C Ratio	0.47	0.47	0.47	0.35	0.35
v/c Ratio	0.63	0.40	0.63	0.47	0.67
Control Delay	17.4	3.1	16.2	23.9	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	3.1	16.2	23.9	23.0
LOS	B	A	B	C	C
Approach Delay	14.6		16.2	23.3	
Approach LOS	B		B	C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 79
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 17.1
 Intersection LOS: B
 Intersection Capacity Utilization 62.9%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1441	346	0	1033	392	0	0	0	280	0	668
Future Volume (veh/h)	0	1441	346	0	1033	392	0	0	0	280	0	668
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1501	308	0	1076	408				292	0	320
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2634	794	0	1868	708				439	0	688
Arrive On Green	0.00	0.52	0.52	0.00	0.52	0.52				0.25	0.00	0.25
Sat Flow, veh/h	0	5274	1540	0	3789	1373				1781	0	2790
Grp Volume(v), veh/h	0	1501	308	0	1012	472				292	0	320
Grp Sat Flow(s),veh/h/ln	0	1702	1540	0	1702	1589				1781	0	1395
Q Serve(g_s), s	0.0	11.0	6.6	0.0	11.2	11.2				8.1	0.0	5.3
Cycle Q Clear(g_c), s	0.0	11.0	6.6	0.0	11.2	11.2				8.1	0.0	5.3
Prop In Lane	0.00		1.00	0.00		0.86				1.00		1.00
Lane Grp Cap(c), veh/h	0	2634	794	0	1756	820				439	0	688
V/C Ratio(X)	0.00	0.57	0.39	0.00	0.58	0.58				0.67	0.00	0.47
Avail Cap(c_a), veh/h	0	5273	1590	0	3515	1641				1644	0	2575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.1	8.0	0.0	9.1	9.1				18.6	0.0	17.5
Incr Delay (d2), s/veh	0.0	0.2	0.3	0.0	0.3	0.6				1.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	1.4	0.0	2.5	2.4				3.2	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.3	8.3	0.0	9.4	9.8				20.3	0.0	18.0
LnGrp LOS	A	A	A	A	A	A				C	A	B
Approach Vol, veh/h		1809			1484						612	
Approach Delay, s/veh		9.1			9.5						19.1	
Approach LOS		A			A						B	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				34.7		20.0		34.7				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				56.5		50.5		56.5				
Max Q Clear Time (g_c+I1), s				13.0		10.1		13.2				
Green Ext Time (p_c), s				15.2		3.4		12.3				
Intersection Summary												
HCM 6th Ctrl Delay			10.8									
HCM 6th LOS			B									

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↖	↖	↖	↖
Traffic Volume (vph)	231	1308	1123	500	0	740	0	672
Future Volume (vph)	231	1308	1123	500	0	740	0	672
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	88.0	88.0	88.0	88.0	32.0	32.0	32.0	32.0
Total Split (%)	73.3%	73.3%	73.3%	73.3%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	74.5	74.5	74.5	74.5	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.24	0.24	0.24	0.24
v/c Ratio	0.93	0.56	0.48	0.41	0.90	0.90	0.77	0.77
Control Delay	60.3	9.7	8.7	1.6	59.1	58.7	38.8	38.6
Queue Delay	0.0	0.7	1.3	1.0	0.0	0.0	0.0	0.0
Total Delay	60.3	10.3	10.0	2.5	59.1	58.7	38.8	38.6
LOS	E	B	A	A	E	E	D	D
Approach Delay		17.8	7.7		58.9		38.7	
Approach LOS		B	A		E		D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 108.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 23.9	Intersection LOS: C
Intersection Capacity Utilization 73.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷			↷	↶		↷	↶		↷	↶
Traffic Volume (veh/h)	231	1308	0	0	1123	500	0	0	740	0	0	672
Future Volume (veh/h)	231	1308	0	0	1123	500	0	0	740	0	0	672
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	238	1348	0	0	1158	388	0	0	729	0	0	452
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	246	2488	0	0	2488	1110	0	436	740	0	436	740
Arrive On Green	0.70	0.70	0.00	0.00	0.70	0.70	0.00	0.00	0.23	0.00	0.00	0.23
Sat Flow, veh/h	335	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	238	1348	0	0	1158	388	0	0	729	0	0	452
Grp Sat Flow(s),veh/h/ln	335	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	66.6	22.0	0.0	0.0	17.4	11.7	0.0	0.0	27.5	0.0	0.0	15.3
Cycle Q Clear(g_c), s	84.0	22.0	0.0	0.0	17.4	11.7	0.0	0.0	27.5	0.0	0.0	15.3
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	246	2488	0	0	2488	1110	0	436	740	0	436	740
V/C Ratio(X)	0.97	0.54	0.00	0.00	0.47	0.35	0.00	0.00	0.99	0.00	0.00	0.61
Avail Cap(c_a), veh/h	246	2488	0	0	2488	1110	0	436	740	0	436	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	34.0	8.7	0.0	0.0	8.0	7.2	0.0	0.0	45.8	0.0	0.0	41.1
Incr Delay (d2), s/veh	48.4	0.2	0.0	0.0	0.1	0.2	0.0	0.0	29.4	0.0	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	7.1	0.0	0.0	5.6	3.4	0.0	0.0	13.4	0.0	0.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.4	8.9	0.0	0.0	8.1	7.3	0.0	0.0	75.2	0.0	0.0	42.6
LnGrp LOS	F	A	A	A	A	A	A	A	E	A	A	D
Approach Vol, veh/h		1586			1546			729				452
Approach Delay, s/veh		20.0			7.9			75.2				42.6
Approach LOS		B			A			E				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.0		88.0		32.0		88.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		28.0		84.0		28.0		84.0				
Max Q Clear Time (g_c+I1), s		29.5		86.0		17.3		19.4				
Green Ext Time (p_c), s		0.0		0.0		1.4		13.0				

Intersection Summary

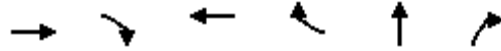
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/21/2021

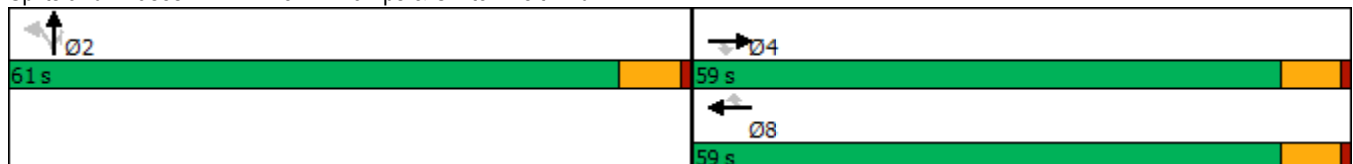


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↔	↑
Traffic Volume (vph)	1156	565	1039	130	0	472
Future Volume (vph)	1156	565	1039	130	0	472
Turn Type	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		4		8		2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5	16.5
Total Split (s)	59.0	59.0	59.0	59.0	61.0	61.0
Total Split (%)	49.2%	49.2%	49.2%	49.2%	50.8%	50.8%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	30.2	30.2	30.2	30.2	27.5	27.5
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.38	0.38
v/c Ratio	0.55	0.60	0.49	0.18	0.70	0.69
Control Delay	17.4	5.5	16.8	4.0	24.2	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	5.5	16.8	4.0	24.2	24.5
LOS	B	A	B	A	C	C
Approach Delay	13.5		15.3		24.3	
Approach LOS	B		B		C	

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 71.8
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 16.5
 Intersection LOS: B
 Intersection Capacity Utilization 64.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	1156	565	0	1039	130	385	0	472	0	0	0
Future Volume (veh/h)	0	1156	565	0	1039	130	385	0	472	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1168	571	0	1049	131	389	0	298			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2584	782	0	2584	785	518	0	461			
Arrive On Green	0.00	0.51	0.51	0.00	0.51	0.51	0.29	0.00	0.29			
Sat Flow, veh/h	0	5274	1546	0	5274	1551	1781	0	1585			
Grp Volume(v), veh/h	0	1168	571	0	1049	131	389	0	298			
Grp Sat Flow(s),veh/h/ln	0	1702	1546	0	1702	1551	1781	0	1585			
Q Serve(g_s), s	0.0	9.4	18.5	0.0	8.2	2.9	12.7	0.0	10.5			
Cycle Q Clear(g_c), s	0.0	9.4	18.5	0.0	8.2	2.9	12.7	0.0	10.5			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2584	782	0	2584	785	518	0	461			
V/C Ratio(X)	0.00	0.45	0.73	0.00	0.41	0.17	0.75	0.00	0.65			
Avail Cap(c_a), veh/h	0	4193	1270	0	4193	1274	1519	0	1351			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	10.1	12.4	0.0	9.8	8.5	20.6	0.0	19.8			
Incr Delay (d2), s/veh	0.0	0.1	1.3	0.0	0.1	0.1	2.2	0.0	1.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	2.4	4.6	0.0	2.1	0.7	5.2	0.0	3.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.2	13.7	0.0	9.9	8.6	22.8	0.0	21.3			
LnGrp LOS	A	B	B	A	A	A	C	A	C			
Approach Vol, veh/h		1739			1180			687				
Approach Delay, s/veh		11.4			9.8			22.2				
Approach LOS		B			A			C				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		25.1		38.8				38.8				
Change Period (Y+Rc), s		6.5		6.5				6.5				
Max Green Setting (Gmax), s		54.5		52.5				52.5				
Max Q Clear Time (g_c+I1), s		14.7		20.5				10.2				
Green Ext Time (p_c), s		3.9		11.9				8.3				
Intersection Summary												
HCM 6th Ctrl Delay			12.9									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021

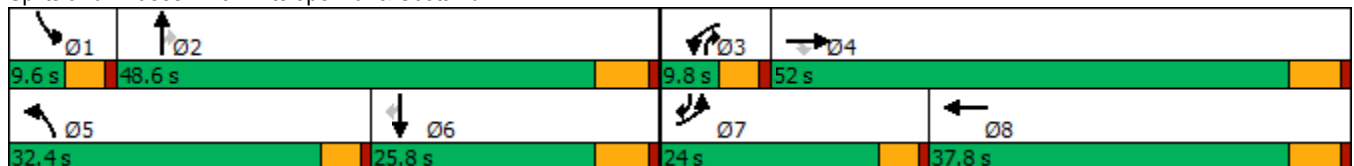


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↗	↖↗	↑↑↗	↖↗	↑↑	↗	↖	↑	↗
Traffic Volume (vph)	495	1113	441	79	809	533	205	164	44	120	281
Future Volume (vph)	495	1113	441	79	809	533	205	164	44	120	281
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	24.0	52.0	52.0	9.8	37.8	32.4	48.6	9.8	9.6	25.8	24.0
Total Split (%)	20.0%	43.3%	43.3%	8.2%	31.5%	27.0%	40.5%	8.2%	8.0%	21.5%	20.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	18.7	41.3	41.3	5.2	27.8	21.0	31.3	42.5	5.1	13.0	32.9
Actuated g/C Ratio	0.18	0.41	0.41	0.05	0.27	0.21	0.31	0.42	0.05	0.13	0.32
v/c Ratio	0.82	0.81	0.55	0.46	0.64	0.79	0.20	0.24	0.52	0.53	0.50
Control Delay	53.5	32.7	10.2	60.1	35.3	47.7	27.8	9.2	73.2	52.3	19.4
Queue Delay	0.3	49.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.7	81.9	11.6	60.1	35.3	47.7	27.8	9.2	73.2	52.3	19.4
LOS	D	F	B	E	D	D	C	A	E	D	B
Approach Delay		60.0			37.4		36.2			33.6	
Approach LOS		E			D		D			C	

Intersection Summary
































Cycle Length: 120
 Actuated Cycle Length: 101.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 47.5
 Intersection LOS: D
 Intersection Capacity Utilization 75.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 			 	
Traffic Volume (veh/h)	495	1113	441	79	809	40	533	205	164	44	120	281
Future Volume (veh/h)	495	1113	441	79	809	40	533	205	164	44	120	281
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	516	1159	250	82	843	34	555	214	79	46	125	174
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	600	1444	644	170	1419	57	650	960	506	68	225	463
Arrive On Green	0.17	0.41	0.41	0.05	0.28	0.28	0.19	0.27	0.27	0.04	0.12	0.12
Sat Flow, veh/h	3456	3554	1585	3456	5035	203	3456	3554	1585	1781	1870	1563
Grp Volume(v), veh/h	516	1159	250	82	569	308	555	214	79	46	125	174
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1834	1728	1777	1585	1781	1870	1563
Q Serve(g_s), s	12.8	25.3	9.8	2.0	12.7	12.8	13.7	4.1	3.1	2.2	5.6	7.8
Cycle Q Clear(g_c), s	12.8	25.3	9.8	2.0	12.7	12.8	13.7	4.1	3.1	2.2	5.6	7.8
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	600	1444	644	170	960	517	650	960	506	68	225	463
V/C Ratio(X)	0.86	0.80	0.39	0.48	0.59	0.60	0.85	0.22	0.16	0.67	0.55	0.38
Avail Cap(c_a), veh/h	761	1863	831	204	1236	666	1090	1726	848	101	424	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	23.1	18.4	40.8	27.3	27.3	34.6	25.0	21.5	41.8	36.5	24.7
Incr Delay (d2), s/veh	6.8	2.0	0.4	0.8	0.6	1.1	1.5	0.1	0.1	4.2	2.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	9.8	3.3	0.8	4.9	5.3	5.5	1.6	1.1	1.0	2.5	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.2	25.1	18.8	41.6	27.9	28.4	36.1	25.1	21.6	46.1	38.7	25.2
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	D	C
Approach Vol, veh/h		1925			959			848			345	
Approach Delay, s/veh		28.9			29.2			32.0			32.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	29.6	8.9	41.6	21.2	16.4	19.9	30.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	42.8	5.2	46.2	27.8	20.0	19.4	32.0				
Max Q Clear Time (g_c+I1), s	4.2	6.1	4.0	27.3	15.7	9.8	14.8	14.8				
Green Ext Time (p_c), s	0.0	1.5	0.0	8.5	0.9	0.8	0.5	4.9				
Intersection Summary												
HCM 6th Ctrl Delay				29.9								
HCM 6th LOS				C								

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021

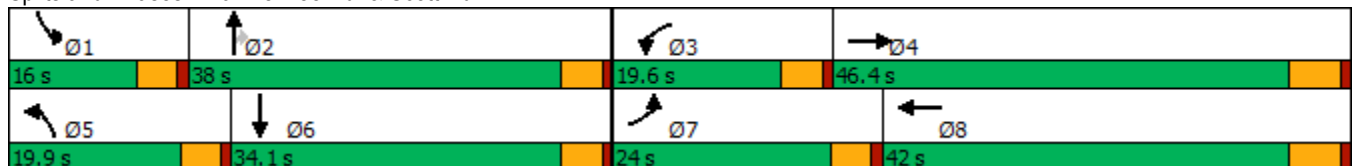


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	171	706	115	705	108	319	195	89	116
Future Volume (vph)	171	706	115	705	108	319	195	89	116
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	24.0	46.4	19.6	42.0	19.9	38.0	38.0	16.0	34.1
Total Split (%)	20.0%	38.7%	16.3%	35.0%	16.6%	31.7%	31.7%	13.3%	28.4%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	14.3	33.1	11.1	29.8	10.8	26.1	26.1	9.2	21.3
Actuated g/C Ratio	0.15	0.34	0.11	0.31	0.11	0.27	0.27	0.09	0.22
v/c Ratio	0.69	0.75	0.60	0.80	0.58	0.67	0.36	0.56	0.53
Control Delay	57.2	33.6	58.5	38.5	58.0	42.4	6.7	61.5	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	33.6	58.5	38.5	58.0	42.4	6.7	61.5	35.6
LOS	E	C	E	D	E	D	A	E	D
Approach Delay		37.6		41.0		33.9			43.5
Approach LOS		D		D		C			D

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 97.2
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 38.5
 Intersection LOS: D
 Intersection Capacity Utilization 70.5%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	706	133	115	705	108	108	319	195	89	116	86
Future Volume (veh/h)	171	706	133	115	705	108	108	319	195	89	116	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	743	126	121	742	100	114	336	88	94	122	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	1044	177	155	964	130	147	425	354	121	246	127
Arrive On Green	0.12	0.34	0.34	0.09	0.31	0.31	0.08	0.23	0.23	0.07	0.21	0.21
Sat Flow, veh/h	1781	3026	513	1781	3138	423	1781	1870	1557	1781	1156	597
Grp Volume(v), veh/h	180	436	433	121	420	422	114	336	88	94	0	185
Grp Sat Flow(s),veh/h/ln	1781	1777	1762	1781	1777	1783	1781	1870	1557	1781	0	1753
Q Serve(g_s), s	7.1	15.4	15.4	4.8	15.5	15.5	4.5	12.2	3.3	3.8	0.0	6.7
Cycle Q Clear(g_c), s	7.1	15.4	15.4	4.8	15.5	15.5	4.5	12.2	3.3	3.8	0.0	6.7
Prop In Lane	1.00		0.29	1.00		0.24	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	222	613	608	155	546	548	147	425	354	121	0	374
V/C Ratio(X)	0.81	0.71	0.71	0.78	0.77	0.77	0.78	0.79	0.25	0.78	0.00	0.50
Avail Cap(c_a), veh/h	478	998	990	370	890	893	377	862	717	281	0	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.8	20.5	20.5	32.3	22.7	22.7	32.5	26.3	22.9	33.1	0.0	25.0
Incr Delay (d2), s/veh	2.7	1.5	1.6	3.2	2.3	2.3	3.3	3.3	0.4	4.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	5.8	5.8	2.1	6.0	6.1	2.0	5.6	1.1	1.7	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.5	22.1	22.1	35.5	25.0	25.1	35.8	29.6	23.2	37.1	0.0	26.0
LnGrp LOS	C	C	C	D	C	C	D	C	C	D	A	C
Approach Vol, veh/h		1049			963			538				279
Approach Delay, s/veh		24.1			26.4			29.9				29.8
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	21.1	10.9	30.7	10.5	20.1	13.6	28.0				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	11.4	* 33	15.0	40.6	15.3	* 29	19.4	36.2				
Max Q Clear Time (g_c+I1), s	5.8	14.2	6.8	17.4	6.5	8.7	9.1	17.5				
Green Ext Time (p_c), s	0.0	2.2	0.1	5.2	0.1	1.0	0.2	4.7				

Intersection Summary

HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)

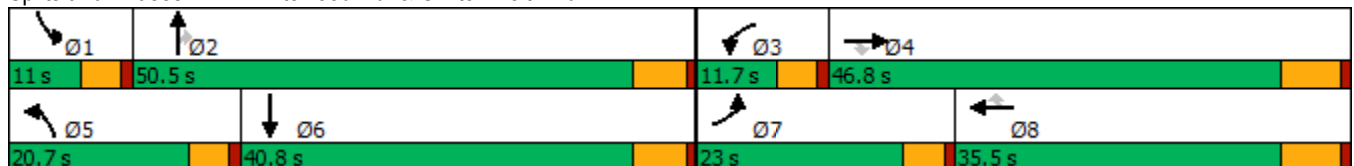
06/21/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	608	947	146	132	705	146	176	734	159	101	217
Future Volume (vph)	608	947	146	132	705	146	176	734	159	101	217
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	23.0	46.8	46.8	11.7	35.5	35.5	20.7	50.5	50.5	11.0	40.8
Total Split (%)	19.2%	39.0%	39.0%	9.8%	29.6%	29.6%	17.3%	42.1%	42.1%	9.2%	34.0%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	18.4	36.7	36.7	6.9	25.2	25.2	14.4	44.8	44.8	6.4	36.7
Actuated g/C Ratio	0.16	0.32	0.32	0.06	0.22	0.22	0.12	0.39	0.39	0.06	0.32
v/c Ratio	1.14	0.87	0.25	0.66	0.65	0.30	0.82	1.05	0.23	1.06	0.41
Control Delay	128.1	46.7	5.4	70.4	44.4	3.6	78.6	82.1	5.1	161.7	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	128.1	46.7	5.4	70.4	44.4	3.6	78.6	82.1	5.1	161.7	15.9
LOS	F	D	A	E	D	A	E	F	A	F	B
Approach Delay		72.2			41.9			70.1			40.9
Approach LOS		E			D			E			D

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 116.3
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 60.6
 Intersection LOS: E
 Intersection Capacity Utilization 93.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  						 	
Traffic Volume (veh/h)	608	947	146	132	705	146	176	734	159	101	217	270
Future Volume (veh/h)	608	947	146	132	705	146	176	734	159	101	217	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	620	966	123	135	719	123	180	749	126	103	221	220
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	556	1103	492	191	1046	325	208	731	619	100	586	522
Arrive On Green	0.16	0.31	0.31	0.06	0.20	0.20	0.12	0.39	0.39	0.06	0.33	0.33
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	620	966	123	135	719	123	180	749	126	103	221	220
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	18.4	29.5	6.6	4.4	14.9	7.7	11.4	44.7	6.0	6.4	10.9	12.4
Cycle Q Clear(g_c), s	18.4	29.5	6.6	4.4	14.9	7.7	11.4	44.7	6.0	6.4	10.9	12.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	556	1103	492	191	1046	325	208	731	619	100	586	522
V/C Ratio(X)	1.12	0.88	0.25	0.71	0.69	0.38	0.86	1.03	0.20	1.03	0.38	0.42
Avail Cap(c_a), veh/h	556	1251	558	214	1294	402	251	731	619	100	586	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	37.4	29.5	53.2	42.1	39.2	49.6	34.9	23.1	54.0	29.4	29.9
Incr Delay (d2), s/veh	74.1	6.6	0.3	6.9	1.1	0.7	20.0	39.9	0.2	99.7	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.2	12.9	2.4	2.0	6.0	2.9	6.1	27.0	2.1	5.5	4.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.2	44.0	29.8	60.1	43.2	39.9	69.6	74.8	23.2	153.7	29.8	30.4
LnGrp LOS	F	D	C	E	D	D	E	F	C	F	C	C
Approach Vol, veh/h		1709			977			1055			544	
Approach Delay, s/veh		71.3			45.2			67.7			53.5	
Approach LOS		E			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	50.5	10.9	42.0	18.0	43.5	23.0	29.9				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	6.4	44.7	7.1	40.3	16.1	35.0	18.4	29.0				
Max Q Clear Time (g_c+I1), s	8.4	46.7	6.4	31.5	13.4	14.4	20.4	16.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.1	0.1	2.4	0.0	3.7				
Intersection Summary												
HCM 6th Ctrl Delay				62.2								
HCM 6th LOS				E								

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021

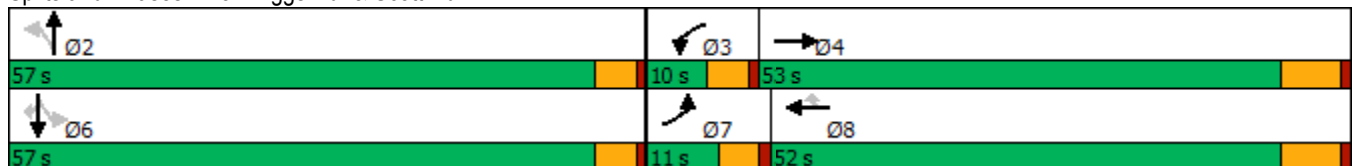


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↕	↖	↕	↖		↕		↕	↖
Traffic Volume (vph)	18	544	7	512	6	301	6	8	4	24
Future Volume (vph)	18	544	7	512	6	301	6	8	4	24
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	11.0	53.0	10.0	52.0	52.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	9.2%	44.2%	8.3%	43.3%	43.3%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	6.0	22.2	5.7	22.1	22.1		21.6		21.6	21.6
Actuated g/C Ratio	0.10	0.39	0.10	0.38	0.38		0.38		0.38	0.38
v/c Ratio	0.10	0.65	0.04	0.39	0.01		0.64		0.02	0.04
Control Delay	34.3	16.5	34.9	15.3	0.0		23.1		14.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	34.3	16.5	34.9	15.3	0.0		23.1		14.2	0.1
LOS	C	B	C	B	A		C		B	A
Approach Delay		16.9		15.4			23.1		4.7	
Approach LOS		B		B			C		A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 57.5
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 17.3
 Intersection LOS: B
 Intersection Capacity Utilization 58.1%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	544	306	7	512	6	301	6	5	8	4	24
Future Volume (veh/h)	18	544	306	7	512	6	301	6	5	8	4	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	567	262	7	533	6	314	6	2	8	4	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	836	386	17	1208	539	558	8	3	449	200	470
Arrive On Green	0.02	0.35	0.35	0.01	0.34	0.34	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	2362	1089	1781	3554	1585	1352	26	9	1068	666	1563
Grp Volume(v), veh/h	19	426	403	7	533	6	322	0	0	12	0	9
Grp Sat Flow(s),veh/h/ln	1781	1777	1674	1781	1777	1585	1386	0	0	1734	0	1563
Q Serve(g_s), s	0.5	9.6	9.6	0.2	5.5	0.1	9.8	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear(g_c), s	0.5	9.6	9.6	0.2	5.5	0.1	10.0	0.0	0.0	0.2	0.0	0.2
Prop In Lane	1.00		0.65	1.00		1.00	0.98		0.01	0.67		1.00
Lane Grp Cap(c), veh/h	42	629	593	17	1208	539	568	0	0	649	0	470
V/C Ratio(X)	0.46	0.68	0.68	0.42	0.44	0.01	0.57	0.00	0.00	0.02	0.00	0.02
Avail Cap(c_a), veh/h	243	1758	1656	205	3440	1534	1711	0	0	1894	0	1739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	12.9	12.9	23.2	12.0	10.3	15.1	0.0	0.0	11.6	0.0	11.6
Incr Delay (d2), s/veh	2.9	1.3	1.4	6.2	0.3	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.7	2.6	0.1	1.5	0.0	2.8	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	14.2	14.3	29.4	12.3	10.3	16.0	0.0	0.0	11.6	0.0	11.6
LnGrp LOS	C	B	B	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h		848			546			322				21
Approach Delay, s/veh		14.5			12.5			16.0				11.6
Approach LOS		B			B			B				B
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.8	5.0	23.1		18.8	5.7	22.5				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 52	5.4	46.5		* 52	6.4	45.5				
Max Q Clear Time (g_c+I1), s		12.0	2.2	11.6		2.2	2.5	7.5				
Green Ext Time (p_c), s		2.1	0.0	5.0		0.1	0.0	3.3				
Intersection Summary												
HCM 6th Ctrl Delay			14.1									
HCM 6th LOS			B									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Intersection Delay, s/veh	16.5											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	309	150	15	313	11	125	34	16	11	28	17
Future Vol, veh/h	14	309	150	15	313	11	125	34	16	11	28	17
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	329	160	16	333	12	133	36	17	12	30	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	19.9	14.9	12.5	10.3
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	71%	3%	4%	20%
Vol Thru, %	19%	65%	92%	50%
Vol Right, %	9%	32%	3%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	175	473	339	56
LT Vol	125	14	15	11
Through Vol	34	309	313	28
RT Vol	16	150	11	17
Lane Flow Rate	186	503	361	60
Geometry Grp	1	1	1	1
Degree of Util (X)	0.328	0.713	0.546	0.107
Departure Headway (Hd)	6.342	5.102	5.449	6.473
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	564	704	660	549
Service Time	4.412	3.153	3.505	4.563
HCM Lane V/C Ratio	0.33	0.714	0.547	0.109
HCM Control Delay	12.5	19.9	14.9	10.3
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	1.4	6	3.3	0.4

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	3	4	15	3	24	0	255	32	20	156	0
Future Vol, veh/h	4	3	4	15	3	24	0	255	32	20	156	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	3	4	16	3	26	0	280	35	22	171	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	527	530	171	517	513	298	171	0	0	315	0	0
Stage 1	215	215	-	298	298	-	-	-	-	-	-	-
Stage 2	312	315	-	219	215	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	462	455	873	469	465	741	1406	-	-	1245	-	-
Stage 1	787	725	-	711	667	-	-	-	-	-	-	-
Stage 2	699	656	-	783	725	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	436	446	873	457	456	741	1406	-	-	1245	-	-
Mov Cap-2 Maneuver	436	446	-	457	456	-	-	-	-	-	-	-
Stage 1	787	711	-	711	667	-	-	-	-	-	-	-
Stage 2	671	656	-	760	711	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.9		11.7		0		0.9	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1406	-	-	537	585	1245	-	-
HCM Lane V/C Ratio	-	-	-	0.023	0.079	0.018	-	-
HCM Control Delay (s)	0	-	-	11.9	11.7	7.9	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	-	-

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕↕	
Traffic Vol, veh/h	0	0	0	11	0	13	0	265	12	8	187	0
Future Vol, veh/h	0	0	0	11	0	13	0	265	12	8	187	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	0	14	0	294	13	9	208	0

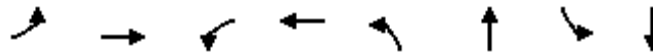
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	534	533	104	423	527	301	208	0	0	307	0	0
Stage 1	226	226	-	301	301	-	-	-	-	-	-	-
Stage 2	308	307	-	122	226	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	443	452	931	528	456	738	1362	-	-	1252	-	-
Stage 1	757	716	-	707	664	-	-	-	-	-	-	-
Stage 2	701	660	-	870	716	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	432	449	931	525	453	738	1362	-	-	1252	-	-
Mov Cap-2 Maneuver	522	514	-	587	519	-	-	-	-	-	-	-
Stage 1	757	711	-	707	664	-	-	-	-	-	-	-
Stage 2	687	660	-	864	711	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.6	0	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1362	-	-	-	587	738	1252
HCM Lane V/C Ratio	-	-	-	-	0.021	0.02	0.007
HCM Control Delay (s)	0	-	-	0	11.3	10	7.9
HCM Lane LOS	A	-	-	A	B	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1	0

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/21/2021

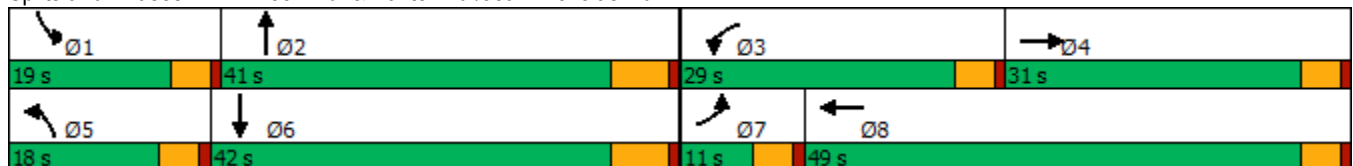


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	8	43	128	93	54	254	66	215
Future Volume (vph)	8	43	128	93	54	254	66	215
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	11.0	31.0	29.0	49.0	18.0	41.0	19.0	42.0
Total Split (%)	9.2%	25.8%	24.2%	40.8%	15.0%	34.2%	15.8%	35.0%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	6.4	10.0	24.5	28.1	7.7	35.3	8.3	35.9
Actuated g/C Ratio	0.07	0.10	0.25	0.29	0.08	0.37	0.09	0.37
v/c Ratio	0.08	0.26	0.32	0.24	0.42	0.37	0.48	0.18
Control Delay	45.8	24.4	32.7	12.4	52.1	16.6	53.0	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	24.4	32.7	12.4	52.1	16.6	53.0	21.6
LOS	D	C	C	B	D	B	D	C
Approach Delay		26.2		19.8		20.5		28.9
Approach LOS		C		B		C		C

Intersection Summary

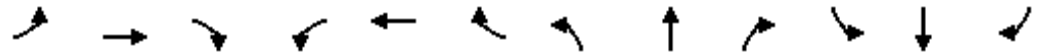
Cycle Length: 120
 Actuated Cycle Length: 96.2
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay: 22.7
 Intersection LOS: C
 Intersection Capacity Utilization 50.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗		↖	↖↗	
Traffic Volume (veh/h)	8	43	46	128	93	129	54	254	180	66	215	3
Future Volume (veh/h)	8	43	46	128	93	129	54	254	180	66	215	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	48	19	142	103	85	60	282	160	73	239	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	300	112	454	590	444	77	801	441	94	1343	17
Arrive On Green	0.07	0.12	0.12	0.25	0.31	0.31	0.04	0.36	0.36	0.05	0.37	0.37
Sat Flow, veh/h	1781	2527	942	1781	1925	1450	1781	2200	1211	1781	3594	45
Grp Volume(v), veh/h	9	33	34	142	94	94	60	226	216	73	118	124
Grp Sat Flow(s),veh/h/ln	1781	1777	1692	1781	1777	1598	1781	1777	1634	1781	1777	1862
Q Serve(g_s), s	0.5	1.6	1.7	6.2	3.7	4.1	3.2	8.9	9.3	3.9	4.3	4.3
Cycle Q Clear(g_c), s	0.5	1.6	1.7	6.2	3.7	4.1	3.2	8.9	9.3	3.9	4.3	4.3
Prop In Lane	1.00		0.56	1.00		0.91	1.00		0.74	1.00		0.02
Lane Grp Cap(c), veh/h	119	211	201	454	544	490	77	647	595	94	664	696
V/C Ratio(X)	0.08	0.16	0.17	0.31	0.17	0.19	0.78	0.35	0.36	0.77	0.18	0.18
Avail Cap(c_a), veh/h	119	488	464	454	821	739	249	647	595	268	664	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	37.9	38.0	28.9	24.3	24.5	45.4	22.2	22.3	44.8	20.1	20.1
Incr Delay (d2), s/veh	1.2	0.3	0.4	1.8	0.1	0.2	6.1	0.3	0.4	5.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.7	0.7	2.8	1.6	1.6	1.5	3.5	3.3	1.8	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	38.3	38.4	30.7	24.5	24.7	51.4	22.5	22.7	49.8	20.7	20.7
LnGrp LOS	D	D	D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		76			330			502			315	
Approach Delay, s/veh		38.9			27.2			26.0			27.5	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	41.1	29.0	16.1	8.8	42.0	11.0	34.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	14.4	34.8	24.4	* 26	13.4	35.8	6.4	* 44				
Max Q Clear Time (g_c+I1), s	5.9	11.3	8.2	3.7	5.2	6.3	2.5	6.1				
Green Ext Time (p_c), s	0.0	2.3	0.2	0.3	0.0	1.2	0.0	1.2				

Intersection Summary

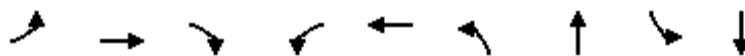
HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
06/21/2021

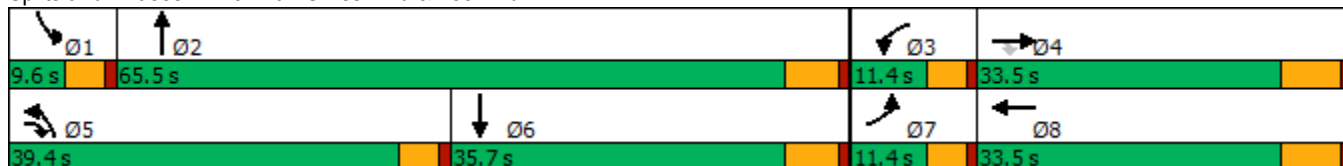


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘↘	↑↑	↗	↘↘	↑↑	↘↘	↑↑	↘↘	↑↑
Traffic Volume (vph)	168	481	1029	183	298	811	403	12	266
Future Volume (vph)	168	481	1029	183	298	811	403	12	266
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	11.4	33.5	39.4	11.4	33.5	39.4	65.5	9.6	35.7
Total Split (%)	9.5%	27.9%	32.8%	9.5%	27.9%	32.8%	54.6%	8.0%	29.8%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	6.8	19.5	61.1	6.8	19.5	35.0	53.4	5.0	15.5
Actuated g/C Ratio	0.07	0.20	0.62	0.07	0.20	0.36	0.54	0.05	0.16
v/c Ratio	0.75	0.73	1.03	0.82	0.47	0.71	0.33	0.07	0.68
Control Delay	67.0	43.9	54.2	73.8	37.1	32.5	12.3	49.2	41.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	43.9	54.2	73.8	37.1	32.5	12.3	49.2	41.7
LOS	E	D	D	E	D	C	B	D	D
Approach Delay		52.5			50.7		24.1		41.9
Approach LOS		D			D		C		D

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 98.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 41.2
 Intersection LOS: D
 Intersection Capacity Utilization 91.9%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	481	1029	183	298	11	811	403	177	12	266	98
Future Volume (veh/h)	168	481	1029	183	298	11	811	403	177	12	266	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	512	790	195	317	11	863	429	155	13	283	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	1017	893	249	1006	35	957	1022	366	53	388	94
Arrive On Green	0.07	0.29	0.29	0.07	0.29	0.29	0.28	0.40	0.40	0.02	0.14	0.14
Sat Flow, veh/h	3456	3554	1585	3456	3504	121	3456	2565	918	3456	2834	689
Grp Volume(v), veh/h	179	512	790	195	160	168	863	296	288	13	176	177
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1849	1728	1777	1705	1728	1777	1746
Q Serve(g_s), s	4.8	11.3	27.0	5.2	6.7	6.7	22.7	11.3	11.5	0.4	8.9	9.2
Cycle Q Clear(g_c), s	4.8	11.3	27.0	5.2	6.7	6.7	22.7	11.3	11.5	0.4	8.9	9.2
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.54	1.00		0.39
Lane Grp Cap(c), veh/h	246	1017	893	249	510	531	957	708	679	53	243	239
V/C Ratio(X)	0.73	0.50	0.89	0.78	0.31	0.32	0.90	0.42	0.42	0.25	0.72	0.74
Avail Cap(c_a), veh/h	249	1017	893	249	510	531	1275	1125	1079	183	563	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	28.1	17.9	43.0	26.4	26.4	32.9	20.5	20.5	45.9	39.0	39.1
Incr Delay (d2), s/veh	8.7	0.4	10.6	13.7	0.3	0.3	6.2	0.4	0.4	0.9	4.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.5	14.7	2.6	2.7	2.8	9.7	4.4	4.3	0.2	4.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	28.5	28.5	56.7	26.7	26.7	39.0	20.9	21.0	46.8	43.0	43.6
LnGrp LOS	D	C	C	E	C	C	D	C	C	D	D	D
Approach Vol, veh/h		1481			523			1447			366	
Approach Delay, s/veh		31.3			37.9			31.7			43.4	
Approach LOS		C			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	43.4	11.4	33.5	30.7	18.7	11.3	33.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	59.7	6.8	27.0	34.8	29.9	6.8	27.0				
Max Q Clear Time (g_c+I1), s	2.4	13.5	7.2	29.0	24.7	11.2	6.8	8.7				
Green Ext Time (p_c), s	0.0	3.6	0.0	0.0	1.4	1.7	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			33.5									
HCM 6th LOS			C									

Intersection												
Intersection Delay, s/veh	7.3											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	37	16	1	57	0	19	0	5	0	0	0
Future Vol, veh/h	0	37	16	1	57	0	19	0	5	0	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	47	20	1	72	0	24	0	6	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7.4	7.4	0
HCM LOS	A	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	79%	0%	2%	0%
Vol Thru, %	0%	70%	98%	100%
Vol Right, %	21%	30%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	53	58	0
LT Vol	19	0	1	0
Through Vol	0	37	57	0
RT Vol	5	16	0	0
Lane Flow Rate	30	67	73	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.036	0.072	0.082	0
Departure Headway (Hd)	4.209	3.861	4.041	4.2
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	845	926	885	0
Service Time	2.264	1.893	2.07	2.264
HCM Lane V/C Ratio	0.036	0.072	0.082	0
HCM Control Delay	7.4	7.2	7.4	7.3
HCM Lane LOS	A	A	A	N
HCM 95th-tile Q	0.1	0.2	0.3	0

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑↑	↑	
Traffic Vol, veh/h	4	28	46	12	15	3
Future Vol, veh/h	4	28	46	12	15	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	35	58	15	19	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	145	21	23	0	0
Stage 1	21	-	-	-	-
Stage 2	124	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-
Pot Cap-1 Maneuver	840	1056	1591	-	-
Stage 1	1001	-	-	-	-
Stage 2	889	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	810	1056	1591	-	-
Mov Cap-2 Maneuver	787	-	-	-	-
Stage 1	965	-	-	-	-
Stage 2	889	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	5.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1591	-	1013	-	-
HCM Lane V/C Ratio	0.036	-	0.039	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Timings
20: Winchester Rd. & Domenigoni Pkwy

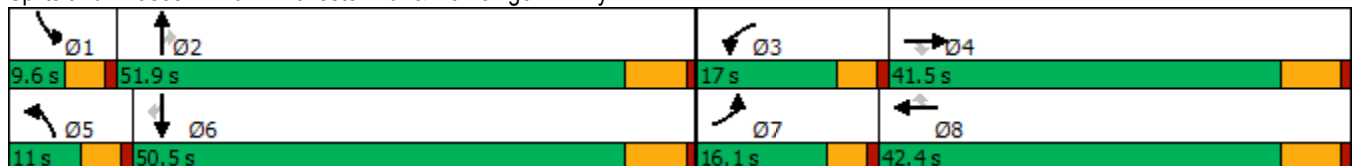
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	901	90	646	785	19	123	1029	869	18	470	163
Future Volume (vph)	180	901	90	646	785	19	123	1029	869	18	470	163
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	16.1	41.5	41.5	17.0	42.4	42.4	11.0	51.9	51.9	9.6	50.5	50.5
Total Split (%)	13.4%	34.6%	34.6%	14.2%	35.3%	35.3%	9.2%	43.3%	43.3%	8.0%	42.1%	42.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	9.8	32.8	32.8	12.4	35.5	35.5	6.4	45.6	45.6	5.0	38.1	38.1
Actuated g/C Ratio	0.09	0.29	0.29	0.11	0.32	0.32	0.06	0.41	0.41	0.04	0.34	0.34
v/c Ratio	0.62	0.89	0.17	1.73	0.50	0.03	1.25	0.73	1.07	0.23	0.40	0.26
Control Delay	59.5	49.7	4.0	371.2	33.0	0.1	215.5	32.8	74.0	61.7	29.5	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	49.7	4.0	371.2	33.0	0.1	215.5	32.8	74.0	61.7	29.5	4.9
LOS	E	D	A	F	C	A	F	C	E	E	C	A
Approach Delay		47.7			183.2			61.7			24.2	
Approach LOS		D			F			E			C	

Intersection Summary
































Cycle Length: 120	
Actuated Cycle Length: 112.1	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.73	
Intersection Signal Delay: 87.3	Intersection LOS: F
Intersection Capacity Utilization 97.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  			 			 	
Traffic Volume (veh/h)	180	901	90	646	785	19	123	1029	869	18	470	163
Future Volume (veh/h)	180	901	90	646	785	19	123	1029	869	18	470	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	919	34	659	801	11	126	1050	579	18	480	64
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	1019	454	376	1660	515	100	1387	619	34	1255	560
Arrive On Green	0.07	0.29	0.29	0.11	0.33	0.33	0.06	0.39	0.39	0.02	0.35	0.35
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	184	919	34	659	801	11	126	1050	579	18	480	64
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.0	28.3	1.8	12.4	14.3	0.5	6.4	29.1	39.9	1.1	11.5	3.1
Cycle Q Clear(g_c), s	6.0	28.3	1.8	12.4	14.3	0.5	6.4	29.1	39.9	1.1	11.5	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	244	1019	454	376	1660	515	100	1387	619	34	1255	560
V/C Ratio(X)	0.76	0.90	0.07	1.75	0.48	0.02	1.26	0.76	0.94	0.53	0.38	0.11
Avail Cap(c_a), veh/h	349	1093	487	376	1660	515	100	1417	632	78	1374	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.9	39.1	29.6	50.7	30.7	26.1	53.7	30.0	33.3	55.3	27.5	24.8
Incr Delay (d2), s/veh	2.9	10.0	0.1	348.5	0.2	0.0	174.4	2.3	21.2	4.7	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	12.9	0.7	23.3	5.5	0.2	7.6	11.8	17.6	0.5	4.6	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	49.0	29.7	399.2	31.0	26.1	228.1	32.4	54.6	60.0	27.7	24.9
LnGrp LOS	D	D	C	F	C	C	F	C	D	E	C	C
Approach Vol, veh/h		1137			1471			1755			562	
Approach Delay, s/veh		49.4			195.9			53.8			28.4	
Approach LOS		D			F			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	50.9	17.0	39.1	11.0	46.7	12.6	43.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	45.4	12.4	35.0	6.4	44.0	11.5	35.9				
Max Q Clear Time (g_c+I1), s	3.1	41.9	14.4	30.3	8.4	13.5	8.0	16.3				
Green Ext Time (p_c), s	0.0	2.5	0.0	2.3	0.0	3.0	0.1	4.7				
Intersection Summary												
HCM 6th Ctrl Delay			92.3									
HCM 6th LOS			F									

Timings
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	4	0	1	20	1	2	1998	10	5	1197	4
Future Volume (vph)	4	0	1	20	1	2	1998	10	5	1197	4
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	10.0	74.3	74.3	10.0	74.3	74.3
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.3%	61.9%	61.9%	8.3%	61.9%	61.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		11.0	11.0		11.0	5.5	55.1	55.1	5.6	55.1	55.1
Actuated g/C Ratio		0.16	0.16		0.16	0.08	0.82	0.82	0.08	0.82	0.82
v/c Ratio		0.02	0.00		0.16	0.01	0.51	0.01	0.03	0.44	0.00
Control Delay		34.2	0.0		24.8	39.0	5.0	0.0	38.8	4.8	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		34.2	0.0		24.8	39.0	5.0	0.0	38.8	4.8	0.0
LOS		C	A		C	D	A	A	D	A	A
Approach Delay		27.4			24.8		5.0			4.9	
Approach LOS		C			C		A			A	

Intersection Summary






















Cycle Length: 120	
Actuated Cycle Length: 66.9	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 5.2	Intersection LOS: A
Intersection Capacity Utilization 62.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	1	20	1	18	2	1998	10	5	1197	4
Future Volume (veh/h)	4	0	1	20	1	18	2	1998	10	5	1197	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	0	1	22	1	6	2	2148	11	5	1287	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	0	113	170	17	22	5	3440	1068	12	2408	1074
Arrive On Green	0.07	0.00	0.07	0.07	0.07	0.07	0.00	0.67	0.67	0.01	0.68	0.68
Sat Flow, veh/h	1495	0	1585	956	239	312	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	4	0	1	29	0	0	2	2148	11	5	1287	4
Grp Sat Flow(s),veh/h/ln	1495	0	1585	1508	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	0.1	14.8	0.1	0.2	11.4	0.1
Cycle Q Clear(g_c), s	0.1	0.0	0.0	1.0	0.0	0.0	0.1	14.8	0.1	0.2	11.4	0.1
Prop In Lane	1.00		1.00	0.76		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	0	113	209	0	0	5	3440	1068	12	2408	1074
V/C Ratio(X)	0.02	0.00	0.01	0.14	0.00	0.00	0.41	0.62	0.01	0.42	0.53	0.00
Avail Cap(c_a), veh/h	821	0	787	830	0	0	154	5569	1729	154	3876	1729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	0.0	26.9	27.4	0.0	0.0	31.1	5.7	3.3	30.9	5.1	3.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	19.3	0.2	0.0	8.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.4	0.0	0.0	0.1	2.1	0.0	0.1	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	0.0	27.0	27.7	0.0	0.0	50.4	5.9	3.3	39.5	5.3	3.3
LnGrp LOS	C	A	C	C	A	A	D	A	A	D	A	A
Approach Vol, veh/h		5			29			2161			1296	
Approach Delay, s/veh		27.0			27.7			6.0			5.4	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	48.3		9.2	4.8	48.5		9.2				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.4	68.1		* 31	5.4	68.1		* 31				
Max Q Clear Time (g_c+I1), s	2.2	16.8		2.1	2.1	13.4		3.0				
Green Ext Time (p_c), s	0.0	25.3		0.0	0.0	11.1		0.1				

Intersection Summary

HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations	↖	↗	↖	↗	↖	↑↑	↗	↑↑	↗	
Traffic Volume (vph)	5	3	2	2	6	1999	3	1212	6	
Future Volume (vph)	5	3	2	2	6	1999	3	1212	6	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4		8	5	2		6		1
Permitted Phases	4		8				2		6	
Detector Phase	4	4	8	8	5	2	2	6	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	26.5	16.5	16.5	9.6
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	74.7	74.7	74.7	9.6
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	62.3%	62.3%	62.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max	None
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	77.8	77.8	68.2	68.2	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.69	0.69	
v/c Ratio	0.04	0.05	0.01	0.04	0.07	0.77	0.00	0.53	0.01	
Control Delay	41.0	28.6	40.5	28.4	46.5	8.2	0.0	8.6	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.0	28.6	40.5	28.4	46.5	8.2	0.0	8.6	0.0	
LOS	D	C	D	C	D	A	A	A	A	
Approach Delay		33.0		31.1		8.3		8.5		
Approach LOS		C		C		A		A		

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 8.6
 Intersection Capacity Utilization 72.9%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	3	6	2	2	5	6	1999	3	0	1212	6
Future Volume (veh/h)	5	3	6	2	2	5	6	1999	3	0	1212	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	3	2	2	2	0	6	2149	2	0	1303	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	106	70	212	189	0	90	2793	1246	2	2448	1092
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.00	0.05	0.79	0.79	0.00	0.69	0.69
Sat Flow, veh/h	1415	1047	698	1411	1870	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	5	0	5	2	2	0	6	2149	2	0	1303	6
Grp Sat Flow(s),veh/h/ln	1415	0	1745	1411	1870	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.3	0.0	0.3	0.1	0.1	0.0	0.3	32.4	0.0	0.0	17.8	0.1
Cycle Q Clear(g_c), s	0.4	0.0	0.3	0.4	0.1	0.0	0.3	32.4	0.0	0.0	17.8	0.1
Prop In Lane	1.00		0.40	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	0	176	212	189	0	90	2793	1246	2	2448	1092
V/C Ratio(X)	0.02	0.00	0.03	0.01	0.01	0.00	0.07	0.77	0.00	0.00	0.53	0.01
Avail Cap(c_a), veh/h	514	0	546	511	586	0	90	2793	1246	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	0.0	40.1	40.3	40.0	0.0	44.8	5.7	2.3	0.0	7.6	4.8
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.0	0.0	0.0	1.4	1.4	0.0	0.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.0	0.0	0.0	0.2	5.7	0.0	0.0	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	0.0	40.2	40.3	40.1	0.0	46.2	7.1	2.3	0.0	8.4	4.8
LnGrp LOS	D	A	D	D	D	A	D	A	A	A	A	A
Approach Vol, veh/h		10			4			2157			1309	
Approach Delay, s/veh		40.2			40.2			7.2			8.4	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	84.3		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	0.0	34.4		2.4	2.3	19.8		2.4				
Green Ext Time (p_c), s	0.0	21.9		0.0	0.0	11.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				7.8								
HCM 6th LOS				A								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/21/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	9	1	1	2000	1217	4
Future Volume (vph)	9	1	1	2000	1217	4
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	28.5	28.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effct Green (s)	10.0	10.0	5.0	102.1	100.2	100.2
Actuated g/C Ratio	0.09	0.09	0.05	0.96	0.94	0.94
v/c Ratio	0.06	0.01	0.01	0.65	0.41	0.00
Control Delay	44.2	33.0	48.0	2.7	2.3	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.2	33.0	48.0	2.7	2.3	2.0
LOS	D	C	D	A	A	A
Approach Delay	43.2			2.8	2.3	
Approach LOS	D			A	A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 106.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 2.7
 Intersection Capacity Utilization 72.9%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
 23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↑↑	↑↑	↗
Traffic Volume (veh/h)	9	1	1	2000	1217	4
Future Volume (veh/h)	9	1	1	2000	1217	4
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	0	1	2222	1352	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	43	38	2	3075	2907	1297
Arrive On Green	0.02	0.00	0.00	0.87	0.82	0.82
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	10	0	1	2222	1352	4
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.6	0.0	0.1	22.6	11.2	0.0
Cycle Q Clear(g_c), s	0.6	0.0	0.1	22.6	11.2	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	43	38	2	3075	2907	1297
V/C Ratio(X)	0.23	0.00	0.41	0.72	0.47	0.00
Avail Cap(c_a), veh/h	390	347	89	3075	2907	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	0.0	50.1	2.4	2.7	1.7
Incr Delay (d2), s/veh	2.7	0.0	36.2	1.5	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.6	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.8	0.0	86.3	3.9	3.2	1.7
LnGrp LOS	D	A	F	A	A	A
Approach Vol, veh/h	10			2223	1356	
Approach Delay, s/veh	50.8			4.0	3.2	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		7.0	4.7	88.7
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+11), s		24.6		2.6	2.1	13.2
Green Ext Time (p_c), s		32.9		0.0	0.0	12.2
Intersection Summary						
HCM 6th Ctrl Delay			3.8			
HCM 6th LOS			A			

Timings

24: Winchester Rd. & Scott Rd./Washington St,

06/21/2021

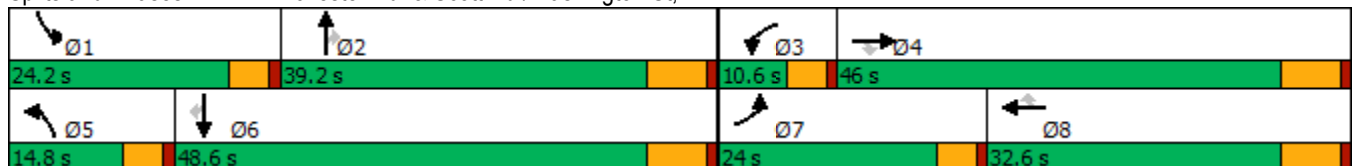


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↖	↗	↖	↖	↑↑↑	↖	↑↑↑	↖
Traffic Volume (vph)	256	132	67	52	150	533	93	1212	260	808	150
Future Volume (vph)	256	132	67	52	150	533	93	1212	260	808	150
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.5	45.5	9.6	16.5	16.5	9.6	35.5	9.6	44.5	44.5
Total Split (s)	24.0	46.0	46.0	10.6	32.6	32.6	14.8	39.2	24.2	48.6	48.6
Total Split (%)	20.0%	38.3%	38.3%	8.8%	27.2%	27.2%	12.3%	32.7%	20.2%	40.5%	40.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	19.2	41.4	41.4	5.8	26.1	26.1	9.3	32.6	19.4	42.7	42.7
Actuated g/C Ratio	0.16	0.35	0.35	0.05	0.22	0.22	0.08	0.27	0.16	0.36	0.36
v/c Ratio	0.95	0.22	0.11	0.65	0.39	0.98	0.72	0.92	0.95	0.47	0.24
Control Delay	91.8	29.8	0.3	88.4	43.4	55.7	81.1	53.9	92.2	30.9	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.8	29.8	0.3	88.4	43.4	55.7	81.1	53.9	92.2	30.9	5.0
LOS	F	C	A	F	D	E	F	D	F	C	A
Approach Delay		60.3			55.5			55.9		40.8	
Approach LOS		E			E			E		D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 119.5	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 51.4	Intersection LOS: D
Intersection Capacity Utilization 85.3%	ICU Level of Service E
Analysis Period (min) 15	

























Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	256	132	67	52	150	533	93	1212	0	260	808	150
Future Volume (veh/h)	256	132	67	52	150	533	93	1212	0	260	808	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	269	139	60	55	158	502	98	1276	0	274	851	138
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	624	529	84	408	346	122	1376	427	292	1865	579
Arrive On Green	0.16	0.33	0.33	0.05	0.22	0.22	0.07	0.27	0.00	0.16	0.37	0.37
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	269	139	60	55	158	502	98	1276	0	274	851	138
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	17.8	6.4	3.1	3.6	8.6	26.1	6.5	29.1	0.0	18.2	15.2	7.2
Cycle Q Clear(g_c), s	17.8	6.4	3.1	3.6	8.6	26.1	6.5	29.1	0.0	18.2	15.2	7.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	289	624	529	84	408	346	122	1376	427	292	1865	579
V/C Ratio(X)	0.93	0.22	0.11	0.66	0.39	1.45	0.80	0.93	0.00	0.94	0.46	0.24
Avail Cap(c_a), veh/h	289	624	529	89	408	346	152	1397	434	292	1865	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	28.7	27.6	56.0	39.9	46.7	54.9	42.5	0.0	49.4	28.9	26.4
Incr Delay (d2), s/veh	34.5	0.2	0.1	11.1	0.6	218.2	17.6	10.8	0.0	36.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	2.7	1.1	1.8	3.9	30.7	3.4	12.8	0.0	10.6	5.8	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.9	28.8	27.7	67.1	40.5	264.9	72.5	53.3	0.0	85.4	29.1	26.6
LnGrp LOS	F	C	C	E	D	F	E	D	A	F	C	C
Approach Vol, veh/h		468			715			1374			1263	
Approach Delay, s/veh		60.3			200.1			54.7			41.0	
Approach LOS		E			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	38.7	10.2	46.4	12.8	50.2	24.0	32.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	19.6	32.7	6.0	39.5	10.2	42.1	19.4	26.1				
Max Q Clear Time (g_c+I1), s	20.2	31.1	5.6	8.4	8.5	17.2	19.8	28.1				
Green Ext Time (p_c), s	0.0	1.1	0.0	0.8	0.0	5.9	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				78.1								
HCM 6th LOS				E								

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/21/2021

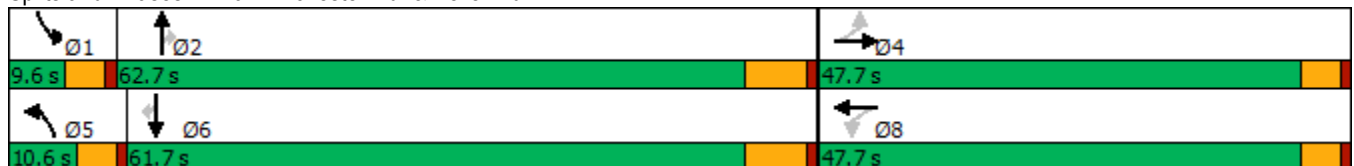


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	8	12	10	18	24	1290	85	5	907	15
Future Volume (vph)	8	12	10	18	24	1290	85	5	907	15
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8	5	2		1	6	
Permitted Phases	4		8				2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5
Total Split (s)	47.7	47.7	47.7	47.7	10.6	62.7	62.7	9.6	61.7	61.7
Total Split (%)	39.8%	39.8%	39.8%	39.8%	8.8%	52.3%	52.3%	8.0%	51.4%	51.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		10.8		10.8	5.8	39.0	39.0	5.4	36.9	36.9
Actuated g/C Ratio		0.21		0.21	0.11	0.76	0.76	0.11	0.72	0.72
v/c Ratio		0.13		0.11	0.13	0.51	0.07	0.03	0.38	0.01
Control Delay		16.8		21.3	28.7	6.8	1.8	28.6	7.5	0.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		16.8		21.3	28.7	6.8	1.8	28.6	7.5	0.0
LOS		B		C	C	A	A	C	A	A
Approach Delay		16.8		21.3		6.9			7.4	
Approach LOS		B		C		A			A	

Intersection Summary





















Cycle Length: 120
 Actuated Cycle Length: 51.2
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 7.5
 Intersection Capacity Utilization 53.3%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	12	22	10	18	7	24	1290	85	5	907	15
Future Volume (veh/h)	8	12	22	10	18	7	24	1290	85	5	907	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	13	17	11	19	4	26	1372	89	5	965	14
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	95	92	130	156	26	54	1979	863	12	1896	845
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.03	0.56	0.56	0.01	0.53	0.53
Sat Flow, veh/h	194	749	729	290	1237	204	1781	3554	1550	1781	3554	1585
Grp Volume(v), veh/h	39	0	0	34	0	0	26	1372	89	5	965	14
Grp Sat Flow(s),veh/h/ln	1672	0	0	1731	0	0	1781	1777	1550	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.7	14.2	1.4	0.1	8.9	0.2
Cycle Q Clear(g_c), s	1.0	0.0	0.0	0.8	0.0	0.0	0.7	14.2	1.4	0.1	8.9	0.2
Prop In Lane	0.23		0.44	0.32		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	298	0	0	312	0	0	54	1979	863	12	1896	845
V/C Ratio(X)	0.13	0.00	0.00	0.11	0.00	0.00	0.48	0.69	0.10	0.42	0.51	0.02
Avail Cap(c_a), veh/h	1456	0	0	1493	0	0	210	3918	1709	175	3848	1717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	0.0	19.8	0.0	0.0	24.3	8.1	5.3	25.2	7.6	5.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.0	2.5	0.4	0.1	8.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.3	0.0	0.0	0.3	2.6	0.2	0.1	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.1	0.0	0.0	20.0	0.0	0.0	26.8	8.6	5.4	33.7	7.8	5.6
LnGrp LOS	C	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		39			34			1487			984	
Approach Delay, s/veh		20.1			20.0			8.7			7.9	
Approach LOS		C			B			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	34.9		11.1	6.1	33.7		11.1				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	6.0	55.2		* 43				
Max Q Clear Time (g_c+I1), s	2.1	16.2		3.0	2.7	10.9		2.8				
Green Ext Time (p_c), s	0.0	12.2		0.2	0.0	7.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/21/2021

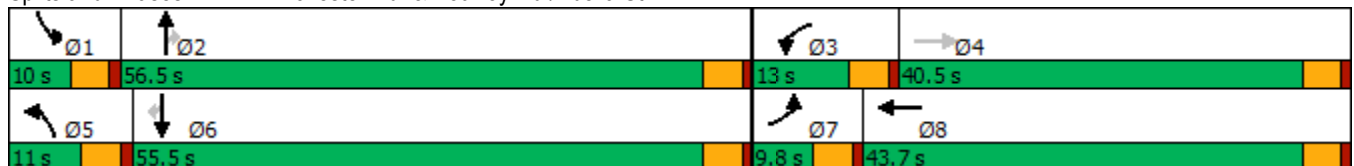


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕	↘	↕	↘	↕	↗	↘	↕	↗
Traffic Volume (vph)	15	7	96	12	31	1321	2	62	858	19
Future Volume (vph)	15	7	96	12	31	1321	2	62	858	19
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	9.8	40.5	13.0	43.7	11.0	56.5	56.5	10.0	55.5	55.5
Total Split (%)	8.2%	33.8%	10.8%	36.4%	9.2%	47.1%	47.1%	8.3%	46.3%	46.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	5.2	10.0	9.2	13.8	5.9	55.1	55.1	5.5	58.7	58.7
Actuated g/C Ratio	0.06	0.11	0.10	0.15	0.06	0.60	0.60	0.06	0.64	0.64
v/c Ratio	0.16	0.11	0.57	0.15	0.29	0.66	0.00	0.61	0.40	0.02
Control Delay	46.0	17.2	54.2	12.7	48.2	15.1	0.0	67.9	10.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	17.2	54.2	12.7	48.2	15.1	0.0	67.9	10.7	0.1
LOS	D	B	D	B	D	B	A	E	B	A
Approach Delay		25.3		35.9		15.8			14.2	
Approach LOS		C		D		B			B	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 91.8
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 16.8
 Intersection LOS: B
 Intersection Capacity Utilization 63.9%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/21/2021

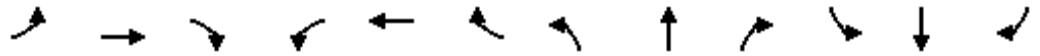
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	7	32	96	12	64	31	1321	2	62	858	19
Future Volume (veh/h)	15	7	32	96	12	64	31	1321	2	62	858	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	7	17	101	13	33	33	1391	2	65	903	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	175	156	128	270	241	56	2066	921	83	2121	946
Arrive On Green	0.02	0.10	0.10	0.07	0.15	0.15	0.03	0.58	0.58	0.05	0.60	0.60
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	16	7	17	101	13	33	33	1391	2	65	903	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.8	0.3	0.9	5.0	0.6	1.6	1.6	24.1	0.0	3.2	12.3	0.4
Cycle Q Clear(g_c), s	0.8	0.3	0.9	5.0	0.6	1.6	1.6	24.1	0.0	3.2	12.3	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	175	156	128	270	241	56	2066	921	83	2121	946
V/C Ratio(X)	0.49	0.04	0.11	0.79	0.05	0.14	0.59	0.67	0.00	0.78	0.43	0.02
Avail Cap(c_a), veh/h	106	715	638	169	779	695	129	2066	921	110	2121	946
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	36.5	36.7	40.8	32.4	32.8	42.8	12.9	7.8	42.2	9.7	7.3
Incr Delay (d2), s/veh	4.2	0.1	0.3	12.0	0.1	0.3	3.7	1.8	0.0	16.4	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.1	0.3	2.6	0.2	0.6	0.7	7.8	0.0	1.7	3.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	36.6	37.0	52.8	32.5	33.1	46.5	14.7	7.9	58.6	10.4	7.4
LnGrp LOS	D	D	D	D	C	C	D	B	A	E	B	A
Approach Vol, veh/h		40			147			1426			984	
Approach Delay, s/veh		41.2			46.6			15.4			13.5	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	56.5	10.9	13.3	7.3	57.9	6.1	18.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	52.0	8.5	36.0	6.5	51.0	5.3	39.2				
Max Q Clear Time (g_c+I1), s	5.2	26.1	7.0	2.9	3.6	14.3	2.8	3.6				
Green Ext Time (p_c), s	0.0	10.4	0.0	0.1	0.0	6.3	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			16.8									
HCM 6th LOS			B									

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/21/2021

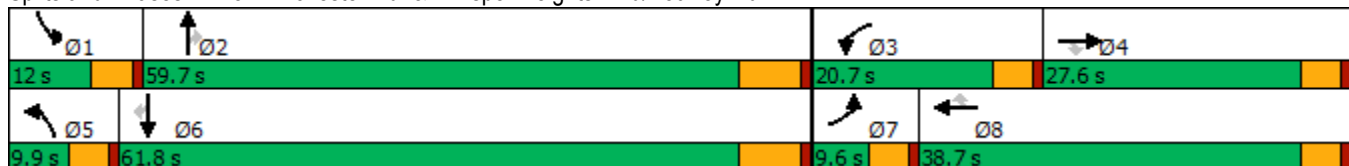


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↕	↗	↘	↕	↘
Traffic Volume (vph)	4	17	11	121	19	102	15	1248	1	117	856	13
Future Volume (vph)	4	17	11	121	19	102	15	1248	1	117	856	13
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	28.5	9.6	25.5	25.5
Total Split (s)	9.6	27.6	27.6	20.7	38.7	38.7	9.9	59.7	59.7	12.0	61.8	61.8
Total Split (%)	8.0%	23.0%	23.0%	17.3%	32.3%	32.3%	8.3%	49.8%	49.8%	10.0%	51.5%	51.5%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	5.4	10.8	10.8	12.6	18.4	18.4	5.5	38.1	38.1	7.1	47.0	47.0
Actuated g/C Ratio	0.07	0.13	0.13	0.15	0.22	0.22	0.07	0.46	0.46	0.09	0.57	0.57
v/c Ratio	0.03	0.07	0.03	0.46	0.05	0.24	0.13	0.79	0.00	0.41	0.44	0.01
Control Delay	47.5	42.5	0.2	43.7	30.2	7.6	48.9	23.3	0.0	46.4	12.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	42.5	0.2	43.7	30.2	7.6	48.9	23.3	0.0	46.4	12.9	0.0
LOS	D	D	A	D	C	A	D	C	A	D	B	A
Approach Delay		29.0			27.4			23.6			16.7	
Approach LOS		C			C			C			B	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 82.1	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 21.3	Intersection LOS: C
Intersection Capacity Utilization 65.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	4	17	11	121	19	102	15	1248	1	117	856	13
Future Volume (veh/h)	4	17	11	121	19	102	15	1248	1	117	856	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	18	4	126	20	51	16	1300	1	122	892	13
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9	215	182	161	374	312	34	1649	735	211	1799	802
Arrive On Green	0.01	0.12	0.12	0.09	0.20	0.20	0.02	0.46	0.46	0.06	0.51	0.51
Sat Flow, veh/h	1781	1870	1585	1781	1870	1562	1781	3554	1584	3456	3554	1585
Grp Volume(v), veh/h	4	18	4	126	20	51	16	1300	1	122	892	13
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1562	1781	1777	1584	1728	1777	1585
Q Serve(g_s), s	0.2	0.7	0.2	5.2	0.7	2.0	0.7	23.4	0.0	2.6	12.5	0.3
Cycle Q Clear(g_c), s	0.2	0.7	0.2	5.2	0.7	2.0	0.7	23.4	0.0	2.6	12.5	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	9	215	182	161	374	312	34	1649	735	211	1799	802
V/C Ratio(X)	0.42	0.08	0.02	0.78	0.05	0.16	0.48	0.79	0.00	0.58	0.50	0.02
Avail Cap(c_a), veh/h	118	567	480	379	841	702	125	2501	1115	338	2599	1159
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	29.9	29.7	33.7	24.5	25.0	36.7	17.1	10.9	34.5	12.3	9.3
Incr Delay (d2), s/veh	10.6	0.2	0.0	3.2	0.1	0.2	3.8	1.0	0.0	0.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.1	2.3	0.3	0.8	0.3	7.7	0.0	1.0	3.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	30.1	29.7	36.9	24.5	25.3	40.6	18.1	10.9	35.5	12.5	9.3
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	A
Approach Vol, veh/h		26			197			1317			1027	
Approach Delay, s/veh		32.8			32.6			18.4			15.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	41.6	11.4	13.4	6.0	44.8	5.0	19.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	7.4	53.2	16.1	* 23	5.3	55.3	5.0	* 34				
Max Q Clear Time (g_c+I1), s	4.6	25.4	7.2	2.7	2.7	14.5	2.2	4.0				
Green Ext Time (p_c), s	0.0	9.7	0.1	0.0	0.0	6.3	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B

Notes

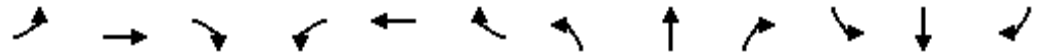
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/21/2021

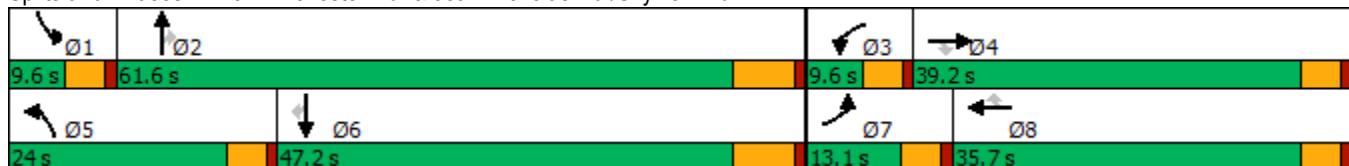


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	76	5	106	8	5	14	206	1339	13	4	844	70
Future Volume (vph)	76	5	106	8	5	14	206	1339	13	4	844	70
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.1	39.2	39.2	9.6	35.7	35.7	24.0	61.6	61.6	9.6	47.2	47.2
Total Split (%)	10.9%	32.7%	32.7%	8.0%	29.8%	29.8%	20.0%	51.3%	51.3%	8.0%	39.3%	39.3%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	8.6	13.0	13.0	5.1	10.1	10.1	14.8	59.0	59.0	5.1	41.2	41.2
Actuated g/C Ratio	0.10	0.15	0.15	0.06	0.12	0.12	0.17	0.68	0.68	0.06	0.47	0.47
v/c Ratio	0.45	0.02	0.30	0.08	0.02	0.05	0.71	0.58	0.01	0.04	0.52	0.09
Control Delay	48.5	34.2	4.5	45.4	39.4	0.3	48.5	10.2	0.0	44.5	19.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	34.2	4.5	45.4	39.4	0.3	48.5	10.2	0.0	44.5	19.0	0.2
LOS	D	C	A	D	D	A	D	B	A	D	B	A
Approach Delay		23.2			20.2			15.2			17.7	
Approach LOS		C			C			B			B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 86.8
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 16.6
 Intersection LOS: B
 Intersection Capacity Utilization 67.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	76	5	106	8	5	14	206	1339	13	4	844	70
Future Volume (veh/h)	76	5	106	8	5	14	206	1339	13	4	844	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	79	5	60	8	5	1	215	1395	11	4	879	55
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	289	243	18	201	170	251	2154	941	9	1671	736
Arrive On Green	0.06	0.15	0.15	0.01	0.11	0.11	0.14	0.61	0.61	0.01	0.47	0.47
Sat Flow, veh/h	1781	1870	1573	1781	1870	1585	1781	3554	1552	1781	3554	1565
Grp Volume(v), veh/h	79	5	60	8	5	1	215	1395	11	4	879	55
Grp Sat Flow(s),veh/h/ln	1781	1870	1573	1781	1870	1585	1781	1777	1552	1781	1777	1565
Q Serve(g_s), s	4.0	0.2	3.0	0.4	0.2	0.1	10.7	23.2	0.3	0.2	15.8	1.8
Cycle Q Clear(g_c), s	4.0	0.2	3.0	0.4	0.2	0.1	10.7	23.2	0.3	0.2	15.8	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	101	289	243	18	201	170	251	2154	941	9	1671	736
V/C Ratio(X)	0.78	0.02	0.25	0.45	0.02	0.01	0.86	0.65	0.01	0.42	0.53	0.07
Avail Cap(c_a), veh/h	167	710	597	98	638	540	380	2154	941	98	1671	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.3	32.6	33.8	44.8	36.3	36.2	38.2	11.6	7.1	45.1	16.9	13.2
Incr Delay (d2), s/veh	4.8	0.0	0.5	6.3	0.0	0.0	7.7	1.5	0.0	10.9	1.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.1	1.2	0.2	0.1	0.0	4.9	7.3	0.1	0.1	5.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	32.6	34.3	51.1	36.4	36.3	45.8	13.1	7.1	56.0	18.1	13.4
LnGrp LOS	D	C	C	D	D	D	D	B	A	E	B	B
Approach Vol, veh/h		144			14			1621			938	
Approach Delay, s/veh		41.3			44.8			17.4			18.0	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.1	61.6	5.5	18.7	17.4	49.3	9.8	14.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.1	5.0	* 35	19.4	40.7	8.5	* 31				
Max Q Clear Time (g_c+I1), s	2.2	25.2	2.4	5.0	12.7	17.8	6.0	2.2				
Green Ext Time (p_c), s	0.0	11.1	0.0	0.2	0.2	5.7	0.0	0.0				

Intersection Summary

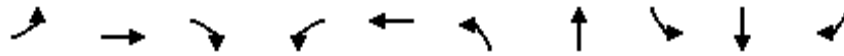
HCM 6th Ctrl Delay	19.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

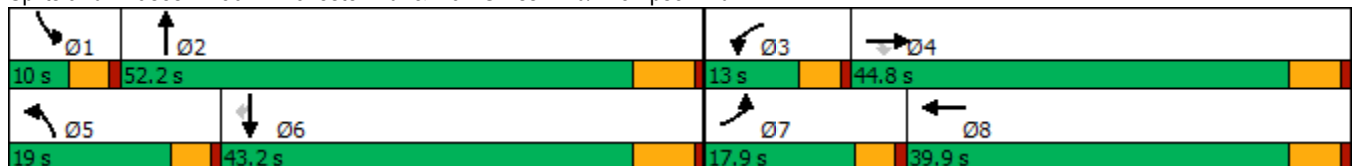


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↘	↘	↗	↘	↗↘	↘	↗↘	↘
Traffic Volume (vph)	96	225	430	250	249	505	1798	83	1082	63
Future Volume (vph)	96	225	430	250	249	505	1798	83	1082	63
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	17.9	44.8	44.8	13.0	39.9	19.0	52.2	10.0	43.2	43.2
Total Split (%)	14.9%	37.3%	37.3%	10.8%	33.3%	15.8%	43.5%	8.3%	36.0%	36.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	9.8	22.2	22.2	8.5	20.9	14.5	46.0	5.4	36.9	36.9
Actuated g/C Ratio	0.09	0.21	0.21	0.08	0.20	0.14	0.44	0.05	0.36	0.36
v/c Ratio	0.59	0.58	0.51	1.79	0.75	2.11	1.38	0.93	0.88	0.10
Control Delay	61.1	41.9	9.6	414.4	51.6	539.1	200.9	129.1	42.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	41.9	9.6	414.4	51.6	539.1	200.9	129.1	42.4	0.3
LOS	E	D	A	F	D	F	F	F	D	A
Approach Delay		25.9			225.9		267.5		46.2	
Approach LOS		C			F		F		D	

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 103.7	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.11	
Intersection Signal Delay: 173.7	Intersection LOS: F
Intersection Capacity Utilization 106.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	225	430	250	249	21	505	1798	261	83	1082	63
Future Volume (veh/h)	96	225	430	250	249	21	505	1798	261	83	1082	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	232	284	258	257	20	521	1854	204	86	1115	45
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	308	448	154	309	24	265	1524	164	99	1345	592
Arrive On Green	0.07	0.16	0.16	0.09	0.18	0.18	0.15	0.47	0.47	0.06	0.38	0.38
Sat Flow, veh/h	1781	1870	2721	1781	1711	133	1781	3233	349	1781	3554	1564
Grp Volume(v), veh/h	99	232	284	258	0	277	521	1003	1055	86	1115	45
Grp Sat Flow(s),veh/h/ln	1781	1870	1361	1781	0	1844	1781	1777	1805	1781	1777	1564
Q Serve(g_s), s	5.3	11.5	9.4	8.4	0.0	14.0	14.4	45.7	45.7	4.6	27.6	1.8
Cycle Q Clear(g_c), s	5.3	11.5	9.4	8.4	0.0	14.0	14.4	45.7	45.7	4.6	27.6	1.8
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	126	308	448	154	0	333	265	837	851	99	1345	592
V/C Ratio(X)	0.79	0.75	0.63	1.67	0.00	0.83	1.97	1.20	1.24	0.87	0.83	0.08
Avail Cap(c_a), veh/h	244	752	1095	154	0	649	265	837	851	99	1345	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.3	38.6	37.8	44.3	0.0	38.3	41.3	25.6	25.6	45.4	27.3	19.3
Incr Delay (d2), s/veh	4.1	3.7	1.5	329.0	0.0	5.4	449.6	100.3	118.3	49.1	4.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	5.3	3.2	17.8	0.0	6.8	38.9	39.5	44.4	3.3	11.2	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	42.4	39.3	373.3	0.0	43.7	490.9	125.9	143.9	94.5	31.8	19.3
LnGrp LOS	D	D	D	F	A	D	F	F	F	F	C	B
Approach Vol, veh/h		615			535			2579			1246	
Approach Delay, s/veh		41.9			202.6			207.0			35.7	
Approach LOS		D			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	52.2	13.0	21.8	19.0	43.2	11.4	23.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.4	45.7	8.4	39.0	14.4	36.7	13.3	34.1				
Max Q Clear Time (g_c+I1), s	6.6	47.7	10.4	13.5	16.4	29.6	7.3	16.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.0	3.8	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay	143.2											
HCM 6th LOS	F											

Timings
31: Winchester Rd. & Benton Rd.

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↖↖	↖	↖↖↖	↖	↖↖
Traffic Volume (vph)	322	682	1881	509	1252
Future Volume (vph)	322	682	1881	509	1252
Turn Type	Prot	pm+ov	NA	Prot	NA
Protected Phases	8	1	2	1	6
Permitted Phases		8			
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	30.6	9.5	38.5	9.5	16.5
Total Split (s)	30.6	32.0	57.4	32.0	89.4
Total Split (%)	25.5%	26.7%	47.8%	26.7%	74.5%
Yellow Time (s)	3.6	3.5	5.5	3.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	6.5	4.5	6.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	16.3	43.9	51.0	27.5	83.0
Actuated g/C Ratio	0.15	0.40	0.46	0.25	0.75
v/c Ratio	0.68	1.17	1.09	1.24	0.51
Control Delay	51.9	123.0	76.9	162.7	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	123.0	76.9	162.7	6.6
LOS	D	F	E	F	A
Approach Delay	100.2		76.9		51.7
Approach LOS	F		E		D

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 110.4
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.24
 Intersection Signal Delay: 72.8
 Intersection LOS: E
 Intersection Capacity Utilization 97.7%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/21/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	322	682	1881	447	509	1252
Future Volume (veh/h)	322	682	1881	447	509	1252
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	346	529	2023	343	547	1346
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	749	707	1865	309	408	2455
Arrive On Green	0.22	0.22	0.42	0.42	0.23	0.69
Sat Flow, veh/h	3456	1585	4566	728	1781	3647
Grp Volume(v), veh/h	346	529	1555	811	547	1346
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1721	1781	1777
Q Serve(g_s), s	10.5	26.0	50.9	50.9	27.5	22.6
Cycle Q Clear(g_c), s	10.5	26.0	50.9	50.9	27.5	22.6
Prop In Lane	1.00	1.00		0.42	1.00	
Lane Grp Cap(c), veh/h	749	707	1444	730	408	2455
V/C Ratio(X)	0.46	0.75	1.08	1.11	1.34	0.55
Avail Cap(c_a), veh/h	749	707	1444	730	408	2455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	27.7	34.5	34.6	46.3	9.2
Incr Delay (d2), s/veh	0.4	4.4	47.4	68.1	168.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	13.2	28.5	33.1	30.6	6.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.4	32.1	81.9	102.6	215.0	9.5
LnGrp LOS	D	C	F	F	F	A
Approach Vol, veh/h	875		2366			1893
Approach Delay, s/veh	35.7		89.0			68.9
Approach LOS	D		F			E
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	32.0	57.4			89.4	30.6
Change Period (Y+Rc), s	4.5	6.5			6.5	4.6
Max Green Setting (Gmax), s	27.5	50.9			82.9	26.0
Max Q Clear Time (g_c+I1), s	29.5	52.9			24.6	28.0
Green Ext Time (p_c), s	0.0	0.0			12.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			72.5			
HCM 6th LOS			E			

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↗	↖	↕
Traffic Volume (vph)	87	31	277	36	58	2161	251	59	1394
Future Volume (vph)	87	31	277	36	58	2161	251	59	1394
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	11.6	75.7	75.7	9.6	73.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	9.7%	63.1%	63.1%	8.0%	61.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	28.5	28.5	28.5	28.5	7.0	69.2	69.2	5.0	67.2
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.06	0.58	0.58	0.04	0.57
v/c Ratio	0.33	0.19	0.93	0.27	0.59	1.10	0.27	0.84	0.80
Control Delay	40.6	17.2	80.5	16.0	77.6	79.2	6.3	123.6	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	17.2	80.5	16.0	77.6	79.2	6.3	123.6	24.6
LOS	D	B	F	B	E	E	A	F	C
Approach Delay		29.3		61.4		71.8			28.3
Approach LOS		C		E		E			C

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 118.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.10	
Intersection Signal Delay: 54.5	Intersection LOS: D
Intersection Capacity Utilization 91.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↗	
Traffic Volume (veh/h)	87	31	50	277	36	81	58	2161	251	59	1394	121
Future Volume (veh/h)	87	31	50	277	36	81	58	2161	251	59	1394	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	33	36	292	38	80	61	2275	178	62	1467	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	306	204	223	351	134	283	104	2049	914	74	1888	128
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.06	0.58	0.58	0.04	0.56	0.56
Sat Flow, veh/h	1274	818	892	1332	537	1130	1781	3554	1585	1781	3371	229
Grp Volume(v), veh/h	92	0	69	292	0	118	61	2275	178	62	770	797
Grp Sat Flow(s),veh/h/ln	1274	0	1710	1332	0	1667	1781	1777	1585	1781	1777	1823
Q Serve(g_s), s	7.5	0.0	3.8	26.2	0.0	6.9	4.0	69.2	6.4	4.1	40.4	41.0
Cycle Q Clear(g_c), s	14.4	0.0	3.8	30.0	0.0	6.9	4.0	69.2	6.4	4.1	40.4	41.0
Prop In Lane	1.00		0.52	1.00		0.68	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	306	0	427	351	0	417	104	2049	914	74	995	1021
V/C Ratio(X)	0.30	0.00	0.16	0.83	0.00	0.28	0.59	1.11	0.19	0.84	0.77	0.78
Avail Cap(c_a), veh/h	306	0	427	351	0	417	104	2049	914	74	995	1021
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.1	0.0	35.2	46.9	0.0	36.3	55.1	25.4	12.1	57.1	20.5	20.6
Incr Delay (d2), s/veh	0.2	0.0	0.1	15.5	0.0	0.4	22.0	57.2	0.1	65.4	3.5	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	1.6	10.2	0.0	2.8	2.4	40.8	2.1	3.1	15.5	16.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	0.0	35.2	62.5	0.0	36.7	77.1	82.6	12.2	122.5	24.0	24.3
LnGrp LOS	D	A	D	E	A	D	E	F	B	F	C	C
Approach Vol, veh/h		161			410			2514			1629	
Approach Delay, s/veh		39.3			55.0			77.5			27.9	
Approach LOS		D			E			E			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	75.7		34.7	11.6	73.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	69.2		* 30	7.0	67.2		* 30				
Max Q Clear Time (g_c+I1), s	6.1	71.2		16.4	6.0	43.0		32.0				
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	6.5		0.0				

Intersection Summary

HCM 6th Ctrl Delay	57.1
HCM 6th LOS	E

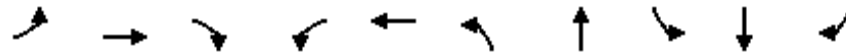
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/21/2021

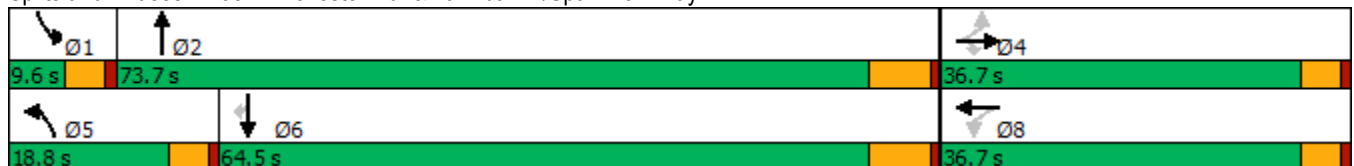


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	81	9	124	38	4	208	2374	8	1607	105
Future Volume (vph)	81	9	124	38	4	208	2374	8	1607	105
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	18.8	73.7	9.6	64.5	64.5
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	15.7%	61.4%	8.0%	53.8%	53.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	12.1	12.1	12.1		12.1	14.3	72.3	5.0	55.2	55.2
Actuated g/C Ratio	0.12	0.12	0.12		0.12	0.15	0.74	0.05	0.57	0.57
v/c Ratio	0.47	0.04	0.42		0.31	0.83	0.96	0.09	0.83	0.12
Control Delay	49.5	38.6	11.6		35.9	68.2	24.1	48.9	21.9	2.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.5	38.6	11.6		35.9	68.2	24.1	48.9	21.9	2.9
LOS	D	D	B		D	E	C	D	C	A
Approach Delay		27.1			35.9		27.5		20.9	
Approach LOS		C			D		C		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.4
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 25.2
 Intersection LOS: C
 Intersection Capacity Utilization 95.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	9	124	38	4	16	208	2374	70	8	1607	105
Future Volume (veh/h)	81	9	124	38	4	16	208	2374	70	8	1607	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	9	56	39	4	5	214	2447	58	8	1657	86
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	199	168	184	20	16	247	2536	60	18	2083	909
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.14	0.72	0.72	0.01	0.59	0.59
Sat Flow, veh/h	1406	1870	1585	1079	187	147	1781	3546	84	1781	3554	1550
Grp Volume(v), veh/h	84	9	56	48	0	0	214	1220	1285	8	1657	86
Grp Sat Flow(s),veh/h/ln	1406	1870	1585	1413	0	0	1781	1777	1853	1781	1777	1550
Q Serve(g_s), s	1.7	0.4	3.1	2.4	0.0	0.0	11.0	58.5	60.3	0.4	33.8	2.3
Cycle Q Clear(g_c), s	4.5	0.4	3.1	2.8	0.0	0.0	11.0	58.5	60.3	0.4	33.8	2.3
Prop In Lane	1.00		1.00	0.81		0.10	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	238	199	168	220	0	0	247	1270	1325	18	2083	909
V/C Ratio(X)	0.35	0.05	0.33	0.22	0.00	0.00	0.87	0.96	0.97	0.45	0.80	0.09
Avail Cap(c_a), veh/h	569	639	542	548	0	0	270	1275	1330	95	2202	960
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	37.6	38.8	38.6	0.0	0.0	39.5	12.1	12.4	46.1	15.0	8.5
Incr Delay (d2), s/veh	0.9	0.1	1.1	0.5	0.0	0.0	21.4	16.6	17.8	6.4	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.2	1.2	1.0	0.0	0.0	5.9	19.1	20.8	0.2	11.1	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	37.7	39.9	39.1	0.0	0.0	60.8	28.8	30.2	52.5	17.0	8.5
LnGrp LOS	D	D	D	D	A	A	E	C	C	D	B	A
Approach Vol, veh/h		149			48			2719			1751	
Approach Delay, s/veh		39.9			39.1			32.0			16.8	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	73.4		14.6	17.6	61.4		14.6				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	14.2	58.0		* 32				
Max Q Clear Time (g_c+I1), s	2.4	62.3		6.5	13.0	35.8		4.8				
Green Ext Time (p_c), s	0.0	4.7		0.4	0.0	12.4		0.2				

Intersection Summary

HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 3.3:

EXISTING (2021) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday AM Peak Hour**

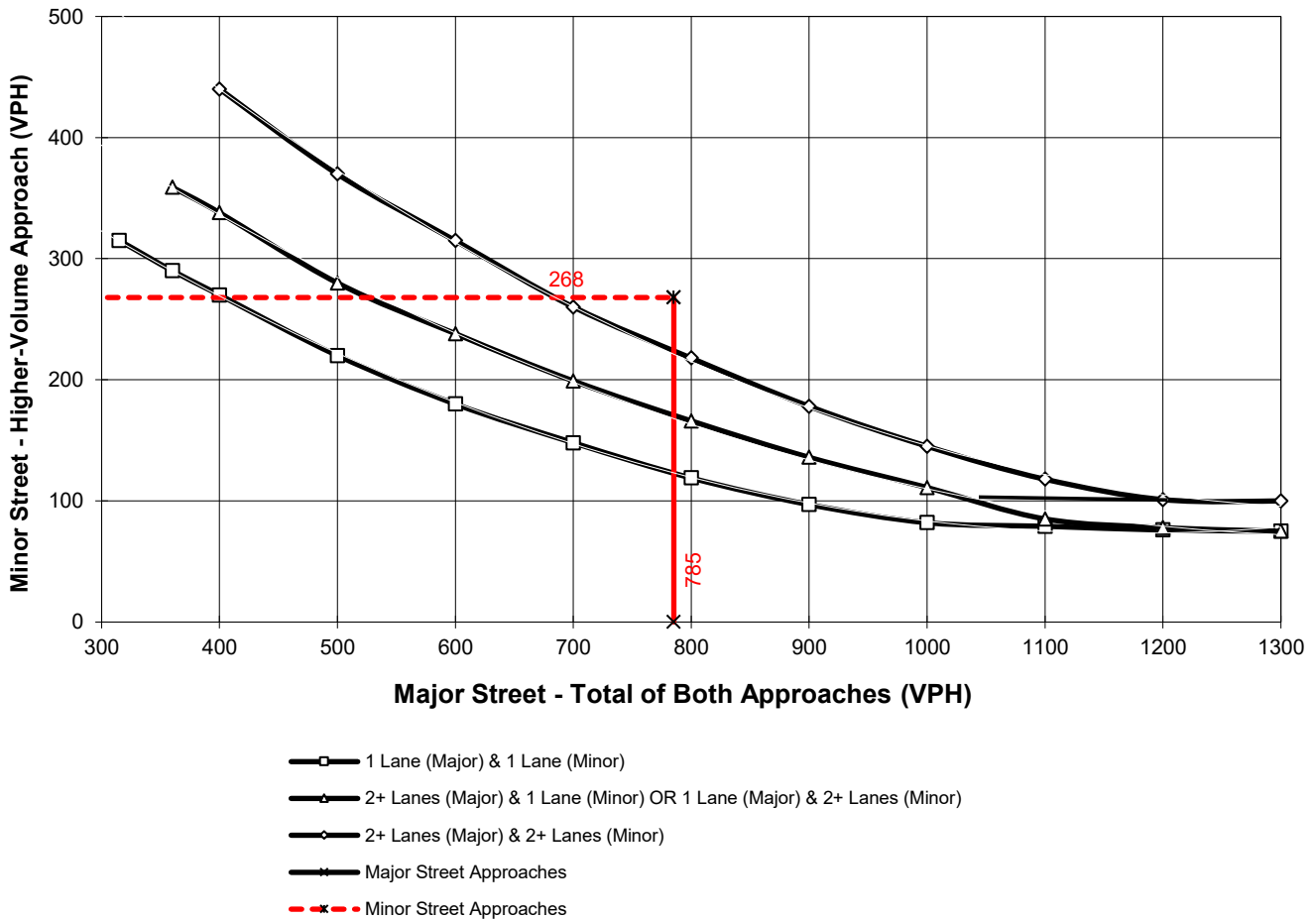
Major Street Name = **Scott Rd.**

Total of Both Approaches (VPH) = **785**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Leon Rd.**

High Volume Approach (VPH) = **268**
 Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane



Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday AM Peak Hour**

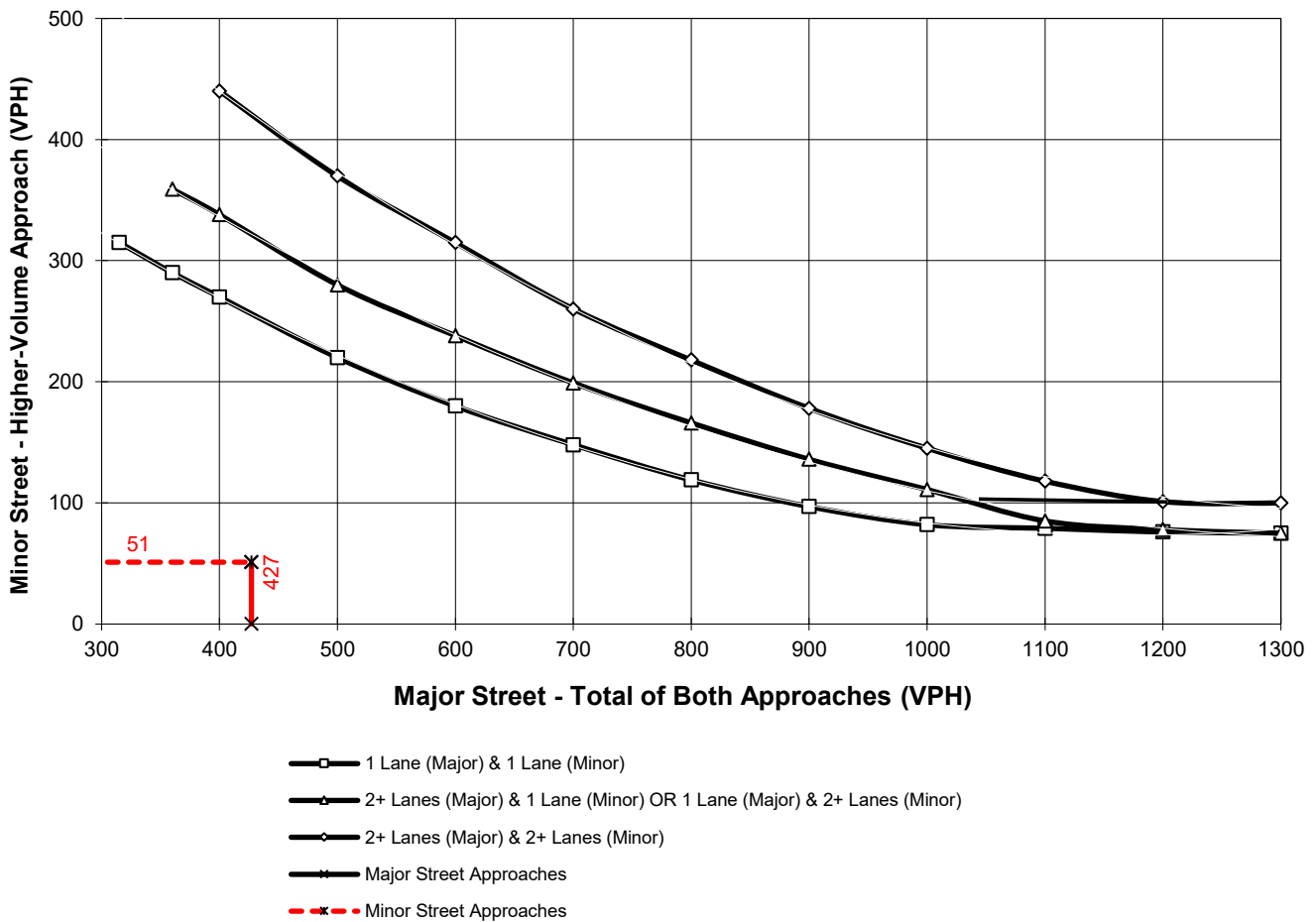
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **427**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Keller Rd.**

High Volume Approach (VPH) = **51**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday PM Peak Hour**

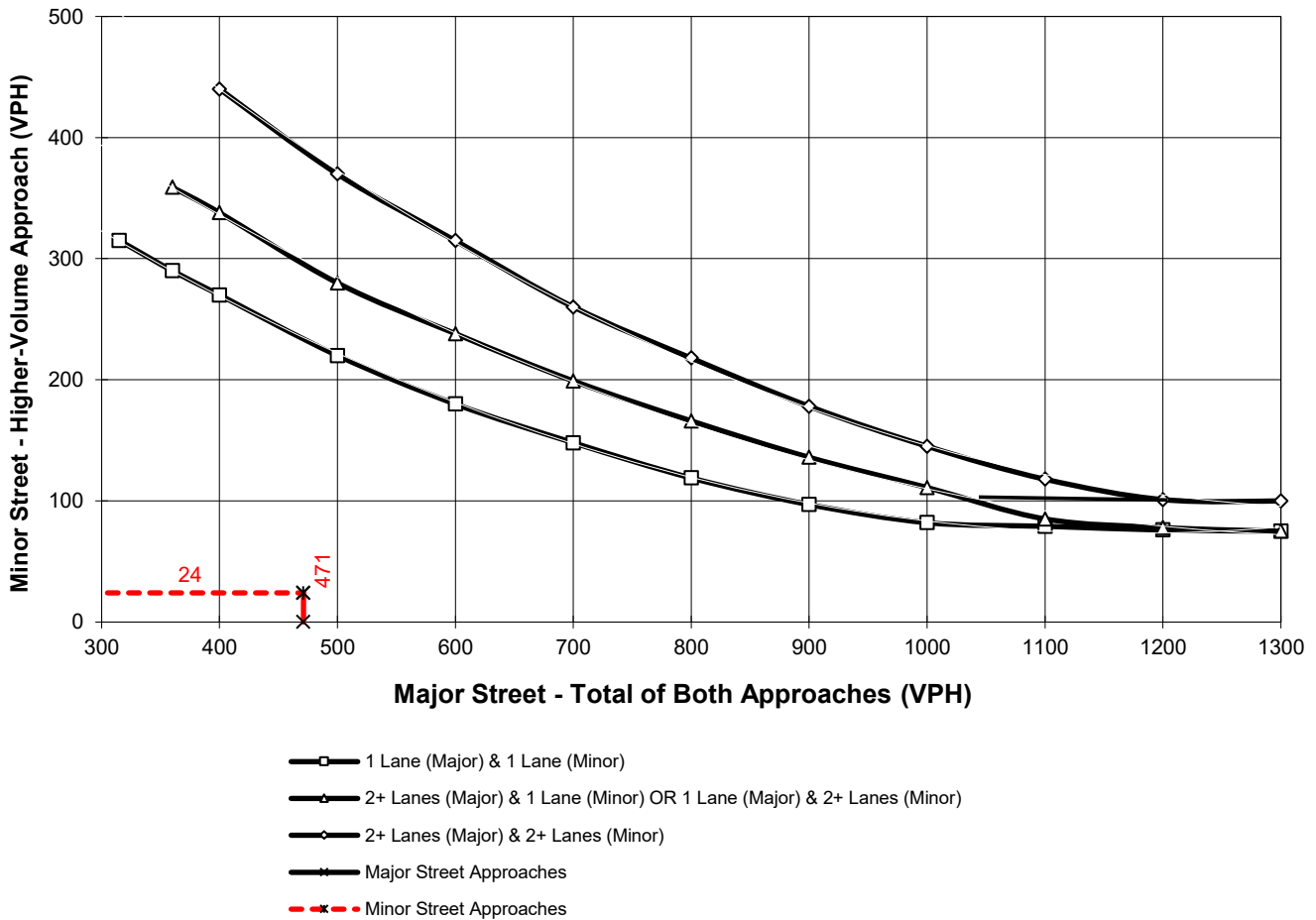
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **471**
 Number of Approach Lanes Major Street = **2**

Minor Street Name = **Whisper Heights Pkwy.**

High Volume Approach (VPH) = **24**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane



Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday PM Peak Hour**

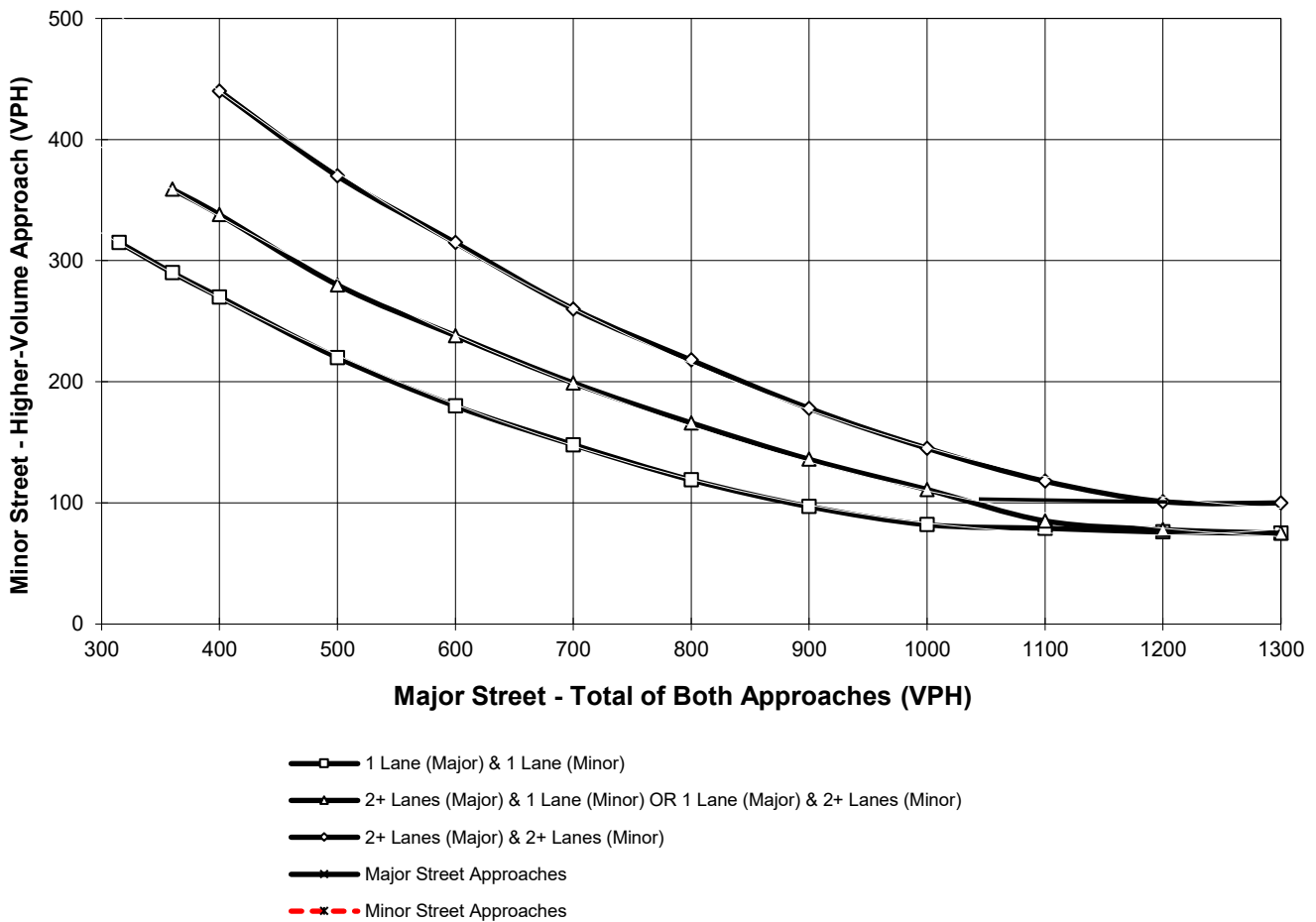
Major Street Name = **Keller Rd.**

Total of Both Approaches (VPH) = **111**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pourroy Rd.**

High Volume Approach (VPH) = **24**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday AM Peak Hour**

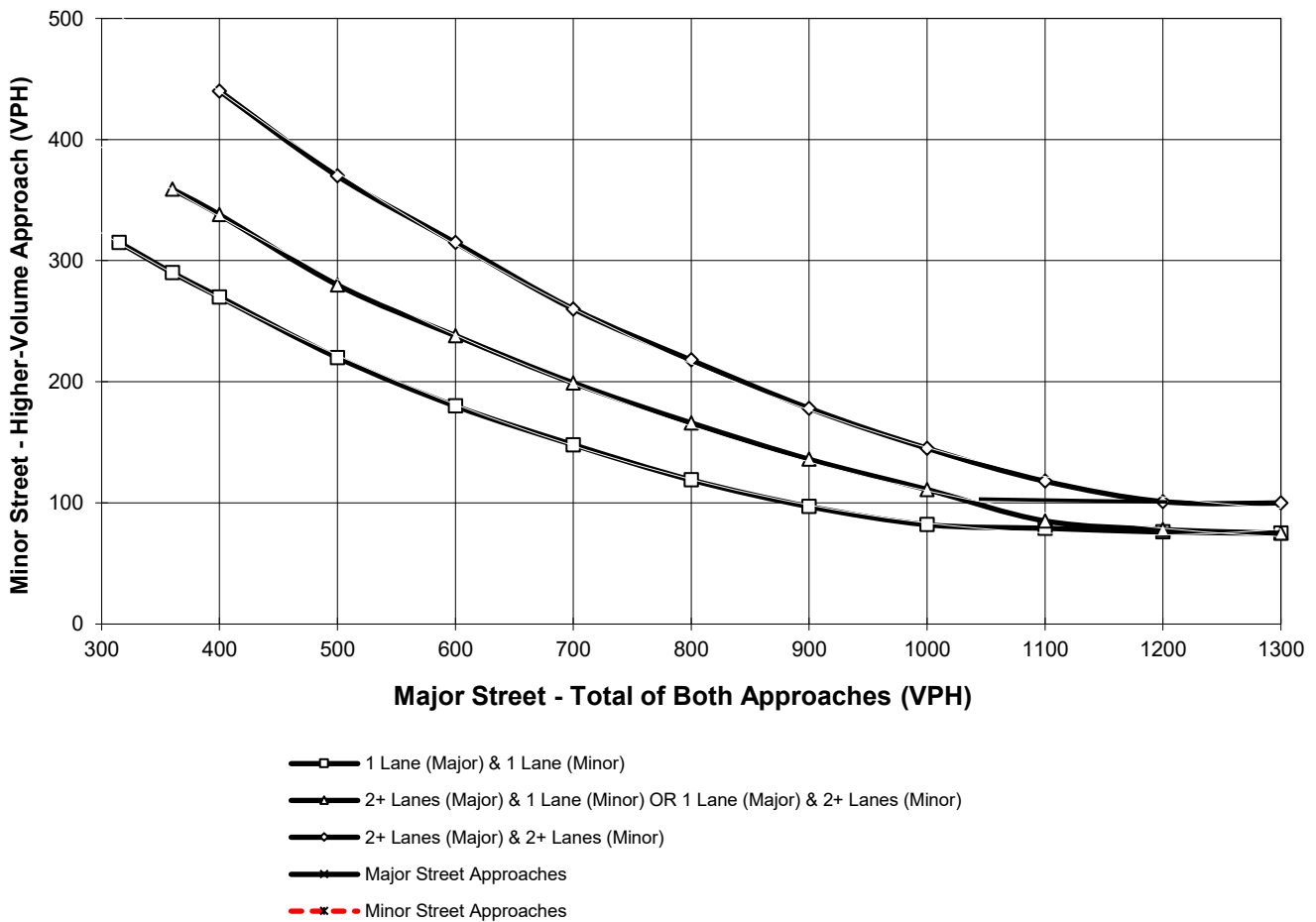
Major Street Name = **Pourroy Rd.**

Total of Both Approaches (VPH) = **49**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pat Rd.**

High Volume Approach (VPH) = **39**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 3.4:

EXISTING (2021) CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Queues

1: I-215 SB Ramps & Scott Rd.

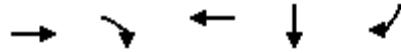


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	706	706	909	655	620	132	132
v/c Ratio	0.39	0.61	0.50	0.58	0.56	0.23	0.23
Control Delay	8.9	3.4	9.9	3.2	17.9	4.1	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	3.4	9.9	3.2	17.9	4.1	4.1
Queue Length 50th (ft)	61	0	84	0	78	0	0
Queue Length 95th (ft)	121	36	163	35	156	27	27
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	3488	1570	3488	1570	2704	1215	1215
Starvation Cap Reductn	0	0	91	15	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.45	0.27	0.42	0.23	0.11	0.11

Intersection Summary

Queues

2: I-215 SB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1362	476	1759	241	812
v/c Ratio	0.57	0.49	0.76	0.35	0.73
Control Delay	19.6	3.5	21.8	22.8	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	3.5	21.8	22.8	27.5
Queue Length 50th (ft)	199	0	272	96	206
Queue Length 95th (ft)	319	57	432	188	343
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	3302	1170	3197	1027	1641
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.41	0.55	0.23	0.49

Intersection Summary

Queues

3: I-215 NB Ramps & Scott Rd.



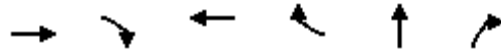
Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	199	1054	1188	412	139	139	144	144
v/c Ratio	0.77	0.45	0.51	0.35	0.36	0.36	0.40	0.40
Control Delay	26.8	3.8	4.2	1.1	4.2	4.2	8.7	8.7
Queue Delay	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay	26.8	3.9	4.2	1.1	4.2	4.2	8.7	8.7
Queue Length 50th (ft)	22	41	49	0	0	0	0	0
Queue Length 95th (ft)	#133	84	99	14	16	16	43	43
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	387	3539	3539	1583	610	610	582	582
Starvation Cap Reductn	0	322	700	291	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.33	0.42	0.32	0.23	0.23	0.25	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

4: I-215 NB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	908	659	1411	232	294	271
v/c Ratio	0.37	0.61	0.58	0.26	0.60	0.52
Control Delay	10.5	3.8	12.4	2.5	23.1	15.0
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0
Total Delay	10.5	4.0	12.4	2.5	23.1	15.0
Queue Length 50th (ft)	65	0	115	0	80	42
Queue Length 95th (ft)	126	50	214	33	198	134
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	4855	1485	4855	1522	1185	1114
Starvation Cap Reductn	0	263	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.54	0.29	0.15	0.25	0.24

Intersection Summary

Queues

1: I-215 SB Ramps & Scott Rd.

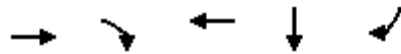


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1066	452	1465	404	538	138	138
v/c Ratio	0.49	0.39	0.67	0.36	0.59	0.32	0.32
Control Delay	8.8	1.8	11.3	1.7	28.4	18.9	18.9
Queue Delay	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Total Delay	8.8	1.8	11.3	1.8	28.4	18.9	18.9
Queue Length 50th (ft)	116	0	191	0	104	30	30
Queue Length 95th (ft)	227	34	367	32	220	104	104
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	3287	1502	3287	1499	1736	786	786
Starvation Cap Reductn	0	0	424	188	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.30	0.51	0.31	0.31	0.18	0.18

Intersection Summary

Queues

2: I-215 SB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1501	360	1484	292	696
v/c Ratio	0.63	0.40	0.63	0.47	0.67
Control Delay	17.4	3.1	16.2	23.9	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	3.1	16.2	23.9	23.0
Queue Length 50th (ft)	182	0	167	104	132
Queue Length 95th (ft)	320	47	299	230	267
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	3814	1225	3664	1212	1937
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.29	0.41	0.24	0.36

Intersection Summary

Queues

3: I-215 NB Ramps & Scott Rd.



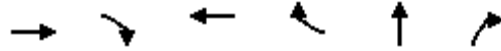
Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	238	1348	1158	515	382	381	347	346
v/c Ratio	0.93	0.56	0.48	0.41	0.90	0.90	0.77	0.77
Control Delay	60.3	9.7	8.7	1.6	59.1	58.7	38.8	38.6
Queue Delay	0.0	0.7	1.3	1.0	0.0	0.0	0.0	0.0
Total Delay	60.3	10.3	10.0	2.5	59.1	58.7	38.8	38.6
Queue Length 50th (ft)	137	238	188	0	246	245	175	174
Queue Length 95th (ft)	#335	289	230	30	#445	#444	#327	#325
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	287	2719	2719	1335	465	465	493	493
Starvation Cap Reductn	0	901	1259	537	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.74	0.79	0.65	0.82	0.82	0.70	0.70

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

4: I-215 NB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	1168	571	1049	131	456	410
v/c Ratio	0.55	0.60	0.49	0.18	0.70	0.69
Control Delay	17.4	5.5	16.8	4.0	24.2	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	5.5	16.8	4.0	24.2	24.5
Queue Length 50th (ft)	128	11	112	0	150	133
Queue Length 95th (ft)	248	95	219	34	337	309
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	3890	1293	3890	1215	1312	1189
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.44	0.27	0.11	0.35	0.34

Intersection Summary

APPENDIX 3.5:

**EXISTING (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS
WITH IMPROVEMENTS**

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Timings
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)

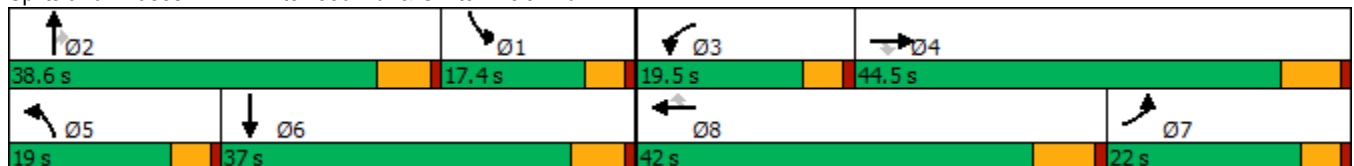
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	321	768	144	230	1043	104	118	110	90	80	348
Future Volume (vph)	321	768	144	230	1043	104	118	110	90	80	348
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	36.8	36.8	9.6	36.8
Total Split (s)	22.0	44.5	44.5	19.5	42.0	42.0	19.0	38.6	38.6	17.4	37.0
Total Split (%)	18.3%	37.1%	37.1%	16.3%	35.0%	35.0%	15.8%	32.2%	32.2%	14.5%	30.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	14.4	31.9	31.9	11.8	29.3	29.3	11.4	15.7	15.7	23.8	25.3
Actuated g/C Ratio	0.14	0.31	0.31	0.11	0.29	0.29	0.11	0.15	0.15	0.23	0.25
v/c Ratio	0.72	0.49	0.27	0.63	0.73	0.20	0.67	0.23	0.25	0.22	0.82
Control Delay	53.2	30.7	5.7	53.1	36.9	1.5	64.4	47.9	1.5	33.0	35.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.2	30.7	5.7	53.1	36.9	1.5	64.4	47.9	1.5	33.0	35.3
LOS	D	C	A	D	D	A	E	D	A	C	D
Approach Delay		33.6			36.9			40.9			35.1
Approach LOS		C			D			D			D

Intersection Summary

































Cycle Length: 120	
Actuated Cycle Length: 102.7	
Natural Cycle: 95	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 35.8	Intersection LOS: D
Intersection Capacity Utilization 75.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

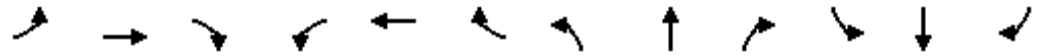
Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (veh/h)	321	768	144	230	1043	104	118	110	90	80	348	369
Future Volume (veh/h)	321	768	144	230	1043	104	118	110	90	80	348	369
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	357	853	99	256	1159	88	131	122	17	89	387	271
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	442	1879	531	338	1597	451	163	394	176	370	483	334
Arrive On Green	0.12	0.33	0.33	0.09	0.28	0.28	0.09	0.11	0.11	0.21	0.24	0.24
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	3554	1585	1781	2008	1389
Grp Volume(v), veh/h	357	853	99	256	1159	88	131	122	17	89	342	316
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1620
Q Serve(g_s), s	8.8	10.8	4.0	6.3	16.8	3.8	6.5	2.8	0.7	3.8	16.3	16.6
Cycle Q Clear(g_c), s	8.8	10.8	4.0	6.3	16.8	3.8	6.5	2.8	0.7	3.8	16.3	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	442	1879	531	338	1597	451	163	394	176	370	427	389
V/C Ratio(X)	0.81	0.45	0.19	0.76	0.73	0.20	0.80	0.31	0.10	0.24	0.80	0.81
Avail Cap(c_a), veh/h	688	2365	668	589	2209	624	285	1293	577	370	615	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	23.5	21.3	39.8	29.1	24.4	40.2	36.9	21.0	29.8	32.2	32.3
Incr Delay (d2), s/veh	1.9	0.2	0.2	1.3	0.8	0.2	3.5	0.4	0.2	0.1	4.9	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	4.3	1.4	2.6	6.9	1.3	2.9	1.2	0.3	1.5	7.1	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	23.7	21.4	41.1	29.8	24.6	43.6	37.3	21.2	29.9	37.1	38.2
LnGrp LOS	D	C	C	D	C	C	D	D	C	C	D	D
Approach Vol, veh/h		1309			1503			270			747	
Approach Delay, s/veh		28.1			31.4			39.4			36.7	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.5	15.8	13.1	36.7	12.8	27.5	17.7	32.2				
Change Period (Y+Rc), s	5.8	* 5.8	4.6	6.5	4.6	5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	12.8	* 33	14.9	38.0	14.4	31.2	17.4	* 36				
Max Q Clear Time (g_c+I1), s	5.8	4.8	8.3	12.8	8.5	18.6	10.8	18.8				
Green Ext Time (p_c), s	0.0	0.7	0.2	5.7	0.1	3.1	0.4	6.9				
Intersection Summary												
HCM 6th Ctrl Delay				31.9								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)

06/24/2021

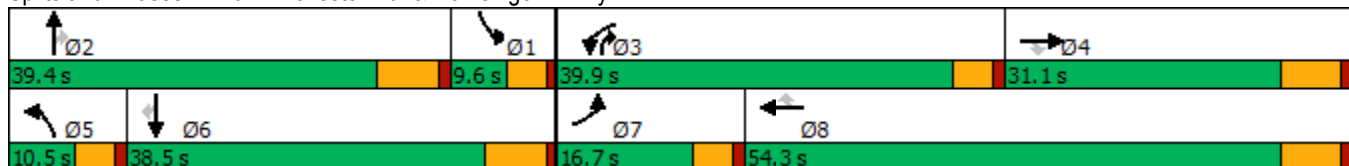


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (vph)	166	901	134	815	815	14	60	341	625	6	942	226
Future Volume (vph)	166	901	134	815	815	14	60	341	625	6	942	226
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.5	16.5	9.6	38.5	38.5	9.6	38.5	9.6	9.6	38.5	38.5
Total Split (s)	16.7	31.1	31.1	39.9	54.3	54.3	10.5	39.4	39.9	9.6	38.5	38.5
Total Split (%)	13.9%	25.9%	25.9%	33.3%	45.3%	45.3%	8.8%	32.8%	33.3%	8.0%	32.1%	32.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	9.7	23.1	23.1	30.5	43.8	43.8	6.0	30.3	66.7	8.2	27.2	27.2
Actuated g/C Ratio	0.09	0.22	0.22	0.29	0.41	0.41	0.06	0.28	0.62	0.08	0.25	0.25
v/c Ratio	0.55	0.79	0.28	0.86	0.38	0.02	0.65	0.23	0.65	0.04	0.70	0.41
Control Delay	56.1	46.8	2.0	46.8	23.5	0.1	83.5	32.5	14.7	47.5	40.1	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	46.8	2.0	46.8	23.5	0.1	83.5	32.5	14.7	47.5	40.1	6.7
LOS	E	D	A	D	C	A	F	C	B	D	D	A
Approach Delay		43.1			34.9			24.6			33.7	
Approach LOS		D			C			C			C	

Intersection Summary

































Cycle Length: 120
 Actuated Cycle Length: 106.8
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 34.5
 Intersection LOS: C
 Intersection Capacity Utilization 81.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  			  		 		
Traffic Volume (veh/h)	166	901	134	815	815	14	60	341	625	6	942	226
Future Volume (veh/h)	166	901	134	815	815	14	60	341	625	6	942	226
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	177	959	87	867	867	9	64	363	426	6	1002	213
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	248	1201	339	944	2298	649	99	886	670	215	1359	384
Arrive On Green	0.07	0.21	0.21	0.40	0.41	0.41	0.06	0.16	0.16	0.12	0.24	0.24
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	177	959	87	867	867	9	64	363	426	6	1002	213
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.8	16.1	4.5	22.9	10.7	0.2	3.5	5.8	10.2	0.3	16.4	11.7
Cycle Q Clear(g_c), s	4.8	16.1	4.5	22.9	10.7	0.2	3.5	5.8	10.2	0.3	16.4	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	248	1201	339	944	2298	649	99	886	670	215	1359	384
V/C Ratio(X)	0.71	0.80	0.26	0.92	0.38	0.01	0.65	0.41	0.64	0.03	0.74	0.55
Avail Cap(c_a), veh/h	434	1389	392	1266	2700	763	106	1858	945	215	1807	511
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	37.0	32.5	28.9	20.5	5.7	46.0	37.7	7.7	38.6	34.7	33.0
Incr Delay (d2), s/veh	1.4	3.0	0.4	7.5	0.1	0.0	8.7	0.3	1.0	0.0	1.1	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	7.1	1.7	8.2	4.2	0.1	1.7	2.5	3.6	0.1	7.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	40.0	32.9	36.4	20.6	5.8	54.7	38.0	8.7	38.6	35.8	34.2
LnGrp LOS	D	D	C	D	C	A	D	D	A	D	D	C
Approach Vol, veh/h		1223			1743			853			1221	
Approach Delay, s/veh		40.4			28.4			24.6			35.6	
Approach LOS		D			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.5	22.2	30.9	27.8	10.1	30.6	11.5	47.2				
Change Period (Y+Rc), s	6.5	* 6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	* 33	35.3	24.6	5.9	32.0	12.1	47.8				
Max Q Clear Time (g_c+I1), s	2.3	12.2	24.9	18.1	5.5	18.4	6.8	12.7				
Green Ext Time (p_c), s	0.0	3.5	1.4	3.2	0.0	5.7	0.1	5.9				
Intersection Summary												
HCM 6th Ctrl Delay			32.4									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

24: Winchester Rd. & Scott Rd./Washington St,

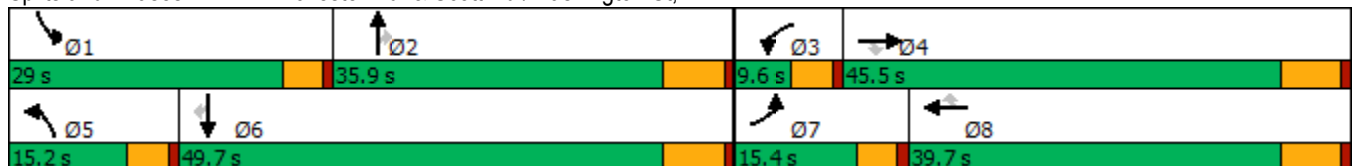


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR	Ø3
Lane Configurations	↖↗	↑↑	↖	↑	↖	↖	↑↑↑	↖	↑↑↑	↖	
Traffic Volume (vph)	142	116	88	94	180	87	707	282	1376	229	
Future Volume (vph)	142	116	88	94	180	87	707	282	1376	229	
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4		8		5	2	1	6		3
Permitted Phases			4		8						6
Detector Phase	7	4	4	8	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	45.5	45.5	16.5	16.5	9.6	35.5	9.6	44.5	44.5	9.6
Total Split (s)	15.4	45.5	45.5	39.7	39.7	15.2	35.9	29.0	49.7	49.7	9.6
Total Split (%)	12.8%	37.9%	37.9%	33.1%	33.1%	12.7%	29.9%	24.2%	41.4%	41.4%	8%
Yellow Time (s)	3.6	5.5	5.5	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	6.5	6.5	4.6	6.5	4.6	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	None
Act Effct Green (s)	8.3	24.5	24.5	11.5	11.5	8.7	21.3	19.7	35.1	35.1	
Actuated g/C Ratio	0.10	0.29	0.29	0.14	0.14	0.10	0.25	0.24	0.42	0.42	
v/c Ratio	0.43	0.11	0.16	0.39	0.49	0.51	0.53	0.72	0.62	0.30	
Control Delay	42.3	24.4	1.2	41.6	10.1	49.3	28.5	41.8	21.3	3.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.3	24.4	1.2	41.6	10.1	49.3	28.5	41.8	21.3	3.5	
LOS	D	C	A	D	B	D	C	D	C	A	
Approach Delay		25.8		21.0			30.8		22.2		
Approach LOS		C		C			C		C		

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 83.6	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 24.6	Intersection LOS: C
Intersection Capacity Utilization 56.8%	ICU Level of Service B
Analysis Period (min) 15	































Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

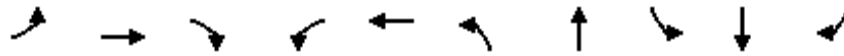
Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 						  			  	
Traffic Volume (veh/h)	142	116	88	0	94	180	87	707	0	282	1376	229
Future Volume (veh/h)	142	116	88	0	94	180	87	707	0	282	1376	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	151	123	50	0	100	-48	93	752	0	300	1464	-208
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	1044	442	3	268	227	120	1511	427	349	2232	631
Arrive On Green	0.07	0.28	0.28	0.00	0.14	0.00	0.07	0.27	0.00	0.20	0.40	0.00
Sat Flow, veh/h	3563	3741	1585	1781	1870	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	151	123	50	0	100	-48	93	752	0	300	1464	-208
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.8	1.7	1.6	0.0	3.3	0.0	3.5	7.8	0.0	11.2	14.6	0.0
Cycle Q Clear(g_c), s	2.8	1.7	1.6	0.0	3.3	0.0	3.5	7.8	0.0	11.2	14.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	245	1044	442	3	268	227	120	1511	427	349	2232	631
V/C Ratio(X)	0.62	0.12	0.11	0.00	0.37	-0.21	0.78	0.50	0.00	0.86	0.66	-0.33
Avail Cap(c_a), veh/h	560	2121	899	130	903	765	275	2399	678	632	3525	996
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.1	18.5	18.5	0.0	26.7	0.0	31.6	21.2	0.0	26.7	16.9	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.1	0.0	0.9	0.0	4.0	0.3	0.0	2.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.6	0.5	0.0	1.4	0.0	1.5	2.9	0.0	4.3	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	18.5	18.6	0.0	27.5	0.0	35.6	21.5	0.0	29.2	17.2	0.0
LnGrp LOS	C	B	B	A	C	A	D	C	A	C	B	A
Approach Vol, veh/h		324			52			845			1556	
Approach Delay, s/veh		24.9			52.9			23.0			21.8	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.1	25.0	0.0	25.7	9.2	33.9	9.3	16.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	24.4	29.4	5.0	39.0	10.6	43.2	10.8	33.2				
Max Q Clear Time (g_c+1), s	13.2	9.8	0.0	3.7	5.5	16.6	4.8	5.3				
Green Ext Time (p_c), s	0.3	4.3	0.0	0.8	0.0	10.7	0.1	0.4				
Intersection Summary												
HCM 6th Ctrl Delay				23.1								
HCM 6th LOS				C								

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

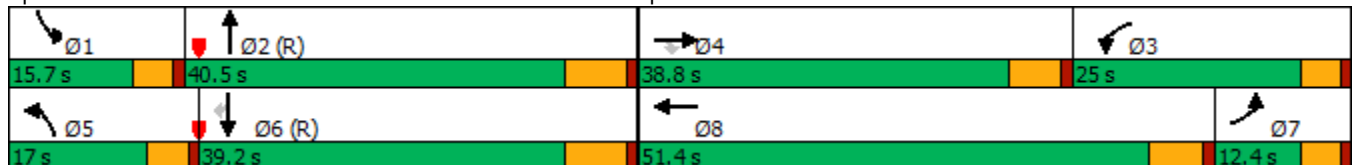


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗↗	↖	↗	↖↖	↑↑↑	↖	↑↑↑	↗
Traffic Volume (vph)	36	188	728	288	309	361	769	60	1536	69
Future Volume (vph)	36	188	728	288	309	361	769	60	1536	69
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.8	38.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	12.4	38.8	38.8	25.0	51.4	17.0	40.5	15.7	39.2	39.2
Total Split (%)	10.3%	32.3%	32.3%	20.8%	42.8%	14.2%	33.8%	13.1%	32.7%	32.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	3.6	5.5	6.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	14.5	23.2	22.2	26.6	39.3	16.0	45.1	9.5	36.7	35.7
Actuated g/C Ratio	0.12	0.19	0.18	0.22	0.33	0.13	0.38	0.08	0.31	0.30
v/c Ratio	0.18	0.56	0.82	0.79	0.60	0.82	0.45	0.46	0.72	0.13
Control Delay	47.1	48.6	25.1	60.0	39.1	60.1	28.1	63.0	40.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.1	48.6	25.1	60.0	39.1	60.1	28.1	63.0	40.0	0.4
LOS	D	D	C	E	D	E	C	E	D	A
Approach Delay		30.6			48.7		37.5		39.2	
Approach LOS		C			D		D		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 13 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 38.2
 Intersection LOS: D
 Intersection Capacity Utilization 76.4%
 ICU Level of Service D
 Analysis Period (min) 15

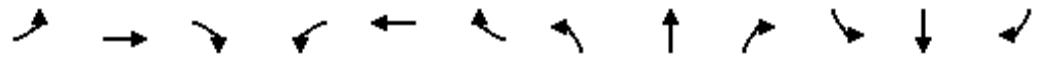
Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)


















06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	188	728	288	309	29	361	769	100	60	1536	69
Future Volume (veh/h)	36	188	728	288	309	29	361	769	100	60	1536	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	202	218	310	332	-60	388	827	17	65	1652	52
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	268	422	318	334	0	398	2617	54	98	3149	654
Arrive On Green	0.14	0.14	0.13	0.27	0.18	0.00	0.22	0.72	0.94	0.05	0.63	0.41
Sat Flow, veh/h	1781	1870	3127	1781	1870	0	3563	5478	112	1781	7481	1585
Grp Volume(v), veh/h	39	202	218	310	272	0	388	564	280	65	1652	52
Grp Sat Flow(s),veh/h/ln	1781	1870	1563	1781	1870	0	1781	1870	1850	1781	1870	1585
Q Serve(g_s), s	2.3	12.4	6.1	20.7	16.8	0.0	13.0	6.6	6.4	4.3	14.6	1.5
Cycle Q Clear(g_c), s	2.3	12.4	6.1	20.7	16.8	0.0	13.0	6.6	6.4	4.3	14.6	1.5
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	255	268	422	318	334	0	398	1787	884	98	3149	654
V/C Ratio(X)	0.15	0.75	0.52	0.98	0.82	0.00	0.98	0.32	0.32	0.66	0.52	0.08
Avail Cap(c_a), veh/h	255	530	860	318	726	0	398	1787	884	180	3149	654
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	2.00	1.50	2.00	1.00	1.50	1.00
Upstream Filter(I)	0.42	0.42	0.42	1.00	1.00	0.00	0.91	0.91	0.91	0.89	0.89	0.89
Uniform Delay (d), s/veh	45.0	49.4	29.4	43.7	47.4	0.0	46.4	9.8	9.3	55.6	15.5	8.0
Incr Delay (d2), s/veh	0.0	1.8	0.4	43.6	4.9	0.0	36.3	0.4	0.9	2.6	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	5.8	0.0	12.3	8.2	0.0	6.8	2.3	2.3	1.9	4.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	51.2	29.8	87.3	52.3	0.0	82.8	10.3	10.2	58.2	16.1	8.3
LnGrp LOS	D	D	C	F	D	A	F	B	B	E	B	A
Approach Vol, veh/h		459			582			1232			1769	
Approach Delay, s/veh		40.5			70.9			33.1			17.4	
Approach LOS		D			E			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	62.8	25.0	22.0	17.0	56.0	20.8	26.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	11.1	34.0	20.4	33.0	12.4	32.7	7.8	45.6				
Max Q Clear Time (g_c+I1), s	6.3	8.6	22.7	14.4	15.0	16.6	4.3	18.8				
Green Ext Time (p_c), s	0.0	4.9	0.0	1.7	0.0	9.6	0.0	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			32.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/24/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  		 	  
Traffic Volume (veh/h)	375	319	911	189	434	2119
Future Volume (veh/h)	375	319	911	189	434	2119
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	310	959	36	457	2231
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	478	992	1222	46	1751	4338
Arrive On Green	0.13	0.13	0.34	0.23	0.98	1.00
Sat Flow, veh/h	3563	1585	5373	201	3563	5611
Grp Volume(v), veh/h	395	310	667	328	457	2231
Grp Sat Flow(s),veh/h/ln	1781	1585	1870	1834	1781	1870
Q Serve(g_s), s	13.0	0.0	19.3	19.4	0.3	0.0
Cycle Q Clear(g_c), s	13.0	0.0	19.3	19.4	0.3	0.0
Prop In Lane	1.00	1.00		0.11	1.00	
Lane Grp Cap(c), veh/h	478	992	851	417	1751	4338
V/C Ratio(X)	0.83	0.31	0.78	0.79	0.26	0.51
Avail Cap(c_a), veh/h	772	1123	1400	686	1751	4338
HCM Platoon Ratio	1.00	1.00	1.50	1.00	2.00	1.50
Upstream Filter(I)	1.00	1.00	0.82	0.82	0.57	0.57
Uniform Delay (d), s/veh	50.6	10.4	36.9	37.6	0.5	0.0
Incr Delay (d2), s/veh	1.8	0.1	5.9	11.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	3.7	8.0	8.7	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.3	10.5	42.8	49.2	0.5	0.3
LnGrp LOS	D	B	D	D	A	A
Approach Vol, veh/h	705		995			2688
Approach Delay, s/veh	33.9		44.9			0.3
Approach LOS	C		D			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	65.5	33.8			99.3	20.7
Change Period (Y+Rc), s	6.5	* 6.5			6.5	4.6
Max Green Setting (Gmax), s	33.4	* 45			82.9	26.0
Max Q Clear Time (g_c+I1), s	2.3	21.4			2.0	15.0
Green Ext Time (p_c), s	0.8	5.9			32.2	1.2

Intersection Summary

HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↗	↖↗	↗	↖	↑↑↑	↗	↖	↑↑↑
Traffic Volume (vph)	166	30	283	35	22	929	276	160	2157
Future Volume (vph)	166	30	283	35	22	929	276	160	2157
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.8	34.8	34.8	34.8	9.8	53.2	53.2	32.0	75.4
Total Split (%)	29.0%	29.0%	29.0%	29.0%	8.2%	44.3%	44.3%	26.7%	62.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	16.7	16.7	16.7	16.7	5.4	29.6	29.6	28.2	52.4
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.06	0.33	0.33	0.31	0.58
v/c Ratio	0.35	0.21	0.62	0.12	0.22	0.58	0.40	0.30	0.83
Control Delay	36.2	19.4	41.8	31.4	52.8	26.3	4.4	30.0	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	19.4	41.8	31.4	52.8	26.3	4.4	30.0	18.4
LOS	D	B	D	C	D	C	A	C	B
Approach Delay		31.1		40.5		21.9			19.2
Approach LOS		C		D		C			B

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 90.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 22.2
 Intersection LOS: C
 Intersection Capacity Utilization 77.7%
 ICU Level of Service D
 Analysis Period (min) 15

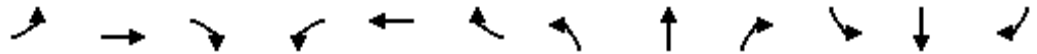
Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔↔	↔		↔	↑↑↑	↔	↔	↑↑↑	↔
Traffic Volume (veh/h)	166	30	42	283	35	5	22	929	276	160	2157	177
Future Volume (veh/h)	166	30	42	283	35	5	22	929	276	160	2157	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	31	32	292	36	0	23	958	211	165	2224	27
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	613	150	155	563	335	0	115	1444	448	608	2907	35
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.00	0.06	0.28	0.28	0.34	0.56	0.56
Sat Flow, veh/h	2662	837	864	2598	1870	0	1781	5106	1585	1781	5198	63
Grp Volume(v), veh/h	171	0	63	292	36	0	23	958	211	165	1455	796
Grp Sat Flow(s),veh/h/ln	1331	0	1701	1299	1870	0	1781	1702	1585	1781	1702	1857
Q Serve(g_s), s	4.6	0.0	2.5	8.7	1.3	0.0	1.0	13.3	8.8	5.4	26.4	26.5
Cycle Q Clear(g_c), s	5.9	0.0	2.5	11.2	1.3	0.0	1.0	13.3	8.8	5.4	26.4	26.5
Prop In Lane	1.00		0.51	1.00		0.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	613	0	305	563	335	0	115	1444	448	608	1904	1039
V/C Ratio(X)	0.28	0.00	0.21	0.52	0.11	0.00	0.20	0.66	0.47	0.27	0.76	0.77
Avail Cap(c_a), veh/h	1134	0	638	1071	701	0	115	2970	922	608	2921	1594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	0.0	28.1	32.9	27.6	0.0	35.6	25.4	23.8	19.2	13.6	13.6
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.7	0.1	0.0	3.8	0.5	0.8	1.1	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	1.0	2.7	0.6	0.0	0.5	4.8	3.0	2.1	7.5	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	0.0	28.2	33.6	27.7	0.0	39.4	25.9	24.6	20.3	13.9	14.1
LnGrp LOS	C	A	C	C	C	A	D	C	C	C	B	B
Approach Vol, veh/h		234			328			1192			2416	
Approach Delay, s/veh		29.6			33.0			26.0			14.4	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.0	29.2		19.1	9.8	51.4		19.1				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	27.4	46.7		* 30	5.2	68.9		* 30				
Max Q Clear Time (g_c+I1), s	7.4	15.3		7.9	3.0	28.5		13.2				
Green Ext Time (p_c), s	0.2	7.4		0.5	0.0	13.1		1.2				

Intersection Summary

HCM 6th Ctrl Delay	20.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
7: Whitewood Rd. & Clinton Keith Rd.

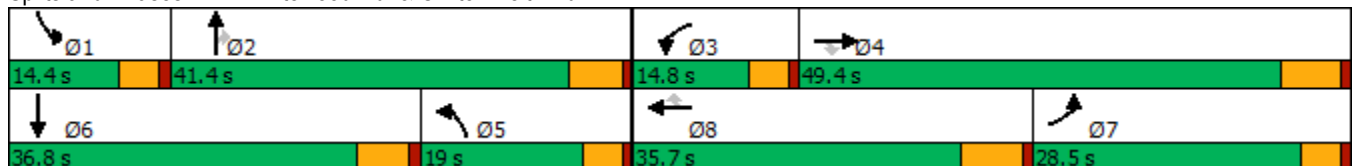
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	608	947	146	132	705	146	176	734	159	101	217
Future Volume (vph)	608	947	146	132	705	146	176	734	159	101	217
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	36.8	36.8	9.6	36.8
Total Split (s)	28.5	49.4	49.4	14.8	35.7	35.7	19.0	41.4	41.4	14.4	36.8
Total Split (%)	23.8%	41.2%	41.2%	12.3%	29.8%	29.8%	15.8%	34.5%	34.5%	12.0%	30.7%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	21.5	34.1	34.1	8.3	20.9	20.9	23.0	28.2	28.2	9.0	14.2
Actuated g/C Ratio	0.21	0.34	0.34	0.08	0.21	0.21	0.23	0.28	0.28	0.09	0.14
v/c Ratio	0.83	0.54	0.23	0.48	0.66	0.32	0.45	0.76	0.29	0.66	0.74
Control Delay	50.3	29.3	4.3	53.6	41.1	4.9	40.8	40.1	5.2	69.0	27.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.3	29.3	4.3	53.6	41.1	4.9	40.8	40.1	5.2	69.0	27.9
LOS	D	C	A	D	D	A	D	D	A	E	C
Approach Delay		34.6			37.4			35.0			34.9
Approach LOS		C			D			D			C

Intersection Summary































Cycle Length: 120	
Actuated Cycle Length: 101.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 35.4	Intersection LOS: D
Intersection Capacity Utilization 74.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			 			 	
Traffic Volume (veh/h)	608	947	146	132	705	146	176	734	159	101	217	270
Future Volume (veh/h)	608	947	146	132	705	146	176	734	159	101	217	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	620	966	134	135	719	134	180	749	147	103	221	46
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	711	1902	565	205	1040	309	391	960	428	131	325	66
Arrive On Green	0.20	0.36	0.36	0.06	0.20	0.20	0.22	0.27	0.27	0.07	0.11	0.11
Sat Flow, veh/h	3563	5331	1585	3456	5331	1585	1781	3554	1585	1781	2939	600
Grp Volume(v), veh/h	620	966	134	135	719	134	180	749	147	103	132	135
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1762
Q Serve(g_s), s	15.1	12.7	2.4	3.4	11.2	5.0	7.8	17.4	6.7	5.1	6.4	6.6
Cycle Q Clear(g_c), s	15.1	12.7	2.4	3.4	11.2	5.0	7.8	17.4	6.7	5.1	6.4	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	711	1902	565	205	1040	309	391	960	428	131	197	195
V/C Ratio(X)	0.87	0.51	0.24	0.66	0.69	0.43	0.46	0.78	0.34	0.79	0.67	0.69
Avail Cap(c_a), veh/h	952	2557	760	394	1741	518	391	1415	631	195	616	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	22.6	4.0	41.2	33.5	18.0	30.3	30.2	26.3	40.7	38.2	38.3
Incr Delay (d2), s/veh	5.6	0.2	0.2	1.3	0.8	1.0	0.3	1.7	0.5	6.3	3.9	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	4.7	1.7	1.4	4.5	2.4	3.2	7.1	2.3	2.4	2.9	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	22.8	4.2	42.5	34.3	19.0	30.6	31.9	26.7	47.0	42.1	42.6
LnGrp LOS	D	C	A	D	C	B	C	C	C	D	D	D
Approach Vol, veh/h		1720			988			1076			370	
Approach Delay, s/veh		27.7			33.3			31.0			43.7	
Approach LOS		C			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	30.0	9.9	38.4	25.4	15.7	24.4	24.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	5.8	* 5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	9.8	35.6	10.2	42.9	14.4	* 31	23.9	* 29				
Max Q Clear Time (g_c+I1), s	7.1	19.4	5.4	14.7	9.8	8.6	17.1	13.2				
Green Ext Time (p_c), s	0.0	4.7	0.1	7.0	0.1	1.3	0.8	4.2				
Intersection Summary												
HCM 6th Ctrl Delay				31.3								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
20: Winchester Rd. & Domenigoni Pkwy

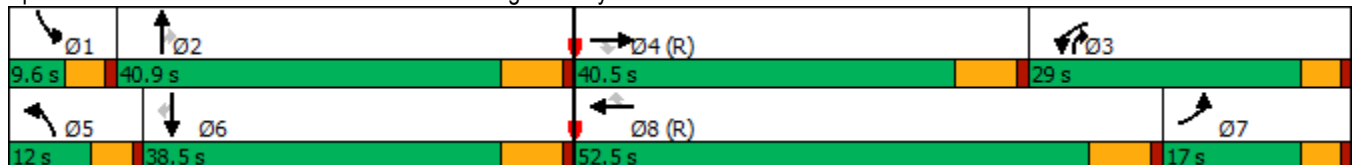
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	901	90	646	785	19	123	1029	869	18	470	163
Future Volume (vph)	180	901	90	646	785	19	123	1029	869	18	470	163
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.5	38.5	9.6	38.5	38.5	9.6	38.5	9.6	9.6	38.5	38.5
Total Split (s)	17.0	40.5	40.5	29.0	52.5	52.5	12.0	40.9	29.0	9.6	38.5	38.5
Total Split (%)	14.2%	33.8%	33.8%	24.2%	43.8%	43.8%	10.0%	34.1%	24.2%	8.0%	32.1%	32.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	35.7	35.7	35.7	33.1	33.1	33.1	7.4	29.7	67.5	5.0	21.6	21.6
Actuated g/C Ratio	0.30	0.30	0.30	0.28	0.28	0.28	0.06	0.25	0.56	0.04	0.18	0.18
v/c Ratio	0.17	0.55	0.16	0.67	0.52	0.04	1.16	0.76	0.95	0.25	0.48	0.39
Control Delay	33.1	37.4	0.6	43.9	38.7	0.1	183.5	45.5	41.7	64.1	44.7	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	37.4	0.6	43.9	38.7	0.1	183.5	45.5	41.7	64.1	44.7	7.2
LOS	C	D	A	D	D	A	F	D	D	E	D	A
Approach Delay		33.9			40.5			52.3			35.8	
Approach LOS		C			D			D			D	

Intersection Summary



































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 81.5 (68%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 43.0
 Intersection LOS: D
 Intersection Capacity Utilization 88.5%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			  			  	
Traffic Volume (veh/h)	180	901	90	646	785	19	123	1029	869	18	470	163
Future Volume (veh/h)	180	901	90	646	785	19	123	1029	869	18	470	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	919	34	659	801	11	126	1050	424	18	480	161
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1300	1172	331	1241	1079	305	110	1342	931	33	1101	311
Arrive On Green	0.36	0.25	0.21	0.35	0.23	0.19	0.06	0.29	0.24	0.02	0.24	0.20
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	184	919	34	659	801	11	126	1050	424	18	480	161
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.2	18.3	1.7	17.8	15.9	0.6	7.4	20.6	2.5	1.2	8.7	4.7
Cycle Q Clear(g_c), s	4.2	18.3	1.7	17.8	15.9	0.6	7.4	20.6	2.5	1.2	8.7	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1300	1172	331	1241	1079	305	110	1342	931	33	1101	311
V/C Ratio(X)	0.14	0.78	0.10	0.53	0.74	0.04	1.15	0.78	0.46	0.54	0.44	0.52
Avail Cap(c_a), veh/h	1300	1590	449	1241	2151	608	110	1609	1006	74	1496	423
HCM Platoon Ratio	1.00	1.20	1.00	1.00	1.20	1.00	1.00	1.20	1.00	1.00	1.20	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	42.4	24.9	31.3	43.4	29.3	56.3	39.9	5.9	58.4	40.2	8.0
Incr Delay (d2), s/veh	0.0	5.3	0.6	0.2	4.6	0.2	124.1	1.8	0.3	4.9	0.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	8.3	0.8	7.2	7.2	0.3	7.0	8.8	2.8	0.6	3.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	47.7	25.5	31.5	48.0	29.5	180.4	41.8	6.2	63.3	40.5	9.3
LnGrp LOS	C	D	C	C	D	C	F	D	A	E	D	A
Approach Vol, veh/h		1137			1471			1600			659	
Approach Delay, s/veh		43.5			40.5			43.3			33.5	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	35.2	46.4	31.6	12.0	30.0	48.4	29.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	34.4	24.4	34.0	7.4	32.0	12.4	46.0				
Max Q Clear Time (g_c+I1), s	3.2	22.6	19.8	20.3	9.4	10.7	6.2	17.9				
Green Ext Time (p_c), s	0.0	6.0	0.7	4.7	0.0	3.2	0.1	5.2				
Intersection Summary												
HCM 6th Ctrl Delay			41.1									
HCM 6th LOS			D									

Timings

24: Winchester Rd. & Scott Rd./Washington St,

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↖	↑	↗	↖	↑↑↑	↖	↑↑↑	↗
Traffic Volume (vph)	256	132	67	52	150	533	93	1212	260	808	150
Future Volume (vph)	256	132	67	52	150	533	93	1212	260	808	150
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.5	39.5	9.6	16.5	16.5	9.6	35.5	9.6	39.5	39.5
Total Split (s)	16.0	41.4	41.4	11.4	36.8	36.8	19.8	41.2	26.0	47.4	47.4
Total Split (%)	13.3%	34.5%	34.5%	9.5%	30.7%	30.7%	16.5%	34.3%	21.7%	39.5%	39.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	11.0	32.4	32.4	6.4	25.3	25.3	10.6	32.8	19.8	44.8	44.8
Actuated g/C Ratio	0.10	0.29	0.29	0.06	0.23	0.23	0.10	0.29	0.18	0.40	0.40
v/c Ratio	0.79	0.14	0.12	0.54	0.37	0.93	0.58	0.85	0.88	0.42	0.22
Control Delay	68.7	31.4	0.4	74.5	39.7	41.4	64.7	44.5	74.1	27.0	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.7	31.4	0.4	74.5	39.7	41.4	64.7	44.5	74.1	27.0	5.0
LOS	E	C	A	E	D	D	E	D	E	C	A
Approach Delay		47.8			43.4			45.9		34.4	
Approach LOS		D			D			D		C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 111.5	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 41.8	Intersection LOS: D
Intersection Capacity Utilization 78.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/24/2021



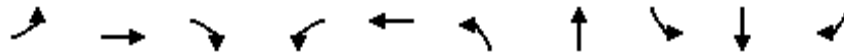
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↗	↕	↖	↗	↕↖↗	↖	↗	↕↖↗	↖
Traffic Volume (veh/h)	256	132	67	52	150	533	93	1212	0	260	808	150
Future Volume (veh/h)	256	132	67	52	150	533	93	1212	0	260	808	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	269	139	66	55	158	87	98	1276	0	274	851	-184
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	354	584	261	111	232	197	126	1639	509	315	2181	677
Arrive On Green	0.10	0.16	0.16	0.06	0.12	0.12	0.07	0.48	0.00	0.18	0.64	0.00
Sat Flow, veh/h	3456	3554	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	269	139	66	55	158	87	98	1276	0	274	851	-184
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	6.1	2.7	2.9	2.4	6.5	4.1	4.4	16.7	0.0	12.1	6.4	0.0
Cycle Q Clear(g_c), s	6.1	2.7	2.9	2.4	6.5	4.1	4.4	16.7	0.0	12.1	6.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	354	584	261	111	232	197	126	1639	509	315	2181	677
V/C Ratio(X)	0.76	0.24	0.25	0.50	0.68	0.44	0.78	0.78	0.00	0.87	0.39	-0.27
Avail Cap(c_a), veh/h	489	1540	687	150	704	596	336	2200	683	473	2593	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.2	29.3	29.3	36.6	33.7	32.7	36.8	18.5	0.0	32.2	9.4	0.0
Incr Delay (d2), s/veh	2.7	0.2	0.5	1.3	3.5	1.6	3.9	1.3	0.0	7.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.1	1.0	1.0	2.9	1.5	1.9	4.7	0.0	5.3	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	29.5	29.8	37.8	37.2	34.2	40.7	19.8	0.0	39.9	9.6	0.0
LnGrp LOS	D	C	C	D	D	C	D	B	A	D	A	A
Approach Vol, veh/h		474			300			1374			941	
Approach Delay, s/veh		34.3			36.5			21.3			20.3	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.8	32.4	9.6	19.7	10.3	40.9	12.8	16.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	21.4	34.7	6.8	34.9	15.2	40.9	11.4	30.3				
Max Q Clear Time (g_c+I1), s	14.1	18.7	4.4	4.9	6.4	8.4	8.1	8.5				
Green Ext Time (p_c), s	0.2	7.2	0.0	0.9	0.1	5.7	0.2	0.9				

Intersection Summary

HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

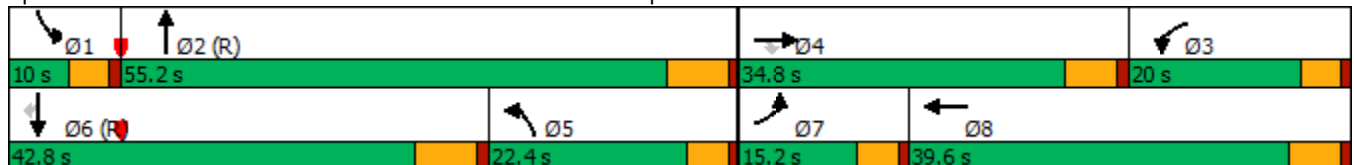


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗↘	↖	↗	↖↗	↖↗↘	↖	↖↗↘	↗
Traffic Volume (vph)	96	225	430	250	249	505	1798	83	1082	63
Future Volume (vph)	96	225	430	250	249	505	1798	83	1082	63
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	15.2	34.8	34.8	20.0	39.6	22.4	55.2	10.0	42.8	42.8
Total Split (%)	12.7%	29.0%	29.0%	16.7%	33.0%	18.7%	46.0%	8.3%	35.7%	35.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	3.6	5.5	6.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	10.5	22.3	21.3	23.1	34.9	23.5	50.1	7.1	33.7	32.7
Actuated g/C Ratio	0.09	0.19	0.18	0.19	0.29	0.20	0.42	0.06	0.28	0.27
v/c Ratio	0.64	0.67	0.48	0.76	0.52	0.75	0.92	0.83	0.71	0.12
Control Delay	71.9	54.5	5.3	62.3	39.2	57.3	45.0	107.1	41.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.9	54.5	5.3	62.3	39.2	57.3	45.0	107.1	41.4	0.4
LOS	E	D	A	E	D	E	D	F	D	A
Approach Delay		28.6			50.3		47.4		43.8	
Approach LOS		C			D		D		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 86 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 44.0
 Intersection LOS: D
 Intersection Capacity Utilization 86.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗↘	↖	↗		↖↗	↑↑↑		↖	↑↑↑	↗
Traffic Volume (veh/h)	96	225	430	250	249	21	505	1798	261	83	1082	63
Future Volume (veh/h)	96	225	430	250	249	21	505	1798	261	83	1082	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	232	108	258	257	-102	521	1854	264	86	1115	60
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	286	452	243	418	0	1023	2409	339	95	1412	380
Arrive On Green	0.11	0.23	0.14	0.21	0.34	0.00	0.43	0.75	0.49	0.08	0.38	0.24
Sat Flow, veh/h	1781	1870	3122	1781	1870	0	3563	4807	677	1781	5611	1563
Grp Volume(v), veh/h	99	232	108	258	155	0	521	1438	680	86	1115	60
Grp Sat Flow(s),veh/h/ln	1781	1870	1561	1781	1870	0	1781	1870	1744	1781	1870	1563
Q Serve(g_s), s	6.4	14.1	3.7	16.4	7.6	0.0	12.8	27.1	33.1	5.7	21.2	2.9
Cycle Q Clear(g_c), s	6.4	14.1	3.7	16.4	7.6	0.0	12.8	27.1	33.1	5.7	21.2	2.9
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	136	286	452	243	418	0	1023	1875	874	95	1412	380
V/C Ratio(X)	0.73	0.81	0.24	1.06	0.37	0.00	0.51	0.77	0.78	0.91	0.79	0.16
Avail Cap(c_a), veh/h	172	468	755	243	542	0	1023	1875	874	95	1744	473
HCM Platoon Ratio	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00
Upstream Filter(I)	0.26	0.26	0.26	1.00	1.00	0.00	0.14	0.14	0.14	0.95	0.95	0.95
Uniform Delay (d), s/veh	51.9	44.6	45.5	47.7	33.5	0.0	28.0	10.8	16.2	54.9	34.5	22.2
Incr Delay (d2), s/veh	2.0	1.5	0.1	74.3	0.5	0.0	0.0	0.4	1.0	59.4	4.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	6.0	1.4	11.8	3.3	0.0	4.7	5.7	9.1	4.0	8.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	46.1	45.5	122.0	34.0	0.0	28.0	11.2	17.2	114.3	38.9	23.0
LnGrp LOS	D	D	D	F	C	A	C	B	B	F	D	C
Approach Vol, veh/h		439			413			2639			1261	
Approach Delay, s/veh		47.7			89.0			16.1			43.3	
Approach LOS		D			F			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	65.6	21.2	23.2	39.9	35.7	12.8	31.6				
Change Period (Y+Rc), s	4.6	6.5	5.8	* 5.8	6.5	* 6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.4	48.7	15.4	* 29	17.8	* 36	10.6	33.8				
Max Q Clear Time (g_c+I1), s	7.7	35.1	18.4	16.1	14.8	23.2	8.4	9.6				
Green Ext Time (p_c), s	0.0	10.1	0.0	1.3	0.4	5.7	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay	32.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

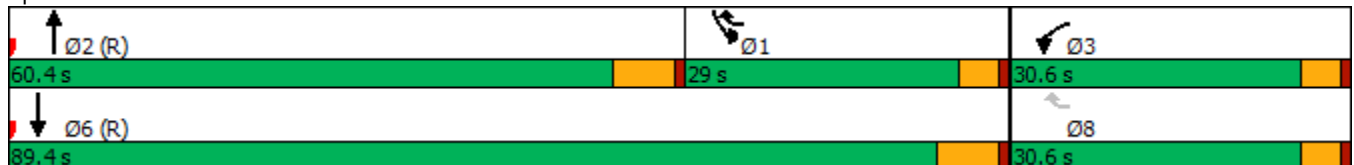
Timings
31: Winchester Rd. & Benton Rd.

	↙	↖	↑	↘	↓	∅8
Lane Group	WBL	WBR	NBT	SBL	SBT	∅8
Lane Configurations	↔↔	↔	↔↔↔	↔↔	↔↔↔	
Traffic Volume (vph)	322	682	1881	509	1252	
Future Volume (vph)	322	682	1881	509	1252	
Turn Type	Prot	pm+ov	NA	Prot	NA	
Protected Phases	3	1	2	1	6	8
Permitted Phases		8				
Detector Phase	3	1	2	1	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.6	9.6	38.5	9.6	16.5	30.6
Total Split (s)	30.6	29.0	60.4	29.0	89.4	30.6
Total Split (%)	25.5%	24.2%	50.3%	24.2%	74.5%	26%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag		Lag	Lead	Lag		
Lead-Lag Optimize?		Yes	Yes	Yes		
Recall Mode	None	None	C-Min	None	C-Min	None
Act Effct Green (s)	16.1	40.5	63.8	24.4	92.8	
Actuated g/C Ratio	0.13	0.34	0.53	0.20	0.77	
v/c Ratio	0.73	1.38	0.86	0.76	0.31	
Control Delay	59.0	212.4	28.0	69.6	11.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.0	212.4	28.0	69.6	11.5	
LOS	E	F	C	E	B	
Approach Delay	163.2		28.0		28.3	
Approach LOS	F		C		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.38
 Intersection Signal Delay: 54.7
 Intersection LOS: D
 Intersection Capacity Utilization 97.8%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔	↑↑↑		↔↔	↑↑↑
Traffic Volume (veh/h)	322	682	1881	447	509	1252
Future Volume (veh/h)	322	682	1881	447	509	1252
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	346	-73	2023	-3	547	1346
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	414	1072	2525	0	1994	4439
Arrive On Green	0.12	0.00	0.18	0.00	0.18	0.26
Sat Flow, veh/h	3563	1585	5611	0	3563	5611
Grp Volume(v), veh/h	346	-73	2020	0	547	1346
Grp Sat Flow(s),veh/h/ln	1781	1585	1870	0	1781	1870
Q Serve(g_s), s	11.4	0.0	0.0	0.0	15.8	23.1
Cycle Q Clear(g_c), s	11.4	0.0	0.0	0.0	15.8	23.1
Prop In Lane	1.00	1.00		0.00	1.00	
Lane Grp Cap(c), veh/h	414	1072	0	0	1994	4439
V/C Ratio(X)	0.83	-0.07	0.00	0.00	0.27	0.30
Avail Cap(c_a), veh/h	772	1231	0	0	1994	4439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	0.00	0.64	0.00	0.70	0.70
Uniform Delay (d), s/veh	51.9	0.0	0.0	0.0	28.0	17.8
Incr Delay (d2), s/veh	1.7	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	0.0	0.0	7.5	11.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.6	0.0	0.0	0.0	28.0	17.9
LnGrp LOS	D	A	A	A	C	B
Approach Vol, veh/h	273		2020			1893
Approach Delay, s/veh	68.0		0.0			20.8
Approach LOS	E		A			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	73.7	27.8			101.4	18.6
Change Period (Y+Rc), s	6.5	* 6.5			6.5	4.6
Max Green Setting (Gmax), s	24.4	* 54			82.9	26.0
Max Q Clear Time (g_c+I1), s	17.8	2.0			25.1	13.4
Green Ext Time (p_c), s	0.7	19.3			11.4	0.6

Intersection Summary

HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021

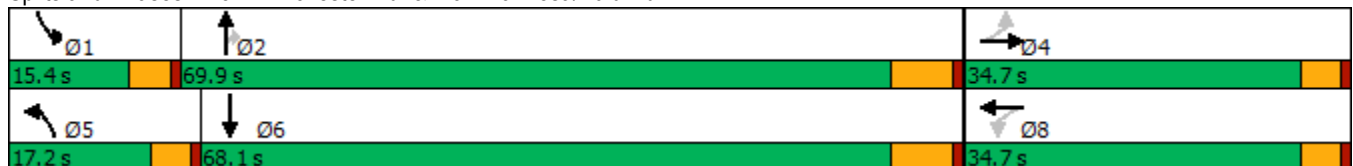


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖↗	↖	↖	↑↑↑	↖	↖	↑↑↑
Traffic Volume (vph)	87	31	277	36	58	2161	251	59	1394
Future Volume (vph)	87	31	277	36	58	2161	251	59	1394
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	17.2	69.9	69.9	15.4	68.1
Total Split (%)	28.9%	28.9%	28.9%	28.9%	14.3%	58.3%	58.3%	12.8%	56.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	17.6	17.6	17.6	17.6	12.8	57.2	57.2	11.0	55.3
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.13	0.56	0.56	0.11	0.54
v/c Ratio	0.24	0.26	0.67	0.34	0.27	0.73	0.27	0.33	0.53
Control Delay	39.3	19.8	48.3	17.3	48.3	18.3	4.1	51.5	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.3	19.8	48.3	17.3	48.3	18.3	4.1	51.5	15.6
LOS	D	B	D	B	D	B	A	D	B
Approach Delay		29.9		39.1		17.6			16.9
Approach LOS		C		D		B			B

Intersection Summary

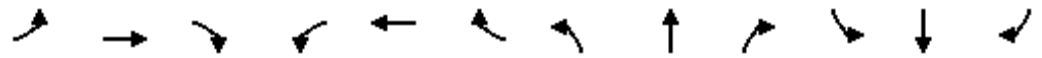
Cycle Length: 120	
Actuated Cycle Length: 101.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 19.6	Intersection LOS: B
Intersection Capacity Utilization 72.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔↔	↔		↔	↑↑↑	↔	↔	↑↑↑	
Traffic Volume (veh/h)	87	31	50	277	36	81	58	2161	251	59	1394	121
Future Volume (veh/h)	87	31	50	277	36	81	58	2161	251	59	1394	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	33	36	292	38	-78	61	2275	178	62	1467	-57
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	628	143	156	510	0	396	231	3093	874	198	2989	0
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.00	0.13	0.55	0.55	0.11	0.53	0.00
Sat Flow, veh/h	2750	818	892	2584	1870	0	1781	5611	1585	1781	5611	0
Grp Volume(v), veh/h	92	0	69	292	-40	-40	61	2275	178	62	1410	0
Grp Sat Flow(s),veh/h/ln	1375	0	1710	1292	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	2.8	0.0	3.4	10.6	0.0	0.0	3.0	29.7	5.5	3.1	15.2	0.0
Cycle Q Clear(g_c), s	2.8	0.0	3.4	14.0	0.0	0.0	3.0	29.7	5.5	3.1	15.2	0.0
Prop In Lane	1.00		0.52	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	628	0	298	510	0	0	231	3093	874	198	2989	0
V/C Ratio(X)	0.15	0.00	0.23	0.57	0.00	0.00	0.26	0.74	0.20	0.31	0.47	0.00
Avail Cap(c_a), veh/h	999	0	529	858	0	0	231	3668	1036	198	3563	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.2	0.0	34.4	40.5	0.0	0.0	38.0	16.4	11.0	39.7	14.1	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	1.0	0.0	0.0	2.8	0.7	0.1	4.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.4	3.4	0.0	0.0	1.4	10.5	1.6	1.5	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.2	0.0	34.6	41.5	0.0	0.0	40.8	17.1	11.1	43.8	14.2	0.0
LnGrp LOS	C	A	C	D	A	A	D	B	B	D	B	A
Approach Vol, veh/h		161			212			2514			1472	
Approach Delay, s/veh		34.4			57.1			17.2			15.4	
Approach LOS		C			E			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.4	60.0		21.6	17.2	58.2		21.6				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	10.8	63.4		* 30	12.6	61.6		* 30				
Max Q Clear Time (g_c+I1), s	5.1	31.7		5.4	5.0	17.2		16.0				
Green Ext Time (p_c), s	0.0	21.8		0.4	0.1	6.8		0.9				

Intersection Summary

HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 4.1:
POST PROCESSING WORKSHEETS

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 11487
 Analyst: CP
 Date: 3/14/18

LOCATION: I-215 SB Ramps & Scott Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	533	569	36	7%	516	551	35	7%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	227	238	11	5%	265	266	1	1%
	SB Total	760	807	47	6%	781	817	36	5%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	607	731	124	20%	1,023	989	-34	-3%
	Right	607	610	3	0%	434	490	56	13%
	EB Total	1,215	1,341	126	10%	1,456	1,479	23	2%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	782	912	130	17%	1,406	1,624	218	15%
	Right	563	560	-3	0%	388	390	2	0%
	WB Total	1,344	1,472	128	10%	1,794	2,014	220	12%
TOTAL ENTERING VOLUME		3,319	3,620	301.367983	9%	4,031	4,310	279	7%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	807	817			
North Leg	Outbound	560	390			
North Leg	TOTAL	1,367	1,207	23%	20%	5,965
South Leg	Inbound	0	0			
South Leg	Outbound	610	490			
South Leg	TOTAL	610	490	13%	11%	4,588
East Leg	Inbound	1,472	2,014			
East Leg	Outbound	1,300	1,540			
East Leg	TOTAL	2,772	3,554	15%	19%	18,350
West Leg	Inbound	1,341	1,479			
West Leg	Outbound	1,150	1,890			
West Leg	TOTAL	2,491	3,369	15%	21%	16,179
OVERALL TOTAL		7,240	8,620	16%	19%	45,082

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/2021

LOCATION: I-215 SB Ramps & Clinton Keith Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	249	246	-3	-1%	345	422	77	22%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	836	836	0	0%	823	742	-81	-10%
	SB Total	1,084	1,082	-2	0%	1,168	1,164	-4	0%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,417	1,904	487	34%	1,777	2,380	603	34%
	Right	490	490	0	0%	427	530	103	24%
	EB Total	1,907	2,394	487	26%	2,204	2,910	706	32%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,264	1,824	560	44%	1,273	1,806	533	42%
	Right	546	550	4	1%	484	489	5	1%
	WB Total	1,811	2,374	563	31%	1,757	2,295	538	31%
TOTAL ENTERING VOLUME		4,802	5,850	1048.15769	22%	5,129	6,369	1240	24%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,082	1,164			
North Leg	Outbound	550	489			
North Leg	TOTAL	1,632	1,653	23%	23%	7,062
South Leg	Inbound	0	0			
South Leg	Outbound	490	530			
South Leg	TOTAL	490	530	11%	12%	4,465
East Leg	Inbound	2,374	2,295			
East Leg	Outbound	2,150	2,802			
East Leg	TOTAL	4,524	5,097	10%	12%	43,789
West Leg	Inbound	2,394	2,910			
West Leg	Outbound	2,660	2,548			
West Leg	TOTAL	5,054	5,458	11%	12%	47,343
OVERALL TOTAL		11,700	12,738	11%	12%	102,659

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 11487
 Analyst: CP
 Date: 3/14/18

LOCATION: I-215 NB Ramps & Scott Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	253	281	28	11%	740	781	41	6%
	NB Total	253	281	28	11%	740	781	41	6%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	262	270	8	3%	672	716	44	7%
	SB Total	262	270	8	3%	672	716	44	7%
EAST BOUND	Left	181	240	59	32%	231	302	71	31%
	Through	959	1,069	110	12%	1,308	1,269	-39	-3%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	1,140	1,309	169	15%	1,539	1,571	32	2%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,081	1,190	109	10%	1,123	1,294	171	15%
	Right	375	320	-55	-15%	500	428	-72	-14%
	WB Total	1,456	1,510	54	4%	1,622	1,722	100	6%
TOTAL ENTERING VOLUME		3,111	3,370	258.904715	8%	4,573	4,790	217	5%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	270	716			
North Leg	Outbound	560	730			
North Leg	TOTAL	830	1,446	39%	69%	2,106
South Leg	Inbound	281	781			
South Leg	Outbound	0	0			
South Leg	TOTAL	281	781	6%	16%	4,753
East Leg	Inbound	1,510	1,722			
East Leg	Outbound	1,350	2,050			
East Leg	TOTAL	2,860	3,772	16%	21%	18,350
West Leg	Inbound	1,309	1,571			
West Leg	Outbound	1,460	2,010			
West Leg	TOTAL	2,769	3,581	16%	21%	16,939
OVERALL TOTAL		6,740	9,580	16%	23%	42,148

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/2021

LOCATION: I-215 NB Ramps & Clinton Keith Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	241	179	-62	-26%	477	361	-116	-24%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	373	847	474	127%	629	881	252	40%
	NB Total	614	1,026	412	67%	1,105	1,242	137	12%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	965	1,243	278	29%	1,423	1,809	386	27%
	Right	700	700	0	0%	699	700	1	0%
	EB Total	1,666	1,943	277	17%	2,122	2,509	387	18%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,570	2,381	811	52%	1,280	2,229	949	74%
	Right	246	250	4	2%	173	170	-3	-2%
	WB Total	1,816	2,631	815	45%	1,453	2,399	946	65%
TOTAL ENTERING VOLUME		4,096	5,600	1503.97708	37%	4,681	6,150	1469	31%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	0	0			
North Leg	Outbound	250	170			
North Leg	TOTAL	250	170	33%	22%	758
South Leg	Inbound	1,026	1,242			
South Leg	Outbound	700	700			
South Leg	TOTAL	1,726	1,942	20%	22%	8,806
East Leg	Inbound	2,631	2,399			
East Leg	Outbound	2,090	2,690			
East Leg	TOTAL	4,721	5,089	10%	11%	45,705
West Leg	Inbound	1,943	2,509			
West Leg	Outbound	2,560	2,590			
West Leg	TOTAL	4,503	5,099	11%	13%	39,192
OVERALL TOTAL		11,200	12,300	12%	13%	94,461

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13647
 Analyst: CP
 Date: 6/16/19

LOCATION: Antelope Rd. & Scott Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	333	297	-36	-11%	533	442	-91	-17%
	Through	41	47	6	16%	205	233	28	13%
	Right	58	101	43	74%	164	231	67	41%
	NB Total	431	445	14	3%	902	906	4	0%
SOUTH BOUND	Left	35	64	29	82%	44	66	22	49%
	Through	133	179	46	35%	120	139	19	16%
	Right	371	347	-24	-6%	281	247	-34	-12%
	SB Total	538	590	52	10%	445	452	7	2%
EAST BOUND	Left	123	109	-14	-11%	495	444	-51	-10%
	Through	650	865	215	33%	1,113	1,243	130	12%
	Right	438	433	-5	-1%	441	382	-59	-13%
	EB Total	1,211	1,407	196	16%	2,048	2,069	21	1%
WEST BOUND	Left	69	108	39	57%	79	120	41	51%
	Through	753	816	63	8%	809	931	122	15%
	Right	18	25	7	42%	40	63	23	56%
	WB Total	840	949	109	13%	928	1,114	186	20%
TOTAL ENTERING VOLUME		3,020	3,391	370.648402	12%	4,323	4,541	218	5%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	590	452			
North Leg	Outbound	181	740			
North Leg	TOTAL	771	1,192	21%	33%	3,647
South Leg	Inbound	445	906			
South Leg	Outbound	720	641			
South Leg	TOTAL	1,165	1,547	44%	59%	2,633
East Leg	Inbound	949	1,114			
East Leg	Outbound	1,030	1,540			
East Leg	TOTAL	1,979	2,654	12%	16%	16,914
West Leg	Inbound	1,407	2,069			
West Leg	Outbound	1,460	1,620			
West Leg	TOTAL	2,867	3,689	17%	22%	16,939
OVERALL TOTAL		6,782	9,082	17%	23%	40,133

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Menifee Rd. & Scott Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	127	166	39	30%	108	120	12	11%
	Through	101	247	146	145%	319	680	361	113%
	Right	173	489	316	183%	195	511	316	162%
	NB Total	401	902	501	125%	623	1,311	688	110%
SOUTH BOUND	Left	118	272	154	131%	89	277	188	211%
	Through	222	421	199	90%	116	340	224	194%
	Right	72	77	5	7%	86	113	27	31%
	SB Total	412	770	358	87%	291	730	439	151%
EAST BOUND	Left	65	81	16	25%	171	177	6	4%
	Through	584	847	263	45%	706	896	190	27%
	Right	70	84	14	20%	133	159	26	20%
	EB Total	718	1,012	294	41%	1,009	1,232	223	22%
WEST BOUND	Left	221	410	189	86%	115	302	187	164%
	Through	731	762	31	4%	705	830	125	18%
	Right	89	175	86	96%	108	245	137	126%
	WB Total	1,041	1,347	306	29%	927	1,377	450	48%
TOTAL ENTERING VOLUME		2,572	4,031	1458.63181	57%	2,850	4,650	1800	63%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	770	730			
North Leg	Outbound	503	1,102			
North Leg	TOTAL	1,273	1,832	9%	13%	13,792
South Leg	Inbound	902	1,311			
South Leg	Outbound	915	801			
South Leg	TOTAL	1,817	2,112	11%	13%	15,825
East Leg	Inbound	1,347	1,377			
East Leg	Outbound	1,608	1,684			
East Leg	TOTAL	2,955	3,061	12%	12%	24,692
West Leg	Inbound	1,012	1,232			
West Leg	Outbound	1,005	1,063			
West Leg	TOTAL	2,017	2,295	13%	15%	15,482
OVERALL TOTAL		8,062	9,300	12%	13%	69,791

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Whitewood Rd. & Clinton Keith Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	118	127	9	7%	176	247	71	40%
	Through	110	115	5	5%	734	686	-48	-7%
	Right	90	78	-12	-13%	159	145	-14	-9%
	NB Total	318	320	2	1%	1,070	1,078	8	1%
SOUTH BOUND	Left	80	103	23	28%	101	175	74	73%
	Through	348	338	-10	-3%	217	248	31	14%
	Right	369	580	211	57%	270	718	448	166%
	SB Total	797	1,021	224	28%	588	1,141	553	94%
EAST BOUND	Left	321	645	324	101%	608	939	331	55%
	Through	768	1,280	512	67%	947	1,429	482	51%
	Right	144	183	39	27%	146	146	0	0%
	EB Total	1,233	2,108	875	71%	1,700	2,514	814	48%
WEST BOUND	Left	230	205	-25	-11%	132	96	-36	-27%
	Through	1,043	1,510	467	45%	705	1,195	490	70%
	Right	104	147	43	42%	146	165	19	13%
	WB Total	1,376	1,862	486	35%	982	1,456	474	48%
TOTAL ENTERING VOLUME		3,725	5,311	1586.48268	43%	4,340	6,189	1849	43%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,021	1,141			
North Leg	Outbound	907	1,790			
North Leg	TOTAL	1,928	2,931	21%	32%	9,083
South Leg	Inbound	320	1,078			
South Leg	Outbound	726	490			
South Leg	TOTAL	1,046	1,568	#DIV/0!	#DIV/0!	-
East Leg	Inbound	1,862	1,456			
East Leg	Outbound	1,461	1,749			
East Leg	TOTAL	3,323	3,205	11%	11%	29,851
West Leg	Inbound	2,108	2,514			
West Leg	Outbound	2,217	2,160			
West Leg	TOTAL	4,325	4,674	10%	11%	41,403
OVERALL TOTAL		10,622	12,378	13%	15%	80,337

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Briggs Rd. & Scott Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	381	431	50	13%	301	543	242	80%
	Through	11	11	0	2%	6	18	12	183%
	Right	8	20	12	147%	5	22	17	315%
	NB Total	400	462	62	15%	313	583	270	86%
SOUTH BOUND	Left	28	53	25	87%	8	14	6	65%
	Through	15	25	10	68%	4	8	4	88%
	Right	49	43	-6	-12%	24	18	-6	-26%
	SB Total	92	121	29	32%	37	40	3	8%
EAST BOUND	Left	18	15	-3	-15%	18	26	8	44%
	Through	580	1,167	587	101%	544	1,128	584	107%
	Right	487	864	377	77%	306	671	365	120%
	EB Total	1,084	2,046	962	89%	868	1,825	957	110%
WEST BOUND	Left	11	31	20	187%	7	32	25	331%
	Through	744	1,137	393	53%	512	923	411	80%
	Right	16	23	7	42%	6	18	12	183%
	WB Total	771	1,191	420	55%	525	973	448	85%
TOTAL ENTERING VOLUME		2,347	3,820	1472.55417	63%	1,744	3,421	1677	96%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	121	40			
North Leg	Outbound	49	62			
North Leg	TOTAL	170	102	4%	3%	3,820
South Leg	Inbound	462	583			
South Leg	Outbound	920	711			
South Leg	TOTAL	1,382	1,294	11%	10%	12,336
East Leg	Inbound	1,191	973			
East Leg	Outbound	1,240	1,164			
East Leg	TOTAL	2,431	2,137	13%	12%	18,256
West Leg	Inbound	2,046	1,825			
West Leg	Outbound	1,611	1,484			
West Leg	TOTAL	3,657	3,309	14%	13%	25,333
OVERALL TOTAL		7,640	6,842	13%	11%	59,745

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Leon Rd. & Scott Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	223	293	70	31%	125	195	70	56%
	Through	37	26	-11	-30%	34	39	5	15%
	Right	8	2	-6	-76%	16	2	-14	-87%
	NB Total	268	321	53	20%	175	236	61	35%
SOUTH BOUND	Left	32	99	67	211%	11	4	-7	-62%
	Through	60	97	37	60%	28	10	-18	-64%
	Right	8	163	155	1820%	17	93	76	448%
	SB Total	101	359	258	256%	55	107	52	94%
EAST BOUND	Left	10	79	69	727%	14	228	214	1553%
	Through	282	724	442	156%	309	512	203	66%
	Right	185	244	59	32%	150	231	81	54%
	EB Total	476	1,047	571	120%	472	971	499	106%
WEST BOUND	Left	21	4	-17	-81%	15	2	-13	-87%
	Through	278	578	300	108%	313	686	373	119%
	Right	10	10	0	5%	11	17	6	60%
	WB Total	309	592	283	92%	339	705	366	108%
TOTAL ENTERING VOLUME		1,155	2,319	1164.4057	101%	1,041	2,019	978	94%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	359	107			
North Leg	Outbound	115	284			
North Leg	TOTAL	474	391	5%	4%	10,377
South Leg	Inbound	321	236			
South Leg	Outbound	345	243			
South Leg	TOTAL	666	479	8%	6%	8,112
East Leg	Inbound	592	705			
East Leg	Outbound	825	518			
East Leg	TOTAL	1,417	1,223	18%	15%	7,942
West Leg	Inbound	1,047	971			
West Leg	Outbound	1,034	974			
West Leg	TOTAL	2,081	1,945	11%	11%	18,466
OVERALL TOTAL		4,638	4,038	10%	9%	44,897

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Leon Rd. & Keller Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	1	14	13	935%	0	0	0	#DIV/0!
	Through	134	175	41	31%	255	298	43	17%
	Right	7	11	4	63%	32	43	11	33%
	NB Total	142	200	58	41%	287	341	54	19%
SOUTH BOUND	Left	15	6	-9	-60%	20	12	-8	-40%
	Through	260	314	54	21%	156	215	59	38%
	Right	11	29	18	168%	0	0	0	#DIV/0!
	SB Total	285	349	64	22%	176	227	51	29%
EAST BOUND	Left	3	6	3	122%	4	7	3	74%
	Through	1	4	3	196%	3	5	2	86%
	Right	3	21	18	677%	4	18	14	347%
	EB Total	7	31	24	359%	11	30	19	179%
WEST BOUND	Left	26	39	13	52%	15	31	16	110%
	Through	0	0	0	#DIV/0!	3	0	-3	-100%
	Right	26	11	-15	-57%	24	20	-4	-17%
	WB Total	51	50	-1	-3%	42	51	9	22%
TOTAL ENTERING VOLUME		485	630	144.554692	30%	516	649	133	26%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	349	227			
North Leg	Outbound	192	325			
North Leg	TOTAL	541	552	7%	7%	8,112
South Leg	Inbound	200	341			
South Leg	Outbound	374	264			
South Leg	TOTAL	574	605	13%	13%	4,530
East Leg	Inbound	50	51			
East Leg	Outbound	21	60			
East Leg	TOTAL	71	111	2%	2%	4,643
West Leg	Inbound	31	30			
West Leg	Outbound	43	0			
West Leg	TOTAL	74	30	6%	2%	1,309
OVERALL TOTAL		1,260	1,298	7%	7%	18,594

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Project: Keller Crossing (JN:13649)
 Scenario: 0

Job #: 13647
 Analyst: CP
 Date: 44364

LOCATION: Leon Rd. & Whisper Heights Pkwy.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	2	1	100%	1	7	6	600%
	Through	2	82	80	4000%	2	122	120	6000%
	Right	1	7	6	600%	1	25	24	2400%
	NB Total	4	91	87	2175%	4	154	150	3750%
SOUTH BOUND	Left	1	37	36	3600%	1	107	106	10600%
	Through	2	152	150	7500%	2	216	214	10700%
	Right	1	10	9	900%	1	31	30	3000%
	SB Total	4	199	195	4875%	4	354	350	8750%
EAST BOUND	Left	1	24	23	2300%	1	16	15	1500%
	Through	2	18	16	800%	2	29	27	1350%
	Right	1	8	7	700%	1	6	5	500%
	EB Total	4	50	46	1150%	4	51	47	1175%
WEST BOUND	Left	1	33	32	3200%	1	17	16	1600%
	Through	2	19	17	850%	2	22	20	1000%
	Right	1	98	97	9700%	1	42	41	4100%
	WB Total	4	150	146	3650%	4	81	77	1925%
TOTAL ENTERING VOLUME		16	490	474	2963%	16	640	624	3900%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	199	354			
North Leg	Outbound	204	180			
North Leg	TOTAL	403	534	9%	12%	4,530
South Leg	Inbound	91	154			
South Leg	Outbound	193	239			
South Leg	TOTAL	284	393	9%	12%	3,270
East Leg	Inbound	150	81			
East Leg	Outbound	62	161			
East Leg	TOTAL	212	242	9%	10%	2,480
West Leg	Inbound	50	51			
West Leg	Outbound	31	60			
West Leg	TOTAL	81	111	7%	9%	1,220
OVERALL TOTAL		980	1,280	9%	11%	11,500

Z:\Shared\UcJobs_13600-14000_13600\13649\02_LOS\Post Processing\[11_Leon & Whisper Heights.xls]Output (3)

Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Leon Rd. & Jean Nicholas Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	107	101	-6	-5%	54	48	-6	-11%
	Through	92	88	-4	-4%	254	263	9	4%
	Right	74	82	8	10%	180	189	9	5%
	NB Total	273	271	-2	-1%	488	500	12	3%
SOUTH BOUND	Left	47	70	23	48%	66	85	19	29%
	Through	243	268	25	10%	215	222	7	3%
	Right	9	12	3	27%	3	3	0	12%
	SB Total	300	350	50	17%	283	310	27	9%
EAST BOUND	Left	14	14	0	4%	8	9	1	12%
	Through	112	131	19	17%	43	49	6	14%
	Right	120	105	-15	-13%	46	42	-4	-8%
	EB Total	246	250	4	2%	97	100	3	3%
WEST BOUND	Left	119	110	-9	-8%	128	129	1	1%
	Through	197	210	13	6%	93	100	7	8%
	Right	74	80	6	8%	129	161	32	25%
	WB Total	391	400	9	2%	349	390	41	12%
TOTAL ENTERING VOLUME		1,210	1,271	60.7672694	5%	1,217	1,300	83	7%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	350	310			
North Leg	Outbound	182	433			
North Leg	TOTAL	532	743	16%	23%	3,270
South Leg	Inbound	271	500			
South Leg	Outbound	483	393			
South Leg	TOTAL	754	893	18%	21%	4,237
East Leg	Inbound	400	390			
East Leg	Outbound	283	323			
East Leg	TOTAL	683	713	25%	26%	2,772
West Leg	Inbound	250	100			
West Leg	Outbound	323	151			
West Leg	TOTAL	573	251	255%	112%	225
OVERALL TOTAL		2,542	2,600	24%	25%	10,504

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Project: Keller Crossing (JN:13649)
 Scenario: 0

Job #: 13647
 Analyst: CP
 Date: 44364

LOCATION: Leon Rd. & Whisper Heights Pkwy.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	698	697	69700%	1	393	392	39200%
	Through	2	504	502	25100%	2	448	446	22300%
	Right	1	31	30	3000%	1	38	37	3700%
	NB Total	4	1,233	1,229	30725%	4	879	875	21875%
SOUTH BOUND	Left	1	7	6	600%	1	17	16	1600%
	Through	2	450	448	22400%	2	639	637	31850%
	Right	1	155	154	15400%	1	174	173	17300%
	SB Total	4	612	608	15200%	4	830	826	20650%
EAST BOUND	Left	1	203	202	20200%	1	189	188	18800%
	Through	2	112	110	5500%	2	145	143	7150%
	Right	1	819	818	81800%	1	607	606	60600%
	EB Total	4	1,134	1,130	28250%	4	941	937	23425%
WEST BOUND	Left	1	51	50	5000%	1	74	73	7300%
	Through	2	157	155	7750%	2	182	180	9000%
	Right	1	13	12	1200%	1	23	22	2200%
	WB Total	4	221	217	5425%	4	279	275	6875%
TOTAL ENTERING VOLUME		16	3,200	3184	19900%	16	2,929	2913	18206%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	612	830			
North Leg	Outbound	720	660			
North Leg	TOTAL	1,332	1,490	9%	10%	14,845
South Leg	Inbound	1,233	879			
South Leg	Outbound	1,320	1,320			
South Leg	TOTAL	2,553	2,199	9%	8%	26,917
East Leg	Inbound	221	279			
East Leg	Outbound	150	200			
East Leg	TOTAL	371	479	9%	11%	4,237
West Leg	Inbound	1,134	941			
West Leg	Outbound	1,010	749			
West Leg	TOTAL	2,144	1,690	9%	7%	23,230
OVERALL TOTAL		6,400	5,858	9%	8%	69,229

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Project: Keller Crossing (JN:13649)
 Scenario: 0

Job #: 13647
 Analyst: CP
 Date: 44364

LOCATION: Briggs Rd. & Clinton Keith Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	2	707	705	35250%	2	588	586	29300%
	Right	1	273	272	27200%	1	224	223	22300%
	NB Total	4	980	976	24400%	4	812	808	20200%
SOUTH BOUND	Left	1	877	876	87600%	1	759	758	75800%
	Through	2	602	600	30000%	2	847	845	42250%
	Right	1	0	-1	-100%	1	0	-1	-100%
	SB Total	4	1,479	1,475	36875%	4	1,606	1,602	40050%
EAST BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	2	0	-2	-100%	2	0	-2	-100%
	Right	1	0	-1	-100%	1	0	-1	-100%
	EB Total	4	0	-4	-100%	4	0	-4	-100%
WEST BOUND	Left	1	218	217	21700%	1	236	235	23500%
	Through	2	0	-2	-100%	2	0	-2	-100%
	Right	1	823	822	82200%	1	556	555	55500%
	WB Total	4	1,041	1,037	25925%	4	792	788	19700%
TOTAL ENTERING VOLUME		16	3,500	3484	21775%	16	3,210	3194	19963%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,479	1,606			
North Leg	Outbound	1,530	1,144			
North Leg	TOTAL	3,009	2,750	9%	8%	32,792
South Leg	Inbound	980	812			
South Leg	Outbound	820	1,083			
South Leg	TOTAL	1,800	1,895	9%	9%	20,270
East Leg	Inbound	1,041	792			
East Leg	Outbound	1,150	983			
East Leg	TOTAL	2,191	1,775	9%	8%	23,230
West Leg	Inbound	0	0			
West Leg	Outbound	0	0			
West Leg	TOTAL	0	0	#DIV/0!	#DIV/0!	-
OVERALL TOTAL		7,000	6,420	9%	8%	76,292

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Briggs & Clinton Keith Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	310	250	-60	-19%	168	132	-36	-21%
	Through	178	600	422	236%	481	817	336	70%
	Right	673	781	108	16%	1,029	1,061	32	3%
	NB Total	1,162	1,631	469	40%	1,677	2,010	333	20%
SOUTH BOUND	Left	211	642	431	204%	183	564	381	209%
	Through	377	758	381	101%	298	701	403	135%
	Right	19	40	21	111%	11	25	14	133%
	SB Total	607	1,440	833	137%	492	1,290	798	162%
EAST BOUND	Left	26	77	51	200%	12	21	9	74%
	Through	581	604	23	4%	266	280	14	5%
	Right	246	169	-77	-31%	98	79	-19	-19%
	EB Total	853	850	-3	0%	376	380	4	1%
WEST BOUND	Left	707	831	124	18%	811	862	51	6%
	Through	384	476	92	24%	403	430	27	7%
	Right	57	293	236	416%	177	408	231	130%
	WB Total	1,148	1,600	452	39%	1,391	1,700	309	22%
TOTAL ENTERING VOLUME		3,770	5,521	1751.02363	46%	3,937	5,380	1443	37%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,440	1,290			
North Leg	Outbound	970	1,246			
North Leg	TOTAL	2,410	2,536	7%	8%	32,792
South Leg	Inbound	1,631	2,010			
South Leg	Outbound	1,758	1,642			
South Leg	TOTAL	3,389	3,652	17%	18%	20,270
East Leg	Inbound	1,600	1,700			
East Leg	Outbound	2,027	1,905			
East Leg	TOTAL	3,627	3,605	16%	16%	23,230
West Leg	Inbound	850	380			
West Leg	Outbound	766	587			
West Leg	TOTAL	1,616	967	#DIV/0!	#DIV/0!	-
OVERALL TOTAL		11,042	10,760	14%	14%	76,292

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Winchester Rd. (SR-79) & Domenigoni Pkwy.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	60	61	1	2%	123	123	0	0%
	Through	341	342	1	0%	1,029	1,031	2	0%
	Right	625	626	1	0%	869	870	1	0%
	NB Total	1,026	1,029	3	0%	2,021	2,024	3	0%
SOUTH BOUND	Left	6	6	0	-6%	18	18	0	0%
	Through	942	939	-3	0%	470	471	1	0%
	Right	226	225	-1	0%	163	163	0	0%
	SB Total	1,174	1,170	-4	0%	652	652	0	0%
EAST BOUND	Left	166	165	-1	0%	180	180	0	0%
	Through	901	898	-3	0%	901	902	1	0%
	Right	134	137	3	2%	90	90	0	0%
	EB Total	1,201	1,200	-1	0%	1,171	1,172	1	0%
WEST BOUND	Left	815	814	-1	0%	646	649	3	0%
	Through	815	813	-2	0%	785	785	0	0%
	Right	14	13	-1	-6%	19	19	0	-1%
	WB Total	1,644	1,640	-4	0%	1,451	1,453	2	0%
TOTAL ENTERING VOLUME		5,046	5,039	-7.075216	0%	5,294	5,301	7	0%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,170	652			
North Leg	Outbound	520	1,230			
North Leg	TOTAL	1,690	1,882	39%	44%	4,318
South Leg	Inbound	1,029	2,024			
South Leg	Outbound	1,890	1,210			
South Leg	TOTAL	2,919	3,234	74%	82%	3,924
East Leg	Inbound	1,640	1,453			
East Leg	Outbound	1,530	1,790			
East Leg	TOTAL	3,170	3,243	45%	46%	7,044
West Leg	Inbound	1,200	1,172			
West Leg	Outbound	1,099	1,071			
West Leg	TOTAL	2,299	2,243	31%	31%	7,312
OVERALL TOTAL		10,078	10,602	45%	47%	22,598

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Winchester Rd. (SR-79) & Newport Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	1	7	6	560%	2	23	21	984%
	Through	1,020	1,007	-13	-1%	1,998	1,968	-30	-2%
	Right	0	0	0	#DIV/0!	10	7	-3	-27%
	NB Total	1,021	1,014	-7	-1%	2,010	1,998	-12	-1%
SOUTH BOUND	Left	8	10	2	18%	5	3	-2	-43%
	Through	1,882	1,873	-9	0%	1,197	1,190	-7	-1%
	Right	2	13	11	513%	4	39	35	819%
	SB Total	1,892	1,896	4	0%	1,207	1,232	25	2%
EAST BOUND	Left	1	29	28	2633%	4	38	34	795%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1	31	30	2821%	1	11	10	937%
	EB Total	2	60	58	2727%	5	49	44	823%
WEST BOUND	Left	5	5	0	-6%	20	18	-2	-11%
	Through	0	0	0	#DIV/0!	1	9	8	748%
	Right	5	5	0	-6%	18	14	-4	-22%
	WB Total	11	10	-1	-6%	39	41	2	4%
TOTAL ENTERING VOLUME		2,926	2,980	54.241464	2%	3,261	3,320	59	2%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,896	1,232			
North Leg	Outbound	1,041	2,020			
North Leg	TOTAL	2,937	3,252	75%	83%	3,924
South Leg	Inbound	1,014	1,998			
South Leg	Outbound	1,909	1,219			
South Leg	TOTAL	2,923	3,217	78%	86%	3,741
East Leg	Inbound	10	41			
East Leg	Outbound	10	10			
East Leg	TOTAL	20	51	1%	3%	1,591
West Leg	Inbound	60	49			
West Leg	Outbound	20	71			
West Leg	TOTAL	80	120	8%	11%	1,049
OVERALL TOTAL		5,960	6,640	58%	64%	10,305

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Winchester Rd. (SR-79) & Holland Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	2	4	2	88%	6	10	4	57%
	Through	1,020	2,794	1,774	174%	1,999	4,155	2,156	108%
	Right	0	0	0	#DIV/0!	3	42	39	1219%
	NB Total	1,022	2,798	1,776	174%	2,009	4,207	2,198	109%
SOUTH BOUND	Left	1	50	49	4612%	0	0	0	#DIV/0!
	Through	1,884	3,988	2,104	112%	1,212	3,652	2,440	201%
	Right	3	4	1	26%	6	12	6	88%
	SB Total	1,888	4,042	2,154	114%	1,219	3,664	2,445	201%
EAST BOUND	Left	1	0	-1	-100%	5	5	0	-6%
	Through	2	10	8	371%	3	18	15	465%
	Right	0	0	0	#DIV/0!	6	7	1	10%
	EB Total	3	10	7	214%	15	30	15	102%
WEST BOUND	Left	1	8	7	654%	2	30	28	1313%
	Through	3	12	9	277%	2	18	16	748%
	Right	0	0	0	#DIV/0!	5	61	56	1050%
	WB Total	4	20	16	371%	10	109	99	1041%
TOTAL ENTERING VOLUME		2,917	6,870	3952.71046	135%	3,252	8,010	4758	146%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	4,042	3,664			
North Leg	Outbound	2,794	4,221			
North Leg	TOTAL	6,836	7,885	9%	10%	79,531
South Leg	Inbound	2,798	4,207			
South Leg	Outbound	3,996	3,689			
South Leg	TOTAL	6,794	7,896	8%	10%	81,052
East Leg	Inbound	20	109			
East Leg	Outbound	60	60			
East Leg	TOTAL	80	169	4%	9%	1,862
West Leg	Inbound	10	30			
West Leg	Outbound	20	40			
West Leg	TOTAL	30	70	5%	12%	573
OVERALL TOTAL		13,740	16,020	8%	10%	163,018

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Winchester Rd. (SR-79) & Garbani Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	18	85	67	384%	1	47	46	3399%
	Through	1,013	2,586	1,573	155%	2,000	4,085	2,085	104%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	1,030	2,671	1,641	159%	2,001	4,132	2,131	106%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,869	3,637	1,768	95%	1,217	3,352	2,135	175%
	Right	16	175	159	978%	4	253	249	6179%
	SB Total	1,885	3,812	1,927	102%	1,221	3,605	2,384	195%
EAST BOUND	Left	9	194	185	1950%	9	165	156	1655%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	19	133	114	603%	1	18	17	1240%
	EB Total	28	327	299	1052%	11	183	172	1603%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
TOTAL ENTERING VOLUME		2,944	6,810	3866.42911	131%	3,233	7,920	4687	145%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	3,812	3,605			
North Leg	Outbound	2,780	4,250			
North Leg	TOTAL	6,592	7,855	8%	10%	80,330
South Leg	Inbound	2,671	4,132			
South Leg	Outbound	3,770	3,370			
South Leg	TOTAL	6,441	7,502	8%	10%	75,908
East Leg	Inbound	0	0			
East Leg	Outbound	0	0			
East Leg	TOTAL	0	0	0%	0%	331
West Leg	Inbound	327	183			
West Leg	Outbound	260	300			
West Leg	TOTAL	587	483	13%	11%	4,411
OVERALL TOTAL		13,620	15,840	8%	10%	160,980

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Winchester Rd. (SR-79) & Scott Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	87	79	-8	-9%	93	93	0	0%
	Through	707	1,741	1,034	146%	1,212	2,716	1,504	124%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	794	1,820	1,026	129%	1,305	2,809	1,504	115%
SOUTH BOUND	Left	282	689	407	144%	260	853	593	228%
	Through	1,376	2,786	1,410	102%	808	2,326	1,518	188%
	Right	229	255	26	11%	150	193	43	29%
	SB Total	1,888	3,730	1,842	98%	1,218	3,372	2,154	177%
EAST BOUND	Left	142	261	119	84%	256	272	16	6%
	Through	116	172	56	49%	132	157	25	19%
	Right	88	108	20	23%	67	70	3	5%
	EB Total	346	541	195	56%	455	499	44	10%
WEST BOUND	Left	0	0	0	#DIV/0!	52	104	52	100%
	Through	94	97	3	3%	150	134	-16	-10%
	Right	180	502	322	178%	533	1,081	548	103%
	WB Total	275	599	324	118%	734	1,319	585	80%
TOTAL ENTERING VOLUME		3,303	6,690	3387.08174	103%	3,712	7,999	4287	115%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	3,730	3,372			
North Leg	Outbound	2,504	4,069			
North Leg	TOTAL	6,234	7,441	8%	10%	75,908
South Leg	Inbound	1,820	2,809			
South Leg	Outbound	2,894	2,500			
South Leg	TOTAL	4,714	5,309	8%	8%	62,468
East Leg	Inbound	599	1,319			
East Leg	Outbound	861	1,010			
East Leg	TOTAL	1,460	2,329	11%	17%	13,502
West Leg	Inbound	541	499			
West Leg	Outbound	431	420			
West Leg	TOTAL	972	919	27%	25%	3,629
OVERALL TOTAL		13,380	15,998	9%	10%	155,507

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Winchester Rd. (SR-79) & Keller Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	17	32	15	87%	24	25	1	3%
	Through	795	1,650	855	108%	1,290	2,567	1,277	99%
	Right	10	9	-1	-6%	85	101	16	19%
	NB Total	821	1,691	870	106%	1,399	2,693	1,294	92%
SOUTH BOUND	Left	0	0	0	#DIV/0!	5	8	3	51%
	Through	1,448	2,633	1,185	82%	907	2,249	1,342	148%
	Right	17	35	18	105%	15	20	5	32%
	SB Total	1,465	2,668	1,203	82%	927	2,277	1,350	146%
EAST BOUND	Left	0	0	0	#DIV/0!	8	13	5	59%
	Through	24	41	17	70%	12	12	0	-2%
	Right	24	69	45	185%	22	35	13	56%
	EB Total	48	110	62	127%	43	60	17	40%
WEST BOUND	Left	8	17	9	100%	10	25	15	162%
	Through	1	2	1	88%	18	25	7	37%
	Right	0	0	0	#DIV/0!	7	20	13	169%
	WB Total	10	19	9	99%	35	70	35	99%
TOTAL ENTERING VOLUME		2,344	4,488	2144.08949	91%	2,404	5,100	2696	112%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	2,668	2,277			
North Leg	Outbound	1,650	2,600			
North Leg	TOTAL	4,318	4,877	7%	8%	62,468
South Leg	Inbound	1,691	2,693			
South Leg	Outbound	2,719	2,309			
South Leg	TOTAL	4,410	5,002	7%	8%	62,942
East Leg	Inbound	19	70			
East Leg	Outbound	50	121			
East Leg	TOTAL	69	191	6%	17%	1,128
West Leg	Inbound	110	60			
West Leg	Outbound	69	70			
West Leg	TOTAL	179	130	13%	9%	1,402
OVERALL TOTAL		8,976	10,200	7%	8%	127,940

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Winchester Rd. (SR-79) & Abelia St.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	38	75	37	96%	31	64	33	108%
	Through	725	1,436	711	98%	1,321	2,501	1,180	89%
	Right	8	8	0	-6%	2	1	-1	-53%
	NB Total	771	1,519	748	97%	1,354	2,566	1,212	90%
SOUTH BOUND	Left	62	88	26	43%	62	92	30	49%
	Through	1,361	2,412	1,051	77%	858	2,038	1,180	137%
	Right	58	179	121	207%	19	96	77	403%
	SB Total	1,480	2,679	1,199	81%	939	2,226	1,287	137%
EAST BOUND	Left	32	89	57	180%	15	119	104	701%
	Through	19	25	6	31%	7	19	12	156%
	Right	36	58	22	61%	32	131	99	311%
	EB Total	87	172	85	98%	54	269	215	397%
WEST BOUND	Left	155	181	26	17%	96	90	-6	-6%
	Through	8	17	9	100%	12	23	11	97%
	Right	65	132	67	104%	64	117	53	84%
	WB Total	228	330	102	45%	171	230	59	35%
TOTAL ENTERING VOLUME		2,567	4,700	2132.82802	83%	2,518	5,291	2773	110%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	2,679	2,226			
North Leg	Outbound	1,657	2,737			
North Leg	TOTAL	4,336	4,963	7%	8%	62,942
South Leg	Inbound	1,519	2,566			
South Leg	Outbound	2,651	2,259			
South Leg	TOTAL	4,170	4,825	7%	8%	60,464
East Leg	Inbound	330	230			
East Leg	Outbound	121	112			
East Leg	TOTAL	451	342	6%	5%	7,031
West Leg	Inbound	172	269			
West Leg	Outbound	271	183			
West Leg	TOTAL	443	452	10%	10%	4,553
OVERALL TOTAL		9,400	10,582	7%	8%	134,990

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	10	10	0	5%	15	17	2	14%
	Through	645	1,335	690	107%	1,248	2,470	1,222	98%
	Right	0	0	0	#DIV/0!	1	2	1	88%
	NB Total	655	1,345	690	105%	1,264	2,489	1,225	97%
SOUTH BOUND	Left	41	103	62	149%	117	253	136	117%
	Through	1,498	2,584	1,086	72%	856	1,978	1,122	131%
	Right	12	16	4	37%	13	20	7	57%
	SB Total	1,552	2,703	1,151	74%	986	2,251	1,265	128%
EAST BOUND	Left	23	28	5	20%	4	5	1	18%
	Through	16	18	2	13%	17	15	-2	-12%
	Right	18	14	-4	-22%	11	10	-1	-6%
	EB Total	57	60	3	5%	32	30	-2	-6%
WEST BOUND	Left	149	174	25	17%	121	122	1	1%
	Through	16	14	-2	-12%	19	13	-6	-32%
	Right	103	184	81	79%	102	125	23	23%
	WB Total	267	372	105	39%	242	260	18	7%
TOTAL ENTERING VOLUME		2,531	4,480	1948.97273	77%	2,524	5,030	2506	99%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	2,703	2,251			
North Leg	Outbound	1,547	2,600			
North Leg	TOTAL	4,250	4,851	7%	8%	60,464
South Leg	Inbound	1,345	2,489			
South Leg	Outbound	2,772	2,110			
South Leg	TOTAL	4,117	4,599	8%	8%	54,619
East Leg	Inbound	372	260			
East Leg	Outbound	121	270			
East Leg	TOTAL	493	530	8%	9%	5,845
West Leg	Inbound	60	30			
West Leg	Outbound	40	50			
West Leg	TOTAL	100	80	#DIV/0!	#DIV/0!	-
OVERALL TOTAL		8,960	10,060	7%	8%	120,928

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Winchester Rd. (SR-79) & Jean Nichols Rd./Skyview Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	94	207	113	119%	206	329	123	60%
	Through	638	1,307	669	105%	1,339	2,419	1,080	81%
	Right	3	294	291	9135%	13	400	387	3041%
	NB Total	735	1,808	1,073	146%	1,558	3,148	1,590	102%
SOUTH BOUND	Left	7	129	122	1637%	4	53	49	1149%
	Through	1,212	2,308	1,096	90%	844	2,021	1,177	140%
	Right	79	32	-47	-59%	70	45	-25	-36%
	SB Total	1,298	2,469	1,171	90%	918	2,119	1,201	131%
EAST BOUND	Left	83	26	-57	-69%	76	48	-28	-37%
	Through	10	137	127	1334%	5	58	53	993%
	Right	145	230	85	58%	106	221	115	108%
	EB Total	238	393	155	65%	188	327	139	74%
WEST BOUND	Left	14	362	348	2524%	8	343	335	3940%
	Through	5	30	25	465%	5	57	52	974%
	Right	11	56	45	428%	14	168	154	1118%
	WB Total	30	448	418	1408%	28	568	540	1959%
TOTAL ENTERING VOLUME		2,301	5,118	2817.30106	122%	2,691	6,162	3471	129%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	2,469	2,119			
North Leg	Outbound	1,389	2,635			
North Leg	TOTAL	3,858	4,754	7%	9%	54,619
South Leg	Inbound	1,808	3,148			
South Leg	Outbound	2,900	2,585			
South Leg	TOTAL	4,708	5,733	7%	8%	72,125
East Leg	Inbound	448	568			
East Leg	Outbound	560	511			
East Leg	TOTAL	1,008	1,079	6%	6%	17,156
West Leg	Inbound	393	327			
West Leg	Outbound	269	431			
West Leg	TOTAL	662	758	13%	15%	5,001
OVERALL TOTAL		10,236	12,324	7%	8%	148,901

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Winchester Rd. (SR-79) & Max Gillis Bl./Thompson Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	361	330	-31	-9%	505	462	-43	-8%
	Through	769	1,603	834	108%	1,798	3,139	1,341	75%
	Right	100	38	-62	-62%	261	161	-100	-38%
	NB Total	1,230	1,971	741	60%	2,563	3,762	1,199	47%
SOUTH BOUND	Left	60	139	79	130%	83	225	142	172%
	Through	1,536	2,614	1,078	70%	1,082	2,311	1,229	114%
	Right	69	382	313	454%	63	253	190	304%
	SB Total	1,666	3,135	1,469	88%	1,228	2,789	1,561	127%
EAST BOUND	Left	36	293	257	712%	96	394	298	313%
	Through	188	278	90	48%	225	327	102	45%
	Right	728	797	69	9%	430	492	62	15%
	EB Total	952	1,368	416	44%	750	1,213	463	62%
WEST BOUND	Left	288	158	-130	-45%	250	227	-23	-9%
	Through	309	552	243	79%	249	429	180	72%
	Right	29	117	88	308%	21	70	49	230%
	WB Total	625	827	202	32%	520	726	206	40%
TOTAL ENTERING VOLUME		4,474	7,301	2827.44771	63%	5,061	8,490	3429	68%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	3,135	2,789			
North Leg	Outbound	2,013	3,603			
North Leg	TOTAL	5,148	6,392	7%	9%	72,125
South Leg	Inbound	1,971	3,762			
South Leg	Outbound	3,569	3,030			
South Leg	TOTAL	5,540	6,792	10%	12%	57,860
East Leg	Inbound	827	726			
East Leg	Outbound	455	713			
East Leg	TOTAL	1,282	1,439	19%	22%	6,617
West Leg	Inbound	1,368	1,213			
West Leg	Outbound	1,264	1,144			
West Leg	TOTAL	2,632	2,357	10%	9%	27,670
OVERALL TOTAL		14,602	16,980	9%	10%	164,272

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Project: Keller Crossing (JN:13649)
 Scenario: 0

Job #: 13649
 Analyst: CP
 Date: 44364

LOCATION: Winchester Rd. (SR-79) & Benton Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	614	613	61300%	1	566	565	56500%
	Through	2	1,450	1,448	72400%	2	2,440	2,438	121900%
	Right	1	282	281	28100%	1	467	466	46600%
	NB Total	4	2,346	2,342	58550%	4	3,473	3,469	86725%
SOUTH BOUND	Left	1	101	100	10000%	1	155	154	15400%
	Through	2	2,218	2,216	110800%	2	2,708	2,706	135300%
	Right	1	219	218	21800%	1	188	187	18700%
	SB Total	4	2,538	2,534	63350%	4	3,051	3,047	76175%
EAST BOUND	Left	1	147	146	14600%	1	220	219	21900%
	Through	2	257	255	12750%	2	379	377	18850%
	Right	1	630	629	62900%	1	735	734	73400%
	EB Total	4	1,034	1,030	25750%	4	1,334	1,330	33250%
WEST BOUND	Left	1	402	401	40100%	1	411	410	41000%
	Through	2	357	355	17750%	2	257	255	12750%
	Right	1	94	93	9300%	1	123	122	12200%
	WB Total	4	853	849	21225%	4	791	787	19675%
TOTAL ENTERING VOLUME		16	6,771	6755	42219%	16	8,649	8633	53956%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	2,538	3,051			
North Leg	Outbound	1,691	2,783			
North Leg	TOTAL	4,229	5,834	13%	18%	32,792
South Leg	Inbound	2,346	3,473			
South Leg	Outbound	3,250	3,854			
South Leg	TOTAL	5,596	7,327	28%	36%	20,270
East Leg	Inbound	853	791			
East Leg	Outbound	640	1,001			
East Leg	TOTAL	1,493	1,792	6%	8%	23,230
West Leg	Inbound	1,034	1,334			
West Leg	Outbound	1,190	1,011			
West Leg	TOTAL	2,224	2,345	#DIV/0!	#DIV/0!	-
OVERALL TOTAL		13,542	17,298	18%	23%	76,292

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Winchester Rd. (SR-79) & Auld Rd.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	22	29	7	34%	58	72	14	25%
	Through	929	1,687	758	82%	2,161	3,374	1,213	56%
	Right	276	252	-24	-9%	251	193	-58	-23%
	NB Total	1,226	1,968	742	60%	2,470	3,639	1,169	47%
SOUTH BOUND	Left	160	190	30	19%	59	106	47	79%
	Through	2,157	3,180	1,023	47%	1,394	2,551	1,157	83%
	Right	177	307	130	73%	121	353	232	192%
	SB Total	2,493	3,677	1,184	47%	1,574	3,010	1,436	91%
EAST BOUND	Left	166	383	217	130%	87	236	149	170%
	Through	30	34	4	14%	31	41	10	33%
	Right	42	60	18	43%	50	67	17	35%
	EB Total	238	477	239	100%	168	344	176	105%
WEST BOUND	Left	283	269	-14	-5%	277	216	-61	-22%
	Through	35	39	4	11%	36	45	9	24%
	Right	5	8	3	48%	81	125	44	55%
	WB Total	323	316	-7	-2%	394	386	-8	-2%
TOTAL ENTERING VOLUME		4,281	6,438	2157.10047	50%	4,605	7,379	2774	60%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	3,677	3,010			
North Leg	Outbound	2,078	3,735			
North Leg	TOTAL	5,755	6,745	8%	9%	73,115
South Leg	Inbound	1,968	3,639			
South Leg	Outbound	3,509	2,834			
South Leg	TOTAL	5,477	6,473	8%	9%	69,035
East Leg	Inbound	316	386			
East Leg	Outbound	476	340			
East Leg	TOTAL	792	726	26%	24%	3,046
West Leg	Inbound	477	344			
West Leg	Outbound	375	470			
West Leg	TOTAL	852	814	13%	12%	6,769
OVERALL TOTAL		12,876	14,758	8%	10%	151,965

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Project: Keller Crossing (JN:13649)
 Scenario: Horizon Year (2040) Without Project

Job #: 13649
 Analyst: CP
 Date: 6/16/19

LOCATION: Winchester Rd. (SR-79) & La Alba Dr.
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	78	174	96	122%	208	297	89	43%
	Through	1,113	1,836	723	65%	2,374	3,460	1,086	46%
	Right	42	191	149	356%	70	166	96	138%
	NB Total	1,233	2,201	968	78%	2,652	3,923	1,271	48%
SOUTH BOUND	Left	9	20	11	111%	8	12	4	49%
	Through	2,414	3,454	1,040	43%	1,607	2,822	1,215	76%
	Right	58	61	3	5%	105	94	-11	-10%
	SB Total	2,481	3,535	1,054	42%	1,720	2,928	1,208	70%
EAST BOUND	Left	111	86	-25	-22%	81	64	-17	-21%
	Through	4	9	5	122%	9	12	3	28%
	Right	174	248	74	42%	124	188	64	52%
	EB Total	289	343	54	19%	214	264	50	24%
WEST BOUND	Left	14	77	63	469%	38	160	122	325%
	Through	1	6	5	344%	4	9	5	123%
	Right	3	8	5	196%	16	36	20	123%
	WB Total	18	91	73	418%	58	205	147	255%
TOTAL ENTERING VOLUME		4,021	6,170	2148.56317	53%	4,643	7,320	2677	58%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	3,535	2,928			
North Leg	Outbound	1,930	3,560			
North Leg	TOTAL	5,465	6,488	8%	9%	69,035
South Leg	Inbound	2,201	3,923			
South Leg	Outbound	3,779	3,170			
South Leg	TOTAL	5,980	7,093	7%	9%	82,004
East Leg	Inbound	91	205			
East Leg	Outbound	220	190			
East Leg	TOTAL	311	395	7%	9%	4,431
West Leg	Inbound	343	264			
West Leg	Outbound	241	400			
West Leg	TOTAL	584	664	6%	6%	10,450
OVERALL TOTAL		12,340	14,640	7%	9%	165,920

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APPENDIX 5.1:

EAP (2023) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings
1: I-215 SB Ramps & Scott Rd.

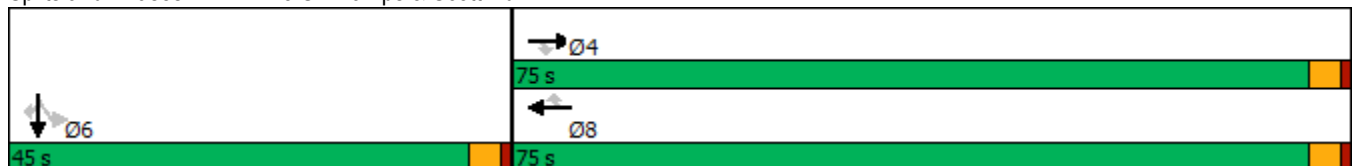


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	633	632	816	585	561	0	236
Future Volume (vph)	633	632	816	585	561	0	236
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	75.0	75.0	75.0	75.0	45.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	62.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	29.7	29.7	29.7	29.7	19.3	19.3	19.3
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.34	0.34	0.34
v/c Ratio	0.40	0.63	0.52	0.59	0.57	0.23	0.23
Control Delay	9.5	3.5	10.7	3.3	19.0	5.3	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	3.5	10.7	3.3	19.0	5.3	5.3
LOS	A	A	B	A	B	A	A
Approach Delay	6.5		7.6			14.9	
Approach LOS	A		A			B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 57.6
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 8.9
 Intersection Capacity Utilization 50.7%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A













Splits and Phases: 1: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)

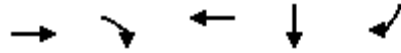
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↗	↗
Traffic Volume (veh/h)	0	633	632	0	816	585	0	0	0	561	0	236
Future Volume (veh/h)	0	633	632	0	816	585	0	0	0	561	0	236
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	736	727	0	949	586				652	0	175
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2067	922	0	2067	922				941	0	838
Arrive On Green	0.00	0.58	0.58	0.00	0.58	0.58				0.26	0.00	0.26
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	736	727	0	949	586				652	0	175
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	5.7	18.4	0.0	7.9	12.7				8.6	0.0	2.2
Cycle Q Clear(g_c), s	0.0	5.7	18.4	0.0	7.9	12.7				8.6	0.0	2.2
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2067	922	0	2067	922				941	0	838
V/C Ratio(X)	0.00	0.36	0.79	0.00	0.46	0.64				0.69	0.00	0.21
Avail Cap(c_a), veh/h	0	4857	2166	0	4857	2166				2812	0	2502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.7	8.4	0.0	6.2	7.2				17.2	0.0	14.9
Incr Delay (d2), s/veh	0.0	0.1	1.5	0.0	0.2	0.7				0.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.2	3.7	0.0	1.6	2.5				2.9	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.8	9.9	0.0	6.4	7.9				18.1	0.0	15.0
LnGrp LOS	A	A	A	A	A	A				B	A	B
Approach Vol, veh/h		1463			1535						827	
Approach Delay, s/veh		7.9			7.0						17.5	
Approach LOS		A			A						B	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				34.2		17.7		34.2				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				71.0		41.0		71.0				
Max Q Clear Time (g_c+I1), s				20.4		10.6		14.7				
Green Ext Time (p_c), s				9.8		3.2		11.4				
Intersection Summary												
HCM 6th Ctrl Delay			9.6									
HCM 6th LOS			A									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)

06/21/2021

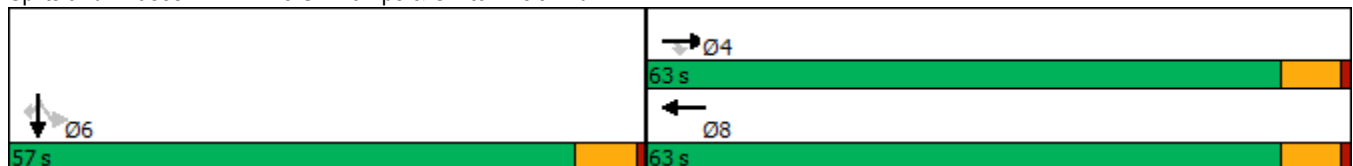


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↑↑
Traffic Volume (vph)	1331	465	1201	0	793
Future Volume (vph)	1331	465	1201	0	793
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	63.0	63.0	63.0	57.0	57.0
Total Split (%)	52.5%	52.5%	52.5%	47.5%	47.5%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	46.6	46.6	46.6	38.1	38.1
Actuated g/C Ratio	0.47	0.47	0.47	0.39	0.39
v/c Ratio	0.59	0.50	0.78	0.37	0.76
Control Delay	20.6	3.5	23.5	24.1	30.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	3.5	23.5	24.1	30.2
LOS	C	A	C	C	C
Approach Delay	16.2		23.5	28.8	
Approach LOS	B		C	C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.3
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 21.8
 Intersection LOS: C
 Intersection Capacity Utilization 73.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)

06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1331	465	0	1201	541	0	0	0	236	0	793
Future Volume (veh/h)	0	1331	465	0	1201	541	0	0	0	236	0	793
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1416	412	0	1278	576				251	0	510
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2799	850	0	1895	845				458	0	717
Arrive On Green	0.00	0.55	0.55	0.00	0.55	0.55				0.26	0.00	0.26
Sat Flow, veh/h	0	5274	1551	0	3624	1541				1781	0	2790
Grp Volume(v), veh/h	0	1416	412	0	1259	595				251	0	510
Grp Sat Flow(s),veh/h/ln	0	1702	1551	0	1702	1593				1781	0	1395
Q Serve(g_s), s	0.0	11.6	10.9	0.0	17.7	18.0				8.1	0.0	11.1
Cycle Q Clear(g_c), s	0.0	11.6	10.9	0.0	17.7	18.0				8.1	0.0	11.1
Prop In Lane	0.00		1.00	0.00		0.97				1.00		1.00
Lane Grp Cap(c), veh/h	0	2799	850	0	1866	873				458	0	717
V/C Ratio(X)	0.00	0.51	0.48	0.00	0.67	0.68				0.55	0.00	0.71
Avail Cap(c_a), veh/h	0	4325	1314	0	2883	1349				1349	0	2112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.4	9.3	0.0	10.8	10.9				21.4	0.0	22.5
Incr Delay (d2), s/veh	0.0	0.1	0.4	0.0	0.4	0.9				1.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.9	2.6	0.0	4.5	4.4				3.3	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.6	9.7	0.0	11.2	11.8				22.5	0.0	23.9
LnGrp LOS	A	A	A	A	B	B				C	A	C
Approach Vol, veh/h		1828			1854						761	
Approach Delay, s/veh		9.6			11.4						23.4	
Approach LOS		A			B						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				43.1		23.6		43.1				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				56.5		50.5		56.5				
Max Q Clear Time (g_c+I1), s				13.6		13.1		20.0				
Green Ext Time (p_c), s				14.8		4.0		16.6				
Intersection Summary												
HCM 6th Ctrl Delay			12.7									
HCM 6th LOS			B									

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021

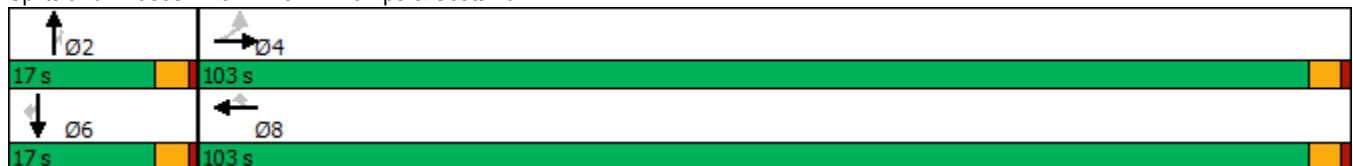


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↕	↕	↗	↖	↗	↖	↗
Traffic Volume (vph)	189	1005	1128	412	0	263	0	273
Future Volume (vph)	189	1005	1128	412	0	263	0	273
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	103.0	103.0	103.0	103.0	17.0	17.0	17.0	17.0
Total Split (%)	85.8%	85.8%	85.8%	85.8%	14.2%	14.2%	14.2%	14.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	36.5	36.5	36.5	36.5	7.7	7.7	7.7	7.7
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.14	0.14	0.14	0.14
v/c Ratio	0.85	0.46	0.52	0.37	0.39	0.38	0.44	0.44
Control Delay	37.3	3.9	4.3	1.1	6.2	6.0	11.6	11.6
Queue Delay	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay	37.3	3.9	4.4	1.2	6.2	6.0	11.6	11.6
LOS	D	A	A	A	A	A	B	B
Approach Delay		9.2	3.5		6.1		11.6	
Approach LOS		A	A		A		B	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 53.9	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 6.5	Intersection LOS: A
Intersection Capacity Utilization 57.3%	ICU Level of Service B
Analysis Period (min) 15	

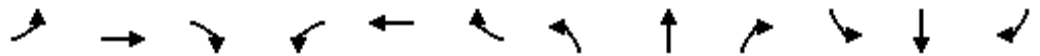
Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗		↗	↗		↗	↗
Traffic Volume (veh/h)	189	1005	0	0	1128	412	0	0	263	0	0	273
Future Volume (veh/h)	189	1005	0	0	1128	412	0	0	263	0	0	273
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	208	1104	0	0	1240	330	0	0	268	0	0	148
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	307	2875	0	0	2875	1282	0	200	338	0	200	338
Arrive On Green	0.81	0.81	0.00	0.00	0.81	0.81	0.00	0.00	0.11	0.00	0.00	0.11
Sat Flow, veh/h	327	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	208	1104	0	0	1240	330	0	0	268	0	0	148
Grp Sat Flow(s),veh/h/ln	327	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	48.6	8.2	0.0	0.0	9.7	4.8	0.0	0.0	7.8	0.0	0.0	4.1
Cycle Q Clear(g_c), s	58.4	8.2	0.0	0.0	9.7	4.8	0.0	0.0	7.8	0.0	0.0	4.1
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	307	2875	0	0	2875	1282	0	200	338	0	200	338
V/C Ratio(X)	0.68	0.38	0.00	0.00	0.43	0.26	0.00	0.00	0.79	0.00	0.00	0.44
Avail Cap(c_a), veh/h	384	3711	0	0	3711	1655	0	256	435	0	256	435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	11.2	2.5	0.0	0.0	2.7	2.2	0.0	0.0	41.3	0.0	0.0	39.7
Incr Delay (d2), s/veh	3.4	0.1	0.0	0.0	0.1	0.1	0.0	0.0	7.5	0.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	1.2	0.0	0.0	1.5	0.7	0.0	0.0	3.3	0.0	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.6	2.6	0.0	0.0	2.8	2.3	0.0	0.0	48.8	0.0	0.0	40.6
LnGrp LOS	B	A	A	A	A	A	A	A	D	A	A	D
Approach Vol, veh/h		1312			1570			268				148
Approach Delay, s/veh		4.5			2.7			48.8				40.6
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.1		80.7		14.1		80.7				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		13.0		99.0		13.0		99.0				
Max Q Clear Time (g_c+I1), s		9.8		60.4		6.1		11.7				
Green Ext Time (p_c), s		0.3		16.4		0.2		14.1				

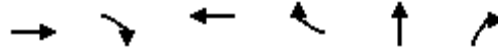
Intersection Summary

HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

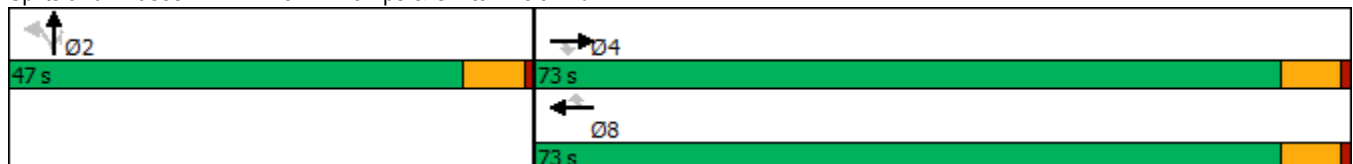


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↔	↑
Traffic Volume (vph)	917	665	1446	234	0	361
Future Volume (vph)	917	665	1446	234	0	361
Turn Type	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		4		8		2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5	16.5
Total Split (s)	73.0	73.0	73.0	73.0	47.0	47.0
Total Split (%)	60.8%	60.8%	60.8%	60.8%	39.2%	39.2%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	31.7	31.7	31.7	31.7	18.4	18.4
Actuated g/C Ratio	0.50	0.50	0.50	0.50	0.29	0.29
v/c Ratio	0.38	0.62	0.59	0.27	0.63	0.56
Control Delay	10.7	3.8	12.9	2.4	25.2	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	3.8	12.9	2.4	25.2	17.4
LOS	B	A	B	A	C	B
Approach Delay	7.8		11.4		21.4	
Approach LOS	A		B		C	

Intersection Summary













Cycle Length: 120	
Actuated Cycle Length: 64	
Natural Cycle: 40	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 11.5	Intersection LOS: B
Intersection Capacity Utilization 58.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	917	665	0	1446	234	216	0	361	0	0	0
Future Volume (veh/h)	0	917	665	0	1446	234	216	0	361	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	945	686	0	1491	241	223	0	184			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2918	902	0	2918	906	338	0	301			
Arrive On Green	0.00	0.57	0.57	0.00	0.57	0.57	0.19	0.00	0.19			
Sat Flow, veh/h	0	5274	1578	0	5274	1585	1781	0	1585			
Grp Volume(v), veh/h	0	945	686	0	1491	241	223	0	184			
Grp Sat Flow(s),veh/h/ln	0	1702	1578	0	1702	1585	1781	0	1585			
Q Serve(g_s), s	0.0	5.3	18.0	0.0	9.6	4.2	6.3	0.0	5.8			
Cycle Q Clear(g_c), s	0.0	5.3	18.0	0.0	9.6	4.2	6.3	0.0	5.8			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2918	902	0	2918	906	338	0	301			
V/C Ratio(X)	0.00	0.32	0.76	0.00	0.51	0.27	0.66	0.00	0.61			
Avail Cap(c_a), veh/h	0	6232	1926	0	6232	1935	1324	0	1178			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	6.1	8.8	0.0	7.1	5.9	20.4	0.0	20.2			
Incr Delay (d2), s/veh	0.0	0.1	1.4	0.0	0.1	0.2	2.2	0.0	2.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	1.0	3.3	0.0	1.8	0.7	2.6	0.0	2.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.2	10.2	0.0	7.2	6.1	22.6	0.0	22.2			
LnGrp LOS	A	A	B	A	A	A	C	A	C			
Approach Vol, veh/h		1631			1732			407				
Approach Delay, s/veh		7.9			7.0			22.4				
Approach LOS		A			A			C				
Timer - Assigned Phs		2			4			8				
Phs Duration (G+Y+Rc), s		16.8			37.6			37.6				
Change Period (Y+Rc), s		6.5			6.5			6.5				
Max Green Setting (Gmax), s		40.5			66.5			66.5				
Max Q Clear Time (g_c+I1), s		8.3			20.0			11.6				
Green Ext Time (p_c), s		2.1			11.2			15.2				
Intersection Summary												
HCM 6th Ctrl Delay		9.1										
HCM 6th LOS		A										
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

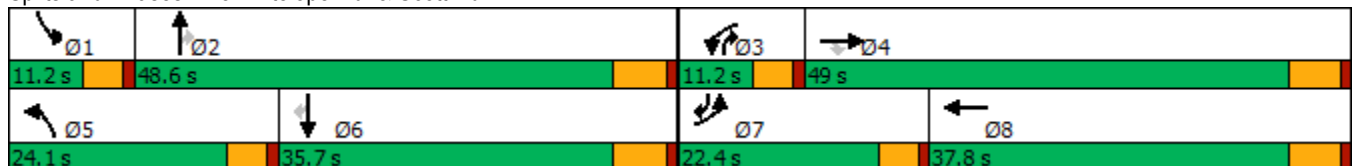
06/21/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	128	684	456	72	808	346	42	60	38	138	385	
Future Volume (vph)	128	684	456	72	808	346	42	60	38	138	385	
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	
Protected Phases	7	4		3	8	5	2	3	1	6	7	
Permitted Phases			4					2			6	
Detector Phase	7	4	4	3	8	5	2	3	1	6	7	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6	
Total Split (s)	22.4	49.0	49.0	11.2	37.8	24.1	48.6	11.2	11.2	35.7	22.4	
Total Split (%)	18.7%	40.8%	40.8%	9.3%	31.5%	20.1%	40.5%	9.3%	9.3%	29.8%	18.7%	
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	9.9	29.5	29.5	6.2	23.1	13.8	25.7	37.9	6.1	13.1	29.1	
Actuated g/C Ratio	0.12	0.36	0.36	0.08	0.28	0.17	0.31	0.46	0.07	0.16	0.36	
v/c Ratio	0.33	0.58	0.56	0.30	0.63	0.65	0.04	0.08	0.31	0.50	0.66	
Control Delay	37.2	24.4	4.8	44.2	28.6	39.2	24.6	1.2	48.4	40.8	22.5	
Queue Delay	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	37.2	24.5	4.9	44.2	28.6	39.2	24.6	1.2	48.4	40.8	22.5	
LOS	D	C	A	D	C	D	C	A	D	D	C	
Approach Delay		18.8			29.9		32.7			28.8		
Approach LOS		B			C		C			C		

Intersection Summary


































Cycle Length: 120	
Actuated Cycle Length: 81.6	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 25.6	Intersection LOS: C
Intersection Capacity Utilization 62.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		  	  		 	 		 	 	
Traffic Volume (veh/h)	128	684	456	72	808	20	346	42	60	38	138	385
Future Volume (veh/h)	128	684	456	72	808	20	346	42	60	38	138	385
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	743	354	78	878	17	376	46	35	41	150	244
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	1131	504	193	1584	31	488	1020	544	70	347	400
Arrive On Green	0.07	0.32	0.32	0.06	0.31	0.31	0.14	0.29	0.29	0.04	0.19	0.19
Sat Flow, veh/h	3456	3554	1585	3456	5157	100	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	139	743	354	78	579	316	376	46	35	41	150	244
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1852	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	2.7	12.5	13.6	1.5	9.9	9.9	7.3	0.6	1.0	1.6	4.9	9.5
Cycle Q Clear(g_c), s	2.7	12.5	13.6	1.5	9.9	9.9	7.3	0.6	1.0	1.6	4.9	9.5
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	1131	504	193	1046	569	488	1020	544	70	347	400
V/C Ratio(X)	0.60	0.66	0.70	0.40	0.55	0.55	0.77	0.05	0.06	0.59	0.43	0.61
Avail Cap(c_a), veh/h	885	2209	985	328	1568	853	970	2189	1065	169	805	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	20.4	20.8	31.7	20.1	20.1	28.8	17.9	15.3	32.8	25.1	22.9
Incr Delay (d2), s/veh	0.9	0.7	1.8	0.5	0.5	0.8	1.0	0.0	0.0	2.9	0.9	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.6	4.6	0.6	3.5	3.9	2.8	0.2	0.3	0.7	2.1	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	21.1	22.6	32.2	20.6	21.0	29.8	17.9	15.4	35.7	25.9	24.5
LnGrp LOS	C	C	C	C	C	C	C	B	B	D	C	C
Approach Vol, veh/h		1236			973			457			435	
Approach Delay, s/veh		22.8			21.6			27.5			26.0	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	25.8	8.5	27.9	14.4	18.7	9.3	27.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.6	42.8	6.6	43.2	19.5	29.9	17.8	32.0				
Max Q Clear Time (g_c+I1), s	3.6	3.0	3.5	15.6	9.3	11.5	4.7	11.9				
Green Ext Time (p_c), s	0.0	0.3	0.0	6.5	0.5	1.4	0.2	5.3				
Intersection Summary												
HCM 6th Ctrl Delay			23.6									
HCM 6th LOS			C									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/21/2021

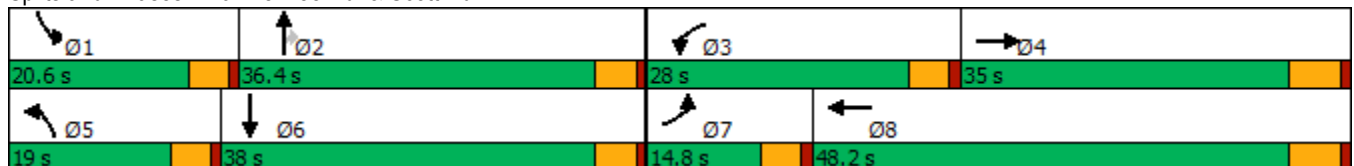


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	67	616	230	788	132	105	180	125	231
Future Volume (vph)	67	616	230	788	132	105	180	125	231
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	14.8	35.0	28.0	48.2	19.0	36.4	36.4	20.6	38.0
Total Split (%)	12.3%	29.2%	23.3%	40.2%	15.8%	30.3%	30.3%	17.2%	31.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	8.1	25.2	17.6	37.5	11.6	22.8	22.8	11.6	22.8
Actuated g/C Ratio	0.08	0.26	0.18	0.38	0.12	0.23	0.23	0.12	0.23
v/c Ratio	0.48	0.80	0.76	0.69	0.66	0.26	0.37	0.63	0.75
Control Delay	59.9	43.1	56.7	30.7	61.2	34.9	7.3	58.8	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	43.1	56.7	30.7	61.2	34.9	7.3	58.8	47.0
LOS	E	D	E	C	E	C	A	E	D
Approach Delay		44.6		36.1		31.3			50.4
Approach LOS		D		D		C			D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.9
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 40.0
 Intersection LOS: D
 Intersection Capacity Utilization 72.5%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/21/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	616	73	230	788	98	132	105	180	125	231	75
Future Volume (veh/h)	67	616	73	230	788	98	132	105	180	125	231	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	648	66	242	829	90	139	111	82	132	243	64
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	840	85	287	1187	129	176	406	344	168	304	80
Arrive On Green	0.05	0.26	0.26	0.16	0.37	0.37	0.10	0.22	0.22	0.09	0.21	0.21
Sat Flow, veh/h	1781	3256	331	1781	3233	351	1781	1870	1585	1781	1427	376
Grp Volume(v), veh/h	71	353	361	242	456	463	139	111	82	132	0	307
Grp Sat Flow(s),veh/h/ln	1781	1777	1811	1781	1777	1807	1781	1870	1585	1781	0	1803
Q Serve(g_s), s	2.9	13.5	13.5	9.7	16.0	16.0	5.6	3.6	3.1	5.3	0.0	11.8
Cycle Q Clear(g_c), s	2.9	13.5	13.5	9.7	16.0	16.0	5.6	3.6	3.1	5.3	0.0	11.8
Prop In Lane	1.00		0.18	1.00		0.19	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	93	458	467	287	652	664	176	406	344	168	0	384
V/C Ratio(X)	0.76	0.77	0.77	0.84	0.70	0.70	0.79	0.27	0.24	0.79	0.00	0.80
Avail Cap(c_a), veh/h	248	709	722	569	1029	1047	350	810	686	389	0	820
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.2	25.2	25.2	29.8	19.7	19.7	32.3	23.8	23.6	32.4	0.0	27.3
Incr Delay (d2), s/veh	4.8	2.8	2.8	2.6	1.4	1.3	3.0	0.4	0.4	3.1	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	5.4	5.5	4.0	5.9	6.0	2.5	1.6	1.1	2.4	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.1	27.9	27.9	32.4	21.1	21.1	35.3	24.2	24.0	35.5	0.0	31.2
LnGrp LOS	D	C	C	C	C	C	D	C	C	D	A	C
Approach Vol, veh/h		785			1161			332				439
Approach Delay, s/veh		28.9			23.4			28.8				32.5
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	20.6	16.4	24.7	11.8	20.3	8.4	32.7				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	16.0	* 32	23.4	29.2	14.4	* 33	10.2	42.4				
Max Q Clear Time (g_c+I1), s	7.3	5.6	11.7	15.5	7.6	13.8	4.9	18.0				
Green Ext Time (p_c), s	0.1	0.8	0.2	3.4	0.1	1.8	0.0	5.6				
Intersection Summary												
HCM 6th Ctrl Delay				27.1								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
7: Whitewood Rd. & Clinton Keith Rd.

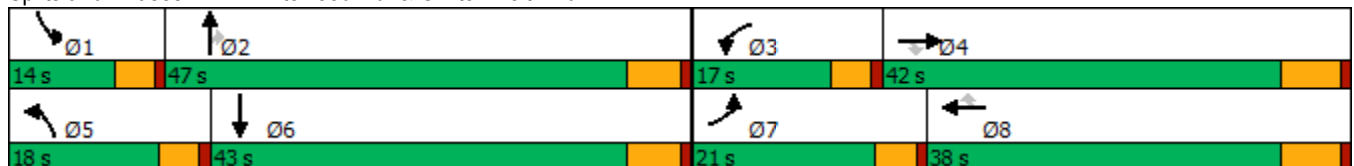
Keller Crossing (JN:13649)
06/21/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	334	806	150	239	1107	108	123	114	94	83	362
Future Volume (vph)	334	806	150	239	1107	108	123	114	94	83	362
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	21.0	42.0	42.0	17.0	38.0	38.0	18.0	47.0	47.0	14.0	43.0
Total Split (%)	17.5%	35.0%	35.0%	14.2%	31.7%	31.7%	15.0%	39.2%	39.2%	11.7%	35.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	14.8	33.8	33.8	11.4	30.4	30.4	11.6	30.4	30.4	8.5	27.4
Actuated g/C Ratio	0.14	0.32	0.32	0.11	0.29	0.29	0.11	0.29	0.29	0.08	0.26
v/c Ratio	0.78	0.79	0.27	0.72	0.84	0.22	0.71	0.24	0.19	0.65	0.82
Control Delay	57.5	40.4	6.1	59.8	43.1	7.2	68.5	30.3	5.1	72.0	33.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.5	40.4	6.1	59.8	43.1	7.2	68.5	30.3	5.1	72.0	33.7
LOS	E	D	A	E	D	A	E	C	A	E	C
Approach Delay		40.8			43.2			37.4			37.6
Approach LOS		D			D			D			D

Intersection Summary































Cycle Length: 120	
Actuated Cycle Length: 106	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 40.7	Intersection LOS: D
Intersection Capacity Utilization 78.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  						 	
Traffic Volume (veh/h)	334	806	150	239	1107	108	123	114	94	83	362	384
Future Volume (veh/h)	334	806	150	239	1107	108	123	114	94	83	362	384
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	371	896	106	266	1230	92	137	127	76	92	402	288
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	447	1160	518	339	1508	468	168	526	446	117	502	356
Arrive On Green	0.13	0.33	0.33	0.10	0.30	0.30	0.09	0.28	0.28	0.07	0.25	0.25
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1986	1408
Grp Volume(v), veh/h	371	896	106	266	1230	92	137	127	76	92	359	331
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1617
Q Serve(g_s), s	9.9	21.4	4.5	7.1	21.1	4.1	7.1	4.9	3.4	4.8	17.8	18.1
Cycle Q Clear(g_c), s	9.9	21.4	4.5	7.1	21.1	4.1	7.1	4.9	3.4	4.8	17.8	18.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.87
Lane Grp Cap(c), veh/h	447	1160	518	339	1508	468	168	526	446	117	449	409
V/C Ratio(X)	0.83	0.77	0.20	0.79	0.82	0.20	0.81	0.24	0.17	0.78	0.80	0.81
Avail Cap(c_a), veh/h	601	1339	597	455	1707	530	253	818	693	178	702	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	28.6	22.9	41.5	30.8	24.8	41.8	26.1	25.5	43.4	33.0	33.1
Incr Delay (d2), s/veh	5.4	2.5	0.2	4.4	2.9	0.2	6.7	0.2	0.2	6.0	3.6	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	8.5	1.6	3.0	8.2	1.4	3.3	2.1	1.2	2.2	7.7	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	31.0	23.1	45.9	33.7	25.0	48.5	26.3	25.7	49.3	36.6	37.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		1373			1588			340			782	
Approach Delay, s/veh		34.3			35.2			35.1			38.4	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	32.3	13.8	37.3	13.5	29.6	16.8	34.3				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	9.4	41.2	12.4	35.5	13.4	37.2	16.4	31.5				
Max Q Clear Time (g_c+1), s	6.8	6.9	9.1	23.4	9.1	20.1	11.9	23.1				
Green Ext Time (p_c), s	0.0	0.9	0.2	4.5	0.1	3.7	0.3	4.7				
Intersection Summary												
HCM 6th Ctrl Delay			35.5									
HCM 6th LOS			D									

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/21/2021

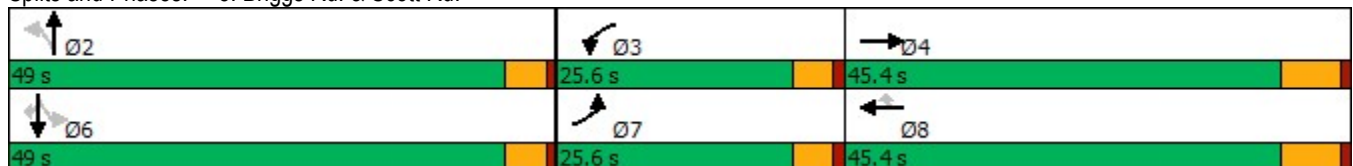


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	18	615	11	806	22	397	11	32	15	51
Future Volume (vph)	18	615	11	806	22	397	11	32	15	51
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	25.6	45.4	25.6	45.4	45.4	49.0	49.0	49.0	49.0	49.0
Total Split (%)	21.3%	37.8%	21.3%	37.8%	37.8%	40.8%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	5.8	40.4	5.5	38.2	38.2		38.3		38.3	38.3
Actuated g/C Ratio	0.06	0.44	0.06	0.42	0.42		0.42		0.42	0.42
v/c Ratio	0.17	0.78	0.11	0.59	0.03		0.83		0.09	0.08
Control Delay	48.2	24.1	47.7	24.9	0.8		39.0		17.4	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	48.2	24.1	47.7	24.9	0.8		39.0		17.4	2.9
LOS	D	C	D	C	A		D		B	A
Approach Delay		24.5		24.5			39.0		9.8	
Approach LOS		C		C			D		A	

Intersection Summary

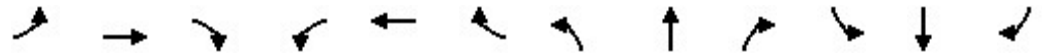
Cycle Length: 120
 Actuated Cycle Length: 91.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 26.4
 Intersection LOS: C
 Intersection Capacity Utilization 72.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖		↕			↕	↖
Traffic Volume (veh/h)	18	615	506	11	806	22	397	11	8	32	15	51
Future Volume (veh/h)	18	615	506	11	806	22	397	11	8	32	15	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	661	469	12	867	15	427	12	9	34	16	29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	792	560	26	1391	621	571	14	10	523	232	608
Arrive On Green	0.02	0.40	0.40	0.01	0.39	0.39	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1781	1988	1406	1781	3554	1585	1252	35	26	1160	605	1585
Grp Volume(v), veh/h	19	591	539	12	867	15	448	0	0	50	0	29
Grp Sat Flow(s),veh/h/ln	1781	1777	1617	1781	1777	1585	1314	0	0	1765	0	1585
Q Serve(g_s), s	0.8	23.3	23.4	0.5	15.3	0.5	23.8	0.0	0.0	0.0	0.0	0.9
Cycle Q Clear(g_c), s	0.8	23.3	23.4	0.5	15.3	0.5	25.1	0.0	0.0	1.3	0.0	0.9
Prop In Lane	1.00		0.87	1.00		1.00	0.95		0.02	0.68		1.00
Lane Grp Cap(c), veh/h	39	708	644	26	1391	621	594	0	0	755	0	608
V/C Ratio(X)	0.49	0.83	0.84	0.46	0.62	0.02	0.75	0.00	0.00	0.07	0.00	0.05
Avail Cap(c_a), veh/h	481	889	809	481	1778	793	850	0	0	1037	0	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.6	21.1	21.1	38.0	19.0	14.5	23.1	0.0	0.0	15.2	0.0	15.0
Incr Delay (d2), s/veh	3.6	5.6	6.3	4.6	0.5	0.0	2.3	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	9.0	8.4	0.2	5.3	0.1	7.6	0.0	0.0	0.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	26.7	27.4	42.6	19.5	14.6	25.5	0.0	0.0	15.2	0.0	15.1
LnGrp LOS	D	C	C	D	B	B	C	A	A	B	A	B
Approach Vol, veh/h		1149			894			448				79
Approach Delay, s/veh		27.3			19.7			25.5				15.2
Approach LOS		C			B			C				B
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.5	5.7	37.5		34.5	6.3	36.9				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 44	21.0	38.9		* 44	21.0	38.9				
Max Q Clear Time (g_c+I1), s		27.1	2.5	25.4		3.3	2.8	17.3				
Green Ext Time (p_c), s		2.7	0.0	5.6		0.4	0.0	5.3				

Intersection Summary

HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Intersection Delay, s/veh	27.3											
Intersection LOS	D											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	10	294	205	22	289	10	270	39	9	33	63	9
Future Vol, veh/h	10	294	205	22	289	10	270	39	9	33	63	9
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	303	211	23	298	10	278	40	9	34	65	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	38.4	19.7	21.8	13.1
HCM LOS	E	C	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	85%	2%	7%	31%
Vol Thru, %	12%	58%	90%	60%
Vol Right, %	3%	40%	3%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	318	509	321	105
LT Vol	270	10	22	33
Through Vol	39	294	289	63
RT Vol	9	205	10	9
Lane Flow Rate	328	525	331	108
Geometry Grp	1	1	1	1
Degree of Util (X)	0.639	0.881	0.61	0.234
Departure Headway (Hd)	7.015	6.042	6.634	7.775
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	511	593	539	464
Service Time	5.111	4.127	4.733	5.775
HCM Lane V/C Ratio	0.642	0.885	0.614	0.233
HCM Control Delay	21.8	38.4	19.7	13.1
HCM Lane LOS	C	E	C	B
HCM 95th-tile Q	4.4	10.2	4.1	0.9

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	1	3	49	0	65	1	139	14	28	270	11
Future Vol, veh/h	3	1	3	49	0	65	1	139	14	28	270	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1	4	60	0	79	1	170	17	34	329	13

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	624	593	336	587	591	179	342	0	0	187	0	0
Stage 1	404	404	-	181	181	-	-	-	-	-	-	-
Stage 2	220	189	-	406	410	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	398	418	706	421	420	864	1217	-	-	1387	-	-
Stage 1	623	599	-	821	750	-	-	-	-	-	-	-
Stage 2	782	744	-	622	595	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	353	405	706	408	407	864	1217	-	-	1387	-	-
Mov Cap-2 Maneuver	353	405	-	408	407	-	-	-	-	-	-	-
Stage 1	622	581	-	820	749	-	-	-	-	-	-	-
Stage 2	710	743	-	599	577	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	13.1	0.1	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1217	-	-	460	584	1387	-
HCM Lane V/C Ratio	0.001	-	-	0.019	0.238	0.025	-
HCM Control Delay (s)	8	0	-	13	13.1	7.7	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.9	0.1	-

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	11	0	13	0	145	7	18	234	4
Future Vol, veh/h	0	0	0	11	0	13	0	145	7	18	234	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	0	15	0	163	8	20	263	4

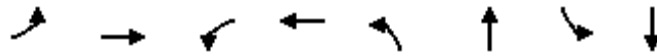
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	480	476	134	339	474	167	267	0	0	171	0	0
Stage 1	305	305	-	167	167	-	-	-	-	-	-	-
Stage 2	175	171	-	172	307	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	482	487	891	603	488	877	1295	-	-	1405	-	-
Stage 1	680	662	-	834	760	-	-	-	-	-	-	-
Stage 2	826	757	-	814	660	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	469	480	891	596	481	877	1295	-	-	1405	-	-
Mov Cap-2 Maneuver	545	533	-	645	535	-	-	-	-	-	-	-
Stage 1	680	653	-	834	760	-	-	-	-	-	-	-
Stage 2	812	757	-	802	651	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.9	0	0.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1295	-	-	-	645	877	1405	-	-
HCM Lane V/C Ratio	-	-	-	-	0.019	0.017	0.014	-	-
HCM Control Delay (s)	0	-	-	0	10.7	9.2	7.6	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1	0	-	-

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/21/2021

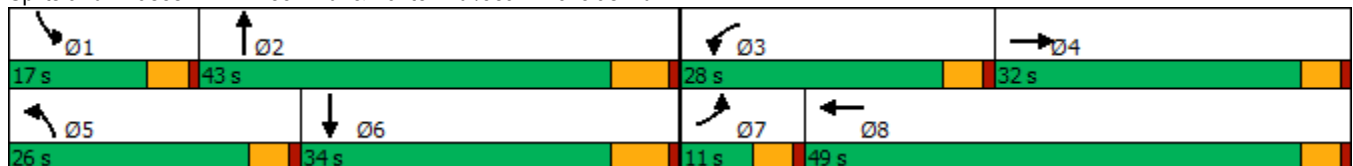


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	14	117	124	205	111	103	49	275
Future Volume (vph)	14	117	124	205	111	103	49	275
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	11.0	32.0	28.0	49.0	26.0	43.0	17.0	34.0
Total Split (%)	9.2%	26.7%	23.3%	40.8%	21.7%	35.8%	14.2%	28.3%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	6.4	11.3	23.5	28.4	12.3	34.2	8.0	27.9
Actuated g/C Ratio	0.07	0.12	0.25	0.30	0.13	0.36	0.08	0.29
v/c Ratio	0.16	0.61	0.38	0.36	0.65	0.19	0.44	0.37
Control Delay	47.5	24.4	34.1	24.0	53.2	13.4	51.6	28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	24.4	34.1	24.0	53.2	13.4	51.6	28.6
LOS	D	C	C	C	D	B	D	C
Approach Delay		25.7		27.1		28.6		31.9
Approach LOS		C		C		C		C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 95.1
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 28.4
 Intersection LOS: C
 Intersection Capacity Utilization 68.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	14	117	125	124	205	77	111	103	77	49	275	10
Future Volume (veh/h)	14	117	125	124	205	77	111	103	77	49	275	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	156	114	165	273	74	148	137	75	65	367	5
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	253	174	451	854	226	182	803	414	84	1080	15
Arrive On Green	0.07	0.13	0.13	0.25	0.31	0.31	0.10	0.36	0.36	0.05	0.30	0.30
Sat Flow, veh/h	1781	2014	1381	1781	2757	730	1781	2256	1162	1781	3589	49
Grp Volume(v), veh/h	19	136	134	165	174	173	148	106	106	65	182	190
Grp Sat Flow(s),veh/h/ln	1781	1777	1618	1781	1777	1710	1781	1777	1641	1781	1777	1861
Q Serve(g_s), s	0.9	6.7	7.3	7.0	6.9	7.2	7.5	3.8	4.1	3.3	7.3	7.4
Cycle Q Clear(g_c), s	0.9	6.7	7.3	7.0	6.9	7.2	7.5	3.8	4.1	3.3	7.3	7.4
Prop In Lane	1.00		0.85	1.00		0.43	1.00		0.71	1.00		0.03
Lane Grp Cap(c), veh/h	123	223	203	451	551	530	182	633	584	84	535	560
V/C Ratio(X)	0.15	0.61	0.66	0.37	0.32	0.33	0.81	0.17	0.18	0.77	0.34	0.34
Avail Cap(c_a), veh/h	123	525	478	451	852	820	413	708	654	239	535	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	38.2	38.5	28.4	24.4	24.5	40.6	20.4	20.5	43.5	25.1	25.1
Incr Delay (d2), s/veh	2.6	2.7	3.6	2.3	0.3	0.4	3.3	0.1	0.1	5.6	1.7	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.1	3.0	3.2	2.9	2.9	3.3	1.5	1.5	1.5	3.1	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	40.9	42.0	30.6	24.7	24.8	43.9	20.5	20.6	49.1	26.8	26.8
LnGrp LOS	D	D	D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		289			512			360			437	
Approach Delay, s/veh		41.6			26.7			30.2			30.1	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	39.1	28.0	16.3	14.0	34.0	11.0	33.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	12.4	36.8	23.4	* 27	21.4	27.8	6.4	* 44				
Max Q Clear Time (g_c+I1), s	5.3	6.1	9.0	9.3	9.5	9.4	2.9	9.2				
Green Ext Time (p_c), s	0.0	1.1	0.2	1.4	0.1	1.7	0.0	2.2				

Intersection Summary

HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

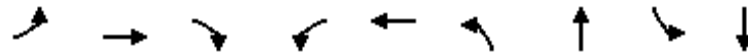
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)

06/24/2021

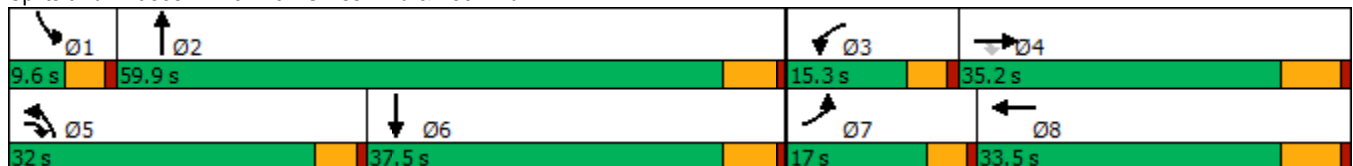


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↔↔	↑↑	↔↔	↑↑
Traffic Volume (vph)	322	193	701	219	415	736	400	27	605
Future Volume (vph)	322	193	701	219	415	736	400	27	605
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases	4								
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	17.0	35.2	32.0	15.3	33.5	32.0	59.9	9.6	37.5
Total Split (%)	14.2%	29.3%	26.7%	12.8%	27.9%	26.7%	49.9%	8.0%	31.3%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	12.4	21.9	55.9	10.2	19.7	27.4	57.7	5.0	31.2
Actuated g/C Ratio	0.11	0.20	0.50	0.09	0.18	0.24	0.51	0.04	0.28
v/c Ratio	0.88	0.29	0.89	0.73	0.73	0.91	0.27	0.18	0.92
Control Delay	74.8	39.7	37.9	65.0	50.9	58.4	16.6	56.4	52.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.8	39.7	37.9	65.0	50.9	58.4	16.6	56.4	52.4
LOS	E	D	D	E	D	E	B	E	D
Approach Delay	47.9		55.6			42.4		52.5	
Approach LOS	D		E			D		D	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 112.3
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 48.6
 Intersection LOS: D
 Intersection Capacity Utilization 87.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	322	193	701	219	415	20	736	400	59	27	605	256
Future Volume (veh/h)	322	193	701	219	415	20	736	400	59	27	605	256
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	335	201	597	228	432	15	767	417	2	28	630	210
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	363	865	754	284	772	27	803	1693	8	88	681	227
Arrive On Green	0.11	0.24	0.24	0.08	0.22	0.22	0.23	0.47	0.47	0.03	0.26	0.26
Sat Flow, veh/h	3456	3554	1585	3456	3504	121	3456	3627	17	3456	2618	872
Grp Volume(v), veh/h	335	201	597	228	219	228	767	204	215	28	427	413
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1848	1728	1777	1867	1728	1777	1713
Q Serve(g_s), s	11.3	5.4	28.7	7.6	12.9	13.0	25.8	8.2	8.2	0.9	27.6	27.7
Cycle Q Clear(g_c), s	11.3	5.4	28.7	7.6	12.9	13.0	25.8	8.2	8.2	0.9	27.6	27.7
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.01	1.00		0.51
Lane Grp Cap(c), veh/h	363	865	754	284	391	407	803	830	872	88	462	446
V/C Ratio(X)	0.92	0.23	0.79	0.80	0.56	0.56	0.96	0.25	0.25	0.32	0.92	0.93
Avail Cap(c_a), veh/h	363	865	754	313	407	423	803	830	872	146	477	460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	35.8	26.0	53.2	40.9	40.9	44.7	18.9	18.9	56.5	42.5	42.5
Incr Delay (d2), s/veh	28.0	0.1	5.8	11.4	1.6	1.6	21.4	0.2	0.1	0.8	23.6	24.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	2.2	14.0	3.7	5.6	5.8	13.0	3.2	3.4	0.4	14.7	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.3	35.9	31.8	64.6	42.5	42.5	66.1	19.1	19.1	57.2	66.1	67.0
LnGrp LOS	F	D	C	E	D	D	E	B	B	E	E	E
Approach Vol, veh/h		1133			675			1186			868	
Approach Delay, s/veh		46.9			50.0			49.5			66.2	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	60.9	14.3	35.2	32.0	36.5	17.0	32.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	54.1	10.7	28.7	27.4	31.7	12.4	27.0				
Max Q Clear Time (g_c+I1), s	2.9	10.2	9.6	30.7	27.8	29.7	13.3	15.0				
Green Ext Time (p_c), s	0.0	2.3	0.0	0.0	0.0	1.0	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			52.6									
HCM 6th LOS			D									

Intersection												
Intersection Delay, s/veh	7.8											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕		↕			↕	
Traffic Vol, veh/h	0	34	15	12	90	0	10	0	7	1	0	0
Future Vol, veh/h	0	34	15	12	90	0	10	0	7	1	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	38	17	13	100	0	11	0	8	1	0	0
Number of Lanes	0	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	1
HCM Control Delay	7.5	8	7.8	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	59%	0%	100%	0%	0%	100%
Vol Thru, %	0%	69%	0%	100%	100%	0%
Vol Right, %	41%	31%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	49	12	90	0	1
LT Vol	10	0	12	0	0	1
Through Vol	0	34	0	90	0	0
RT Vol	7	15	0	0	0	0
Lane Flow Rate	19	54	13	100	0	1
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.026	0.067	0.019	0.128	0	0.002
Departure Headway (Hd)	4.948	4.41	5.096	4.596	4.596	5.459
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	728	809	702	780	0	659
Service Time	2.648	2.156	2.827	2.327	2.327	3.16
HCM Lane V/C Ratio	0.026	0.067	0.019	0.128	0	0.002
HCM Control Delay	7.8	7.5	7.9	8	7.3	8.2
HCM Lane LOS	A	A	A	A	N	A
HCM 95th-tile Q	0.1	0.2	0.1	0.4	0	0

Intersection						
Int Delay, s/veh	5.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	39	24	15	16	8
Future Vol, veh/h	3	39	24	15	16	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	48	30	19	20	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	95	25	30	0	0
Stage 1	25	-	-	-	-
Stage 2	70	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-
Pot Cap-1 Maneuver	899	1051	1582	-	-
Stage 1	997	-	-	-	-
Stage 2	945	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	882	1051	1582	-	-
Mov Cap-2 Maneuver	840	-	-	-	-
Stage 1	978	-	-	-	-
Stage 2	945	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	4.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1582	-	1032	-	-
HCM Lane V/C Ratio	0.019	-	0.05	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	16	25	0	4	54	2	0	0	31	5	0	49
Future Vol, veh/h	16	25	0	4	54	2	0	0	31	5	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	27	0	4	59	2	0	0	34	5	0	53

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	61	0	0	27	0	0	99	130	14	116	129	31
Stage 1	-	-	-	-	-	-	61	61	-	68	68	-
Stage 2	-	-	-	-	-	-	38	69	-	48	61	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1540	-	-	1585	-	-	872	760	1062	848	761	1036
Stage 1	-	-	-	-	-	-	943	843	-	934	838	-
Stage 2	-	-	-	-	-	-	972	837	-	959	843	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1540	-	-	1585	-	-	819	749	1062	812	750	1036
Mov Cap-2 Maneuver	-	-	-	-	-	-	819	749	-	790	722	-
Stage 1	-	-	-	-	-	-	933	834	-	924	835	-
Stage 2	-	-	-	-	-	-	920	834	-	918	834	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	2.9		0.5		8.5		8.8	
HCM LOS					A		A	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1062	1540	-	-	1585	-	-	1007
HCM Lane V/C Ratio	0.032	0.011	-	-	0.003	-	-	0.058
HCM Control Delay (s)	8.5	7.4	-	-	7.3	-	-	8.8
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑↑	↑↑		↘	
Traffic Vol, veh/h	7	55	39	11	32	22
Future Vol, veh/h	7	55	39	11	32	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	60	42	12	35	24

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	54	0	-	0	94 27
Stage 1	-	-	-	-	48 -
Stage 2	-	-	-	-	46 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	1549	-	-	-	895 1042
Stage 1	-	-	-	-	968 -
Stage 2	-	-	-	-	971 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1549	-	-	-	891 1042
Mov Cap-2 Maneuver	-	-	-	-	848 -
Stage 1	-	-	-	-	963 -
Stage 2	-	-	-	-	971 -

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1549	-	-	-	918
HCM Lane V/C Ratio	0.005	-	-	-	0.064
HCM Control Delay (s)	7.3	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Timings
20: Winchester Rd. & Domenigoni Pkwy

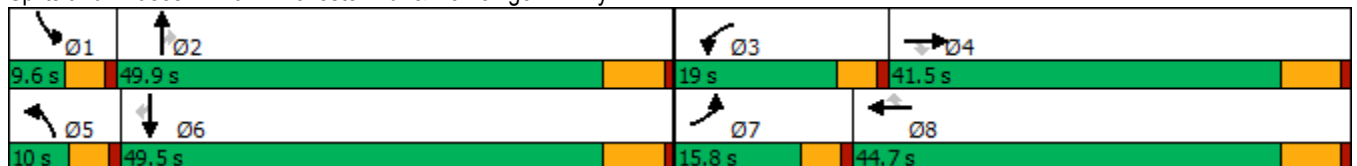
Keller Crossing (JN:13649)
06/21/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	937	140	850	848	14	62	371	656	7	985	235
Future Volume (vph)	172	937	140	850	848	14	62	371	656	7	985	235
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	15.8	41.5	41.5	19.0	44.7	44.7	10.0	49.9	49.9	9.6	49.5	49.5
Total Split (%)	13.2%	34.6%	34.6%	15.8%	37.3%	37.3%	8.3%	41.6%	41.6%	8.0%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	9.8	34.7	34.7	14.4	39.3	39.3	5.4	47.9	47.9	5.0	39.7	39.7
Actuated g/C Ratio	0.08	0.30	0.30	0.12	0.34	0.34	0.05	0.41	0.41	0.04	0.34	0.34
v/c Ratio	0.63	0.95	0.27	2.13	0.53	0.02	0.80	0.27	0.83	0.09	0.87	0.36
Control Delay	62.3	58.3	10.9	543.0	33.2	0.1	113.4	23.8	25.5	58.1	44.7	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.3	58.3	10.9	543.0	33.2	0.1	113.4	23.8	25.5	58.1	44.7	6.5
LOS	E	E	B	F	C	A	F	C	C	E	D	A
Approach Delay		53.5			286.0			29.9			37.5	
Approach LOS		D			F			C			D	

Intersection Summary
































Cycle Length: 120
 Actuated Cycle Length: 116.5
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.13
 Intersection Signal Delay: 120.3
 Intersection LOS: F
 Intersection Capacity Utilization 100.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

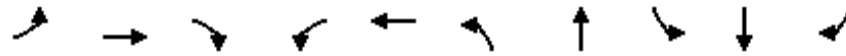
Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  			 			 	
Traffic Volume (veh/h)	172	937	140	850	848	14	62	371	656	7	985	235
Future Volume (veh/h)	172	937	140	850	848	14	62	371	656	7	985	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	997	93	904	902	9	66	395	502	7	1048	116
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	1064	475	434	1813	563	84	1325	591	16	1189	530
Arrive On Green	0.07	0.30	0.30	0.13	0.35	0.35	0.05	0.37	0.37	0.01	0.33	0.33
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	183	997	93	904	902	9	66	395	502	7	1048	116
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.0	31.3	5.0	14.4	15.9	0.4	4.2	9.0	33.4	0.4	31.9	6.0
Cycle Q Clear(g_c), s	6.0	31.3	5.0	14.4	15.9	0.4	4.2	9.0	33.4	0.4	31.9	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	242	1064	475	434	1813	563	84	1325	591	16	1189	530
V/C Ratio(X)	0.76	0.94	0.20	2.08	0.50	0.02	0.79	0.30	0.85	0.45	0.88	0.22
Avail Cap(c_a), veh/h	337	1084	483	434	1813	563	84	1344	600	78	1332	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	39.1	29.9	50.2	29.0	24.0	54.1	25.4	33.0	56.6	36.0	27.4
Incr Delay (d2), s/veh	3.5	14.5	0.2	495.9	0.2	0.0	35.3	0.1	11.0	7.4	6.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	14.8	1.8	35.8	6.1	0.2	2.6	3.6	13.5	0.2	13.9	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	53.6	30.1	546.1	29.2	24.0	89.4	25.5	44.0	64.0	42.7	27.6
LnGrp LOS	E	D	C	F	C	C	F	C	D	E	D	C
Approach Vol, veh/h		1273			1815			963			1171	
Approach Delay, s/veh		52.3			286.6			39.6			41.3	
Approach LOS		D			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.6	49.3	19.0	40.9	10.0	44.9	12.6	47.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	43.4	14.4	35.0	5.4	43.0	11.2	38.2				
Max Q Clear Time (g_c+I1), s	2.4	35.4	16.4	33.3	6.2	33.9	8.0	17.9				
Green Ext Time (p_c), s	0.0	2.6	0.0	1.0	0.0	4.4	0.1	5.4				
Intersection Summary												
HCM 6th Ctrl Delay	128.9											
HCM 6th LOS	F											

Timings

21: Winchester Rd. & Newport Rd.

06/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↖	↑↑	↗
Traffic Volume (vph)	1	0	1	6	0	1	1083	9	1965	2
Future Volume (vph)	1	0	1	6	0	1	1083	9	1965	2
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)		10.2	10.2		10.2	5.1	77.3	5.1	77.3	77.3
Actuated g/C Ratio		0.12	0.12		0.12	0.06	0.94	0.06	0.94	0.94
v/c Ratio		0.00	0.00		0.04	0.01	0.24	0.09	0.63	0.00
Control Delay		36.0	0.0		0.3	41.0	1.6	41.4	4.2	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		36.0	0.0		0.3	41.0	1.6	41.4	4.2	0.0
LOS		D	A		A	D	A	D	A	A
Approach Delay		18.0			0.3		1.7		4.4	
Approach LOS		B			A		A		A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 82.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 3.4
 Intersection Capacity Utilization 84.0%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service E

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
 21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
 06/21/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	6	0	6	1	1083	0	9	1965	2
Future Volume (veh/h)	1	0	1	6	0	6	1	1083	0	9	1965	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	0	0	6	0	1	1	1152	0	10	2090	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	0	33	125	0	4	3	3760	1167	23	2657	1185
Arrive On Green	0.02	0.00	0.00	0.02	0.00	0.02	0.00	0.74	0.00	0.01	0.75	0.75
Sat Flow, veh/h	1498	0	1585	1242	0	207	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	1	0	0	7	0	0	1	1152	0	10	2090	2
Grp Sat Flow(s),veh/h/ln	1499	0	1585	1449	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.3	0.0	0.0	0.0	5.2	0.0	0.4	24.2	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.3	0.0	0.0	0.0	5.2	0.0	0.4	24.2	0.0
Prop In Lane	1.00		1.00	0.86		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	0	33	129	0	0	3	3760	1167	23	2657	1185
V/C Ratio(X)	0.01	0.00	0.00	0.05	0.00	0.00	0.38	0.31	0.00	0.44	0.79	0.00
Avail Cap(c_a), veh/h	761	0	730	762	0	0	132	5195	1613	132	3616	1613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	0.0	0.0	32.4	0.0	0.0	33.6	3.0	0.0	33.0	5.2	2.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	30.0	0.0	0.0	5.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.5	0.0	0.2	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	0.0	0.0	32.6	0.0	0.0	63.5	3.1	0.0	38.0	6.0	2.1
LnGrp LOS	C	A	A	C	A	A	E	A	A	D	A	A
Approach Vol, veh/h		1			7			1153			2102	
Approach Delay, s/veh		32.3			32.6			3.1			6.2	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	55.8		6.1	4.7	56.5		6.1				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.0	68.5		* 31	5.0	68.5		* 31				
Max Q Clear Time (g_c+I1), s	2.4	7.2		2.0	2.0	26.2		2.3				
Green Ext Time (p_c), s	0.0	9.0		0.0	0.0	24.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	5.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/21/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↶	↷	↶	↷	↶	↶↶	↶	↶↶	↷
Traffic Volume (vph)	1	2	1	3	2	1083	1	1967	3
Future Volume (vph)	1	2	1	3	2	1083	1	1967	3
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	9.6	16.5	16.5
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	75.9	5.0	68.2	68.2
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.77	0.05	0.69	0.69
v/c Ratio	0.01	0.01	0.01	0.02	0.02	0.42	0.01	0.86	0.00
Control Delay	40.0	40.5	40.0	40.3	45.5	4.9	45.0	16.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	40.5	40.0	40.3	45.5	4.9	45.0	16.5	0.0
LOS	D	D	D	D	D	A	D	B	A
Approach Delay		40.3		40.3		5.0		16.5	
Approach LOS		D		D		A		B	

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 99	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 12.5	Intersection LOS: B
Intersection Capacity Utilization 72.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	2	0	1	3	0	2	1083	0	1	1967	3
Future Volume (veh/h)	1	2	0	1	3	0	2	1083	0	1	1967	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	2	0	1	3	0	2	1152	0	1	2093	3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	189	0	214	189	0	90	2623	1170	2	2448	1092
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.00	0.05	0.74	0.00	0.00	0.69	0.69
Sat Flow, veh/h	1414	1870	0	1415	1870	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	1	2	0	1	3	0	2	1152	0	1	2093	3
Grp Sat Flow(s),veh/h/ln	1414	1870	0	1415	1870	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.1	0.1	0.0	0.1	0.1	0.0	0.1	12.4	0.0	0.1	44.1	0.1
Cycle Q Clear(g_c), s	0.2	0.1	0.0	0.2	0.1	0.0	0.1	12.4	0.0	0.1	44.1	0.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	189	0	214	189	0	90	2623	1170	2	2448	1092
V/C Ratio(X)	0.00	0.01	0.00	0.00	0.02	0.00	0.02	0.44	0.00	0.41	0.85	0.00
Avail Cap(c_a), veh/h	513	586	0	514	586	0	90	2623	1170	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	40.0	0.0	40.1	40.1	0.0	44.7	5.0	0.0	49.4	11.7	4.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.0	36.2	4.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.1	2.8	0.0	0.0	13.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	40.1	0.0	40.1	40.1	0.0	45.1	5.1	0.0	85.6	15.7	4.8
LnGrp LOS	D	D	A	D	D	A	D	A	A	F	B	A
Approach Vol, veh/h		3			4			1154			2097	
Approach Delay, s/veh		40.1			40.1			5.2			15.8	
Approach LOS		D			D			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	79.6		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	2.1	14.4		2.2	2.1	46.1		2.2				
Green Ext Time (p_c), s	0.0	9.2		0.0	0.0	15.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/21/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	10	20	18	1076	1951	17
Future Volume (vph)	10	20	18	1076	1951	17
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	24.5	24.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	11.1	11.1	5.6	76.3	73.4	73.4
Actuated g/C Ratio	0.13	0.13	0.06	0.88	0.85	0.85
v/c Ratio	0.05	0.10	0.18	0.38	0.72	0.01
Control Delay	45.9	20.1	53.3	2.6	8.6	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.9	20.1	53.3	2.6	8.6	1.9
LOS	D	C	D	A	A	A
Approach Delay	28.7			3.4	8.6	
Approach LOS	C			A	A	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 86.6	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 6.9	Intersection LOS: A
Intersection Capacity Utilization 71.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/21/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	20	18	1076	1951	17
Future Volume (veh/h)	10	20	18	1076	1951	17
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	14	20	1182	2144	19
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	94	84	40	2886	2609	1164
Arrive On Green	0.05	0.05	0.02	0.81	0.73	0.73
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	11	14	20	1182	2144	19
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.5	0.7	0.9	7.7	33.3	0.3
Cycle Q Clear(g_c), s	0.5	0.7	0.9	7.7	33.3	0.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	94	84	40	2886	2609	1164
V/C Ratio(X)	0.12	0.17	0.50	0.41	0.82	0.02
Avail Cap(c_a), veh/h	476	424	108	3752	3338	1489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	37.2	39.8	2.2	7.3	2.9
Incr Delay (d2), s/veh	0.5	0.9	3.6	0.1	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.4	0.3	6.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.7	38.2	43.4	2.3	8.7	3.0
LnGrp LOS	D	D	D	A	A	A
Approach Vol, veh/h	25			1202	2163	
Approach Delay, s/veh	38.0			3.0	8.7	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		73.3		9.0	6.4	66.9
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+11), s		9.7		2.7	2.9	35.3
Green Ext Time (p_c), s		9.8		0.0	0.0	25.1
Intersection Summary						
HCM 6th Ctrl Delay			6.9			
HCM 6th LOS			A			

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

06/21/2021

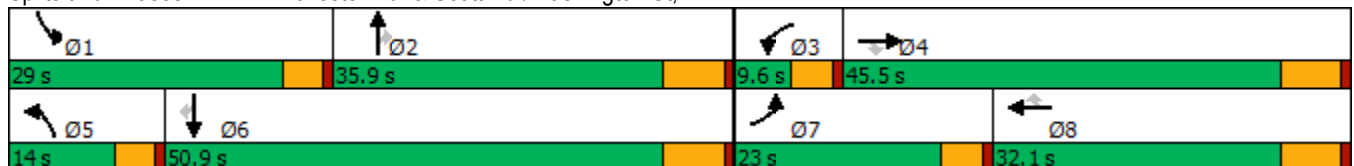


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR	Ø3
Lane Configurations	↖	↑	↗	↑	↗	↖	↑↑↑	↖	↑↑↑	↗	
Traffic Volume (vph)	148	120	92	98	188	91	758	293	1439	239	
Future Volume (vph)	148	120	92	98	188	91	758	293	1439	239	
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4		8		5	2	1	6		3
Permitted Phases			4		8						6
Detector Phase	7	4	4	8	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	45.5	45.5	16.5	16.5	9.6	35.5	9.6	44.5	44.5	9.6
Total Split (s)	23.0	45.5	45.5	32.1	32.1	14.0	35.9	29.0	50.9	50.9	9.6
Total Split (%)	19.2%	37.9%	37.9%	26.8%	26.8%	11.7%	29.9%	24.2%	42.4%	42.4%	8%
Yellow Time (s)	3.6	5.5	5.5	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	6.5	6.5	4.6	6.5	4.6	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	None
Act Effct Green (s)	12.9	29.5	29.5	11.9	11.9	8.6	25.6	21.3	38.3	38.3	
Actuated g/C Ratio	0.14	0.31	0.31	0.13	0.13	0.09	0.27	0.23	0.41	0.41	
v/c Ratio	0.65	0.22	0.16	0.44	0.53	0.60	0.58	0.78	0.74	0.32	
Control Delay	53.6	26.3	1.3	47.7	12.0	61.2	32.6	50.8	26.8	3.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.6	26.3	1.3	47.7	12.0	61.2	32.6	50.8	26.8	3.8	
LOS	D	C	A	D	B	E	C	D	C	A	
Approach Delay		31.1		24.2			35.6		27.6		
Approach LOS		C		C			D		C		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.3
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 29.6
 Intersection LOS: C
 Intersection Capacity Utilization 62.4%
 ICU Level of Service B
 Analysis Period (min) 15

























Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

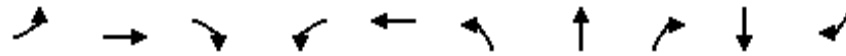
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	120	92	0	98	188	91	758	0	293	1439	239
Future Volume (veh/h)	148	120	92	0	98	188	91	758	0	293	1439	239
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	157	128	54	0	104	97	97	806	0	312	1531	222
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	546	463	2	234	199	124	1474	458	354	2132	662
Arrive On Green	0.11	0.29	0.29	0.00	0.13	0.13	0.07	0.29	0.00	0.20	0.42	0.42
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	157	128	54	0	104	97	97	806	0	312	1531	222
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	6.9	4.1	2.0	0.0	4.1	4.5	4.3	10.6	0.0	13.6	19.9	7.6
Cycle Q Clear(g_c), s	6.9	4.1	2.0	0.0	4.1	4.5	4.3	10.6	0.0	13.6	19.9	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	195	546	463	2	234	199	124	1474	458	354	2132	662
V/C Ratio(X)	0.81	0.23	0.12	0.00	0.44	0.49	0.78	0.55	0.00	0.88	0.72	0.34
Avail Cap(c_a), veh/h	411	914	775	112	600	509	210	1881	584	545	2841	882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	21.5	20.7	0.0	32.3	32.5	36.5	24.0	0.0	31.1	19.3	15.7
Incr Delay (d2), s/veh	3.0	0.2	0.1	0.0	1.3	1.9	4.0	0.3	0.0	7.2	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	1.6	0.7	0.0	1.8	1.7	1.8	3.8	0.0	5.9	6.6	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	21.7	20.8	0.0	33.6	34.4	40.5	24.3	0.0	38.2	19.9	16.0
LnGrp LOS	D	C	C	A	C	C	D	C	A	D	B	B
Approach Vol, veh/h		339			201			903			2065	
Approach Delay, s/veh		29.0			34.0			26.0			22.3	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.5	29.5	0.0	29.8	10.2	39.8	13.3	16.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	24.4	29.4	5.0	39.0	9.4	44.4	18.4	25.6				
Max Q Clear Time (g_c+I1), s	15.6	12.6	0.0	6.1	6.3	21.9	8.9	6.5				
Green Ext Time (p_c), s	0.3	4.4	0.0	0.7	0.0	11.4	0.1	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			24.6									
HCM 6th LOS			C									

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/21/2021

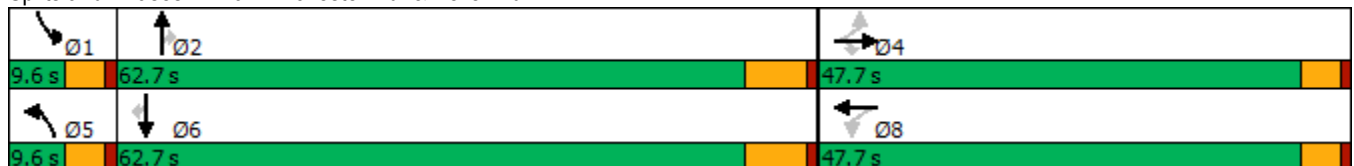


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations	↘	↑	↗		↔	↘	↑↑	↗	↑↑	↗	
Traffic Volume (vph)	22	25	41	9	1	23	827	10	1506	25	
Future Volume (vph)	22	25	41	9	1	23	827	10	1506	25	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4			8	5	2		6		1
Permitted Phases	4		4	8				2		6	
Detector Phase	4	4	4	8	8	5	2	2	6	6	
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	47.7	47.7	9.6	62.7	62.7	62.7	62.7	9.6
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.0%	52.3%	52.3%	52.3%	52.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)	10.6	10.6	10.6		10.6	5.3	55.4	55.4	52.1	52.1	
Actuated g/C Ratio	0.15	0.15	0.15		0.15	0.07	0.78	0.78	0.73	0.73	
v/c Ratio	0.11	0.10	0.15		0.05	0.18	0.32	0.01	0.62	0.02	
Control Delay	33.5	32.8	4.8		32.9	39.9	3.7	0.0	8.8	0.5	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	33.5	32.8	4.8		32.9	39.9	3.7	0.0	8.8	0.5	
LOS	C	C	A		C	D	A	A	A	A	
Approach Delay		19.9			32.9		4.7		8.7		
Approach LOS		B			C		A		A		

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 71
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 7.8
 Intersection Capacity Utilization 71.5%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	25	41	9	1	0	23	827	10	0	1506	25
Future Volume (veh/h)	22	25	41	9	1	0	23	827	10	0	1506	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	27	40	10	1	0	24	880	11	0	1602	27
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	306	246	208	257	21	0	48	2457	1096	3	2102	937
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.03	0.69	0.69	0.00	0.59	0.59
Sat Flow, veh/h	1416	1870	1585	1125	158	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	23	27	40	11	0	0	24	880	11	0	1602	27
Grp Sat Flow(s),veh/h/ln	1416	1870	1585	1282	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.8	1.4	0.2	0.0	0.0	0.8	6.4	0.1	0.0	21.2	0.4
Cycle Q Clear(g_c), s	0.7	0.8	1.4	1.0	0.0	0.0	0.8	6.4	0.1	0.0	21.2	0.4
Prop In Lane	1.00		1.00	0.91		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	306	246	208	277	0	0	48	2457	1096	3	2102	937
V/C Ratio(X)	0.08	0.11	0.19	0.04	0.00	0.00	0.50	0.36	0.01	0.00	0.76	0.03
Avail Cap(c_a), veh/h	1083	1273	1079	1029	0	0	141	3160	1410	141	3160	1410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	24.2	24.5	24.2	0.0	0.0	30.3	4.0	3.0	0.0	9.6	5.4
Incr Delay (d2), s/veh	0.1	0.2	0.4	0.1	0.0	0.0	2.9	0.1	0.0	0.0	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.5	0.1	0.0	0.0	0.4	0.9	0.0	0.0	4.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.3	24.4	24.9	24.3	0.0	0.0	33.2	4.1	3.0	0.0	10.2	5.4
LnGrp LOS	C	C	C	C	A	A	C	A	A	A	B	A
Approach Vol, veh/h		90			11			915			1629	
Approach Delay, s/veh		24.6			24.3			4.8			10.1	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	50.2		13.0	6.3	43.9		13.0				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	5.0	56.2		* 43				
Max Q Clear Time (g_c+I1), s	0.0	8.4		3.4	2.8	23.2		3.0				
Green Ext Time (p_c), s	0.0	6.2		0.3	0.0	14.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/21/2021

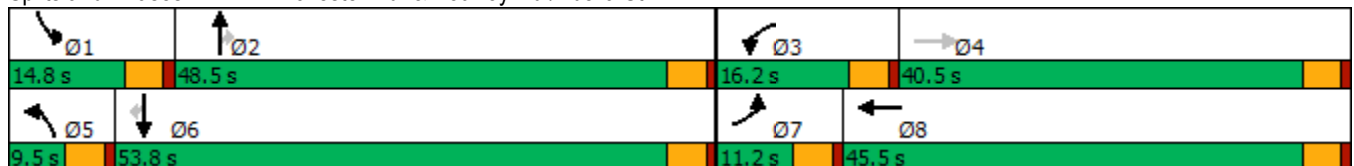


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕	↘	↕	↘	↕	↗	↘	↕	↗
Traffic Volume (vph)	33	20	161	9	42	759	9	64	1432	61
Future Volume (vph)	33	20	161	9	42	759	9	64	1432	61
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	11.2	40.5	16.2	45.5	9.5	48.5	48.5	14.8	53.8	53.8
Total Split (%)	9.3%	33.8%	13.5%	37.9%	7.9%	40.4%	40.4%	12.3%	44.8%	44.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	6.1	10.1	11.8	16.5	5.0	48.4	48.4	7.9	51.3	51.3
Actuated g/C Ratio	0.07	0.11	0.13	0.18	0.06	0.53	0.53	0.09	0.57	0.57
v/c Ratio	0.32	0.18	0.80	0.14	0.49	0.46	0.01	0.47	0.81	0.07
Control Delay	49.3	18.7	65.6	11.2	60.8	16.0	0.0	50.7	22.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	18.7	65.6	11.2	60.8	16.0	0.0	50.7	22.1	0.1
LOS	D	B	E	B	E	B	A	D	C	A
Approach Delay		29.3		48.2		18.2			22.5	
Approach LOS		C		D		B			C	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 90.6
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 23.7
 Intersection LOS: C
 Intersection Capacity Utilization 70.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	20	43	161	9	67	42	759	9	64	1432	61
Future Volume (veh/h)	33	20	43	161	9	67	42	759	9	64	1432	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	23	25	183	10	28	48	862	10	73	1627	59
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	186	166	216	342	305	69	1864	831	94	1915	854
Arrive On Green	0.03	0.10	0.10	0.12	0.19	0.19	0.04	0.52	0.52	0.05	0.54	0.54
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	38	23	25	183	10	28	48	862	10	73	1627	59
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.9	1.1	1.3	9.2	0.4	1.3	2.4	13.9	0.3	3.7	35.6	1.6
Cycle Q Clear(g_c), s	1.9	1.1	1.3	9.2	0.4	1.3	2.4	13.9	0.3	3.7	35.6	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	186	166	216	342	305	69	1864	831	94	1915	854
V/C Ratio(X)	0.63	0.12	0.15	0.85	0.03	0.09	0.70	0.46	0.01	0.78	0.85	0.07
Avail Cap(c_a), veh/h	130	699	624	228	796	710	97	1864	831	200	1915	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	37.2	37.3	39.4	30.0	30.4	43.5	13.7	10.4	42.8	18.0	10.1
Incr Delay (d2), s/veh	4.0	0.3	0.4	22.1	0.0	0.1	4.7	0.8	0.0	5.1	5.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.5	0.5	5.3	0.2	0.5	1.1	4.8	0.1	1.7	12.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	37.5	37.7	61.5	30.1	30.5	48.2	14.5	10.4	47.9	22.9	10.3
LnGrp LOS	D	D	D	E	C	C	D	B	B	D	C	B
Approach Vol, veh/h		86			221			920			1759	
Approach Delay, s/veh		42.0			56.1			16.2			23.5	
Approach LOS		D			E			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	52.5	15.6	14.1	8.0	53.8	7.6	22.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.3	44.0	11.7	36.0	5.0	49.3	6.7	41.0				
Max Q Clear Time (g_c+I1), s	5.7	15.9	11.2	3.3	4.4	37.6	3.9	3.3				
Green Ext Time (p_c), s	0.0	5.7	0.0	0.2	0.0	7.8	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay				24.2								
HCM 6th LOS				C								

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/21/2021

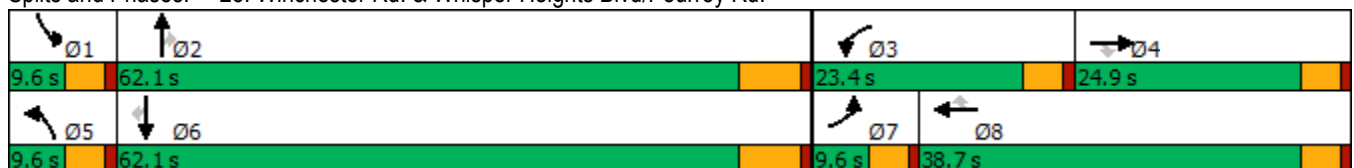


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↖↗	↑↑	↗
Traffic Volume (vph)	24	17	19	155	17	108	10	677	46	1577	12
Future Volume (vph)	24	17	19	155	17	108	10	677	46	1577	12
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	9.6	25.5	25.5
Total Split (s)	9.6	24.9	24.9	23.4	38.7	38.7	9.6	62.1	9.6	62.1	62.1
Total Split (%)	8.0%	20.8%	20.8%	19.5%	32.3%	32.3%	8.0%	51.8%	8.0%	51.8%	51.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	5.2	10.3	10.3	13.3	17.7	17.7	5.2	50.8	5.2	54.4	54.4
Actuated g/C Ratio	0.06	0.12	0.12	0.15	0.20	0.20	0.06	0.57	0.06	0.61	0.61
v/c Ratio	0.24	0.08	0.06	0.62	0.05	0.28	0.11	0.35	0.24	0.76	0.01
Control Delay	52.4	43.1	0.4	48.3	31.5	8.6	49.4	13.4	48.5	18.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.4	43.1	0.4	48.3	31.5	8.6	49.4	13.4	48.5	18.4	0.0
LOS	D	D	A	D	C	A	D	B	D	B	A
Approach Delay		33.2			31.9			13.9		19.1	
Approach LOS		C			C			B		B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 19.4
 Intersection LOS: B
 Intersection Capacity Utilization 73.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	24	17	19	155	17	108	10	677	0	46	1577	12
Future Volume (veh/h)	24	17	19	155	17	108	10	677	0	46	1577	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	18	1	163	18	57	11	713	0	48	1660	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	198	168	198	358	303	24	1834	818	134	1925	858
Arrive On Green	0.03	0.11	0.11	0.11	0.19	0.19	0.01	0.52	0.00	0.04	0.54	0.54
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	25	18	1	163	18	57	11	713	0	48	1660	10
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	1.2	0.8	0.1	8.0	0.7	2.7	0.5	10.9	0.0	1.2	36.0	0.3
Cycle Q Clear(g_c), s	1.2	0.8	0.1	8.0	0.7	2.7	0.5	10.9	0.0	1.2	36.0	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	46	198	168	198	358	303	24	1834	818	134	1925	858
V/C Ratio(X)	0.54	0.09	0.01	0.82	0.05	0.19	0.46	0.39	0.00	0.36	0.86	0.01
Avail Cap(c_a), veh/h	99	422	357	374	710	602	99	2206	984	193	2206	984
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	36.2	35.8	38.9	29.6	30.4	43.9	13.1	0.0	41.9	17.7	9.5
Incr Delay (d2), s/veh	3.7	0.2	0.0	3.2	0.1	0.3	5.1	0.1	0.0	0.6	3.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.4	0.0	3.6	0.3	1.0	0.3	3.6	0.0	0.5	12.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	36.3	35.8	42.1	29.6	30.7	49.0	13.3	0.0	42.5	21.1	9.5
LnGrp LOS	D	D	D	D	C	C	D	B	A	D	C	A
Approach Vol, veh/h		44			238			724			1718	
Approach Delay, s/veh		42.3			38.4			13.8			21.6	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	52.7	14.6	14.2	5.8	55.0	6.9	21.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.6	18.8	* 20	5.0	55.6	5.0	* 34				
Max Q Clear Time (g_c+I1), s	3.2	12.9	10.0	2.8	2.5	38.0	3.2	4.7				
Green Ext Time (p_c), s	0.0	4.7	0.1	0.0	0.0	10.5	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Notes

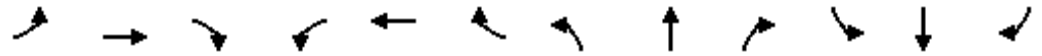
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/21/2021

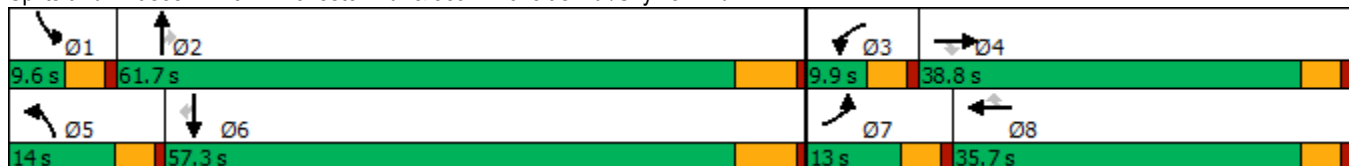


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	86	10	151	14	6	11	98	670	3	8	1279	82
Future Volume (vph)	86	10	151	14	6	11	98	670	3	8	1279	82
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.0	38.8	38.8	9.9	35.7	35.7	14.0	61.7	61.7	9.6	57.3	57.3
Total Split (%)	10.8%	32.3%	32.3%	8.3%	29.8%	29.8%	11.7%	51.4%	51.4%	8.0%	47.8%	47.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.5	11.2	11.2	5.2	10.1	10.1	9.0	62.9	62.9	5.0	51.1	51.1
Actuated g/C Ratio	0.10	0.12	0.12	0.06	0.11	0.11	0.10	0.69	0.69	0.06	0.56	0.56
v/c Ratio	0.52	0.05	0.51	0.16	0.03	0.04	0.63	0.31	0.00	0.09	0.72	0.10
Control Delay	52.2	37.6	14.1	47.4	39.8	0.3	57.9	7.2	0.0	46.1	18.4	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	37.6	14.1	47.4	39.8	0.3	57.9	7.2	0.0	46.1	18.4	2.6
LOS	D	D	B	D	D	A	E	A	A	D	B	A
Approach Delay		28.3			29.7			13.6			17.6	
Approach LOS		C			C			B			B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 90.7
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 17.6
 Intersection LOS: B
 Intersection Capacity Utilization 65.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (veh/h)	86	10	151	14	6	11	98	670	3	8	1279	82
Future Volume (veh/h)	86	10	151	14	6	11	98	670	3	8	1279	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	11	97	16	7	2	110	753	3	9	1437	66
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	287	243	32	191	162	138	2140	955	20	1905	850
Arrive On Green	0.07	0.15	0.15	0.02	0.10	0.10	0.08	0.60	0.60	0.01	0.54	0.54
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	97	11	97	16	7	2	110	753	3	9	1437	66
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.1	0.5	5.2	0.8	0.3	0.1	5.8	10.1	0.1	0.5	29.9	1.9
Cycle Q Clear(g_c), s	5.1	0.5	5.2	0.8	0.3	0.1	5.8	10.1	0.1	0.5	29.9	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	287	243	32	191	162	138	2140	955	20	1905	850
V/C Ratio(X)	0.79	0.04	0.40	0.50	0.04	0.01	0.80	0.35	0.00	0.45	0.75	0.08
Avail Cap(c_a), veh/h	158	673	570	100	612	518	177	2140	955	94	1905	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	34.2	36.2	46.1	38.3	38.2	43.0	9.5	7.5	46.6	17.1	10.6
Incr Delay (d2), s/veh	13.9	0.1	1.1	4.3	0.1	0.0	13.6	0.5	0.0	5.9	2.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.2	2.1	0.4	0.1	0.0	2.9	3.2	0.0	0.2	10.6	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.3	34.2	37.3	50.4	38.4	38.3	56.6	10.0	7.5	52.5	20.0	10.8
LnGrp LOS	E	C	D	D	D	D	E	A	A	D	B	B
Approach Vol, veh/h		205			25			866			1512	
Approach Delay, s/veh		46.6			46.1			15.9			19.8	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.7	63.6	6.3	19.2	11.9	57.3	11.1	14.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.2	5.3	* 34	9.4	50.8	8.4	* 31				
Max Q Clear Time (g_c+I1), s	2.5	12.1	2.8	7.2	7.8	31.9	7.1	2.3				
Green Ext Time (p_c), s	0.0	5.0	0.0	0.3	0.0	9.5	0.0	0.0				

Intersection Summary

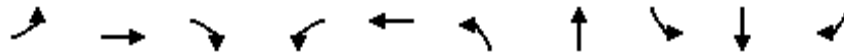
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

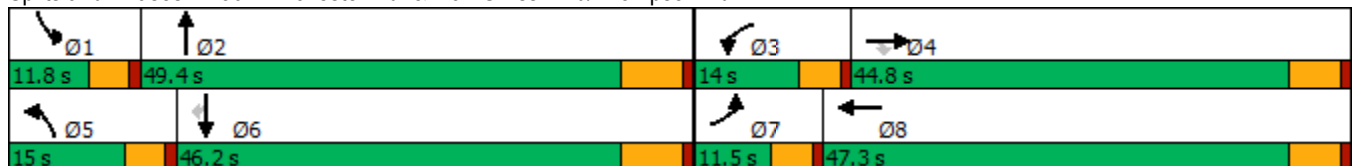


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↗	↘	↗	↘	↗↗	↘	↗↗	↘
Traffic Volume (vph)	38	195	757	299	321	376	807	63	1617	72
Future Volume (vph)	38	195	757	299	321	376	807	63	1617	72
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	11.5	44.8	44.8	14.0	47.3	15.0	49.4	11.8	46.2	46.2
Total Split (%)	9.6%	37.3%	37.3%	11.7%	39.4%	12.5%	41.2%	9.8%	38.5%	38.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	6.3	31.3	31.3	9.4	38.7	10.4	45.7	6.8	39.9	39.9
Actuated g/C Ratio	0.06	0.28	0.28	0.08	0.34	0.09	0.41	0.06	0.35	0.35
v/c Ratio	0.42	0.41	0.86	2.18	0.59	2.46	0.69	0.64	1.39	0.12
Control Delay	66.6	35.0	35.9	577.7	35.5	700.7	32.4	79.7	210.6	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	35.0	35.9	577.7	35.5	700.7	32.4	79.7	210.6	2.6
LOS	E	D	D	F	D	F	C	E	F	A
Approach Delay		36.9			285.3		227.5		197.4	
Approach LOS		D			F		F		F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 112.6
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.46
 Intersection Signal Delay: 183.9
 Intersection LOS: F
 Intersection Capacity Utilization 110.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	195	757	299	321	30	376	807	104	63	1617	72
Future Volume (veh/h)	38	195	757	299	321	30	376	807	104	63	1617	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	210	663	322	345	29	404	868	86	68	1739	55
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	518	757	149	559	47	165	1300	129	87	1259	562
Arrive On Green	0.03	0.28	0.28	0.08	0.33	0.33	0.09	0.40	0.40	0.05	0.35	0.35
Sat Flow, veh/h	1781	1870	2730	1781	1700	143	1781	3265	324	1781	3554	1585
Grp Volume(v), veh/h	41	210	663	322	0	374	404	472	482	68	1739	55
Grp Sat Flow(s),veh/h/ln	1781	1870	1365	1781	0	1842	1781	1777	1812	1781	1777	1585
Q Serve(g_s), s	2.6	10.2	26.0	9.4	0.0	19.2	10.4	24.4	24.4	4.2	39.7	2.6
Cycle Q Clear(g_c), s	2.6	10.2	26.0	9.4	0.0	19.2	10.4	24.4	24.4	4.2	39.7	2.6
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	57	518	757	149	0	606	165	707	722	87	1259	562
V/C Ratio(X)	0.72	0.41	0.88	2.15	0.00	0.62	2.44	0.67	0.67	0.78	1.38	0.10
Avail Cap(c_a), veh/h	110	651	950	149	0	682	165	707	722	114	1259	562
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	33.0	38.7	51.3	0.0	31.7	50.8	27.6	27.6	52.7	36.2	24.2
Incr Delay (d2), s/veh	6.1	0.5	7.8	541.3	0.0	1.4	667.6	2.4	2.4	16.0	176.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.5	9.4	26.6	0.0	8.7	35.1	9.9	10.1	2.2	46.6	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	33.5	46.4	592.6	0.0	33.0	718.4	30.1	30.0	68.7	212.8	24.3
LnGrp LOS	E	C	D	F	A	C	F	C	C	E	F	C
Approach Vol, veh/h		914			696			1358			1862	
Approach Delay, s/veh		44.1			291.9			234.8			201.9	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.1	51.1	14.0	36.9	15.0	46.2	8.2	42.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	7.2	42.9	9.4	39.0	10.4	39.7	6.9	41.5				
Max Q Clear Time (g_c+I1), s	6.2	26.4	11.4	28.0	12.4	41.7	4.6	21.2				
Green Ext Time (p_c), s	0.0	4.8	0.0	3.1	0.0	0.0	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay	194.3											
HCM 6th LOS	F											

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/21/2021

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↖↖	↖	↑↑↑	↖	↑↑
Traffic Volume (vph)	390	333	953	454	2220
Future Volume (vph)	390	333	953	454	2220
Turn Type	Prot	pm+ov	NA	Prot	NA
Protected Phases	8	1	2	1	6
Permitted Phases	8				
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	30.6	9.5	38.5	9.5	16.5
Total Split (s)	30.6	42.0	47.4	42.0	89.4
Total Split (%)	25.5%	35.0%	39.5%	35.0%	74.5%
Yellow Time (s)	3.6	3.5	5.5	3.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	6.5	4.5	6.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	18.4	56.8	39.5	33.7	77.8
Actuated g/C Ratio	0.17	0.53	0.37	0.31	0.72
v/c Ratio	0.70	0.41	0.66	0.86	0.91
Control Delay	49.6	16.1	30.2	52.2	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	49.6	16.1	30.2	52.2	19.5
LOS	D	B	C	D	B
Approach Delay	34.2		30.2		25.1
Approach LOS	C		C		C

Intersection Summary
















Cycle Length: 120
 Actuated Cycle Length: 107.5
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 27.8
 Intersection LOS: C
 Intersection Capacity Utilization 81.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/21/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  			 
Traffic Volume (veh/h)	390	333	953	197	454	2220
Future Volume (veh/h)	390	333	953	197	454	2220
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	411	184	1003	155	478	2337
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	524	700	1807	279	517	2627
Arrive On Green	0.15	0.15	0.40	0.40	0.29	0.74
Sat Flow, veh/h	3456	1585	4631	688	1781	3647
Grp Volume(v), veh/h	411	184	765	393	478	2337
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1746	1781	1777
Q Serve(g_s), s	11.7	7.5	17.6	17.6	26.5	51.0
Cycle Q Clear(g_c), s	11.7	7.5	17.6	17.6	26.5	51.0
Prop In Lane	1.00	1.00		0.39	1.00	
Lane Grp Cap(c), veh/h	524	700	1379	707	517	2627
V/C Ratio(X)	0.78	0.26	0.55	0.56	0.92	0.89
Avail Cap(c_a), veh/h	882	864	1379	707	656	2892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	17.9	23.3	23.3	35.1	10.1
Incr Delay (d2), s/veh	2.6	0.2	0.5	1.0	16.6	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	2.7	6.4	6.7	12.9	12.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.2	18.1	23.7	24.2	51.6	13.7
LnGrp LOS	D	B	C	C	D	B
Approach Vol, veh/h	595		1158			2815
Approach Delay, s/veh	36.1		23.9			20.2
Approach LOS	D		C			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	34.1	47.8			81.8	20.1
Change Period (Y+Rc), s	4.5	6.5			6.5	4.6
Max Green Setting (Gmax), s	37.5	40.9			82.9	26.0
Max Q Clear Time (g_c+I1), s	28.5	19.6			53.0	13.7
Green Ext Time (p_c), s	1.0	6.9			22.3	1.8
Intersection Summary						
HCM 6th Ctrl Delay			23.2			
HCM 6th LOS			C			

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/21/2021

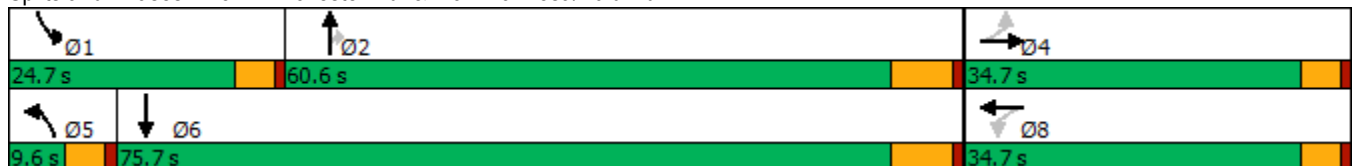


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↑↑	↗	↖	↑↑
Traffic Volume (vph)	173	31	294	37	23	970	287	171	2255
Future Volume (vph)	173	31	294	37	23	970	287	171	2255
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	9.6	60.6	60.6	24.7	75.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	8.0%	50.5%	50.5%	20.6%	63.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	29.0	29.0	29.0	29.0	5.0	54.1	54.1	20.1	69.2
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.04	0.45	0.45	0.17	0.58
v/c Ratio	0.54	0.17	0.94	0.10	0.32	0.62	0.34	0.59	1.23
Control Delay	46.1	18.3	82.8	30.6	67.8	27.0	4.1	55.0	135.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	18.3	82.8	30.6	67.8	27.0	4.1	55.0	135.6
LOS	D	B	F	C	E	C	A	D	F
Approach Delay		37.7		75.9		22.6			130.3
Approach LOS		D		E		C			F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.23
 Intersection Signal Delay: 90.3
 Intersection Capacity Utilization 108.5%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service G

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↗	
Traffic Volume (veh/h)	173	31	44	294	37	8	23	970	287	171	2255	184
Future Volume (veh/h)	173	31	44	294	37	8	23	970	287	171	2255	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	32	34	303	38	3	24	1000	222	176	2325	158
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	378	206	219	353	428	34	74	1602	715	298	1946	131
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.45	0.45	0.17	0.58	0.58
Sat Flow, veh/h	1366	824	875	1335	1711	135	1781	3554	1585	1781	3375	226
Grp Volume(v), veh/h	178	0	66	303	0	41	24	1000	222	176	1210	1273
Grp Sat Flow(s),veh/h/ln	1366	0	1699	1335	0	1846	1781	1777	1585	1781	1777	1824
Q Serve(g_s), s	13.8	0.0	3.6	26.4	0.0	2.0	1.6	25.8	10.7	11.0	69.2	69.2
Cycle Q Clear(g_c), s	15.8	0.0	3.6	30.0	0.0	2.0	1.6	25.8	10.7	11.0	69.2	69.2
Prop In Lane	1.00		0.52	1.00		0.07	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	378	0	425	353	0	462	74	1602	715	298	1025	1052
V/C Ratio(X)	0.47	0.00	0.16	0.86	0.00	0.09	0.32	0.62	0.31	0.59	1.18	1.21
Avail Cap(c_a), veh/h	378	0	425	353	0	462	74	1602	715	298	1025	1052
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	0.0	35.1	47.2	0.0	34.5	55.9	25.2	21.0	46.1	25.4	25.4
Incr Delay (d2), s/veh	0.3	0.0	0.1	18.5	0.0	0.1	11.2	0.8	0.2	8.3	91.5	103.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	1.5	10.9	0.0	0.9	0.9	10.1	3.7	5.3	50.5	55.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.9	0.0	35.2	65.7	0.0	34.6	67.0	25.9	21.3	54.4	116.9	129.1
LnGrp LOS	D	A	D	E	A	C	E	C	C	D	F	F
Approach Vol, veh/h		244			344			1246			2659	
Approach Delay, s/veh		39.4			62.0			25.9			118.6	
Approach LOS		D			E			C			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.7	60.6		34.7	9.6	75.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	20.1	54.1		* 30	5.0	69.2		* 30				
Max Q Clear Time (g_c+I1), s	13.0	27.8		17.8	3.6	71.2		32.0				
Green Ext Time (p_c), s	0.1	7.6		0.4	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	84.3
HCM 6th LOS	F

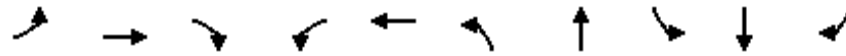
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	115	4	181	14	1	82	1162	10	2522	60
Future Volume (vph)	115	4	181	14	1	82	1162	10	2522	60
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	10.0	73.7	9.6	73.3	73.3
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	8.3%	61.4%	8.0%	61.1%	61.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	14.6	14.6	14.6		14.6	5.4	75.1	5.0	66.9	66.9
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.05	0.73	0.05	0.65	0.65
v/c Ratio	0.61	0.02	0.65		0.09	0.91	0.49	0.12	1.14	0.06
Control Delay	54.8	36.5	35.1		33.9	124.3	7.6	51.9	89.2	2.7
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.8	36.5	35.1		33.9	124.3	7.6	51.9	89.2	2.7
LOS	D	D	D		C	F	A	D	F	A
Approach Delay		42.6			33.9		15.0		87.0	
Approach LOS		D			C		B		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.7
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 61.5
 Intersection Capacity Utilization 102.5%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service G

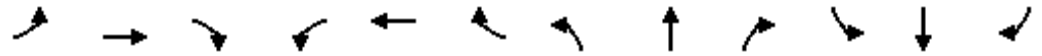
Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	4	181	14	1	3	82	1162	44	10	2522	60
Future Volume (veh/h)	115	4	181	14	1	3	82	1162	44	10	2522	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	4	122	15	1	1	85	1210	39	10	2627	53
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	200	170	189	13	8	98	2531	82	22	2408	1074
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.05	0.72	0.72	0.01	0.68	0.68
Sat Flow, veh/h	1415	1870	1585	1122	119	78	1781	3514	113	1781	3554	1585
Grp Volume(v), veh/h	120	4	122	17	0	0	85	612	637	10	2627	53
Grp Sat Flow(s),veh/h/ln	1415	1870	1585	1319	0	0	1781	1777	1850	1781	1777	1585
Q Serve(g_s), s	6.8	0.2	7.3	0.8	0.0	0.0	4.7	14.5	14.5	0.5	66.8	1.1
Cycle Q Clear(g_c), s	7.9	0.2	7.3	1.0	0.0	0.0	4.7	14.5	14.5	0.5	66.8	1.1
Prop In Lane	1.00		1.00	0.88		0.06	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	229	200	170	210	0	0	98	1280	1333	22	2408	1074
V/C Ratio(X)	0.52	0.02	0.72	0.08	0.00	0.00	0.87	0.48	0.48	0.46	1.09	0.05
Avail Cap(c_a), veh/h	536	607	515	494	0	0	98	1280	1333	90	2408	1074
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.7	39.4	42.6	39.7	0.0	0.0	46.2	5.9	5.9	48.4	15.9	5.3
Incr Delay (d2), s/veh	1.9	0.0	5.6	0.2	0.0	0.0	50.7	0.3	0.3	5.6	48.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.1	3.1	0.4	0.0	0.0	3.3	3.5	3.6	0.3	34.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	39.4	48.1	39.9	0.0	0.0	96.9	6.2	6.1	54.0	64.3	5.3
LnGrp LOS	D	D	D	D	A	A	F	A	A	D	F	A
Approach Vol, veh/h		246			17			1334			2690	
Approach Delay, s/veh		46.2			39.9			11.9			63.1	
Approach LOS		D			D			B			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	77.5		15.3	10.0	73.3		15.3				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	5.4	66.8		* 32				
Max Q Clear Time (g_c+I1), s	2.5	16.5		9.9	6.7	68.8		3.0				
Green Ext Time (p_c), s	0.0	9.1		0.7	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	1068	451	1465	404	561	0	275
Future Volume (vph)	1068	451	1465	404	561	0	275
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	82.0	82.0	82.0	82.0	38.0	38.0	38.0
Total Split (%)	68.3%	68.3%	68.3%	68.3%	31.7%	31.7%	31.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	50.0	50.0	50.0	50.0	21.5	21.5	21.5
Actuated g/C Ratio	0.62	0.62	0.62	0.62	0.27	0.27	0.27
v/c Ratio	0.51	0.40	0.69	0.37	0.64	0.33	0.33
Control Delay	9.4	1.8	12.2	1.7	31.3	21.5	21.5
Queue Delay	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Total Delay	9.4	1.8	12.3	1.8	31.3	21.5	21.5
LOS	A	A	B	A	C	C	C
Approach Delay	7.2		10.1			28.1	
Approach LOS	A		B			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 80.3	
Natural Cycle: 40	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 12.6	Intersection LOS: B
Intersection Capacity Utilization 63.2%	ICU Level of Service B
Analysis Period (min) 15	

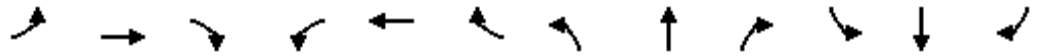
Splits and Phases: 1: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↖	↖
Traffic Volume (veh/h)	0	1068	451	0	1465	404	0	0	0	561	0	275
Future Volume (veh/h)	0	1068	451	0	1465	404	0	0	0	561	0	275
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1112	467	0	1526	346				584	0	203
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2257	1007	0	2257	1007				826	0	735
Arrive On Green	0.00	0.64	0.64	0.00	0.64	0.64				0.23	0.00	0.23
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	1112	467	0	1526	346				584	0	203
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	10.0	9.2	0.0	16.5	6.1				9.1	0.0	3.2
Cycle Q Clear(g_c), s	0.0	10.0	9.2	0.0	16.5	6.1				9.1	0.0	3.2
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2257	1007	0	2257	1007				826	0	735
V/C Ratio(X)	0.00	0.49	0.46	0.00	0.68	0.34				0.71	0.00	0.28
Avail Cap(c_a), veh/h	0	4608	2055	0	4608	2055				2014	0	1792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.8	5.7	0.0	7.0	5.1				21.2	0.0	19.0
Incr Delay (d2), s/veh	0.0	0.2	0.3	0.0	0.4	0.2				1.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	1.8	0.0	3.5	1.2				3.4	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.0	6.0	0.0	7.4	5.3				22.3	0.0	19.2
LnGrp LOS	A	A	A	A	A	A				C	A	B
Approach Vol, veh/h		1579			1872						787	
Approach Delay, s/veh		6.0			7.0						21.5	
Approach LOS		A			A						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				42.2		18.0		42.2				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				78.0		34.0		78.0				
Max Q Clear Time (g_c+I1), s				12.0		11.1		18.5				
Green Ext Time (p_c), s				12.9		2.9		19.7				

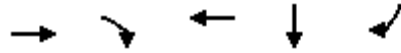
Intersection Summary

HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

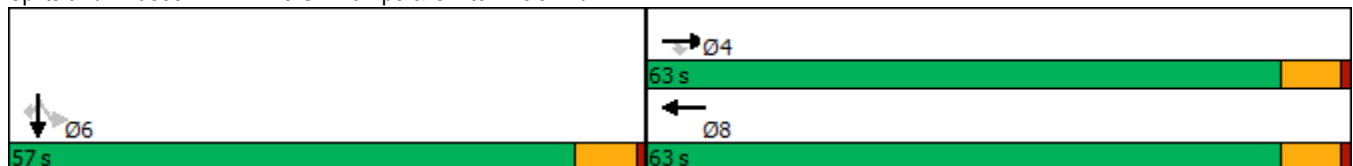


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑↑
Traffic Volume (vph)	1499	360	1074	0	695
Future Volume (vph)	1499	360	1074	0	695
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	63.0	63.0	63.0	57.0	57.0
Total Split (%)	52.5%	52.5%	52.5%	47.5%	47.5%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	39.7	39.7	39.7	30.4	30.4
Actuated g/C Ratio	0.47	0.47	0.47	0.36	0.36
v/c Ratio	0.65	0.41	0.66	0.47	0.68
Control Delay	18.8	3.2	17.7	24.5	24.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	3.2	17.7	24.5	24.4
LOS	B	A	B	C	C
Approach Delay	15.8		17.7	24.4	
Approach LOS	B		B	C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 84
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 18.4
 Intersection LOS: B
 Intersection Capacity Utilization 65.3%
 ICU Level of Service C
 Analysis Period (min) 15

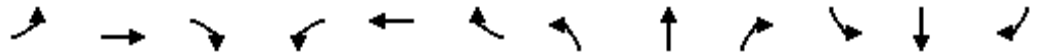
Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)

06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1499	360	0	1074	422	0	0	0	291	0	695
Future Volume (veh/h)	0	1499	360	0	1074	422	0	0	0	291	0	695
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1561	323	0	1119	440				303	0	348
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2673	806	0	1874	736				447	0	701
Arrive On Green	0.00	0.52	0.52	0.00	0.52	0.52				0.25	0.00	0.25
Sat Flow, veh/h	0	5274	1540	0	3748	1407				1781	0	2790
Grp Volume(v), veh/h	0	1561	323	0	1064	495				303	0	348
Grp Sat Flow(s),veh/h/ln	0	1702	1540	0	1702	1582				1781	0	1395
Q Serve(g_s), s	0.0	12.1	7.3	0.0	12.5	12.5				8.9	0.0	6.2
Cycle Q Clear(g_c), s	0.0	12.1	7.3	0.0	12.5	12.5				8.9	0.0	6.2
Prop In Lane	0.00		1.00	0.00		0.89				1.00		1.00
Lane Grp Cap(c), veh/h	0	2673	806	0	1782	828				447	0	701
V/C Ratio(X)	0.00	0.58	0.40	0.00	0.60	0.60				0.68	0.00	0.50
Avail Cap(c_a), veh/h	0	5001	1508	0	3334	1550				1559	0	2442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.4	8.3	0.0	9.5	9.5				19.5	0.0	18.5
Incr Delay (d2), s/veh	0.0	0.2	0.3	0.0	0.3	0.7				1.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	1.5	0.0	2.9	2.8				3.5	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.6	8.6	0.0	9.8	10.2				21.3	0.0	19.0
LnGrp LOS	A	A	A	A	A	B				C	A	B
Approach Vol, veh/h		1884			1559						651	
Approach Delay, s/veh		9.5			10.0						20.1	
Approach LOS		A			A						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				36.7		21.0		36.7				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				56.5		50.5		56.5				
Max Q Clear Time (g_c+I1), s				14.1		10.9		14.5				
Green Ext Time (p_c), s				16.1		3.6		13.3				
Intersection Summary												
HCM 6th Ctrl Delay			11.3									
HCM 6th LOS			B									

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↖	↖	↖	↖
Traffic Volume (vph)	240	1389	1170	534	0	770	0	699
Future Volume (vph)	240	1389	1170	534	0	770	0	699
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	88.0	88.0	88.0	88.0	32.0	32.0	32.0	32.0
Total Split (%)	73.3%	73.3%	73.3%	73.3%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	78.8	78.8	78.8	78.8	27.8	27.8	27.8	27.8
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.24	0.24	0.24	0.24
v/c Ratio	1.04	0.59	0.50	0.44	0.95	0.95	0.80	0.80
Control Delay	89.2	10.5	9.2	1.6	69.8	69.8	43.9	43.7
Queue Delay	0.0	1.1	2.3	1.2	0.0	0.0	0.0	0.0
Total Delay	89.2	11.6	11.5	2.8	69.8	69.8	43.9	43.7
LOS	F	B	B	A	E	E	D	D
Approach Delay		23.0	8.8		69.8		43.8	
Approach LOS		C	A		E		D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 114.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 28.5	Intersection LOS: C
Intersection Capacity Utilization 76.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗			↖↖	↖		↖	↖		↖	↖
Traffic Volume (veh/h)	240	1389	0	0	1170	534	0	0	770	0	0	699
Future Volume (veh/h)	240	1389	0	0	1170	534	0	0	770	0	0	699
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	247	1432	0	0	1206	424	0	0	760	0	0	480
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	229	2488	0	0	2488	1110	0	436	740	0	436	740
Arrive On Green	0.70	0.70	0.00	0.00	0.70	0.70	0.00	0.00	0.23	0.00	0.00	0.23
Sat Flow, veh/h	309	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	247	1432	0	0	1206	424	0	0	760	0	0	480
Grp Sat Flow(s),veh/h/ln	309	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	65.5	24.3	0.0	0.0	18.5	13.1	0.0	0.0	28.0	0.0	0.0	16.4
Cycle Q Clear(g_c), s	84.0	24.3	0.0	0.0	18.5	13.1	0.0	0.0	28.0	0.0	0.0	16.4
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	229	2488	0	0	2488	1110	0	436	740	0	436	740
V/C Ratio(X)	1.08	0.58	0.00	0.00	0.48	0.38	0.00	0.00	1.03	0.00	0.00	0.65
Avail Cap(c_a), veh/h	229	2488	0	0	2488	1110	0	436	740	0	436	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	35.8	9.0	0.0	0.0	8.2	7.4	0.0	0.0	46.0	0.0	0.0	41.6
Incr Delay (d2), s/veh	82.7	0.3	0.0	0.0	0.1	0.2	0.0	0.0	40.3	0.0	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	7.8	0.0	0.0	5.9	3.8	0.0	0.0	14.8	0.0	0.0	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	118.6	9.4	0.0	0.0	8.3	7.6	0.0	0.0	86.3	0.0	0.0	43.6
LnGrp LOS	F	A	A	A	A	A	A	A	F	A	A	D
Approach Vol, veh/h		1679			1630			760				480
Approach Delay, s/veh		25.4			8.1			86.3				43.6
Approach LOS		C			A			F				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.0		88.0		32.0		88.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		28.0		84.0		28.0		84.0				
Max Q Clear Time (g_c+I1), s		30.0		86.0		18.4		20.5				
Green Ext Time (p_c), s		0.0		0.0		1.4		14.1				

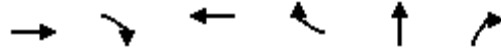
Intersection Summary

HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

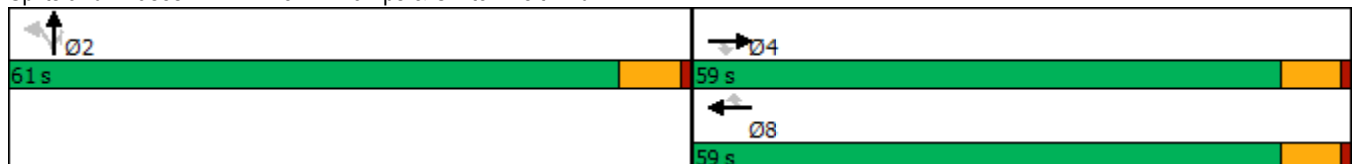


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↔	↑
Traffic Volume (vph)	1203	588	1095	135	0	515
Future Volume (vph)	1203	588	1095	135	0	515
Turn Type	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		4		8		2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5	16.5
Total Split (s)	59.0	59.0	59.0	59.0	61.0	61.0
Total Split (%)	49.2%	49.2%	49.2%	49.2%	50.8%	50.8%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	33.1	33.1	33.1	33.1	31.2	31.2
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.40	0.40
v/c Ratio	0.57	0.63	0.52	0.19	0.71	0.72
Control Delay	19.2	6.4	18.6	4.1	25.8	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.2	6.4	18.6	4.1	25.8	26.6
LOS	B	A	B	A	C	C
Approach Delay	15.0		17.0		26.2	
Approach LOS	B		B		C	

Intersection Summary













Cycle Length: 120	
Actuated Cycle Length: 78.5	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 66.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	1203	588	0	1095	135	401	0	515	0	0	0
Future Volume (veh/h)	0	1203	588	0	1095	135	401	0	515	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1215	594	0	1106	136	405	0	341			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2614	792	0	2614	794	531	0	472			
Arrive On Green	0.00	0.51	0.51	0.00	0.51	0.51	0.30	0.00	0.30			
Sat Flow, veh/h	0	5274	1546	0	5274	1551	1781	0	1585			
Grp Volume(v), veh/h	0	1215	594	0	1106	136	405	0	341			
Grp Sat Flow(s),veh/h/ln	0	1702	1546	0	1702	1551	1781	0	1585			
Q Serve(g_s), s	0.0	10.4	20.8	0.0	9.2	3.2	14.1	0.0	13.2			
Cycle Q Clear(g_c), s	0.0	10.4	20.8	0.0	9.2	3.2	14.1	0.0	13.2			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2614	792	0	2614	794	531	0	472			
V/C Ratio(X)	0.00	0.46	0.75	0.00	0.42	0.17	0.76	0.00	0.72			
Avail Cap(c_a), veh/h	0	3918	1186	0	3918	1190	1419	0	1263			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	10.7	13.2	0.0	10.4	8.9	21.8	0.0	21.5			
Incr Delay (d2), s/veh	0.0	0.1	1.5	0.0	0.1	0.1	2.3	0.0	2.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	2.8	5.4	0.0	2.5	0.8	5.8	0.0	4.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.8	14.7	0.0	10.5	9.0	24.1	0.0	23.6			
LnGrp LOS	A	B	B	A	B	A	C	A	C			
Approach Vol, veh/h		1809			1242			746				
Approach Delay, s/veh		12.1			10.3			23.9				
Approach LOS		B			B			C				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		26.9		41.5				41.5				
Change Period (Y+Rc), s		6.5		6.5				6.5				
Max Green Setting (Gmax), s		54.5		52.5				52.5				
Max Q Clear Time (g_c+I1), s		16.1		22.8				11.2				
Green Ext Time (p_c), s		4.3		12.2				8.9				
Intersection Summary												
HCM 6th Ctrl Delay			13.8									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

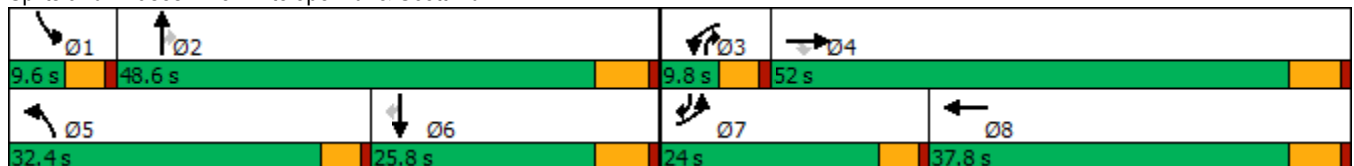
06/21/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	514	1186	459	82	858	554	214	170	48	124	292	
Future Volume (vph)	514	1186	459	82	858	554	214	170	48	124	292	
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	
Protected Phases	7	4		3	8	5	2	3	1	6	7	
Permitted Phases			4					2			6	
Detector Phase	7	4	4	3	8	5	2	3	1	6	7	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6	
Total Split (s)	24.0	52.0	52.0	9.8	37.8	32.4	48.6	9.8	9.6	25.8	24.0	
Total Split (%)	20.0%	43.3%	43.3%	8.2%	31.5%	27.0%	40.5%	8.2%	8.0%	21.5%	20.0%	
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	19.2	43.4	43.4	5.2	29.4	21.8	32.3	43.4	5.1	13.2	33.6	
Actuated g/C Ratio	0.18	0.41	0.41	0.05	0.28	0.21	0.31	0.41	0.05	0.13	0.32	
v/c Ratio	0.85	0.84	0.57	0.50	0.66	0.81	0.20	0.25	0.59	0.55	0.53	
Control Delay	57.0	34.9	11.4	62.3	36.3	49.8	28.2	9.6	79.8	53.9	20.6	
Queue Delay	0.6	49.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.6	83.9	13.3	62.3	36.3	49.8	28.2	9.6	79.8	53.9	20.6	
LOS	E	F	B	E	D	D	C	A	E	D	C	
Approach Delay		62.6			38.4		37.6			35.6		
Approach LOS		E			D		D			D		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 49.5
 Intersection LOS: D
 Intersection Capacity Utilization 78.4%
 ICU Level of Service D
 Analysis Period (min) 15
































Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 			 	
Traffic Volume (veh/h)	514	1186	459	82	858	43	554	214	170	48	124	292
Future Volume (veh/h)	514	1186	459	82	858	43	554	214	170	48	124	292
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	535	1235	269	85	894	37	577	223	85	50	129	185
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	609	1479	660	163	1444	60	665	986	515	69	232	473
Arrive On Green	0.18	0.42	0.42	0.05	0.29	0.29	0.19	0.28	0.28	0.04	0.12	0.12
Sat Flow, veh/h	3456	3554	1585	3456	5029	208	3456	3554	1585	1781	1870	1563
Grp Volume(v), veh/h	535	1235	269	85	605	326	577	223	85	50	129	185
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1833	1728	1777	1585	1781	1870	1563
Q Serve(g_s), s	14.2	29.4	11.3	2.3	14.5	14.6	15.3	4.6	3.6	2.6	6.1	8.9
Cycle Q Clear(g_c), s	14.2	29.4	11.3	2.3	14.5	14.6	15.3	4.6	3.6	2.6	6.1	8.9
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	609	1479	660	163	978	526	665	986	515	69	232	473
V/C Ratio(X)	0.88	0.83	0.41	0.52	0.62	0.62	0.87	0.23	0.17	0.73	0.56	0.39
Avail Cap(c_a), veh/h	710	1738	775	190	1153	621	1017	1610	793	94	396	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	24.7	19.4	43.9	29.2	29.2	37.0	26.3	22.7	44.9	38.9	26.2
Incr Delay (d2), s/veh	9.8	3.2	0.4	1.0	0.8	1.4	3.4	0.1	0.1	8.8	2.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	11.8	3.9	1.0	5.7	6.2	6.4	1.8	1.3	1.3	2.8	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	27.9	19.8	44.9	29.9	30.6	40.4	26.4	22.9	53.7	41.0	26.8
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	D	C
Approach Vol, veh/h		2039			1016			885			364	
Approach Delay, s/veh		32.0			31.4			35.2			35.5	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	32.0	9.1	45.1	22.8	17.5	21.3	32.9				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	42.8	5.2	46.2	27.8	20.0	19.4	32.0				
Max Q Clear Time (g_c+I1), s	4.6	6.6	4.3	31.4	17.3	10.9	16.2	16.6				
Green Ext Time (p_c), s	0.0	1.6	0.0	7.9	0.9	0.8	0.4	5.0				
Intersection Summary												
HCM 6th Ctrl Delay				32.8								
HCM 6th LOS				C								

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021

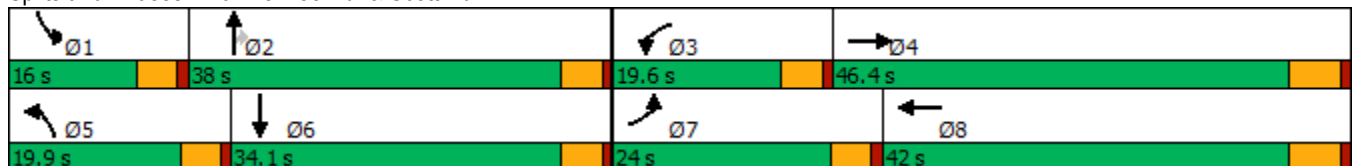


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	178	765	119	751	113	332	203	99	120
Future Volume (vph)	178	765	119	751	113	332	203	99	120
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	24.0	46.4	19.6	42.0	19.9	38.0	38.0	16.0	34.1
Total Split (%)	20.0%	38.7%	16.3%	35.0%	16.6%	31.7%	31.7%	13.3%	28.4%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	14.9	35.2	11.4	31.7	11.1	24.9	24.9	9.6	23.4
Actuated g/C Ratio	0.15	0.35	0.11	0.31	0.11	0.25	0.25	0.09	0.23
v/c Ratio	0.72	0.79	0.63	0.84	0.61	0.77	0.39	0.62	0.52
Control Delay	60.7	36.1	61.7	41.6	61.1	49.0	6.9	65.6	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	36.1	61.7	41.6	61.1	49.0	6.9	65.6	36.1
LOS	E	D	E	D	E	D	A	E	D
Approach Delay		40.1		44.0		37.9			45.6
Approach LOS		D		D		D			D

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 101.6
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 41.5
 Intersection LOS: D
 Intersection Capacity Utilization 73.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	765	138	119	751	117	113	332	203	99	120	89
Future Volume (veh/h)	178	765	138	119	751	117	113	332	203	99	120	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	805	131	125	791	109	119	349	97	104	126	66
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	1084	176	158	992	137	152	431	359	133	253	133
Arrive On Green	0.13	0.36	0.36	0.09	0.32	0.32	0.09	0.23	0.23	0.07	0.22	0.22
Sat Flow, veh/h	1781	3047	496	1781	3128	431	1781	1870	1557	1781	1150	602
Grp Volume(v), veh/h	187	469	467	125	449	451	119	349	97	104	0	192
Grp Sat Flow(s),veh/h/ln	1781	1777	1766	1781	1777	1782	1781	1870	1557	1781	0	1752
Q Serve(g_s), s	8.1	18.2	18.2	5.4	18.2	18.2	5.2	13.9	4.0	4.5	0.0	7.6
Cycle Q Clear(g_c), s	8.1	18.2	18.2	5.4	18.2	18.2	5.2	13.9	4.0	4.5	0.0	7.6
Prop In Lane	1.00		0.28	1.00		0.24	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	227	632	628	158	563	565	152	431	359	133	0	386
V/C Ratio(X)	0.82	0.74	0.74	0.79	0.80	0.80	0.78	0.81	0.27	0.78	0.00	0.50
Avail Cap(c_a), veh/h	439	916	910	339	816	819	346	790	658	258	0	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.5	22.2	22.2	35.2	24.6	24.6	35.3	28.7	24.9	35.8	0.0	26.9
Incr Delay (d2), s/veh	2.9	1.9	1.9	3.3	3.6	3.6	3.4	3.7	0.4	3.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	7.1	7.0	2.3	7.4	7.4	2.3	6.4	1.4	2.1	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.4	24.1	24.2	38.5	28.2	28.2	38.7	32.3	25.3	39.5	0.0	27.9
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	A	C
Approach Vol, veh/h		1123			1025			565			296	
Approach Delay, s/veh		26.2			29.4			32.5			32.0	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	22.9	11.6	33.8	11.3	22.0	14.7	30.8				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	11.4	* 33	15.0	40.6	15.3	* 29	19.4	36.2				
Max Q Clear Time (g_c+I1), s	6.5	15.9	7.4	20.2	7.2	9.6	10.1	20.2				
Green Ext Time (p_c), s	0.0	2.3	0.1	5.5	0.1	1.0	0.2	4.8				

Intersection Summary

HCM 6th Ctrl Delay	29.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
7: Whitewood Rd. & Clinton Keith Rd.

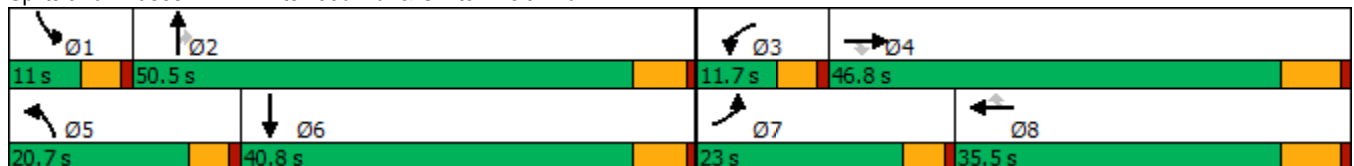
Keller Crossing (JN:13649)
06/21/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	632	1009	152	137	747	152	184	764	165	105	226
Future Volume (vph)	632	1009	152	137	747	152	184	764	165	105	226
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	23.0	46.8	46.8	11.7	35.5	35.5	20.7	50.5	50.5	11.0	40.8
Total Split (%)	19.2%	39.0%	39.0%	9.8%	29.6%	29.6%	17.3%	42.1%	42.1%	9.2%	34.0%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	18.4	38.4	38.4	7.0	26.9	26.9	14.8	44.8	44.8	6.4	36.3
Actuated g/C Ratio	0.16	0.33	0.33	0.06	0.23	0.23	0.13	0.38	0.38	0.05	0.31
v/c Ratio	1.20	0.90	0.25	0.69	0.66	0.30	0.85	1.10	0.24	1.11	0.44
Control Delay	151.6	49.1	5.9	73.1	44.3	3.8	81.9	101.9	5.6	178.8	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	151.6	49.1	5.9	73.1	44.3	3.8	81.9	101.9	5.6	178.8	17.2
LOS	F	D	A	E	D	A	F	F	A	F	B
Approach Delay		81.5			42.2			84.4			44.9
Approach LOS		F			D			F			D

Intersection Summary































Cycle Length: 120	
Actuated Cycle Length: 118	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 68.3	Intersection LOS: E
Intersection Capacity Utilization 96.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  						 	
Traffic Volume (veh/h)	632	1009	152	137	747	152	184	764	165	105	226	281
Future Volume (veh/h)	632	1009	152	137	747	152	184	764	165	105	226	281
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	645	1030	129	140	762	129	188	780	132	107	231	231
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	1143	510	195	1126	350	216	716	607	98	563	502
Arrive On Green	0.16	0.32	0.32	0.06	0.22	0.22	0.12	0.38	0.38	0.05	0.32	0.32
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	645	1030	129	140	762	129	188	780	132	107	231	231
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	18.4	32.3	7.0	4.7	16.0	8.1	12.1	44.7	6.5	6.4	11.9	13.6
Cycle Q Clear(g_c), s	18.4	32.3	7.0	4.7	16.0	8.1	12.1	44.7	6.5	6.4	11.9	13.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	545	1143	510	195	1126	350	216	716	607	98	563	502
V/C Ratio(X)	1.18	0.90	0.25	0.72	0.68	0.37	0.87	1.09	0.22	1.10	0.41	0.46
Avail Cap(c_a), veh/h	545	1227	547	210	1268	394	246	716	607	98	563	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	37.8	29.2	54.2	41.7	38.6	50.4	36.0	24.3	55.2	31.3	31.9
Incr Delay (d2), s/veh	100.5	8.9	0.3	8.5	1.2	0.6	23.1	60.5	0.2	119.3	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.1	14.4	2.6	2.2	6.5	3.0	6.6	31.1	2.3	6.0	5.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	149.7	46.7	29.5	62.7	42.9	39.3	73.5	96.6	24.4	174.5	31.8	32.6
LnGrp LOS	F	D	C	E	D	D	E	F	C	F	C	C
Approach Vol, veh/h		1804			1031			1100				569
Approach Delay, s/veh		82.3			45.1			84.0				59.0
Approach LOS		F			D			F				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	50.5	11.2	44.1	18.7	42.8	23.0	32.3				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	6.4	44.7	7.1	40.3	16.1	35.0	18.4	29.0				
Max Q Clear Time (g_c+I1), s	8.4	46.7	6.7	34.3	14.1	15.6	20.4	18.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	3.2	0.0	2.5	0.0	3.7				
Intersection Summary												
HCM 6th Ctrl Delay				71.3								
HCM 6th LOS				E								

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/21/2021

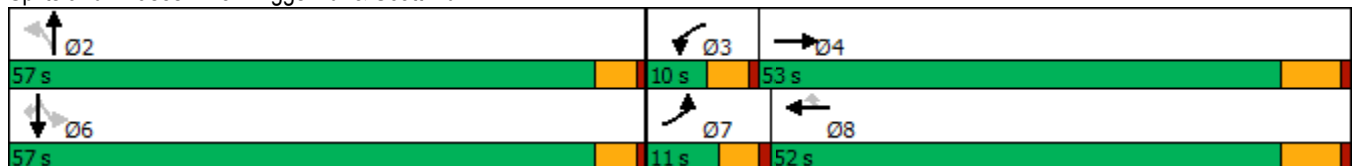


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↕	↖	↕	↖		↕		↕	↖
Traffic Volume (vph)	19	603	8	553	11	314	7	15	4	25
Future Volume (vph)	19	603	8	553	11	314	7	15	4	25
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	11.0	53.0	10.0	52.0	52.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	9.2%	44.2%	8.3%	43.3%	43.3%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	6.1	25.8	5.7	23.7	23.7		24.1		24.1	24.1
Actuated g/C Ratio	0.10	0.41	0.09	0.37	0.37		0.38		0.38	0.38
v/c Ratio	0.12	0.68	0.05	0.44	0.02		0.67		0.04	0.04
Control Delay	39.2	18.0	39.6	18.3	0.1		25.9		15.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	39.2	18.0	39.6	18.3	0.1		25.9		15.8	0.1
LOS	D	B	D	B	A		C		B	A
Approach Delay		18.5		18.2			25.9		7.0	
Approach LOS		B		B			C		A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 63.7
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 19.4
 Intersection LOS: B
 Intersection Capacity Utilization 61.0%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/21/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	603	318	8	553	11	314	7	6	15	4	25
Future Volume (veh/h)	19	603	318	8	553	11	314	7	6	15	4	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	628	274	8	576	11	327	7	3	16	4	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	892	389	19	1267	565	552	9	4	538	121	486
Arrive On Green	0.02	0.37	0.37	0.01	0.36	0.36	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	2408	1050	1781	3554	1585	1333	29	12	1325	390	1563
Grp Volume(v), veh/h	20	463	439	8	576	11	337	0	0	20	0	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1681	1781	1777	1585	1373	0	0	1714	0	1563
Q Serve(g_s), s	0.6	11.4	11.4	0.2	6.4	0.2	11.2	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear(g_c), s	0.6	11.4	11.4	0.2	6.4	0.2	11.6	0.0	0.0	0.4	0.0	0.2
Prop In Lane	1.00		0.62	1.00		1.00	0.97		0.01	0.80		1.00
Lane Grp Cap(c), veh/h	43	658	623	19	1267	565	565	0	0	659	0	486
V/C Ratio(X)	0.46	0.70	0.70	0.43	0.45	0.02	0.60	0.00	0.00	0.03	0.00	0.02
Avail Cap(c_a), veh/h	223	1614	1527	188	3158	1409	1566	0	0	1710	0	1597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	13.7	13.7	25.2	12.6	10.7	16.3	0.0	0.0	12.3	0.0	12.2
Incr Delay (d2), s/veh	2.9	1.4	1.5	5.6	0.3	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.4	3.2	0.1	1.8	0.1	3.3	0.0	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	15.1	15.2	30.8	12.9	10.7	17.4	0.0	0.0	12.3	0.0	12.3
LnGrp LOS	C	B	B	C	B	B	B	A	A	B	A	B
Approach Vol, veh/h		922			595			337				30
Approach Delay, s/veh		15.4			13.1			17.4				12.3
Approach LOS		B			B			B				B
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.6	5.1	25.5		20.6	5.8	24.8				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 52	5.4	46.5		* 52	6.4	45.5				
Max Q Clear Time (g_c+I1), s		13.6	2.2	13.4		2.4	2.6	8.4				
Green Ext Time (p_c), s		2.3	0.0	5.6		0.1	0.0	3.6				
Intersection Summary												
HCM 6th Ctrl Delay			15.0									
HCM 6th LOS			B									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Intersection Delay, s/veh	22.3											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	14	321	199	15	326	11	155	35	17	11	29	18
Future Vol, veh/h	14	321	199	15	326	11	155	35	17	11	29	18
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	341	212	16	347	12	165	37	18	12	31	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	29.7	17.6	14.4	11
HCM LOS	D	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	75%	3%	4%	19%
Vol Thru, %	17%	60%	93%	50%
Vol Right, %	8%	37%	3%	31%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	207	534	352	58
LT Vol	155	14	15	11
Through Vol	35	321	326	29
RT Vol	17	199	11	18
Lane Flow Rate	220	568	374	62
Geometry Grp	1	1	1	1
Degree of Util (X)	0.412	0.835	0.61	0.121
Departure Headway (Hd)	6.731	5.402	5.864	7.032
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	537	676	618	510
Service Time	4.755	3.402	3.864	5.067
HCM Lane V/C Ratio	0.41	0.84	0.605	0.122
HCM Control Delay	14.4	29.7	17.6	11
HCM Lane LOS	B	D	C	B
HCM 95th-tile Q	2	9.1	4.1	0.4

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	3	4	29	3	50	0	265	58	64	162	0
Future Vol, veh/h	4	3	4	29	3	50	0	265	58	64	162	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	3	4	32	3	55	0	291	64	70	178	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	670	673	178	645	641	323	178	0	0	355	0	0
Stage 1	318	318	-	323	323	-	-	-	-	-	-	-
Stage 2	352	355	-	322	318	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	371	377	865	385	393	718	1398	-	-	1204	-	-
Stage 1	693	654	-	689	650	-	-	-	-	-	-	-
Stage 2	665	630	-	690	654	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	324	352	865	362	367	718	1398	-	-	1204	-	-
Mov Cap-2 Maneuver	324	352	-	362	367	-	-	-	-	-	-	-
Stage 1	693	611	-	689	650	-	-	-	-	-	-	-
Stage 2	611	630	-	638	611	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.6		13.4		0		2.3	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1398	-	-	431	519	1204	-
HCM Lane V/C Ratio	-	-	-	0.028	0.174	0.058	-
HCM Control Delay (s)	0	-	-	13.6	13.4	8.2	0
HCM Lane LOS	A	-	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.6	0.2	-

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	11	0	14	0	299	13	8	208	0
Future Vol, veh/h	0	0	0	11	0	14	0	299	13	8	208	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	0	16	0	332	14	9	231	0

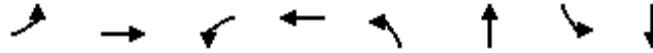
Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	596	595	116	473	588	339	231	0	0	346	0	0
Stage 1	249	249	-	339	339	-	-	-	-	-	-	-
Stage 2	347	346	-	134	249	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	401	417	915	488	420	702	1335	-	-	1211	-	-
Stage 1	734	700	-	675	639	-	-	-	-	-	-	-
Stage 2	668	635	-	856	700	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	390	414	915	485	417	702	1335	-	-	1211	-	-
Mov Cap-2 Maneuver	489	488	-	557	493	-	-	-	-	-	-	-
Stage 1	734	695	-	675	639	-	-	-	-	-	-	-
Stage 2	653	635	-	850	695	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.8	0	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1335	-	-	-	557	702	1211	-	-
HCM Lane V/C Ratio	-	-	-	-	0.022	0.022	0.007	-	-
HCM Control Delay (s)	0	-	-	0	11.6	10.2	8	-	-
HCM Lane LOS	A	-	-	A	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1	0	-	-

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/21/2021

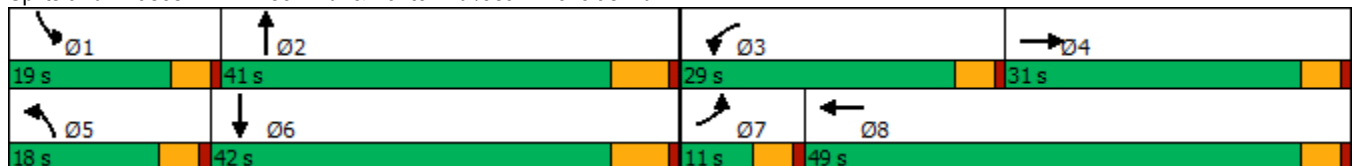


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	8	45	133	96	56	288	68	238
Future Volume (vph)	8	45	133	96	56	288	68	238
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	11.0	31.0	29.0	49.0	18.0	41.0	19.0	42.0
Total Split (%)	9.2%	25.8%	24.2%	40.8%	15.0%	34.2%	15.8%	35.0%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	6.4	10.0	24.5	28.1	7.8	35.3	8.5	35.9
Actuated g/C Ratio	0.07	0.10	0.25	0.29	0.08	0.37	0.09	0.37
v/c Ratio	0.08	0.27	0.33	0.25	0.43	0.41	0.49	0.20
Control Delay	45.8	24.5	33.0	12.4	52.4	18.8	53.0	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	24.5	33.0	12.4	52.4	18.8	53.0	21.8
LOS	D	C	C	B	D	B	D	C
Approach Delay		26.2		19.9		22.4		28.7
Approach LOS		C		B		C		C

Intersection Summary

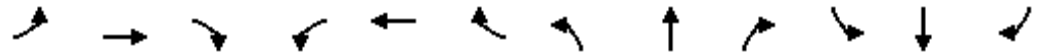
Cycle Length: 120
 Actuated Cycle Length: 96.3
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.49
 Intersection Signal Delay: 23.5
 Intersection LOS: C
 Intersection Capacity Utilization 51.9%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	
Traffic Volume (veh/h)	8	45	48	133	96	134	56	288	187	68	238	3
Future Volume (veh/h)	8	45	48	133	96	134	56	288	187	68	238	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	50	21	148	107	91	62	320	168	76	264	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	294	116	453	581	451	80	821	421	98	1342	15
Arrive On Green	0.07	0.12	0.12	0.25	0.31	0.31	0.04	0.36	0.36	0.06	0.37	0.37
Sat Flow, veh/h	1781	2483	979	1781	1898	1473	1781	2262	1159	1781	3599	41
Grp Volume(v), veh/h	9	35	36	148	100	98	62	250	238	76	130	137
Grp Sat Flow(s),veh/h/ln	1781	1777	1685	1781	1777	1594	1781	1777	1644	1781	1777	1863
Q Serve(g_s), s	0.5	1.7	1.9	6.5	4.0	4.4	3.3	10.0	10.4	4.0	4.8	4.8
Cycle Q Clear(g_c), s	0.5	1.7	1.9	6.5	4.0	4.4	3.3	10.0	10.4	4.0	4.8	4.8
Prop In Lane	1.00		0.58	1.00		0.92	1.00		0.71	1.00		0.02
Lane Grp Cap(c), veh/h	119	210	200	453	544	488	80	645	597	98	663	695
V/C Ratio(X)	0.08	0.17	0.18	0.33	0.18	0.20	0.77	0.39	0.40	0.78	0.20	0.20
Avail Cap(c_a), veh/h	119	487	462	453	820	736	249	645	597	267	663	695
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	38.0	38.1	29.1	24.5	24.6	45.4	22.7	22.8	44.8	20.4	20.4
Incr Delay (d2), s/veh	1.2	0.4	0.4	1.9	0.2	0.2	5.9	0.4	0.4	4.9	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	0.8	3.0	1.7	1.7	1.5	3.9	3.7	1.8	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	38.4	38.5	31.0	24.6	24.8	51.2	23.0	23.2	49.6	21.0	21.0
LnGrp LOS	D	D	D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		80			346			550			343	
Approach Delay, s/veh		39.0			27.4			26.3			27.3	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	41.0	29.0	16.1	8.9	42.0	11.0	34.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	14.4	34.8	24.4	* 26	13.4	35.8	6.4	* 44				
Max Q Clear Time (g_c+I1), s	6.0	12.4	8.5	3.9	5.3	6.8	2.5	6.4				
Green Ext Time (p_c), s	0.0	2.6	0.2	0.3	0.0	1.3	0.0	1.2				

Intersection Summary

HCM 6th Ctrl Delay	27.6
HCM 6th LOS	C

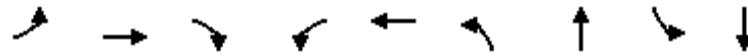
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↔	↔↔	↑↑	↔↔	↑↑	↔↔	↑↑
Traffic Volume (vph)	175	524	1070	190	324	844	419	13	277
Future Volume (vph)	175	524	1070	190	324	844	419	13	277
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	11.4	33.5	39.4	11.4	33.5	39.4	65.5	9.6	35.7
Total Split (%)	9.5%	27.9%	32.8%	9.5%	27.9%	32.8%	54.6%	8.0%	29.8%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	6.8	20.9	62.5	6.8	20.9	35.0	52.4	5.0	16.2
Actuated g/C Ratio	0.07	0.21	0.62	0.07	0.21	0.35	0.52	0.05	0.16
v/c Ratio	0.80	0.76	1.08	0.87	0.49	0.75	0.36	0.08	0.69
Control Delay	72.9	44.9	69.9	81.6	37.4	35.1	14.1	50.4	42.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.9	44.9	69.9	81.6	37.4	35.1	14.1	50.4	42.6
LOS	E	D	E	F	D	D	B	D	D
Approach Delay		62.8			53.4		26.4		42.9
Approach LOS		E			D		C		D

Intersection Summary






























Cycle Length: 120
 Actuated Cycle Length: 100.7
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 47.0
 Intersection LOS: D
 Intersection Capacity Utilization 95.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (veh/h)	175	524	1070	190	324	11	844	419	184	13	277	102
Future Volume (veh/h)	175	524	1070	190	324	11	844	419	184	13	277	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	557	833	202	345	11	898	446	163	14	295	75
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	994	896	243	983	31	988	1050	381	56	398	100
Arrive On Green	0.07	0.28	0.28	0.07	0.28	0.28	0.29	0.41	0.41	0.02	0.14	0.14
Sat Flow, veh/h	3456	3554	1585	3456	3515	112	3456	2555	926	3456	2816	704
Grp Volume(v), veh/h	186	557	833	202	174	182	898	309	300	14	184	186
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1850	1728	1777	1704	1728	1777	1744
Q Serve(g_s), s	5.1	12.9	27.0	5.6	7.6	7.6	24.2	12.0	12.2	0.4	9.6	9.9
Cycle Q Clear(g_c), s	5.1	12.9	27.0	5.6	7.6	7.6	24.2	12.0	12.2	0.4	9.6	9.9
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.54	1.00		0.40
Lane Grp Cap(c), veh/h	243	994	896	243	497	517	988	731	700	56	251	247
V/C Ratio(X)	0.76	0.56	0.93	0.83	0.35	0.35	0.91	0.42	0.43	0.25	0.73	0.75
Avail Cap(c_a), veh/h	243	994	896	243	497	517	1245	1098	1053	179	550	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	29.7	19.2	44.3	27.8	27.8	33.3	20.3	20.3	46.9	39.7	39.8
Incr Delay (d2), s/veh	12.2	0.7	15.7	19.7	0.4	0.4	7.5	0.4	0.4	0.9	4.1	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	5.2	17.7	2.9	3.1	3.2	10.5	4.7	4.5	0.2	4.3	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	30.4	34.9	64.1	28.2	28.2	40.7	20.7	20.7	47.8	43.8	44.4
LnGrp LOS	E	C	C	E	C	C	D	C	C	D	D	D
Approach Vol, veh/h		1576			558			1507			384	
Approach Delay, s/veh		35.9			41.2			32.6			44.3	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.2	45.5	11.4	33.5	32.2	19.5	11.4	33.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	59.7	6.8	27.0	34.8	29.9	6.8	27.0				
Max Q Clear Time (g_c+1), s	2.4	14.2	7.6	29.0	26.2	11.9	7.1	9.6				
Green Ext Time (p_c), s	0.0	3.7	0.0	0.0	1.4	1.8	0.0	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			36.2									
HCM 6th LOS			D									

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕		↕			↕	
Traffic Vol, veh/h	0	106	17	8	98	0	20	0	18	0	0	0
Future Vol, veh/h	0	106	17	8	98	0	20	0	18	0	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	134	22	10	124	0	25	0	23	0	0	0
Number of Lanes	0	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	1
HCM Control Delay	8.5	8.4	8.3	0
HCM LOS	A	A	A	-

Lane	NBLn1	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	53%	0%	100%	0%	0%	0%
Vol Thru, %	0%	86%	0%	100%	100%	100%
Vol Right, %	47%	14%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	123	8	98	0	0
LT Vol	20	0	8	0	0	0
Through Vol	0	106	0	98	0	0
RT Vol	18	17	0	0	0	0
Lane Flow Rate	48	156	10	124	0	0
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.069	0.199	0.015	0.162	0	0
Departure Headway (Hd)	5.168	4.59	5.199	4.698	4.698	5.293
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	697	772	681	754	0	0
Service Time	2.868	2.378	2.99	2.488	2.488	2.996
HCM Lane V/C Ratio	0.069	0.202	0.015	0.164	0	0
HCM Control Delay	8.3	8.5	8.1	8.4	7.5	8
HCM Lane LOS	A	A	A	A	N	N
HCM 95th-tile Q	0.2	0.7	0	0.6	0	0

Intersection						
Int Delay, s/veh	5.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	29	48	19	19	7
Future Vol, veh/h	10	29	48	19	19	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	36	60	24	24	9

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	161	29	33	0	-	0
Stage 1	29	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	822	1045	1578	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	791	1045	1578	-	-	-
Mov Cap-2 Maneuver	775	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	881	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	5.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1578	-	959	-	-
HCM Lane V/C Ratio	0.038	-	0.051	-	-
HCM Control Delay (s)	7.4	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕		↵	↕			↕			↕	
Traffic Vol, veh/h	55	67	1	0	73	6	1	0	0	4	0	32
Future Vol, veh/h	55	67	1	0	73	6	1	0	0	4	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	73	1	0	79	7	1	0	0	4	0	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	86	0	0	74	0	0	234	280	37	240	277	43
Stage 1	-	-	-	-	-	-	194	194	-	83	83	-
Stage 2	-	-	-	-	-	-	40	86	-	157	194	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1508	-	-	1524	-	-	701	627	1027	694	629	1018
Stage 1	-	-	-	-	-	-	789	739	-	916	825	-
Stage 2	-	-	-	-	-	-	970	823	-	829	739	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1508	-	-	1524	-	-	656	602	1027	673	604	1018
Mov Cap-2 Maneuver	-	-	-	-	-	-	656	602	-	685	616	-
Stage 1	-	-	-	-	-	-	757	709	-	879	825	-
Stage 2	-	-	-	-	-	-	937	823	-	796	709	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0	10.5	8.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	656	1508	-	-	1524	-	-	966
HCM Lane V/C Ratio	0.002	0.04	-	-	-	-	-	0.041
HCM Control Delay (s)	10.5	7.5	-	-	0	-	-	8.9
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	47	65	37	21	14
Future Vol, veh/h	24	47	65	37	21	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	51	71	40	23	15

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	111	0	-	0	169
Stage 1	-	-	-	-	91
Stage 2	-	-	-	-	78
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	1477	-	-	-	805
Stage 1	-	-	-	-	922
Stage 2	-	-	-	-	936
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1477	-	-	-	791
Mov Cap-2 Maneuver	-	-	-	-	780
Stage 1	-	-	-	-	905
Stage 2	-	-	-	-	936

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1477	-	-	-	855
HCM Lane V/C Ratio	0.018	-	-	-	0.044
HCM Control Delay (s)	7.5	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Timings
20: Winchester Rd. & Domenigoni Pkwy

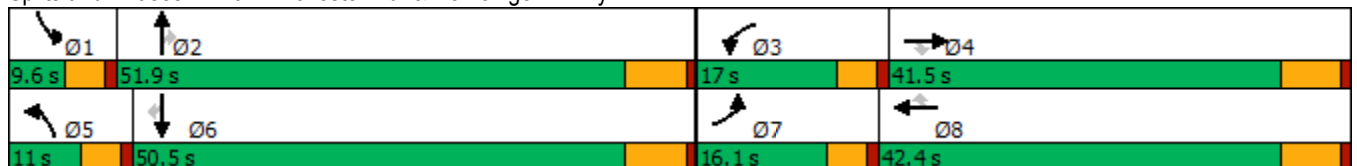
Keller Crossing (JN:13649)
06/21/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	937	93	678	817	20	128	1082	908	19	507	170
Future Volume (vph)	188	937	93	678	817	20	128	1082	908	19	507	170
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	16.1	41.5	41.5	17.0	42.4	42.4	11.0	51.9	51.9	9.6	50.5	50.5
Total Split (%)	13.4%	34.6%	34.6%	14.2%	35.3%	35.3%	9.2%	43.3%	43.3%	8.0%	42.1%	42.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	10.0	33.9	33.9	12.4	36.3	36.3	6.4	45.5	45.5	5.0	38.1	38.1
Actuated g/C Ratio	0.09	0.30	0.30	0.11	0.32	0.32	0.06	0.40	0.40	0.04	0.34	0.34
v/c Ratio	0.64	0.90	0.17	1.84	0.51	0.03	1.31	0.78	1.13	0.24	0.43	0.27
Control Delay	60.5	51.1	4.4	416.4	33.2	0.1	236.7	34.8	95.1	62.4	30.4	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	51.1	4.4	416.4	33.2	0.1	236.7	34.8	95.1	62.4	30.4	4.9
LOS	E	D	A	F	C	A	F	C	F	E	C	A
Approach Delay		49.0			204.3			72.9			25.0	
Approach LOS		D			F			E			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 113.1	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.84	
Intersection Signal Delay: 97.5	Intersection LOS: F
Intersection Capacity Utilization 101.0%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/21/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	937	93	678	817	20	128	1082	908	19	507	170
Future Volume (veh/h)	188	937	93	678	817	20	128	1082	908	19	507	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	956	37	692	834	12	131	1104	619	19	517	71
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	250	1034	461	369	1662	516	98	1390	620	35	1264	564
Arrive On Green	0.07	0.29	0.29	0.11	0.33	0.33	0.06	0.39	0.39	0.02	0.36	0.36
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	192	956	37	692	834	12	131	1104	619	19	517	71
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.3	30.3	2.0	12.4	15.3	0.6	6.4	31.9	45.3	1.2	12.7	3.5
Cycle Q Clear(g_c), s	6.3	30.3	2.0	12.4	15.3	0.6	6.4	31.9	45.3	1.2	12.7	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	250	1034	461	369	1662	516	98	1390	620	35	1264	564
V/C Ratio(X)	0.77	0.92	0.08	1.87	0.50	0.02	1.33	0.79	1.00	0.54	0.41	0.13
Avail Cap(c_a), veh/h	342	1071	478	369	1662	516	98	1390	620	77	1347	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	39.9	29.9	51.8	31.6	26.6	54.8	31.2	35.3	56.4	28.2	25.2
Incr Delay (d2), s/veh	4.4	12.8	0.1	403.8	0.2	0.0	204.1	3.3	35.7	4.7	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	14.1	0.7	25.8	5.9	0.2	8.3	13.1	22.0	0.6	5.1	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	52.7	29.9	455.6	31.8	26.6	259.0	34.5	71.0	61.1	28.4	25.3
LnGrp LOS	E	D	C	F	C	C	F	C	E	E	C	C
Approach Vol, veh/h		1185			1538			1854			607	
Approach Delay, s/veh		52.7			222.4			62.6			29.1	
Approach LOS		D			F			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	51.9	17.0	40.3	11.0	47.8	13.0	44.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	45.4	12.4	35.0	6.4	44.0	11.5	35.9				
Max Q Clear Time (g_c+1), s	3.2	47.3	14.4	32.3	8.4	14.7	8.3	17.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.5	0.0	3.3	0.1	4.8				
Intersection Summary												
HCM 6th Ctrl Delay				103.8								
HCM 6th LOS				F								

Timings

21: Winchester Rd. & Newport Rd.

06/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	4	0	1	21	1	2	2093	10	6	1270	4
Future Volume (vph)	4	0	1	21	1	2	2093	10	6	1270	4
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	10.0	74.3	74.3	10.0	74.3	74.3
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.3%	61.9%	61.9%	8.3%	61.9%	61.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		11.0	11.0		11.0	5.5	58.5	58.5	5.6	58.6	58.6
Actuated g/C Ratio		0.16	0.16		0.16	0.08	0.83	0.83	0.08	0.83	0.83
v/c Ratio		0.02	0.00		0.18	0.01	0.53	0.01	0.04	0.46	0.00
Control Delay		36.2	0.0		26.1	41.0	5.0	0.0	41.0	4.7	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		36.2	0.0		26.1	41.0	5.0	0.0	41.0	4.7	0.0
LOS		D	A		C	D	A	A	D	A	A
Approach Delay		29.0			26.1		5.0			4.9	
Approach LOS		C			C		A			A	

Intersection Summary


























Cycle Length: 120
 Actuated Cycle Length: 70.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.53
 Intersection Signal Delay: 5.2
 Intersection Capacity Utilization 64.8%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
 21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
 06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (veh/h)	4	0	1	21	1	19	2	2093	10	6	1270	4
Future Volume (veh/h)	4	0	1	21	1	19	2	2093	10	6	1270	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	0	1	23	1	7	2	2251	11	6	1366	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	0	116	163	17	25	5	3499	1086	14	2453	1094
Arrive On Green	0.07	0.00	0.07	0.07	0.07	0.07	0.00	0.69	0.69	0.01	0.69	0.69
Sat Flow, veh/h	1498	0	1585	935	233	341	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	4	0	1	31	0	0	2	2251	11	6	1366	4
Grp Sat Flow(s),veh/h/ln	1498	0	1585	1509	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	0.0	0.1	16.5	0.1	0.2	12.8	0.1
Cycle Q Clear(g_c), s	0.1	0.0	0.0	1.2	0.0	0.0	0.1	16.5	0.1	0.2	12.8	0.1
Prop In Lane	1.00		1.00	0.74		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	0	116	205	0	0	5	3499	1086	14	2453	1094
V/C Ratio(X)	0.02	0.00	0.01	0.15	0.00	0.00	0.41	0.64	0.01	0.43	0.56	0.00
Avail Cap(c_a), veh/h	773	0	741	782	0	0	145	5246	1628	145	3651	1628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	0.0	28.5	29.0	0.0	0.0	33.0	5.9	3.3	32.7	5.2	3.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	19.4	0.2	0.0	7.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.5	0.0	0.0	0.1	2.5	0.0	0.1	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	0.0	28.5	29.3	0.0	0.0	52.4	6.1	3.3	40.2	5.4	3.2
LnGrp LOS	C	A	C	C	A	A	D	A	A	D	A	A
Approach Vol, veh/h		5			31			2264			1376	
Approach Delay, s/veh		28.6			29.3			6.1			5.5	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	51.6		9.5	4.8	52.0		9.5				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.4	68.1		* 31	5.4	68.1		* 31				
Max Q Clear Time (g_c+I1), s	2.2	18.5		2.1	2.1	14.8		3.2				
Green Ext Time (p_c), s	0.0	27.0		0.0	0.0	12.2		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				6.1								
HCM 6th LOS				A								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations	↖	↗	↖	↗	↖	↑↑	↗	↑↑	↗	
Traffic Volume (vph)	6	3	2	2	7	2094	3	1285	7	
Future Volume (vph)	6	3	2	2	7	2094	3	1285	7	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4		8	5	2		6		1
Permitted Phases	4		8				2		6	
Detector Phase	4	4	8	8	5	2	2	6	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	26.5	16.5	16.5	9.6
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	74.7	74.7	74.7	9.6
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	62.3%	62.3%	62.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max	None
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	77.8	77.8	68.2	68.2	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.69	0.69	
v/c Ratio	0.04	0.06	0.01	0.05	0.09	0.81	0.00	0.57	0.01	
Control Delay	41.2	26.8	40.5	27.7	47.1	9.3	0.0	9.0	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.2	26.8	40.5	27.7	47.1	9.3	0.0	9.0	0.0	
LOS	D	C	D	C	D	A	A	A	A	
Approach Delay		31.9		30.3		9.4		8.9		
Approach LOS		C		C		A		A		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 9.4
 Intersection Capacity Utilization 75.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service D

Splits and Phases: 22: Winchester Rd. & Holland Rd.

↖ Ø1 9.6 s	↑ Ø2 74.7 s	↗ Ø4 35.7 s
↖ Ø5 9.6 s	↓ Ø6 74.7 s	↖ Ø8 35.7 s

HCM 6th Signalized Intersection Summary
 22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	6	3	7	2	2	6	7	2094	3	0	1285	7
Future Volume (veh/h)	6	3	7	2	2	6	7	2094	3	0	1285	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	3	4	2	2	1	8	2252	2	0	1382	8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	73	98	210	119	59	90	2793	1246	2	2448	1092
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.00	0.69	0.69
Sat Flow, veh/h	1414	727	969	1409	1176	588	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	6	0	7	2	0	3	8	2252	2	0	1382	8
Grp Sat Flow(s),veh/h/ln	1414	0	1696	1409	0	1764	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.4	0.0	0.4	0.1	0.0	0.2	0.4	36.7	0.0	0.0	19.6	0.2
Cycle Q Clear(g_c), s	0.5	0.0	0.4	0.5	0.0	0.2	0.4	36.7	0.0	0.0	19.6	0.2
Prop In Lane	1.00		0.57	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	0	171	210	0	178	90	2793	1246	2	2448	1092
V/C Ratio(X)	0.03	0.00	0.04	0.01	0.00	0.02	0.09	0.81	0.00	0.00	0.56	0.01
Avail Cap(c_a), veh/h	513	0	531	509	0	553	90	2793	1246	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	0.0	40.2	40.4	0.0	40.1	44.8	6.2	2.3	0.0	7.8	4.8
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.0	1.9	1.8	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.0	0.0	0.1	0.2	6.6	0.0	0.0	5.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	0.0	40.3	40.4	0.0	40.1	46.8	8.0	2.3	0.0	8.8	4.8
LnGrp LOS	D	A	D	D	A	D	D	A	A	A	A	A
Approach Vol, veh/h		13			5			2262			1390	
Approach Delay, s/veh		40.3			40.2			8.2			8.8	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	84.3		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	0.0	38.7		2.5	2.4	21.6		2.5				
Green Ext Time (p_c), s	0.0	21.2		0.0	0.0	12.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/21/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	10	1	1	2095	1290	4
Future Volume (vph)	10	1	1	2095	1290	4
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	28.5	28.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effect Green (s)	10.0	10.0	5.0	101.2	99.3	99.3
Actuated g/C Ratio	0.09	0.09	0.05	0.96	0.94	0.94
v/c Ratio	0.07	0.01	0.01	0.68	0.43	0.00
Control Delay	43.6	33.0	47.0	3.1	2.4	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	33.0	47.0	3.1	2.4	2.0
LOS	D	C	D	A	A	A
Approach Delay	42.7			3.1	2.4	
Approach LOS	D			A	A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 105.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 3.0
 Intersection LOS: A
 Intersection Capacity Utilization 75.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/21/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	1	1	2095	1290	4
Future Volume (veh/h)	10	1	1	2095	1290	4
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	0	1	2328	1433	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	47	42	2	3068	2901	1294
Arrive On Green	0.03	0.00	0.00	0.86	0.82	0.82
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	11	0	1	2328	1433	4
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.6	0.0	0.1	26.1	12.5	0.0
Cycle Q Clear(g_c), s	0.6	0.0	0.1	26.1	12.5	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	47	42	2	3068	2901	1294
V/C Ratio(X)	0.23	0.00	0.41	0.76	0.49	0.00
Avail Cap(c_a), veh/h	389	346	88	3068	2901	1294
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	0.0	50.2	2.7	2.8	1.7
Incr Delay (d2), s/veh	2.5	0.0	36.2	1.8	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.8	1.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.5	0.0	86.4	4.5	3.4	1.7
LnGrp LOS	D	A	F	A	A	A
Approach Vol, veh/h	11			2329	1437	
Approach Delay, s/veh	50.5			4.6	3.4	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		7.2	4.7	88.7
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+11), s		28.1		2.6	2.1	14.5
Green Ext Time (p_c), s		34.9		0.0	0.0	13.6
Intersection Summary						
HCM 6th Ctrl Delay			4.3			
HCM 6th LOS			A			

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

06/21/2021

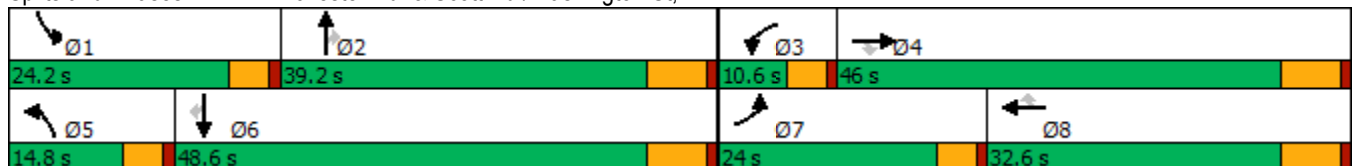


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↑↑↑	↖	↑↑↑	↘
Traffic Volume (vph)	267	137	70	54	156	554	97	1275	271	865	156
Future Volume (vph)	267	137	70	54	156	554	97	1275	271	865	156
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.5	45.5	9.6	16.5	16.5	9.6	35.5	9.6	44.5	44.5
Total Split (s)	24.0	46.0	46.0	10.6	32.6	32.6	14.8	39.2	24.2	48.6	48.6
Total Split (%)	20.0%	38.3%	38.3%	8.8%	27.2%	27.2%	12.3%	32.7%	20.2%	40.5%	40.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	19.4	41.6	41.6	5.8	26.1	26.1	9.4	32.7	19.6	42.9	42.9
Actuated g/C Ratio	0.16	0.35	0.35	0.05	0.22	0.22	0.08	0.27	0.16	0.36	0.36
v/c Ratio	0.98	0.22	0.11	0.67	0.40	1.02	0.73	0.97	0.99	0.50	0.24
Control Delay	99.5	29.9	0.4	91.1	43.9	68.1	83.2	61.2	100.1	31.5	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.5	29.9	0.4	91.1	43.9	68.1	83.2	61.2	100.1	31.5	5.0
LOS	F	C	A	F	D	E	F	E	F	C	A
Approach Delay		64.7			64.8			62.7		42.7	
Approach LOS		E			E			E		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 56.7
 Intersection LOS: E
 Intersection Capacity Utilization 88.4%
 ICU Level of Service E
 Analysis Period (min) 15

























Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	137	70	54	156	554	97	1275	0	271	865	156
Future Volume (veh/h)	267	137	70	54	156	554	97	1275	0	271	865	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	281	144	63	57	164	524	102	1342	0	285	911	144
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	619	525	86	407	345	126	1391	432	291	1864	579
Arrive On Green	0.16	0.33	0.33	0.05	0.22	0.22	0.07	0.27	0.00	0.16	0.37	0.37
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	281	144	63	57	164	524	102	1342	0	285	911	144
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	18.8	6.7	3.3	3.8	9.0	26.1	6.8	31.1	0.0	19.1	16.5	7.6
Cycle Q Clear(g_c), s	18.8	6.7	3.3	3.8	9.0	26.1	6.8	31.1	0.0	19.1	16.5	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	619	525	86	407	345	126	1391	432	291	1864	579
V/C Ratio(X)	0.98	0.23	0.12	0.66	0.40	1.52	0.81	0.96	0.00	0.98	0.49	0.25
Avail Cap(c_a), veh/h	288	619	525	89	407	345	151	1391	432	291	1864	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	29.1	28.0	56.2	40.3	47.0	55.0	43.1	0.0	50.0	29.4	26.6
Incr Delay (d2), s/veh	46.0	0.2	0.1	12.9	0.6	248.4	19.7	16.4	0.0	46.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	2.9	1.2	1.9	4.0	33.5	3.6	14.4	0.0	11.9	6.4	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.1	29.3	28.1	69.1	40.9	295.3	74.6	59.5	0.0	96.8	29.6	26.8
LnGrp LOS	F	C	C	E	D	F	E	E	A	F	C	C
Approach Vol, veh/h		488			745			1444			1340	
Approach Delay, s/veh		67.6			222.0			60.5			43.6	
Approach LOS		E			F			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	39.2	10.4	46.2	13.1	50.3	24.0	32.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	19.6	32.7	6.0	39.5	10.2	42.1	19.4	26.1				
Max Q Clear Time (g_c+I1), s	21.1	33.1	5.8	8.7	8.8	18.5	20.8	28.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	6.2	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			85.7									
HCM 6th LOS			F									

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗		↔	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	23	13	34	10	19	43	1342	88	6	943	40
Future Volume (vph)	23	13	34	10	19	43	1342	88	6	943	40
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5
Total Split (s)	47.7	47.7	47.7	47.7	47.7	10.6	62.7	62.7	9.6	61.7	61.7
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.8%	52.3%	52.3%	8.0%	51.4%	51.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	10.6	10.6	10.6		10.6	6.0	41.6	41.6	5.3	37.3	37.3
Actuated g/C Ratio	0.20	0.20	0.20		0.20	0.11	0.77	0.77	0.10	0.69	0.69
v/c Ratio	0.09	0.04	0.10		0.12	0.23	0.53	0.08	0.03	0.41	0.04
Control Delay	25.6	25.0	2.7		21.5	30.8	6.8	1.7	29.8	8.9	1.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	25.0	2.7		21.5	30.8	6.8	1.7	29.8	8.9	1.9
LOS	C	C	A		C	C	A	A	C	A	A
Approach Delay		14.3			21.5		7.2			8.7	
Approach LOS		B			C		A			A	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 54.2
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.53
 Intersection Signal Delay: 8.2
 Intersection Capacity Utilization 56.0%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	13	34	10	19	8	43	1342	88	6	943	40
Future Volume (veh/h)	23	13	34	10	19	8	43	1342	88	6	943	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	14	30	11	20	6	46	1428	93	6	1003	41
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	337	271	229	123	169	40	82	1997	871	14	1862	831
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.05	0.56	0.56	0.01	0.52	0.52
Sat Flow, veh/h	1385	1870	1585	270	1171	279	1781	3554	1550	1781	3554	1585
Grp Volume(v), veh/h	24	14	30	37	0	0	46	1428	93	6	1003	41
Grp Sat Flow(s),veh/h/ln	1385	1870	1585	1719	0	0	1781	1777	1550	1781	1777	1585
Q Serve(g_s), s	0.0	0.4	0.9	0.0	0.0	0.0	1.4	16.3	1.5	0.2	10.4	0.7
Cycle Q Clear(g_c), s	0.6	0.4	0.9	1.0	0.0	0.0	1.4	16.3	1.5	0.2	10.4	0.7
Prop In Lane	1.00		1.00	0.30		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	337	271	229	333	0	0	82	1997	871	14	1862	831
V/C Ratio(X)	0.07	0.05	0.13	0.11	0.00	0.00	0.56	0.72	0.11	0.42	0.54	0.05
Avail Cap(c_a), veh/h	1213	1453	1231	1370	0	0	193	3608	1574	161	3544	1581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	20.4	20.6	20.7	0.0	0.0	25.9	8.9	5.7	27.3	8.7	6.4
Incr Delay (d2), s/veh	0.1	0.1	0.3	0.1	0.0	0.0	2.3	0.5	0.1	7.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.2	0.3	0.4	0.0	0.0	0.6	3.4	0.3	0.1	2.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	20.5	20.9	20.8	0.0	0.0	28.1	9.4	5.7	34.6	9.0	6.5
LnGrp LOS	C	C	C	C	A	A	C	A	A	C	A	A
Approach Vol, veh/h		68			37			1567			1050	
Approach Delay, s/veh		20.7			20.8			9.7			9.0	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	37.6		12.7	7.1	35.5		12.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	6.0	55.2		* 43				
Max Q Clear Time (g_c+I1), s	2.2	18.3		2.9	3.4	12.4		3.0				
Green Ext Time (p_c), s	0.0	12.8		0.2	0.0	7.5		0.2				

Intersection Summary

HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/21/2021

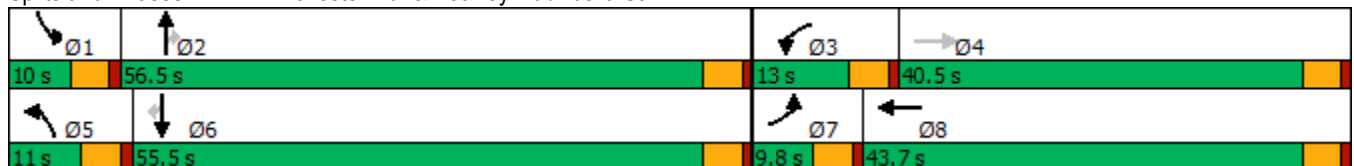


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕↗	↙	↕↗	↙	↕↗	↗	↙	↕↗	↗
Traffic Volume (vph)	15	8	99	12	38	1392	2	64	904	20
Future Volume (vph)	15	8	99	12	38	1392	2	64	904	20
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	9.8	40.5	13.0	43.7	11.0	56.5	56.5	10.0	55.5	55.5
Total Split (%)	8.2%	33.8%	10.8%	36.4%	9.2%	47.1%	47.1%	8.3%	46.3%	46.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	5.2	10.0	9.2	13.8	6.0	55.1	55.1	5.5	58.7	58.7
Actuated g/C Ratio	0.06	0.11	0.10	0.15	0.07	0.60	0.60	0.06	0.64	0.64
v/c Ratio	0.16	0.13	0.59	0.16	0.35	0.69	0.00	0.63	0.42	0.02
Control Delay	46.0	16.6	55.2	12.6	49.9	15.8	0.0	69.7	11.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	16.6	55.2	12.6	49.9	15.8	0.0	69.7	11.0	0.1
LOS	D	B	E	B	D	B	A	E	B	A
Approach Delay		24.1		36.4		16.7			14.5	
Approach LOS		C		D		B			B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91.8
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.4
 Intersection LOS: B
 Intersection Capacity Utilization 66.0%
 ICU Level of Service C
 Analysis Period (min) 15























Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/21/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	8	37	99	12	66	38	1392	2	64	904	20
Future Volume (veh/h)	15	8	37	99	12	66	38	1392	2	64	904	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	8	22	104	13	35	40	1465	2	67	952	17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	179	159	132	277	247	63	2052	915	86	2099	936
Arrive On Green	0.02	0.10	0.10	0.07	0.16	0.16	0.04	0.58	0.58	0.05	0.59	0.59
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	16	8	22	104	13	35	40	1465	2	67	952	17
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.8	0.4	1.1	5.2	0.6	1.7	2.0	26.7	0.0	3.3	13.5	0.4
Cycle Q Clear(g_c), s	0.8	0.4	1.1	5.2	0.6	1.7	2.0	26.7	0.0	3.3	13.5	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	179	159	132	277	247	63	2052	915	86	2099	936
V/C Ratio(X)	0.49	0.04	0.14	0.79	0.05	0.14	0.64	0.71	0.00	0.78	0.45	0.02
Avail Cap(c_a), veh/h	105	710	634	168	773	690	129	2052	915	109	2099	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	36.6	36.9	41.0	32.3	32.8	42.9	13.7	8.0	42.4	10.3	7.6
Incr Delay (d2), s/veh	4.2	0.1	0.4	13.5	0.1	0.3	4.0	2.2	0.0	18.3	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.2	0.5	2.7	0.2	0.7	0.9	8.8	0.0	1.8	4.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	36.7	37.3	54.5	32.4	33.1	46.9	15.8	8.1	60.6	11.0	7.7
LnGrp LOS	D	D	D	D	C	C	D	B	A	E	B	A
Approach Vol, veh/h		46			152			1507			1036	
Approach Delay, s/veh		40.9			47.6			16.6			14.2	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	56.5	11.2	13.5	7.7	57.7	6.1	18.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	52.0	8.5	36.0	6.5	51.0	5.3	39.2				
Max Q Clear Time (g_c+I1), s	5.3	28.7	7.2	3.1	4.0	15.5	2.8	3.7				
Green Ext Time (p_c), s	0.0	10.6	0.0	0.1	0.0	6.7	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay				17.8								
HCM 6th LOS				B								

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

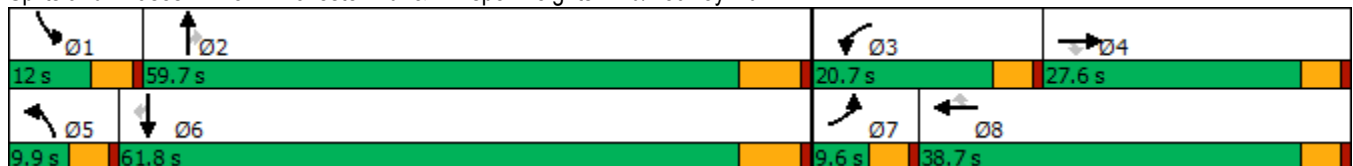
06/21/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	18	11	126	20	110	15	1319	1	123	903	13
Future Volume (vph)	4	18	11	126	20	110	15	1319	1	123	903	13
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	28.5	9.6	25.5	25.5
Total Split (s)	9.6	27.6	27.6	20.7	38.7	38.7	9.9	59.7	59.7	12.0	61.8	61.8
Total Split (%)	8.0%	23.0%	23.0%	17.3%	32.3%	32.3%	8.3%	49.8%	49.8%	10.0%	51.5%	51.5%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	5.4	10.7	10.7	12.8	18.5	18.5	5.5	40.9	40.9	7.2	49.9	49.9
Actuated g/C Ratio	0.06	0.13	0.13	0.15	0.22	0.22	0.06	0.48	0.48	0.08	0.59	0.59
v/c Ratio	0.04	0.08	0.03	0.49	0.05	0.27	0.14	0.81	0.00	0.44	0.45	0.01
Control Delay	48.5	43.6	0.2	45.7	31.1	8.7	50.3	23.8	0.0	48.2	12.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	43.6	0.2	45.7	31.1	8.7	50.3	23.8	0.0	48.2	12.8	0.0
LOS	D	D	A	D	C	A	D	C	A	D	B	A
Approach Delay		30.1			28.7			24.1			16.8	
Approach LOS		C			C			C			B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 85.1
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 21.8
 Intersection LOS: C
 Intersection Capacity Utilization 67.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)

06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↷	↶	↷	↷	↶	↷↷	↷	↷↷	↷↷	↷
Traffic Volume (veh/h)	4	18	11	126	20	110	15	1319	1	123	903	13
Future Volume (veh/h)	4	18	11	126	20	110	15	1319	1	123	903	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	19	4	131	21	60	16	1374	1	128	941	13
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9	213	180	165	377	315	33	1703	759	204	1845	823
Arrive On Green	0.01	0.11	0.11	0.09	0.20	0.20	0.02	0.48	0.48	0.06	0.52	0.52
Sat Flow, veh/h	1781	1870	1585	1781	1870	1562	1781	3554	1584	3456	3554	1585
Grp Volume(v), veh/h	4	19	4	131	21	60	16	1374	1	128	941	13
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1562	1781	1777	1584	1728	1777	1585
Q Serve(g_s), s	0.2	0.7	0.2	5.8	0.7	2.5	0.7	26.2	0.0	2.9	13.8	0.3
Cycle Q Clear(g_c), s	0.2	0.7	0.2	5.8	0.7	2.5	0.7	26.2	0.0	2.9	13.8	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	9	213	180	165	377	315	33	1703	759	204	1845	823
V/C Ratio(X)	0.42	0.09	0.02	0.79	0.06	0.19	0.48	0.81	0.00	0.63	0.51	0.02
Avail Cap(c_a), veh/h	111	536	454	359	796	665	118	2366	1055	320	2460	1097
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	31.7	31.5	35.5	25.8	26.5	38.8	17.7	10.8	36.7	12.6	9.3
Incr Delay (d2), s/veh	10.7	0.2	0.0	3.2	0.1	0.3	3.9	1.5	0.0	1.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.1	2.6	0.3	1.0	0.3	8.8	0.0	1.2	4.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	31.9	31.5	38.7	25.8	26.8	42.8	19.2	10.8	37.9	12.8	9.3
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	A
Approach Vol, veh/h		27			212			1391			1082	
Approach Delay, s/veh		34.6			34.0			19.4			15.7	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	44.8	12.0	13.8	6.1	48.0	5.0	20.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	7.4	53.2	16.1	* 23	5.3	55.3	5.0	* 34				
Max Q Clear Time (g_c+I1), s	4.9	28.2	7.8	2.7	2.7	15.8	2.2	4.5				
Green Ext Time (p_c), s	0.0	10.0	0.1	0.0	0.0	6.7	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

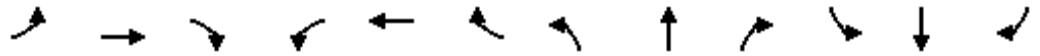
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/21/2021

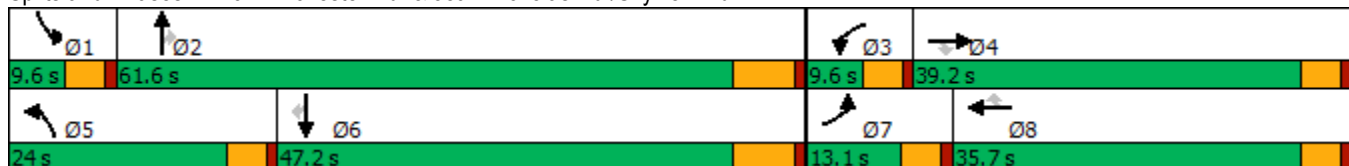


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	79	6	110	9	6	14	214	1414	13	4	890	73
Future Volume (vph)	79	6	110	9	6	14	214	1414	13	4	890	73
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.1	39.2	39.2	9.6	35.7	35.7	24.0	61.6	61.6	9.6	47.2	47.2
Total Split (%)	10.9%	32.7%	32.7%	8.0%	29.8%	29.8%	20.0%	51.3%	51.3%	8.0%	39.3%	39.3%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	8.6	13.0	13.0	5.1	10.1	10.1	15.2	59.4	59.4	5.1	41.2	41.2
Actuated g/C Ratio	0.10	0.15	0.15	0.06	0.12	0.12	0.17	0.68	0.68	0.06	0.47	0.47
v/c Ratio	0.47	0.02	0.31	0.09	0.03	0.05	0.72	0.61	0.01	0.04	0.55	0.09
Control Delay	49.4	34.2	5.0	45.6	39.5	0.3	48.8	10.7	0.0	44.8	19.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	34.2	5.0	45.6	39.5	0.3	48.8	10.7	0.0	44.8	19.7	0.3
LOS	D	C	A	D	D	A	D	B	A	D	B	A
Approach Delay		23.8			21.7			15.6			18.3	
Approach LOS		C			C			B			B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 87.2
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 17.1
 Intersection LOS: B
 Intersection Capacity Utilization 69.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (veh/h)	79	6	110	9	6	14	214	1414	13	4	890	73
Future Volume (veh/h)	79	6	110	9	6	14	214	1414	13	4	890	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	6	65	9	6	1	223	1473	11	4	927	58
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	295	248	20	205	174	259	2142	936	9	1645	724
Arrive On Green	0.06	0.16	0.16	0.01	0.11	0.11	0.15	0.60	0.60	0.01	0.46	0.46
Sat Flow, veh/h	1781	1870	1573	1781	1870	1585	1781	3554	1552	1781	3554	1565
Grp Volume(v), veh/h	82	6	65	9	6	1	223	1473	11	4	927	58
Grp Sat Flow(s),veh/h/ln	1781	1870	1573	1781	1870	1585	1781	1777	1552	1781	1777	1565
Q Serve(g_s), s	4.1	0.2	3.3	0.5	0.3	0.1	11.2	25.7	0.3	0.2	17.3	1.9
Cycle Q Clear(g_c), s	4.1	0.2	3.3	0.5	0.3	0.1	11.2	25.7	0.3	0.2	17.3	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	105	295	248	20	205	174	259	2142	936	9	1645	724
V/C Ratio(X)	0.78	0.02	0.26	0.45	0.03	0.01	0.86	0.69	0.01	0.43	0.56	0.08
Avail Cap(c_a), veh/h	166	706	594	97	634	538	378	2142	936	97	1645	724
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	32.5	33.8	44.9	36.3	36.3	38.2	12.3	7.3	45.3	17.8	13.7
Incr Delay (d2), s/veh	4.6	0.0	0.6	5.8	0.1	0.0	9.2	1.8	0.0	10.9	1.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.1	1.3	0.2	0.1	0.0	5.2	8.2	0.1	0.1	6.4	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.0	32.6	34.4	50.8	36.4	36.3	47.4	14.1	7.3	56.2	19.2	13.9
LnGrp LOS	D	C	C	D	D	D	D	B	A	E	B	B
Approach Vol, veh/h		153			16			1707			989	
Approach Delay, s/veh		41.1			44.5			18.4			19.1	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.1	61.6	5.6	19.1	17.9	48.8	10.0	14.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.1	5.0	* 35	19.4	40.7	8.5	* 31				
Max Q Clear Time (g_c+I1), s	2.2	27.7	2.5	5.3	13.2	19.3	6.1	2.3				
Green Ext Time (p_c), s	0.0	11.5	0.0	0.2	0.2	5.9	0.0	0.0				

Intersection Summary

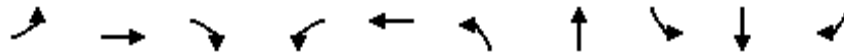
HCM 6th Ctrl Delay	20.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

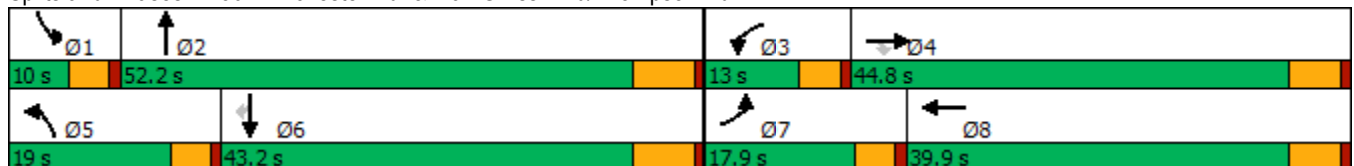


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↗	↘	↗	↘	↗↗	↘	↗↗	↘
Traffic Volume (vph)	99	234	447	260	259	525	1891	86	1138	65
Future Volume (vph)	99	234	447	260	259	525	1891	86	1138	65
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	17.9	44.8	44.8	13.0	39.9	19.0	52.2	10.0	43.2	43.2
Total Split (%)	14.9%	37.3%	37.3%	10.8%	33.3%	15.8%	43.5%	8.3%	36.0%	36.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	10.0	23.1	23.1	8.5	21.5	14.5	46.0	5.4	36.9	36.9
Actuated g/C Ratio	0.10	0.22	0.22	0.08	0.21	0.14	0.44	0.05	0.35	0.35
v/c Ratio	0.60	0.59	0.53	1.87	0.76	2.21	1.46	0.98	0.94	0.10
Control Delay	62.1	41.8	10.6	449.6	52.1	581.6	236.1	140.1	48.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.1	41.8	10.6	449.6	52.1	581.6	236.1	140.1	48.9	0.3
LOS	E	D	B	F	D	F	F	F	D	A
Approach Delay		26.5			243.0		303.6		52.6	
Approach LOS		C			F		F		D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 104.6	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.21	
Intersection Signal Delay: 195.5	Intersection LOS: F
Intersection Capacity Utilization 110.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)

06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	234	447	260	259	22	525	1891	271	86	1138	65
Future Volume (veh/h)	99	234	447	260	259	22	525	1891	271	86	1138	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	241	302	268	267	21	541	1949	214	89	1173	47
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	324	472	153	319	25	262	1508	162	98	1331	586
Arrive On Green	0.07	0.17	0.17	0.09	0.19	0.19	0.15	0.47	0.47	0.06	0.37	0.37
Sat Flow, veh/h	1781	1870	2722	1781	1710	134	1781	3234	348	1781	3554	1564
Grp Volume(v), veh/h	102	241	302	268	0	288	541	1054	1109	89	1173	47
Grp Sat Flow(s),veh/h/ln	1781	1870	1361	1781	0	1844	1781	1777	1805	1781	1777	1564
Q Serve(g_s), s	5.5	12.0	10.1	8.4	0.0	14.8	14.4	45.7	45.7	4.9	30.2	1.9
Cycle Q Clear(g_c), s	5.5	12.0	10.1	8.4	0.0	14.8	14.4	45.7	45.7	4.9	30.2	1.9
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	129	324	472	153	0	344	262	829	842	98	1331	586
V/C Ratio(X)	0.79	0.74	0.64	1.75	0.00	0.84	2.07	1.27	1.32	0.91	0.88	0.08
Avail Cap(c_a), veh/h	242	745	1083	153	0	642	262	829	842	98	1331	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	38.4	37.7	44.8	0.0	38.4	41.8	26.1	26.1	46.0	28.6	19.8
Incr Delay (d2), s/veh	4.1	3.4	1.5	365.2	0.0	5.4	492.9	131.6	151.2	60.4	7.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	5.5	3.4	19.2	0.0	7.1	41.7	46.6	52.0	3.7	12.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	41.8	39.1	410.0	0.0	43.8	534.6	157.7	177.4	106.5	35.8	19.8
LnGrp LOS	D	D	D	F	A	D	F	F	F	F	D	B
Approach Vol, veh/h		645			556			2704			1309	
Approach Delay, s/veh		41.7			220.3			241.2			40.0	
Approach LOS		D			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	52.2	13.0	22.8	19.0	43.2	11.7	24.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.4	45.7	8.4	39.0	14.4	36.7	13.3	34.1				
Max Q Clear Time (g_c+1), s	6.9	47.7	10.4	14.0	16.4	32.2	7.5	16.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.5	0.0	2.8	0.0	1.5				

Intersection Summary

HCM 6th Ctrl Delay	163.8
HCM 6th LOS	F

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/21/2021

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↖↖	↖	↑↑↑	↖	↑↑
Traffic Volume (vph)	334	712	1975	531	1314
Future Volume (vph)	334	712	1975	531	1314
Turn Type	Prot	pm+ov	NA	Prot	NA
Protected Phases	8	1	2	1	6
Permitted Phases	8				
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	30.6	9.5	38.5	9.5	16.5
Total Split (s)	30.6	32.0	57.4	32.0	89.4
Total Split (%)	25.5%	26.7%	47.8%	26.7%	74.5%
Yellow Time (s)	3.6	3.5	5.5	3.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	6.5	4.5	6.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	16.7	44.4	50.9	27.5	83.0
Actuated g/C Ratio	0.15	0.40	0.46	0.25	0.75
v/c Ratio	0.69	1.21	1.15	1.30	0.53
Control Delay	52.0	140.6	100.2	186.6	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	140.6	100.2	186.6	7.0
LOS	D	F	F	F	A
Approach Delay	112.3		100.2		58.7
Approach LOS	F		F		E

Intersection Summary
















Cycle Length: 120
 Actuated Cycle Length: 110.8
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.30
 Intersection Signal Delay: 88.2
 Intersection LOS: F
 Intersection Capacity Utilization 101.8%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/21/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  			 
Traffic Volume (veh/h)	334	712	1975	466	531	1314
Future Volume (veh/h)	334	712	1975	466	531	1314
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	359	562	2124	363	571	1413
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	749	707	1865	309	408	2455
Arrive On Green	0.22	0.22	0.42	0.42	0.23	0.69
Sat Flow, veh/h	3456	1585	4565	728	1781	3647
Grp Volume(v), veh/h	359	562	1629	858	571	1413
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1721	1781	1777
Q Serve(g_s), s	10.9	26.0	50.9	50.9	27.5	24.5
Cycle Q Clear(g_c), s	10.9	26.0	50.9	50.9	27.5	24.5
Prop In Lane	1.00	1.00		0.42	1.00	
Lane Grp Cap(c), veh/h	749	707	1444	730	408	2455
V/C Ratio(X)	0.48	0.80	1.13	1.17	1.40	0.58
Avail Cap(c_a), veh/h	749	707	1444	730	408	2455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	28.5	34.5	34.6	46.3	9.5
Incr Delay (d2), s/veh	0.5	6.3	67.2	92.8	193.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	14.8	32.5	38.1	33.4	7.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.6	34.8	101.8	127.3	240.0	9.9
LnGrp LOS	D	C	F	F	F	A
Approach Vol, veh/h	921		2487			1984
Approach Delay, s/veh	37.5		110.6			76.1
Approach LOS	D		F			E
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	32.0	57.4			89.4	30.6
Change Period (Y+Rc), s	4.5	6.5			6.5	4.6
Max Green Setting (Gmax), s	27.5	50.9			82.9	26.0
Max Q Clear Time (g_c+I1), s	29.5	52.9			26.5	28.0
Green Ext Time (p_c), s	0.0	0.0			13.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			85.4			
HCM 6th LOS			F			

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/21/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↑↑	↗	↖	↑↑
Traffic Volume (vph)	91	32	288	38	60	2260	261	65	1457
Future Volume (vph)	91	32	288	38	60	2260	261	65	1457
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	11.6	75.7	75.7	9.6	73.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	9.7%	63.1%	63.1%	8.0%	61.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	29.2	29.2	29.2	29.2	7.0	69.2	69.2	5.0	67.2
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.06	0.58	0.58	0.04	0.56
v/c Ratio	0.35	0.20	0.95	0.29	0.61	1.16	0.28	0.92	0.84
Control Delay	41.2	17.0	84.5	17.9	79.6	102.9	6.7	142.9	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	17.0	84.5	17.9	79.6	102.9	6.7	142.9	26.8
LOS	D	B	F	B	E	F	A	F	C
Approach Delay		29.6		64.0		92.6			31.4
Approach LOS		C		E		F			C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.2
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 66.9
 Intersection Capacity Utilization 100.0%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service G

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↗	
Traffic Volume (veh/h)	91	32	52	288	38	90	60	2260	261	65	1457	126
Future Volume (veh/h)	91	32	52	288	38	90	60	2260	261	65	1457	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	96	34	38	303	40	90	63	2379	189	68	1534	106
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	202	225	348	128	288	104	2049	914	74	1886	130
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.06	0.58	0.58	0.04	0.56	0.56
Sat Flow, veh/h	1260	807	901	1328	512	1151	1781	3554	1585	1781	3368	231
Grp Volume(v), veh/h	96	0	72	303	0	130	63	2379	189	68	805	835
Grp Sat Flow(s),veh/h/ln	1260	0	1708	1328	0	1663	1781	1777	1585	1781	1777	1823
Q Serve(g_s), s	8.1	0.0	4.0	26.0	0.0	7.6	4.1	69.2	6.9	4.6	43.7	44.7
Cycle Q Clear(g_c), s	15.7	0.0	4.0	30.0	0.0	7.6	4.1	69.2	6.9	4.6	43.7	44.7
Prop In Lane	1.00		0.53	1.00		0.69	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	295	0	427	348	0	416	104	2049	914	74	995	1021
V/C Ratio(X)	0.33	0.00	0.17	0.87	0.00	0.31	0.61	1.16	0.21	0.92	0.81	0.82
Avail Cap(c_a), veh/h	295	0	427	348	0	416	104	2049	914	74	995	1021
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	0.0	35.2	47.6	0.0	36.6	55.2	25.4	12.2	57.3	21.2	21.4
Incr Delay (d2), s/veh	0.2	0.0	0.1	20.4	0.0	0.4	23.5	78.3	0.1	82.9	4.7	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	1.7	11.1	0.0	3.2	2.5	46.8	2.2	3.7	17.0	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	0.0	35.3	68.1	0.0	37.0	78.7	103.7	12.3	140.2	25.9	26.4
LnGrp LOS	D	A	D	E	A	D	E	F	B	F	C	C
Approach Vol, veh/h		168			433			2631			1708	
Approach Delay, s/veh		39.8			58.7			96.5			30.7	
Approach LOS		D			E			F			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	75.7		34.7	11.6	73.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	69.2		* 30	7.0	67.2		* 30				
Max Q Clear Time (g_c+I1), s	6.6	71.2		17.7	6.1	46.7		32.0				
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	6.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	68.5
HCM 6th LOS	E

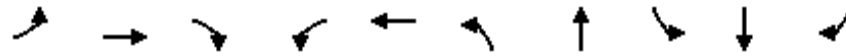
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/21/2021

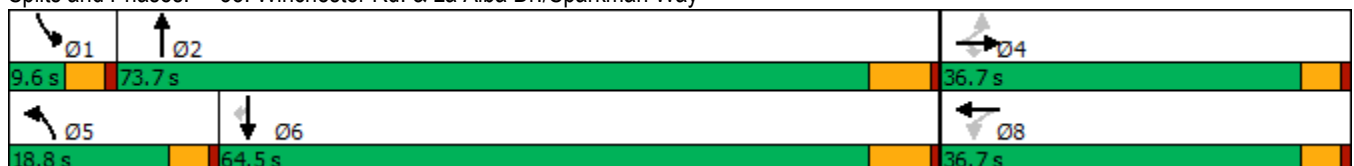


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗		↔	↘	↕	↘	↕	↗
Traffic Volume (vph)	84	10	129	39	4	217	2481	8	1679	109
Future Volume (vph)	84	10	129	39	4	217	2481	8	1679	109
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	18.8	73.7	9.6	64.5	64.5
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	15.7%	61.4%	8.0%	53.8%	53.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	12.3	12.3	12.3		12.3	14.2	75.0	5.0	58.0	58.0
Actuated g/C Ratio	0.12	0.12	0.12		0.12	0.14	0.75	0.05	0.58	0.58
v/c Ratio	0.50	0.04	0.43		0.33	0.90	1.00	0.09	0.85	0.12
Control Delay	51.5	38.5	11.6		35.6	79.4	31.7	49.2	23.0	3.1
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	38.5	11.6		35.6	79.4	31.7	49.2	23.0	3.1
LOS	D	D	B		D	E	C	D	C	A
Approach Delay		27.8			35.6		35.5		21.9	
Approach LOS		C			D		D		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 100.3
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 30.1
 Intersection LOS: C
 Intersection Capacity Utilization 98.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	10	129	39	4	17	217	2481	73	8	1679	109
Future Volume (veh/h)	84	10	129	39	4	17	217	2481	73	8	1679	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	10	61	40	4	7	224	2558	61	8	1731	90
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	198	168	178	20	21	257	2538	60	18	2066	901
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.14	0.72	0.72	0.01	0.58	0.58
Sat Flow, veh/h	1404	1870	1585	1031	190	194	1781	3546	84	1781	3554	1550
Grp Volume(v), veh/h	87	10	61	51	0	0	224	1276	1343	8	1731	90
Grp Sat Flow(s),veh/h/ln	1404	1870	1585	1416	0	0	1781	1777	1853	1781	1777	1550
Q Serve(g_s), s	1.7	0.5	3.4	2.5	0.0	0.0	11.6	67.2	67.2	0.4	37.3	2.4
Cycle Q Clear(g_c), s	4.7	0.5	3.4	3.0	0.0	0.0	11.6	67.2	67.2	0.4	37.3	2.4
Prop In Lane	1.00		1.00	0.78		0.14	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	238	198	168	219	0	0	257	1272	1326	18	2066	901
V/C Ratio(X)	0.37	0.05	0.36	0.23	0.00	0.00	0.87	1.00	1.01	0.45	0.84	0.10
Avail Cap(c_a), veh/h	567	637	540	545	0	0	269	1272	1326	95	2195	957
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	37.7	39.0	38.8	0.0	0.0	39.3	13.3	13.3	46.2	16.0	8.7
Incr Delay (d2), s/veh	0.9	0.1	1.3	0.5	0.0	0.0	23.4	26.1	27.9	6.4	2.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.2	1.4	1.1	0.0	0.0	6.4	24.5	26.2	0.2	12.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	37.8	40.3	39.3	0.0	0.0	62.8	39.4	41.2	52.6	18.9	8.8
LnGrp LOS	D	D	D	D	A	A	E	F	F	D	B	A
Approach Vol, veh/h		158			51			2843			1829	
Approach Delay, s/veh		40.2			39.3			42.1			18.6	
Approach LOS		D			D			D			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	73.7		14.7	18.1	61.1		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	14.2	58.0		* 32				
Max Q Clear Time (g_c+I1), s	2.4	69.2		6.7	13.6	39.3		5.0				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	11.7		0.2				

Intersection Summary

HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 5.2:

EAP (2023) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2023) Conditions - Weekday AM Peak Hour**

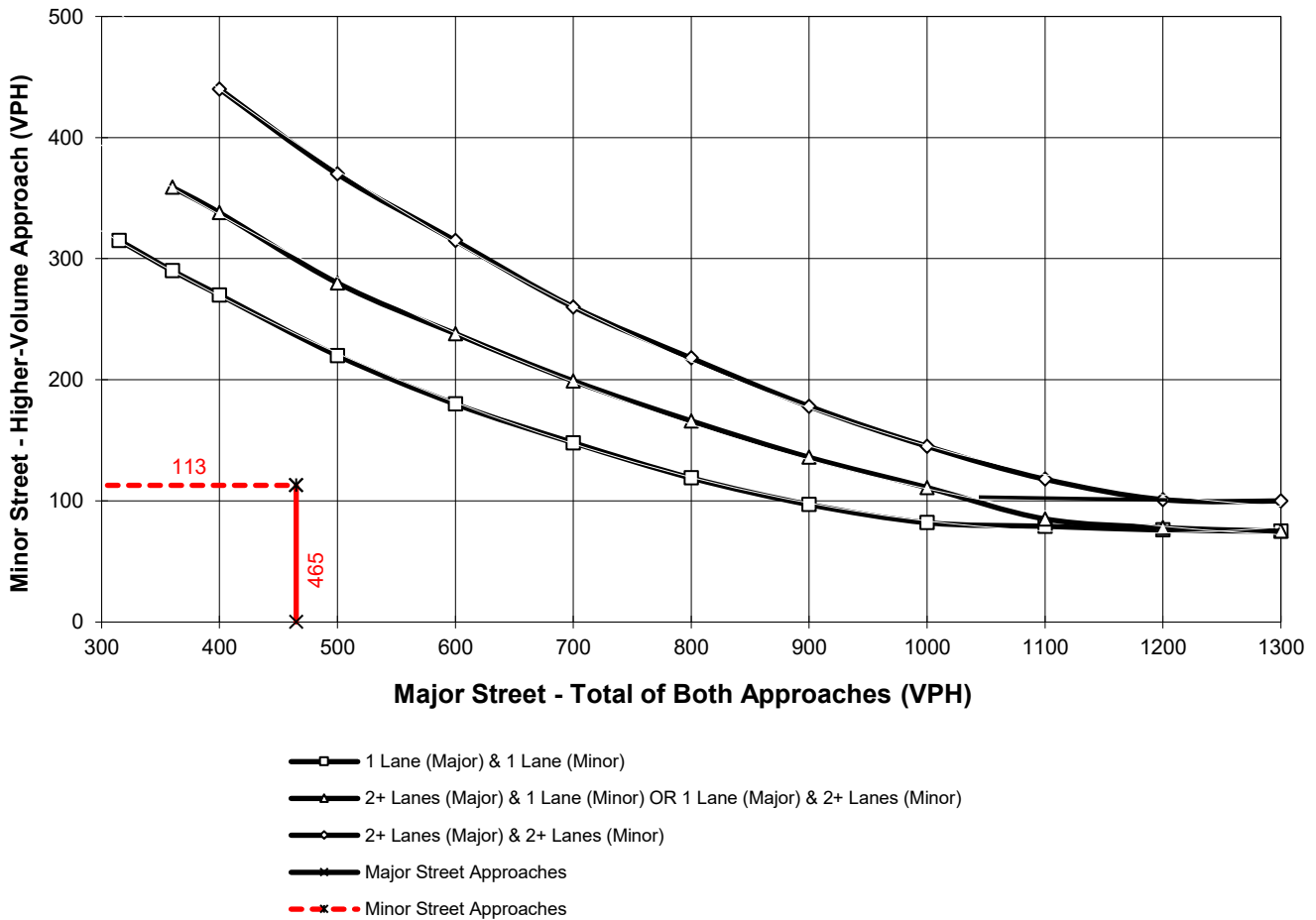
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **465**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Keller Rd.**

High Volume Approach (VPH) = **113**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2023) Conditions - Weekday PM Peak Hour**

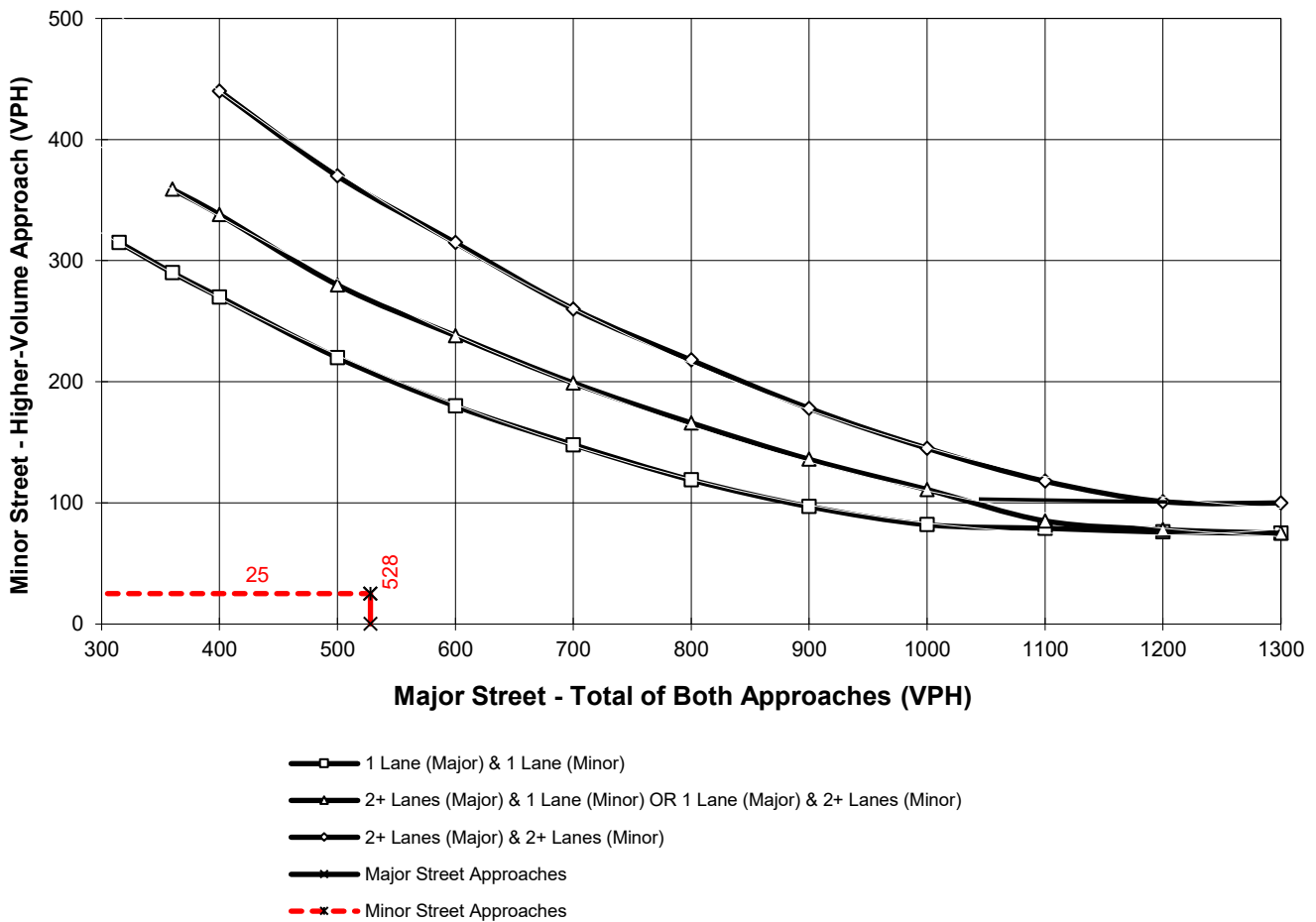
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **528**
 Number of Approach Lanes Major Street = **2**

Minor Street Name = **Whisper Heights Pkwy.**

High Volume Approach (VPH) = **25**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2023) Conditions - Weekday PM Peak Hour**

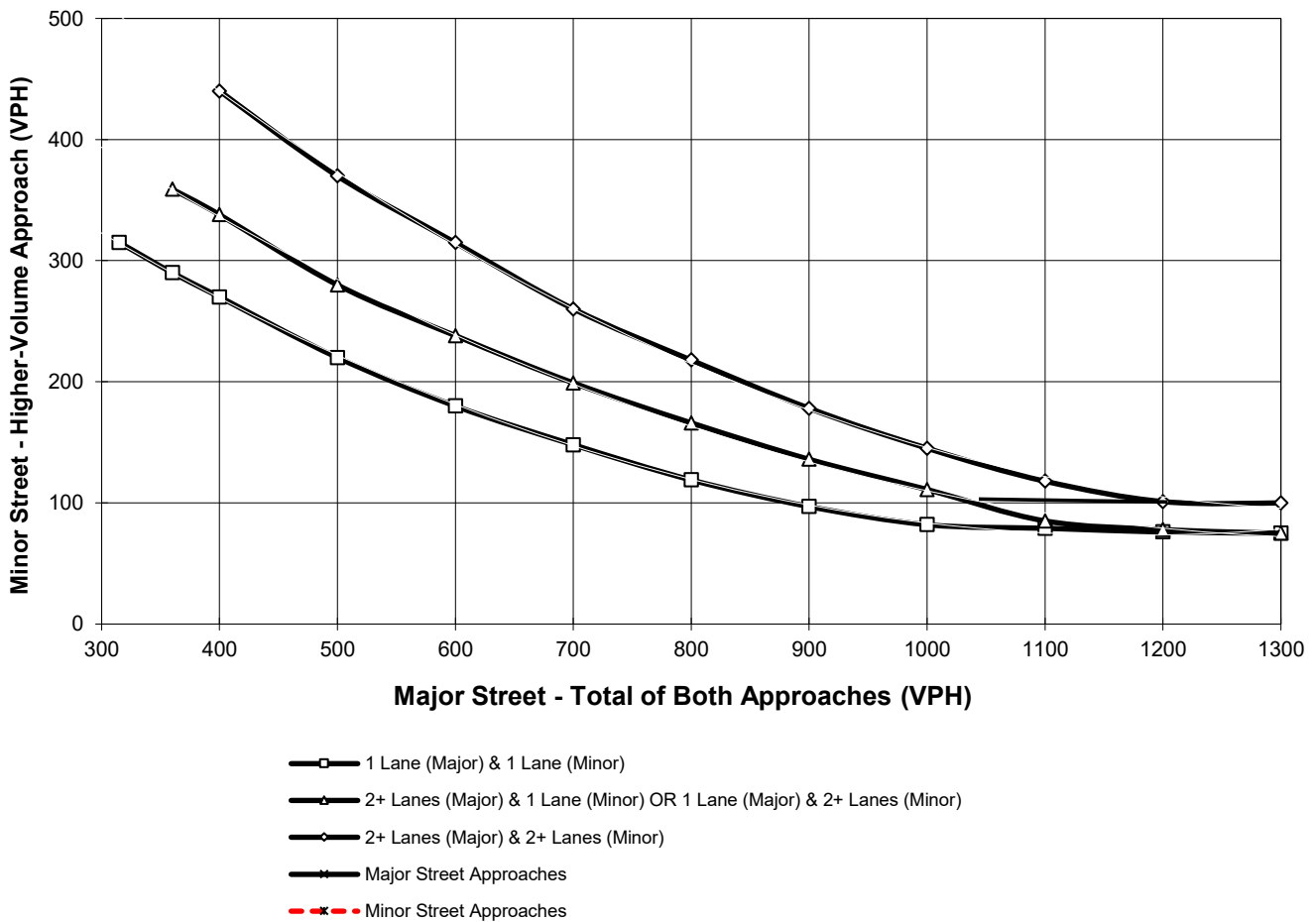
Major Street Name = **Keller Rd.**

Total of Both Approaches (VPH) = **229**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pourroy Rd.**

High Volume Approach (VPH) = **37**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2023) Conditions - Weekday AM Peak Hour**

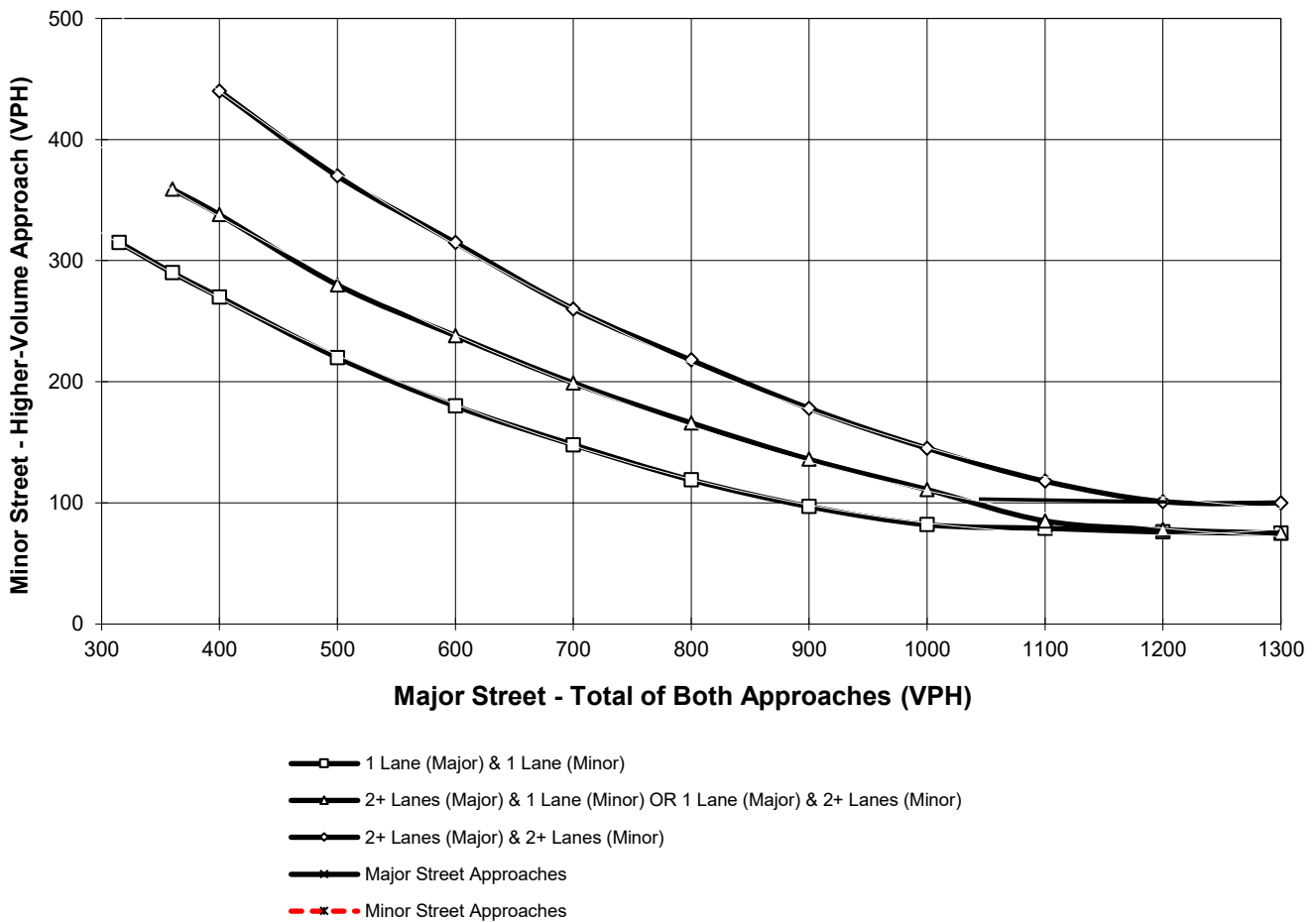
Major Street Name = **Pourroy Rd.**

Total of Both Approaches (VPH) = **63**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pat Rd.**

High Volume Approach (VPH) = **43**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>EAP (2023)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>CP</u>	Critical Approach Speed (Major) <u>45 mph</u>	DATE <u>12/14/11</u>
Major Street: <u>Keller Rd.</u>				CHK <u>CP</u>	Critical Approach Speed (Minor) <u>25 mph</u>	DATE <u>12/14/11</u>
Minor Street: <u>Street A</u>						
Major Street Approach Lanes =			<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u> lane
Major Street Future ADT =			<u>2,125</u>	vpd	Minor Street Future ADT =	<u>460</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input checked="" type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume	XX	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach	Number of lanes for moving traffic on each approach				
<u>Major Street</u>	<u>Minor Street</u>				
1 2,125	1 460	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach	Number of lanes for moving traffic on each approach				
<u>Major Street</u>	<u>Minor Street</u>				
1 2,125	1 460	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more					
	A				
	27%				
	B				
	25%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	<u>EAP (2023)</u>
Jurisdiction: <u>County of Riverside</u>				CALC <u>CP</u>	DATE <u>12/14/11</u>
Major Street: <u>Keller Rd.</u>				CHK <u>CP</u>	DATE <u>12/14/11</u>
Minor Street: <u>Street B</u>				Critical Approach Speed (Major) <u>45</u> mph	
				Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u> lane
Major Street Future ADT =		<u>1,849</u>	vpd	Minor Street Future ADT =	<u>460</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input checked="" type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 1,849</u>	<u>1 460</u>				
<u>2+</u>	<u>1</u>	8,000	5,600	2,400	1,680
<u>2+</u>	<u>2+</u>	9,600	6,720	2,400	1,680
<u>1</u>	<u>2+</u>	9,600	6,720	3,200	2,240
		8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 1,849</u>	<u>1 460</u>				
<u>2+</u>	<u>1</u>	12,000	8,400	1,200	850
<u>2+</u>	<u>2+</u>	14,400	10,080	1,200	850
<u>1</u>	<u>2+</u>	14,400	10,080	1,600	1,120
		12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	27%				
	<u>B</u>				
	22%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



APPENDIX 5.3:

EAP (2023) CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Queues

Keller Crossing (JN:13649)

06/22/2021

1: I-215 SB Ramps & Scott Rd.

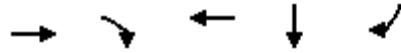


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	736	735	949	680	652	137	137
v/c Ratio	0.40	0.63	0.52	0.59	0.57	0.23	0.23
Control Delay	9.5	3.5	10.7	3.3	19.0	5.3	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	3.5	10.7	3.3	19.0	5.3	5.3
Queue Length 50th (ft)	70	0	98	0	87	1	1
Queue Length 95th (ft)	134	36	181	35	177	35	35
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	3440	1559	3440	1558	2568	1158	1158
Starvation Cap Reductn	0	0	121	25	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.47	0.29	0.44	0.25	0.12	0.12

Intersection Summary

Queues

2: I-215 SB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1416	495	1854	251	844
v/c Ratio	0.59	0.50	0.78	0.37	0.76
Control Delay	20.6	3.5	23.5	24.1	30.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	3.5	23.5	24.1	30.2
Queue Length 50th (ft)	235	0	331	114	250
Queue Length 95th (ft)	335	57	470	196	367
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	3051	1125	2959	949	1517
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.44	0.63	0.26	0.56

Intersection Summary

Queues

3: I-215 NB Ramps & Scott Rd.



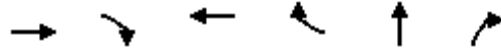
Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	208	1104	1240	453	145	144	150	150
v/c Ratio	0.83	0.45	0.51	0.37	0.39	0.39	0.45	0.45
Control Delay	32.6	3.7	4.1	1.1	6.4	6.2	12.4	12.4
Queue Delay	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0
Total Delay	32.6	3.8	4.2	1.2	6.4	6.2	12.4	12.4
Queue Length 50th (ft)	25	44	52	0	0	0	0	0
Queue Length 95th (ft)	#186	106	125	14	30	28	65	65
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	354	3416	3416	1544	561	561	534	534
Starvation Cap Reductn	0	406	875	379	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.37	0.49	0.39	0.26	0.26	0.28	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

4: I-215 NB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	945	686	1491	241	309	286
v/c Ratio	0.38	0.62	0.59	0.27	0.63	0.56
Control Delay	10.7	3.8	12.9	2.4	25.2	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	3.8	12.9	2.4	25.2	17.4
Queue Length 50th (ft)	72	0	132	0	92	54
Queue Length 95th (ft)	138	51	242	34	222	161
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	4735	1466	4735	1490	1115	1051
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.47	0.31	0.16	0.28	0.27

Intersection Summary

Queues
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	23	27	44	11	24	880	11	1602	27
v/c Ratio	0.11	0.10	0.15	0.05	0.18	0.32	0.01	0.62	0.02
Control Delay	33.5	32.8	4.8	32.9	39.9	3.7	0.0	8.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	32.8	4.8	32.9	39.9	3.7	0.0	8.8	0.5
Queue Length 50th (ft)	9	11	0	4	10	65	0	163	0
Queue Length 95th (ft)	34	38	15	21	37	85	0	342	3
Internal Link Dist (ft)		125		754		1334		662	
Turn Bay Length (ft)	100				530		530		540
Base Capacity (vph)	894	1192	1040	895	131	2866	1293	2768	1250
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.02	0.04	0.01	0.18	0.31	0.01	0.58	0.02

Intersection Summary

Queues

1: I-215 SB Ramps & Scott Rd.

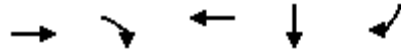


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1113	470	1526	421	584	143	143
v/c Ratio	0.51	0.40	0.69	0.37	0.64	0.33	0.33
Control Delay	9.4	1.8	12.2	1.7	31.3	21.5	21.5
Queue Delay	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Total Delay	9.4	1.8	12.3	1.8	31.3	21.5	21.5
Queue Length 50th (ft)	134	0	222	0	125	37	37
Queue Length 95th (ft)	261	35	425	34	261	121	121
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	3181	1470	3181	1465	1596	724	724
Starvation Cap Reductn	0	0	485	233	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.32	0.57	0.34	0.37	0.20	0.20

Intersection Summary

Queues

2: I-215 SB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1561	375	1559	303	724
v/c Ratio	0.65	0.41	0.66	0.47	0.68
Control Delay	18.8	3.2	17.7	24.5	24.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	3.2	17.7	24.5	24.4
Queue Length 50th (ft)	211	0	198	117	155
Queue Length 95th (ft)	357	49	339	241	287
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	3628	1187	3488	1133	1813
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.43	0.32	0.45	0.27	0.40

Intersection Summary

Queues

3: I-215 NB Ramps & Scott Rd.



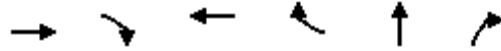
Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	247	1432	1206	551	397	397	361	360
v/c Ratio	1.00	0.58	0.49	0.43	0.98	0.98	0.83	0.83
Control Delay	78.5	10.2	9.0	1.6	78.2	78.2	47.0	46.7
Queue Delay	0.0	2.2	8.2	1.6	0.0	0.0	0.0	0.0
Total Delay	78.5	12.4	17.2	3.2	78.2	78.2	47.0	46.7
Queue Length 50th (ft)	171	264	201	0	274	274	200	198
Queue Length 95th (ft)	#364	318	244	31	#492	#492	#368	#366
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	247	2477	2477	1273	405	405	436	436
Starvation Cap Reductn	0	864	1232	516	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.89	0.97	0.73	0.98	0.98	0.83	0.83

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

4: I-215 NB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	1215	594	1106	136	483	442
v/c Ratio	0.57	0.63	0.52	0.19	0.71	0.72
Control Delay	19.2	6.4	18.6	4.1	25.8	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.2	6.4	18.6	4.1	25.8	26.6
Queue Length 50th (ft)	149	18	132	0	176	161
Queue Length 95th (ft)	290	125	259	36	393	367
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	3634	1242	3634	1145	1226	1113
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.48	0.30	0.12	0.39	0.40

Intersection Summary

Queues
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	24	14	36	40	46	1428	94	6	1003	43
v/c Ratio	0.09	0.04	0.10	0.12	0.23	0.53	0.08	0.03	0.41	0.04
Control Delay	25.6	25.0	2.7	21.5	30.8	6.8	1.7	29.8	8.9	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	25.0	2.7	21.5	30.8	6.8	1.7	29.8	8.9	1.9
Queue Length 50th (ft)	6	4	0	8	14	133	0	2	132	0
Queue Length 95th (ft)	32	22	8	41	54	285	16	14	176	9
Internal Link Dist (ft)		125		754		1334			662	
Turn Bay Length (ft)	100				530		530	540		540
Base Capacity (vph)	1135	1504	1292	1317	208	3337	1465	173	3316	1487
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.01	0.03	0.03	0.22	0.43	0.06	0.03	0.30	0.03

Intersection Summary

APPENDIX 5.4:
**EAP (2023) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH
IMPROVEMENTS**

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Timings
7: Whitewood Rd. & Clinton Keith Rd.

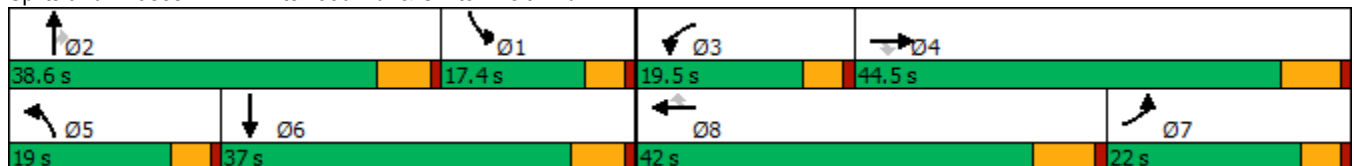
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	334	806	150	239	1107	108	123	114	94	83	362
Future Volume (vph)	334	806	150	239	1107	108	123	114	94	83	362
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	36.8	36.8	9.6	36.8
Total Split (s)	22.0	44.5	44.5	19.5	42.0	42.0	19.0	38.6	38.6	17.4	37.0
Total Split (%)	18.3%	37.1%	37.1%	16.3%	35.0%	35.0%	15.8%	32.2%	32.2%	14.5%	30.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	14.9	33.9	33.9	12.2	31.2	31.2	11.9	16.1	16.1	25.1	26.6
Actuated g/C Ratio	0.14	0.32	0.32	0.11	0.29	0.29	0.11	0.15	0.15	0.24	0.25
v/c Ratio	0.75	0.51	0.27	0.66	0.75	0.20	0.70	0.24	0.26	0.22	0.85
Control Delay	56.1	31.5	5.8	55.4	38.4	1.7	67.6	49.0	1.6	33.5	37.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	31.5	5.8	55.4	38.4	1.7	67.6	49.0	1.6	33.5	37.9
LOS	E	C	A	E	D	A	E	D	A	C	D
Approach Delay		34.9			38.5			42.5			37.5
Approach LOS		C			D			D			D

Intersection Summary

































Cycle Length: 120
 Actuated Cycle Length: 106.7
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 37.4
 Intersection LOS: D
 Intersection Capacity Utilization 78.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 7: Whitewood Rd. & Clinton Keith Rd.

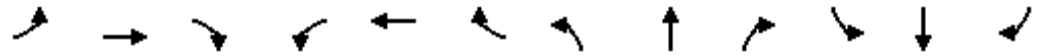
Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (veh/h)	334	806	150	239	1107	108	123	114	94	83	362	384
Future Volume (veh/h)	334	806	150	239	1107	108	123	114	94	83	362	384
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	371	896	106	266	1230	92	137	127	21	92	402	288
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	449	1908	539	343	1629	460	168	370	165	398	488	346
Arrive On Green	0.13	0.34	0.34	0.10	0.29	0.29	0.09	0.10	0.10	0.22	0.25	0.25
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	3554	1585	1781	1986	1408
Grp Volume(v), veh/h	371	896	106	266	1230	92	137	127	21	92	359	331
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1617
Q Serve(g_s), s	9.8	12.0	4.5	7.0	19.1	4.2	7.2	3.2	0.9	4.1	18.4	18.6
Cycle Q Clear(g_c), s	9.8	12.0	4.5	7.0	19.1	4.2	7.2	3.2	0.9	4.1	18.4	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.87
Lane Grp Cap(c), veh/h	449	1908	539	343	1629	460	168	370	165	398	436	397
V/C Ratio(X)	0.83	0.47	0.20	0.78	0.76	0.20	0.81	0.34	0.13	0.23	0.82	0.83
Avail Cap(c_a), veh/h	645	2219	627	553	2073	586	267	1213	541	398	577	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	24.9	22.4	42.4	31.0	25.7	42.7	40.0	23.3	30.5	34.3	34.4
Incr Delay (d2), s/veh	3.9	0.2	0.2	1.4	1.2	0.2	4.6	0.5	0.3	0.1	7.2	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	4.9	1.6	3.0	8.0	1.5	3.3	1.4	0.4	1.7	8.3	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	25.1	22.6	43.9	32.2	25.9	47.3	40.5	23.6	30.7	41.5	42.9
LnGrp LOS	D	C	C	D	C	C	D	D	C	C	D	D
Approach Vol, veh/h		1373			1588			285			782	
Approach Delay, s/veh		30.2			33.8			42.5			40.8	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.3	15.8	13.8	39.2	13.7	29.4	18.6	34.4				
Change Period (Y+Rc), s	5.8	* 5.8	4.6	6.5	4.6	5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	12.8	* 33	14.9	38.0	14.4	31.2	17.4	* 36				
Max Q Clear Time (g_c+I1), s	6.1	5.2	9.0	14.0	9.2	20.6	11.8	21.1				
Green Ext Time (p_c), s	0.0	0.7	0.2	6.0	0.1	2.9	0.4	6.7				
Intersection Summary												
HCM 6th Ctrl Delay			34.6									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)

06/24/2021

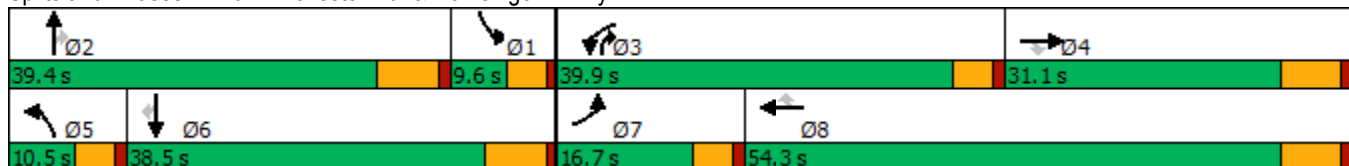


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔	↑↑↑	↔	↔	↑↑↑	↔
Traffic Volume (vph)	172	937	140	850	848	14	62	371	656	7	985	235
Future Volume (vph)	172	937	140	850	848	14	62	371	656	7	985	235
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.5	16.5	9.6	38.5	38.5	9.6	38.5	9.6	9.6	38.5	38.5
Total Split (s)	16.7	31.1	31.1	39.9	54.3	54.3	10.5	39.4	39.9	9.6	38.5	38.5
Total Split (%)	13.9%	25.9%	25.9%	33.3%	45.3%	45.3%	8.8%	32.8%	33.3%	8.0%	32.1%	32.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	10.0	24.1	24.1	32.5	46.6	46.6	6.0	32.0	70.2	8.1	28.8	28.8
Actuated g/C Ratio	0.09	0.22	0.22	0.29	0.42	0.42	0.05	0.29	0.63	0.07	0.26	0.26
v/c Ratio	0.58	0.82	0.29	0.88	0.39	0.02	0.69	0.25	0.67	0.05	0.72	0.42
Control Delay	58.0	49.5	2.4	49.0	24.0	0.1	91.1	33.0	15.6	48.6	41.5	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	49.5	2.4	49.0	24.0	0.1	91.1	33.0	15.6	48.6	41.5	6.6
LOS	E	D	A	D	C	A	F	C	B	D	D	A
Approach Delay		45.4			36.2			25.8			34.9	
Approach LOS		D			D			C			C	

Intersection Summary



































Cycle Length: 120
 Actuated Cycle Length: 111.2
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 35.9
 Intersection LOS: D
 Intersection Capacity Utilization 84.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			  			  	
Traffic Volume (veh/h)	172	937	140	850	848	14	62	371	656	7	985	235
Future Volume (veh/h)	172	937	140	850	848	14	62	371	656	7	985	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	997	93	904	902	9	66	395	459	7	1048	223
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	250	1200	339	974	2340	661	99	940	699	205	1375	388
Arrive On Green	0.07	0.21	0.21	0.41	0.42	0.42	0.06	0.17	0.17	0.11	0.25	0.25
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	183	997	93	904	902	9	66	395	459	7	1048	223
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.3	17.8	5.1	25.3	11.7	0.2	3.8	6.6	11.8	0.4	18.1	12.9
Cycle Q Clear(g_c), s	5.3	17.8	5.1	25.3	11.7	0.2	3.8	6.6	11.8	0.4	18.1	12.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	250	1200	339	974	2340	661	99	940	699	205	1375	388
V/C Ratio(X)	0.73	0.83	0.27	0.93	0.39	0.01	0.67	0.42	0.66	0.03	0.76	0.57
Avail Cap(c_a), veh/h	412	1319	373	1202	2564	724	100	1765	932	205	1716	485
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	39.3	34.3	29.9	21.2	6.2	48.5	39.0	7.9	41.1	36.7	34.7
Incr Delay (d2), s/veh	1.5	4.3	0.4	9.9	0.1	0.0	12.5	0.3	1.1	0.0	1.6	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	8.1	1.9	9.5	4.6	0.1	1.9	2.9	4.2	0.2	7.9	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	43.6	34.8	39.8	21.3	6.2	61.0	39.3	9.0	41.2	38.3	36.0
LnGrp LOS	D	D	C	D	C	A	E	D	A	D	D	D
Approach Vol, veh/h		1273			1815			920			1278	
Approach Delay, s/veh		43.8			30.4			25.7			37.9	
Approach LOS		D			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.5	24.0	33.2	28.9	10.4	32.1	12.0	50.1				
Change Period (Y+Rc), s	6.5	* 6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	* 33	35.3	24.6	5.9	32.0	12.1	47.8				
Max Q Clear Time (g_c+I1), s	2.4	13.8	27.3	19.8	5.8	20.1	7.3	13.7				
Green Ext Time (p_c), s	0.0	3.8	1.3	2.6	0.0	5.5	0.1	6.2				
Intersection Summary												
HCM 6th Ctrl Delay			34.6									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

06/24/2021

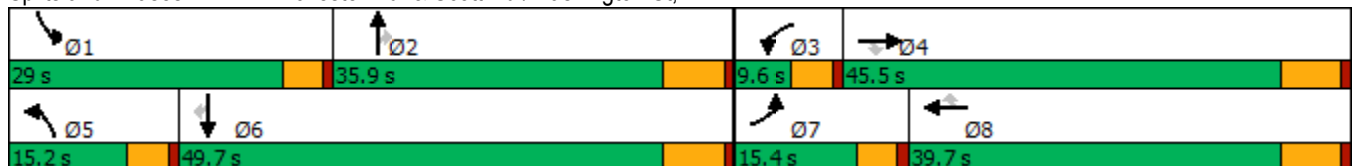


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR	Ø3
Lane Configurations	↖↗	↑↑	↖	↑	↖	↖	↑↑↑	↖	↑↑↑	↖	
Traffic Volume (vph)	148	120	92	98	188	91	758	293	1439	239	
Future Volume (vph)	148	120	92	98	188	91	758	293	1439	239	
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4		8		5	2	1	6		3
Permitted Phases			4		8						6
Detector Phase	7	4	4	8	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	45.5	45.5	16.5	16.5	9.6	35.5	9.6	44.5	44.5	9.6
Total Split (s)	15.4	45.5	45.5	39.7	39.7	15.2	35.9	29.0	49.7	49.7	9.6
Total Split (%)	12.8%	37.9%	37.9%	33.1%	33.1%	12.7%	29.9%	24.2%	41.4%	41.4%	8%
Yellow Time (s)	3.6	5.5	5.5	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	6.5	6.5	4.6	6.5	4.6	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	None
Act Effct Green (s)	8.4	24.7	24.7	11.6	11.6	8.9	22.7	20.6	37.2	37.2	
Actuated g/C Ratio	0.10	0.29	0.29	0.13	0.13	0.10	0.26	0.24	0.43	0.43	
v/c Ratio	0.46	0.12	0.17	0.41	0.52	0.53	0.55	0.74	0.63	0.31	
Control Delay	43.7	25.1	1.6	43.0	11.1	51.3	29.1	43.3	21.5	3.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.7	25.1	1.6	43.0	11.1	51.3	29.1	43.3	21.5	3.5	
LOS	D	C	A	D	B	D	C	D	C	A	
Approach Delay		26.7		22.0			31.5		22.5		
Approach LOS		C		C			C		C		

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 86.1
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 25.1
 Intersection LOS: C
 Intersection Capacity Utilization 58.4%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)
 06/24/2021

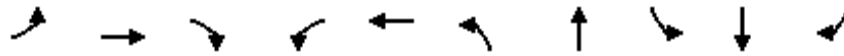
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 						  			  	
Traffic Volume (veh/h)	148	120	92	0	98	188	91	758	0	293	1439	239
Future Volume (veh/h)	148	120	92	0	98	188	91	758	0	293	1439	239
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	157	128	54	0	104	-39	97	806	0	312	1531	-198
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	1025	434	3	262	222	125	1550	438	359	2288	646
Arrive On Green	0.07	0.27	0.27	0.00	0.14	0.00	0.07	0.28	0.00	0.20	0.41	0.00
Sat Flow, veh/h	3563	3741	1585	1781	1870	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	157	128	54	0	104	-39	97	806	0	312	1531	-198
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.0	1.8	1.8	0.0	3.6	0.0	3.8	8.6	0.0	12.0	15.8	0.0
Cycle Q Clear(g_c), s	3.0	1.8	1.8	0.0	3.6	0.0	3.8	8.6	0.0	12.0	15.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	247	1025	434	3	262	222	125	1550	438	359	2288	646
V/C Ratio(X)	0.64	0.12	0.12	0.00	0.40	-0.18	0.78	0.52	0.00	0.87	0.67	-0.31
Avail Cap(c_a), veh/h	542	2056	871	126	875	742	266	2325	657	613	3417	965
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.1	19.4	19.4	0.0	27.8	0.0	32.4	21.7	0.0	27.4	17.1	0.0
Incr Delay (d2), s/veh	1.0	0.1	0.1	0.0	1.0	0.0	3.9	0.3	0.0	3.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.7	0.6	0.0	1.5	0.0	1.6	3.3	0.0	4.7	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	19.4	19.5	0.0	28.8	0.0	36.3	22.0	0.0	30.5	17.5	0.0
LnGrp LOS	C	B	B	A	C	A	D	C	A	C	B	A
Approach Vol, veh/h		339			65			903			1645	
Approach Delay, s/veh		25.8			46.0			23.5			22.0	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.9	26.1	0.0	25.9	9.6	35.4	9.5	16.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	24.4	29.4	5.0	39.0	10.6	43.2	10.8	33.2				
Max Q Clear Time (g_c+I1), s	14.0	10.6	0.0	3.8	5.8	17.8	5.0	5.6				
Green Ext Time (p_c), s	0.3	4.6	0.0	0.8	0.0	11.2	0.1	0.4				
Intersection Summary												
HCM 6th Ctrl Delay				23.4								
HCM 6th LOS				C								

Timings

Keller Crossing (JN:13649)

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

06/24/2021

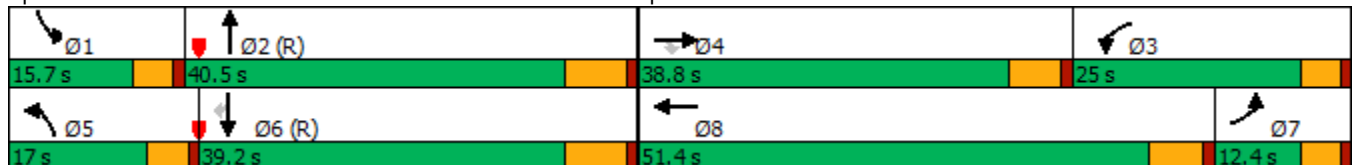


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗↘	↖	↗	↖↗	↑↑↗	↖	↑↑↑	↗
Traffic Volume (vph)	38	195	757	299	321	376	807	63	1617	72
Future Volume (vph)	38	195	757	299	321	376	807	63	1617	72
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.8	38.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	12.4	38.8	38.8	25.0	51.4	17.0	40.5	15.7	39.2	39.2
Total Split (%)	10.3%	32.3%	32.3%	20.8%	42.8%	14.2%	33.8%	13.1%	32.7%	32.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	3.6	5.5	6.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	14.4	24.4	23.4	27.4	41.5	15.8	42.9	9.6	34.8	33.8
Actuated g/C Ratio	0.12	0.20	0.20	0.23	0.35	0.13	0.36	0.08	0.29	0.28
v/c Ratio	0.19	0.55	0.83	0.80	0.59	0.87	0.50	0.48	0.81	0.14
Control Delay	47.7	47.2	26.6	59.9	37.8	65.8	28.4	63.5	43.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	47.2	26.6	59.9	37.8	65.8	28.4	63.5	43.2	0.5
LOS	D	D	C	E	D	E	C	E	D	A
Approach Delay		31.5			47.9		39.3		42.2	
Approach LOS		C			D		D		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 13 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 39.9
 Intersection LOS: D
 Intersection Capacity Utilization 79.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)

06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	195	757	299	321	30	376	807	104	63	1617	72
Future Volume (veh/h)	38	195	757	299	321	30	376	807	104	63	1617	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	210	249	322	345	-59	404	868	21	68	1739	55
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	278	439	318	348	0	398	2566	62	101	3109	646
Arrive On Green	0.14	0.15	0.14	0.27	0.19	0.00	0.22	0.71	0.92	0.06	0.62	0.41
Sat Flow, veh/h	1781	1870	3127	1781	1870	0	3563	5456	132	1781	7481	1585
Grp Volume(v), veh/h	41	210	249	322	286	0	404	595	294	68	1739	55
Grp Sat Flow(s),veh/h/ln	1781	1870	1564	1781	1870	0	1781	1870	1847	1781	1870	1585
Q Serve(g_s), s	2.4	12.9	7.0	21.4	17.6	0.0	13.4	7.4	7.1	4.5	16.1	1.6
Cycle Q Clear(g_c), s	2.4	12.9	7.0	21.4	17.6	0.0	13.4	7.4	7.1	4.5	16.1	1.6
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	251	278	439	318	348	0	398	1759	868	101	3109	646
V/C Ratio(X)	0.16	0.76	0.57	1.01	0.82	0.00	1.02	0.34	0.34	0.67	0.56	0.09
Avail Cap(c_a), veh/h	251	530	860	318	726	0	398	1759	868	180	3109	646
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	2.00	1.50	2.00	1.00	1.50	1.00
Upstream Filter(I)	0.36	0.36	0.36	1.00	1.00	0.00	0.89	0.89	0.89	0.87	0.87	0.87
Uniform Delay (d), s/veh	45.3	49.0	29.2	43.9	46.9	0.0	46.6	10.4	9.9	55.5	16.2	8.4
Incr Delay (d2), s/veh	0.0	1.5	0.4	54.0	4.8	0.0	46.5	0.5	0.9	2.5	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	6.0	2.7	13.5	8.7	0.0	7.5	2.6	2.5	2.0	5.2	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	50.5	29.7	98.0	51.8	0.0	93.1	10.9	10.8	58.0	16.9	8.6
LnGrp LOS	D	D	C	F	D	A	F	B	B	E	B	A
Approach Vol, veh/h		500			608			1293			1862	
Approach Delay, s/veh		39.7			76.2			36.6			18.1	
Approach LOS		D			E			D			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	61.9	25.0	22.6	17.0	55.4	20.5	27.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	11.1	34.0	20.4	33.0	12.4	32.7	7.8	45.6				
Max Q Clear Time (g_c+I1), s	6.5	9.4	23.4	14.9	15.4	18.1	4.4	19.6				
Green Ext Time (p_c), s	0.0	5.2	0.0	1.9	0.0	9.4	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			34.5									
HCM 6th LOS			C									

Timings
31: Winchester Rd. & Benton Rd.

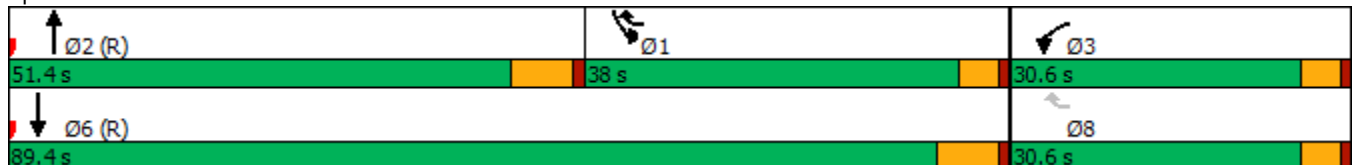
Keller Crossing (JN:13649)
06/24/2021

	↙	↖	↑	↘	↓	∅8
Lane Group	WBL	WBR	NBT	SBL	SBT	∅8
Lane Configurations	↔↔	↔	↔↔↔	↔↔	↔↔↔	
Traffic Volume (vph)	390	333	953	454	2220	
Future Volume (vph)	390	333	953	454	2220	
Turn Type	Prot	pm+ov	NA	Prot	NA	
Protected Phases	3	1	2	1	6	8
Permitted Phases		8				
Detector Phase	3	1	2	1	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.6	9.6	38.5	9.6	16.5	30.6
Total Split (s)	30.6	38.0	51.4	38.0	89.4	30.6
Total Split (%)	25.5%	31.7%	42.8%	31.7%	74.5%	26%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag		Lag	Lead	Lag		
Lead-Lag Optimize?		Yes	Yes	Yes		
Recall Mode	None	None	C-Min	None	C-Min	None
Act Effct Green (s)	18.3	46.1	62.8	23.3	90.6	
Actuated g/C Ratio	0.15	0.38	0.52	0.19	0.76	
v/c Ratio	0.76	0.56	0.42	0.70	0.55	
Control Delay	58.3	28.9	18.4	36.9	10.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.3	28.9	18.4	36.9	10.4	
LOS	E	C	B	D	B	
Approach Delay	44.7		18.4		14.9	
Approach LOS	D		B		B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 20.5
 Intersection LOS: C
 Intersection Capacity Utilization 63.3%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶↷	↶	↶↶↶↷		↶↷	↶↶↶
Traffic Volume (veh/h)	390	333	953	197	454	2220
Future Volume (veh/h)	390	333	953	197	454	2220
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	411	325	1003	44	478	2337
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	495	975	1270	56	1697	4312
Arrive On Green	0.14	0.14	0.36	0.24	0.95	1.00
Sat Flow, veh/h	3563	1585	5335	234	3563	5611
Grp Volume(v), veh/h	411	325	703	344	478	2337
Grp Sat Flow(s),veh/h/ln	1781	1585	1870	1828	1781	1870
Q Serve(g_s), s	13.5	0.0	20.2	20.4	1.0	0.0
Cycle Q Clear(g_c), s	13.5	0.0	20.2	20.4	1.0	0.0
Prop In Lane	1.00	1.00		0.13	1.00	
Lane Grp Cap(c), veh/h	495	975	890	435	1697	4312
V/C Ratio(X)	0.83	0.33	0.79	0.79	0.28	0.54
Avail Cap(c_a), veh/h	772	1098	1400	684	1697	4312
HCM Platoon Ratio	1.00	1.00	1.50	1.00	2.00	1.50
Upstream Filter(I)	1.00	1.00	0.83	0.83	0.48	0.48
Uniform Delay (d), s/veh	50.3	11.2	35.9	36.8	1.5	0.0
Incr Delay (d2), s/veh	2.4	0.1	5.9	11.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	4.1	8.3	9.0	0.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.7	11.2	41.8	48.4	1.5	0.2
LnGrp LOS	D	B	D	D	A	A
Approach Vol, veh/h	736		1047			2815
Approach Delay, s/veh	34.4		44.0			0.5
Approach LOS	C		D			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	63.7	35.1			98.7	21.3
Change Period (Y+Rc), s	6.5	* 6.5			6.5	4.6
Max Green Setting (Gmax), s	33.4	* 45			82.9	26.0
Max Q Clear Time (g_c+I1), s	3.0	22.4			2.0	15.5
Green Ext Time (p_c), s	0.8	6.2			35.7	1.2

Intersection Summary

HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↗	↖↗	↗	↖	↑↑↑	↗	↖	↑↑↑
Traffic Volume (vph)	173	31	294	37	23	970	287	171	2255
Future Volume (vph)	173	31	294	37	23	970	287	171	2255
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.8	34.8	34.8	34.8	9.8	53.2	53.2	32.0	75.4
Total Split (%)	29.0%	29.0%	29.0%	29.0%	8.2%	44.3%	44.3%	26.7%	62.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	17.5	17.5	17.5	17.5	5.3	33.0	33.0	28.2	55.8
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.06	0.35	0.35	0.30	0.59
v/c Ratio	0.37	0.22	0.64	0.13	0.24	0.57	0.40	0.34	0.85
Control Delay	37.9	20.0	44.0	31.3	55.6	26.0	4.2	32.6	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	20.0	44.0	31.3	55.6	26.0	4.2	32.6	19.6
LOS	D	B	D	C	E	C	A	C	B
Approach Delay		32.5		42.3		21.7			20.4
Approach LOS		C		D		C			C

Intersection Summary





























Cycle Length: 120
 Actuated Cycle Length: 94.9
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 23.1
 Intersection LOS: C
 Intersection Capacity Utilization 80.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 				  			  	
Traffic Volume (veh/h)	173	31	44	294	37	8	23	970	287	171	2255	184
Future Volume (veh/h)	173	31	44	294	37	8	23	970	287	171	2255	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	32	34	303	38	3	24	1000	222	176	2325	35
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	615	152	162	568	316	25	112	1488	462	592	2905	44
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.06	0.29	0.29	0.33	0.56	0.56
Sat Flow, veh/h	2650	824	875	2591	1711	135	1781	5106	1585	1781	5181	78
Grp Volume(v), veh/h	178	0	66	303	0	41	24	1000	222	176	1526	834
Grp Sat Flow(s),veh/h/ln	1325	0	1699	1295	0	1846	1781	1702	1585	1781	1702	1854
Q Serve(g_s), s	5.0	0.0	2.7	9.3	0.0	1.5	1.1	14.2	9.5	6.0	29.4	29.6
Cycle Q Clear(g_c), s	6.5	0.0	2.7	12.0	0.0	1.5	1.1	14.2	9.5	6.0	29.4	29.6
Prop In Lane	1.00		0.52	1.00		0.07	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	615	0	314	568	0	341	112	1488	462	592	1908	1040
V/C Ratio(X)	0.29	0.00	0.21	0.53	0.00	0.12	0.21	0.67	0.48	0.30	0.80	0.80
Avail Cap(c_a), veh/h	1093	0	620	1035	0	674	112	2892	898	592	2845	1550
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	0.0	28.5	33.6	0.0	28.0	36.7	25.7	24.1	20.4	14.4	14.5
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.8	0.0	0.2	4.3	0.5	0.8	1.3	0.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.1	2.9	0.0	0.7	0.6	5.1	3.3	2.4	8.5	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	0.0	28.6	34.4	0.0	28.2	41.0	26.3	24.8	21.7	15.0	15.5
LnGrp LOS	C	A	C	C	A	C	D	C	C	C	B	B
Approach Vol, veh/h		244			344			1246			2536	
Approach Delay, s/veh		30.2			33.6			26.3			15.6	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.0	30.5		19.9	9.8	52.7		19.9				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	27.4	46.7		* 30	5.2	68.9		* 30				
Max Q Clear Time (g_c+I1), s	8.0	16.2		8.5	3.1	31.6		14.0				
Green Ext Time (p_c), s	0.2	7.8		0.6	0.0	14.0		1.2				

Intersection Summary

HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
7: Whitewood Rd. & Clinton Keith Rd.

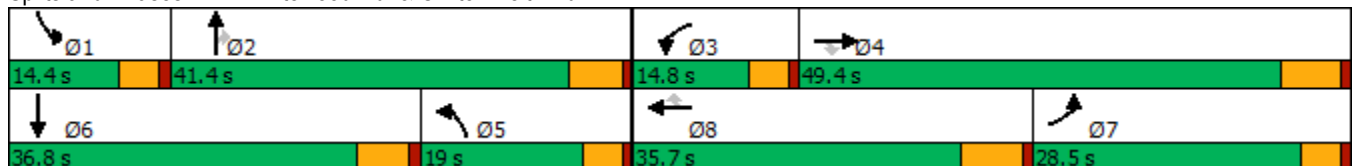
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	632	1009	152	137	747	152	184	764	165	105	226
Future Volume (vph)	632	1009	152	137	747	152	184	764	165	105	226
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	36.8	36.8	9.6	36.8
Total Split (s)	28.5	49.4	49.4	14.8	35.7	35.7	19.0	41.4	41.4	14.4	36.8
Total Split (%)	23.8%	41.2%	41.2%	12.3%	29.8%	29.8%	15.8%	34.5%	34.5%	12.0%	30.7%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	22.3	36.1	36.1	8.5	22.3	22.3	23.5	29.6	29.6	9.2	15.3
Actuated g/C Ratio	0.21	0.34	0.34	0.08	0.21	0.21	0.22	0.28	0.28	0.09	0.15
v/c Ratio	0.86	0.57	0.24	0.51	0.68	0.33	0.48	0.78	0.29	0.70	0.76
Control Delay	54.2	30.1	4.7	55.8	42.1	5.4	43.0	41.9	5.7	74.0	29.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	30.1	4.7	55.8	42.1	5.4	43.0	41.9	5.7	74.0	29.8
LOS	D	C	A	E	D	A	D	D	A	E	C
Approach Delay		36.5			38.6			36.7			37.4
Approach LOS		D			D			D			D

Intersection Summary

































Cycle Length: 120
 Actuated Cycle Length: 105.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 37.1
 Intersection LOS: D
 Intersection Capacity Utilization 77.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (veh/h)	632	1009	152	137	747	152	184	764	165	105	226	281
Future Volume (veh/h)	632	1009	152	137	747	152	184	764	165	105	226	281
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	645	1030	140	140	762	140	188	780	153	107	231	57
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	728	1941	577	207	1066	317	394	974	435	135	329	80
Arrive On Green	0.20	0.36	0.36	0.06	0.20	0.20	0.22	0.27	0.27	0.08	0.12	0.12
Sat Flow, veh/h	3563	5331	1585	3456	5331	1585	1781	3554	1585	1781	2838	686
Grp Volume(v), veh/h	645	1030	140	140	762	140	188	780	153	107	143	145
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1747
Q Serve(g_s), s	16.7	14.5	2.6	3.8	12.7	5.6	8.7	19.4	7.4	5.6	7.3	7.6
Cycle Q Clear(g_c), s	16.7	14.5	2.6	3.8	12.7	5.6	8.7	19.4	7.4	5.6	7.3	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	728	1941	577	207	1066	317	394	974	435	135	206	203
V/C Ratio(X)	0.89	0.53	0.24	0.68	0.72	0.44	0.48	0.80	0.35	0.79	0.69	0.72
Avail Cap(c_a), veh/h	895	2405	715	371	1637	487	394	1330	593	184	579	570
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	23.8	4.2	43.8	35.5	19.3	32.2	32.1	27.7	43.2	40.4	40.5
Incr Delay (d2), s/veh	8.1	0.2	0.2	1.4	0.9	1.0	0.3	2.5	0.5	10.8	4.1	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	5.5	1.9	1.6	5.2	2.6	3.6	8.2	2.6	2.8	3.3	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.8	24.1	4.5	45.2	36.4	20.2	32.6	34.6	28.2	54.0	44.6	45.2
LnGrp LOS	D	C	A	D	D	C	C	C	C	D	D	D
Approach Vol, veh/h		1815			1042			1121				395
Approach Delay, s/veh		29.9			35.4			33.4				47.4
Approach LOS		C			D			C				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	31.9	10.3	41.1	26.8	16.8	25.9	25.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	5.8	* 5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	9.8	35.6	10.2	42.9	14.4	* 31	23.9	* 29				
Max Q Clear Time (g_c+I1), s	7.6	21.4	5.8	16.5	10.7	9.6	18.7	14.7				
Green Ext Time (p_c), s	0.0	4.7	0.1	7.4	0.1	1.4	0.7	4.3				
Intersection Summary												
HCM 6th Ctrl Delay				33.7								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)

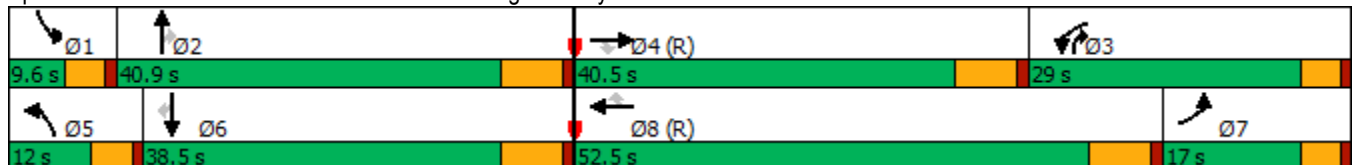
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	937	93	678	817	20	128	1082	908	19	507	170
Future Volume (vph)	188	937	93	678	817	20	128	1082	908	19	507	170
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.5	38.5	9.6	38.5	38.5	9.6	38.5	9.6	9.6	38.5	38.5
Total Split (s)	17.0	40.5	40.5	29.0	52.5	52.5	12.0	40.9	29.0	9.6	38.5	38.5
Total Split (%)	14.2%	33.8%	33.8%	24.2%	43.8%	43.8%	10.0%	34.1%	24.2%	8.0%	32.1%	32.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	34.9	35.6	35.6	32.1	32.8	32.8	7.4	30.9	67.6	5.0	22.7	22.7
Actuated g/C Ratio	0.29	0.30	0.30	0.27	0.27	0.27	0.06	0.26	0.56	0.04	0.19	0.19
v/c Ratio	0.19	0.58	0.16	0.73	0.55	0.04	1.20	0.77	1.00	0.26	0.49	0.39
Control Delay	33.9	37.8	0.6	46.5	39.3	0.1	197.8	45.0	51.8	64.7	44.1	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	37.8	0.6	46.5	39.3	0.1	197.8	45.0	51.8	64.7	44.1	7.6
LOS	C	D	A	D	D	A	F	D	D	E	D	A
Approach Delay		34.3			42.0			57.2			35.7	
Approach LOS		C			D			E			D	

Intersection Summary



































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 81.5 (68%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.20
 Intersection Signal Delay: 45.3
 Intersection LOS: D
 Intersection Capacity Utilization 91.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			  			  	
Traffic Volume (veh/h)	188	937	93	678	817	20	128	1082	908	19	507	170
Future Volume (veh/h)	188	937	93	678	817	20	128	1082	908	19	507	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	956	37	692	834	12	131	1104	464	19	517	168
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1242	1209	342	1184	1118	316	110	1390	919	35	1153	326
Arrive On Green	0.35	0.26	0.22	0.33	0.24	0.20	0.06	0.30	0.25	0.02	0.25	0.21
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	192	956	37	692	834	12	131	1104	464	19	517	168
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.5	19.1	1.8	19.3	16.5	0.6	7.4	21.7	2.9	1.3	9.4	5.0
Cycle Q Clear(g_c), s	4.5	19.1	1.8	19.3	16.5	0.6	7.4	21.7	2.9	1.3	9.4	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1242	1209	342	1184	1118	316	110	1390	919	35	1153	326
V/C Ratio(X)	0.15	0.79	0.11	0.58	0.75	0.04	1.19	0.79	0.50	0.55	0.45	0.52
Avail Cap(c_a), veh/h	1242	1590	449	1184	2151	608	110	1609	981	74	1496	423
HCM Platoon Ratio	1.00	1.20	1.00	1.00	1.20	1.00	1.00	1.20	1.00	1.00	1.20	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.9	42.0	24.4	33.2	42.8	28.7	56.3	39.4	6.5	58.3	39.4	8.4
Incr Delay (d2), s/veh	0.0	5.3	0.6	0.5	4.5	0.2	139.1	2.1	0.4	4.9	0.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	8.6	0.9	7.9	7.4	0.3	7.4	9.2	3.4	0.6	4.1	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	47.3	25.0	33.7	47.4	28.9	195.4	41.4	6.8	63.2	39.7	9.6
LnGrp LOS	C	D	C	C	D	C	F	D	A	E	D	A
Approach Vol, veh/h		1185			1538			1699			704	
Approach Delay, s/veh		43.3			41.1			43.8			33.2	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	36.2	44.5	32.4	12.0	31.2	46.4	30.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	34.4	24.4	34.0	7.4	32.0	12.4	46.0				
Max Q Clear Time (g_c+I1), s	3.3	23.7	21.3	21.1	9.4	11.4	6.5	18.5				
Green Ext Time (p_c), s	0.0	6.0	0.5	4.8	0.0	3.4	0.2	5.4				
Intersection Summary												
HCM 6th Ctrl Delay			41.4									
HCM 6th LOS			D									

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑	↖	↖	↑↑↑	↖	↑↑↑	↖
Traffic Volume (vph)	267	137	70	54	156	554	97	1275	271	865	156
Future Volume (vph)	267	137	70	54	156	554	97	1275	271	865	156
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.5	39.5	9.6	16.5	16.5	9.6	35.5	9.6	39.5	39.5
Total Split (s)	16.0	41.4	41.4	11.4	36.8	36.8	19.8	41.2	26.0	47.4	47.4
Total Split (%)	13.3%	34.5%	34.5%	9.5%	30.7%	30.7%	16.5%	34.3%	21.7%	39.5%	39.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	11.2	34.0	34.0	6.4	26.9	26.9	10.9	33.5	20.3	43.0	43.0
Actuated g/C Ratio	0.10	0.30	0.30	0.06	0.24	0.24	0.10	0.29	0.18	0.38	0.38
v/c Ratio	0.84	0.14	0.13	0.58	0.37	0.95	0.61	0.90	0.91	0.48	0.24
Control Delay	74.1	31.4	0.5	77.9	39.7	45.4	66.4	48.8	79.4	29.1	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.1	31.4	0.5	77.9	39.7	45.4	66.4	48.8	79.4	29.1	5.1
LOS	E	C	A	E	D	D	E	D	E	C	A
Approach Delay		50.8			46.5			50.0		36.8	
Approach LOS		D			D			D		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.4
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 45.0
 Intersection LOS: D
 Intersection Capacity Utilization 81.2%
 ICU Level of Service D
 Analysis Period (min) 15































Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

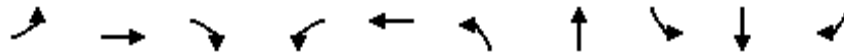
Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 						  			  	
Traffic Volume (veh/h)	267	137	70	54	156	554	97	1275	0	271	865	156
Future Volume (veh/h)	267	137	70	54	156	554	97	1275	0	271	865	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	281	144	69	57	164	109	102	1342	0	285	911	-178
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	588	262	106	225	191	131	1676	520	324	2231	692
Arrive On Green	0.10	0.17	0.17	0.06	0.12	0.12	0.07	0.49	0.00	0.18	0.66	0.00
Sat Flow, veh/h	3456	3554	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	281	144	69	57	164	109	102	1342	0	285	911	-178
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	6.6	3.0	3.2	2.6	7.1	5.4	4.7	18.5	0.0	13.1	7.0	0.0
Cycle Q Clear(g_c), s	6.6	3.0	3.2	2.6	7.1	5.4	4.7	18.5	0.0	13.1	7.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	362	588	262	106	225	191	131	1676	520	324	2231	692
V/C Ratio(X)	0.78	0.24	0.26	0.54	0.73	0.57	0.78	0.80	0.00	0.88	0.41	-0.26
Avail Cap(c_a), veh/h	470	1478	659	144	675	572	323	2112	656	454	2489	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.6	30.4	30.5	38.3	35.6	34.8	38.2	19.0	0.0	33.4	9.4	0.0
Incr Delay (d2), s/veh	4.3	0.2	0.5	1.6	4.4	2.7	3.8	1.8	0.0	10.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	1.2	1.2	1.1	3.2	2.1	2.0	5.2	0.0	6.1	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.9	30.7	31.1	39.9	40.0	37.5	42.0	20.8	0.0	44.0	9.5	0.0
LnGrp LOS	D	C	C	D	D	D	D	C	A	D	A	A
Approach Vol, veh/h		494			330			1444			1018	
Approach Delay, s/veh		36.6			39.2			22.3			20.8	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.9	34.0	9.6	20.4	10.8	43.2	13.4	16.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	21.4	34.7	6.8	34.9	15.2	40.9	11.4	30.3				
Max Q Clear Time (g_c+I1), s	15.1	20.5	4.6	5.2	6.7	9.0	8.6	9.1				
Green Ext Time (p_c), s	0.2	7.1	0.0	0.9	0.1	6.1	0.1	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			25.7									
HCM 6th LOS			C									

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

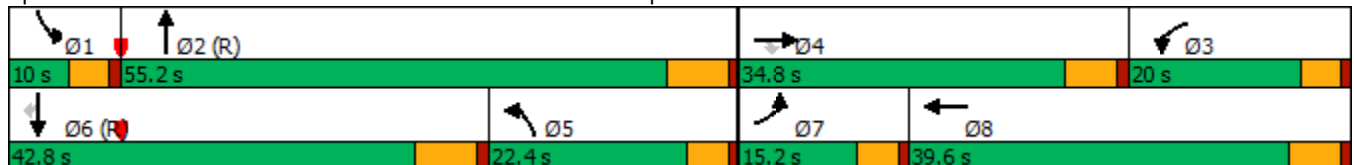


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↙	↑	↗↘	↙	↘	↗↘	↑↑↑	↙	↑↑↑	↘
Traffic Volume (vph)	99	234	447	260	259	525	1891	86	1138	65
Future Volume (vph)	99	234	447	260	259	525	1891	86	1138	65
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	15.2	34.8	34.8	20.0	39.6	22.4	55.2	10.0	42.8	42.8
Total Split (%)	12.7%	29.0%	29.0%	16.7%	33.0%	18.7%	46.0%	8.3%	35.7%	35.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	3.6	5.5	6.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	10.6	22.7	21.7	23.5	35.6	22.4	49.7	6.6	33.9	32.9
Actuated g/C Ratio	0.09	0.19	0.18	0.20	0.30	0.19	0.41	0.06	0.28	0.27
v/c Ratio	0.65	0.69	0.49	0.77	0.53	0.82	0.98	0.92	0.74	0.12
Control Delay	72.6	54.9	5.2	63.0	39.2	57.7	46.8	127.9	42.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.6	54.9	5.2	63.0	39.2	57.7	46.8	127.9	42.2	0.4
LOS	E	D	A	E	D	E	D	F	D	A
Approach Delay		28.7			50.6		48.9		45.8	
Approach LOS		C			D		D		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 86 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 45.4
 Intersection LOS: D
 Intersection Capacity Utilization 89.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗↘	↖	↗		↖↗	↑↑↑		↖	↑↑↑	↗
Traffic Volume (veh/h)	99	234	447	260	259	22	525	1891	271	86	1138	65
Future Volume (veh/h)	99	234	447	260	259	22	525	1891	271	86	1138	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	241	126	268	267	-101	541	1949	274	89	1173	62
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	296	468	243	424	0	974	2390	331	95	1459	393
Arrive On Green	0.12	0.24	0.15	0.21	0.34	0.00	0.41	0.74	0.49	0.08	0.39	0.25
Sat Flow, veh/h	1781	1870	3123	1781	1870	0	3563	4818	668	1781	5611	1563
Grp Volume(v), veh/h	102	241	126	268	166	0	541	1507	716	89	1173	62
Grp Sat Flow(s),veh/h/ln	1781	1870	1561	1781	1870	0	1781	1870	1745	1781	1870	1563
Q Serve(g_s), s	6.6	14.6	4.3	16.4	8.1	0.0	13.9	31.3	37.4	6.0	22.3	2.9
Cycle Q Clear(g_c), s	6.6	14.6	4.3	16.4	8.1	0.0	13.9	31.3	37.4	6.0	22.3	2.9
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	139	296	468	243	424	0	974	1856	866	95	1459	393
V/C Ratio(X)	0.73	0.81	0.27	1.10	0.39	0.00	0.56	0.81	0.83	0.94	0.80	0.16
Avail Cap(c_a), veh/h	172	468	755	243	542	0	974	1856	866	95	1744	473
HCM Platoon Ratio	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00
Upstream Filter(I)	0.17	0.17	0.17	1.00	1.00	0.00	0.09	0.09	0.09	0.93	0.93	0.93
Uniform Delay (d), s/veh	51.8	44.1	45.2	47.7	33.3	0.0	29.8	11.7	17.3	55.0	33.9	21.5
Incr Delay (d2), s/veh	1.5	1.1	0.1	87.3	0.6	0.0	0.0	0.4	0.9	68.0	4.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.1	1.7	12.7	3.6	0.0	5.1	6.2	10.3	4.3	8.8	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.3	45.2	45.2	135.0	33.9	0.0	29.8	12.1	18.2	123.0	38.4	22.3
LnGrp LOS	D	D	D	F	C	A	C	B	B	F	D	C
Approach Vol, veh/h		469			434			2764			1324	
Approach Delay, s/veh		47.0			96.3			17.2			43.3	
Approach LOS		D			F			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	65.0	21.2	23.8	38.3	36.7	13.0	32.0				
Change Period (Y+Rc), s	4.6	6.5	5.8	* 5.8	6.5	* 6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.4	48.7	15.4	* 29	17.8	* 36	10.6	33.8				
Max Q Clear Time (g_c+I1), s	8.0	39.4	18.4	16.6	15.9	24.3	8.6	10.1				
Green Ext Time (p_c), s	0.0	7.6	0.0	1.4	0.3	5.7	0.0	0.9				

Intersection Summary

HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

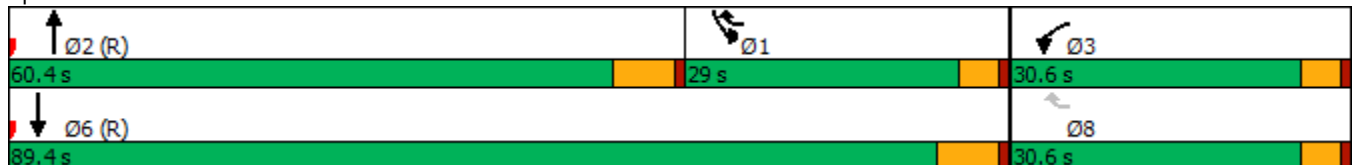
Timings
31: Winchester Rd. & Benton Rd.

	↙	↖	↑	↘	↓	∅8
Lane Group	WBL	WBR	NBT	SBL	SBT	∅8
Lane Configurations	↔↔	↔	↔↔↔	↔↔	↔↔↔	
Traffic Volume (vph)	334	712	1975	531	1314	
Future Volume (vph)	334	712	1975	531	1314	
Turn Type	Prot	pm+ov	NA	Prot	NA	
Protected Phases	3	1	2	1	6	8
Permitted Phases		8				
Detector Phase	3	1	2	1	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.6	9.6	38.5	9.6	16.5	30.6
Total Split (s)	30.6	29.0	60.4	29.0	89.4	30.6
Total Split (%)	25.5%	24.2%	50.3%	24.2%	74.5%	26%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag		Lag	Lead	Lag		
Lead-Lag Optimize?		Yes	Yes	Yes		
Recall Mode	None	None	C-Min	None	C-Min	None
Act Effct Green (s)	16.6	41.0	63.3	24.4	92.3	
Actuated g/C Ratio	0.14	0.34	0.53	0.20	0.77	
v/c Ratio	0.74	1.42	0.91	0.79	0.33	
Control Delay	58.7	231.9	31.4	70.3	11.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.7	231.9	31.4	70.3	11.6	
LOS	E	F	C	E	B	
Approach Delay	176.6		31.4		28.5	
Approach LOS	F		C		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 58.9
 Intersection LOS: E
 Intersection Capacity Utilization 101.9%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶↶	↶	↶↶↶		↶↶	↶↶↶
Traffic Volume (veh/h)	334	712	1975	466	531	1314
Future Volume (veh/h)	334	712	1975	466	531	1314
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	359	-40	2124	17	571	1413
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	428	667	2402	19	1073	4418
Arrive On Green	0.12	0.00	0.43	0.43	0.10	0.26
Sat Flow, veh/h	3563	1585	5558	44	3563	5611
Grp Volume(v), veh/h	359	-40	1429	712	571	1413
Grp Sat Flow(s),veh/h/ln	1781	1585	1870	1861	1781	1870
Q Serve(g_s), s	11.8	0.0	42.1	42.2	18.3	24.4
Cycle Q Clear(g_c), s	11.8	0.0	42.1	42.2	18.3	24.4
Prop In Lane	1.00	1.00		0.02	1.00	
Lane Grp Cap(c), veh/h	428	667	1617	804	1073	4418
V/C Ratio(X)	0.84	-0.06	0.88	0.88	0.53	0.32
Avail Cap(c_a), veh/h	772	821	1680	836	1073	4418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	0.00	0.60	0.60	0.67	0.67
Uniform Delay (d), s/veh	51.7	0.0	31.3	31.3	46.0	18.5
Incr Delay (d2), s/veh	1.7	0.0	4.7	8.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	18.3	19.2	8.7	12.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.4	0.0	36.0	40.1	46.2	18.6
LnGrp LOS	D	A	D	D	D	B
Approach Vol, veh/h	319		2141			1984
Approach Delay, s/veh	60.1		37.4			26.5
Approach LOS	E		D			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	42.6	58.4			101.0	19.0
Change Period (Y+Rc), s	6.5	* 6.5			6.5	4.6
Max Green Setting (Gmax), s	24.4	* 54			82.9	26.0
Max Q Clear Time (g_c+I1), s	20.3	44.2			26.4	13.8
Green Ext Time (p_c), s	0.5	7.7			12.3	0.6

Intersection Summary

HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021

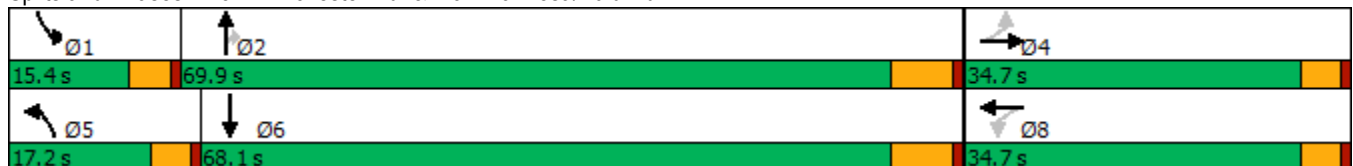


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖↗	↖	↖	↑↑↑	↖	↖	↑↑↑
Traffic Volume (vph)	91	32	288	38	60	2260	261	65	1457
Future Volume (vph)	91	32	288	38	60	2260	261	65	1457
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	17.2	69.9	69.9	15.4	68.1
Total Split (%)	28.9%	28.9%	28.9%	28.9%	14.3%	58.3%	58.3%	12.8%	56.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	18.4	18.4	18.4	18.4	12.8	59.2	59.2	10.9	57.3
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.12	0.57	0.57	0.10	0.55
v/c Ratio	0.26	0.26	0.68	0.36	0.29	0.75	0.28	0.37	0.55
Control Delay	39.7	19.4	49.2	16.7	49.6	19.4	4.5	53.6	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	19.4	49.2	16.7	49.6	19.4	4.5	53.6	16.1
LOS	D	B	D	B	D	B	A	D	B
Approach Delay		29.9		39.2		18.6			17.6
Approach LOS		C		D		B			B

Intersection Summary

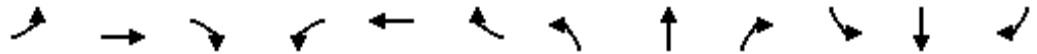
Cycle Length: 120
 Actuated Cycle Length: 104.5
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 20.4
 Intersection LOS: C
 Intersection Capacity Utilization 81.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔↔	↔		↔	↑↑↑	↔	↔	↑↑↑	
Traffic Volume (veh/h)	91	32	52	288	38	90	60	2260	261	65	1457	126
Future Volume (veh/h)	91	32	52	288	38	90	60	2260	261	65	1457	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	96	34	38	303	40	-68	63	2379	189	68	1534	-51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	636	145	162	512	0	396	223	3123	882	191	3023	0
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.00	0.13	0.56	0.56	0.11	0.54	0.00
Sat Flow, veh/h	2750	807	901	2577	1870	0	1781	5611	1585	1781	5611	0
Grp Volume(v), veh/h	96	0	72	303	-28	-28	63	2379	189	68	1483	0
Grp Sat Flow(s),veh/h/ln	1375	0	1708	1288	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	3.0	0.0	3.6	11.5	0.0	0.0	3.2	32.9	6.0	3.6	16.7	0.0
Cycle Q Clear(g_c), s	3.0	0.0	3.6	15.1	0.0	0.0	3.2	32.9	6.0	3.6	16.7	0.0
Prop In Lane	1.00		0.53	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	636	0	307	512	0	0	223	3123	882	191	3023	0
V/C Ratio(X)	0.15	0.00	0.23	0.59	0.00	0.00	0.28	0.76	0.21	0.36	0.49	0.00
Avail Cap(c_a), veh/h	962	0	509	817	0	0	223	3531	997	191	3430	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.1	0.0	35.4	41.9	0.0	0.0	40.0	17.2	11.2	41.8	14.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	1.1	0.0	0.0	3.2	0.9	0.1	5.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.5	3.7	0.0	0.0	1.5	11.8	1.8	1.8	6.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	0.0	35.6	43.0	0.0	0.0	43.1	18.1	11.4	46.9	14.6	0.0
LnGrp LOS	D	A	D	D	A	A	D	B	B	D	B	A
Approach Vol, veh/h		168			247			2631			1551	
Approach Delay, s/veh		35.3			52.7			18.2			16.0	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.4	62.6		22.8	17.2	60.8		22.8				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	10.8	63.4		* 30	12.6	61.6		* 30				
Max Q Clear Time (g_c+I1), s	5.6	34.9		5.6	5.2	18.7		17.1				
Green Ext Time (p_c), s	0.0	21.2		0.4	0.1	7.4		0.9				

Intersection Summary

HCM 6th Ctrl Delay	20.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 6.1:

EAP (2028) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings
1: I-215 SB Ramps & Scott Rd.



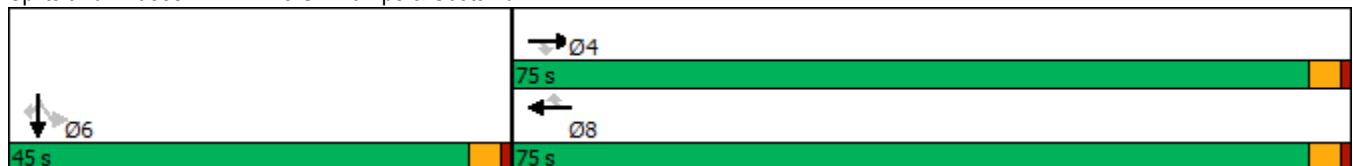
Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	706	697	909	646	647	0	261
Future Volume (vph)	706	697	909	646	647	0	261
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	75.0	75.0	75.0	75.0	45.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	62.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	37.1	37.1	37.1	37.1	23.9	23.9	23.9
Actuated g/C Ratio	0.53	0.53	0.53	0.53	0.34	0.34	0.34
v/c Ratio	0.44	0.66	0.56	0.63	0.64	0.26	0.26
Control Delay	11.2	3.9	12.7	3.6	23.2	9.2	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	3.9	12.7	3.6	23.2	9.2	9.1
LOS	B	A	B	A	C	A	A
Approach Delay	7.6		8.9			19.2	
Approach LOS	A		A			B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 69.7
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 10.8
 Intersection Capacity Utilization 55.2%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B













Splits and Phases: 1: I-215 SB Ramps & Scott Rd.



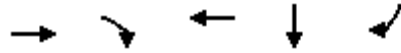
HCM 6th Signalized Intersection Summary
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↗	↗
Traffic Volume (veh/h)	0	706	697	0	909	646	0	0	0	647	0	261
Future Volume (veh/h)	0	706	697	0	909	646	0	0	0	647	0	261
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	821	802	0	1057	657				752	0	204
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2147	957	0	2147	957				989	0	880
Arrive On Green	0.00	0.60	0.60	0.00	0.60	0.60				0.28	0.00	0.28
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	821	802	0	1057	657				752	0	204
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	8.0	27.4	0.0	11.3	19.0				13.1	0.0	3.4
Cycle Q Clear(g_c), s	0.0	8.0	27.4	0.0	11.3	19.0				13.1	0.0	3.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2147	957	0	2147	957				989	0	880
V/C Ratio(X)	0.00	0.38	0.84	0.00	0.49	0.69				0.76	0.00	0.23
Avail Cap(c_a), veh/h	0	3730	1664	0	3730	1664				2159	0	1922
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.9	10.7	0.0	7.5	9.1				22.4	0.0	18.9
Incr Delay (d2), s/veh	0.0	0.1	2.0	0.0	0.2	0.9				1.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	6.8	0.0	3.0	4.6				4.9	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	7.0	12.8	0.0	7.7	9.9				23.6	0.0	19.0
LnGrp LOS	A	A	B	A	A	A				C	A	B
Approach Vol, veh/h		1623			1714						956	
Approach Delay, s/veh		9.9			8.6						22.6	
Approach LOS		A			A						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				44.9		22.8		44.9				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				71.0		41.0		71.0				
Max Q Clear Time (g_c+I1), s				29.4		15.1		21.0				
Green Ext Time (p_c), s				11.4		3.7		13.6				
Intersection Summary												
HCM 6th Ctrl Delay			12.2									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

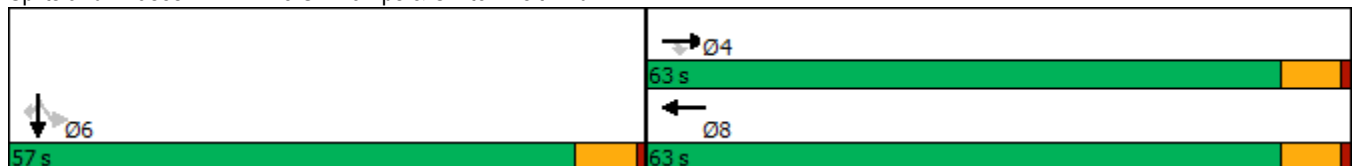


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↑↑
Traffic Volume (vph)	1470	513	1325	0	876
Future Volume (vph)	1470	513	1325	0	876
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	63.0	63.0	63.0	57.0	57.0
Total Split (%)	52.5%	52.5%	52.5%	47.5%	47.5%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	52.6	52.6	52.6	43.5	43.5
Actuated g/C Ratio	0.48	0.48	0.48	0.40	0.40
v/c Ratio	0.64	0.53	0.87	0.40	0.83
Control Delay	23.3	3.6	29.0	25.8	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	3.6	29.0	25.8	36.0
LOS	C	A	C	C	D
Approach Delay	18.2		29.0	33.7	
Approach LOS	B		C	C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 109.3
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 25.8
 Intersection LOS: C
 Intersection Capacity Utilization 81.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1470	513	0	1325	627	0	0	0	261	0	876
Future Volume (veh/h)	0	1470	513	0	1325	627	0	0	0	261	0	876
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1564	463	0	1410	667				278	0	598
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2857	868	0	1912	880				498	0	780
Arrive On Green	0.00	0.56	0.56	0.00	0.56	0.56				0.28	0.00	0.28
Sat Flow, veh/h	0	5274	1551	0	3586	1573				1781	0	2790
Grp Volume(v), veh/h	0	1564	463	0	1404	673				278	0	598
Grp Sat Flow(s),veh/h/ln	0	1702	1551	0	1702	1587				1781	0	1395
Q Serve(g_s), s	0.0	15.7	15.2	0.0	25.0	26.2				10.8	0.0	15.9
Cycle Q Clear(g_c), s	0.0	15.7	15.2	0.0	25.0	26.2				10.8	0.0	15.9
Prop In Lane	0.00		1.00	0.00		0.99				1.00		1.00
Lane Grp Cap(c), veh/h	0	2857	868	0	1905	888				498	0	780
V/C Ratio(X)	0.00	0.55	0.53	0.00	0.74	0.76				0.56	0.00	0.77
Avail Cap(c_a), veh/h	0	3569	1084	0	2379	1109				1113	0	1743
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.3	11.2	0.0	13.3	13.6				24.9	0.0	26.7
Incr Delay (d2), s/veh	0.0	0.2	0.5	0.0	0.9	2.4				1.0	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.5	4.0	0.0	7.3	7.5				4.5	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.5	11.7	0.0	14.3	16.0				25.8	0.0	28.3
LnGrp LOS	A	B	B	A	B	B				C	A	C
Approach Vol, veh/h		2027			2077							876
Approach Delay, s/veh		11.5			14.8							27.5
Approach LOS		B			B							C
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				51.7		29.1		51.7				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				56.5		50.5		56.5				
Max Q Clear Time (g_c+I1), s				17.7		17.9		28.2				
Green Ext Time (p_c), s				16.8		4.7		17.0				
Intersection Summary												
HCM 6th Ctrl Delay			15.7									
HCM 6th LOS			B									

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↕	↕	↗	↖	↗	↖	↗
Traffic Volume (vph)	208	1145	1253	484	0	290	0	301
Future Volume (vph)	208	1145	1253	484	0	290	0	301
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	103.0	103.0	103.0	103.0	17.0	17.0	17.0	17.0
Total Split (%)	85.8%	85.8%	85.8%	85.8%	14.2%	14.2%	14.2%	14.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	72.5	72.5	72.5	72.5	9.3	9.3	9.3	9.3
Actuated g/C Ratio	0.80	0.80	0.80	0.80	0.10	0.10	0.10	0.10
v/c Ratio	0.88	0.45	0.49	0.39	0.56	0.56	0.64	0.63
Control Delay	42.3	3.1	3.4	1.0	19.1	18.8	29.0	28.8
Queue Delay	0.0	0.3	0.6	0.8	0.0	0.0	0.0	0.0
Total Delay	42.3	3.4	4.0	1.8	19.1	18.8	29.0	28.8
LOS	D	A	A	A	B	B	C	C
Approach Delay		9.4	3.4		18.9		28.9	
Approach LOS		A	A		B		C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 91	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 8.9	Intersection LOS: A
Intersection Capacity Utilization 62.4%	ICU Level of Service B
Analysis Period (min) 15	

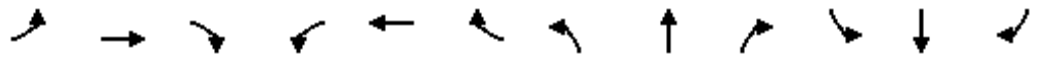
Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗		↗	↗		↗	↗
Traffic Volume (veh/h)	208	1145	0	0	1253	484	0	0	290	0	0	301
Future Volume (veh/h)	208	1145	0	0	1253	484	0	0	290	0	0	301
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	229	1258	0	0	1377	409	0	0	298	0	0	179
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	250	2932	0	0	2932	1308	0	203	343	0	203	343
Arrive On Green	0.82	0.82	0.00	0.00	0.82	0.82	0.00	0.00	0.11	0.00	0.00	0.11
Sat Flow, veh/h	265	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	229	1258	0	0	1377	409	0	0	298	0	0	179
Grp Sat Flow(s),veh/h/ln	265	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	85.7	11.5	0.0	0.0	13.3	7.3	0.0	0.0	11.1	0.0	0.0	6.4
Cycle Q Clear(g_c), s	99.0	11.5	0.0	0.0	13.3	7.3	0.0	0.0	11.1	0.0	0.0	6.4
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	250	2932	0	0	2932	1308	0	203	343	0	203	343
V/C Ratio(X)	0.92	0.43	0.00	0.00	0.47	0.31	0.00	0.00	0.87	0.00	0.00	0.52
Avail Cap(c_a), veh/h	250	2932	0	0	2932	1308	0	203	343	0	203	343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	2.8	0.0	0.0	3.0	2.5	0.0	0.0	52.7	0.0	0.0	50.6
Incr Delay (d2), s/veh	35.7	0.1	0.0	0.0	0.1	0.1	0.0	0.0	20.3	0.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	2.2	0.0	0.0	2.6	1.3	0.0	0.0	5.3	0.0	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.2	2.9	0.0	0.0	3.1	2.6	0.0	0.0	73.0	0.0	0.0	52.0
LnGrp LOS	E	A	A	A	A	A	A	A	E	A	A	D
Approach Vol, veh/h		1487			1786			298				179
Approach Delay, s/veh		11.8			3.0			73.0				52.0
Approach LOS		B			A			E				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.0		103.0		17.0		103.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		13.0		99.0		13.0		99.0				
Max Q Clear Time (g_c+I1), s		13.1		101.0		8.4		15.3				
Green Ext Time (p_c), s		0.0		0.0		0.2		17.9				

Intersection Summary

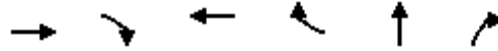
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

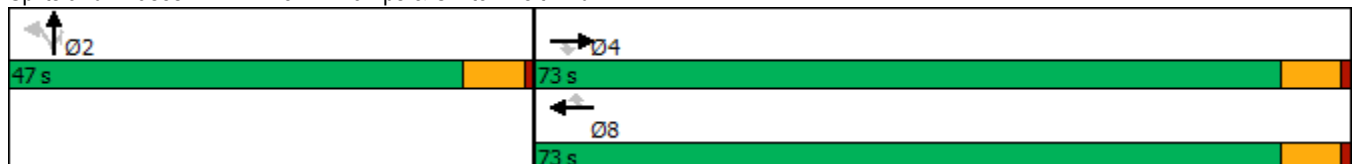


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↔	↑
Traffic Volume (vph)	1012	734	1626	258	0	426
Future Volume (vph)	1012	734	1626	258	0	426
Turn Type	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		4		8		2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5	16.5
Total Split (s)	73.0	73.0	73.0	73.0	47.0	47.0
Total Split (%)	60.8%	60.8%	60.8%	60.8%	39.2%	39.2%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min	Min	Min	Min	None	None
Act Effect Green (s)	40.7	40.7	40.7	40.7	23.5	23.5
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.30	0.30
v/c Ratio	0.40	0.66	0.63	0.28	0.69	0.64
Control Delay	12.3	4.1	15.2	2.4	31.1	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	4.1	15.2	2.4	31.1	24.7
LOS	B	A	B	A	C	C
Approach Delay	8.8		13.4		28.0	
Approach LOS	A		B		C	

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 78.3
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 13.8
 Intersection LOS: B
 Intersection Capacity Utilization 64.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	1012	734	0	1626	258	238	0	426	0	0	0
Future Volume (veh/h)	0	1012	734	0	1626	258	238	0	426	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1043	757	0	1676	266	245	5	248			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	3032	937	0	3032	941	371	8	337			
Arrive On Green	0.00	0.59	0.59	0.00	0.59	0.59	0.21	0.21	0.21			
Sat Flow, veh/h	0	5274	1578	0	5274	1585	1747	36	1585			
Grp Volume(v), veh/h	0	1043	757	0	1676	266	250	0	248			
Grp Sat Flow(s),veh/h/ln	0	1702	1578	0	1702	1585	1783	0	1585			
Q Serve(g_s), s	0.0	7.0	25.1	0.0	13.3	5.5	8.6	0.0	9.8			
Cycle Q Clear(g_c), s	0.0	7.0	25.1	0.0	13.3	5.5	8.6	0.0	9.8			
Prop In Lane	0.00		1.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	0	3032	937	0	3032	941	379	0	337			
V/C Ratio(X)	0.00	0.34	0.81	0.00	0.55	0.28	0.66	0.00	0.74			
Avail Cap(c_a), veh/h	0	5055	1563	0	5055	1569	1075	0	956			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	7.0	10.6	0.0	8.2	6.7	24.2	0.0	24.7			
Incr Delay (d2), s/veh	0.0	0.1	1.7	0.0	0.2	0.2	2.0	0.0	3.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	1.6	5.6	0.0	3.0	1.2	3.6	0.0	3.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	7.0	12.4	0.0	8.4	6.8	26.2	0.0	27.8			
LnGrp LOS	A	A	B	A	A	A	C	A	C			
Approach Vol, veh/h		1800			1942			498				
Approach Delay, s/veh		9.3			8.2			27.0				
Approach LOS		A			A			C				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		20.8		46.4				46.4				
Change Period (Y+Rc), s		6.5		6.5				6.5				
Max Green Setting (Gmax), s		40.5		66.5				66.5				
Max Q Clear Time (g_c+I1), s		11.8		27.1				15.3				
Green Ext Time (p_c), s		2.5		12.7				18.3				
Intersection Summary												
HCM 6th Ctrl Delay			10.9									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

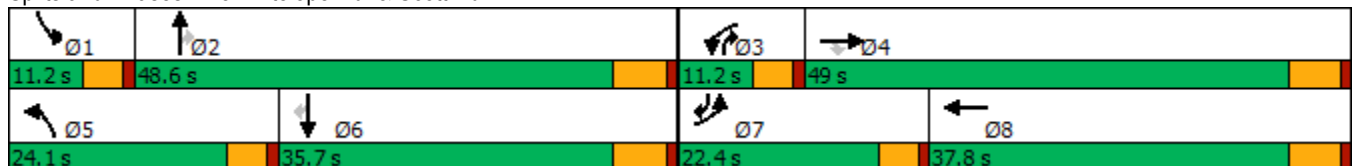


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑	↗	↖↖	↑↑↑	↖↖	↑↑	↗	↖	↑	↗
Traffic Volume (vph)	141	791	503	79	930	382	47	67	46	152	426
Future Volume (vph)	141	791	503	79	930	382	47	67	46	152	426
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	22.4	49.0	49.0	11.2	37.8	24.1	48.6	11.2	11.2	35.7	22.4
Total Split (%)	18.7%	40.8%	40.8%	9.3%	31.5%	20.1%	40.5%	9.3%	9.3%	29.8%	18.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	11.9	34.5	34.5	6.3	26.2	15.4	28.4	40.7	6.2	14.2	32.1
Actuated g/C Ratio	0.13	0.39	0.39	0.07	0.29	0.17	0.32	0.46	0.07	0.16	0.36
v/c Ratio	0.33	0.63	0.60	0.36	0.70	0.70	0.05	0.09	0.41	0.56	0.72
Control Delay	39.2	25.9	6.7	49.3	31.9	43.7	26.0	1.7	56.2	45.2	26.7
Queue Delay	0.0	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.2	26.4	7.1	49.3	31.9	43.7	26.0	1.7	56.2	45.2	26.7
LOS	D	C	A	D	C	D	C	A	E	D	C
Approach Delay		20.9			33.2		36.4			33.4	
Approach LOS		C			C		D			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.3
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 28.8
 Intersection LOS: C
 Intersection Capacity Utilization 68.3%
 ICU Level of Service C
 Analysis Period (min) 15
































Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 			 	
Traffic Volume (veh/h)	141	791	503	79	930	27	382	47	67	46	152	426
Future Volume (veh/h)	141	791	503	79	930	27	382	47	67	46	152	426
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	860	405	86	1011	24	415	51	43	50	165	289
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	1211	540	181	1670	40	509	1106	577	74	384	433
Arrive On Green	0.07	0.34	0.34	0.05	0.33	0.33	0.15	0.31	0.31	0.04	0.21	0.21
Sat Flow, veh/h	3456	3554	1585	3456	5131	122	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	153	860	405	86	671	364	415	51	43	50	165	289
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1848	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	3.5	17.2	18.5	2.0	13.5	13.6	9.5	0.8	1.5	2.3	6.3	13.3
Cycle Q Clear(g_c), s	3.5	17.2	18.5	2.0	13.5	13.6	9.5	0.8	1.5	2.3	6.3	13.3
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	234	1211	540	181	1108	602	509	1106	577	74	384	433
V/C Ratio(X)	0.65	0.71	0.75	0.47	0.61	0.61	0.82	0.05	0.07	0.68	0.43	0.67
Avail Cap(c_a), veh/h	751	1875	836	279	1331	722	823	1858	912	144	683	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	23.5	23.9	37.7	23.2	23.2	33.8	19.7	17.0	38.7	28.3	26.4
Incr Delay (d2), s/veh	1.2	0.8	2.1	0.7	0.6	1.0	1.4	0.0	0.1	4.0	0.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	6.6	6.5	0.8	5.0	5.5	3.8	0.3	0.5	1.0	2.7	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	24.3	26.0	38.4	23.7	24.2	35.2	19.7	17.1	42.7	29.1	28.2
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	C	C
Approach Vol, veh/h		1418			1121			509			504	
Approach Delay, s/veh		26.3			25.0			32.1			29.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	31.3	8.9	33.7	16.7	22.6	10.1	32.4				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.6	42.8	6.6	43.2	19.5	29.9	17.8	32.0				
Max Q Clear Time (g_c+I1), s	4.3	3.5	4.0	20.5	11.5	15.3	5.5	15.6				
Green Ext Time (p_c), s	0.0	0.4	0.0	7.4	0.5	1.6	0.2	5.7				
Intersection Summary												
HCM 6th Ctrl Delay			27.2									
HCM 6th LOS			C									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

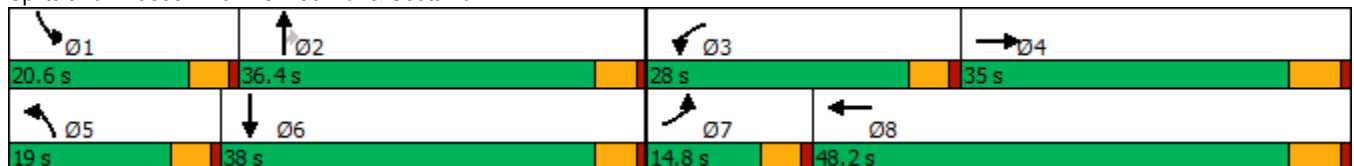


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	74	719	264	912	146	116	209	149	255
Future Volume (vph)	74	719	264	912	146	116	209	149	255
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	14.8	35.0	28.0	48.2	19.0	36.4	36.4	20.6	38.0
Total Split (%)	12.3%	29.2%	23.3%	40.2%	15.8%	30.3%	30.3%	17.2%	31.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	8.4	29.1	20.0	43.3	12.5	24.7	24.7	13.0	25.2
Actuated g/C Ratio	0.08	0.27	0.19	0.41	0.12	0.23	0.23	0.12	0.24
v/c Ratio	0.57	0.88	0.84	0.77	0.74	0.28	0.41	0.73	0.82
Control Delay	66.9	50.5	65.8	34.3	69.9	36.7	7.1	67.3	54.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.9	50.5	65.8	34.3	69.9	36.7	7.1	67.3	54.0
LOS	E	D	E	C	E	D	A	E	D
Approach Delay		51.9		40.7		33.9			58.1
Approach LOS		D		D		C			E

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 106.9
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 45.5
 Intersection LOS: D
 Intersection Capacity Utilization 80.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	719	80	264	912	120	146	116	209	149	255	83
Future Volume (veh/h)	74	719	80	264	912	120	146	116	209	149	255	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	757	73	278	960	113	154	122	113	157	268	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	895	86	316	1262	148	188	414	351	192	317	85
Arrive On Green	0.06	0.27	0.27	0.18	0.39	0.39	0.11	0.22	0.22	0.11	0.22	0.22
Sat Flow, veh/h	1781	3275	316	1781	3202	377	1781	1870	1585	1781	1420	382
Grp Volume(v), veh/h	78	411	419	278	533	540	154	122	113	157	0	340
Grp Sat Flow(s),veh/h/ln	1781	1777	1814	1781	1777	1803	1781	1870	1585	1781	0	1802
Q Serve(g_s), s	3.9	19.5	19.5	13.6	23.1	23.2	7.6	4.8	5.3	7.7	0.0	16.1
Cycle Q Clear(g_c), s	3.9	19.5	19.5	13.6	23.1	23.2	7.6	4.8	5.3	7.7	0.0	16.1
Prop In Lane	1.00		0.17	1.00		0.21	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	100	485	495	316	700	710	188	414	351	192	0	402
V/C Ratio(X)	0.78	0.85	0.85	0.88	0.76	0.76	0.82	0.29	0.32	0.82	0.00	0.85
Avail Cap(c_a), veh/h	204	581	593	467	844	856	287	664	563	319	0	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.5	30.7	30.7	35.8	23.4	23.4	39.1	28.9	29.1	39.0	0.0	33.2
Incr Delay (d2), s/veh	4.8	9.6	9.5	9.2	3.3	3.3	5.9	0.4	0.5	3.3	0.0	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	9.0	9.2	6.4	9.3	9.5	3.6	2.2	2.0	3.5	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	40.3	40.2	45.0	26.7	26.7	44.9	29.3	29.7	42.2	0.0	38.3
LnGrp LOS	D	D	D	D	C	C	D	C	C	D	A	D
Approach Vol, veh/h		908			1351			389			497	
Approach Delay, s/veh		40.8			30.5			35.6			39.5	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	24.4	20.4	30.2	14.0	24.6	9.6	41.0				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	16.0	* 32	23.4	29.2	14.4	* 33	10.2	42.4				
Max Q Clear Time (g_c+I1), s	9.7	7.3	15.6	21.5	9.6	18.1	5.9	25.2				
Green Ext Time (p_c), s	0.1	1.0	0.2	2.9	0.1	1.8	0.0	6.1				
Intersection Summary												
HCM 6th Ctrl Delay			35.5									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)

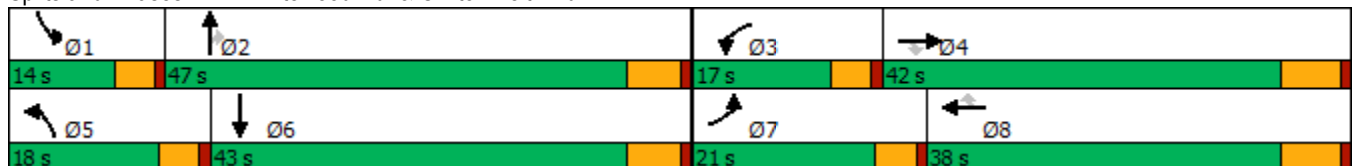
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	369	917	166	268	1252	129	136	126	107	102	400
Future Volume (vph)	369	917	166	268	1252	129	136	126	107	102	400
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	21.0	42.0	42.0	17.0	38.0	38.0	18.0	47.0	47.0	14.0	43.0
Total Split (%)	17.5%	35.0%	35.0%	14.2%	31.7%	31.7%	15.0%	39.2%	39.2%	11.7%	35.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	15.7	35.5	35.5	12.0	31.7	31.7	12.2	33.9	33.9	9.1	30.9
Actuated g/C Ratio	0.14	0.32	0.32	0.11	0.28	0.28	0.11	0.30	0.30	0.08	0.28
v/c Ratio	0.85	0.91	0.30	0.81	0.97	0.26	0.79	0.25	0.21	0.79	0.86
Control Delay	65.7	50.8	8.3	68.4	57.9	6.9	78.1	30.3	5.9	87.9	37.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.7	50.8	8.3	68.4	57.9	6.9	78.1	30.3	5.9	87.9	37.3
LOS	E	D	A	E	E	A	E	C	A	F	D
Approach Delay		49.7			55.6			40.8			42.9
Approach LOS		D			E			D			D

Intersection Summary





























Cycle Length: 120	
Actuated Cycle Length: 112.1	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 49.7	Intersection LOS: D
Intersection Capacity Utilization 84.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  							
Traffic Volume (veh/h)	369	917	166	268	1252	129	136	126	107	102	400	424
Future Volume (veh/h)	369	917	166	268	1252	129	136	126	107	102	400	424
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	410	1019	123	298	1391	115	151	140	91	113	444	332
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	472	1152	514	359	1489	462	180	548	464	140	524	390
Arrive On Green	0.14	0.32	0.32	0.10	0.29	0.29	0.10	0.29	0.29	0.08	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1942	1445
Grp Volume(v), veh/h	410	1019	123	298	1391	115	151	140	91	113	406	370
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1610
Q Serve(g_s), s	12.5	29.1	6.1	9.1	28.4	5.9	8.9	6.1	4.6	6.7	23.2	23.3
Cycle Q Clear(g_c), s	12.5	29.1	6.1	9.1	28.4	5.9	8.9	6.1	4.6	6.7	23.2	23.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.90
Lane Grp Cap(c), veh/h	472	1152	514	359	1489	462	180	548	464	140	480	435
V/C Ratio(X)	0.87	0.88	0.24	0.83	0.93	0.25	0.84	0.26	0.20	0.81	0.85	0.85
Avail Cap(c_a), veh/h	529	1177	525	400	1501	466	223	719	609	156	617	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	34.3	26.5	47.1	37.0	29.0	47.3	29.0	28.4	48.6	37.0	37.1
Incr Delay (d2), s/veh	12.2	8.1	0.2	11.3	11.0	0.3	17.1	0.2	0.2	21.5	8.5	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	12.8	2.2	4.3	12.4	2.2	4.7	2.7	1.7	3.7	10.7	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	42.5	26.8	58.4	48.0	29.3	64.4	29.2	28.6	70.1	45.6	46.8
LnGrp LOS	E	D	C	E	D	C	E	C	C	E	D	D
Approach Vol, veh/h		1552			1804			382			889	
Approach Delay, s/veh		45.2			48.5			43.0			49.2	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	37.2	15.7	41.3	15.4	34.7	19.2	37.8				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	9.4	41.2	12.4	35.5	13.4	37.2	16.4	31.5				
Max Q Clear Time (g_c+I1), s	8.7	8.1	11.1	31.1	10.9	25.3	14.5	30.4				
Green Ext Time (p_c), s	0.0	1.0	0.1	2.5	0.0	3.6	0.2	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			47.1									
HCM 6th LOS			D									

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/21/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	20	739	16	955	31	438	12	41	17	56
Future Volume (vph)	20	739	16	955	31	438	12	41	17	56
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	25.6	45.4	25.6	45.4	45.4	49.0	49.0	49.0	49.0	49.0
Total Split (%)	21.3%	37.8%	21.3%	37.8%	37.8%	40.8%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	5.9	39.2	5.7	39.0	39.0		44.5		44.5	44.5
Actuated g/C Ratio	0.06	0.40	0.06	0.39	0.39		0.45		0.45	0.45
v/c Ratio	0.21	0.99	0.17	0.74	0.05		0.86		0.11	0.08
Control Delay	50.6	49.2	50.1	30.3	2.5		42.8		18.2	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	50.6	49.2	50.1	30.3	2.5		42.8		18.2	3.6
LOS	D	D	D	C	A		D		B	A
Approach Delay		49.2		29.8			42.8		11.0	
Approach LOS		D		C			D		B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 99.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 40.0

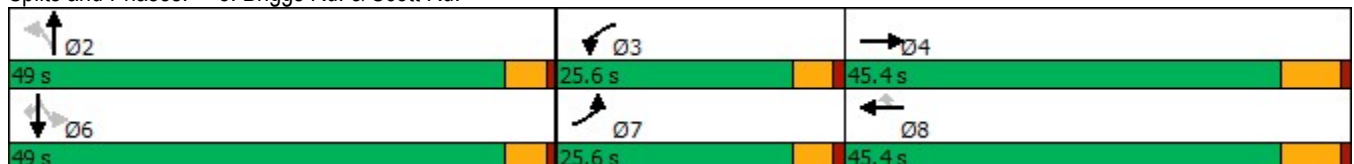
Intersection LOS: D

Intersection Capacity Utilization 80.0%

ICU Level of Service D

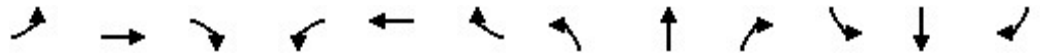
Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	739	559	16	955	31	438	12	13	41	17	56
Future Volume (veh/h)	20	739	559	16	955	31	438	12	13	41	17	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	795	526	17	1027	24	471	13	14	44	18	34
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	836	545	34	1427	636	577	14	15	568	222	650
Arrive On Green	0.02	0.41	0.41	0.02	0.40	0.40	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1781	2061	1344	1781	3554	1585	1229	34	37	1228	541	1585
Grp Volume(v), veh/h	22	684	637	17	1027	24	498	0	0	62	0	34
Grp Sat Flow(s),veh/h/ln	1781	1777	1628	1781	1777	1585	1299	0	0	1769	0	1585
Q Serve(g_s), s	1.2	35.6	36.6	0.9	23.3	0.9	33.4	0.0	0.0	0.0	0.0	1.2
Cycle Q Clear(g_c), s	1.2	35.6	36.6	0.9	23.3	0.9	35.4	0.0	0.0	2.0	0.0	1.2
Prop In Lane	1.00		0.83	1.00		1.00	0.95		0.03	0.71		1.00
Lane Grp Cap(c), veh/h	41	721	661	34	1427	636	606	0	0	790	0	650
V/C Ratio(X)	0.53	0.95	0.96	0.50	0.72	0.04	0.82	0.00	0.00	0.08	0.00	0.05
Avail Cap(c_a), veh/h	391	722	662	391	1445	644	678	0	0	869	0	734
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.2	27.5	27.8	46.5	24.1	17.4	28.0	0.0	0.0	17.2	0.0	17.0
Incr Delay (d2), s/veh	3.9	21.8	26.4	4.2	1.7	0.0	7.3	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	17.5	17.2	0.4	8.9	0.3	11.7	0.0	0.0	0.8	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.2	49.3	54.1	50.7	25.9	17.4	35.4	0.0	0.0	17.3	0.0	17.0
LnGrp LOS	D	D	D	D	C	B	D	A	A	B	A	B
Approach Vol, veh/h		1343			1068			498				96
Approach Delay, s/veh		51.6			26.1			35.4				17.2
Approach LOS		D			C			D				B
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.0	6.4	45.3		44.0	6.8	44.9				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 44	21.0	38.9		* 44	21.0	38.9				
Max Q Clear Time (g_c+I1), s		37.4	2.9	38.6		4.0	3.2	25.3				
Green Ext Time (p_c), s		1.8	0.0	0.3		0.4	0.0	5.3				

Intersection Summary

HCM 6th Ctrl Delay	38.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Intersection Delay, s/veh	90											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	324	297	24	319	11	373	45	10	37	71	10
Future Vol, veh/h	11	324	297	24	319	11	373	45	10	37	71	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	334	306	25	329	11	385	46	10	38	73	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	158.9	33.5	55.2	16.8
HCM LOS	F	D	F	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	87%	2%	7%	31%
Vol Thru, %	11%	51%	90%	60%
Vol Right, %	2%	47%	3%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	428	632	354	118
LT Vol	373	11	24	37
Through Vol	45	324	319	71
RT Vol	10	297	11	10
Lane Flow Rate	441	652	365	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.925	1.27	0.767	0.297
Departure Headway (Hd)	8.21	7.018	8.205	9.722
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	446	515	445	372
Service Time	6.21	5.103	6.205	7.722
HCM Lane V/C Ratio	0.989	1.266	0.82	0.328
HCM Control Delay	55.2	158.9	33.5	16.8
HCM Lane LOS	F	F	D	C
HCM 95th-tile Q	10.4	26.3	6.5	1.2

Intersection												
Int Delay, s/veh	9.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	2	3	98	0	149	2	154	57	104	298	12
Future Vol, veh/h	3	2	3	98	0	149	2	154	57	104	298	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	2	4	120	0	182	2	188	70	127	363	15

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	943	887	371	855	859	223	378	0	0	258	0	0
Stage 1	625	625	-	227	227	-	-	-	-	-	-	-
Stage 2	318	262	-	628	632	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	243	283	675	278	294	817	1180	-	-	1307	-	-
Stage 1	473	477	-	776	716	-	-	-	-	-	-	-
Stage 2	693	691	-	471	474	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	171	248	675	248	257	817	1180	-	-	1307	-	-
Mov Cap-2 Maneuver	171	248	-	248	257	-	-	-	-	-	-	-
Stage 1	472	418	-	774	715	-	-	-	-	-	-	-
Stage 2	538	690	-	408	416	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19	31.1	0.1	2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1180	-	-	266	428	1307	-
HCM Lane V/C Ratio	0.002	-	-	0.037	0.704	0.097	-
HCM Control Delay (s)	8.1	0	-	19	31.1	8.1	0
HCM Lane LOS	A	A	-	C	D	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	5.3	0.3	-

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↵	↵		↵	↵		↵	↕↔	
Traffic Vol, veh/h	0	0	0	12	0	14	0	201	8	20	303	5
Future Vol, veh/h	0	0	0	12	0	14	0	201	8	20	303	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	13	0	16	0	226	9	22	340	6

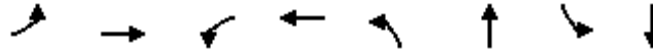
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	626	622	173	445	621	231	346	0	0	235	0	0
Stage 1	387	387	-	231	231	-	-	-	-	-	-	-
Stage 2	239	235	-	214	390	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	382	402	841	510	403	807	1211	-	-	1331	-	-
Stage 1	609	609	-	771	713	-	-	-	-	-	-	-
Stage 2	764	710	-	769	607	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	370	395	841	503	396	807	1211	-	-	1331	-	-
Mov Cap-2 Maneuver	468	470	-	578	474	-	-	-	-	-	-	-
Stage 1	609	599	-	771	713	-	-	-	-	-	-	-
Stage 2	749	710	-	756	597	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.4	0	0.5
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1211	-	-	-	578	807	1331	-	-
HCM Lane V/C Ratio	-	-	-	-	0.023	0.019	0.017	-	-
HCM Control Delay (s)	0	-	-	0	11.4	9.6	7.8	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1	0.1	-	-

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/22/2021

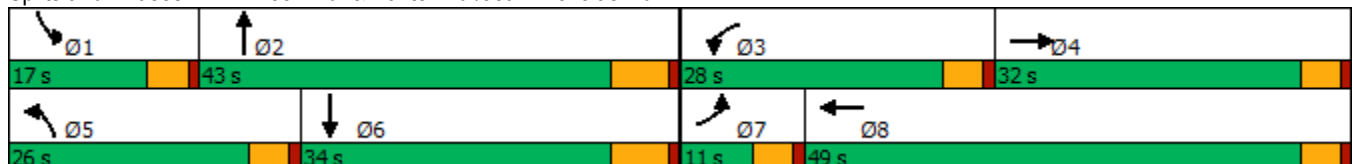


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	16	129	137	227	123	155	54	348
Future Volume (vph)	16	129	137	227	123	155	54	348
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	11.0	32.0	28.0	49.0	26.0	43.0	17.0	34.0
Total Split (%)	9.2%	26.7%	23.3%	40.8%	21.7%	35.8%	14.2%	28.3%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	6.4	12.0	23.5	29.1	13.3	34.9	8.4	27.9
Actuated g/C Ratio	0.07	0.12	0.24	0.30	0.14	0.36	0.09	0.29
v/c Ratio	0.18	0.63	0.43	0.40	0.68	0.25	0.47	0.47
Control Delay	49.4	24.9	36.2	25.2	54.4	17.4	53.5	31.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	24.9	36.2	25.2	54.4	17.4	53.5	31.2
LOS	D	C	D	C	D	B	D	C
Approach Delay		26.3		28.5		29.9		34.1
Approach LOS		C		C		C		C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 30.0
 Intersection LOS: C
 Intersection Capacity Utilization 69.5%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↗↘		↗	↗↘	
Traffic Volume (veh/h)	16	129	138	137	227	85	123	155	85	54	348	11
Future Volume (veh/h)	16	129	138	137	227	85	123	155	85	54	348	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	172	131	183	303	84	164	207	85	72	464	7
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	267	191	440	863	234	198	873	346	93	1052	16
Arrive On Green	0.07	0.14	0.14	0.25	0.31	0.31	0.11	0.35	0.35	0.05	0.29	0.29
Sat Flow, veh/h	1781	1974	1415	1781	2740	744	1781	2475	979	1781	3583	54
Grp Volume(v), veh/h	21	154	149	183	194	193	164	146	146	72	230	241
Grp Sat Flow(s),veh/h/ln	1781	1777	1612	1781	1777	1707	1781	1777	1677	1781	1777	1860
Q Serve(g_s), s	1.1	7.8	8.3	8.2	8.0	8.2	8.5	5.5	5.8	3.8	9.9	10.0
Cycle Q Clear(g_c), s	1.1	7.8	8.3	8.2	8.0	8.2	8.5	5.5	5.8	3.8	9.9	10.0
Prop In Lane	1.00		0.88	1.00		0.44	1.00		0.58	1.00		0.03
Lane Grp Cap(c), veh/h	120	240	218	440	560	538	198	627	592	93	522	546
V/C Ratio(X)	0.17	0.64	0.68	0.42	0.35	0.36	0.83	0.23	0.25	0.78	0.44	0.44
Avail Cap(c_a), veh/h	120	513	465	440	832	799	403	691	652	233	522	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	38.7	39.0	29.9	24.9	25.0	41.2	21.6	21.7	44.3	27.1	27.1
Incr Delay (d2), s/veh	3.1	2.8	3.8	2.9	0.4	0.4	3.4	0.2	0.2	5.1	2.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.5	3.5	3.8	3.4	3.3	3.7	2.1	2.1	1.7	4.3	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.8	41.5	42.7	32.8	25.3	25.4	44.5	21.8	21.9	49.4	29.8	29.7
LnGrp LOS	D	D	D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		324			570			456			543	
Approach Delay, s/veh		42.3			27.7			30.0			32.3	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	39.6	28.0	17.5	15.1	34.0	11.0	34.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	12.4	36.8	23.4	* 27	21.4	27.8	6.4	* 44				
Max Q Clear Time (g_c+I1), s	5.8	7.8	10.2	10.3	10.5	12.0	3.1	10.2				
Green Ext Time (p_c), s	0.0	1.5	0.2	1.6	0.1	2.1	0.0	2.5				

Intersection Summary

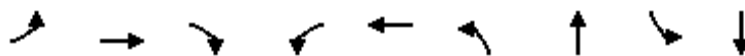
HCM 6th Ctrl Delay	32.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
06/22/2021

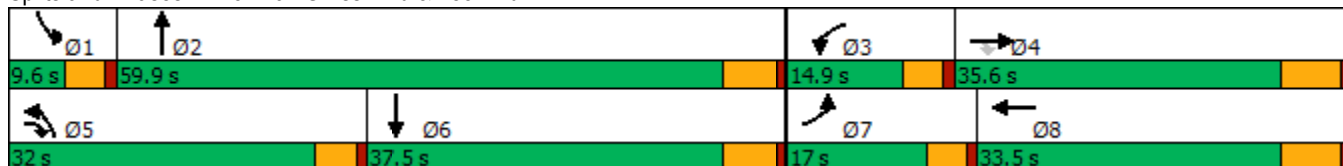


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↔↔	↑↑	↔↔	↑↑
Traffic Volume (vph)	356	254	774	242	501	812	441	30	668
Future Volume (vph)	356	254	774	242	501	812	441	30	668
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	17.0	35.6	32.0	14.9	33.5	32.0	59.9	9.6	37.5
Total Split (%)	14.2%	29.7%	26.7%	12.4%	27.9%	26.7%	49.9%	8.0%	31.3%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	12.4	24.9	58.8	10.2	22.7	27.4	58.2	5.0	31.7
Actuated g/C Ratio	0.11	0.22	0.51	0.09	0.20	0.24	0.50	0.04	0.27
v/c Ratio	1.01	0.35	0.96	0.84	0.79	1.04	0.30	0.21	1.03
Control Delay	101.2	39.7	49.3	76.0	52.9	86.1	18.1	58.3	75.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.2	39.7	49.3	76.0	52.9	86.1	18.1	58.3	75.9
LOS	F	D	D	E	D	F	B	E	E
Approach Delay		60.9			60.2		60.0		75.4
Approach LOS		E			E		E		E

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 115.8
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 63.7
 Intersection LOS: E
 Intersection Capacity Utilization 94.8%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	356	254	774	242	501	22	812	441	65	30	668	283
Future Volume (veh/h)	356	254	774	242	501	22	812	441	65	30	668	283
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	371	265	673	252	522	17	846	459	9	31	696	276
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	357	862	746	297	790	26	789	1660	33	93	656	260
Arrive On Green	0.10	0.24	0.24	0.09	0.22	0.22	0.23	0.47	0.47	0.03	0.26	0.26
Sat Flow, veh/h	3456	3554	1585	3456	3512	114	3456	3565	70	3456	2485	985
Grp Volume(v), veh/h	371	265	673	252	264	275	846	229	239	31	498	474
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1850	1728	1777	1858	1728	1777	1693
Q Serve(g_s), s	12.4	7.3	29.1	8.6	16.2	16.3	27.4	9.5	9.5	1.1	31.7	31.7
Cycle Q Clear(g_c), s	12.4	7.3	29.1	8.6	16.2	16.3	27.4	9.5	9.5	1.1	31.7	31.7
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.04	1.00		0.58
Lane Grp Cap(c), veh/h	357	862	746	297	400	416	789	827	865	93	469	447
V/C Ratio(X)	1.04	0.31	0.90	0.85	0.66	0.66	1.07	0.28	0.28	0.33	1.06	1.06
Avail Cap(c_a), veh/h	357	862	746	297	400	416	789	827	865	144	469	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	37.2	29.2	54.1	42.3	42.3	46.3	19.7	19.7	57.3	44.2	44.2
Incr Delay (d2), s/veh	58.1	0.2	14.2	19.3	4.0	3.9	53.2	0.2	0.2	0.8	58.5	59.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	3.1	19.1	4.4	7.3	7.6	17.1	3.8	4.0	0.5	21.0	20.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.9	37.4	43.4	73.4	46.3	46.2	99.5	19.8	19.8	58.1	102.6	103.6
LnGrp LOS	F	D	D	E	D	D	F	B	B	E	F	F
Approach Vol, veh/h		1309			791			1314			1003	
Approach Delay, s/veh		61.6			54.9			71.1			101.7	
Approach LOS		E			D			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	61.7	14.9	35.6	32.0	37.5	17.0	33.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	54.1	10.3	29.1	27.4	31.7	12.4	27.0				
Max Q Clear Time (g_c+I1), s	3.1	11.5	10.6	31.1	29.4	33.7	14.4	18.3				
Green Ext Time (p_c), s	0.0	2.6	0.0	0.0	0.0	0.0	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay											72.3	
HCM 6th LOS											E	

Intersection												
Intersection Delay, s/veh	9.3											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕		↕			↕	
Traffic Vol, veh/h	0	153	17	19	221	0	11	0	10	2	0	0
Future Vol, veh/h	0	153	17	19	221	0	11	0	10	2	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	170	19	21	246	0	12	0	11	2	0	0
Number of Lanes	0	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	1
HCM Control Delay	9	9.6	8.5	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	52%	0%	100%	0%	0%	100%
Vol Thru, %	0%	90%	0%	100%	100%	0%
Vol Right, %	48%	10%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	170	19	221	0	2
LT Vol	11	0	19	0	0	2
Through Vol	0	153	0	221	0	0
RT Vol	10	17	0	0	0	0
Lane Flow Rate	23	189	21	246	0	2
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.036	0.249	0.03	0.319	0	0.004
Departure Headway (Hd)	5.55	4.742	5.173	4.673	4.673	6.156
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	648	761	685	761	0	584
Service Time	3.261	2.442	2.956	2.454	2.454	3.869
HCM Lane V/C Ratio	0.035	0.248	0.031	0.323	0	0.003
HCM Control Delay	8.5	9	8.1	9.7	7.5	8.9
HCM Lane LOS	A	A	A	A	N	A
HCM 95th-tile Q	0.1	1	0.1	1.4	0	0

Intersection						
Int Delay, s/veh	4.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	43	26	18	21	12
Future Vol, veh/h	6	43	26	18	21	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	53	32	22	26	15

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	109	34	41	0	0
Stage 1	34	-	-	-	-
Stage 2	75	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-
Pot Cap-1 Maneuver	882	1039	1567	-	-
Stage 1	988	-	-	-	-
Stage 2	940	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	864	1039	1567	-	-
Mov Cap-2 Maneuver	829	-	-	-	-
Stage 1	968	-	-	-	-
Stage 2	940	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	4.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1567	-	1008	-	-
HCM Lane V/C Ratio	0.02	-	0.06	-	-
HCM Control Delay (s)	7.3	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕		↵	↕			↕			↕	
Traffic Vol, veh/h	27	137	0	5	178	3	0	0	34	7	0	62
Future Vol, veh/h	27	137	0	5	178	3	0	0	34	7	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	149	0	5	193	3	0	0	37	8	0	67

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	196	0	0	149	0	0	314	413	75	338	412	98
Stage 1	-	-	-	-	-	-	207	207	-	205	205	-
Stage 2	-	-	-	-	-	-	107	206	-	133	207	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1374	-	-	1430	-	-	615	528	971	592	529	939
Stage 1	-	-	-	-	-	-	776	729	-	778	731	-
Stage 2	-	-	-	-	-	-	887	730	-	857	729	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1374	-	-	1430	-	-	560	515	971	559	516	939
Mov Cap-2 Maneuver	-	-	-	-	-	-	560	515	-	611	563	-
Stage 1	-	-	-	-	-	-	760	714	-	762	729	-
Stage 2	-	-	-	-	-	-	820	728	-	807	714	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	1.3		0.2		8.9		9.4	
HCM LOS					A		A	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	971	1374	-	-	1430	-	-	891
HCM Lane V/C Ratio	0.038	0.021	-	-	0.004	-	-	0.084
HCM Control Delay (s)	8.9	7.7	-	-	7.5	-	-	9.4
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Intersection						
Int Delay, s/veh	9.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	
Traffic Vol, veh/h	117	62	92	80	231	93
Future Vol, veh/h	117	62	92	80	231	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	127	67	100	87	251	101

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	187	0	-	0	432 94
Stage 1	-	-	-	-	144 -
Stage 2	-	-	-	-	288 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	1385	-	-	-	552 944
Stage 1	-	-	-	-	868 -
Stage 2	-	-	-	-	735 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1385	-	-	-	501 944
Mov Cap-2 Maneuver	-	-	-	-	575 -
Stage 1	-	-	-	-	788 -
Stage 2	-	-	-	-	735 -

Approach	EB	WB	SB
HCM Control Delay, s	5.1	0	17
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1385	-	-	-	648
HCM Lane V/C Ratio	0.092	-	-	-	0.543
HCM Control Delay (s)	7.9	-	-	-	17
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	3.3

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	293	123	125	0	49
Future Vol, veh/h	0	293	123	125	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	318	134	136	0	53

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	135
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	889
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	889
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	889
HCM Lane V/C Ratio	-	-	-	0.06
HCM Control Delay (s)	-	-	-	9.3
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.2

Timings
20: Winchester Rd. & Domenigoni Pkwy

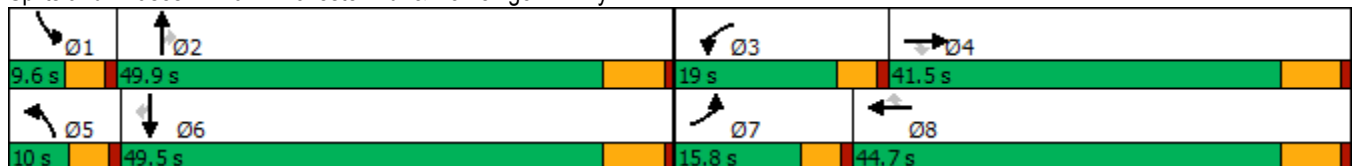
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	1035	154	951	936	16	69	428	736	7	1103	260
Future Volume (vph)	190	1035	154	951	936	16	69	428	736	7	1103	260
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	15.8	41.5	41.5	19.0	44.7	44.7	10.0	49.9	49.9	9.6	49.5	49.5
Total Split (%)	13.2%	34.6%	34.6%	15.8%	37.3%	37.3%	8.3%	41.6%	41.6%	8.0%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	10.3	35.0	35.0	14.4	39.1	39.1	5.4	50.3	50.3	5.0	42.2	42.2
Actuated g/C Ratio	0.09	0.29	0.29	0.12	0.33	0.33	0.05	0.42	0.42	0.04	0.35	0.35
v/c Ratio	0.68	1.06	0.30	2.44	0.60	0.03	0.91	0.30	0.91	0.09	0.94	0.39
Control Delay	65.3	86.2	12.7	681.1	35.6	0.1	137.2	24.1	35.2	58.3	51.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	86.2	12.7	681.1	35.6	0.1	137.2	24.1	35.2	58.3	51.7	8.3
LOS	E	F	B	F	D	A	F	C	D	E	D	A
Approach Delay		75.1			357.9			37.1			43.4	
Approach LOS		E			F			D			D	

Intersection Summary
































Cycle Length: 120	
Actuated Cycle Length: 119.2	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.44	
Intersection Signal Delay: 151.2	Intersection LOS: F
Intersection Capacity Utilization 108.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



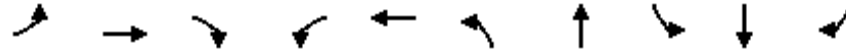
HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  			 			 	
Traffic Volume (veh/h)	190	1035	154	951	936	16	69	428	736	7	1103	260
Future Volume (veh/h)	190	1035	154	951	936	16	69	428	736	7	1103	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	202	1101	108	1012	996	11	73	455	587	7	1173	143
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	1045	466	418	1738	539	81	1384	618	15	1254	559
Arrive On Green	0.07	0.29	0.29	0.12	0.34	0.34	0.05	0.39	0.39	0.01	0.35	0.35
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	202	1101	108	1012	996	11	73	455	587	7	1173	143
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.8	35.0	6.1	14.4	19.0	0.5	4.9	10.7	42.7	0.5	37.9	7.6
Cycle Q Clear(g_c), s	6.8	35.0	6.1	14.4	19.0	0.5	4.9	10.7	42.7	0.5	37.9	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	1045	466	418	1738	539	81	1384	618	15	1254	559
V/C Ratio(X)	0.78	1.05	0.23	2.42	0.57	0.02	0.90	0.33	0.95	0.45	0.94	0.26
Avail Cap(c_a), veh/h	325	1045	466	418	1738	539	81	1384	618	75	1284	573
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	42.0	31.8	52.3	32.2	26.1	56.5	25.4	35.2	58.7	37.2	27.4
Incr Delay (d2), s/veh	7.0	43.0	0.3	646.2	0.5	0.0	67.1	0.1	24.6	7.5	12.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	20.6	2.3	43.5	7.4	0.2	3.6	4.2	19.3	0.2	17.4	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	85.0	32.1	698.5	32.6	26.1	123.7	25.6	59.8	66.2	49.7	27.6
LnGrp LOS	E	F	C	F	C	C	F	C	E	E	D	C
Approach Vol, veh/h		1411			2019			1115			1323	
Approach Delay, s/veh		77.5			366.3			50.0			47.4	
Approach LOS		E			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.6	52.9	19.0	41.5	10.0	48.5	13.5	47.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	43.4	14.4	35.0	5.4	43.0	11.2	38.2				
Max Q Clear Time (g_c+I1), s	2.5	44.7	16.4	37.0	6.9	39.9	8.8	21.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.1	0.1	5.7				
Intersection Summary												
HCM 6th Ctrl Delay				164.9								
HCM 6th LOS				F								

Timings
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
06/22/2021

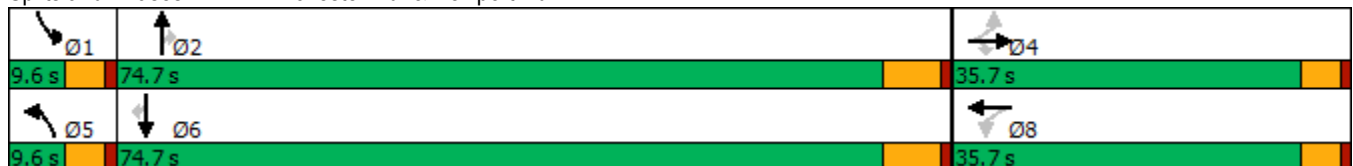


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↖	↑↑	↗
Traffic Volume (vph)	1	0	1	6	0	1	1225	10	2197	2
Future Volume (vph)	1	0	1	6	0	1	1225	10	2197	2
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)		10.0	10.0		10.0	5.0	87.2	5.0	87.2	87.2
Actuated g/C Ratio		0.11	0.11		0.11	0.05	0.94	0.05	0.94	0.94
v/c Ratio		0.00	0.00		0.05	0.01	0.27	0.12	0.70	0.00
Control Delay		40.0	0.0		0.4	45.0	1.7	46.9	5.5	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		40.0	0.0		0.4	45.0	1.7	46.9	5.5	0.0
LOS		D	A		A	D	A	D	A	A
Approach Delay		20.0			0.4		1.7		5.7	
Approach LOS		B			A		A		A	

Intersection Summary






















Cycle Length: 120
 Actuated Cycle Length: 92.6
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 4.3
 Intersection LOS: A
 Intersection Capacity Utilization 90.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
 21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	6	0	6	1	1225	0	10	2197	2
Future Volume (veh/h)	1	0	1	6	0	6	1	1225	0	10	2197	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	0	0	6	0	1	1	1303	0	11	2337	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	0	32	113	0	4	2	3897	1210	24	2756	1229
Arrive On Green	0.02	0.00	0.00	0.02	0.00	0.02	0.00	0.76	0.00	0.01	0.78	0.78
Sat Flow, veh/h	1499	0	1585	1242	0	207	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	1	0	0	7	0	0	1	1303	0	11	2337	2
Grp Sat Flow(s),veh/h/ln	1499	0	1585	1449	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.3	0.0	0.0	0.0	6.2	0.0	0.5	33.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	6.2	0.0	0.5	33.0	0.0
Prop In Lane	1.00		1.00	0.86		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	125	0	32	117	0	0	2	3897	1210	24	2756	1229
V/C Ratio(X)	0.01	0.00	0.00	0.06	0.00	0.00	0.41	0.33	0.00	0.45	0.85	0.00
Avail Cap(c_a), veh/h	670	0	643	671	0	0	117	4576	1420	117	3185	1420
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	0.0	0.0	36.8	0.0	0.0	38.1	2.9	0.0	37.4	5.6	1.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	35.9	0.1	0.0	4.8	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.6	0.0	0.2	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	0.0	0.0	37.1	0.0	0.0	74.0	2.9	0.0	42.3	7.7	1.9
LnGrp LOS	D	A	A	D	A	A	E	A	A	D	A	A
Approach Vol, veh/h		1			7			1304			2350	
Approach Delay, s/veh		36.7			37.1			3.0			7.9	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	64.5		6.3	4.7	65.5		6.3				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.0	68.5		* 31	5.0	68.5		* 31				
Max Q Clear Time (g_c+I1), s	2.5	8.2		2.0	2.0	35.0		2.4				
Green Ext Time (p_c), s	0.0	10.9		0.0	0.0	24.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	1	2	1	4	2	1225	1	2199	4
Future Volume (vph)	1	2	1	4	2	1225	1	2199	4
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	9.6	16.5	16.5
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	75.9	5.0	68.2	68.2
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.77	0.05	0.69	0.69
v/c Ratio	0.01	0.01	0.01	0.02	0.02	0.48	0.01	0.96	0.00
Control Delay	40.0	40.5	40.0	40.5	45.5	5.4	45.0	26.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	40.5	40.0	40.5	45.5	5.4	45.0	26.1	0.0
LOS	D	D	D	D	D	A	D	C	A
Approach Delay		40.3		40.4		5.4		26.0	
Approach LOS		D		D		A		C	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 18.7
 Intersection Capacity Utilization 78.5%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	2	0	1	4	0	2	1225	0	1	2199	4
Future Volume (veh/h)	1	2	0	1	4	0	2	1225	0	1	2199	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	2	0	1	4	0	2	1303	0	1	2339	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	189	0	214	189	0	90	2623	1170	2	2448	1092
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.00	0.05	0.74	0.00	0.00	0.69	0.69
Sat Flow, veh/h	1412	1870	0	1415	1870	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	1	2	0	1	4	0	2	1303	0	1	2339	4
Grp Sat Flow(s),veh/h/ln	1412	1870	0	1415	1870	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.1	0.1	0.0	0.1	0.2	0.0	0.1	15.0	0.0	0.1	59.3	0.1
Cycle Q Clear(g_c), s	0.3	0.1	0.0	0.2	0.2	0.0	0.1	15.0	0.0	0.1	59.3	0.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	189	0	214	189	0	90	2623	1170	2	2448	1092
V/C Ratio(X)	0.00	0.01	0.00	0.00	0.02	0.00	0.02	0.50	0.00	0.41	0.96	0.00
Avail Cap(c_a), veh/h	512	586	0	514	586	0	90	2623	1170	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	40.0	0.0	40.1	40.1	0.0	44.7	5.4	0.0	49.4	14.0	4.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.0	36.2	10.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.1	3.3	0.0	0.0	19.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	40.1	0.0	40.1	40.1	0.0	45.1	5.5	0.0	85.6	24.4	4.8
LnGrp LOS	D	D	A	D	D	A	D	A	A	F	C	A
Approach Vol, veh/h		3			5			1305			2344	
Approach Delay, s/veh		40.1			40.1			5.6			24.4	
Approach LOS		D			D			A			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	79.6		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	2.1	17.0		2.3	2.1	61.3		2.2				
Green Ext Time (p_c), s	0.0	11.2		0.0	0.0	6.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	11	22	20	1217	2182	19
Future Volume (vph)	11	22	20	1217	2182	19
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	24.5	24.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	10.1	10.1	5.0	95.7	90.2	90.2
Actuated g/C Ratio	0.09	0.09	0.05	0.89	0.84	0.84
v/c Ratio	0.07	0.14	0.27	0.43	0.81	0.02
Control Delay	47.7	19.7	59.8	2.7	12.5	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	19.7	59.8	2.7	12.5	1.8
LOS	D	B	E	A	B	A
Approach Delay	29.0			3.6	12.4	
Approach LOS	C			A	B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 107.7
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 9.4
 Intersection LOS: A
 Intersection Capacity Utilization 77.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
 23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	22	20	1217	2182	19
Future Volume (veh/h)	11	22	20	1217	2182	19
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	16	22	1337	2398	21
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	98	87	41	2940	2685	1198
Arrive On Green	0.06	0.06	0.02	0.83	0.76	0.76
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	12	16	22	1337	2398	21
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.6	0.9	1.2	9.8	47.9	0.3
Cycle Q Clear(g_c), s	0.6	0.9	1.2	9.8	47.9	0.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	98	87	41	2940	2685	1198
V/C Ratio(X)	0.12	0.18	0.53	0.45	0.89	0.02
Avail Cap(c_a), veh/h	415	369	94	3269	2908	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	42.6	45.6	2.3	8.7	2.9
Incr Delay (d2), s/veh	0.6	1.0	3.9	0.1	3.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	0.5	0.6	10.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.0	43.6	49.5	2.4	12.5	2.9
LnGrp LOS	D	D	D	A	B	A
Approach Vol, veh/h	28			1359	2419	
Approach Delay, s/veh	43.3			3.1	12.4	
Approach LOS	D			A	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		84.7		9.8	6.8	77.9
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+11), s		11.8		2.9	3.2	49.9
Green Ext Time (p_c), s		12.1		0.0	0.0	21.4
Intersection Summary						
HCM 6th Ctrl Delay			9.3			
HCM 6th LOS			A			

Timings

24: Winchester Rd. & Scott Rd./Washington St,

06/22/2021

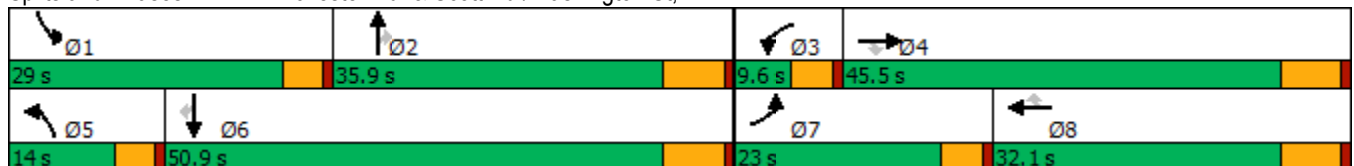


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR	Ø3
Lane Configurations											
Traffic Volume (vph)	163	133	101	108	207	100	866	324	1616	264	
Future Volume (vph)	163	133	101	108	207	100	866	324	1616	264	
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4		8		5	2	1	6		3
Permitted Phases			4		8					6	
Detector Phase	7	4	4	8	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	45.5	45.5	16.5	16.5	9.6	35.5	9.6	44.5	44.5	9.6
Total Split (s)	23.0	45.5	45.5	32.1	32.1	14.0	35.9	29.0	50.9	50.9	9.6
Total Split (%)	19.2%	37.9%	37.9%	26.8%	26.8%	11.7%	29.9%	24.2%	42.4%	42.4%	8%
Yellow Time (s)	3.6	5.5	5.5	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	6.5	6.5	4.6	6.5	4.6	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	None
Act Effct Green (s)	13.8	30.7	30.7	12.3	12.3	8.9	27.5	23.6	42.2	42.2	
Actuated g/C Ratio	0.14	0.31	0.31	0.12	0.12	0.09	0.28	0.24	0.42	0.42	
v/c Ratio	0.71	0.25	0.18	0.50	0.57	0.67	0.66	0.82	0.80	0.34	
Control Delay	58.5	27.3	1.8	50.6	12.0	67.5	35.2	55.0	29.1	3.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.5	27.3	1.8	50.6	12.0	67.5	35.2	55.0	29.1	3.7	
LOS	E	C	A	D	B	E	D	E	C	A	
Approach Delay		33.7		25.3			38.5		29.9		
Approach LOS		C		C			D		C		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99.6
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 32.0
 Intersection LOS: C
 Intersection Capacity Utilization 67.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



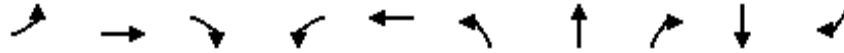
HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)
 06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	133	101	0	108	207	100	866	0	324	1616	264
Future Volume (veh/h)	163	133	101	0	108	207	100	866	0	324	1616	264
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	173	141	63	0	115	117	106	921	0	345	1719	249
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	534	452	2	215	182	134	1519	472	382	2230	692
Arrive On Green	0.12	0.29	0.29	0.00	0.11	0.11	0.08	0.30	0.00	0.21	0.44	0.44
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	173	141	63	0	115	117	106	921	0	345	1719	249
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	8.3	5.1	2.6	0.0	5.0	6.1	5.1	13.4	0.0	16.4	24.9	9.1
Cycle Q Clear(g_c), s	8.3	5.1	2.6	0.0	5.0	6.1	5.1	13.4	0.0	16.4	24.9	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	534	452	2	215	182	134	1519	472	382	2230	692
V/C Ratio(X)	0.83	0.26	0.14	0.00	0.53	0.64	0.79	0.61	0.00	0.90	0.77	0.36
Avail Cap(c_a), veh/h	377	839	711	102	551	467	193	1726	536	500	2607	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	24.0	23.1	0.0	36.3	36.8	39.5	26.2	0.0	33.3	20.8	16.4
Incr Delay (d2), s/veh	3.2	0.3	0.1	0.0	2.1	3.7	8.0	0.5	0.0	14.1	1.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	2.1	0.9	0.0	2.3	2.4	2.4	4.9	0.0	7.9	8.5	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	24.3	23.3	0.0	38.3	40.5	47.5	26.7	0.0	47.4	22.0	16.7
LnGrp LOS	D	C	C	A	D	D	D	C	A	D	C	B
Approach Vol, veh/h		377			232			1027			2313	
Approach Delay, s/veh		31.6			39.4			28.8			25.2	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.3	32.4	0.0	31.3	11.2	44.5	14.8	16.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	24.4	29.4	5.0	39.0	9.4	44.4	18.4	25.6				
Max Q Clear Time (g_c+I1), s	18.4	15.4	0.0	7.1	7.1	26.9	10.3	8.1				
Green Ext Time (p_c), s	0.3	4.7	0.0	0.8	0.0	11.1	0.1	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			27.6									
HCM 6th LOS			C									

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

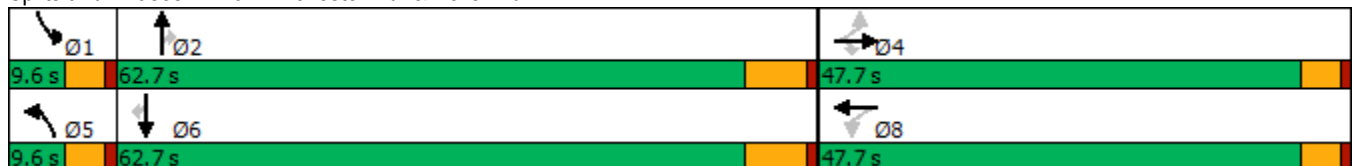


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations											
Traffic Volume (vph)	84	28	182	10	1	149	883	11	1619	99	
Future Volume (vph)	84	28	182	10	1	149	883	11	1619	99	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4			8	5	2		6		1
Permitted Phases	4		4	8				2		6	
Detector Phase	4	4	4	8	8	5	2	2	6	6	
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	47.7	47.7	9.6	62.7	62.7	62.7	62.7	9.6
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.0%	52.3%	52.3%	52.3%	52.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)	12.6	12.6	12.6		12.6	5.0	65.9	65.9	56.3	56.3	
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.06	0.73	0.73	0.63	0.63	
v/c Ratio	0.46	0.11	0.64		0.06	1.62	0.36	0.01	0.78	0.10	
Control Delay	43.0	34.0	28.8		33.1	351.2	5.1	0.0	15.8	3.4	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.0	34.0	28.8		33.1	351.2	5.1	0.0	15.8	3.4	
LOS	D	C	C		C	F	A	A	B	A	
Approach Delay		33.3			33.1		54.6		15.1		
Approach LOS		C			C		D		B		

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 89.7	
Natural Cycle: 135	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.62	
Intersection Signal Delay: 30.3	Intersection LOS: C
Intersection Capacity Utilization 77.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	28	182	10	1	0	149	883	11	0	1619	99
Future Volume (veh/h)	84	28	182	10	1	0	149	883	11	0	1619	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	30	190	11	1	0	159	939	12	0	1722	105
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	287	244	241	18	0	112	2506	1118	2	2077	926
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.00	0.06	0.71	0.71	0.00	0.58	0.58
Sat Flow, veh/h	1416	1870	1585	1000	119	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	89	30	190	12	0	0	159	939	12	0	1722	105
Grp Sat Flow(s),veh/h/ln	1416	1870	1585	1119	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.6	1.1	9.2	0.4	0.0	0.0	5.0	8.4	0.2	0.0	31.0	2.3
Cycle Q Clear(g_c), s	4.1	1.1	9.2	1.5	0.0	0.0	5.0	8.4	0.2	0.0	31.0	2.3
Prop In Lane	1.00		1.00	0.92		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	287	244	259	0	0	112	2506	1118	2	2077	926
V/C Ratio(X)	0.28	0.10	0.78	0.05	0.00	0.00	1.42	0.37	0.01	0.00	0.83	0.11
Avail Cap(c_a), veh/h	864	1013	858	724	0	0	112	2514	1122	112	2514	1122
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	28.9	32.3	29.1	0.0	0.0	37.2	4.7	3.5	0.0	13.3	7.3
Incr Delay (d2), s/veh	0.5	0.2	5.4	0.1	0.0	0.0	232.2	0.1	0.0	0.0	2.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.5	3.8	0.2	0.0	0.0	9.2	1.6	0.0	0.0	9.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	29.1	37.7	29.2	0.0	0.0	269.4	4.8	3.5	0.0	15.4	7.4
LnGrp LOS	C	C	D	C	A	A	F	A	A	A	B	A
Approach Vol, veh/h		309			12			1110			1827	
Approach Delay, s/veh		34.8			29.2			42.7			14.9	
Approach LOS		C			C			D			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	62.5		16.9	9.6	52.9		16.9				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	5.0	56.2		* 43				
Max Q Clear Time (g_c+I1), s	0.0	10.4		11.2	7.0	33.0		3.5				
Green Ext Time (p_c), s	0.0	6.8		1.1	0.0	13.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				26.3								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/22/2021

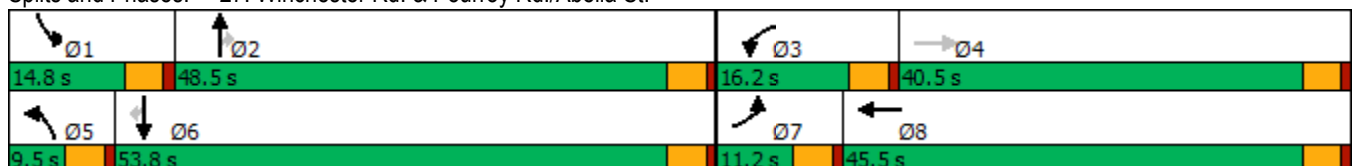


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕	↘	↕	↘	↕	↗	↘	↕	↗
Traffic Volume (vph)	43	22	178	10	48	922	10	75	1664	73
Future Volume (vph)	43	22	178	10	48	922	10	75	1664	73
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	11.2	40.5	16.2	45.5	9.5	48.5	48.5	14.8	53.8	53.8
Total Split (%)	9.3%	33.8%	13.5%	37.9%	7.9%	40.4%	40.4%	12.3%	44.8%	44.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	6.2	10.1	11.8	14.5	5.1	47.3	47.3	8.3	50.5	50.5
Actuated g/C Ratio	0.07	0.11	0.13	0.16	0.06	0.53	0.53	0.09	0.56	0.56
v/c Ratio	0.40	0.20	0.87	0.18	0.56	0.56	0.01	0.52	0.95	0.09
Control Delay	52.0	18.0	74.8	10.7	65.5	17.9	0.0	51.9	33.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	18.0	74.8	10.7	65.5	17.9	0.0	51.9	33.0	0.7
LOS	D	B	E	B	E	B	A	D	C	A
Approach Delay		30.7		53.5		20.1			32.5	
Approach LOS		C		D		C			C	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 89.8
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 30.4
 Intersection LOS: C
 Intersection Capacity Utilization 77.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	22	50	178	10	78	48	922	10	75	1664	73
Future Volume (veh/h)	43	22	50	178	10	78	48	922	10	75	1664	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	25	33	202	11	41	55	1048	11	85	1891	73
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	189	168	225	344	307	73	1819	812	109	1892	844
Arrive On Green	0.04	0.11	0.11	0.13	0.19	0.19	0.04	0.51	0.51	0.06	0.53	0.53
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	49	25	33	202	11	41	55	1048	11	85	1891	73
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.5	1.2	1.8	10.3	0.5	2.0	2.8	18.9	0.3	4.4	49.3	2.1
Cycle Q Clear(g_c), s	2.5	1.2	1.8	10.3	0.5	2.0	2.8	18.9	0.3	4.4	49.3	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	69	189	168	225	344	307	73	1819	812	109	1892	844
V/C Ratio(X)	0.71	0.13	0.20	0.90	0.03	0.13	0.76	0.58	0.01	0.78	1.00	0.09
Avail Cap(c_a), veh/h	129	691	616	225	787	702	96	1819	812	198	1892	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	37.5	37.8	39.9	30.3	30.9	44.0	15.6	11.1	42.9	21.7	10.6
Incr Delay (d2), s/veh	5.0	0.3	0.6	33.1	0.0	0.2	14.4	1.3	0.0	4.5	20.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.5	0.7	6.5	0.2	0.8	1.5	6.7	0.1	1.9	21.6	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	37.8	38.3	73.0	30.3	31.1	58.3	17.0	11.1	47.4	42.3	10.8
LnGrp LOS	D	D	D	E	C	C	E	B	B	D	D	B
Approach Vol, veh/h		107			254			1114			2049	
Approach Delay, s/veh		43.1			64.4			19.0			41.4	
Approach LOS		D			E			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	51.9	16.2	14.3	8.3	53.8	8.1	22.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.3	44.0	11.7	36.0	5.0	49.3	6.7	41.0				
Max Q Clear Time (g_c+I1), s	6.4	20.9	12.3	3.8	4.8	51.3	4.5	4.0				
Green Ext Time (p_c), s	0.0	6.9	0.0	0.3	0.0	0.0	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay				36.0								
HCM 6th LOS				D								

Timings

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/22/2021

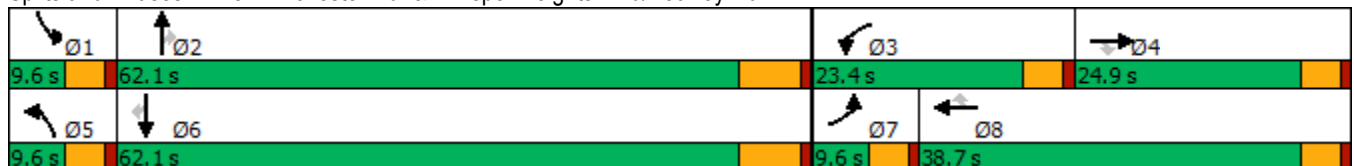


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑	↗↘	↑↑	↗
Traffic Volume (vph)	33	18	21	171	18	130	11	815	63	1809	19
Future Volume (vph)	33	18	21	171	18	130	11	815	63	1809	19
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	9.6	25.5	25.5
Total Split (s)	9.6	24.9	24.9	23.4	38.7	38.7	9.6	62.1	9.6	62.1	62.1
Total Split (%)	8.0%	20.8%	20.8%	19.5%	32.3%	32.3%	8.0%	51.8%	8.0%	51.8%	51.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	5.1	10.2	10.2	14.0	16.7	16.7	5.1	51.1	5.1	57.1	57.1
Actuated g/C Ratio	0.06	0.11	0.11	0.15	0.18	0.18	0.06	0.56	0.06	0.62	0.62
v/c Ratio	0.36	0.09	0.07	0.67	0.06	0.34	0.12	0.44	0.35	0.87	0.02
Control Delay	57.4	43.8	0.4	51.4	32.7	8.7	50.5	15.2	51.4	23.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	43.8	0.4	51.4	32.7	8.7	50.5	15.2	51.4	23.3	0.1
LOS	E	D	A	D	C	A	D	B	D	C	A
Approach Delay		37.5			32.9			15.7		24.0	
Approach LOS		D			C			B		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 23.0
 Intersection LOS: C
 Intersection Capacity Utilization 81.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	33	18	21	171	18	130	11	815	0	63	1809	19
Future Volume (veh/h)	33	18	21	171	18	130	11	815	0	63	1809	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	19	3	180	19	80	12	858	0	66	1904	17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	187	159	213	353	299	25	1887	842	146	1987	886
Arrive On Green	0.03	0.10	0.10	0.12	0.19	0.19	0.01	0.53	0.00	0.04	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	35	19	3	180	19	80	12	858	0	66	1904	17
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	1.9	0.9	0.2	9.8	0.8	4.3	0.7	14.7	0.0	1.8	50.2	0.5
Cycle Q Clear(g_c), s	1.9	0.9	0.2	9.8	0.8	4.3	0.7	14.7	0.0	1.8	50.2	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	56	187	159	213	353	299	25	1887	842	146	1987	886
V/C Ratio(X)	0.63	0.10	0.02	0.84	0.05	0.27	0.47	0.45	0.00	0.45	0.96	0.02
Avail Cap(c_a), veh/h	90	383	325	340	645	547	90	2004	894	175	2004	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	40.3	40.0	42.5	32.8	34.2	48.2	14.3	0.0	46.1	20.6	9.7
Incr Delay (d2), s/veh	4.3	0.2	0.0	5.7	0.1	0.5	5.0	0.2	0.0	0.8	11.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.4	0.1	4.6	0.4	1.7	0.3	5.0	0.0	0.8	19.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.5	40.6	40.1	48.2	32.9	34.7	53.3	14.5	0.0	46.9	32.4	9.7
LnGrp LOS	D	D	D	D	C	C	D	B	A	D	C	A
Approach Vol, veh/h		57			279			870			1987	
Approach Delay, s/veh		47.2			43.3			15.0			32.7	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	58.8	16.4	14.6	6.0	61.6	7.7	23.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.6	18.8	* 20	5.0	55.6	5.0	* 34				
Max Q Clear Time (g_c+I1), s	3.8	16.7	11.8	2.9	2.7	52.2	3.9	6.3				
Green Ext Time (p_c), s	0.0	5.9	0.1	0.0	0.0	3.0	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/22/2021

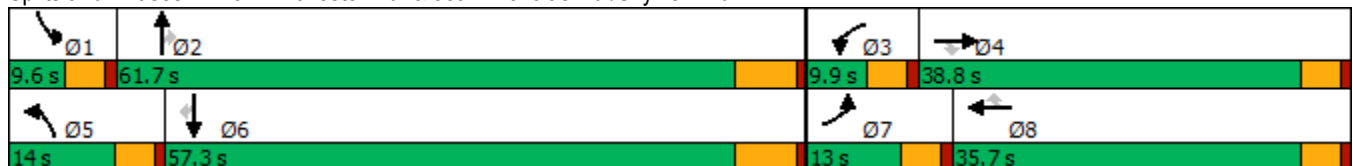


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	101	11	167	16	6	16	108	797	4	13	1470	96
Future Volume (vph)	101	11	167	16	6	16	108	797	4	13	1470	96
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.0	38.8	38.8	9.9	35.7	35.7	14.0	61.7	61.7	9.6	57.3	57.3
Total Split (%)	10.8%	32.3%	32.3%	8.3%	29.8%	29.8%	11.7%	51.4%	51.4%	8.0%	47.8%	47.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.5	11.5	11.5	5.2	10.3	10.3	9.3	63.2	63.2	5.0	51.1	51.1
Actuated g/C Ratio	0.10	0.13	0.13	0.06	0.11	0.11	0.10	0.69	0.69	0.05	0.56	0.56
v/c Ratio	0.61	0.05	0.57	0.18	0.03	0.06	0.68	0.37	0.00	0.15	0.83	0.12
Control Delay	57.2	37.4	18.4	48.2	39.5	0.4	61.1	7.8	0.0	48.0	22.9	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	37.4	18.4	48.2	39.5	0.4	61.1	7.8	0.0	48.0	22.9	3.5
LOS	E	D	B	D	D	A	E	A	A	D	C	A
Approach Delay		33.1			26.8			14.1			22.0	
Approach LOS		C			C			B			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91.3
 Natural Cycle: 135
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 20.6
 Intersection LOS: C
 Intersection Capacity Utilization 72.0%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	101	11	167	16	6	16	108	797	4	13	1470	96
Future Volume (veh/h)	101	11	167	16	6	16	108	797	4	13	1470	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	113	12	115	18	7	8	121	896	4	15	1652	82
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	301	255	35	190	161	150	2102	937	31	1863	831
Arrive On Green	0.08	0.16	0.16	0.02	0.10	0.10	0.08	0.59	0.59	0.02	0.52	0.52
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	113	12	115	18	7	8	121	896	4	15	1652	82
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.0	0.5	6.4	1.0	0.3	0.4	6.5	13.3	0.1	0.8	40.0	2.5
Cycle Q Clear(g_c), s	6.0	0.5	6.4	1.0	0.3	0.4	6.5	13.3	0.1	0.8	40.0	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	301	255	35	190	161	150	2102	937	31	1863	831
V/C Ratio(X)	0.80	0.04	0.45	0.51	0.04	0.05	0.81	0.43	0.00	0.49	0.89	0.10
Avail Cap(c_a), veh/h	154	658	558	97	598	507	173	2102	937	92	1863	831
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	34.3	36.8	47.0	39.2	39.3	43.6	10.8	8.1	47.2	20.5	11.6
Incr Delay (d2), s/veh	21.2	0.1	1.2	4.2	0.1	0.1	18.6	0.6	0.0	4.5	6.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.2	2.5	0.5	0.2	0.2	3.5	4.4	0.0	0.4	15.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.0	34.4	38.0	51.2	39.3	39.4	62.2	11.5	8.1	51.7	27.2	11.8
LnGrp LOS	E	C	D	D	D	D	E	B	A	D	C	B
Approach Vol, veh/h		240			33			1021			1749	
Approach Delay, s/veh		50.5			45.8			17.4			26.6	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.3	63.8	6.5	20.3	12.8	57.3	12.3	14.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.2	5.3	* 34	9.4	50.8	8.4	* 31				
Max Q Clear Time (g_c+I1), s	2.8	15.3	3.0	8.4	8.5	42.0	8.0	2.4				
Green Ext Time (p_c), s	0.0	6.3	0.0	0.4	0.0	6.3	0.0	0.0				

Intersection Summary

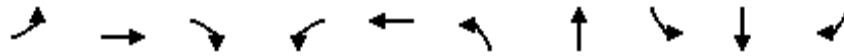
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

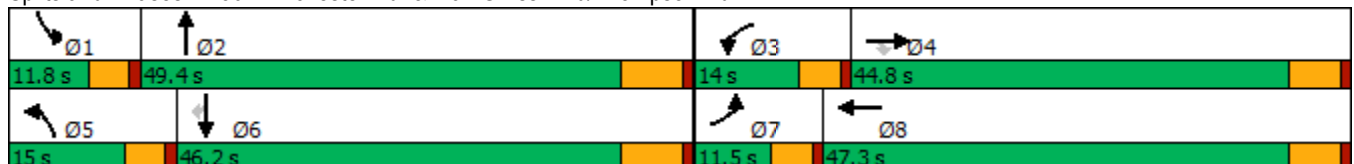


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↗	↘	↗	↘	↗↗	↘	↗↗	↘
Traffic Volume (vph)	45	216	836	330	355	415	937	75	1833	83
Future Volume (vph)	45	216	836	330	355	415	937	75	1833	83
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	11.5	44.8	44.8	14.0	47.3	15.0	49.4	11.8	46.2	46.2
Total Split (%)	9.6%	37.3%	37.3%	11.7%	39.4%	12.5%	41.2%	9.8%	38.5%	38.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	6.4	35.1	35.1	9.4	40.2	10.4	43.1	7.0	39.8	39.8
Actuated g/C Ratio	0.06	0.30	0.30	0.08	0.35	0.09	0.37	0.06	0.34	0.34
v/c Ratio	0.50	0.41	0.90	2.48	0.67	2.82	0.87	0.76	1.63	0.15
Control Delay	72.7	34.6	39.8	712.2	38.5	856.3	42.8	94.3	315.0	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.7	34.6	39.8	712.2	38.5	856.3	42.8	94.3	315.0	3.8
LOS	E	C	D	F	D	F	D	F	F	A
Approach Delay		40.1			345.5		272.9		293.7	
Approach LOS		D			F		F		F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 116.2	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.82	
Intersection Signal Delay: 242.4	Intersection LOS: F
Intersection Capacity Utilization 121.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↘	↘	↗		↘	↗↘		↘	↗↘	↘
Traffic Volume (veh/h)	45	216	836	330	355	39	415	937	114	75	1833	83
Future Volume (veh/h)	45	216	836	330	355	39	415	937	114	75	1833	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	232	748	355	382	39	446	1008	97	81	1971	67
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	565	825	144	581	59	160	1225	118	103	1215	542
Arrive On Green	0.03	0.30	0.30	0.08	0.35	0.35	0.09	0.37	0.37	0.06	0.34	0.34
Sat Flow, veh/h	1781	1870	2730	1781	1667	170	1781	3275	315	1781	3554	1585
Grp Volume(v), veh/h	48	232	748	355	0	421	446	547	558	81	1971	67
Grp Sat Flow(s),veh/h/ln	1781	1870	1365	1781	0	1837	1781	1777	1814	1781	1777	1585
Q Serve(g_s), s	3.1	11.5	30.6	9.4	0.0	22.5	10.4	32.3	32.3	5.2	39.7	3.4
Cycle Q Clear(g_c), s	3.1	11.5	30.6	9.4	0.0	22.5	10.4	32.3	32.3	5.2	39.7	3.4
Prop In Lane	1.00		1.00	1.00		0.09	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	62	565	825	144	0	640	160	665	678	103	1215	542
V/C Ratio(X)	0.78	0.41	0.91	2.46	0.00	0.66	2.79	0.82	0.82	0.79	1.62	0.12
Avail Cap(c_a), veh/h	106	628	917	144	0	657	160	665	678	110	1215	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	32.3	38.9	53.3	0.0	32.0	52.8	32.8	32.9	54.0	38.2	26.2
Incr Delay (d2), s/veh	7.6	0.5	11.7	677.9	0.0	2.3	824.8	8.2	8.1	26.3	283.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.1	11.4	31.4	0.0	10.3	41.0	14.3	14.6	3.0	63.8	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.2	32.7	50.7	731.2	0.0	34.3	877.6	41.1	41.0	80.3	321.8	26.3
LnGrp LOS	E	C	D	F	A	C	F	D	D	F	F	C
Approach Vol, veh/h		1028			776			1551			2119	
Approach Delay, s/veh		47.2			353.1			281.6			303.2	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	49.9	14.0	40.9	15.0	46.2	8.6	46.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	7.2	42.9	9.4	39.0	10.4	39.7	6.9	41.5				
Max Q Clear Time (g_c+1), s	7.2	34.3	11.4	32.6	12.4	41.7	5.1	24.5				
Green Ext Time (p_c), s	0.0	4.0	0.0	2.5	0.0	0.0	0.0	2.4				

Intersection Summary												
HCM 6th Ctrl Delay			256.1									
HCM 6th LOS			F									

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/22/2021

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↖↖	↖	↑↑↑	↖	↑↑
Traffic Volume (vph)	430	375	1093	508	2493
Future Volume (vph)	430	375	1093	508	2493
Turn Type	Prot	pm+ov	NA	Prot	NA
Protected Phases	8	1	2	1	6
Permitted Phases	8				
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	30.6	9.5	38.5	9.5	16.5
Total Split (s)	30.6	42.0	47.4	42.0	89.4
Total Split (%)	25.5%	35.0%	39.5%	35.0%	74.5%
Yellow Time (s)	3.6	3.5	5.5	3.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	6.5	4.5	6.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	20.1	61.4	41.8	36.6	83.0
Actuated g/C Ratio	0.18	0.54	0.37	0.32	0.73
v/c Ratio	0.75	0.46	0.75	0.94	1.02
Control Delay	52.9	17.5	34.6	64.7	40.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.9	17.5	34.6	64.7	40.3
LOS	D	B	C	E	D
Approach Delay	36.4		34.6		44.4
Approach LOS	D		C		D

Intersection Summary
















Cycle Length: 120
 Actuated Cycle Length: 114.2
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 40.6
 Intersection LOS: D
 Intersection Capacity Utilization 90.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/22/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  			 
Traffic Volume (veh/h)	430	375	1093	217	508	2493
Future Volume (veh/h)	430	375	1093	217	508	2493
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	453	228	1151	176	535	2624
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	557	756	1714	262	563	2629
Arrive On Green	0.16	0.16	0.38	0.38	0.32	0.74
Sat Flow, veh/h	3456	1585	4637	683	1781	3647
Grp Volume(v), veh/h	453	228	877	450	535	2624
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1747	1781	1777
Q Serve(g_s), s	14.2	9.8	24.0	24.0	32.9	82.3
Cycle Q Clear(g_c), s	14.2	9.8	24.0	24.0	32.9	82.3
Prop In Lane	1.00	1.00		0.39	1.00	
Lane Grp Cap(c), veh/h	557	756	1306	670	563	2629
V/C Ratio(X)	0.81	0.30	0.67	0.67	0.95	1.00
Avail Cap(c_a), veh/h	802	869	1306	670	596	2629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	17.9	28.7	28.7	37.5	14.5
Incr Delay (d2), s/veh	4.3	0.2	1.4	2.6	24.5	17.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	3.6	9.2	9.7	17.0	26.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.6	18.1	30.0	31.3	62.0	31.6
LnGrp LOS	D	B	C	C	E	C
Approach Vol, veh/h	681		1327			3159
Approach Delay, s/veh	39.1		30.5			36.8
Approach LOS	D		C			D
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	39.9	49.5			89.4	22.7
Change Period (Y+Rc), s	4.5	6.5			6.5	4.6
Max Green Setting (Gmax), s	37.5	40.9			82.9	26.0
Max Q Clear Time (g_c+I1), s	34.9	26.0			84.3	16.2
Green Ext Time (p_c), s	0.5	6.9			0.0	1.9
Intersection Summary						
HCM 6th Ctrl Delay			35.5			
HCM 6th LOS			D			

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/22/2021

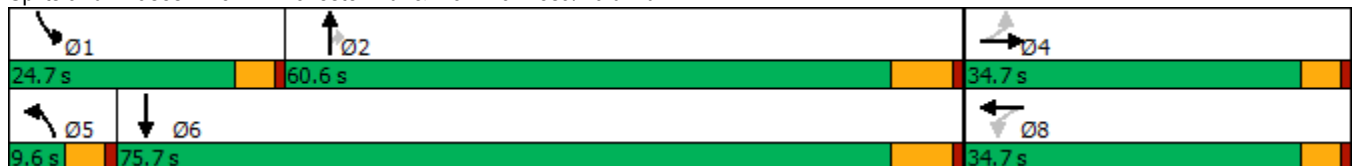


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↗	↖	↕
Traffic Volume (vph)	195	34	325	40	25	1099	317	197	2518
Future Volume (vph)	195	34	325	40	25	1099	317	197	2518
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	9.6	60.6	60.6	24.7	75.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	8.0%	50.5%	50.5%	20.6%	63.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	30.0	30.0	30.0	30.0	5.0	54.1	54.1	20.1	69.2
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.04	0.45	0.45	0.17	0.58
v/c Ratio	0.60	0.18	1.02	0.12	0.36	0.71	0.38	0.69	1.39
Control Delay	48.4	18.0	101.0	27.3	69.6	29.7	5.7	59.9	204.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	18.0	101.0	27.3	69.6	29.7	5.7	59.9	204.0
LOS	D	B	F	C	E	C	A	E	F
Approach Delay		39.4		90.3		25.1			194.3
Approach LOS		D		F		C			F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.39
 Intersection Signal Delay: 129.3
 Intersection Capacity Utilization 118.2%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↗	
Traffic Volume (veh/h)	195	34	48	325	40	16	25	1099	317	197	2518	207
Future Volume (veh/h)	195	34	48	325	40	16	25	1099	317	197	2518	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	201	35	38	335	41	11	26	1133	253	203	2596	181
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	368	203	221	347	355	95	74	1602	715	298	1942	134
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.45	0.45	0.17	0.58	0.58
Sat Flow, veh/h	1352	814	884	1327	1421	381	1781	3554	1585	1781	3368	232
Grp Volume(v), veh/h	201	0	73	335	0	52	26	1133	253	203	1353	1424
Grp Sat Flow(s),veh/h/ln	1352	0	1698	1327	0	1802	1781	1777	1585	1781	1777	1823
Q Serve(g_s), s	16.2	0.0	4.0	26.0	0.0	2.7	1.7	30.8	12.5	12.8	69.2	69.2
Cycle Q Clear(g_c), s	18.9	0.0	4.0	30.0	0.0	2.7	1.7	30.8	12.5	12.8	69.2	69.2
Prop In Lane	1.00		0.52	1.00		0.21	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	368	0	424	347	0	450	74	1602	715	298	1025	1051
V/C Ratio(X)	0.55	0.00	0.17	0.97	0.00	0.12	0.35	0.71	0.35	0.68	1.32	1.35
Avail Cap(c_a), veh/h	368	0	424	347	0	450	74	1602	715	298	1025	1051
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	0.0	35.3	48.9	0.0	34.8	55.9	26.6	21.5	46.9	25.4	25.4
Incr Delay (d2), s/veh	1.0	0.0	0.1	39.0	0.0	0.1	12.5	1.5	0.3	11.9	151.1	165.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	0.0	1.7	14.0	0.0	1.2	1.0	12.2	4.4	6.4	67.5	73.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	0.0	35.3	87.9	0.0	34.9	68.5	28.0	21.8	58.8	176.5	191.3
LnGrp LOS	D	A	D	F	A	C	E	C	C	E	F	F
Approach Vol, veh/h		274			387			1412			2980	
Approach Delay, s/veh		41.0			80.8			27.7			175.6	
Approach LOS		D			F			C			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.7	60.6		34.7	9.6	75.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	20.1	54.1		* 30	5.0	69.2		* 30				
Max Q Clear Time (g_c+I1), s	14.8	32.8		20.9	3.7	71.2		32.0				
Green Ext Time (p_c), s	0.1	8.3		0.4	0.0	0.0		0.0				

Intersection Summary

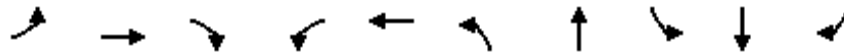
HCM 6th Ctrl Delay	119.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
06/22/2021

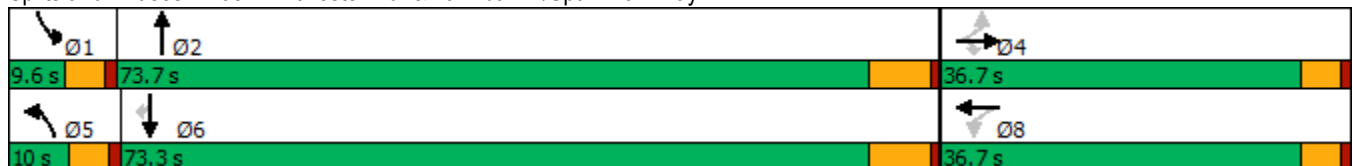


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	133	5	200	16	2	90	1300	15	2804	73
Future Volume (vph)	133	5	200	16	2	90	1300	15	2804	73
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	10.0	73.7	9.6	73.3	73.3
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	8.3%	61.4%	8.0%	61.1%	61.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	16.0	16.0	16.0		16.0	5.4	73.3	5.0	66.9	66.9
Actuated g/C Ratio	0.15	0.15	0.15		0.15	0.05	0.70	0.05	0.64	0.64
v/c Ratio	0.66	0.02	0.68		0.11	1.03	0.57	0.19	1.28	0.07
Control Delay	56.5	36.0	37.1		30.3	153.0	10.2	55.1	153.0	3.5
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	36.0	37.1		30.3	153.0	10.2	55.1	153.0	3.5
LOS	E	D	D		C	F	B	E	F	A
Approach Delay		44.7			30.3		19.2		148.8	
Approach LOS		D			C		B		F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 104.1
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.28
 Intersection Signal Delay: 100.9
 Intersection Capacity Utilization 111.5%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	5	200	16	2	7	90	1300	48	15	2804	73
Future Volume (veh/h)	133	5	200	16	2	7	90	1300	48	15	2804	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	5	141	17	2	5	94	1354	43	16	2921	67
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	226	191	168	24	34	96	2473	78	32	2372	1058
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.05	0.70	0.70	0.02	0.67	0.67
Sat Flow, veh/h	1409	1870	1585	884	201	286	1781	3516	112	1781	3554	1585
Grp Volume(v), veh/h	139	5	141	24	0	0	94	684	713	16	2921	67
Grp Sat Flow(s),veh/h/ln	1409	1870	1585	1371	0	0	1781	1777	1850	1781	1777	1585
Q Serve(g_s), s	7.9	0.2	8.6	0.5	0.0	0.0	5.3	18.6	18.6	0.9	66.8	1.5
Cycle Q Clear(g_c), s	9.2	0.2	8.6	1.3	0.0	0.0	5.3	18.6	18.6	0.9	66.8	1.5
Prop In Lane	1.00		1.00	0.71		0.21	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	247	226	191	227	0	0	96	1250	1302	32	2372	1058
V/C Ratio(X)	0.56	0.02	0.74	0.11	0.00	0.00	0.98	0.55	0.55	0.50	1.23	0.06
Avail Cap(c_a), veh/h	527	598	507	494	0	0	96	1250	1302	89	2372	1058
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	38.8	42.5	39.2	0.0	0.0	47.3	7.2	7.2	48.7	16.6	5.8
Incr Delay (d2), s/veh	2.0	0.0	5.4	0.2	0.0	0.0	84.1	0.5	0.5	4.4	108.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.1	3.6	0.5	0.0	0.0	4.5	4.9	5.1	0.4	54.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	38.8	47.9	39.4	0.0	0.0	131.4	7.7	7.6	53.1	124.7	5.8
LnGrp LOS	D	D	D	D	A	A	F	A	A	D	F	A
Approach Vol, veh/h		285			24			1491			3004	
Approach Delay, s/veh		46.2			39.4			15.5			121.7	
Approach LOS		D			D			B			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	76.9		16.8	10.0	73.3		16.8				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	5.4	66.8		* 32				
Max Q Clear Time (g_c+I1), s	2.9	20.6		11.2	7.3	68.8		3.3				
Green Ext Time (p_c), s	0.0	11.0		0.8	0.0	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	83.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	1185	498	1622	446	637	0	304
Future Volume (vph)	1185	498	1622	446	637	0	304
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	82.0	82.0	82.0	82.0	38.0	38.0	38.0
Total Split (%)	68.3%	68.3%	68.3%	68.3%	31.7%	31.7%	31.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	60.7	60.7	60.7	60.7	26.1	26.1	26.1
Actuated g/C Ratio	0.64	0.64	0.64	0.64	0.27	0.27	0.27
v/c Ratio	0.55	0.43	0.75	0.40	0.71	0.37	0.36
Control Delay	10.9	1.9	14.9	1.8	37.5	27.3	27.2
Queue Delay	0.0	0.0	0.4	0.2	0.0	0.0	0.0
Total Delay	10.9	1.9	15.3	2.0	37.5	27.3	27.2
LOS	B	A	B	A	D	C	C
Approach Delay	8.3		12.4			34.2	
Approach LOS	A		B			C	

Intersection Summary













Cycle Length: 120	
Actuated Cycle Length: 95.4	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 15.3	Intersection LOS: B
Intersection Capacity Utilization 69.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: I-215 SB Ramps & Scott Rd.

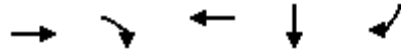


HCM 6th Signalized Intersection Summary
 1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↗	↗
Traffic Volume (veh/h)	0	1185	498	0	1622	446	0	0	0	637	0	304
Future Volume (veh/h)	0	1185	498	0	1622	446	0	0	0	637	0	304
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1234	516	0	1690	390				664	0	234
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2311	1031	0	2311	1031				867	0	771
Arrive On Green	0.00	0.65	0.65	0.00	0.65	0.65				0.24	0.00	0.24
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	1234	516	0	1690	390				664	0	234
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	14.0	12.7	0.0	23.8	8.6				13.0	0.0	4.5
Cycle Q Clear(g_c), s	0.0	14.0	12.7	0.0	23.8	8.6				13.0	0.0	4.5
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2311	1031	0	2311	1031				867	0	771
V/C Ratio(X)	0.00	0.53	0.50	0.00	0.73	0.38				0.77	0.00	0.30
Avail Cap(c_a), veh/h	0	3688	1645	0	3688	1645				1612	0	1434
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	7.0	6.8	0.0	8.8	6.1				26.5	0.0	23.2
Incr Delay (d2), s/veh	0.0	0.2	0.4	0.0	0.5	0.2				1.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.6	3.0	0.0	6.2	2.0				5.2	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	7.2	7.2	0.0	9.2	6.3				27.9	0.0	23.5
LnGrp LOS	A	A	A	A	A	A				C	A	C
Approach Vol, veh/h		1750			2080						898	
Approach Delay, s/veh		7.2			8.7						26.7	
Approach LOS		A			A						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				52.9		22.3		52.9				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				78.0		34.0		78.0				
Max Q Clear Time (g_c+I1), s				16.0		15.0		25.8				
Green Ext Time (p_c), s				15.6		3.3		23.0				
Intersection Summary												
HCM 6th Ctrl Delay			11.6									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

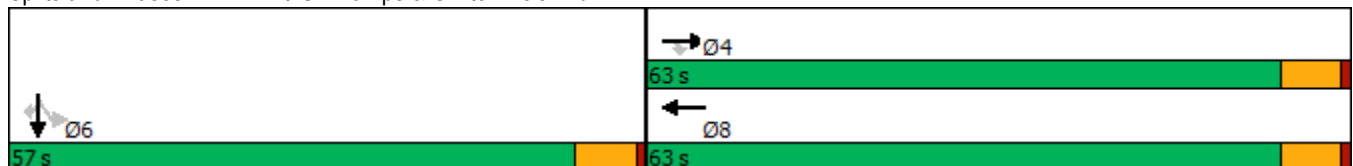


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑↑
Traffic Volume (vph)	1655	398	1186	0	767
Future Volume (vph)	1655	398	1186	0	767
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	63.0	63.0	63.0	57.0	57.0
Total Split (%)	52.5%	52.5%	52.5%	47.5%	47.5%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	46.7	46.7	46.7	36.8	36.8
Actuated g/C Ratio	0.48	0.48	0.48	0.38	0.38
v/c Ratio	0.71	0.44	0.73	0.50	0.73
Control Delay	22.4	3.3	21.4	26.8	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	3.3	21.4	26.8	29.1
LOS	C	A	C	C	C
Approach Delay	18.7		21.4	28.4	
Approach LOS	B		C	C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.1
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 21.8
 Intersection LOS: C
 Intersection Capacity Utilization 71.3%
 ICU Level of Service C
 Analysis Period (min) 15













Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)

06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1655	398	0	1186	481	0	0	0	322	0	767
Future Volume (veh/h)	0	1655	398	0	1186	481	0	0	0	322	0	767
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1724	363	0	1235	501				335	0	423
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2756	831	0	1915	773				472	0	739
Arrive On Green	0.00	0.54	0.54	0.00	0.54	0.54				0.26	0.00	0.26
Sat Flow, veh/h	0	5274	1540	0	3717	1432				1781	0	2790
Grp Volume(v), veh/h	0	1724	363	0	1184	552				335	0	423
Grp Sat Flow(s),veh/h/ln	0	1702	1540	0	1702	1577				1781	0	1395
Q Serve(g_s), s	0.0	15.6	9.4	0.0	16.3	16.5				11.3	0.0	8.7
Cycle Q Clear(g_c), s	0.0	15.6	9.4	0.0	16.3	16.5				11.3	0.0	8.7
Prop In Lane	0.00		1.00	0.00		0.91				1.00		1.00
Lane Grp Cap(c), veh/h	0	2756	831	0	1837	851				472	0	739
V/C Ratio(X)	0.00	0.63	0.44	0.00	0.64	0.65				0.71	0.00	0.57
Avail Cap(c_a), veh/h	0	4339	1309	0	2893	1340				1353	0	2119
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.6	9.2	0.0	10.8	10.8				22.1	0.0	21.2
Incr Delay (d2), s/veh	0.0	0.2	0.4	0.0	0.4	0.8				2.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.0	2.2	0.0	4.2	4.0				4.7	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.9	9.6	0.0	11.2	11.7				24.1	0.0	21.9
LnGrp LOS	A	B	A	A	B	B				C	A	C
Approach Vol, veh/h		2087			1736						758	
Approach Delay, s/veh		10.6			11.3						22.9	
Approach LOS		B			B						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				42.4		24.1		42.4				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				56.5		50.5		56.5				
Max Q Clear Time (g_c+I1), s				17.6		13.3		18.5				
Green Ext Time (p_c), s				18.3		4.3		15.3				
Intersection Summary												
HCM 6th Ctrl Delay				12.9								
HCM 6th LOS				B								

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↖	↖	↖	↖
Traffic Volume (vph)	265	1557	1297	605	0	850	0	771
Future Volume (vph)	265	1557	1297	605	0	850	0	771
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	88.0	88.0	88.0	88.0	32.0	32.0	32.0	32.0
Total Split (%)	73.3%	73.3%	73.3%	73.3%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	84.0	84.0	84.0	84.0	28.0	28.0	28.0	28.0
Actuated g/C Ratio	0.70	0.70	0.70	0.70	0.23	0.23	0.23	0.23
v/c Ratio	1.33	0.65	0.54	0.48	1.13	1.13	0.96	0.95
Control Delay	200.6	11.4	9.7	1.8	122.2	122.2	70.7	70.1
Queue Delay	0.0	4.6	16.8	1.7	0.0	0.0	0.0	0.0
Total Delay	200.6	16.0	26.5	3.5	122.2	122.2	70.7	70.1
LOS	F	B	C	A	F	F	E	E
Approach Delay		42.8	19.2		122.2		70.4	
Approach LOS		D	B		F		E	

Intersection Summary





















Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.33	
Intersection Signal Delay: 51.0	Intersection LOS: D
Intersection Capacity Utilization 84.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	1557	0	0	1297	605	0	0	850	0	0	771
Future Volume (veh/h)	265	1557	0	0	1297	605	0	0	850	0	0	771
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	273	1605	0	0	1337	497	0	0	842	0	0	554
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	191	2488	0	0	2488	1110	0	436	740	0	436	740
Arrive On Green	0.70	0.70	0.00	0.00	0.70	0.70	0.00	0.00	0.23	0.00	0.00	0.23
Sat Flow, veh/h	253	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	273	1605	0	0	1337	497	0	0	842	0	0	554
Grp Sat Flow(s),veh/h/ln	253	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	62.3	29.7	0.0	0.0	21.7	16.4	0.0	0.0	28.0	0.0	0.0	19.5
Cycle Q Clear(g_c), s	84.0	29.7	0.0	0.0	21.7	16.4	0.0	0.0	28.0	0.0	0.0	19.5
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	191	2488	0	0	2488	1110	0	436	740	0	436	740
V/C Ratio(X)	1.43	0.65	0.00	0.00	0.54	0.45	0.00	0.00	1.14	0.00	0.00	0.75
Avail Cap(c_a), veh/h	191	2488	0	0	2488	1110	0	436	740	0	436	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	38.6	9.8	0.0	0.0	8.7	7.9	0.0	0.0	46.0	0.0	0.0	42.7
Incr Delay (d2), s/veh	219.2	0.6	0.0	0.0	0.2	0.3	0.0	0.0	78.2	0.0	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.3	9.6	0.0	0.0	7.0	4.7	0.0	0.0	18.6	0.0	0.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	257.9	10.4	0.0	0.0	8.9	8.2	0.0	0.0	124.2	0.0	0.0	47.0
LnGrp LOS	F	B	A	A	A	A	A	A	F	A	A	D
Approach Vol, veh/h		1878			1834			842				554
Approach Delay, s/veh		46.4			8.7			124.2				47.0
Approach LOS		D			A			F				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.0		88.0		32.0		88.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		28.0		84.0		28.0		84.0				
Max Q Clear Time (g_c+I1), s		30.0		86.0		21.5		23.7				
Green Ext Time (p_c), s		0.0		0.0		1.3		17.3				

Intersection Summary

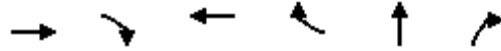
HCM 6th Ctrl Delay	45.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

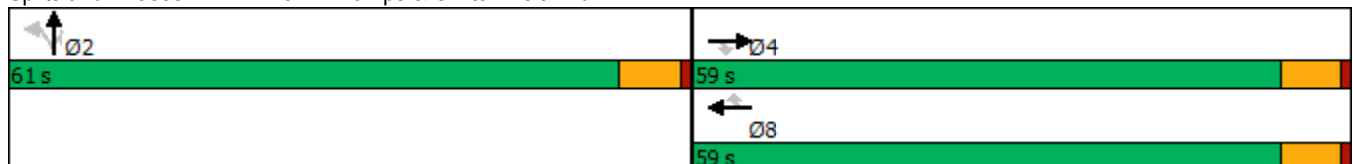


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↔	↑
Traffic Volume (vph)	1328	649	1224	149	0	586
Future Volume (vph)	1328	649	1224	149	0	586
Turn Type	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		4		8		2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5	16.5
Total Split (s)	59.0	59.0	59.0	59.0	61.0	61.0
Total Split (%)	49.2%	49.2%	49.2%	49.2%	50.8%	50.8%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	38.9	38.9	38.9	38.9	37.3	37.3
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.41	0.41
v/c Ratio	0.61	0.68	0.56	0.20	0.77	0.78
Control Delay	22.0	8.8	21.2	4.0	30.4	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	8.8	21.2	4.0	30.4	31.5
LOS	C	A	C	A	C	C
Approach Delay	17.7		19.3		30.9	
Approach LOS	B		B		C	

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 90.1
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 21.3
 Intersection Capacity Utilization 72.9%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	1328	649	0	1224	149	442	0	586	0	0	0
Future Volume (veh/h)	0	1328	649	0	1224	149	442	0	586	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1341	656	0	1236	151	446	0	413			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2656	804	0	2656	807	575	0	511			
Arrive On Green	0.00	0.52	0.52	0.00	0.52	0.52	0.32	0.00	0.32			
Sat Flow, veh/h	0	5274	1546	0	5274	1551	1781	0	1585			
Grp Volume(v), veh/h	0	1341	656	0	1236	151	446	0	413			
Grp Sat Flow(s),veh/h/ln	0	1702	1546	0	1702	1551	1781	0	1585			
Q Serve(g_s), s	0.0	14.1	29.2	0.0	12.7	4.3	18.7	0.0	19.7			
Cycle Q Clear(g_c), s	0.0	14.1	29.2	0.0	12.7	4.3	18.7	0.0	19.7			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2656	804	0	2656	807	575	0	511			
V/C Ratio(X)	0.00	0.50	0.82	0.00	0.47	0.19	0.78	0.00	0.81			
Avail Cap(c_a), veh/h	0	3241	982	0	3241	985	1174	0	1045			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	12.9	16.5	0.0	12.6	10.5	25.3	0.0	25.7			
Incr Delay (d2), s/veh	0.0	0.1	4.5	0.0	0.1	0.1	2.3	0.0	3.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	4.3	9.0	0.0	3.8	1.2	7.9	0.0	7.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.1	21.0	0.0	12.7	10.7	27.6	0.0	28.7			
LnGrp LOS	A	B	C	A	B	B	C	A	C			
Approach Vol, veh/h		1997			1387			859				
Approach Delay, s/veh		15.7			12.5			28.1				
Approach LOS		B			B			C				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		33.2		49.5				49.5				
Change Period (Y+Rc), s		6.5		6.5				6.5				
Max Green Setting (Gmax), s		54.5		52.5				52.5				
Max Q Clear Time (g_c+I1), s		21.7		31.2				14.7				
Green Ext Time (p_c), s		4.9		11.8				10.3				
Intersection Summary												
HCM 6th Ctrl Delay			17.2									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

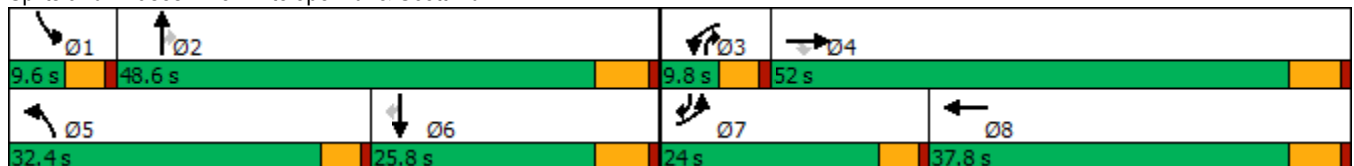


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑↔	↔↔	↑↑	↗	↖	↑	↗
Traffic Volume (vph)	568	1332	506	91	967	612	236	188	58	137	322
Future Volume (vph)	568	1332	506	91	967	612	236	188	58	137	322
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	24.0	52.0	52.0	9.8	37.8	32.4	48.6	9.8	9.6	25.8	24.0
Total Split (%)	20.0%	43.3%	43.3%	8.2%	31.5%	27.0%	40.5%	8.2%	8.0%	21.5%	20.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	19.5	46.4	46.4	5.2	32.1	23.8	32.9	43.9	5.0	14.1	34.8
Actuated g/C Ratio	0.18	0.42	0.42	0.05	0.29	0.22	0.30	0.40	0.05	0.13	0.32
v/c Ratio	0.98	0.93	0.63	0.59	0.72	0.86	0.23	0.28	0.75	0.60	0.59
Control Delay	78.1	44.1	14.7	68.5	39.1	54.7	29.2	10.6	103.1	57.2	23.7
Queue Delay	4.3	45.9	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.4	90.1	18.6	68.5	39.1	54.7	29.2	10.6	103.1	57.2	23.7
LOS	F	F	B	E	D	D	C	B	F	E	C
Approach Delay		73.2			41.6		40.9			41.5	
Approach LOS		E			D		D			D	

Intersection Summary
































Cycle Length: 120
 Actuated Cycle Length: 110.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 56.4
 Intersection LOS: E
 Intersection Capacity Utilization 84.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 			 	
Traffic Volume (veh/h)	568	1332	506	91	967	51	612	236	188	58	137	322
Future Volume (veh/h)	568	1332	506	91	967	51	612	236	188	58	137	322
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	592	1388	318	95	1007	45	638	246	104	60	143	216
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	625	1496	667	152	1424	64	712	1059	542	77	253	498
Arrive On Green	0.18	0.42	0.42	0.04	0.28	0.28	0.21	0.30	0.30	0.04	0.14	0.14
Sat Flow, veh/h	3456	3554	1585	3456	5011	224	3456	3554	1585	1781	1870	1563
Grp Volume(v), veh/h	592	1388	318	95	684	368	638	246	104	60	143	216
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1830	1728	1777	1585	1781	1870	1563
Q Serve(g_s), s	18.2	39.8	15.6	2.9	19.3	19.4	19.3	5.6	5.0	3.6	7.7	11.8
Cycle Q Clear(g_c), s	18.2	39.8	15.6	2.9	19.3	19.4	19.3	5.6	5.0	3.6	7.7	11.8
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	625	1496	667	152	967	520	712	1059	542	77	253	498
V/C Ratio(X)	0.95	0.93	0.48	0.63	0.71	0.71	0.90	0.23	0.19	0.78	0.56	0.43
Avail Cap(c_a), veh/h	625	1530	682	167	1015	546	895	1417	702	83	349	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	29.5	22.5	50.5	34.4	34.4	41.5	28.4	24.9	50.8	43.4	29.1
Incr Delay (d2), s/veh	23.6	10.1	0.5	4.0	2.2	4.0	8.7	0.1	0.2	30.7	2.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	17.7	5.5	1.3	7.9	8.8	8.7	2.3	1.8	2.2	3.6	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.1	39.6	23.0	54.4	36.6	38.4	50.2	28.5	25.0	81.5	45.4	29.7
LnGrp LOS	E	D	C	D	D	D	D	C	C	F	D	C
Approach Vol, veh/h		2298			1147			988				419
Approach Delay, s/veh		44.4			38.6			42.1				42.5
Approach LOS		D			D			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	37.8	9.3	51.0	26.7	20.3	24.0	36.3				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	42.8	5.2	46.2	27.8	20.0	19.4	32.0				
Max Q Clear Time (g_c+I1), s	5.6	7.6	4.9	41.8	21.3	13.8	20.2	21.4				
Green Ext Time (p_c), s	0.0	1.8	0.0	3.4	0.8	0.8	0.0	4.6				
Intersection Summary												
HCM 6th Ctrl Delay			42.4									
HCM 6th LOS			D									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

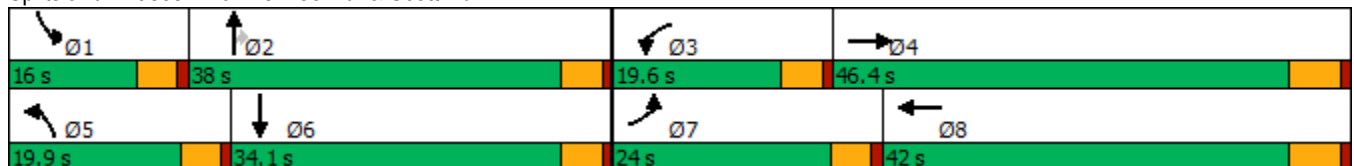


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↗	↗	↖	↗
Traffic Volume (vph)	196	872	141	852	124	367	235	119	133
Future Volume (vph)	196	872	141	852	124	367	235	119	133
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	24.0	46.4	19.6	42.0	19.9	38.0	38.0	16.0	34.1
Total Split (%)	20.0%	38.7%	16.3%	35.0%	16.6%	31.7%	31.7%	13.3%	28.4%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	16.2	39.8	12.6	36.2	12.0	27.6	27.6	10.4	26.1
Actuated g/C Ratio	0.15	0.36	0.11	0.33	0.11	0.25	0.25	0.09	0.24
v/c Ratio	0.80	0.86	0.74	0.91	0.68	0.83	0.43	0.75	0.56
Control Delay	69.0	41.8	70.6	49.2	67.2	55.5	6.6	77.8	39.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.0	41.8	70.6	49.2	67.2	55.5	6.6	77.8	39.0
LOS	E	D	E	D	E	E	A	E	D
Approach Delay		46.2		51.9		41.7			52.1
Approach LOS		D		D		D			D

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 110.4	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 47.7	Intersection LOS: D
Intersection Capacity Utilization 81.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	872	152	141	852	136	124	367	235	119	133	99
Future Volume (veh/h)	196	872	152	141	852	136	124	367	235	119	133	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	206	918	146	148	897	129	131	386	130	125	140	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	1117	178	180	1030	148	162	452	376	155	269	146
Arrive On Green	0.13	0.37	0.37	0.10	0.33	0.33	0.09	0.24	0.24	0.09	0.24	0.24
Sat Flow, veh/h	1781	3059	486	1781	3108	447	1781	1870	1557	1781	1134	616
Grp Volume(v), veh/h	206	533	531	148	513	513	131	386	130	125	0	216
Grp Sat Flow(s),veh/h/ln	1781	1777	1768	1781	1777	1779	1781	1870	1557	1781	0	1749
Q Serve(g_s), s	10.9	26.1	26.2	7.8	26.0	26.0	6.9	18.9	6.6	6.6	0.0	10.3
Cycle Q Clear(g_c), s	10.9	26.1	26.2	7.8	26.0	26.0	6.9	18.9	6.6	6.6	0.0	10.3
Prop In Lane	1.00		0.28	1.00		0.25	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	240	649	645	180	589	589	162	452	376	155	0	416
V/C Ratio(X)	0.86	0.82	0.82	0.82	0.87	0.87	0.81	0.85	0.35	0.81	0.00	0.52
Avail Cap(c_a), veh/h	360	751	748	278	670	671	284	649	540	212	0	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.6	27.7	27.7	42.3	30.2	30.2	42.8	34.8	30.1	43.0	0.0	31.8
Incr Delay (d2), s/veh	8.5	6.5	6.5	6.0	11.0	11.0	3.6	7.6	0.5	10.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	11.3	11.3	3.6	12.1	12.1	3.2	9.4	2.4	3.3	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	34.1	34.2	48.3	41.2	41.2	46.4	42.4	30.7	53.8	0.0	32.8
LnGrp LOS	D	C	C	D	D	D	D	D	C	D	A	C
Approach Vol, veh/h		1270			1174			647			341	
Approach Delay, s/veh		36.6			42.1			40.8			40.5	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	27.9	14.3	40.8	13.3	27.5	17.6	37.6				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	11.4	* 33	15.0	40.6	15.3	* 29	19.4	36.2				
Max Q Clear Time (g_c+I1), s	8.6	20.9	9.8	28.2	8.9	12.3	12.9	28.0				
Green Ext Time (p_c), s	0.0	2.3	0.1	5.1	0.1	1.1	0.1	3.8				

Intersection Summary

HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
7: Whitewood Rd. & Clinton Keith Rd.

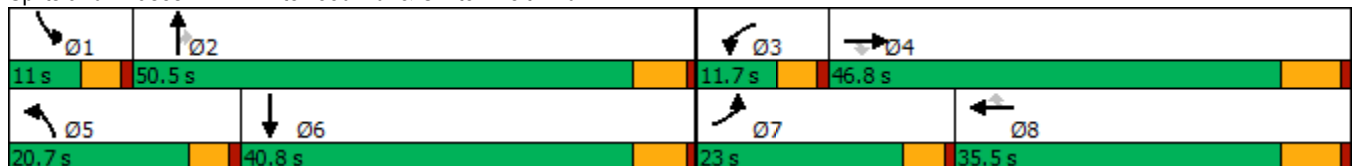
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	698	1131	168	154	840	177	203	843	187	127	249
Future Volume (vph)	698	1131	168	154	840	177	203	843	187	127	249
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	23.0	46.8	46.8	11.7	35.5	35.5	20.7	50.5	50.5	11.0	40.8
Total Split (%)	19.2%	39.0%	39.0%	9.8%	29.6%	29.6%	17.3%	42.1%	42.1%	9.2%	34.0%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	18.4	40.3	40.3	7.1	29.0	29.0	15.6	44.7	44.7	6.4	35.5
Actuated g/C Ratio	0.15	0.34	0.34	0.06	0.24	0.24	0.13	0.37	0.37	0.05	0.30
v/c Ratio	1.35	0.97	0.27	0.77	0.70	0.34	0.90	1.24	0.28	1.38	0.50
Control Delay	210.6	59.7	7.3	80.4	45.1	6.1	90.7	154.3	7.4	267.0	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	210.6	59.7	7.3	80.4	45.1	6.1	90.7	154.3	7.4	267.0	19.5
LOS	F	E	A	F	D	A	F	F	A	F	B
Approach Delay		108.0			43.8			121.5			65.5
Approach LOS		F			D			F			E

Intersection Summary






























Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.38	
Intersection Signal Delay: 90.8	Intersection LOS: F
Intersection Capacity Utilization 105.5%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  						 	
Traffic Volume (veh/h)	698	1131	168	154	840	177	203	843	187	127	249	310
Future Volume (veh/h)	698	1131	168	154	840	177	203	843	187	127	249	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	712	1154	145	157	857	155	207	860	155	130	254	260
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	530	1193	532	204	1234	383	233	697	590	95	524	467
Arrive On Green	0.15	0.34	0.34	0.06	0.24	0.24	0.13	0.37	0.37	0.05	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	712	1154	145	157	857	155	207	860	155	130	254	260
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	18.4	38.3	8.0	5.4	18.4	9.9	13.7	44.7	8.2	6.4	14.1	16.6
Cycle Q Clear(g_c), s	18.4	38.3	8.0	5.4	18.4	9.9	13.7	44.7	8.2	6.4	14.1	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	530	1193	532	204	1234	383	233	697	590	95	524	467
V/C Ratio(X)	1.34	0.97	0.27	0.77	0.69	0.40	0.89	1.23	0.26	1.37	0.48	0.56
Avail Cap(c_a), veh/h	530	1193	532	204	1234	383	239	697	590	95	524	467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	39.2	29.1	55.6	41.5	38.2	51.3	37.6	26.2	56.8	34.8	35.7
Incr Delay (d2), s/veh	167.0	18.6	0.3	14.6	1.7	0.7	29.2	117.7	0.2	219.0	0.7	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.9	18.6	2.9	2.7	7.5	3.7	7.8	42.0	2.9	8.6	6.0	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	217.8	57.8	29.4	70.3	43.2	38.9	80.4	155.3	26.4	275.8	35.5	37.1
LnGrp LOS	F	E	C	E	D	D	F	F	C	F	D	D
Approach Vol, veh/h		2011			1169			1222			644	
Approach Delay, s/veh		112.4			46.2			126.3			84.7	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	50.5	11.7	46.8	20.3	41.2	23.0	35.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	6.4	44.7	7.1	40.3	16.1	35.0	18.4	29.0				
Max Q Clear Time (g_c+I1), s	8.4	46.7	7.4	40.3	15.7	18.6	20.4	20.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.6	0.0	3.6				
Intersection Summary												
HCM 6th Ctrl Delay					96.9							
HCM 6th LOS					F							

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

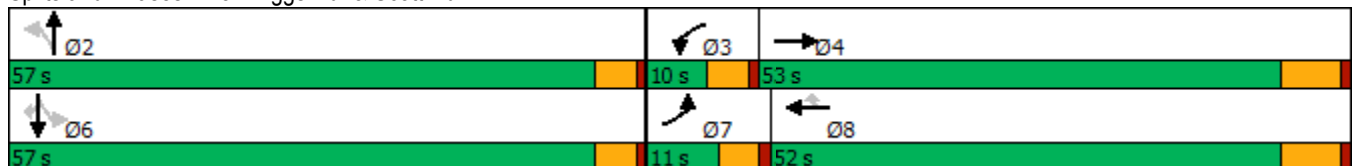


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗		↕		↕	↗
Traffic Volume (vph)	21	713	12	652	14	346	7	20	5	28
Future Volume (vph)	21	713	12	652	14	346	7	20	5	28
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	11.0	53.0	10.0	52.0	52.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	9.2%	44.2%	8.3%	43.3%	43.3%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	6.1	32.5	5.7	30.5	30.5		30.3		30.3	30.3
Actuated g/C Ratio	0.08	0.42	0.07	0.40	0.40		0.40		0.40	0.40
v/c Ratio	0.16	0.75	0.10	0.48	0.02		0.72		0.05	0.04
Control Delay	47.1	22.8	47.8	21.0	0.1		29.8		17.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	47.1	22.8	47.8	21.0	0.1		29.8		17.2	0.1
LOS	D	C	D	C	A		C		B	A
Approach Delay		23.3		21.0			29.8		8.2	
Approach LOS		C		C			C		A	

Intersection Summary





















Cycle Length: 120
 Actuated Cycle Length: 76.6
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 23.3
 Intersection LOS: C
 Intersection Capacity Utilization 67.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	713	351	12	652	14	346	7	10	20	5	28
Future Volume (veh/h)	21	713	351	12	652	14	346	7	10	20	5	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	743	309	12	679	15	360	7	7	21	5	13
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	981	408	27	1388	619	547	8	8	554	121	517
Arrive On Green	0.03	0.40	0.40	0.02	0.39	0.39	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	2447	1017	1781	3554	1585	1312	26	26	1359	367	1564
Grp Volume(v), veh/h	22	539	513	12	679	15	374	0	0	26	0	13
Grp Sat Flow(s),veh/h/ln	1781	1777	1687	1781	1777	1585	1363	0	0	1726	0	1564
Q Serve(g_s), s	0.8	16.3	16.3	0.4	9.0	0.4	15.4	0.0	0.0	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.8	16.3	16.3	0.4	9.0	0.4	16.0	0.0	0.0	0.6	0.0	0.3
Prop In Lane	1.00		0.60	1.00		1.00	0.96		0.02	0.81		1.00
Lane Grp Cap(c), veh/h	45	712	676	27	1388	619	564	0	0	675	0	517
V/C Ratio(X)	0.49	0.76	0.76	0.45	0.49	0.02	0.66	0.00	0.00	0.04	0.00	0.03
Avail Cap(c_a), veh/h	183	1327	1260	154	2596	1158	1279	0	0	1424	0	1313
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.9	16.0	16.1	30.4	14.3	11.7	19.6	0.0	0.0	14.2	0.0	14.1
Incr Delay (d2), s/veh	3.0	1.7	1.8	4.3	0.3	0.0	1.3	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.3	5.0	0.2	2.8	0.1	4.7	0.0	0.0	0.2	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	17.7	17.8	34.7	14.6	11.7	20.9	0.0	0.0	14.2	0.0	14.1
LnGrp LOS	C	B	B	C	B	B	C	A	A	B	A	B
Approach Vol, veh/h		1074			706			374				39
Approach Delay, s/veh		18.1			14.8			20.9				14.2
Approach LOS		B			B			C				B
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.3	5.5	31.5		25.3	6.2	30.8				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 52	5.4	46.5		* 52	6.4	45.5				
Max Q Clear Time (g_c+I1), s		18.0	2.4	18.3		2.6	2.8	11.0				
Green Ext Time (p_c), s		2.5	0.0	6.7		0.2	0.0	4.4				
Intersection Summary												
HCM 6th Ctrl Delay			17.5									
HCM 6th LOS			B									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Intersection Delay, s/veh60.3
Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	355	275	17	360	12	218	41	18	12	34	20
Future Vol, veh/h	16	355	275	17	360	12	218	41	18	12	34	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	378	293	18	383	13	232	44	19	13	36	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	103	25.8	20.4	12.8
HCM LOS	F	D	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	79%	2%	4%	18%
Vol Thru, %	15%	55%	93%	52%
Vol Right, %	6%	43%	3%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	277	646	389	66
LT Vol	218	16	17	12
Through Vol	41	355	360	34
RT Vol	18	275	12	20
Lane Flow Rate	295	687	414	70
Geometry Grp	1	1	1	1
Degree of Util (X)	0.581	1.137	0.731	0.153
Departure Headway (Hd)	7.519	5.957	6.71	8.291
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	483	612	542	435
Service Time	5.519	3.961	4.71	6.291
HCM Lane V/C Ratio	0.611	1.123	0.764	0.161
HCM Control Delay	20.4	103	25.8	12.8
HCM Lane LOS	C	F	D	B
HCM 95th-tile Q	3.6	22	6.1	0.5

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	3	5	60	3	104	0	293	97	128	179	0
Future Vol, veh/h	5	3	5	60	3	104	0	293	97	128	179	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	3	5	66	3	114	0	322	107	141	197	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	913	908	197	859	855	376	197	0	0	429	0	0
Stage 1	479	479	-	376	376	-	-	-	-	-	-	-
Stage 2	434	429	-	483	479	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	254	275	844	277	296	670	1376	-	-	1130	-	-
Stage 1	568	555	-	645	616	-	-	-	-	-	-	-
Stage 2	600	584	-	565	555	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	186	237	844	243	255	670	1376	-	-	1130	-	-
Mov Cap-2 Maneuver	186	237	-	243	255	-	-	-	-	-	-	-
Stage 1	568	477	-	645	616	-	-	-	-	-	-	-
Stage 2	495	584	-	479	477	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.2		21.2		0		3.6	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1376	-	-	286	403	1130	-	-
HCM Lane V/C Ratio	-	-	-	0.05	0.455	0.124	-	-
HCM Control Delay (s)	0	-	-	18.2	21.2	8.6	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	2.3	0.4	-	-

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	12	0	15	0	364	14	9	257	0
Future Vol, veh/h	0	0	0	12	0	15	0	364	14	9	257	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	13	0	17	0	404	16	10	286	0

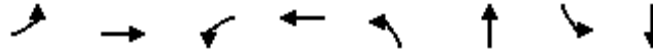
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	727	726	143	575	718	412	286	0	0	420	0	0
Stage 1	306	306	-	412	412	-	-	-	-	-	-	-
Stage 2	421	420	-	163	306	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	325	350	879	415	354	639	1275	-	-	1137	-	-
Stage 1	679	661	-	616	593	-	-	-	-	-	-	-
Stage 2	609	589	-	823	661	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	314	347	879	412	351	639	1275	-	-	1137	-	-
Mov Cap-2 Maneuver	428	438	-	500	443	-	-	-	-	-	-	-
Stage 1	679	655	-	616	593	-	-	-	-	-	-	-
Stage 2	593	589	-	816	655	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	11.5	0	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1275	-	-	-	500	639	1137
HCM Lane V/C Ratio	-	-	-	-	0.027	0.026	0.009
HCM Control Delay (s)	0	-	-	0	12.4	10.8	8.2
HCM Lane LOS	A	-	-	A	B	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1	0

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/22/2021

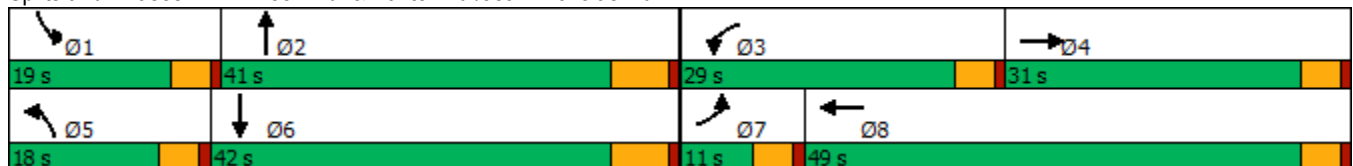


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	9	49	147	106	62	352	76	290
Future Volume (vph)	9	49	147	106	62	352	76	290
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	11.0	31.0	29.0	49.0	18.0	41.0	19.0	42.0
Total Split (%)	9.2%	25.8%	24.2%	40.8%	15.0%	34.2%	15.8%	35.0%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	6.4	10.0	24.5	28.1	8.2	35.2	9.0	35.9
Actuated g/C Ratio	0.07	0.10	0.25	0.29	0.08	0.36	0.09	0.37
v/c Ratio	0.09	0.29	0.36	0.27	0.46	0.49	0.51	0.25
Control Delay	46.2	24.4	33.8	12.5	53.1	22.0	53.6	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	24.4	33.8	12.5	53.1	22.0	53.6	22.5
LOS	D	C	C	B	D	C	D	C
Approach Delay		26.2		20.3		25.1		28.9
Approach LOS		C		C		C		C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96.6
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 24.8
 Intersection LOS: C
 Intersection Capacity Utilization 54.3%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	
Traffic Volume (veh/h)	9	49	52	147	106	148	62	352	207	76	290	3
Future Volume (veh/h)	9	49	52	147	106	148	62	352	207	76	290	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	54	26	163	118	106	69	391	190	84	322	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	280	126	450	562	461	89	836	400	108	1338	12
Arrive On Green	0.07	0.12	0.12	0.25	0.30	0.30	0.05	0.36	0.36	0.06	0.37	0.37
Sat Flow, veh/h	1781	2378	1067	1781	1847	1515	1781	2320	1111	1781	3608	34
Grp Volume(v), veh/h	10	39	41	163	113	111	69	298	283	84	158	167
Grp Sat Flow(s),veh/h/ln	1781	1777	1669	1781	1777	1586	1781	1777	1654	1781	1777	1864
Q Serve(g_s), s	0.5	1.9	2.1	7.3	4.6	5.0	3.7	12.4	12.7	4.5	5.9	6.0
Cycle Q Clear(g_c), s	0.5	1.9	2.1	7.3	4.6	5.0	3.7	12.4	12.7	4.5	5.9	6.0
Prop In Lane	1.00		0.64	1.00		0.96	1.00		0.67	1.00		0.02
Lane Grp Cap(c), veh/h	118	209	197	450	541	483	89	640	596	108	659	692
V/C Ratio(X)	0.08	0.19	0.21	0.36	0.21	0.23	0.77	0.47	0.47	0.78	0.24	0.24
Avail Cap(c_a), veh/h	118	484	455	450	816	728	247	641	596	266	659	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.3	38.4	38.5	29.6	24.9	25.1	45.3	23.7	23.8	44.7	21.0	21.0
Incr Delay (d2), s/veh	1.4	0.4	0.5	2.2	0.2	0.2	5.3	0.5	0.6	4.5	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.9	0.9	3.4	1.9	1.9	1.7	4.9	4.7	2.0	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.7	38.8	39.0	31.9	25.1	25.3	50.6	24.2	24.4	49.2	21.8	21.8
LnGrp LOS	D	D	D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		90			387			650			409	
Approach Delay, s/veh		39.4			28.0			27.1			27.4	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	41.0	29.0	16.1	9.4	42.0	11.0	34.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	14.4	34.8	24.4	* 26	13.4	35.8	6.4	* 44				
Max Q Clear Time (g_c+I1), s	6.5	14.7	9.3	4.1	5.7	8.0	2.5	7.0				
Green Ext Time (p_c), s	0.0	3.1	0.2	0.3	0.0	1.6	0.0	1.4				

Intersection Summary

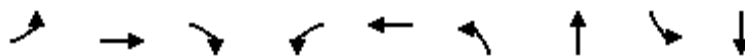
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↔↔	↑↑	↔↔	↑↑
Traffic Volume (vph)	193	612	1182	210	385	932	463	14	305
Future Volume (vph)	193	612	1182	210	385	932	463	14	305
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	11.4	33.5	39.4	11.4	33.5	39.4	65.5	9.6	35.7
Total Split (%)	9.5%	27.9%	32.8%	9.5%	27.9%	32.8%	54.6%	8.0%	29.8%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	6.8	23.7	65.3	6.8	23.7	35.0	54.0	5.0	18.0
Actuated g/C Ratio	0.06	0.23	0.62	0.06	0.23	0.33	0.51	0.05	0.17
v/c Ratio	0.92	0.82	1.21	1.00	0.53	0.87	0.40	0.09	0.72
Control Delay	93.8	48.2	121.5	112.0	38.7	43.6	15.4	52.4	44.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.8	48.2	121.5	112.0	38.7	43.6	15.4	52.4	44.6
LOS	F	D	F	F	D	D	B	D	D
Approach Delay		96.2			64.0		31.8		44.8
Approach LOS		F			E		C		D

Intersection Summary






























Cycle Length: 120
 Actuated Cycle Length: 105.2
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.21
 Intersection Signal Delay: 64.9
 Intersection LOS: E
 Intersection Capacity Utilization 103.7%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (veh/h)	193	612	1182	210	385	12	932	463	204	14	305	113
Future Volume (veh/h)	193	612	1182	210	385	12	932	463	204	14	305	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	205	651	952	223	410	12	991	493	184	15	324	86
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	937	906	229	929	27	1065	1124	417	59	423	111
Arrive On Green	0.07	0.26	0.26	0.07	0.26	0.26	0.31	0.44	0.44	0.02	0.15	0.15
Sat Flow, veh/h	3456	3554	1585	3456	3526	103	3456	2537	941	3456	2787	729
Grp Volume(v), veh/h	205	651	952	223	206	216	991	344	333	15	205	205
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1852	1728	1777	1701	1728	1777	1739
Q Serve(g_s), s	6.0	16.9	27.0	6.6	9.9	9.9	28.5	13.7	13.9	0.4	11.3	11.6
Cycle Q Clear(g_c), s	6.0	16.9	27.0	6.6	9.9	9.9	28.5	13.7	13.9	0.4	11.3	11.6
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.55	1.00		0.42
Lane Grp Cap(c), veh/h	229	937	906	229	468	488	1065	787	754	59	270	264
V/C Ratio(X)	0.89	0.69	1.05	0.97	0.44	0.44	0.93	0.44	0.44	0.26	0.76	0.78
Avail Cap(c_a), veh/h	229	937	906	229	468	488	1174	1036	991	169	519	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	34.0	21.9	47.7	31.4	31.4	34.4	19.7	19.7	49.7	41.6	41.8
Incr Delay (d2), s/veh	31.8	2.2	44.0	51.1	0.7	0.6	11.7	0.4	0.4	0.8	4.4	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	7.0	28.9	4.3	4.1	4.3	12.9	5.3	5.2	0.2	5.1	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.3	36.2	65.9	98.8	32.1	32.1	46.1	20.1	20.1	50.6	46.0	46.7
LnGrp LOS	E	D	F	F	C	C	D	C	C	D	D	D
Approach Vol, veh/h		1808			645			1668			425	
Approach Delay, s/veh		56.7			55.1			35.5			46.5	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.3	51.2	11.4	33.5	36.2	21.4	11.4	33.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	59.7	6.8	27.0	34.8	29.9	6.8	27.0				
Max Q Clear Time (g_c+I1), s	2.4	15.9	8.6	29.0	30.5	13.6	8.0	11.9				
Green Ext Time (p_c), s	0.0	4.3	0.0	0.0	1.1	1.9	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			47.8									
HCM 6th LOS			D									

Intersection												
Intersection Delay, s/veh10.1												
Intersection LOS B												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕		↕			↕	
Traffic Vol, veh/h	0	208	19	9	184	0	22	0	17	0	0	0
Future Vol, veh/h	0	208	19	9	184	0	22	0	17	0	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	263	24	11	233	0	28	0	22	0	0	0
Number of Lanes	0	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	1
HCM Control Delay	10.5	9.8	9	0
HCM LOS	B	A	A	-

Lane	NBLn1	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	56%	0%	100%	0%	0%	0%
Vol Thru, %	0%	92%	0%	100%	100%	100%
Vol Right, %	44%	8%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	227	9	184	0	0
LT Vol	22	0	9	0	0	0
Through Vol	0	208	0	184	0	0
RT Vol	17	19	0	0	0	0
Lane Flow Rate	49	287	11	233	0	0
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.079	0.384	0.017	0.317	0	0
Departure Headway (Hd)	5.781	4.814	5.405	4.902	4.902	5.888
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	620	750	664	736	0	0
Service Time	3.513	2.53	3.122	2.62	2.62	3.627
HCM Lane V/C Ratio	0.079	0.383	0.017	0.317	0	0
HCM Control Delay	9	10.5	8.2	9.9	7.6	8.6
HCM Lane LOS	A	B	A	A	N	N
HCM 95th-tile Q	0.3	1.8	0.1	1.4	0	0

Intersection						
Int Delay, s/veh	5.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑↑	↑	
Traffic Vol, veh/h	10	32	52	19	21	7
Future Vol, veh/h	10	32	52	19	21	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	40	65	24	26	9

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	173	31	35	0	-	0
Stage 1	31	-	-	-	-	-
Stage 2	142	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	809	1043	1575	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	776	1043	1575	-	-	-
Mov Cap-2 Maneuver	764	-	-	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	871	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	5.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1575	-	960	-	-
HCM Lane V/C Ratio	0.041	-	0.055	-	-
HCM Control Delay (s)	7.4	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↗		↙	↑↗			↔			↔	
Traffic Vol, veh/h	39	184	1	0	167	4	1	0	0	3	0	25
Future Vol, veh/h	39	184	1	0	167	4	1	0	0	3	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	200	1	0	182	4	1	0	0	3	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	186	0	0	201	0	0	376	471	101	368	469	93
Stage 1	-	-	-	-	-	-	285	285	-	184	184	-
Stage 2	-	-	-	-	-	-	91	186	-	184	285	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1386	-	-	1368	-	-	556	489	935	563	491	946
Stage 1	-	-	-	-	-	-	698	674	-	800	746	-
Stage 2	-	-	-	-	-	-	906	745	-	800	674	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1386	-	-	1368	-	-	528	474	935	550	476	946
Mov Cap-2 Maneuver	-	-	-	-	-	-	528	474	-	605	532	-
Stage 1	-	-	-	-	-	-	677	654	-	776	746	-
Stage 2	-	-	-	-	-	-	880	745	-	776	654	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	11.8	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	528	1386	-	-	1368	-	-	892
HCM Lane V/C Ratio	0.002	0.031	-	-	-	-	-	0.034
HCM Control Delay (s)	11.8	7.7	-	-	0	-	-	9.2
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	12.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	136	51	113	96	299	58
Future Vol, veh/h	136	51	113	96	299	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	148	55	123	104	325	63

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	227	0	-	0	499
Stage 1	-	-	-	-	175
Stage 2	-	-	-	-	324
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	1339	-	-	-	501
Stage 1	-	-	-	-	838
Stage 2	-	-	-	-	705
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1339	-	-	-	445
Mov Cap-2 Maneuver	-	-	-	-	533
Stage 1	-	-	-	-	745
Stage 2	-	-	-	-	705

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	23.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1339	-	-	-	572
HCM Lane V/C Ratio	0.11	-	-	-	0.678
HCM Control Delay (s)	8	-	-	-	23.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	5.2

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	350	167	243	0	43
Future Vol, veh/h	0	350	167	243	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	380	182	264	0	47

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	- 223
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	- 3.32
Pot Cap-1 Maneuver	0	-	-	-	0 780
Stage 1	0	-	-	-	0 -
Stage 2	0	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	- 780
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	780
HCM Lane V/C Ratio	-	-	-	0.06
HCM Control Delay (s)	-	-	-	9.9
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.2

Timings
20: Winchester Rd. & Domenigoni Pkwy

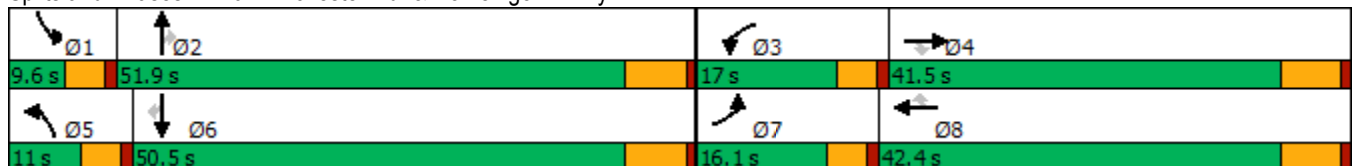
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	1035	103	759	902	22	141	1201	1010	21	568	188
Future Volume (vph)	207	1035	103	759	902	22	141	1201	1010	21	568	188
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	16.1	41.5	41.5	17.0	42.4	42.4	11.0	51.9	51.9	9.6	50.5	50.5
Total Split (%)	13.4%	34.6%	34.6%	14.2%	35.3%	35.3%	9.2%	43.3%	43.3%	8.0%	42.1%	42.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	10.3	35.0	35.0	12.4	37.1	37.1	6.4	45.5	45.5	5.0	38.1	38.1
Actuated g/C Ratio	0.09	0.31	0.31	0.11	0.32	0.32	0.06	0.40	0.40	0.04	0.33	0.33
v/c Ratio	0.68	0.97	0.19	2.08	0.56	0.04	1.45	0.87	1.27	0.27	0.49	0.29
Control Delay	62.5	61.4	5.6	520.7	34.1	0.1	291.6	40.3	154.2	63.6	31.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.5	61.4	5.6	520.7	34.1	0.1	291.6	40.3	154.2	63.6	31.8	4.8
LOS	E	E	A	F	C	A	F	D	F	E	C	A
Approach Delay		57.3			253.1			104.3			26.1	
Approach LOS		E			F			F			C	

Intersection Summary
































Cycle Length: 120	
Actuated Cycle Length: 114.2	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.08	
Intersection Signal Delay: 124.8	Intersection LOS: F
Intersection Capacity Utilization 110.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  			 			 	
Traffic Volume (veh/h)	207	1035	103	759	902	22	141	1201	1010	21	568	188
Future Volume (veh/h)	207	1035	103	759	902	22	141	1201	1010	21	568	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	1056	47	774	920	14	144	1226	723	21	580	90
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	1059	472	365	1664	516	97	1373	613	38	1255	560
Arrive On Green	0.08	0.30	0.30	0.11	0.33	0.33	0.05	0.39	0.39	0.02	0.35	0.35
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	211	1056	47	774	920	14	144	1226	723	21	580	90
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.0	34.9	2.5	12.4	17.4	0.7	6.4	38.0	45.4	1.4	14.8	4.6
Cycle Q Clear(g_c), s	7.0	34.9	2.5	12.4	17.4	0.7	6.4	38.0	45.4	1.4	14.8	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	1059	472	365	1664	516	97	1373	613	38	1255	560
V/C Ratio(X)	0.79	1.00	0.10	2.12	0.55	0.03	1.48	0.89	1.18	0.56	0.46	0.16
Avail Cap(c_a), veh/h	338	1059	472	365	1664	516	97	1373	613	76	1331	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	41.2	29.8	52.5	32.6	26.9	55.5	33.8	36.0	57.0	29.4	26.1
Incr Delay (d2), s/veh	7.1	27.0	0.1	514.1	0.4	0.0	264.6	7.8	97.2	4.7	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	18.2	0.9	31.2	6.8	0.3	9.9	16.5	32.5	0.6	6.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.3	68.2	29.9	566.6	33.0	27.0	320.1	41.6	133.2	61.7	29.6	26.2
LnGrp LOS	E	E	C	F	C	C	F	D	F	E	C	C
Approach Vol, veh/h		1314			1708			2093			691	
Approach Delay, s/veh		65.6			274.7			92.4			30.2	
Approach LOS		E			F			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	51.9	17.0	41.5	11.0	48.0	13.7	44.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	45.4	12.4	35.0	6.4	44.0	11.5	35.9				
Max Q Clear Time (g_c+I1), s	3.4	47.4	14.4	36.9	8.4	16.8	9.0	19.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.7	0.1	5.1				
Intersection Summary												
HCM 6th Ctrl Delay				132.6								
HCM 6th LOS				F								

Timings
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	5	0	1	23	1	2	2326	11	6	1419	5
Future Volume (vph)	5	0	1	23	1	2	2326	11	6	1419	5
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	10.0	74.3	74.3	10.0	74.3	74.3
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.3%	61.9%	61.9%	8.3%	61.9%	61.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		10.7	10.7		10.7	5.3	65.5	65.5	5.4	65.6	65.6
Actuated g/C Ratio		0.13	0.13		0.13	0.06	0.79	0.79	0.07	0.80	0.80
v/c Ratio		0.02	0.00		0.24	0.02	0.62	0.01	0.05	0.54	0.00
Control Delay		38.8	0.0		27.6	43.5	6.3	0.0	43.8	5.8	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		38.8	0.0		27.6	43.5	6.3	0.0	43.8	5.8	0.0
LOS		D	A		C	D	A	A	D	A	A
Approach Delay		32.3			27.6		6.3			6.0	
Approach LOS		C			C		A			A	

Intersection Summary


























Cycle Length: 120
 Actuated Cycle Length: 82.5
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 6.5
 Intersection Capacity Utilization 68.9%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 21: Winchester Rd. & Newport Rd.

10 s	74.3 s	35.7 s
10 s	74.3 s	35.7 s

HCM 6th Signalized Intersection Summary
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (veh/h)	5	0	1	23	1	21	2	2326	11	6	1419	5
Future Volume (veh/h)	5	0	1	23	1	21	2	2326	11	6	1419	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	0	1	25	1	10	2	2501	12	6	1526	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	0	123	149	17	33	5	3613	1122	14	2533	1130
Arrive On Green	0.08	0.00	0.08	0.08	0.08	0.08	0.00	0.71	0.71	0.01	0.71	0.71
Sat Flow, veh/h	1504	0	1585	871	223	421	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	5	0	1	36	0	0	2	2501	12	6	1526	5
Grp Sat Flow(s),veh/h/ln	1504	0	1585	1515	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.7	0.0	0.0	0.1	21.0	0.2	0.3	16.2	0.1
Cycle Q Clear(g_c), s	0.2	0.0	0.0	1.6	0.0	0.0	0.1	21.0	0.2	0.3	16.2	0.1
Prop In Lane	1.00		1.00	0.69		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	0	123	199	0	0	5	3613	1122	14	2533	1130
V/C Ratio(X)	0.02	0.00	0.01	0.18	0.00	0.00	0.41	0.69	0.01	0.43	0.60	0.00
Avail Cap(c_a), veh/h	684	0	655	693	0	0	128	4638	1440	128	3228	1440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	0.0	31.9	32.6	0.0	0.0	37.3	6.3	3.2	37.0	5.4	3.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	19.5	0.3	0.0	7.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.6	0.0	0.0	0.1	3.5	0.0	0.1	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	0.0	31.9	33.0	0.0	0.0	56.8	6.6	3.2	44.6	5.7	3.1
LnGrp LOS	C	A	C	C	A	A	E	A	A	D	A	A
Approach Vol, veh/h		6			36			2515			1537	
Approach Delay, s/veh		32.0			33.0			6.6			5.8	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	59.3		10.5	4.8	59.6		10.5				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.4	68.1		* 31	5.4	68.1		* 31				
Max Q Clear Time (g_c+I1), s	2.3	23.0		2.2	2.1	18.2		3.6				
Green Ext Time (p_c), s	0.0	30.0		0.0	0.0	14.7		0.1				

Intersection Summary

HCM 6th Ctrl Delay	6.6
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations										
Traffic Volume (vph)	6	4	2	2	7	2328	4	1437	7	
Future Volume (vph)	6	4	2	2	7	2328	4	1437	7	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4		8	5	2		6		1
Permitted Phases	4		8				2		6	
Detector Phase	4	4	8	8	5	2	2	6	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	26.5	16.5	16.5	9.6
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	74.7	74.7	74.7	9.6
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	62.3%	62.3%	62.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max	None
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	77.8	77.8	68.2	68.2	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.69	0.69	
v/c Ratio	0.04	0.07	0.01	0.05	0.09	0.90	0.00	0.63	0.01	
Control Delay	41.2	27.8	40.5	27.7	47.1	13.8	0.0	10.0	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.2	27.8	40.5	27.7	47.1	13.8	0.0	10.0	0.0	
LOS	D	C	D	C	D	B	A	A	A	
Approach Delay		32.3		30.3		13.9		9.9		
Approach LOS		C		C		B		A		

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 12.5
 Intersection LOS: B
 Intersection Capacity Utilization 82.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	4	7	2	2	6	7	2328	4	0	1437	7
Future Volume (veh/h)	6	4	7	2	2	6	7	2328	4	0	1437	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	4	4	2	2	1	8	2503	3	0	1545	8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	87	87	209	119	59	90	2793	1246	2	2448	1092
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.00	0.69	0.69
Sat Flow, veh/h	1414	858	858	1407	1176	588	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	6	0	8	2	0	3	8	2503	3	0	1545	8
Grp Sat Flow(s),veh/h/ln	1414	0	1716	1407	0	1764	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.4	0.0	0.4	0.1	0.0	0.2	0.4	50.5	0.0	0.0	23.7	0.2
Cycle Q Clear(g_c), s	0.5	0.0	0.4	0.5	0.0	0.2	0.4	50.5	0.0	0.0	23.7	0.2
Prop In Lane	1.00		0.50	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	0	173	209	0	178	90	2793	1246	2	2448	1092
V/C Ratio(X)	0.03	0.00	0.05	0.01	0.00	0.02	0.09	0.90	0.00	0.00	0.63	0.01
Avail Cap(c_a), veh/h	513	0	537	507	0	553	90	2793	1246	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	0.0	40.2	40.4	0.0	40.1	44.8	7.7	2.3	0.0	8.5	4.8
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.0	1.9	4.3	0.0	0.0	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.0	0.0	0.1	0.2	9.7	0.0	0.0	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	0.0	40.3	40.5	0.0	40.1	46.8	11.9	2.3	0.0	9.7	4.8
LnGrp LOS	D	A	D	D	A	D	D	B	A	A	A	A
Approach Vol, veh/h		14			5			2514			1553	
Approach Delay, s/veh		40.3			40.2			12.0			9.7	
Approach LOS		D			D			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	84.3		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	0.0	52.5		2.5	2.4	25.7		2.5				
Green Ext Time (p_c), s	0.0	13.8		0.0	0.0	14.5		0.0				

Intersection Summary

HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	11	2	2	2328	1442	5
Future Volume (vph)	11	2	2	2328	1442	5
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	28.5	28.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effect Green (s)	10.0	10.0	5.0	99.7	97.8	97.8
Actuated g/C Ratio	0.09	0.09	0.05	0.92	0.90	0.90
v/c Ratio	0.07	0.01	0.02	0.79	0.50	0.00
Control Delay	46.1	31.5	50.0	6.9	3.7	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	31.5	50.0	6.9	3.7	2.2
LOS	D	C	D	A	A	A
Approach Delay	44.0			6.9	3.7	
Approach LOS	D			A	A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 108.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 5.8
 Intersection Capacity Utilization 81.9%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service D

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	2	2	2328	1442	5
Future Volume (veh/h)	11	2	2	2328	1442	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	1	2	2587	1602	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	54	48	5	3056	2884	1287
Arrive On Green	0.03	0.03	0.00	0.86	0.81	0.81
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	12	1	2	2587	1602	6
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.7	0.1	0.1	37.9	15.6	0.1
Cycle Q Clear(g_c), s	0.7	0.1	0.1	37.9	15.6	0.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	54	48	5	3056	2884	1287
V/C Ratio(X)	0.22	0.02	0.42	0.85	0.56	0.00
Avail Cap(c_a), veh/h	388	345	88	3056	2884	1287
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	47.5	50.3	3.6	3.3	1.8
Incr Delay (d2), s/veh	2.1	0.2	19.9	3.1	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.1	1.3	2.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.9	47.7	70.2	6.8	4.0	1.8
LnGrp LOS	D	D	E	A	A	A
Approach Vol, veh/h	13			2589	1608	
Approach Delay, s/veh	49.7			6.8	4.0	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		7.7	4.9	88.5
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+11), s		39.9		2.7	2.1	17.6
Green Ext Time (p_c), s		35.5		0.0	0.0	16.7
Intersection Summary						
HCM 6th Ctrl Delay			5.9			
HCM 6th LOS			A			

Timings

24: Winchester Rd. & Scott Rd./Washington St,

06/22/2021

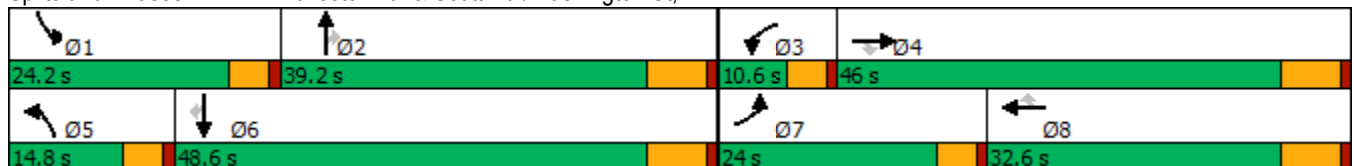


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↑↑↑	↖	↑↑↑	↘
Traffic Volume (vph)	294	151	77	60	172	612	107	1423	299	972	172
Future Volume (vph)	294	151	77	60	172	612	107	1423	299	972	172
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.5	45.5	9.6	16.5	16.5	9.6	35.5	9.6	44.5	44.5
Total Split (s)	24.0	46.0	46.0	10.6	32.6	32.6	14.8	39.2	24.2	48.6	48.6
Total Split (%)	20.0%	38.3%	38.3%	8.8%	27.2%	27.2%	12.3%	32.7%	20.2%	40.5%	40.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	19.4	41.6	41.6	5.9	26.1	26.1	9.7	32.7	19.6	42.6	42.6
Actuated g/C Ratio	0.16	0.35	0.35	0.05	0.22	0.22	0.08	0.27	0.16	0.36	0.36
v/c Ratio	1.08	0.25	0.12	0.72	0.45	1.14	0.79	1.08	1.09	0.57	0.27
Control Delay	123.7	30.2	0.4	98.0	44.8	108.1	89.6	91.0	126.1	32.9	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	123.7	30.2	0.4	98.0	44.8	108.1	89.6	91.0	126.1	32.9	4.9
LOS	F	C	A	F	D	F	F	F	F	C	A
Approach Delay		78.5			94.5			90.9		48.9	
Approach LOS		E			F			F		D	

Intersection Summary

























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 76.1
 Intersection LOS: E
 Intersection Capacity Utilization 96.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	151	77	60	172	612	107	1423	0	299	972	172
Future Volume (veh/h)	294	151	77	60	172	612	107	1423	0	299	972	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	309	159	70	63	181	585	113	1498	0	315	1023	161
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	616	522	89	407	345	138	1391	432	291	1830	568
Arrive On Green	0.16	0.33	0.33	0.05	0.22	0.22	0.08	0.27	0.00	0.16	0.36	0.36
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	309	159	70	63	181	585	113	1498	0	315	1023	161
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	19.4	7.5	3.7	4.2	10.1	26.1	7.5	32.7	0.0	19.6	19.3	8.7
Cycle Q Clear(g_c), s	19.4	7.5	3.7	4.2	10.1	26.1	7.5	32.7	0.0	19.6	19.3	8.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	616	522	89	407	345	138	1391	432	291	1830	568
V/C Ratio(X)	1.07	0.26	0.13	0.71	0.44	1.70	0.82	1.08	0.00	1.08	0.56	0.28
Avail Cap(c_a), veh/h	288	616	522	89	407	345	151	1391	432	291	1830	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	29.5	28.2	56.1	40.7	47.0	54.5	43.6	0.0	50.2	30.9	27.5
Incr Delay (d2), s/veh	73.8	0.2	0.1	19.6	0.8	325.8	24.3	47.6	0.0	76.6	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	3.2	1.4	2.3	4.5	40.9	4.2	19.0	0.0	14.5	7.5	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	124.1	29.7	28.4	75.8	41.4	372.8	78.9	91.3	0.0	126.8	31.3	27.8
LnGrp LOS	F	C	C	E	D	F	E	F	A	F	C	C
Approach Vol, veh/h		538			829			1611			1499	
Approach Delay, s/veh		83.7			277.9			90.4			51.0	
Approach LOS		F			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	39.2	10.6	46.0	13.9	49.5	24.0	32.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	19.6	32.7	6.0	39.5	10.2	42.1	19.4	26.1				
Max Q Clear Time (g_c+I1), s	21.6	34.7	6.2	9.5	9.5	21.3	21.4	28.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	6.9	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				111.1								
HCM 6th LOS				F								

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

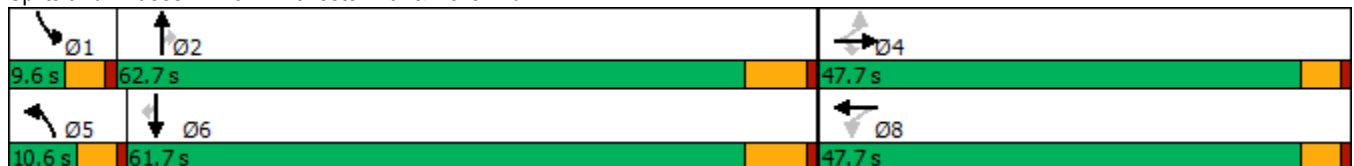
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	115	14	222	11	21	215	1406	98	6	930	173	
Future Volume (vph)	115	14	222	11	21	215	1406	98	6	930	173	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases		4			8	5	2		1	6		
Permitted Phases	4		4	8				2			6	
Detector Phase	4	4	4	8	8	5	2	2	1	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5	
Total Split (s)	47.7	47.7	47.7	47.7	47.7	10.6	62.7	62.7	9.6	61.7	61.7	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.8%	52.3%	52.3%	8.0%	51.4%	51.4%	
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min	
Act Effct Green (s)	13.5	13.5	13.5		13.5	6.4	38.1	38.1	5.3	28.1	28.1	
Actuated g/C Ratio	0.21	0.21	0.21		0.21	0.10	0.59	0.59	0.08	0.43	0.43	
v/c Ratio	0.43	0.04	0.53		0.12	1.32	0.72	0.11	0.04	0.64	0.23	
Control Delay	31.2	25.7	16.0		21.8	209.0	12.5	2.1	37.2	15.8	2.5	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.2	25.7	16.0		21.8	209.0	12.5	2.1	37.2	15.8	2.5	
LOS	C	C	B		C	F	B	A	D	B	A	
Approach Delay		21.4			21.8		36.5			13.8		
Approach LOS		C			C		D			B		

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 64.7	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.32	
Intersection Signal Delay: 26.8	Intersection LOS: C
Intersection Capacity Utilization 69.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	14	222	11	21	9	215	1406	98	6	930	173
Future Volume (veh/h)	115	14	222	11	21	9	215	1406	98	6	930	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	15	230	12	22	7	229	1496	103	6	989	182
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	379	352	298	127	200	52	166	1984	866	14	1681	750
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.09	0.56	0.56	0.01	0.47	0.47
Sat Flow, veh/h	1381	1870	1585	291	1061	279	1781	3554	1550	1781	3554	1585
Grp Volume(v), veh/h	122	15	230	41	0	0	229	1496	103	6	989	182
Grp Sat Flow(s),veh/h/ln	1381	1870	1585	1631	0	0	1781	1777	1550	1781	1777	1585
Q Serve(g_s), s	3.5	0.4	8.9	0.0	0.0	0.0	6.0	20.7	2.0	0.2	13.1	4.4
Cycle Q Clear(g_c), s	4.7	0.4	8.9	1.2	0.0	0.0	6.0	20.7	2.0	0.2	13.1	4.4
Prop In Lane	1.00		1.00	0.29		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	379	352	298	379	0	0	166	1984	866	14	1681	750
V/C Ratio(X)	0.32	0.04	0.77	0.11	0.00	0.00	1.38	0.75	0.12	0.43	0.59	0.24
Avail Cap(c_a), veh/h	1042	1250	1059	1115	0	0	166	3104	1354	138	3049	1360
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	21.4	24.8	21.7	0.0	0.0	29.2	10.8	6.7	31.8	12.4	10.1
Incr Delay (d2), s/veh	0.5	0.0	4.2	0.1	0.0	0.0	203.5	0.6	0.1	7.4	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.2	3.5	0.5	0.0	0.0	11.6	5.2	0.4	0.1	3.8	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	21.4	29.0	21.8	0.0	0.0	232.6	11.4	6.8	39.2	12.7	10.3
LnGrp LOS	C	C	C	C	A	A	F	B	A	D	B	B
Approach Vol, veh/h		367			41			1828			1177	
Approach Delay, s/veh		26.9			21.8			38.9			12.5	
Approach LOS		C			C			D			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	42.4		16.8	10.6	36.9		16.8				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	6.0	55.2		* 43				
Max Q Clear Time (g_c+I1), s	2.2	22.7		10.9	8.0	15.1		3.2				
Green Ext Time (p_c), s	0.0	13.3		1.2	0.0	8.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/22/2021

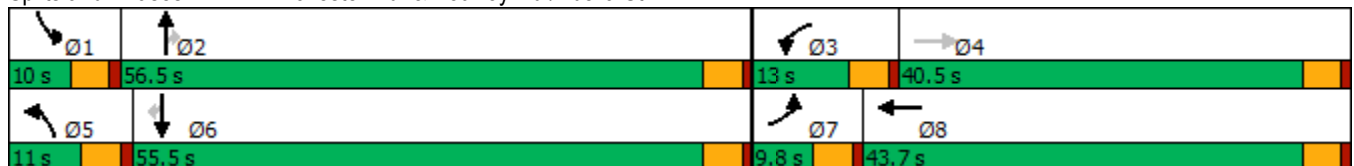


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↘	↗	↗	↘	↗	↗
Traffic Volume (vph)	24	9	110	13	40	1618	2	74	1061	27
Future Volume (vph)	24	9	110	13	40	1618	2	74	1061	27
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	9.8	40.5	13.0	43.7	11.0	56.5	56.5	10.0	55.5	55.5
Total Split (%)	8.2%	33.8%	10.8%	36.4%	9.2%	47.1%	47.1%	8.3%	46.3%	46.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	5.2	10.0	8.8	16.4	6.0	53.9	53.9	5.5	57.3	57.3
Actuated g/C Ratio	0.06	0.11	0.09	0.18	0.06	0.58	0.58	0.06	0.61	0.61
v/c Ratio	0.26	0.14	0.69	0.16	0.37	0.83	0.00	0.75	0.51	0.03
Control Delay	49.2	16.2	64.2	11.7	51.4	21.7	0.0	84.5	12.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	16.2	64.2	11.7	51.4	21.7	0.0	84.5	12.8	0.0
LOS	D	B	E	B	D	C	A	F	B	A
Approach Delay		26.9		40.5		22.3			17.1	
Approach LOS		C		D		C			B	

Intersection Summary




























Cycle Length: 120
 Actuated Cycle Length: 93.2
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 21.7
 Intersection LOS: C
 Intersection Capacity Utilization 72.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 		 		 
Traffic Volume (veh/h)	24	9	41	110	13	77	40	1618	2	74	1061	27
Future Volume (veh/h)	24	9	41	110	13	77	40	1618	2	74	1061	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	9	26	116	14	47	42	1703	2	78	1117	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	184	164	145	283	252	64	2004	894	100	2076	926
Arrive On Green	0.03	0.10	0.10	0.08	0.16	0.16	0.04	0.56	0.56	0.06	0.58	0.58
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	25	9	26	116	14	47	42	1703	2	78	1117	24
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.3	0.4	1.4	5.9	0.6	2.4	2.1	37.0	0.1	4.0	17.6	0.6
Cycle Q Clear(g_c), s	1.3	0.4	1.4	5.9	0.6	2.4	2.1	37.0	0.1	4.0	17.6	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	46	184	164	145	283	252	64	2004	894	100	2076	926
V/C Ratio(X)	0.55	0.05	0.16	0.80	0.05	0.19	0.66	0.85	0.00	0.78	0.54	0.03
Avail Cap(c_a), veh/h	102	694	619	164	755	674	126	2004	894	106	2076	926
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.4	37.2	37.7	41.6	32.9	33.6	43.9	16.8	8.8	43.0	11.6	8.1
Incr Delay (d2), s/veh	3.8	0.1	0.4	18.9	0.1	0.4	4.3	4.8	0.0	25.9	1.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.2	0.6	3.3	0.3	0.9	1.0	13.1	0.0	2.4	5.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	37.4	38.1	60.5	32.9	33.9	48.2	21.6	8.8	68.9	12.6	8.1
LnGrp LOS	D	D	D	E	C	C	D	C	A	E	B	A
Approach Vol, veh/h		60			177			1747			1219	
Approach Delay, s/veh		42.2			51.3			22.2			16.1	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	56.5	12.0	14.0	7.8	58.4	6.9	19.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	52.0	8.5	36.0	6.5	51.0	5.3	39.2				
Max Q Clear Time (g_c+I1), s	6.0	39.0	7.9	3.4	4.1	19.6	3.3	4.4				
Green Ext Time (p_c), s	0.0	8.7	0.0	0.1	0.0	8.2	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			C									

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

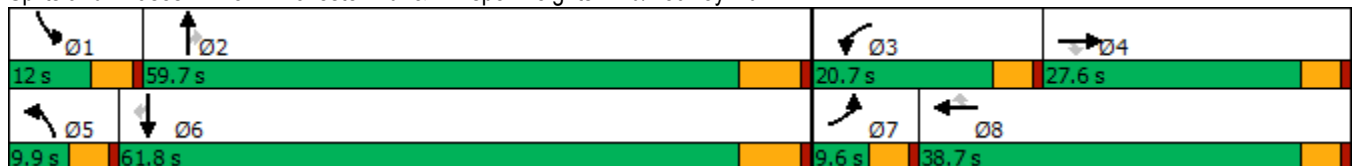
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	20	12	139	22	131	17	1519	1	145	1047	20
Future Volume (vph)	12	20	12	139	22	131	17	1519	1	145	1047	20
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	28.5	9.6	25.5	25.5
Total Split (s)	9.6	27.6	27.6	20.7	38.7	38.7	9.9	59.7	59.7	12.0	61.8	61.8
Total Split (%)	8.0%	23.0%	23.0%	17.3%	32.3%	32.3%	8.3%	49.8%	49.8%	10.0%	51.5%	51.5%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	5.1	10.2	10.2	12.7	18.9	18.9	5.2	52.3	52.3	7.3	60.7	60.7
Actuated g/C Ratio	0.05	0.11	0.11	0.13	0.20	0.20	0.05	0.54	0.54	0.08	0.63	0.63
v/c Ratio	0.14	0.11	0.04	0.62	0.06	0.33	0.19	0.82	0.00	0.59	0.49	0.02
Control Delay	52.0	45.1	0.2	53.6	32.2	8.4	52.9	24.7	0.0	55.3	13.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	45.1	0.2	53.6	32.2	8.4	52.9	24.7	0.0	55.3	13.1	0.1
LOS	D	D	A	D	C	A	D	C	A	E	B	A
Approach Delay		34.6			31.8			25.0			17.9	
Approach LOS		C			C			C			B	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 96.3	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 23.0	Intersection LOS: C
Intersection Capacity Utilization 74.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑	↗	↗↘	↑↑	↗
Traffic Volume (veh/h)	12	20	12	139	22	131	17	1519	1	145	1047	20
Future Volume (veh/h)	12	20	12	139	22	131	17	1519	1	145	1047	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	21	5	145	23	81	18	1582	1	151	1091	20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	26	197	167	178	357	298	36	1815	809	219	1969	878
Arrive On Green	0.01	0.11	0.11	0.10	0.19	0.19	0.02	0.51	0.51	0.06	0.55	0.55
Sat Flow, veh/h	1781	1870	1585	1781	1870	1562	1781	3554	1584	3456	3554	1585
Grp Volume(v), veh/h	12	21	5	145	23	81	18	1582	1	151	1091	20
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1562	1781	1777	1584	1728	1777	1585
Q Serve(g_s), s	0.6	0.9	0.3	7.4	0.9	4.1	0.9	36.3	0.0	4.0	18.3	0.5
Cycle Q Clear(g_c), s	0.6	0.9	0.3	7.4	0.9	4.1	0.9	36.3	0.0	4.0	18.3	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	26	197	167	178	357	298	36	1815	809	219	1969	878
V/C Ratio(X)	0.47	0.11	0.03	0.81	0.06	0.27	0.50	0.87	0.00	0.69	0.55	0.02
Avail Cap(c_a), veh/h	96	463	393	310	688	574	102	2044	911	277	2125	948
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.2	37.4	37.1	40.8	30.6	31.9	44.9	20.0	11.1	42.4	13.3	9.3
Incr Delay (d2), s/veh	4.9	0.2	0.1	3.4	0.1	0.5	4.1	4.1	0.0	2.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.1	3.4	0.4	1.6	0.4	13.2	0.0	1.7	5.9	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.1	37.7	37.2	44.2	30.7	32.4	48.9	24.0	11.1	45.3	13.5	9.3
LnGrp LOS	D	D	D	D	C	C	D	C	B	D	B	A
Approach Vol, veh/h		38			249			1601			1262	
Approach Delay, s/veh		41.5			39.1			24.3			17.3	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	53.7	13.8	14.4	6.5	57.7	5.9	22.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	7.4	53.2	16.1	* 23	5.3	55.3	5.0	* 34				
Max Q Clear Time (g_c+I1), s	6.0	38.3	9.4	2.9	2.9	20.3	2.6	6.1				
Green Ext Time (p_c), s	0.0	8.9	0.1	0.1	0.0	8.1	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

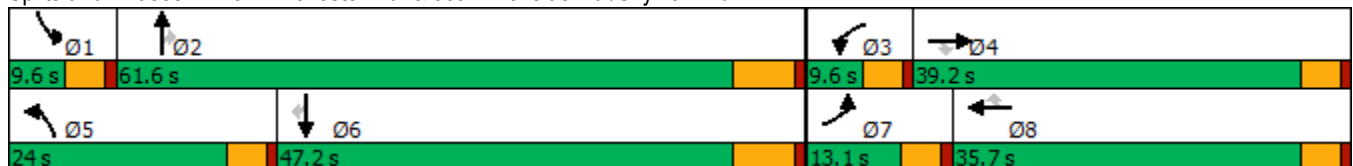
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	6	122	10	6	20	236	1612	15	8	1024	85
Future Volume (vph)	95	6	122	10	6	20	236	1612	15	8	1024	85
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.1	39.2	39.2	9.6	35.7	35.7	24.0	61.6	61.6	9.6	47.2	47.2
Total Split (%)	10.9%	32.7%	32.7%	8.0%	29.8%	29.8%	20.0%	51.3%	51.3%	8.0%	39.3%	39.3%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.6	13.1	13.1	5.1	10.1	10.1	16.6	60.7	60.7	5.1	41.1	41.1
Actuated g/C Ratio	0.11	0.15	0.15	0.06	0.11	0.11	0.19	0.69	0.69	0.06	0.46	0.46
v/c Ratio	0.52	0.02	0.35	0.10	0.03	0.07	0.74	0.69	0.01	0.08	0.65	0.11
Control Delay	51.1	34.3	6.5	46.1	39.7	0.4	49.3	12.3	0.0	45.6	22.0	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	34.3	6.5	46.1	39.7	0.4	49.3	12.3	0.0	45.6	22.0	1.1
LOS	D	C	A	D	D	A	D	B	A	D	C	A
Approach Delay		26.2			19.1			16.9			20.5	
Approach LOS		C			B			B			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.5
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 18.8
 Intersection LOS: B
 Intersection Capacity Utilization 75.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	95	6	122	10	6	20	236	1612	15	8	1024	85
Future Volume (veh/h)	95	6	122	10	6	20	236	1612	15	8	1024	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	6	77	10	6	7	246	1679	13	8	1067	71
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	318	268	22	210	178	281	2094	915	18	1570	691
Arrive On Green	0.07	0.17	0.17	0.01	0.11	0.11	0.16	0.59	0.59	0.01	0.44	0.44
Sat Flow, veh/h	1781	1870	1574	1781	1870	1585	1781	3554	1552	1781	3554	1565
Grp Volume(v), veh/h	99	6	77	10	6	7	246	1679	13	8	1067	71
Grp Sat Flow(s),veh/h/ln	1781	1870	1574	1781	1870	1585	1781	1777	1552	1781	1777	1565
Q Serve(g_s), s	5.1	0.2	4.0	0.5	0.3	0.4	12.6	34.4	0.3	0.4	22.4	2.5
Cycle Q Clear(g_c), s	5.1	0.2	4.0	0.5	0.3	0.4	12.6	34.4	0.3	0.4	22.4	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	125	318	268	22	210	178	281	2094	915	18	1570	691
V/C Ratio(X)	0.79	0.02	0.29	0.46	0.03	0.04	0.88	0.80	0.01	0.45	0.68	0.10
Avail Cap(c_a), veh/h	162	690	581	95	620	526	370	2094	915	95	1570	691
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	32.3	33.8	45.9	37.0	37.0	38.5	14.9	8.0	46.0	20.8	15.3
Incr Delay (d2), s/veh	13.4	0.0	0.6	5.5	0.1	0.1	13.9	3.4	0.0	6.4	2.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.1	1.6	0.3	0.1	0.1	6.2	11.6	0.1	0.2	8.5	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	32.3	34.4	51.4	37.0	37.1	52.4	18.3	8.0	52.4	23.2	15.6
LnGrp LOS	E	C	C	D	D	D	D	B	A	D	C	B
Approach Vol, veh/h		182			23			1938			1146	
Approach Delay, s/veh		46.2			43.3			22.6			23.0	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.5	61.6	5.7	20.6	19.3	47.8	11.2	15.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.1	5.0	* 35	19.4	40.7	8.5	* 31				
Max Q Clear Time (g_c+I1), s	2.4	36.4	2.5	6.0	14.6	24.4	7.1	2.4				
Green Ext Time (p_c), s	0.0	11.1	0.0	0.2	0.1	6.3	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

Notes

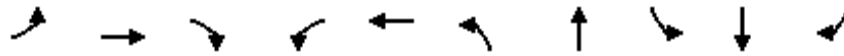
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

06/22/2021

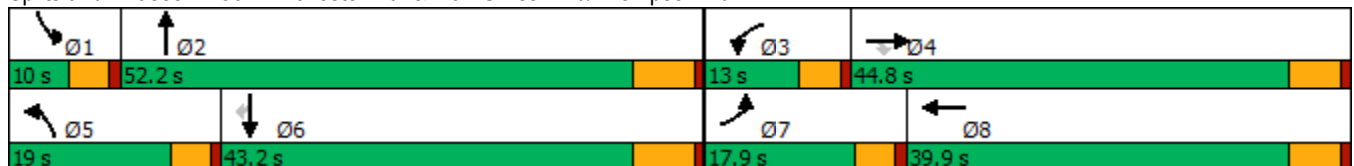


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↗	↘	↗	↘	↗↗	↘	↗↗	↘
Traffic Volume (vph)	114	258	494	287	286	580	2128	100	1289	75
Future Volume (vph)	114	258	494	287	286	580	2128	100	1289	75
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	17.9	44.8	44.8	13.0	39.9	19.0	52.2	10.0	43.2	43.2
Total Split (%)	14.9%	37.3%	37.3%	10.8%	33.3%	15.8%	43.5%	8.3%	36.0%	36.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	10.7	26.3	26.3	8.5	24.0	14.5	46.0	5.4	36.9	36.9
Actuated g/C Ratio	0.10	0.24	0.24	0.08	0.22	0.13	0.43	0.05	0.34	0.34
v/c Ratio	0.67	0.59	0.55	2.14	0.80	2.51	1.69	1.16	1.10	0.12
Control Delay	67.3	40.7	12.6	561.5	53.7	716.6	337.2	192.0	91.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.3	40.7	12.6	561.5	53.7	716.6	337.2	192.0	91.3	0.4
LOS	E	D	B	F	D	F	F	F	F	A
Approach Delay		28.2			295.0		410.3		93.5	
Approach LOS		C			F		F		F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 107.8
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.51
 Intersection Signal Delay: 264.8
 Intersection Capacity Utilization 121.4%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	258	494	287	286	31	580	2128	300	100	1289	75
Future Volume (veh/h)	114	258	494	287	286	31	580	2128	300	100	1289	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	118	266	350	296	295	30	598	2194	244	103	1329	57
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	386	562	147	344	35	251	1446	158	94	1278	562
Arrive On Green	0.08	0.21	0.21	0.08	0.21	0.21	0.14	0.45	0.45	0.05	0.36	0.36
Sat Flow, veh/h	1781	1870	2724	1781	1668	170	1781	3229	352	1781	3554	1564
Grp Volume(v), veh/h	118	266	350	296	0	325	598	1188	1250	103	1329	57
Grp Sat Flow(s),veh/h/ln	1781	1870	1362	1781	0	1837	1781	1777	1804	1781	1777	1564
Q Serve(g_s), s	6.6	13.4	11.9	8.4	0.0	17.4	14.4	45.7	45.7	5.4	36.7	2.5
Cycle Q Clear(g_c), s	6.6	13.4	11.9	8.4	0.0	17.4	14.4	45.7	45.7	5.4	36.7	2.5
Prop In Lane	1.00		1.00	1.00		0.09	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	146	386	562	147	0	379	251	796	808	94	1278	562
V/C Ratio(X)	0.81	0.69	0.62	2.02	0.00	0.86	2.38	1.49	1.55	1.09	1.04	0.10
Avail Cap(c_a), veh/h	232	715	1041	147	0	614	251	796	808	94	1278	562
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	37.5	36.9	46.8	0.0	39.0	43.8	28.2	28.2	48.3	32.7	21.7
Incr Delay (d2), s/veh	4.6	2.2	1.1	481.6	0.0	6.8	632.7	228.4	252.5	120.0	36.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	6.1	4.0	23.3	0.0	8.4	50.1	67.3	73.7	5.4	20.5	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	39.7	38.0	528.4	0.0	45.8	676.5	256.5	280.7	168.3	68.8	21.8
LnGrp LOS	D	D	D	F	A	D	F	F	F	F	F	C
Approach Vol, veh/h		734			621			3036			1489	
Approach Delay, s/veh		40.7			275.8			349.2			73.9	
Approach LOS		D			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	52.2	13.0	26.8	19.0	43.2	13.0	26.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.4	45.7	8.4	39.0	14.4	36.7	13.3	34.1				
Max Q Clear Time (g_c+I1), s	7.4	47.7	10.4	15.4	16.4	38.7	8.6	19.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.8	0.0	0.0	0.1	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			233.2									
HCM 6th LOS			F									

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/22/2021

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↖↖	↖	↑↑↑	↖	↑↑
Traffic Volume (vph)	369	793	2215	592	1479
Future Volume (vph)	369	793	2215	592	1479
Turn Type	Prot	pm+ov	NA	Prot	NA
Protected Phases	8	1	2	1	6
Permitted Phases	8				
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	30.6	9.5	38.5	9.5	16.5
Total Split (s)	30.6	32.0	57.4	32.0	89.4
Total Split (%)	25.5%	26.7%	47.8%	26.7%	74.5%
Yellow Time (s)	3.6	3.5	5.5	3.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	6.5	4.5	6.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	18.1	45.7	50.9	27.5	83.0
Actuated g/C Ratio	0.16	0.41	0.45	0.25	0.74
v/c Ratio	0.72	1.33	1.30	1.47	0.61
Control Delay	52.3	187.4	164.8	255.7	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.3	187.4	164.8	255.7	8.5
LOS	D	F	F	F	A
Approach Delay	144.5		164.8		79.2
Approach LOS	F		F		E

Intersection Summary
















Cycle Length: 120
 Actuated Cycle Length: 112.2
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.47
 Intersection Signal Delay: 131.1
 Intersection LOS: F
 Intersection Capacity Utilization 112.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/22/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  			 
Traffic Volume (veh/h)	369	793	2215	514	592	1479
Future Volume (veh/h)	369	793	2215	514	592	1479
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	397	649	2382	415	637	1590
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	749	707	1866	308	408	2455
Arrive On Green	0.22	0.22	0.42	0.42	0.23	0.69
Sat Flow, veh/h	3456	1585	4567	727	1781	3647
Grp Volume(v), veh/h	397	649	1814	983	637	1590
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1721	1781	1777
Q Serve(g_s), s	12.2	26.0	50.9	50.9	27.5	30.0
Cycle Q Clear(g_c), s	12.2	26.0	50.9	50.9	27.5	30.0
Prop In Lane	1.00	1.00		0.42	1.00	
Lane Grp Cap(c), veh/h	749	707	1444	730	408	2455
V/C Ratio(X)	0.53	0.92	1.26	1.35	1.56	0.65
Avail Cap(c_a), veh/h	749	707	1444	730	408	2455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	31.2	34.5	34.6	46.3	10.4
Incr Delay (d2), s/veh	0.7	17.1	121.2	165.0	263.9	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	20.5	43.3	52.7	41.4	9.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.3	48.3	155.7	199.5	310.2	11.0
LnGrp LOS	D	D	F	F	F	B
Approach Vol, veh/h	1046		2797			2227
Approach Delay, s/veh	46.0		171.1			96.6
Approach LOS	D		F			F
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	32.0	57.4			89.4	30.6
Change Period (Y+Rc), s	4.5	6.5			6.5	4.6
Max Green Setting (Gmax), s	27.5	50.9			82.9	26.0
Max Q Clear Time (g_c+I1), s	29.5	52.9			32.0	28.0
Green Ext Time (p_c), s	0.0	0.0			15.9	0.0
Intersection Summary						
HCM 6th Ctrl Delay			122.2			
HCM 6th LOS			F			

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/22/2021

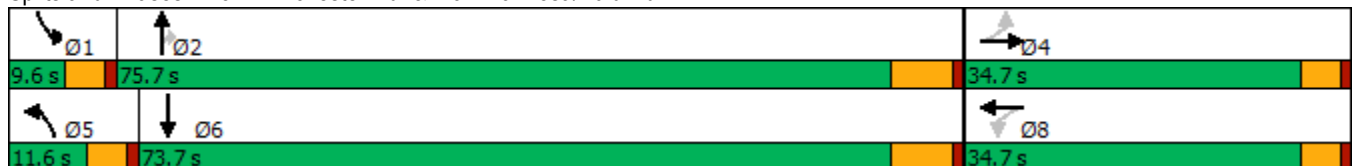


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↗	↖	↕
Traffic Volume (vph)	104	35	318	42	66	2520	288	77	1629
Future Volume (vph)	104	35	318	42	66	2520	288	77	1629
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	11.6	75.7	75.7	9.6	73.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	9.7%	63.1%	63.1%	8.0%	61.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	30.0	30.0	30.0	30.0	7.0	69.2	69.2	5.0	67.2
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.06	0.58	0.58	0.04	0.56
v/c Ratio	0.41	0.21	1.05	0.33	0.67	1.30	0.31	1.11	0.95
Control Delay	43.1	16.9	109.1	20.7	85.6	164.6	7.7	190.6	36.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.1	16.9	109.1	20.7	85.6	164.6	7.7	190.6	36.9
LOS	D	B	F	C	F	F	A	F	D
Approach Delay		30.7		81.1		147.1			43.3
Approach LOS		C		F		F			D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.30
 Intersection Signal Delay: 101.5
 Intersection LOS: F
 Intersection Capacity Utilization 108.9%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↗	
Traffic Volume (veh/h)	104	35	57	318	42	105	66	2520	288	77	1629	142
Future Volume (veh/h)	104	35	57	318	42	105	66	2520	288	77	1629	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	37	43	335	44	106	69	2653	217	81	1715	122
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	197	229	341	122	293	104	2049	914	74	1883	132
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.06	0.58	0.58	0.04	0.56	0.56
Sat Flow, veh/h	1237	789	917	1319	487	1173	1781	3554	1585	1781	3362	237
Grp Volume(v), veh/h	109	0	80	335	0	150	69	2653	217	81	898	939
Grp Sat Flow(s),veh/h/ln	1237	0	1705	1319	0	1659	1781	1777	1585	1781	1777	1822
Q Serve(g_s), s	9.6	0.0	4.4	25.6	0.0	8.9	4.6	69.2	8.1	5.0	53.9	56.2
Cycle Q Clear(g_c), s	18.5	0.0	4.4	30.0	0.0	8.9	4.6	69.2	8.1	5.0	53.9	56.2
Prop In Lane	1.00		0.54	1.00		0.71	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	277	0	426	341	0	415	104	2049	914	74	995	1020
V/C Ratio(X)	0.39	0.00	0.19	0.98	0.00	0.36	0.66	1.29	0.24	1.09	0.90	0.92
Avail Cap(c_a), veh/h	277	0	426	341	0	415	104	2049	914	74	995	1020
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	0.0	35.4	49.3	0.0	37.1	55.3	25.4	12.5	57.5	23.5	24.0
Incr Delay (d2), s/veh	0.3	0.0	0.1	43.9	0.0	0.5	28.8	136.3	0.1	131.6	10.9	12.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	1.9	14.3	0.0	3.7	2.8	63.3	2.6	4.9	22.4	24.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	0.0	35.5	93.1	0.0	37.6	84.1	161.7	12.6	189.1	34.4	36.9
LnGrp LOS	D	A	D	F	A	D	F	F	B	F	C	D
Approach Vol, veh/h		189			485			2939			1918	
Approach Delay, s/veh		41.0			76.0			148.9			42.2	
Approach LOS		D			E			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	75.7		34.7	11.6	73.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	69.2		* 30	7.0	67.2		* 30				
Max Q Clear Time (g_c+I1), s	7.0	71.2		20.5	6.6	58.2		32.0				
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	5.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	101.8
HCM 6th LOS	F

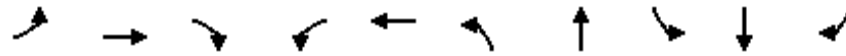
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	100	11	142	43	5	239	2753	12	1865	125
Future Volume (vph)	100	11	142	43	5	239	2753	12	1865	125
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	18.8	73.7	9.6	64.5	64.5
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	15.7%	61.4%	8.0%	53.8%	53.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	13.4	13.4	13.4		13.4	14.2	75.0	5.0	58.0	58.0
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.14	0.74	0.05	0.57	0.57
v/c Ratio	0.57	0.04	0.43		0.35	1.00	1.12	0.14	0.95	0.14
Control Delay	54.0	37.8	10.8		34.7	101.4	76.8	51.5	33.0	3.8
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	37.8	10.8		34.7	101.4	76.8	51.5	33.0	3.8
LOS	D	D	B		C	F	E	D	C	A
Approach Delay		29.1			34.7		78.7		31.3	
Approach LOS		C			C		E		C	

Intersection Summary






















Cycle Length: 120	
Actuated Cycle Length: 101.5	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay: 58.2	Intersection LOS: E
Intersection Capacity Utilization 106.7%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	11	142	43	5	23	239	2753	80	12	1865	125
Future Volume (veh/h)	100	11	142	43	5	23	239	2753	80	12	1865	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	11	74	44	5	13	246	2838	68	12	1923	107
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	194	164	158	23	31	263	2545	61	25	2078	906
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.15	0.72	0.72	0.01	0.58	0.58
Sat Flow, veh/h	1395	1870	1585	910	220	300	1781	3545	85	1781	3554	1550
Grp Volume(v), veh/h	103	11	74	62	0	0	246	1416	1490	12	1923	107
Grp Sat Flow(s),veh/h/ln	1395	1870	1585	1430	0	0	1781	1777	1853	1781	1777	1550
Q Serve(g_s), s	2.0	0.5	4.2	2.9	0.0	0.0	13.2	69.1	69.1	0.6	47.2	3.0
Cycle Q Clear(g_c), s	5.8	0.5	4.2	3.8	0.0	0.0	13.2	69.1	69.1	0.6	47.2	3.0
Prop In Lane	1.00		1.00	0.71		0.21	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	235	194	164	212	0	0	263	1276	1330	25	2078	906
V/C Ratio(X)	0.44	0.06	0.45	0.29	0.00	0.00	0.94	1.11	1.12	0.47	0.93	0.12
Avail Cap(c_a), veh/h	553	622	527	532	0	0	263	1276	1330	93	2141	934
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	38.9	40.6	40.3	0.0	0.0	40.6	13.6	13.6	47.1	18.1	8.9
Incr Delay (d2), s/veh	1.3	0.1	1.9	0.8	0.0	0.0	38.1	61.0	64.7	5.0	7.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.2	1.7	1.4	0.0	0.0	8.1	37.6	40.6	0.3	17.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.4	39.0	42.5	41.0	0.0	0.0	78.7	74.6	78.3	52.1	25.5	9.0
LnGrp LOS	D	D	D	D	A	A	E	F	F	D	C	A
Approach Vol, veh/h		188			62			3152			2042	
Approach Delay, s/veh		42.2			41.0			76.6			24.8	
Approach LOS		D			D			E			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0	75.6		14.7	18.8	62.8		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	14.2	58.0		* 32				
Max Q Clear Time (g_c+I1), s	2.6	71.1		7.8	15.2	49.2		5.8				
Green Ext Time (p_c), s	0.0	0.0		0.6	0.0	7.1		0.3				

Intersection Summary

HCM 6th Ctrl Delay	55.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 6.2:

**EAP (2028) ALTERNATIVE ACCESS CONDITIONS INTERSECTION OPERATIONS
ANALYSIS WORKSHEETS**

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Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗			↕↗			↕↗	
Traffic Vol, veh/h	23	141	0	5	187	7	0	0	34	15	0	53
Future Vol, veh/h	23	141	0	5	187	7	0	0	34	15	0	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	153	0	5	203	8	0	0	37	16	0	58

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	211	0	0	153	0	0	315	424	77	344	420	106
Stage 1	-	-	-	-	-	-	203	203	-	217	217	-
Stage 2	-	-	-	-	-	-	112	221	-	127	203	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1357	-	-	1425	-	-	614	520	968	586	523	928
Stage 1	-	-	-	-	-	-	780	732	-	765	722	-
Stage 2	-	-	-	-	-	-	881	719	-	863	732	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1357	-	-	1425	-	-	566	509	968	554	511	928
Mov Cap-2 Maneuver	-	-	-	-	-	-	566	509	-	607	560	-
Stage 1	-	-	-	-	-	-	766	719	-	751	719	-
Stage 2	-	-	-	-	-	-	823	716	-	815	719	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	1.1		0.2		8.9		9.8	
HCM LOS					A		A	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	968	1357	-	-	1425	-	-	831
HCM Lane V/C Ratio	0.038	0.018	-	-	0.004	-	-	0.089
HCM Control Delay (s)	8.9	7.7	-	-	7.5	-	-	9.8
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Intersection						
Int Delay, s/veh	7.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	121	70	96	69	147	101
Future Vol, veh/h	121	70	96	69	147	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	76	104	75	160	110

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	179	0	-	0	444 90
Stage 1	-	-	-	-	142 -
Stage 2	-	-	-	-	302 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	1394	-	-	-	542 950
Stage 1	-	-	-	-	870 -
Stage 2	-	-	-	-	724 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1394	-	-	-	491 950
Mov Cap-2 Maneuver	-	-	-	-	567 -
Stage 1	-	-	-	-	787 -
Stage 2	-	-	-	-	724 -

Approach	EB	WB	SB
HCM Control Delay, s	5	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1394	-	-	-	678
HCM Lane V/C Ratio	0.094	-	-	-	0.398
HCM Control Delay (s)	7.9	-	-	-	13.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.9

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	217	116	109	0	49
Future Vol, veh/h	0	217	116	109	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	236	126	118	0	53

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	- 122
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0 906
Stage 1	0	-	-	-	0 -
Stage 2	0	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	- 906
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	906
HCM Lane V/C Ratio	-	-	-	0.059
HCM Control Delay (s)	-	-	-	9.2
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	↗
Traffic Vol, veh/h	0	120	0	967	1649	68
Future Vol, veh/h	0	120	0	967	1649	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	130	0	1051	1792	74

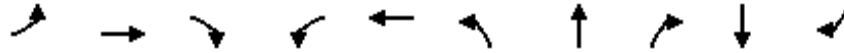
Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	896	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	283	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	283	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.1	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 283	-	-
HCM Lane V/C Ratio	- 0.461	-	-
HCM Control Delay (s)	- 28.1	-	-
HCM Lane LOS	- D	-	-
HCM 95th %tile Q(veh)	- 2.3	-	-

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

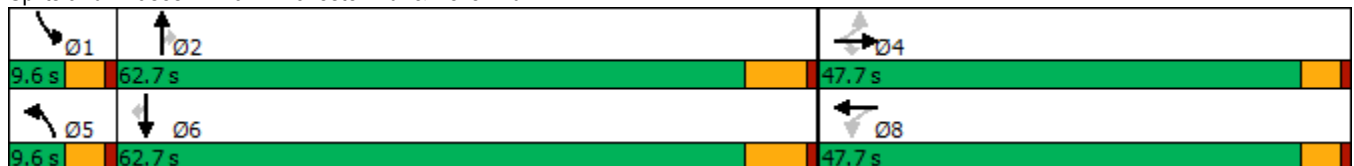


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations											
Traffic Volume (vph)	54	28	106	10	1	149	883	11	1739	31	
Future Volume (vph)	54	28	106	10	1	149	883	11	1739	31	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4			8	5	2		6		1
Permitted Phases	4		4	8				2		6	
Detector Phase	4	4	4	8	8	5	2	2	6	6	
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	47.7	47.7	9.6	62.7	62.7	62.7	62.7	9.6
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.0%	52.3%	52.3%	52.3%	52.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)	10.5	10.5	10.5		10.5	5.0	66.5	66.5	56.9	56.9	
Actuated g/C Ratio	0.12	0.12	0.12		0.12	0.06	0.75	0.75	0.65	0.65	
v/c Ratio	0.34	0.14	0.42		0.07	1.59	0.35	0.01	0.81	0.03	
Control Delay	41.5	35.9	16.2		35.1	339.7	4.1	0.0	15.5	0.9	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.5	35.9	16.2		35.1	339.7	4.1	0.0	15.5	0.9	
LOS	D	D	B		D	F	A	A	B	A	
Approach Delay		26.4			35.1		52.1		15.2		
Approach LOS		C			D		D		B		

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 88.2	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.59	
Intersection Signal Delay: 28.8	Intersection LOS: C
Intersection Capacity Utilization 78.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	28	106	10	1	0	149	883	11	0	1739	31
Future Volume (veh/h)	54	28	106	10	1	0	149	883	11	0	1739	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	30	109	11	1	0	159	939	12	0	1850	33
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	233	198	217	16	0	112	2609	1164	2	2179	972
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.00	0.06	0.73	0.73	0.00	0.61	0.61
Sat Flow, veh/h	1416	1870	1585	1043	129	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	57	30	109	12	0	0	159	939	12	0	1850	33
Grp Sat Flow(s),veh/h/ln	1416	1870	1585	1173	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	1.1	5.1	0.4	0.0	0.0	5.0	7.6	0.2	0.0	33.3	0.7
Cycle Q Clear(g_c), s	2.5	1.1	5.1	1.5	0.0	0.0	5.0	7.6	0.2	0.0	33.3	0.7
Prop In Lane	1.00		1.00	0.92		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	274	233	198	233	0	0	112	2609	1164	2	2179	972
V/C Ratio(X)	0.21	0.13	0.55	0.05	0.00	0.00	1.42	0.36	0.01	0.00	0.85	0.03
Avail Cap(c_a), veh/h	865	1013	859	769	0	0	112	2609	1164	112	2516	1122
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	30.9	32.7	31.1	0.0	0.0	37.2	3.8	2.8	0.0	12.4	6.1
Incr Delay (d2), s/veh	0.4	0.2	2.4	0.1	0.0	0.0	231.8	0.1	0.0	0.0	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.5	2.1	0.2	0.0	0.0	9.2	1.2	0.0	0.0	9.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	31.2	35.0	31.2	0.0	0.0	269.0	3.9	2.8	0.0	15.0	6.1
LnGrp LOS	C	C	D	C	A	A	F	A	A	A	B	A
Approach Vol, veh/h		196			12			1110			1883	
Approach Delay, s/veh		33.5			31.2			41.9			14.8	
Approach LOS		C			C			D			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	64.8		14.6	9.6	55.2		14.6				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	5.0	56.2		* 43				
Max Q Clear Time (g_c+I1), s	0.0	9.6		7.1	7.0	35.3		3.5				
Green Ext Time (p_c), s	0.0	6.8		0.7	0.0	13.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗			↕↗			↕↗	
Traffic Vol, veh/h	34	190	1	0	170	10	1	0	0	6	0	22
Future Vol, veh/h	34	190	1	0	170	10	1	0	0	6	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	207	1	0	185	11	1	0	0	7	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	196	0	0	208	0	0	375	478	104	369	473	98
Stage 1	-	-	-	-	-	-	282	282	-	191	191	-
Stage 2	-	-	-	-	-	-	93	196	-	178	282	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1374	-	-	1360	-	-	557	485	931	562	488	939
Stage 1	-	-	-	-	-	-	701	676	-	792	741	-
Stage 2	-	-	-	-	-	-	904	737	-	806	676	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1374	-	-	1360	-	-	532	472	931	550	475	939
Mov Cap-2 Maneuver	-	-	-	-	-	-	532	472	-	606	533	-
Stage 1	-	-	-	-	-	-	682	658	-	771	741	-
Stage 2	-	-	-	-	-	-	881	737	-	784	658	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	11.8	9.4
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	532	1374	-	-	1360	-	-	840
HCM Lane V/C Ratio	0.002	0.027	-	-	-	-	-	0.036
HCM Control Delay (s)	11.8	7.7	-	-	0	-	-	9.4
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	9.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	142	54	119	80	238	61
Future Vol, veh/h	142	54	119	80	238	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	154	59	129	87	259	66

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	216	0	-	0	511 108
Stage 1	-	-	-	-	173 -
Stage 2	-	-	-	-	338 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	1351	-	-	-	492 925
Stage 1	-	-	-	-	840 -
Stage 2	-	-	-	-	694 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1351	-	-	-	436 925
Mov Cap-2 Maneuver	-	-	-	-	526 -
Stage 1	-	-	-	-	744 -
Stage 2	-	-	-	-	694 -

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	19
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1351	-	-	-	577
HCM Lane V/C Ratio	0.114	-	-	-	0.563
HCM Control Delay (s)	8	-	-	-	19
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	3.5

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	292	156	225	0	43
Future Vol, veh/h	0	292	156	225	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	317	170	245	0	47

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	- 208
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	- 3.32
Pot Cap-1 Maneuver	0	-	-	-	0 798
Stage 1	0	-	-	-	0 -
Stage 2	0	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	- 798
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	798
HCM Lane V/C Ratio	-	-	-	0.059
HCM Control Delay (s)	-	-	-	9.8
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	170	0	1530	968	141
Future Vol, veh/h	0	170	0	1530	968	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	185	0	1663	1052	153

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	526	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	496	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	496	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 496	-	-
HCM Lane V/C Ratio	- 0.373	-	-
HCM Control Delay (s)	- 16.5	-	-
HCM Lane LOS	- C	-	-
HCM 95th %tile Q(veh)	- 1.7	-	-

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	115	14	52	11	21	215	1406	98	6	1100	32
Future Volume (vph)	115	14	52	11	21	215	1406	98	6	1100	32
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5
Total Split (s)	47.7	47.7	47.7	47.7	47.7	10.6	62.7	62.7	9.6	61.7	61.7
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.8%	52.3%	52.3%	8.0%	51.4%	51.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.3	13.3	13.3		13.3	6.3	40.6	40.6	5.2	30.9	30.9
Actuated g/C Ratio	0.20	0.20	0.20		0.20	0.09	0.61	0.61	0.08	0.46	0.46
v/c Ratio	0.46	0.04	0.15		0.13	1.38	0.70	0.11	0.04	0.72	0.04
Control Delay	33.0	26.6	6.0		22.6	235.5	11.8	2.0	37.7	16.8	1.2
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	26.6	6.0		22.6	235.5	11.8	2.0	37.7	16.8	1.2
LOS	C	C	A		C	F	B	A	D	B	A
Approach Delay		24.8			22.6		39.2			16.5	
Approach LOS		C			C		D			B	

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 67	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.38	
Intersection Signal Delay: 29.8	Intersection LOS: C
Intersection Capacity Utilization 69.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	14	52	11	21	9	215	1406	98	6	1100	32
Future Volume (veh/h)	115	14	52	11	21	9	215	1406	98	6	1100	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	15	49	12	22	7	229	1496	103	6	1170	32
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	302	256	123	182	47	177	2023	883	14	1699	758
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.10	0.57	0.57	0.01	0.48	0.48
Sat Flow, veh/h	1381	1870	1585	285	1129	291	1781	3554	1550	1781	3554	1585
Grp Volume(v), veh/h	122	15	49	41	0	0	229	1496	103	6	1170	32
Grp Sat Flow(s),veh/h/ln	1381	1870	1585	1705	0	0	1781	1777	1550	1781	1777	1585
Q Serve(g_s), s	3.4	0.4	1.6	0.0	0.0	0.0	6.0	18.9	1.9	0.2	15.5	0.7
Cycle Q Clear(g_c), s	4.5	0.4	1.6	1.2	0.0	0.0	6.0	18.9	1.9	0.2	15.5	0.7
Prop In Lane	1.00		1.00	0.29		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	350	302	256	352	0	0	177	2023	883	14	1699	758
V/C Ratio(X)	0.35	0.05	0.19	0.12	0.00	0.00	1.30	0.74	0.12	0.42	0.69	0.04
Avail Cap(c_a), veh/h	1108	1329	1126	1247	0	0	177	3300	1440	147	3241	1446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	21.4	21.9	21.8	0.0	0.0	27.3	9.7	6.0	29.9	12.3	8.4
Incr Delay (d2), s/veh	0.6	0.1	0.4	0.1	0.0	0.0	168.7	0.5	0.1	7.3	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.2	0.6	0.5	0.0	0.0	10.5	4.3	0.4	0.1	4.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	21.5	22.3	21.9	0.0	0.0	196.0	10.2	6.1	37.2	12.8	8.4
LnGrp LOS	C	C	C	C	A	A	F	B	A	D	B	A
Approach Vol, veh/h		186			41			1828			1208	
Approach Delay, s/veh		23.1			21.9			33.3			12.8	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	41.0		14.5	10.6	35.4		14.5				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	6.0	55.2		* 43				
Max Q Clear Time (g_c+I1), s	2.2	20.9		6.5	8.0	17.5		3.2				
Green Ext Time (p_c), s	0.0	13.5		0.6	0.0	9.2		0.2				

Intersection Summary

HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 6.3:

EAP (2028) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2028) Conditions - Weekday AM Peak Hour**

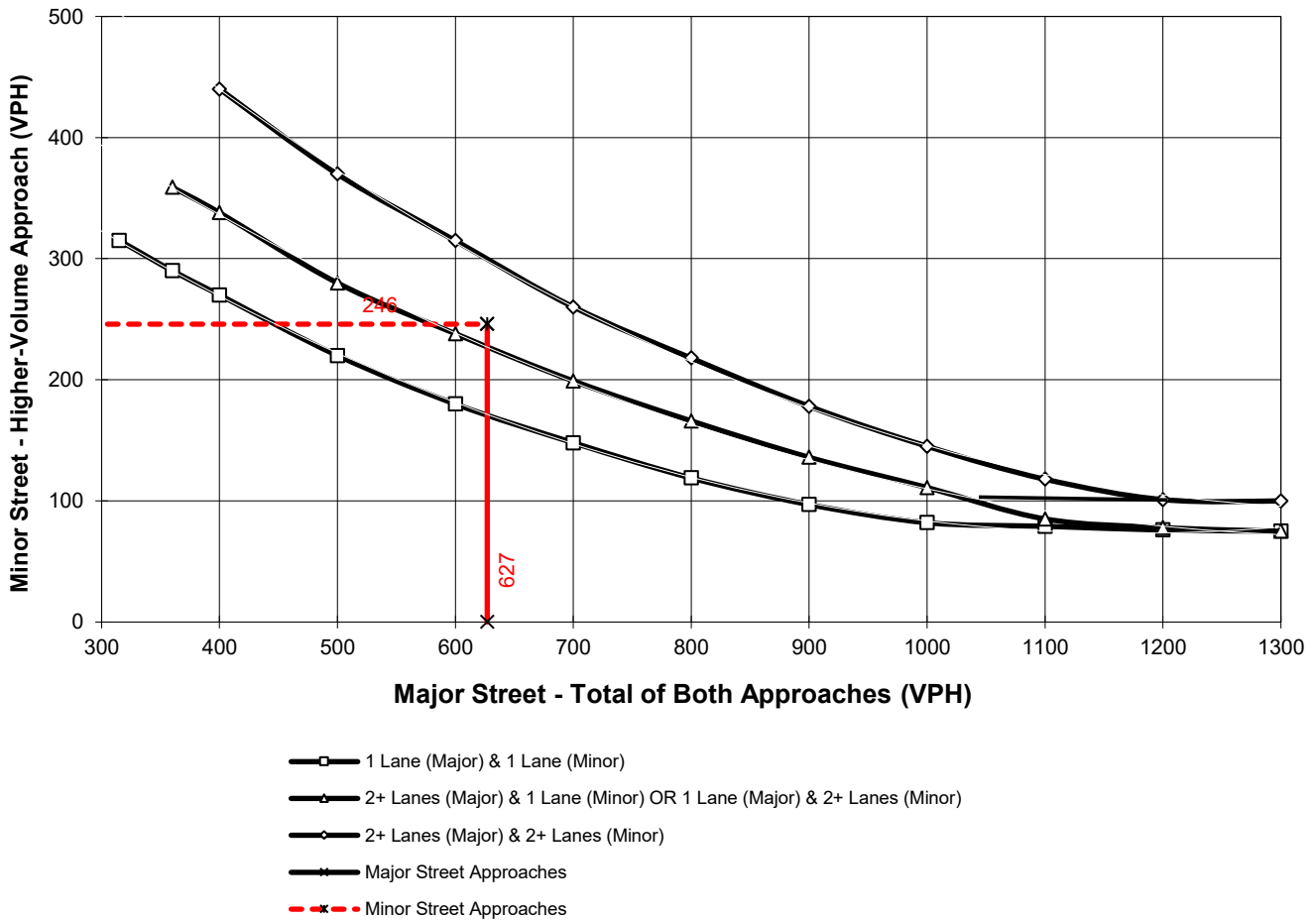
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **627**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Keller Rd.**

High Volume Approach (VPH) = **246**
 Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane



Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2028) Conditions - Weekday PM Peak Hour**

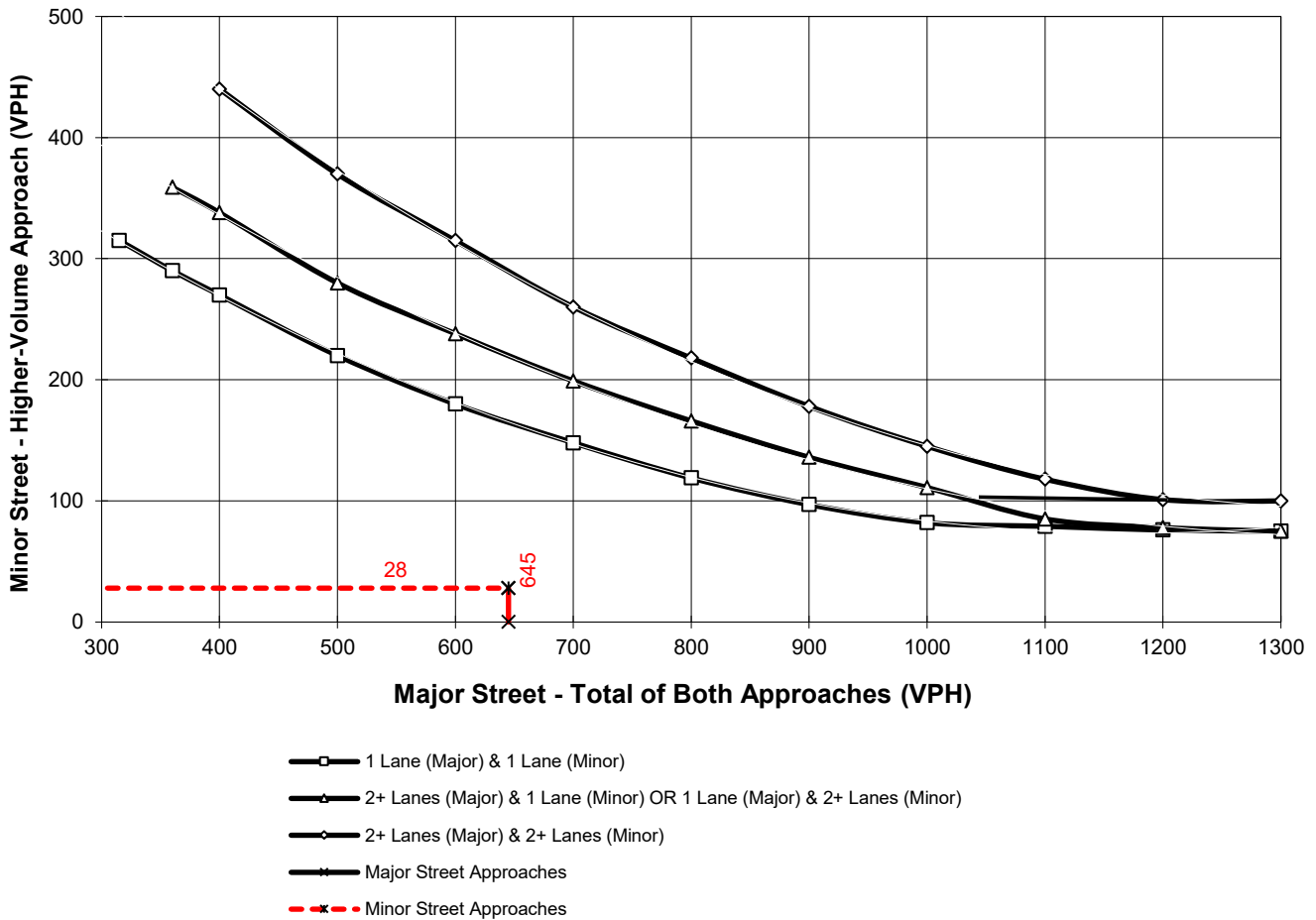
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **645**
 Number of Approach Lanes Major Street = **2**

Minor Street Name = **Whisper Heights Pkwy.**

High Volume Approach (VPH) = **28**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane



Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2028) Conditions - Weekday PM Peak Hour**

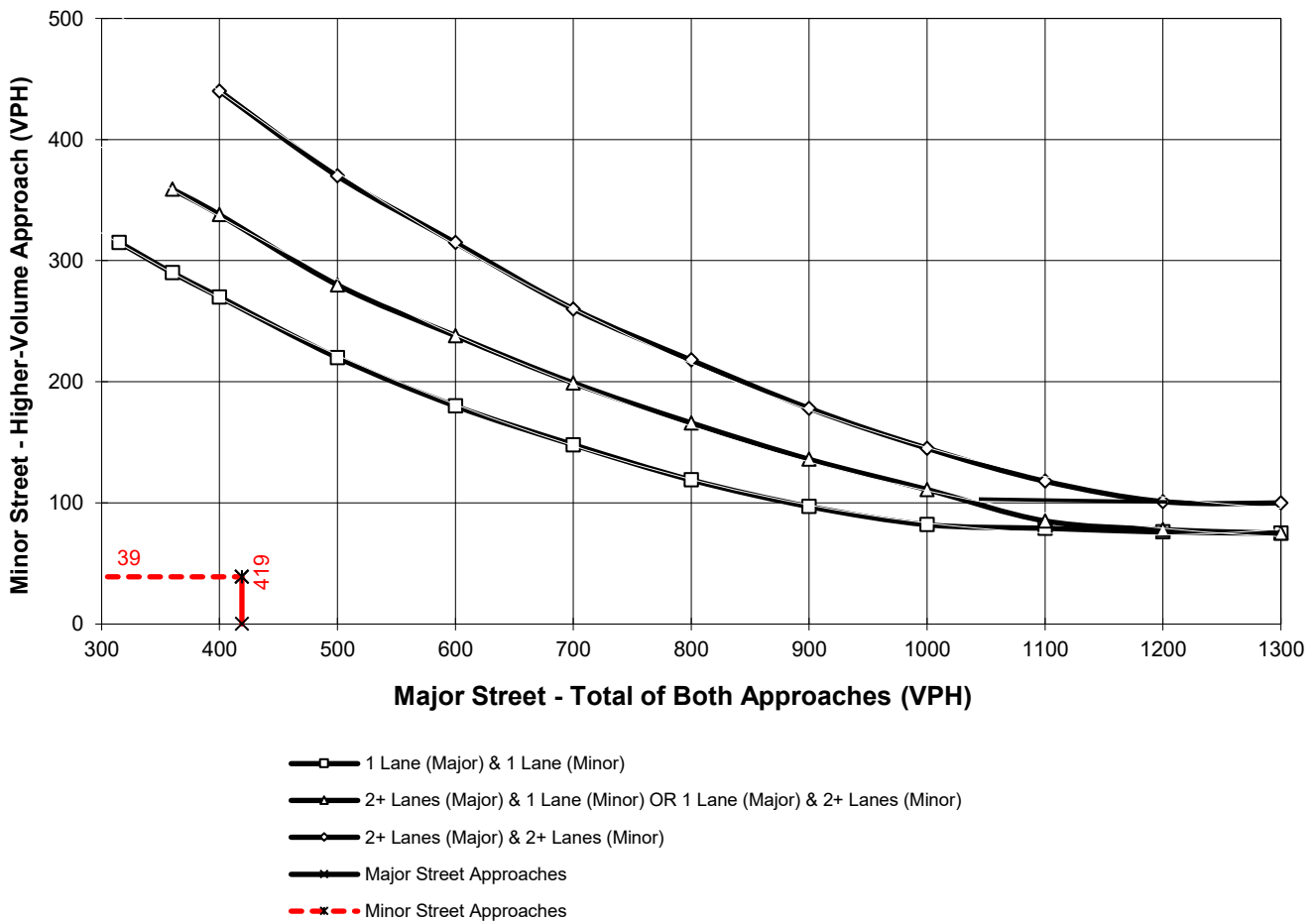
Major Street Name = **Keller Rd.**

Total of Both Approaches (VPH) = **419**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pourroy Rd.**

High Volume Approach (VPH) = **39**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2028) Conditions - Weekday AM Peak Hour**

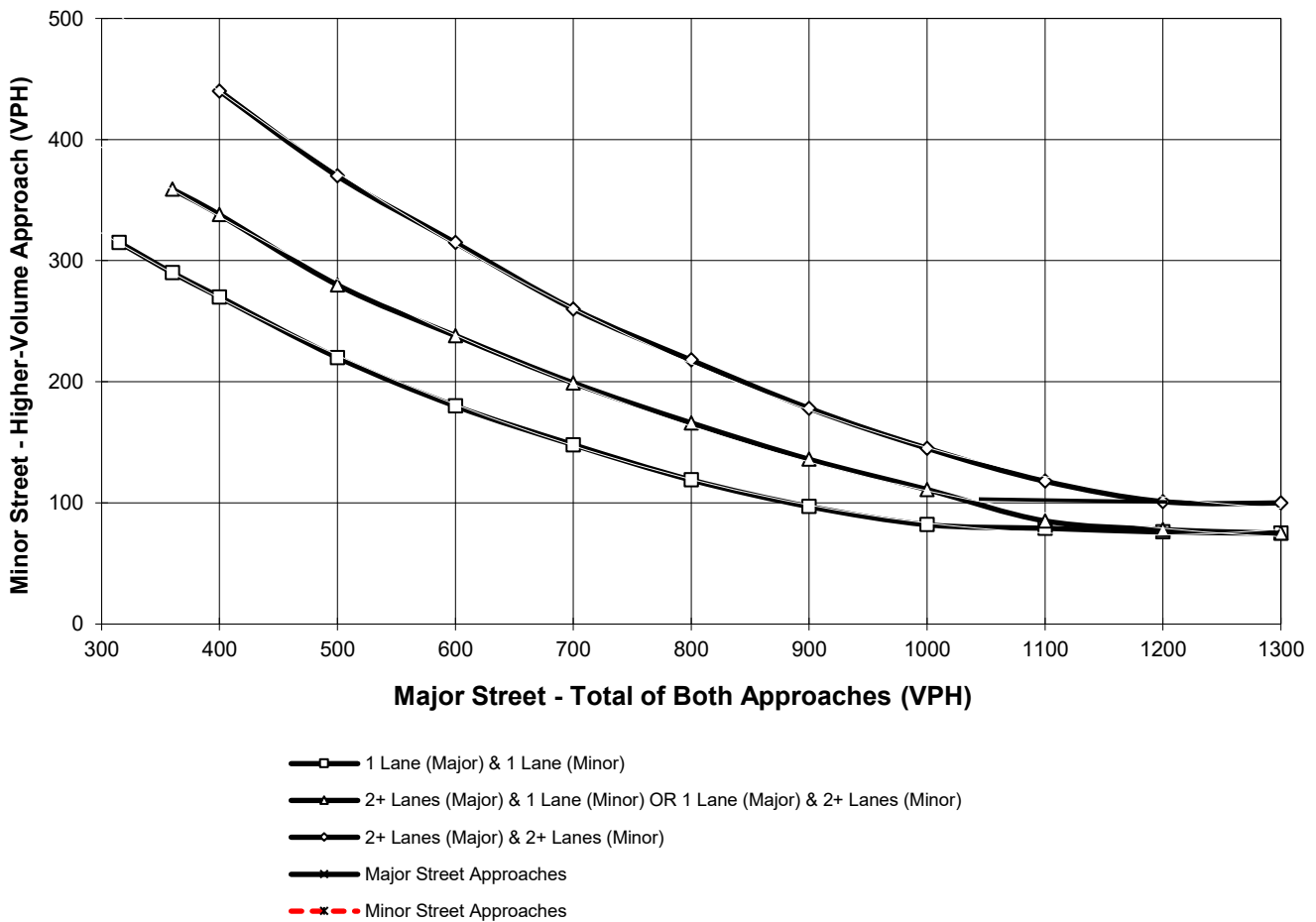
Major Street Name = **Pourroy Rd.**

Total of Both Approaches (VPH) = **78**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pat Rd.**

High Volume Approach (VPH) = **49**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>EAP (2023)</u>
Jurisdiction: <u>County of Riverside</u>				<u>CP</u>		DATE <u>12/14/11</u>
Major Street: <u>Keller Rd.</u>				<u>CP</u>		DATE <u>12/14/11</u>
Minor Street: <u>Street A</u>					Critical Approach Speed (Major) <u>45</u> mph	
					Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes =		<u>1</u> lane
Major Street Future ADT =		<u>4,431</u>	vpd	Minor Street Future ADT =		<u>379</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input checked="" type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 4,431</u>	<u>1 379</u>				
<u>2 +</u>	<u>1</u>	8,000	5,600	2,400	1,680
<u>2 +</u>	<u>2 +</u>	9,600	6,720	2,400	1,680
<u>1</u>	<u>2 +</u>	9,600	6,720	3,200	2,240
		8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 4,431</u>	<u>1 379</u>				
<u>2 +</u>	<u>1</u>	12,000	8,400	1,200	850
<u>2 +</u>	<u>2 +</u>	14,400	10,080	1,200	850
<u>1</u>	<u>2 +</u>	14,400	10,080	1,600	1,120
		12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	23%				
	<u>B</u>				
	45%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	<u>EAP (2023)</u>
Jurisdiction: <u>County of Riverside</u>				CALC <u>CP</u>	DATE <u>12/14/11</u>
Major Street: <u>Keller Rd.</u>				CHK <u>CP</u>	DATE <u>12/14/11</u>
Minor Street: <u>Street B</u>				Critical Approach Speed (Major) <u>45</u> mph	
				Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes =	<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u>	lane
Major Street Future ADT =	<u>4,279</u>	vpd	Minor Street Future ADT =	<u>2,220</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input checked="" type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 4,279	1 2,220	8,000	5,600	2,400	1,680 *
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 4,279	1 2,220	12,000	8,400	1,200	850 *
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more					
	XX				
	<u>A</u>				
	76%				
	<u>B</u>				
	51%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



APPENDIX 6.4:

**EAP (2028) ALTERNATIVE ACCESS CONDITIONS TRAFFIC SIGNAL WARRANT
ANALYSIS WORKSHEETS**

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

	<u> </u> DIST	<u> </u> CO	<u> </u> RTE	<u> </u> PM		TRAFFIC CONDITIONS	P (2028) - Alternat	
Jurisdiction:	<u>County of Riverside</u>				CALC	<u>CP</u>	DATE <u>12/14/11</u>	
Major Street:	<u>Keller Rd.</u>				CHK	<u>CP</u>	DATE <u>12/14/11</u>	
Minor Street:	<u>Street A</u>					Critical Approach Speed (Major)	<u>45</u> mph	
						Critical Approach Speed (Minor)	<u>25</u> mph	
Major Street Approach Lanes =	<u>1</u> lane				Minor Street Approach Lanes:	<u>1</u> lane		
Major Street Future ADT =	<u>4,524</u> vpd				Minor Street Future ADT =	<u>378</u> vpd		
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);	<input checked="" type="checkbox"/>						or	RURAL (R)
In built up area of isolated community of < 10,000 population	<input type="checkbox"/>							

(Based on Estimated Average Daily Traffic - See Note)

	<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume <u>Satisfied</u>		XX	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
		XX				
Number of lanes for moving traffic on each approach	<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	<u>1 4,524</u>	<u>1 378</u>	8,000	5,600	2,400	1,680
	2 +	1	9,600	6,720	2,400	1,680
	2 +	2 +	9,600	6,720	3,200	2,240
	1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic <u>Satisfied</u>		XX	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
		XX				
Number of lanes for moving traffic on each approach	<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	<u>1 4,524</u>	<u>1 378</u>	12,000	8,400	1,200	850
	2 +	1	14,400	10,080	1,200	850
	2 +	2 +	14,400	10,080	1,600	1,120
	1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B <u>Satisfied</u>		XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more		XX				
		A				
		23%				
		B				
		44%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



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APPENDIX 6.5:

EAP (2028) CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Queues

1: I-215 SB Ramps & Scott Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	821	810	1057	751	752	152	151
v/c Ratio	0.44	0.66	0.56	0.63	0.64	0.26	0.26
Control Delay	11.2	3.9	12.7	3.6	23.2	9.2	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	3.9	12.7	3.6	23.2	9.2	9.1
Queue Length 50th (ft)	95	0	134	0	128	13	13
Queue Length 95th (ft)	188	38	259	37	247	62	62
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	3235	1516	3235	1511	2203	1001	1001
Starvation Cap Reductn	0	0	243	41	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.53	0.35	0.51	0.34	0.15	0.15

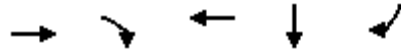
Intersection Summary

Queues

Keller Crossing (JN:13649)

2: I-215 SB Ramps & Clinton Keith Rd.

06/22/2021



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1564	546	2077	278	932
v/c Ratio	0.64	0.53	0.87	0.40	0.83
Control Delay	23.3	3.6	29.0	25.8	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	3.6	29.0	25.8	36.0
Queue Length 50th (ft)	312	0	467	146	338
Queue Length 95th (ft)	382	59	569	217	431
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	2680	1072	2615	833	1330
Starvation Cap Reductn	0	0	16	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.51	0.80	0.33	0.70

Intersection Summary

Queues

3: I-215 NB Ramps & Scott Rd.



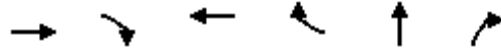
Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	229	1258	1377	532	160	159	166	165
v/c Ratio	0.88	0.45	0.49	0.39	0.56	0.56	0.64	0.63
Control Delay	42.3	3.1	3.4	1.0	19.1	18.8	29.0	28.8
Queue Delay	0.0	0.3	0.6	0.8	0.0	0.0	0.0	0.0
Total Delay	42.3	3.4	4.0	1.8	19.1	18.8	29.0	28.8
Queue Length 50th (ft)	59	80	92	0	8	7	30	30
Queue Length 95th (ft)	#97	130	149	15	81	80	112	111
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	302	3262	3262	1501	370	370	347	347
Starvation Cap Reductn	0	1165	1374	639	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.60	0.73	0.62	0.43	0.43	0.48	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

4: I-215 NB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	1043	757	1676	266	355	329
v/c Ratio	0.40	0.66	0.63	0.28	0.69	0.64
Control Delay	12.3	4.1	15.2	2.4	31.1	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	4.1	15.2	2.4	31.1	24.7
Queue Length 50th (ft)	99	0	190	0	136	98
Queue Length 95th (ft)	189	55	347	38	312	250
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	4286	1403	4286	1376	930	882
Starvation Cap Reductn	0	4	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.54	0.39	0.19	0.38	0.37

Intersection Summary



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	89	30	194	12	159	939	12	1722	105
v/c Ratio	0.46	0.11	0.64	0.06	1.62	0.36	0.01	0.78	0.10
Control Delay	43.0	34.0	28.8	33.1	351.2	5.1	0.0	15.8	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	34.0	28.8	33.1	351.2	5.1	0.0	15.8	3.4
Queue Length 50th (ft)	47	15	52	6	~127	76	0	318	6
Queue Length 95th (ft)	93	40	121	21	#268	143	0	516	29
Internal Link Dist (ft)		125		754		1334		662	
Turn Bay Length (ft)	100				530		530		540
Base Capacity (vph)	670	894	809	722	98	2600	1178	2221	1020
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.03	0.24	0.02	1.62	0.36	0.01	0.78	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

1: I-215 SB Ramps & Scott Rd.

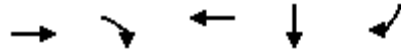


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1234	519	1690	465	664	159	158
v/c Ratio	0.55	0.43	0.75	0.40	0.71	0.37	0.36
Control Delay	10.9	1.9	14.9	1.8	37.5	27.3	27.2
Queue Delay	0.0	0.0	0.4	0.2	0.0	0.0	0.0
Total Delay	10.9	1.9	15.3	2.0	37.5	27.3	27.2
Queue Length 50th (ft)	199	0	341	0	189	64	64
Queue Length 95th (ft)	303	36	512	35	301	147	146
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	2889	1387	2889	1378	1308	593	593
Starvation Cap Reductn	0	0	572	309	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.37	0.73	0.43	0.51	0.27	0.27

Intersection Summary

Queues

2: I-215 SB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1724	415	1736	335	799
v/c Ratio	0.71	0.44	0.73	0.50	0.73
Control Delay	22.4	3.3	21.4	26.8	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	3.3	21.4	26.8	29.1
Queue Length 50th (ft)	298	0	286	161	228
Queue Length 95th (ft)	439	54	427	266	338
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	3099	1084	2992	964	1543
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.38	0.58	0.35	0.52

Intersection Summary

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	273	1605	1337	624	438	438	398	397
v/c Ratio	1.33	0.65	0.54	0.48	1.13	1.13	0.96	0.95
Control Delay	200.6	11.4	9.7	1.8	122.2	122.2	70.7	70.1
Queue Delay	0.0	4.6	16.8	1.7	0.0	0.0	0.0	0.0
Total Delay	200.6	16.0	26.5	3.5	122.2	122.2	70.7	70.1
Queue Length 50th (ft)	~274	322	235	0	~381	~381	262	261
Queue Length 95th (ft)	#288	388	285	32	#597	#597	#473	#471
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	205	2477	2477	1295	389	389	416	416
Starvation Cap Reductn	0	788	1158	476	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.33	0.95	1.01	0.76	1.13	1.13	0.96	0.95

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

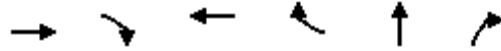
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

4: I-215 NB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	1341	656	1236	151	541	497
v/c Ratio	0.61	0.68	0.56	0.20	0.77	0.78
Control Delay	22.0	8.8	21.2	4.0	30.4	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	8.8	21.2	4.0	30.4	31.5
Queue Length 50th (ft)	207	44	185	0	252	231
Queue Length 95th (ft)	334	197	301	38	471	443
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	3186	1154	3186	1027	1088	989
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.57	0.39	0.15	0.50	0.50

Intersection Summary



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	122	15	236	44	229	1496	104	6	989	184
v/c Ratio	0.43	0.04	0.53	0.12	1.32	0.72	0.11	0.04	0.64	0.23
Control Delay	31.2	25.7	16.0	21.8	209.0	12.5	2.1	37.2	15.8	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	25.7	16.0	21.8	209.0	12.5	2.1	37.2	15.8	2.5
Queue Length 50th (ft)	37	4	26	10	~105	166	0	2	141	0
Queue Length 95th (ft)	123	25	121	46	#372	415	21	17	231	28
Internal Link Dist (ft)		125		754		1334			662	
Turn Bay Length (ft)	100				530		530	540		540
Base Capacity (vph)	955	1313	1159	1196	174	3106	1371	145	3076	1400
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.01	0.20	0.04	1.32	0.48	0.08	0.04	0.32	0.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

APPENDIX 6.6:

EAP (2028) ALTERNATIVE ACCESS CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	57	30	113	12	159	939	12	1850	33
v/c Ratio	0.34	0.14	0.42	0.07	1.59	0.35	0.01	0.81	0.03
Control Delay	41.5	35.9	16.2	35.1	339.7	4.1	0.0	15.5	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	35.9	16.2	35.1	339.7	4.1	0.0	15.5	0.9
Queue Length 50th (ft)	29	15	10	6	~125	71	0	351	0
Queue Length 95th (ft)	66	40	58	22	#252	106	0	492	5
Internal Link Dist (ft)		125		754		1334		662	
Turn Bay Length (ft)	100				530		530		540
Base Capacity (vph)	681	908	819	715	100	2668	1207	2283	1041
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.03	0.14	0.02	1.59	0.35	0.01	0.81	0.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	122	15	55	44	229	1496	104	6	1170	34
v/c Ratio	0.46	0.04	0.15	0.13	1.38	0.70	0.11	0.04	0.72	0.04
Control Delay	33.0	26.6	6.0	22.6	235.5	11.8	2.0	37.7	16.8	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	26.6	6.0	22.6	235.5	11.8	2.0	37.7	16.8	1.2
Queue Length 50th (ft)	41	5	0	11	~116	166	0	2	180	0
Queue Length 95th (ft)	123	25	22	47	#369	405	21	17	283	7
Internal Link Dist (ft)		125		754		1334			662	
Turn Bay Length (ft)	100				530		530	540		540
Base Capacity (vph)	912	1252	1088	1140	166	3043	1345	138	3004	1352
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.01	0.05	0.04	1.38	0.49	0.08	0.04	0.39	0.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

APPENDIX 6.7:

**EAP (2028) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH
IMPROVEMENTS**

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Timings
7: Whitewood Rd. & Clinton Keith Rd.

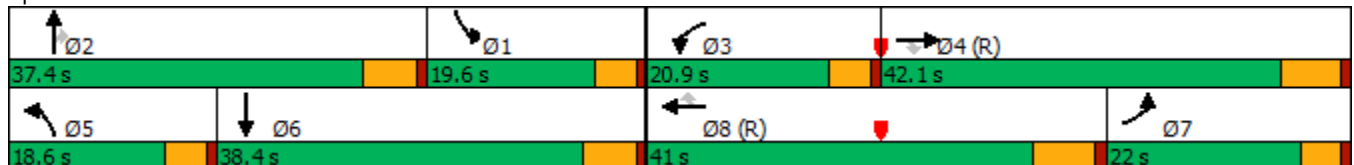
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	369	917	166	268	1252	129	136	126	107	102	400
Future Volume (vph)	369	917	166	268	1252	129	136	126	107	102	400
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	36.8	36.8	9.6	36.8
Total Split (s)	22.0	42.1	42.1	20.9	41.0	41.0	18.6	37.4	37.4	19.6	38.4
Total Split (%)	18.3%	35.1%	35.1%	17.4%	34.2%	34.2%	15.5%	31.2%	31.2%	16.3%	32.0%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	16.5	40.7	40.7	14.0	38.2	38.2	12.8	10.9	10.9	32.9	31.0
Actuated g/C Ratio	0.14	0.34	0.34	0.12	0.32	0.32	0.11	0.09	0.09	0.27	0.26
v/c Ratio	0.84	0.54	0.28	0.72	0.78	0.23	0.80	0.44	0.38	0.23	0.91
Control Delay	66.9	34.3	5.6	61.5	41.8	3.0	81.6	55.9	4.4	34.4	46.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.9	34.3	5.6	61.5	41.8	3.0	81.6	55.9	4.4	34.4	46.1
LOS	E	C	A	E	D	A	F	E	A	C	D
Approach Delay		39.3			41.9			50.4			44.8
Approach LOS		D			D			D			D

Intersection Summary


































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 75 (63%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 42.4
 Intersection LOS: D
 Intersection Capacity Utilization 84.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  			 			 	
Traffic Volume (veh/h)	369	917	166	268	1252	129	136	126	107	102	400	424
Future Volume (veh/h)	369	917	166	268	1252	129	136	126	107	102	400	424
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	410	1019	123	298	1391	115	151	140	36	113	444	332
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	620	2061	582	359	1560	441	178	296	132	462	492	366
Arrive On Green	0.17	0.37	0.37	0.10	0.28	0.28	0.10	0.08	0.08	0.26	0.25	0.25
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	3554	1585	1781	1942	1445
Grp Volume(v), veh/h	410	1019	123	298	1391	115	151	140	36	113	406	370
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1610
Q Serve(g_s), s	12.9	16.8	6.4	9.9	28.6	6.8	10.0	4.5	2.0	6.0	26.5	26.7
Cycle Q Clear(g_c), s	12.9	16.8	6.4	9.9	28.6	6.8	10.0	4.5	2.0	6.0	26.5	26.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.90
Lane Grp Cap(c), veh/h	620	2061	582	359	1560	441	178	296	132	462	450	408
V/C Ratio(X)	0.66	0.49	0.21	0.83	0.89	0.26	0.85	0.47	0.27	0.24	0.90	0.91
Avail Cap(c_a), veh/h	620	2061	582	484	1613	456	208	936	417	462	483	437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	29.3	26.0	53.0	41.6	33.7	53.1	52.5	32.7	35.1	43.4	43.5
Incr Delay (d2), s/veh	1.9	0.8	0.7	4.2	5.2	0.9	21.7	1.2	1.1	0.1	19.3	21.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	7.2	2.4	4.4	13.1	2.6	5.4	2.0	1.0	2.6	13.6	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	30.1	26.8	57.1	46.8	34.6	74.8	53.7	33.8	35.2	62.7	65.1
LnGrp LOS	D	C	C	E	D	C	E	D	C	D	E	E
Approach Vol, veh/h		1552			1804			327			889	
Approach Delay, s/veh		34.6			47.7			61.2			60.2	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	36.9	15.8	16.7	50.6	16.6	36.2	27.4	39.9				
Change Period (Y+Rc), s	5.8	* 5.8	4.6	6.5	4.6	5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	15.0	* 32	16.3	35.6	14.0	32.6	17.4	* 35				
Max Q Clear Time (g_c+I1), s	8.0	6.5	11.9	18.8	12.0	28.7	14.9	30.6				
Green Ext Time (p_c), s	0.1	0.8	0.2	6.1	0.0	1.6	0.2	2.8				

Intersection Summary

HCM 6th Ctrl Delay	46.7
HCM 6th LOS	D

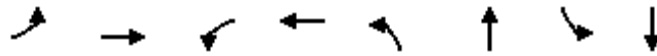
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

9: Leon Rd. & Scott Rd.

10/18/2021

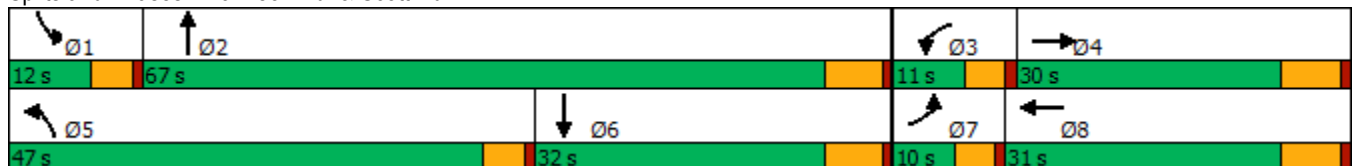


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↗	↙	↗	↙	↗	↙	↗
Traffic Volume (vph)	11	324	24	319	373	45	37	71
Future Volume (vph)	11	324	24	319	373	45	37	71
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	28.5	9.6	28.5	9.6	28.2	9.6	28.2
Total Split (s)	10.0	30.0	11.0	31.0	47.0	67.0	12.0	32.0
Total Split (%)	8.3%	25.0%	9.2%	25.8%	39.2%	55.8%	10.0%	26.7%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effct Green (s)	5.5	25.2	5.9	27.2	21.4	26.3	6.5	11.3
Actuated g/C Ratio	0.07	0.34	0.08	0.36	0.29	0.35	0.09	0.15
v/c Ratio	0.09	1.06	0.18	0.50	0.76	0.09	0.25	0.30
Control Delay	42.3	83.1	42.5	26.6	36.2	15.8	42.6	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	83.1	42.5	26.6	36.2	15.8	42.6	35.8
LOS	D	F	D	C	D	B	D	D
Approach Delay		82.4		27.6		33.6		37.9
Approach LOS		F		C		C		D

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 74.7	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 52.7	Intersection LOS: D
Intersection Capacity Utilization 73.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary

9: Leon Rd. & Scott Rd.

10/18/2021

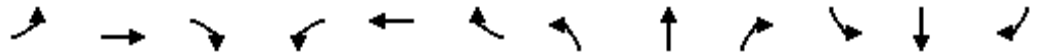


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	11	324	297	24	319	11	373	45	10	37	71	10
Future Volume (veh/h)	11	324	297	24	319	11	373	45	10	37	71	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	334	151	25	329	11	385	46	10	38	73	-47
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	367	166	49	565	19	433	494	107	66	236	0
Arrive On Green	0.01	0.30	0.30	0.03	0.31	0.31	0.24	0.33	0.33	0.04	0.13	0.00
Sat Flow, veh/h	1781	1220	551	1781	1799	60	1781	1489	324	1781	1870	0
Grp Volume(v), veh/h	11	0	485	25	0	340	385	0	56	38	26	0
Grp Sat Flow(s),veh/h/ln	1781	0	1771	1781	0	1860	1781	0	1812	1781	1870	0
Q Serve(g_s), s	0.4	0.0	19.1	1.0	0.0	11.1	15.1	0.0	1.5	1.5	0.9	0.0
Cycle Q Clear(g_c), s	0.4	0.0	19.1	1.0	0.0	11.1	15.1	0.0	1.5	1.5	0.9	0.0
Prop In Lane	1.00		0.31	1.00		0.03	1.00		0.18	1.00		0.00
Lane Grp Cap(c), veh/h	24	0	532	49	0	584	433	0	602	66	236	0
V/C Ratio(X)	0.45	0.00	0.91	0.51	0.00	0.58	0.89	0.00	0.09	0.58	0.11	0.00
Avail Cap(c_a), veh/h	133	0	576	158	0	630	1045	0	1525	182	668	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.4	0.0	24.3	34.7	0.0	20.8	26.4	0.0	16.6	34.2	28.0	0.0
Incr Delay (d2), s/veh	4.8	0.0	18.0	3.1	0.0	1.2	2.5	0.0	0.1	3.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	9.4	0.4	0.0	4.2	5.9	0.0	0.6	0.7	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.1	0.0	42.3	37.8	0.0	22.0	28.9	0.0	16.7	37.2	28.2	0.0
LnGrp LOS	D	A	D	D	A	C	C	A	B	D	C	A
Approach Vol, veh/h		496			365			441				64
Approach Delay, s/veh		42.3			23.1			27.4				33.5
Approach LOS		D			C			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	30.2	6.6	28.2	22.2	15.3	5.6	29.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5				
Max Green Setting (Gmax), s	7.4	60.8	6.4	23.5	42.4	25.8	5.4	24.5				
Max Q Clear Time (g_c+I1), s	3.5	3.5	3.0	21.1	17.1	2.9	2.4	13.1				
Green Ext Time (p_c), s	0.0	0.3	0.0	0.7	0.5	0.1	0.0	1.3				
Intersection Summary												
HCM 6th Ctrl Delay				31.9								
HCM 6th LOS				C								

Timings
20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)

06/24/2021

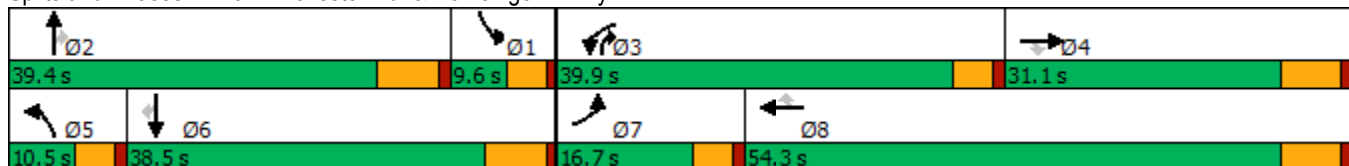


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔	↑↑↑	↔	↔	↑↑↑	↔
Traffic Volume (vph)	190	1035	154	951	936	16	69	428	736	7	1103	260
Future Volume (vph)	190	1035	154	951	936	16	69	428	736	7	1103	260
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.5	16.5	9.6	38.5	38.5	9.6	38.5	9.6	9.6	38.5	38.5
Total Split (s)	16.7	31.1	31.1	39.9	54.3	54.3	10.5	39.4	39.9	9.6	38.5	38.5
Total Split (%)	13.9%	25.9%	25.9%	33.3%	45.3%	45.3%	8.8%	32.8%	33.3%	8.0%	32.1%	32.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	10.5	24.6	24.6	35.0	49.1	49.1	5.9	36.8	77.4	7.7	30.9	30.9
Actuated g/C Ratio	0.09	0.21	0.21	0.30	0.41	0.41	0.05	0.31	0.65	0.06	0.26	0.26
v/c Ratio	0.64	0.95	0.33	0.97	0.43	0.02	0.83	0.26	0.73	0.06	0.81	0.46
Control Delay	62.1	63.7	3.6	63.0	25.9	0.1	114.1	33.0	17.4	50.0	46.1	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.1	63.7	3.6	63.0	25.9	0.1	114.1	33.0	17.4	50.0	46.1	8.2
LOS	E	E	A	E	C	A	F	C	B	D	D	A
Approach Delay		56.7			44.2			28.2			38.9	
Approach LOS		E			D			C			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.6
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 42.6
 Intersection LOS: D
 Intersection Capacity Utilization 91.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	1035	154	951	936	16	69	428	736	7	1103	260
Future Volume (veh/h)	190	1035	154	951	936	16	69	428	736	7	1103	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	202	1101	108	1012	996	11	73	455	544	7	1173	250
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	1184	334	1055	2431	687	90	1077	774	167	1410	398
Arrive On Green	0.07	0.21	0.21	0.44	0.43	0.43	0.05	0.19	0.19	0.09	0.25	0.25
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	202	1101	108	1012	996	11	73	455	544	7	1173	250
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.5	22.4	6.7	32.0	14.2	0.3	4.7	8.3	16.2	0.4	23.0	16.3
Cycle Q Clear(g_c), s	6.5	22.4	6.7	32.0	14.2	0.3	4.7	8.3	16.2	0.4	23.0	16.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	263	1184	334	1055	2431	687	90	1077	774	167	1410	398
V/C Ratio(X)	0.77	0.93	0.32	0.96	0.41	0.02	0.81	0.42	0.70	0.04	0.83	0.63
Avail Cap(c_a), veh/h	371	1187	335	1081	2431	687	90	1587	918	167	1544	436
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	45.0	38.8	31.7	22.7	7.6	54.6	41.3	8.3	47.9	41.2	38.7
Incr Delay (d2), s/veh	3.6	12.7	0.6	18.0	0.1	0.0	37.7	0.3	2.0	0.0	3.7	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	11.2	2.5	13.2	5.8	0.2	3.0	3.7	4.3	0.2	10.5	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	57.8	39.4	49.6	22.8	7.6	92.3	41.6	10.3	48.0	44.9	41.2
LnGrp LOS	E	E	D	D	C	A	F	D	B	D	D	D
Approach Vol, veh/h		1411			2019			1072			1430	
Approach Delay, s/veh		56.2			36.2			29.1			44.3	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	28.8	39.0	31.0	10.5	35.7	13.2	56.9				
Change Period (Y+Rc), s	6.5	* 6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	* 33	35.3	24.6	5.9	32.0	12.1	47.8				
Max Q Clear Time (g_c+I1), s	2.4	18.2	34.0	24.4	6.7	25.0	8.5	16.2				
Green Ext Time (p_c), s	0.0	4.1	0.4	0.1	0.0	4.2	0.1	6.9				
Intersection Summary												
HCM 6th Ctrl Delay			41.6									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

24: Winchester Rd. & Scott Rd./Washington St,

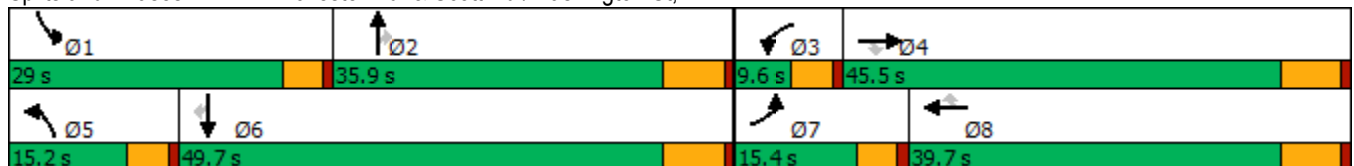


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR	Ø3
Lane Configurations	↖↗	↑↑	↖	↑	↖	↖	↑↑↑	↖	↑↑↑	↖	
Traffic Volume (vph)	163	133	101	108	207	100	866	324	1616	264	
Future Volume (vph)	163	133	101	108	207	100	866	324	1616	264	
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4		8		5	2	1	6		3
Permitted Phases			4		8					6	
Detector Phase	7	4	4	8	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	45.5	45.5	16.5	16.5	9.6	35.5	9.6	44.5	44.5	9.6
Total Split (s)	15.4	45.5	45.5	39.7	39.7	15.2	35.9	29.0	49.7	49.7	9.6
Total Split (%)	12.8%	37.9%	37.9%	33.1%	33.1%	12.7%	29.9%	24.2%	41.4%	41.4%	8%
Yellow Time (s)	3.6	5.5	5.5	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	6.5	6.5	4.6	6.5	4.6	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	None
Act Effct Green (s)	8.8	25.4	25.4	11.9	11.9	9.3	25.1	23.4	39.2	39.2	
Actuated g/C Ratio	0.10	0.28	0.28	0.13	0.13	0.10	0.27	0.25	0.43	0.43	
v/c Ratio	0.51	0.14	0.19	0.48	0.55	0.60	0.60	0.76	0.72	0.34	
Control Delay	46.7	26.4	2.2	46.1	11.4	56.1	31.1	46.0	24.1	3.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.7	26.4	2.2	46.1	11.4	56.1	31.1	46.0	24.1	3.5	
LOS	D	C	A	D	B	E	C	D	C	A	
Approach Delay		28.6		23.3			33.6		24.8		
Approach LOS		C		C			C		C		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91.8
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 27.3
 Intersection LOS: C
 Intersection Capacity Utilization 62.7%
 ICU Level of Service B
 Analysis Period (min) 15































Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

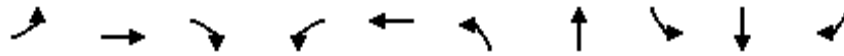
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 						  			  	
Traffic Volume (veh/h)	163	133	101	0	108	207	100	866	0	324	1616	264
Future Volume (veh/h)	163	133	101	0	108	207	100	866	0	324	1616	264
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	173	141	63	0	115	-19	106	921	0	345	1719	-171
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	983	417	2	243	206	136	1628	460	388	2424	685
Arrive On Green	0.07	0.26	0.26	0.00	0.13	0.00	0.08	0.29	0.00	0.22	0.43	0.00
Sat Flow, veh/h	3563	3741	1585	1781	1870	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	173	141	63	0	115	-19	106	921	0	345	1719	-171
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.6	2.2	2.3	0.0	4.4	0.0	4.5	10.7	0.0	14.4	19.3	0.0
Cycle Q Clear(g_c), s	3.6	2.2	2.3	0.0	4.4	0.0	4.5	10.7	0.0	14.4	19.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	983	417	2	243	206	136	1628	460	388	2424	685
V/C Ratio(X)	0.66	0.14	0.15	0.00	0.47	-0.09	0.78	0.57	0.00	0.89	0.71	-0.25
Avail Cap(c_a), veh/h	501	1899	805	116	808	685	246	2147	607	566	3155	891
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.7	21.7	21.7	0.0	31.0	0.0	34.9	23.2	0.0	29.1	17.9	0.0
Incr Delay (d2), s/veh	1.1	0.1	0.2	0.0	1.4	0.0	3.7	0.3	0.0	8.9	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.9	0.8	0.0	1.9	0.0	1.9	4.1	0.0	6.4	6.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	21.8	21.9	0.0	32.4	0.0	38.5	23.5	0.0	38.0	18.4	0.0
LnGrp LOS	D	C	C	A	C	A	D	C	A	D	B	A
Approach Vol, veh/h		377			96			1027			1893	
Approach Delay, s/veh		28.2			38.8			25.0			23.6	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.3	28.8	0.0	26.7	10.4	39.7	10.2	16.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	24.4	29.4	5.0	39.0	10.6	43.2	10.8	33.2				
Max Q Clear Time (g_c+I1), s	16.4	12.7	0.0	4.3	6.5	21.3	5.6	6.4				
Green Ext Time (p_c), s	0.3	5.1	0.0	0.9	0.0	11.9	0.1	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			25.0									
HCM 6th LOS			C									

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

06/24/2021

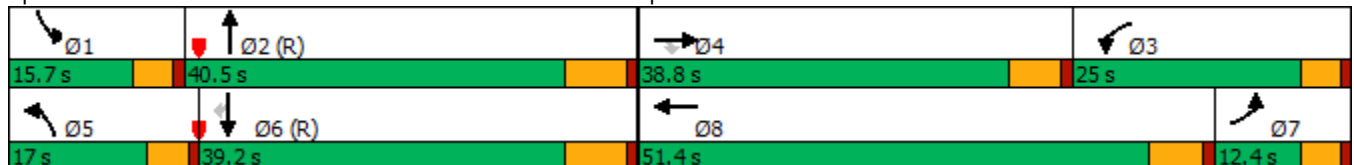


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↘	↘	↗	↗↘	↗↘↗	↘	↑↑↑	↗
Traffic Volume (vph)	45	216	836	330	355	415	937	75	1833	83
Future Volume (vph)	45	216	836	330	355	415	937	75	1833	83
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.8	38.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	12.4	38.8	38.8	25.0	51.4	17.0	40.5	15.7	39.2	39.2
Total Split (%)	10.3%	32.3%	32.3%	20.8%	42.8%	14.2%	33.8%	13.1%	32.7%	32.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	3.6	5.5	6.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	16.0	28.2	27.2	27.2	41.4	13.4	39.0	10.2	33.7	32.7
Actuated g/C Ratio	0.13	0.24	0.23	0.23	0.34	0.11	0.32	0.08	0.28	0.27
v/c Ratio	0.20	0.53	0.85	0.89	0.67	1.13	0.63	0.54	0.94	0.16
Control Delay	48.7	43.7	29.5	70.5	40.4	133.1	28.0	65.7	52.5	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	43.7	29.5	70.5	40.4	133.1	28.0	65.7	52.5	0.6
LOS	D	D	C	E	D	F	C	E	D	A
Approach Delay		33.1			54.1		57.8		50.8	
Approach LOS		C			D		E		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 13 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 49.5
 Intersection LOS: D
 Intersection Capacity Utilization 86.8%
 ICU Level of Service E
 Analysis Period (min) 15























Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	216	836	330	355	39	415	937	114	75	1833	83
Future Volume (veh/h)	45	216	836	330	355	39	415	937	114	75	1833	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	232	334	355	382	-49	446	1008	32	81	1971	67
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	305	483	318	397	0	398	2419	77	117	3002	623
Arrive On Green	0.13	0.16	0.15	0.27	0.21	0.00	0.22	0.67	0.88	0.07	0.60	0.39
Sat Flow, veh/h	1781	1870	3128	1781	1870	0	3563	5409	172	1781	7481	1585
Grp Volume(v), veh/h	48	232	334	355	333	0	446	697	343	81	1971	67
Grp Sat Flow(s),veh/h/ln	1781	1870	1564	1781	1870	0	1781	1870	1839	1781	1870	1585
Q Serve(g_s), s	2.9	14.2	9.4	21.4	20.5	0.0	13.4	10.2	9.7	5.3	20.8	2.1
Cycle Q Clear(g_c), s	2.9	14.2	9.4	21.4	20.5	0.0	13.4	10.2	9.7	5.3	20.8	2.1
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	230	305	483	318	397	0	398	1673	823	117	3002	623
V/C Ratio(X)	0.21	0.76	0.69	1.12	0.84	0.00	1.12	0.42	0.42	0.69	0.66	0.11
Avail Cap(c_a), veh/h	230	530	860	318	726	0	398	1673	823	180	3002	623
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	2.00	1.50	2.00	1.00	1.50	1.00
Upstream Filter(I)	0.18	0.18	0.18	1.00	1.00	0.00	0.83	0.83	0.83	0.81	0.81	0.81
Uniform Delay (d), s/veh	46.8	48.0	28.9	43.9	45.3	0.0	46.6	12.6	11.8	54.9	18.4	9.7
Incr Delay (d2), s/veh	0.0	0.7	0.3	86.0	4.8	0.0	78.6	0.6	1.3	2.2	0.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	6.5	3.6	16.3	10.0	0.0	9.3	3.5	3.4	2.4	6.5	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	48.7	29.2	130.0	50.1	0.0	125.2	13.2	13.1	57.1	19.4	10.0
LnGrp LOS	D	D	C	F	D	A	F	B	B	E	B	B
Approach Vol, veh/h		614			688			1486			2119	
Approach Delay, s/veh		37.9			91.3			46.8			20.5	
Approach LOS		D			F			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	59.2	25.0	24.4	17.0	53.6	19.1	30.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	11.1	34.0	20.4	33.0	12.4	32.7	7.8	45.6				
Max Q Clear Time (g_c+I1), s	7.3	12.2	23.4	16.2	15.4	22.8	4.9	22.5				
Green Ext Time (p_c), s	0.0	6.1	0.0	2.3	0.0	7.7	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			40.6									
HCM 6th LOS			D									

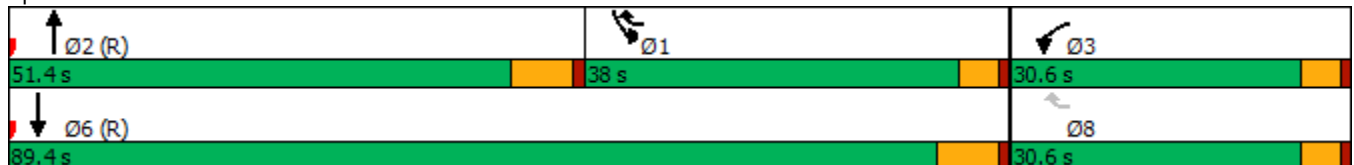
Timings
31: Winchester Rd. & Benton Rd.

	↙	↖	↑	↘	↓	∅8
Lane Group	WBL	WBR	NBT	SBL	SBT	∅8
Lane Configurations	↔↔	↔	↔↔↔	↔↔	↔↔↔	
Traffic Volume (vph)	430	375	1093	508	2493	
Future Volume (vph)	430	375	1093	508	2493	
Turn Type	Prot	pm+ov	NA	Prot	NA	
Protected Phases	3	1	2	1	6	8
Permitted Phases		8				
Detector Phase	3	1	2	1	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.6	9.6	38.5	9.6	16.5	30.6
Total Split (s)	30.6	38.0	51.4	38.0	89.4	30.6
Total Split (%)	25.5%	31.7%	42.8%	31.7%	74.5%	26%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag		Lag	Lead	Lag		
Lead-Lag Optimize?		Yes	Yes	Yes		
Recall Mode	None	None	C-Min	None	C-Min	None
Act Effct Green (s)	19.7	50.9	58.0	26.7	89.2	
Actuated g/C Ratio	0.16	0.42	0.48	0.22	0.74	
v/c Ratio	0.78	0.58	0.52	0.68	0.63	
Control Delay	57.8	27.7	22.9	32.5	9.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.8	27.7	22.9	32.5	9.6	
LOS	E	C	C	C	A	
Approach Delay	43.7		22.9		13.5	
Approach LOS	D		C		B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 20.7
 Intersection LOS: C
 Intersection Capacity Utilization 69.7%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶↶	↶	↶↶↶		↶↶	↶↶↶
Traffic Volume (veh/h)	430	375	1093	217	508	2493
Future Volume (veh/h)	430	375	1093	217	508	2493
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	453	369	1151	65	535	2624
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	539	923	1425	80	1537	4244
Arrive On Green	0.15	0.15	0.41	0.27	0.86	1.00
Sat Flow, veh/h	3563	1585	5261	297	3563	5611
Grp Volume(v), veh/h	453	369	818	398	535	2624
Grp Sat Flow(s),veh/h/ln	1781	1585	1870	1817	1781	1870
Q Serve(g_s), s	14.8	0.0	23.2	23.5	3.5	0.0
Cycle Q Clear(g_c), s	14.8	0.0	23.2	23.5	3.5	0.0
Prop In Lane	1.00	1.00		0.16	1.00	
Lane Grp Cap(c), veh/h	539	923	1013	492	1537	4244
V/C Ratio(X)	0.84	0.40	0.81	0.81	0.35	0.62
Avail Cap(c_a), veh/h	772	1027	1400	680	1537	4244
HCM Platoon Ratio	1.00	1.00	1.50	1.00	2.00	1.50
Upstream Filter(I)	1.00	1.00	0.84	0.84	0.29	0.29
Uniform Delay (d), s/veh	49.5	13.6	32.9	34.2	4.9	0.0
Incr Delay (d2), s/veh	4.0	0.1	5.9	11.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	5.3	9.2	10.1	1.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.6	13.7	38.7	45.6	4.9	0.2
LnGrp LOS	D	B	D	D	A	A
Approach Vol, veh/h	822		1216			3159
Approach Delay, s/veh	35.7		41.0			1.0
Approach LOS	D		D			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	58.3	39.0			97.3	22.7
Change Period (Y+Rc), s	6.5	* 6.5			6.5	4.6
Max Green Setting (Gmax), s	33.4	* 45			82.9	26.0
Max Q Clear Time (g_c+I1), s	5.5	25.5			2.0	16.8
Green Ext Time (p_c), s	0.9	7.0			45.9	1.3

Intersection Summary

HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖↗	↖	↖	↑↑↑	↖	↖	↑↑↑
Traffic Volume (vph)	195	34	325	40	25	1099	317	197	2518
Future Volume (vph)	195	34	325	40	25	1099	317	197	2518
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.8	34.8	34.8	34.8	9.8	53.2	53.2	32.0	75.4
Total Split (%)	29.0%	29.0%	29.0%	29.0%	8.2%	44.3%	44.3%	26.7%	62.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	19.6	19.6	19.6	19.6	5.2	43.9	43.9	27.6	66.3
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.05	0.41	0.41	0.26	0.62
v/c Ratio	0.42	0.24	0.72	0.17	0.30	0.54	0.39	0.45	0.90
Control Delay	41.9	20.1	50.9	29.7	61.7	25.4	3.9	39.1	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	20.1	50.9	29.7	61.7	25.4	3.9	39.1	23.2
LOS	D	C	D	C	E	C	A	D	C
Approach Delay		35.5		47.8		21.3			24.3
Approach LOS		D		D		C			C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 107.1
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 25.8
 Intersection LOS: C
 Intersection Capacity Utilization 86.5%
 ICU Level of Service E
 Analysis Period (min) 15

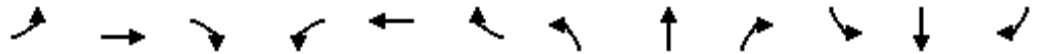
Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔↔	↔		↔	↑↑↑	↔	↔	↑↑↑	
Traffic Volume (veh/h)	195	34	48	325	40	16	25	1099	317	197	2518	207
Future Volume (veh/h)	195	34	48	325	40	16	25	1099	317	197	2518	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	201	35	38	335	41	11	26	1133	253	203	2596	58
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	597	159	173	557	278	74	94	1861	578	497	3034	67
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.05	0.36	0.36	0.28	0.59	0.59
Sat Flow, veh/h	2624	814	884	2574	1421	381	1781	5106	1585	1781	5137	114
Grp Volume(v), veh/h	201	0	73	335	0	52	26	1133	253	203	1715	939
Grp Sat Flow(s),veh/h/ln	1312	0	1697	1287	0	1802	1781	1702	1585	1781	1702	1847
Q Serve(g_s), s	6.7	0.0	3.5	12.3	0.0	2.3	1.4	17.8	11.8	9.1	40.8	41.5
Cycle Q Clear(g_c), s	9.1	0.0	3.5	15.9	0.0	2.3	1.4	17.8	11.8	9.1	40.8	41.5
Prop In Lane	1.00		0.52	1.00		0.21	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	597	0	332	557	0	352	94	1861	578	497	2010	1091
V/C Ratio(X)	0.34	0.00	0.22	0.60	0.00	0.15	0.28	0.61	0.44	0.41	0.85	0.86
Avail Cap(c_a), veh/h	889	0	521	843	0	553	94	2429	754	497	2389	1296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	0.0	33.2	39.9	0.0	32.7	44.7	25.5	23.6	28.8	16.6	16.7
Incr Delay (d2), s/veh	0.1	0.0	0.1	1.0	0.0	0.2	7.1	0.3	0.5	2.5	2.4	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	1.5	3.9	0.0	1.0	0.8	6.5	4.1	3.9	13.0	15.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.6	0.0	33.3	40.9	0.0	32.9	51.8	25.8	24.1	31.3	19.0	21.4
LnGrp LOS	D	A	C	D	A	C	D	C	C	C	B	C
Approach Vol, veh/h		274			387			1412			2857	
Approach Delay, s/veh		35.7			39.8			26.0			20.7	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.0	42.3		23.9	9.8	64.5		23.9				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	27.4	46.7		* 30	5.2	68.9		* 30				
Max Q Clear Time (g_c+I1), s	11.1	19.8		11.1	3.4	43.5		17.9				
Green Ext Time (p_c), s	0.2	8.9		0.6	0.0	14.5		1.3				

Intersection Summary

HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

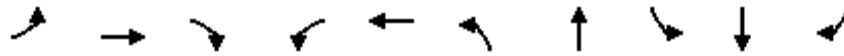
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/24/2021

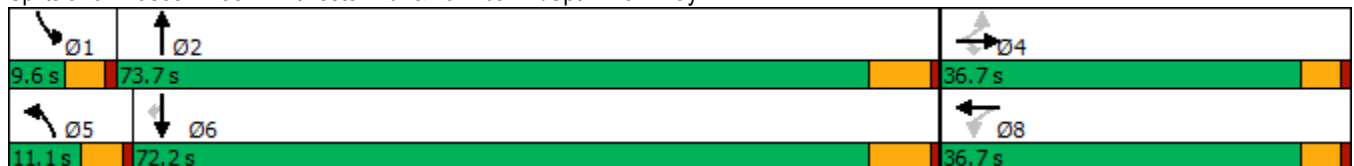


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	133	5	200	16	2	90	1300	15	2804	73
Future Volume (vph)	133	5	200	16	2	90	1300	15	2804	73
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	11.1	73.7	9.6	72.2	72.2
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	9.3%	61.4%	8.0%	60.2%	60.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	15.9	15.9	15.9		15.9	6.5	73.3	5.0	65.8	65.8
Actuated g/C Ratio	0.15	0.15	0.15		0.15	0.06	0.70	0.05	0.63	0.63
v/c Ratio	0.66	0.02	0.68		0.11	0.85	0.39	0.19	0.91	0.07
Control Delay	56.6	36.0	36.8		30.4	103.4	7.8	55.1	22.8	3.1
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	36.0	36.8		30.4	103.4	7.8	55.1	22.8	3.1
LOS	E	D	D		C	F	A	E	C	A
Approach Delay		44.6			30.4		13.8		22.4	
Approach LOS		D			C		B		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.1
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 21.4
 Intersection LOS: C
 Intersection Capacity Utilization 88.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑	↖		↔		↗	↑↑↑		↖	↑↑↑	↖
Traffic Volume (veh/h)	133	5	200	16	2	7	90	1300	48	15	2804	73
Future Volume (veh/h)	133	5	200	16	2	7	90	1300	48	15	2804	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	5	141	17	2	5	94	1354	43	16	2921	67
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	249	227	192	170	25	35	118	3559	113	32	3329	1033
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.07	0.70	0.70	0.02	0.65	0.65
Sat Flow, veh/h	1409	1870	1585	884	203	286	1781	5084	161	1781	5106	1585
Grp Volume(v), veh/h	139	5	141	24	0	0	94	907	490	16	2921	67
Grp Sat Flow(s),veh/h/ln	1409	1870	1585	1372	0	0	1781	1702	1841	1781	1702	1585
Q Serve(g_s), s	7.8	0.2	8.4	0.5	0.0	0.0	5.1	10.7	10.7	0.9	45.7	1.5
Cycle Q Clear(g_c), s	9.1	0.2	8.4	1.3	0.0	0.0	5.1	10.7	10.7	0.9	45.7	1.5
Prop In Lane	1.00		1.00	0.71		0.21	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	249	227	192	229	0	0	118	2383	1289	32	3329	1033
V/C Ratio(X)	0.56	0.02	0.73	0.10	0.00	0.00	0.80	0.38	0.38	0.50	0.88	0.06
Avail Cap(c_a), veh/h	537	609	516	503	0	0	118	2383	1289	91	3412	1059
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	38.1	41.7	38.5	0.0	0.0	45.3	6.0	6.0	47.8	13.9	6.2
Incr Delay (d2), s/veh	2.0	0.0	5.3	0.2	0.0	0.0	28.8	0.1	0.2	4.4	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.1	3.6	0.5	0.0	0.0	3.1	2.6	2.8	0.4	13.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	38.1	47.0	38.7	0.0	0.0	74.1	6.1	6.2	52.2	16.8	6.2
LnGrp LOS	D	D	D	D	A	A	E	A	A	D	B	A
Approach Vol, veh/h		285			24			1491			3004	
Approach Delay, s/veh		45.3			38.7			10.4			16.7	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	75.3		16.6	11.1	70.6		16.6				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	6.5	65.7		* 32				
Max Q Clear Time (g_c+I1), s	2.9	12.7		11.1	7.1	47.7		3.3				
Green Ext Time (p_c), s	0.0	10.9		0.8	0.0	16.4		0.1				

Intersection Summary

HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
7: Whitewood Rd. & Clinton Keith Rd.

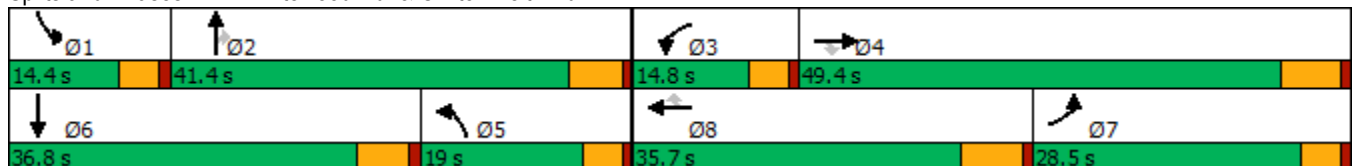
Keller Crossing (JN:13649)
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	698	1131	168	154	840	177	203	843	187	127	249
Future Volume (vph)	698	1131	168	154	840	177	203	843	187	127	249
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	36.8	36.8	9.6	36.8
Total Split (s)	28.5	49.4	49.4	14.8	35.7	35.7	19.0	41.4	41.4	14.4	36.8
Total Split (%)	23.8%	41.2%	41.2%	12.3%	29.8%	29.8%	15.8%	34.5%	34.5%	12.0%	30.7%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	24.0	40.1	40.1	8.9	25.0	25.0	24.4	32.3	32.3	9.8	17.7
Actuated g/C Ratio	0.21	0.36	0.36	0.08	0.22	0.22	0.22	0.29	0.29	0.09	0.16
v/c Ratio	0.94	0.61	0.25	0.58	0.73	0.37	0.54	0.85	0.33	0.84	0.79
Control Delay	66.8	32.0	4.9	60.5	45.0	7.5	47.7	47.3	7.7	93.6	33.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.8	32.0	4.9	60.5	45.0	7.5	47.7	47.3	7.7	93.6	33.1
LOS	E	C	A	E	D	A	D	D	A	F	C
Approach Delay		41.9			41.3			41.4			44.3
Approach LOS		D			D			D			D

Intersection Summary
































Cycle Length: 120
 Actuated Cycle Length: 112.8
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 42.0
 Intersection LOS: D
 Intersection Capacity Utilization 84.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

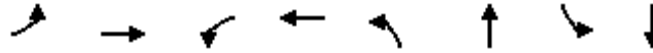
Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (veh/h)	698	1131	168	154	840	177	203	843	187	127	249	310
Future Volume (veh/h)	698	1131	168	154	840	177	203	843	187	127	249	310
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	712	1154	156	157	857	166	207	860	176	130	254	86
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	764	2001	595	217	1102	328	409	998	445	157	337	111
Arrive On Green	0.21	0.38	0.38	0.06	0.21	0.21	0.23	0.28	0.28	0.09	0.13	0.13
Sat Flow, veh/h	3563	5331	1585	3456	5331	1585	1781	3554	1585	1781	2624	867
Grp Volume(v), veh/h	712	1154	156	157	857	166	207	860	176	130	170	170
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1714
Q Serve(g_s), s	21.8	19.2	3.5	5.0	16.9	7.9	11.3	25.6	10.0	8.0	10.3	10.7
Cycle Q Clear(g_c), s	21.8	19.2	3.5	5.0	16.9	7.9	11.3	25.6	10.0	8.0	10.3	10.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	764	2001	595	217	1102	328	409	998	445	157	228	220
V/C Ratio(X)	0.93	0.58	0.26	0.72	0.78	0.51	0.51	0.86	0.40	0.83	0.74	0.77
Avail Cap(c_a), veh/h	765	2054	611	317	1398	416	409	1136	507	157	495	477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	27.7	5.0	51.2	41.7	22.8	37.4	38.0	32.4	49.9	46.7	46.9
Incr Delay (d2), s/veh	17.9	0.4	0.2	1.7	2.2	1.2	0.4	6.3	0.6	28.0	4.8	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	7.6	2.5	2.1	7.2	3.8	4.8	11.5	3.7	4.7	4.7	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.8	28.1	5.2	53.0	43.9	24.0	37.8	44.3	33.0	77.9	51.5	52.6
LnGrp LOS	E	C	A	D	D	C	D	D	C	E	D	D
Approach Vol, veh/h		2022			1180			1243			470	
Approach Delay, s/veh		37.9			42.3			41.6			59.2	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	37.1	11.6	48.3	31.3	20.1	30.4	29.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	5.8	* 5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	9.8	35.6	10.2	42.9	14.4	* 31	23.9	* 29				
Max Q Clear Time (g_c+I1), s	10.0	27.6	7.0	21.2	13.3	12.7	23.8	18.9				
Green Ext Time (p_c), s	0.0	3.7	0.1	8.0	0.0	1.6	0.0	4.1				
Intersection Summary												
HCM 6th Ctrl Delay			41.9									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)

10/18/2021

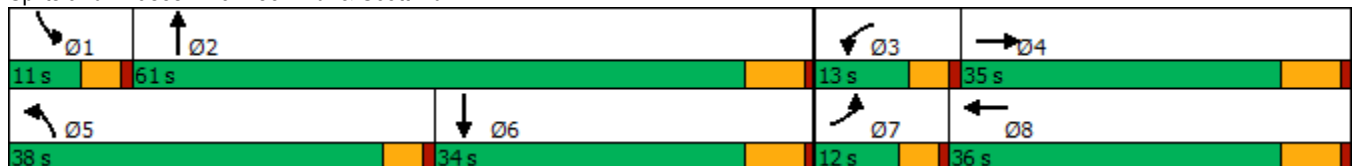


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↗	↖	↗
Traffic Volume (vph)	16	355	17	360	218	41	12	34
Future Volume (vph)	16	355	17	360	218	41	12	34
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	28.5	9.6	28.5	9.6	28.2	9.6	28.2
Total Split (s)	12.0	35.0	13.0	36.0	38.0	61.0	11.0	34.0
Total Split (%)	10.0%	29.2%	10.8%	30.0%	31.7%	50.8%	9.2%	28.3%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effct Green (s)	5.7	30.7	5.7	30.7	15.0	20.3	5.5	10.4
Actuated g/C Ratio	0.08	0.45	0.08	0.45	0.22	0.30	0.08	0.15
v/c Ratio	0.11	0.83	0.12	0.47	0.59	0.12	0.09	0.20
Control Delay	36.8	31.7	36.8	19.4	32.4	14.2	36.8	24.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.8	31.7	36.8	19.4	32.4	14.2	36.8	24.2
LOS	D	C	D	B	C	B	D	C
Approach Delay		31.9		20.1		28.5		26.5
Approach LOS		C		C		C		C

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 67.6	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 27.6	Intersection LOS: C
Intersection Capacity Utilization 64.8%	ICU Level of Service C
Analysis Period (min) 15	






















Splits and Phases: 9: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)

10/18/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	355	275	17	360	12	218	41	18	12	34	20
Future Volume (veh/h)	16	355	275	17	360	12	218	41	18	12	34	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	378	27	18	383	-8	232	44	14	13	36	-27
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	474	34	39	516	0	290	376	120	29	243	0
Arrive On Green	0.02	0.28	0.28	0.02	0.28	0.00	0.16	0.28	0.28	0.02	0.13	0.00
Sat Flow, veh/h	1781	1725	123	1781	1870	0	1781	1360	433	1781	1870	0
Grp Volume(v), veh/h	17	0	405	18	375	0	232	0	58	13	9	0
Grp Sat Flow(s),veh/h/ln	1781	0	1848	1781	1870	0	1781	0	1792	1781	1870	0
Q Serve(g_s), s	0.5	0.0	10.9	0.5	9.7	0.0	6.7	0.0	1.3	0.4	0.2	0.0
Cycle Q Clear(g_c), s	0.5	0.0	10.9	0.5	9.7	0.0	6.7	0.0	1.3	0.4	0.2	0.0
Prop In Lane	1.00		0.07	1.00		0.00	1.00		0.24	1.00		0.00
Lane Grp Cap(c), veh/h	37	0	508	39	516	0	290	0	495	29	243	0
V/C Ratio(X)	0.46	0.00	0.80	0.46	0.73	0.00	0.80	0.00	0.12	0.44	0.04	0.00
Avail Cap(c_a), veh/h	247	0	987	280	1033	0	1114	0	1840	214	974	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.8	0.0	18.0	25.8	17.5	0.0	21.5	0.0	14.4	26.0	20.3	0.0
Incr Delay (d2), s/veh	3.2	0.0	2.9	3.1	2.0	0.0	2.0	0.0	0.1	3.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.9	0.2	3.4	0.0	2.5	0.0	0.4	0.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	0.0	20.9	28.9	19.5	0.0	23.5	0.0	14.5	29.9	20.4	0.0
LnGrp LOS	C	A	C	C	B	A	C	A	B	C	C	A
Approach Vol, veh/h		422			393			290				22
Approach Delay, s/veh		21.2			19.9			21.7				26.0
Approach LOS		C			B			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.5	21.0	5.8	21.2	13.3	13.1	5.7	21.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5				
Max Green Setting (Gmax), s	6.4	54.8	8.4	28.5	33.4	27.8	7.4	29.5				
Max Q Clear Time (g_c+I1), s	2.4	3.3	2.5	12.9	8.7	2.2	2.5	11.7				
Green Ext Time (p_c), s	0.0	0.3	0.0	1.8	0.3	0.0	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			21.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	1035	103	759	902	22	141	1201	1010	21	568	188
Future Volume (veh/h)	207	1035	103	759	902	22	141	1201	1010	21	568	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	1056	47	774	920	14	144	1226	568	21	580	187
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1112	1304	368	1059	1220	345	110	1484	890	37	1256	355
Arrive On Green	0.31	0.28	0.23	0.30	0.26	0.22	0.06	0.32	0.26	0.02	0.27	0.22
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	211	1056	47	774	920	14	144	1226	568	21	580	187
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.2	21.0	2.2	23.4	18.1	0.7	7.4	24.3	4.0	1.4	10.4	6.0
Cycle Q Clear(g_c), s	5.2	21.0	2.2	23.4	18.1	0.7	7.4	24.3	4.0	1.4	10.4	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1112	1304	368	1059	1220	345	110	1484	890	37	1256	355
V/C Ratio(X)	0.19	0.81	0.13	0.73	0.75	0.04	1.31	0.83	0.64	0.56	0.46	0.53
Avail Cap(c_a), veh/h	1112	1590	449	1059	2151	608	110	1609	925	74	1496	423
HCM Platoon Ratio	1.00	1.20	1.00	1.00	1.20	1.00	1.00	1.20	1.00	1.00	1.20	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.75	0.75	0.75	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	40.8	23.3	37.9	41.4	27.1	56.3	38.4	8.0	58.2	37.9	9.4
Incr Delay (d2), s/veh	0.0	5.5	0.7	2.3	4.4	0.2	180.2	2.6	1.0	4.8	0.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	9.4	1.1	9.9	8.1	0.3	8.7	10.3	5.2	0.7	4.4	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	46.3	24.0	40.2	45.7	27.3	236.5	41.0	9.1	63.0	38.1	10.6
LnGrp LOS	C	D	C	D	D	C	F	D	A	E	D	B
Approach Vol, veh/h		1314			1708			1938			788	
Approach Delay, s/veh		42.9			43.1			46.2			32.3	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	38.2	40.3	34.4	12.0	33.4	42.1	32.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	34.4	24.4	34.0	7.4	32.0	12.4	46.0				
Max Q Clear Time (g_c+1), s	3.4	26.3	25.4	23.0	9.4	12.4	7.2	20.1				
Green Ext Time (p_c), s	0.0	5.5	0.0	4.8	0.0	3.9	0.2	6.0				
Intersection Summary												
HCM 6th Ctrl Delay				42.6								
HCM 6th LOS				D								

Timings

24: Winchester Rd. & Scott Rd./Washington St,

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖	↕	↖	↖	↕↕↕	↖	↕↕↕	↖
Traffic Volume (vph)	294	151	77	60	172	612	107	1423	299	972	172
Future Volume (vph)	294	151	77	60	172	612	107	1423	299	972	172
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.5	39.5	9.6	16.5	16.5	9.6	35.5	9.6	39.5	39.5
Total Split (s)	16.0	41.4	41.4	11.4	36.8	36.8	19.8	41.2	26.0	47.4	47.4
Total Split (%)	13.3%	34.5%	34.5%	9.5%	30.7%	30.7%	16.5%	34.3%	21.7%	39.5%	39.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	11.4	37.2	37.2	6.5	30.3	30.3	11.6	34.7	21.4	44.5	44.5
Actuated g/C Ratio	0.10	0.31	0.31	0.05	0.25	0.25	0.10	0.29	0.18	0.37	0.37
v/c Ratio	0.95	0.15	0.14	0.66	0.39	1.01	0.66	1.02	1.00	0.54	0.26
Control Delay	92.4	31.4	0.5	86.9	40.1	62.6	69.9	70.6	100.4	31.6	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.4	31.4	0.5	86.9	40.1	62.6	69.9	70.6	100.4	31.6	4.9
LOS	F	C	A	F	D	E	E	E	F	C	A
Approach Delay		61.2			59.7			70.6		42.7	
Approach LOS		E			E			E		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 58.1
 Intersection LOS: E
 Intersection Capacity Utilization 88.4%
 ICU Level of Service E
 Analysis Period (min) 15































Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

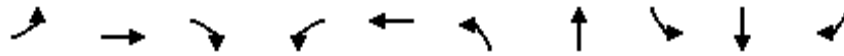
Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 						  			  	
Traffic Volume (veh/h)	294	151	77	60	172	612	107	1423	0	299	972	172
Future Volume (veh/h)	294	151	77	60	172	612	107	1423	0	299	972	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	309	159	76	63	181	170	113	1498	0	315	1023	-161
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	677	302	98	256	217	142	1695	526	347	2283	709
Arrive On Green	0.11	0.19	0.19	0.06	0.14	0.14	0.08	0.50	0.00	0.19	0.67	0.00
Sat Flow, veh/h	3456	3554	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	309	159	76	63	181	170	113	1498	0	315	1023	-161
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	8.5	3.7	4.0	3.4	9.0	10.1	6.1	25.7	0.0	16.9	9.2	0.0
Cycle Q Clear(g_c), s	8.5	3.7	4.0	3.4	9.0	10.1	6.1	25.7	0.0	16.9	9.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	375	677	302	98	256	217	142	1695	526	347	2283	709
V/C Ratio(X)	0.82	0.23	0.25	0.64	0.71	0.78	0.80	0.88	0.00	0.91	0.45	-0.23
Avail Cap(c_a), veh/h	404	1272	567	124	581	493	278	1817	564	391	2283	709
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.5	33.4	33.6	45.1	40.2	40.7	44.1	22.8	0.0	38.4	10.4	0.0
Incr Delay (d2), s/veh	11.1	0.2	0.4	3.0	3.5	6.1	3.8	5.3	0.0	21.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	1.5	1.5	1.5	4.1	4.1	2.7	7.6	0.0	8.9	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	33.6	34.0	48.1	43.7	46.7	47.9	28.1	0.0	60.0	10.5	0.0
LnGrp LOS	D	C	C	D	D	D	D	C	A	E	B	A
Approach Vol, veh/h		544			414			1611			1177	
Approach Delay, s/veh		45.1			45.6			29.5			25.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.6	38.9	10.0	25.1	12.4	50.1	15.2	19.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	21.4	34.7	6.8	34.9	15.2	40.9	11.4	30.3				
Max Q Clear Time (g_c+I1), s	18.9	27.7	5.4	6.0	8.1	11.2	10.5	12.1				
Green Ext Time (p_c), s	0.1	4.7	0.0	1.1	0.1	7.0	0.1	1.3				
Intersection Summary												
HCM 6th Ctrl Delay				32.2								
HCM 6th LOS				C								

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

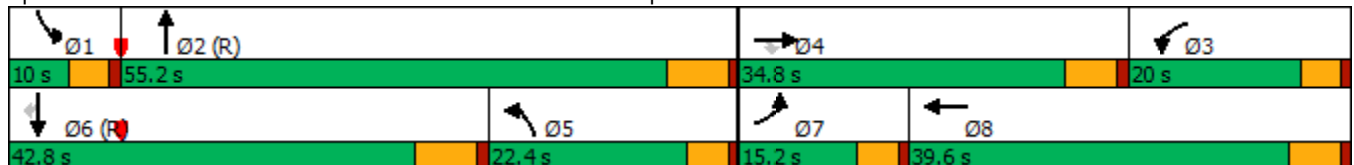


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗↘	↖	↗	↖↗	↕↗	↖	↕↕↕	↗
Traffic Volume (vph)	114	258	494	287	286	580	2128	100	1289	75
Future Volume (vph)	114	258	494	287	286	580	2128	100	1289	75
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	15.2	34.8	34.8	20.0	39.6	22.4	55.2	10.0	42.8	42.8
Total Split (%)	12.7%	29.0%	29.0%	16.7%	33.0%	18.7%	46.0%	8.3%	35.7%	35.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	3.6	5.5	6.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	11.0	24.0	23.0	22.4	35.4	20.3	49.7	6.4	35.8	34.8
Actuated g/C Ratio	0.09	0.20	0.19	0.19	0.30	0.17	0.41	0.05	0.30	0.29
v/c Ratio	0.73	0.71	0.50	0.90	0.60	1.00	1.10	1.10	0.80	0.13
Control Delay	78.2	55.1	5.0	78.8	41.4	70.2	87.6	173.4	42.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.2	55.1	5.0	78.8	41.4	70.2	87.6	173.4	42.8	0.5
LOS	E	E	A	E	D	E	F	F	D	A
Approach Delay		29.6			59.2		84.3		49.6	
Approach LOS		C			E		F		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 86 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.10
 Intersection Signal Delay: 65.2
 Intersection LOS: E
 Intersection Capacity Utilization 98.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↶↷	↶	↷		↶↷	↶↷↶		↶	↶↷↶	↶↷
Traffic Volume (veh/h)	114	258	494	287	286	31	580	2128	300	100	1289	75
Future Volume (veh/h)	114	258	494	287	286	31	580	2128	300	100	1289	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	118	266	174	296	295	-92	598	2194	304	103	1329	72
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	322	511	243	433	0	851	2331	315	95	1576	426
Arrive On Green	0.13	0.26	0.16	0.21	0.35	0.00	0.36	0.72	0.47	0.08	0.42	0.27
Sat Flow, veh/h	1781	1870	3123	1781	1870	0	3563	4836	653	1781	5611	1563
Grp Volume(v), veh/h	118	266	174	296	203	0	598	1684	814	103	1329	72
Grp Sat Flow(s),veh/h/ln	1781	1870	1562	1781	1870	0	1781	1870	1748	1781	1870	1563
Q Serve(g_s), s	7.7	16.1	5.9	16.4	10.2	0.0	17.3	46.1	52.8	6.4	25.5	3.2
Cycle Q Clear(g_c), s	7.7	16.1	5.9	16.4	10.2	0.0	17.3	46.1	52.8	6.4	25.5	3.2
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	156	322	511	243	433	0	851	1803	843	95	1576	426
V/C Ratio(X)	0.76	0.83	0.34	1.22	0.47	0.00	0.70	0.93	0.97	1.08	0.84	0.17
Avail Cap(c_a), veh/h	172	468	755	243	542	0	851	1803	843	95	1744	473
HCM Platoon Ratio	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	0.00	0.09	0.09	0.09	0.89	0.89	0.89
Uniform Delay (d), s/veh	50.9	42.8	44.4	47.7	33.4	0.0	34.9	15.0	21.3	55.2	32.4	19.4
Incr Delay (d2), s/veh	1.4	0.8	0.0	128.6	0.8	0.0	0.2	1.2	4.3	111.6	5.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	6.6	2.3	15.5	4.4	0.0	6.3	8.7	15.8	5.6	9.9	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	43.6	44.5	176.3	34.2	0.0	35.1	16.2	25.5	166.8	37.5	20.2
LnGrp LOS	D	D	D	F	C	A	D	B	C	F	D	C
Approach Vol, veh/h		558			499			3096			1504	
Approach Delay, s/veh		45.7			118.5			22.3			45.5	
Approach LOS		D			F			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	63.4	21.2	25.4	34.2	39.2	14.1	32.6				
Change Period (Y+Rc), s	4.6	6.5	5.8	* 5.8	6.5	* 6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.4	48.7	15.4	* 29	17.8	* 36	10.6	33.8				
Max Q Clear Time (g_c+I1), s	8.4	54.8	18.4	18.1	19.3	27.5	9.7	12.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	5.2	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/24/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔	↑↑↑		↔↔	↑↑↑
Traffic Volume (veh/h)	369	793	2215	514	592	1479
Future Volume (veh/h)	369	793	2215	514	592	1479
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	397	47	2382	69	637	1590
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	468	641	2436	70	972	4355
Arrive On Green	0.13	0.13	0.45	0.45	0.09	0.26
Sat Flow, veh/h	3563	1585	5423	156	3563	5611
Grp Volume(v), veh/h	397	47	1639	812	637	1590
Grp Sat Flow(s),veh/h/ln	1781	1585	1870	1838	1781	1870
Q Serve(g_s), s	13.1	0.0	51.6	52.3	20.7	27.9
Cycle Q Clear(g_c), s	13.1	0.0	51.6	52.3	20.7	27.9
Prop In Lane	1.00	1.00		0.08	1.00	
Lane Grp Cap(c), veh/h	468	641	1680	826	972	4355
V/C Ratio(X)	0.85	0.07	0.98	0.98	0.66	0.37
Avail Cap(c_a), veh/h	772	776	1680	826	972	4355
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.48	0.48	0.59	0.59
Uniform Delay (d), s/veh	50.9	22.0	32.4	32.6	49.1	20.4
Incr Delay (d2), s/veh	2.2	0.0	10.5	18.1	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.8	23.4	25.0	9.9	13.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.2	22.0	42.9	50.7	49.9	20.5
LnGrp LOS	D	C	D	D	D	C
Approach Vol, veh/h	444		2451			2227
Approach Delay, s/veh	49.9		45.5			28.9
Approach LOS	D		D			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	39.2	60.4			99.6	20.4
Change Period (Y+Rc), s	6.5	* 6.5			6.5	4.6
Max Green Setting (Gmax), s	24.4	* 54			82.9	26.0
Max Q Clear Time (g_c+I1), s	22.7	54.3			29.9	15.1
Green Ext Time (p_c), s	0.3	0.0			14.9	0.7

Intersection Summary

HCM 6th Ctrl Delay			38.7			
HCM 6th LOS			D			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021

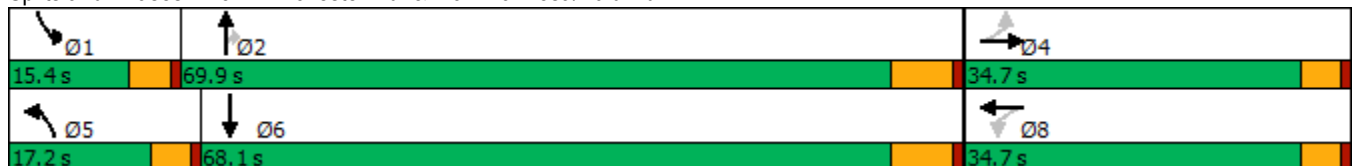


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖↗	↖	↖	↑↑↑	↖	↖	↑↑↑
Traffic Volume (vph)	104	35	318	42	66	2520	288	77	1629
Future Volume (vph)	104	35	318	42	66	2520	288	77	1629
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	17.2	69.9	69.9	15.4	68.1
Total Split (%)	28.9%	28.9%	28.9%	28.9%	14.3%	58.3%	58.3%	12.8%	56.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	20.8	20.8	20.8	20.8	12.6	63.1	63.1	10.8	61.3
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.11	0.57	0.57	0.10	0.55
v/c Ratio	0.30	0.27	0.73	0.39	0.34	0.83	0.31	0.47	0.61
Control Delay	40.4	18.5	51.7	17.8	52.2	23.1	5.6	58.5	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.4	18.5	51.7	17.8	52.2	23.1	5.6	58.5	18.0
LOS	D	B	D	B	D	C	A	E	B
Approach Delay		30.0		40.9		22.0			19.7
Approach LOS		C		D		C			B

Intersection Summary





























Cycle Length: 120
 Actuated Cycle Length: 110.5
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 23.1
 Intersection LOS: C
 Intersection Capacity Utilization 87.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

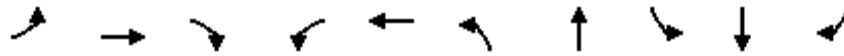
Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 				  			  	
Traffic Volume (veh/h)	104	35	57	318	42	105	66	2520	288	77	1629	142
Future Volume (veh/h)	104	35	57	318	42	105	66	2520	288	77	1629	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	37	43	335	44	-52	69	2653	217	81	1715	-35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	666	153	178	527	0	396	206	3149	890	177	3057	0
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.00	0.12	0.56	0.56	0.10	0.54	0.00
Sat Flow, veh/h	2750	789	917	2558	1870	0	1781	5611	1585	1781	5611	0
Grp Volume(v), veh/h	109	0	80	335	-8	-8	69	2653	217	81	1680	0
Grp Sat Flow(s),veh/h/ln	1375	0	1705	1279	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	3.6	0.0	4.3	13.9	0.0	0.0	3.9	42.8	7.6	4.7	21.2	0.0
Cycle Q Clear(g_c), s	3.6	0.0	4.3	18.2	0.0	0.0	3.9	42.8	7.6	4.7	21.2	0.0
Prop In Lane	1.00		0.54	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	666	0	331	527	0	0	206	3149	890	177	3057	0
V/C Ratio(X)	0.16	0.00	0.24	0.64	0.00	0.00	0.33	0.84	0.24	0.46	0.55	0.00
Avail Cap(c_a), veh/h	891	0	471	737	0	0	206	3272	924	177	3179	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.8	0.0	37.0	44.7	0.0	0.0	44.2	19.8	12.1	46.2	16.1	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	1.3	0.0	0.0	4.3	2.1	0.1	8.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.8	4.5	0.0	0.0	1.9	16.1	2.4	2.4	7.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	0.0	37.2	46.0	0.0	0.0	48.5	21.9	12.3	54.5	16.2	0.0
LnGrp LOS	D	A	D	D	A	A	D	C	B	D	B	A
Approach Vol, veh/h		189			319			2939			1761	
Approach Delay, s/veh		37.0			48.3			21.8			17.9	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.4	67.5		25.8	17.2	65.7		25.8				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	10.8	63.4		* 30	12.6	61.6		* 30				
Max Q Clear Time (g_c+1), s	6.7	44.8		6.3	5.9	23.2		20.2				
Green Ext Time (p_c), s	0.0	16.2		0.5	0.1	8.9		0.9				
Intersection Summary												
HCM 6th Ctrl Delay	22.7											
HCM 6th LOS	C											
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/24/2021

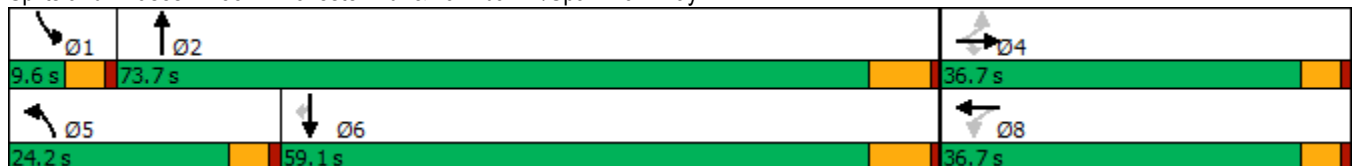


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	100	11	142	43	5	239	2753	12	1865	125
Future Volume (vph)	100	11	142	43	5	239	2753	12	1865	125
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	24.2	73.7	9.6	59.1	59.1
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	20.2%	61.4%	8.0%	49.3%	49.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	13.2	13.2	13.2		13.2	17.4	67.2	5.1	46.8	46.8
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.19	0.72	0.05	0.50	0.50
v/c Ratio	0.53	0.04	0.42		0.33	0.75	0.73	0.12	0.69	0.15
Control Delay	49.6	37.4	10.6		33.8	52.6	10.1	50.3	19.8	3.1
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.6	37.4	10.6		33.8	52.6	10.1	50.3	19.8	3.1
LOS	D	D	B		C	D	B	D	B	A
Approach Delay		27.2			33.8		13.4		18.9	
Approach LOS		C			C		B		B	

Intersection Summary

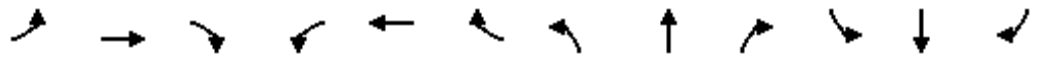
Cycle Length: 120
 Actuated Cycle Length: 93.5
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 16.3
 Intersection LOS: B
 Intersection Capacity Utilization 83.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	11	142	43	5	23	239	2753	80	12	1865	125
Future Volume (veh/h)	100	11	142	43	5	23	239	2753	80	12	1865	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	11	74	44	5	13	246	2838	10	12	1923	107
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	217	184	177	26	35	284	3830	13	26	3033	838
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.16	0.69	0.69	0.01	0.54	0.54
Sat Flow, veh/h	1395	1870	1585	910	220	300	1781	5587	20	1781	5611	1550
Grp Volume(v), veh/h	103	11	74	62	0	0	246	1899	949	12	1923	107
Grp Sat Flow(s),veh/h/ln	1395	1870	1585	1430	0	0	1781	1870	1866	1781	1870	1550
Q Serve(g_s), s	1.8	0.4	3.7	2.5	0.0	0.0	11.6	27.9	28.0	0.6	20.6	2.9
Cycle Q Clear(g_c), s	5.1	0.4	3.7	3.3	0.0	0.0	11.6	27.9	28.0	0.6	20.6	2.9
Prop In Lane	1.00		1.00	0.71		0.21	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	260	217	184	238	0	0	284	2564	1279	26	3033	838
V/C Ratio(X)	0.40	0.05	0.40	0.26	0.00	0.00	0.87	0.74	0.74	0.46	0.63	0.13
Avail Cap(c_a), veh/h	618	697	590	596	0	0	406	2926	1460	104	3435	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	33.8	35.2	34.9	0.0	0.0	35.2	8.6	8.6	42.0	13.8	9.7
Incr Delay (d2), s/veh	1.0	0.1	1.4	0.6	0.0	0.0	9.7	0.9	1.8	4.8	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.2	1.5	1.2	0.0	0.0	5.3	7.1	7.4	0.3	6.9	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	33.9	36.6	35.5	0.0	0.0	44.9	9.5	10.4	46.8	14.1	9.8
LnGrp LOS	D	C	D	D	A	A	D	A	B	D	B	A
Approach Vol, veh/h		188			62			3094			2042	
Approach Delay, s/veh		36.5			35.5			12.6			14.1	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	65.4		14.7	18.3	52.9		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	19.6	52.6		* 32				
Max Q Clear Time (g_c+I1), s	2.6	30.0		7.1	13.6	22.6		5.3				
Green Ext Time (p_c), s	0.0	28.9		0.6	0.2	16.9		0.3				

Intersection Summary

HCM 6th Ctrl Delay	14.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 7.1:

EAPC (2023) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

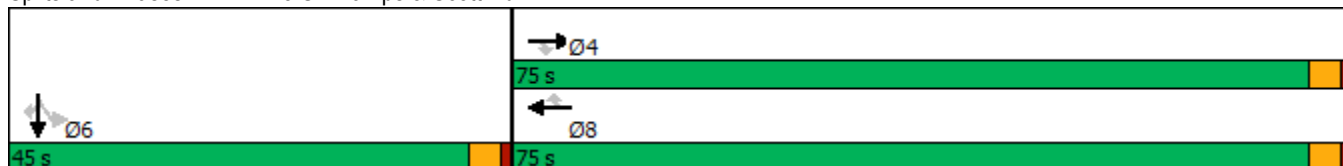


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	687	632	877	693	677	0	236
Future Volume (vph)	687	632	877	693	677	0	236
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	75.0	75.0	75.0	75.0	45.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	62.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	37.2	37.2	37.2	37.2	24.6	24.6	24.6
Actuated g/C Ratio	0.53	0.53	0.53	0.53	0.35	0.35	0.35
v/c Ratio	0.43	0.62	0.55	0.66	0.66	0.23	0.23
Control Delay	11.5	3.5	12.8	3.9	23.4	7.3	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	3.5	12.8	4.0	23.4	7.3	7.3
LOS	B	A	B	A	C	A	A
Approach Delay	7.7		8.9			19.2	
Approach LOS	A		A			B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 70.5
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 11.0
 Intersection Capacity Utilization 50.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 1: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖	↖	↗
Traffic Volume (veh/h)	0	687	632	0	877	693	0	0	0	677	0	236
Future Volume (veh/h)	0	687	632	0	877	693	0	0	0	677	0	236
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	799	727	0	1020	712				787	0	175
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2073	924	0	2073	924				1037	0	923
Arrive On Green	0.00	0.58	0.58	0.00	0.58	0.58				0.29	0.00	0.29
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	799	727	0	1020	712				787	0	175
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	7.7	22.5	0.0	10.7	21.7				12.8	0.0	2.6
Cycle Q Clear(g_c), s	0.0	7.7	22.5	0.0	10.7	21.7				12.8	0.0	2.6
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2073	924	0	2073	924				1037	0	923
V/C Ratio(X)	0.00	0.39	0.79	0.00	0.49	0.77				0.76	0.00	0.19
Avail Cap(c_a), veh/h	0	3960	1766	0	3960	1766				2293	0	2040
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	7.1	10.2	0.0	7.8	10.0				20.5	0.0	16.9
Incr Delay (d2), s/veh	0.0	0.1	1.5	0.0	0.2	1.4				1.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.0	5.5	0.0	2.8	5.3				4.7	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	7.3	11.7	0.0	7.9	11.4				21.7	0.0	17.0
LnGrp LOS	A	A	B	A	A	B				C	A	B
Approach Vol, veh/h		1526			1732						962	
Approach Delay, s/veh		9.4			9.4						20.9	
Approach LOS		A			A						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				41.2		22.6		41.2				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				71.0		41.0		71.0				
Max Q Clear Time (g_c+I1), s				24.5		14.8		23.7				
Green Ext Time (p_c), s				10.5		3.7		13.5				

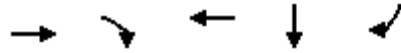
Intersection Summary

HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

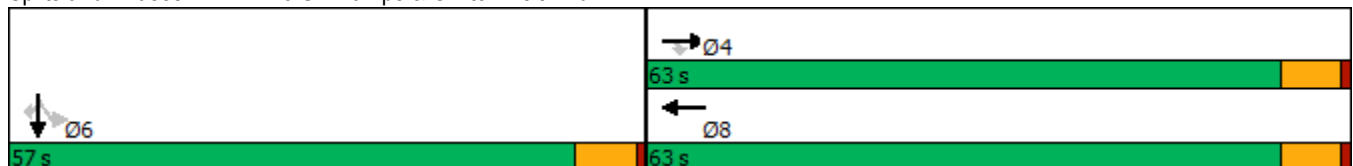


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↑↑
Traffic Volume (vph)	1442	483	1305	0	810
Future Volume (vph)	1442	483	1305	0	810
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	63.0	63.0	63.0	57.0	57.0
Total Split (%)	52.5%	52.5%	52.5%	47.5%	47.5%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	54.2	54.2	54.2	41.7	41.7
Actuated g/C Ratio	0.50	0.50	0.50	0.38	0.38
v/c Ratio	0.61	0.50	0.88	0.49	0.79
Control Delay	21.9	3.4	29.0	28.5	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	3.4	29.1	28.5	34.8
LOS	C	A	C	C	C
Approach Delay	17.2		29.1	33.0	
Approach LOS	B		C	C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 109.1
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 25.5
 Intersection LOS: C
 Intersection Capacity Utilization 81.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1442	483	0	1305	749	0	0	0	314	0	810
Future Volume (veh/h)	0	1442	483	0	1305	749	0	0	0	314	0	810
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1534	431	0	1388	797				334	0	528
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	3038	923	0	2025	943				452	0	708
Arrive On Green	0.00	0.60	0.60	0.00	0.60	0.60				0.25	0.00	0.25
Sat Flow, veh/h	0	5274	1551	0	3572	1585				1781	0	2790
Grp Volume(v), veh/h	0	1534	431	0	1388	797				334	0	528
Grp Sat Flow(s),veh/h/ln	0	1702	1551	0	1702	1585				1781	0	1395
Q Serve(g_s), s	0.0	14.9	13.4	0.0	23.9	35.2				14.8	0.0	15.0
Cycle Q Clear(g_c), s	0.0	14.9	13.4	0.0	23.9	35.2				14.8	0.0	15.0
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3038	923	0	2025	943				452	0	708
V/C Ratio(X)	0.00	0.50	0.47	0.00	0.69	0.85				0.74	0.00	0.75
Avail Cap(c_a), veh/h	0	3359	1020	0	2239	1043				1047	0	1640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.1	9.8	0.0	11.9	14.2				29.4	0.0	29.5
Incr Delay (d2), s/veh	0.0	0.1	0.4	0.0	0.8	6.0				2.4	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.2	3.5	0.0	6.8	10.6				6.4	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.2	10.1	0.0	12.7	20.2				31.8	0.0	31.1
LnGrp LOS	A	B	B	A	B	C				C	A	C
Approach Vol, veh/h		1965			2185						862	
Approach Delay, s/veh		10.2			15.4						31.4	
Approach LOS		B			B						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				57.6		28.3		57.6				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				56.5		50.5		56.5				
Max Q Clear Time (g_c+1), s				16.9		17.0		37.2				
Green Ext Time (p_c), s				16.2		4.8		13.9				
Intersection Summary												
HCM 6th Ctrl Delay			16.1									
HCM 6th LOS			B									

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↖	↖	↖	↖
Traffic Volume (vph)	189	1176	1297	666	0	305	0	273
Future Volume (vph)	189	1176	1297	666	0	305	0	273
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	103.0	103.0	103.0	103.0	17.0	17.0	17.0	17.0
Total Split (%)	85.8%	85.8%	85.8%	85.8%	14.2%	14.2%	14.2%	14.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	60.6	60.6	60.6	60.6	9.1	9.1	9.1	9.1
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.11	0.11	0.11	0.11
v/c Ratio	0.90	0.48	0.53	0.53	0.57	0.57	0.56	0.56
Control Delay	49.9	3.5	3.8	1.6	21.7	21.5	25.2	25.2
Queue Delay	0.0	0.1	0.4	0.6	0.0	0.0	0.0	0.0
Total Delay	49.9	3.7	4.2	2.3	21.7	21.5	25.2	25.2
LOS	D	A	A	A	C	C	C	C
Approach Delay		10.1	3.6		21.6		25.3	
Approach LOS		B	A		C		C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 79.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 8.8	Intersection LOS: A
Intersection Capacity Utilization 68.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗			↗↗	↗		↗	↗		↗	↗
Traffic Volume (veh/h)	189	1176	0	0	1297	666	0	0	305	0	0	273
Future Volume (veh/h)	189	1176	0	0	1297	666	0	0	305	0	0	273
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	208	1292	0	0	1425	609	0	0	314	0	0	148
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	207	2932	0	0	2932	1308	0	203	343	0	203	343
Arrive On Green	0.82	0.82	0.00	0.00	0.82	0.82	0.00	0.00	0.11	0.00	0.00	0.11
Sat Flow, veh/h	208	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	208	1292	0	0	1425	609	0	0	314	0	0	148
Grp Sat Flow(s),veh/h/ln	208	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	84.9	12.0	0.0	0.0	14.1	13.1	0.0	0.0	11.8	0.0	0.0	5.2
Cycle Q Clear(g_c), s	99.0	12.0	0.0	0.0	14.1	13.1	0.0	0.0	11.8	0.0	0.0	5.2
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	207	2932	0	0	2932	1308	0	203	343	0	203	343
V/C Ratio(X)	1.00	0.44	0.00	0.00	0.49	0.47	0.00	0.00	0.91	0.00	0.00	0.43
Avail Cap(c_a), veh/h	207	2932	0	0	2932	1308	0	203	343	0	203	343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	29.8	2.9	0.0	0.0	3.1	3.0	0.0	0.0	52.9	0.0	0.0	50.0
Incr Delay (d2), s/veh	63.2	0.1	0.0	0.0	0.1	0.3	0.0	0.0	28.0	0.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	2.3	0.0	0.0	2.7	2.3	0.0	0.0	5.9	0.0	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.1	3.0	0.0	0.0	3.2	3.2	0.0	0.0	81.0	0.0	0.0	50.9
LnGrp LOS	F	A	A	A	A	A	A	A	F	A	A	D
Approach Vol, veh/h		1500			2034			314				148
Approach Delay, s/veh		15.5			3.2			81.0				50.9
Approach LOS		B			A			F				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.0		103.0		17.0		103.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		13.0		99.0		13.0		99.0				
Max Q Clear Time (g_c+I1), s		13.8		101.0		7.2		16.1				
Green Ext Time (p_c), s		0.0		0.0		0.2		21.9				

Intersection Summary

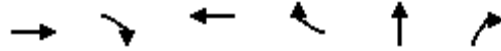
HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

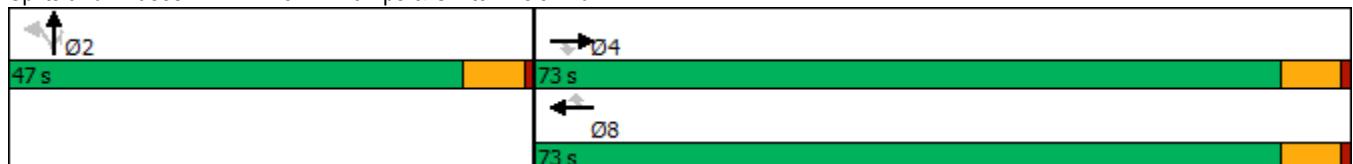


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↔	↑
Traffic Volume (vph)	1092	678	1733	288	0	517
Future Volume (vph)	1092	678	1733	288	0	517
Turn Type	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		4		8		2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5	16.5
Total Split (s)	73.0	73.0	73.0	73.0	47.0	47.0
Total Split (%)	60.8%	60.8%	60.8%	60.8%	39.2%	39.2%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min	Min	Min	Min	None	None
Act Effect Green (s)	47.2	47.2	47.2	47.2	28.2	28.2
Actuated g/C Ratio	0.53	0.53	0.53	0.53	0.32	0.32
v/c Ratio	0.42	0.62	0.67	0.30	0.76	0.72
Control Delay	13.6	3.7	17.1	2.4	37.2	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	3.7	17.1	2.4	37.2	32.2
LOS	B	A	B	A	D	C
Approach Delay	9.8		15.0		34.7	
Approach LOS	A		B		C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 89.4	
Natural Cycle: 40	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 16.2	Intersection LOS: B
Intersection Capacity Utilization 68.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	1092	678	0	1733	288	242	0	517	0	0	0
Future Volume (veh/h)	0	1092	678	0	1733	288	242	0	517	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1126	699	0	1787	297	249	72	297			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2886	892	0	2886	896	346	100	393			
Arrive On Green	0.00	0.57	0.57	0.00	0.57	0.57	0.25	0.25	0.25			
Sat Flow, veh/h	0	5274	1578	0	5274	1585	1397	404	1585			
Grp Volume(v), veh/h	0	1126	699	0	1787	297	321	0	297			
Grp Sat Flow(s),veh/h/ln	0	1702	1578	0	1702	1585	1801	0	1585			
Q Serve(g_s), s	0.0	8.6	24.0	0.0	16.3	7.0	11.3	0.0	12.1			
Cycle Q Clear(g_c), s	0.0	8.6	24.0	0.0	16.3	7.0	11.3	0.0	12.1			
Prop In Lane	0.00		1.00	0.00		1.00	0.78		1.00			
Lane Grp Cap(c), veh/h	0	2886	892	0	2886	896	446	0	393			
V/C Ratio(X)	0.00	0.39	0.78	0.00	0.62	0.33	0.72	0.00	0.76			
Avail Cap(c_a), veh/h	0	4884	1509	0	4884	1516	1049	0	923			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	8.4	11.8	0.0	10.1	8.1	23.9	0.0	24.2			
Incr Delay (d2), s/veh	0.0	0.1	1.6	0.0	0.2	0.2	2.2	0.0	3.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	2.1	5.9	0.0	4.1	1.7	4.8	0.0	4.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	8.5	13.3	0.0	10.3	8.3	26.1	0.0	27.2			
LnGrp LOS	A	A	B	A	B	A	C	A	C			
Approach Vol, veh/h		1825			2084			618				
Approach Delay, s/veh		10.4			10.0			26.7				
Approach LOS		B			B			C				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		23.7		45.8				45.8				
Change Period (Y+Rc), s		6.5		6.5				6.5				
Max Green Setting (Gmax), s		40.5		66.5				66.5				
Max Q Clear Time (g_c+I1), s		14.1		26.0				18.3				
Green Ext Time (p_c), s		3.2		13.3				20.3				

Intersection Summary

HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

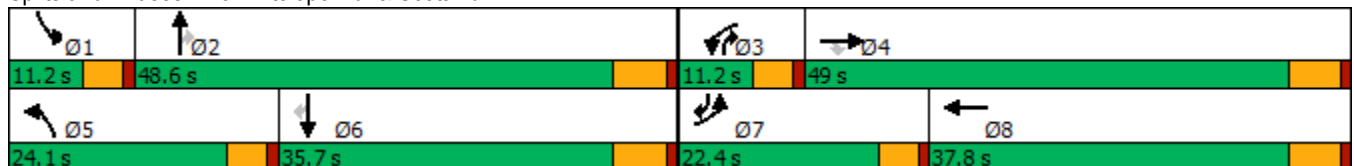


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↗	↖↗	↑↑↑	↖↗	↑↑	↗	↖	↑	↗
Traffic Volume (vph)	128	897	456	72	1232	346	42	60	60	138	385
Future Volume (vph)	128	897	456	72	1232	346	42	60	60	138	385
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	22.4	49.0	49.0	11.2	37.8	24.1	48.6	11.2	11.2	35.7	22.4
Total Split (%)	18.7%	40.8%	40.8%	9.3%	31.5%	20.1%	40.5%	9.3%	9.3%	29.8%	18.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	10.7	39.8	39.8	6.1	33.0	14.6	22.6	31.1	11.4	13.6	30.2
Actuated g/C Ratio	0.12	0.43	0.43	0.07	0.35	0.16	0.24	0.33	0.12	0.15	0.32
v/c Ratio	0.35	0.64	0.55	0.35	0.78	0.70	0.05	0.11	0.30	0.55	0.71
Control Delay	41.2	25.1	7.7	49.4	32.1	45.4	28.7	1.3	48.0	46.8	27.4
Queue Delay	0.0	1.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	27.0	8.4	49.4	32.1	45.4	28.7	1.3	48.0	46.8	27.4
LOS	D	C	A	D	C	D	C	A	D	D	C
Approach Delay		22.5			33.0		38.0			34.1	
Approach LOS		C			C		D			C	

Intersection Summary
































Cycle Length: 120
 Actuated Cycle Length: 93
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 29.7
 Intersection LOS: C
 Intersection Capacity Utilization 71.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 			 	
Traffic Volume (veh/h)	128	897	456	72	1232	51	346	42	60	60	138	385
Future Volume (veh/h)	128	897	456	72	1232	51	346	42	60	60	138	385
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	975	354	78	1339	50	376	46	35	65	150	244
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1304	581	179	1795	67	473	958	509	86	338	387
Arrive On Green	0.06	0.37	0.37	0.05	0.36	0.36	0.14	0.27	0.27	0.05	0.18	0.18
Sat Flow, veh/h	3456	3554	1585	3456	5052	189	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	139	975	354	78	902	487	376	46	35	65	150	244
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1836	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	3.1	18.9	14.4	1.7	18.3	18.3	8.3	0.8	1.2	2.8	5.6	10.9
Cycle Q Clear(g_c), s	3.1	18.9	14.4	1.7	18.3	18.3	8.3	0.8	1.2	2.8	5.6	10.9
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	1304	581	179	1209	652	473	958	509	86	338	387
V/C Ratio(X)	0.63	0.75	0.61	0.43	0.75	0.75	0.79	0.05	0.07	0.76	0.44	0.63
Avail Cap(c_a), veh/h	780	1946	868	289	1381	745	854	1928	942	149	709	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	21.8	20.4	36.3	22.3	22.3	33.0	21.3	18.6	37.1	28.8	26.6
Incr Delay (d2), s/veh	1.1	0.9	1.0	0.6	2.0	3.6	1.2	0.0	0.1	5.1	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	7.1	4.9	0.7	6.8	7.7	3.3	0.3	0.4	1.3	2.4	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.2	22.7	21.4	36.9	24.3	25.9	34.1	21.3	18.6	42.1	29.7	28.3
LnGrp LOS	D	C	C	D	C	C	C	C	B	D	C	C
Approach Vol, veh/h		1468			1467			457			459	
Approach Delay, s/veh		23.7			25.5			31.7			30.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	27.1	8.7	34.7	15.4	20.1	9.6	33.8				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.6	42.8	6.6	43.2	19.5	29.9	17.8	32.0				
Max Q Clear Time (g_c+I1), s	4.8	3.2	3.7	20.9	10.3	12.9	5.1	20.3				
Green Ext Time (p_c), s	0.0	0.3	0.0	8.1	0.5	1.4	0.2	6.4				
Intersection Summary												
HCM 6th Ctrl Delay				26.2								
HCM 6th LOS				C								

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

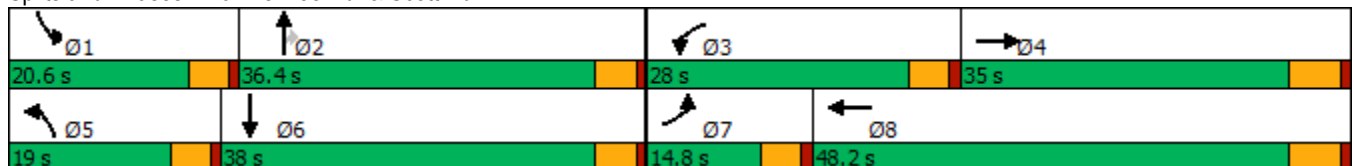


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	67	851	275	1242	132	105	244	187	231
Future Volume (vph)	67	851	275	1242	132	105	244	187	231
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	14.8	35.0	28.0	48.2	19.0	36.4	36.4	20.6	38.0
Total Split (%)	12.3%	29.2%	23.3%	40.2%	15.8%	30.3%	30.3%	17.2%	31.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	8.1	29.9	20.5	44.7	11.8	20.6	20.6	14.6	23.4
Actuated g/C Ratio	0.08	0.28	0.19	0.42	0.11	0.20	0.20	0.14	0.22
v/c Ratio	0.52	0.98	0.85	1.01	0.71	0.31	0.50	0.81	0.79
Control Delay	64.2	62.9	64.7	59.5	66.9	38.7	7.9	70.9	52.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	62.9	64.7	59.5	66.9	38.7	7.9	70.9	52.3
LOS	E	E	E	E	E	D	A	E	D
Approach Delay		63.0		60.3		30.8			59.4
Approach LOS		E		E		C			E

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 105.6
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 57.0
 Intersection LOS: E
 Intersection Capacity Utilization 84.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	851	73	275	1242	180	132	105	244	187	231	75
Future Volume (veh/h)	67	851	73	275	1242	180	132	105	244	187	231	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	896	66	289	1307	176	139	111	150	197	243	64
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	1045	77	324	1393	186	171	315	267	231	288	76
Arrive On Green	0.05	0.31	0.31	0.18	0.44	0.44	0.10	0.17	0.17	0.13	0.20	0.20
Sat Flow, veh/h	1781	3356	247	1781	3150	421	1781	1870	1585	1781	1427	376
Grp Volume(v), veh/h	71	474	488	289	734	749	139	111	150	197	0	307
Grp Sat Flow(s),veh/h/ln	1781	1777	1826	1781	1777	1794	1781	1870	1585	1781	0	1803
Q Serve(g_s), s	3.7	23.7	23.7	15.0	37.1	37.8	7.2	5.0	8.2	10.2	0.0	15.5
Cycle Q Clear(g_c), s	3.7	23.7	23.7	15.0	37.1	37.8	7.2	5.0	8.2	10.2	0.0	15.5
Prop In Lane	1.00		0.14	1.00		0.23	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	91	554	569	324	786	793	171	315	267	231	0	364
V/C Ratio(X)	0.78	0.86	0.86	0.89	0.93	0.94	0.81	0.35	0.56	0.85	0.00	0.84
Avail Cap(c_a), veh/h	192	554	569	441	797	805	271	628	532	302	0	635
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.3	30.5	30.5	37.7	25.0	25.2	41.9	34.7	36.1	40.2	0.0	36.3
Incr Delay (d2), s/veh	5.2	12.6	12.3	13.2	17.7	19.4	4.5	0.7	1.9	13.5	0.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	11.3	11.6	7.4	17.7	18.5	3.4	2.3	3.2	5.3	0.0	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	43.2	42.9	50.9	42.8	44.6	46.3	35.4	38.0	53.8	0.0	41.6
LnGrp LOS	D	D	D	D	D	D	D	D	D	D	A	D
Approach Vol, veh/h		1033			1772			400			504	
Approach Delay, s/veh		43.5			44.9			40.2			46.3	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.9	20.6	21.8	35.2	13.7	23.8	9.5	47.6				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	16.0	* 32	23.4	29.2	14.4	* 33	10.2	42.4				
Max Q Clear Time (g_c+I1), s	12.2	10.2	17.0	25.7	9.2	17.5	5.7	39.8				
Green Ext Time (p_c), s	0.1	1.0	0.2	1.8	0.1	1.6	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			44.2									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)

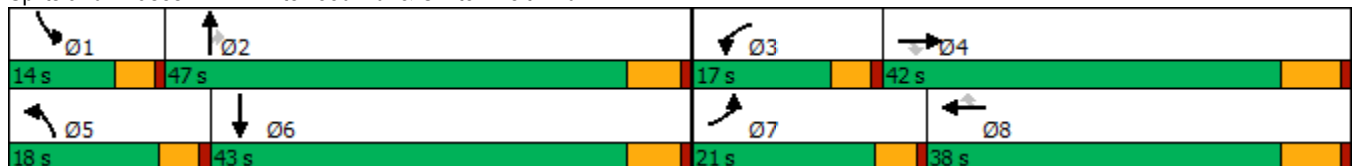
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	406	1008	161	252	1372	147	157	134	109	134	368
Future Volume (vph)	406	1008	161	252	1372	147	157	134	109	134	368
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	21.0	42.0	42.0	17.0	38.0	38.0	18.0	47.0	47.0	14.0	43.0
Total Split (%)	17.5%	35.0%	35.0%	14.2%	31.7%	31.7%	15.0%	39.2%	39.2%	11.7%	35.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	16.4	36.3	36.3	11.7	31.6	31.6	12.9	33.0	33.0	9.4	29.5
Actuated g/C Ratio	0.15	0.32	0.32	0.10	0.28	0.28	0.12	0.29	0.29	0.08	0.26
v/c Ratio	0.90	0.98	0.29	0.78	1.06	0.29	0.85	0.27	0.22	1.00	0.85
Control Delay	70.1	60.5	9.8	65.5	81.2	6.7	84.2	31.0	5.9	127.3	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.1	60.5	9.8	65.5	81.2	6.7	84.2	31.0	5.9	127.3	35.8
LOS	E	E	A	E	F	A	F	C	A	F	D
Approach Delay		57.8			72.8			45.0			49.0
Approach LOS		E			E			D			D

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 112
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 60.6
 Intersection LOS: E
 Intersection Capacity Utilization 88.5%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  						 	
Traffic Volume (veh/h)	406	1008	161	252	1372	147	157	134	109	134	368	425
Future Volume (veh/h)	406	1008	161	252	1372	147	157	134	109	134	368	425
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	451	1120	118	280	1524	135	174	149	93	149	409	333
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	506	1186	529	340	1458	453	203	538	456	152	484	391
Arrive On Green	0.15	0.33	0.33	0.10	0.29	0.29	0.11	0.29	0.29	0.09	0.26	0.26
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1867	1508
Grp Volume(v), veh/h	451	1120	118	280	1524	135	174	149	93	149	389	353
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1599
Q Serve(g_s), s	14.1	33.8	5.9	8.8	31.5	7.3	10.6	6.8	4.9	9.2	22.9	23.1
Cycle Q Clear(g_c), s	14.1	33.8	5.9	8.8	31.5	7.3	10.6	6.8	4.9	9.2	22.9	23.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Lane Grp Cap(c), veh/h	506	1186	529	340	1458	453	203	538	456	152	461	415
V/C Ratio(X)	0.89	0.94	0.22	0.82	1.05	0.30	0.86	0.28	0.20	0.98	0.84	0.85
Avail Cap(c_a), veh/h	514	1186	529	388	1458	453	216	699	592	152	599	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	35.8	26.5	48.8	39.4	30.8	48.0	30.4	29.7	50.4	38.7	38.8
Incr Delay (d2), s/veh	16.7	14.8	0.2	10.6	36.3	0.4	24.9	0.3	0.2	67.1	8.5	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	15.9	2.1	4.1	17.1	2.7	5.9	3.0	1.8	6.8	10.6	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.9	50.6	26.7	59.4	75.7	31.1	72.9	30.7	29.9	117.5	47.3	48.8
LnGrp LOS	E	D	C	E	F	C	E	C	C	F	D	D
Approach Vol, veh/h		1689			1939			416			891	
Approach Delay, s/veh		52.2			70.3			48.2			59.6	
Approach LOS		D			E			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	37.5	15.5	43.3	17.1	34.4	20.8	38.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	9.4	41.2	12.4	35.5	13.4	37.2	16.4	31.5				
Max Q Clear Time (g_c+I1), s	11.2	8.8	10.8	35.8	12.6	25.1	16.1	33.5				
Green Ext Time (p_c), s	0.0	1.0	0.1	0.0	0.0	3.5	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			60.3									
HCM 6th LOS			E									

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/21/2021

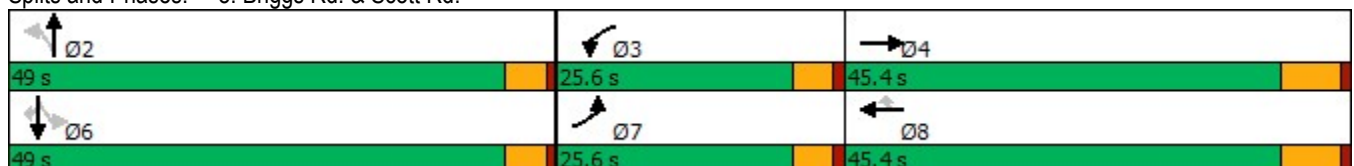


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	18	976	30	1388	88	397	11	69	15	51
Future Volume (vph)	18	976	30	1388	88	397	11	69	15	51
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	25.6	45.4	25.6	45.4	45.4	49.0	49.0	49.0	49.0	49.0
Total Split (%)	21.3%	37.8%	21.3%	37.8%	37.8%	40.8%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	5.8	39.0	6.5	41.6	41.6		44.4		44.4	44.4
Actuated g/C Ratio	0.06	0.38	0.06	0.41	0.41		0.44		0.44	0.44
v/c Ratio	0.19	1.19	0.29	1.03	0.13		0.87		0.17	0.07
Control Delay	51.8	121.5	53.2	62.6	5.2		45.1		20.0	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	51.8	121.5	53.2	62.6	5.2		45.1		20.0	3.0
LOS	D	F	D	E	A		D		C	A
Approach Delay		120.7		59.1			45.1		13.6	
Approach LOS		F		E			D		B	

Intersection Summary

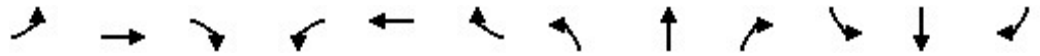
Cycle Length: 120
 Actuated Cycle Length: 101.6
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.19
 Intersection Signal Delay: 81.4
 Intersection Capacity Utilization 84.2%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service E

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖		↕			↕	↖
Traffic Volume (veh/h)	18	976	506	30	1388	88	397	11	41	69	15	51
Future Volume (veh/h)	18	976	506	30	1388	88	397	11	41	69	15	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	1049	469	32	1492	86	427	12	44	74	16	29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	966	422	53	1458	651	528	13	47	616	127	643
Arrive On Green	0.02	0.40	0.40	0.03	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1781	2407	1051	1781	3554	1585	1128	32	116	1352	313	1585
Grp Volume(v), veh/h	19	768	750	32	1492	86	483	0	0	90	0	29
Grp Sat Flow(s),veh/h/ln	1781	1777	1681	1781	1777	1585	1276	0	0	1665	0	1585
Q Serve(g_s), s	1.0	38.9	38.9	1.7	39.8	3.3	32.4	0.0	0.0	0.0	0.0	1.1
Cycle Q Clear(g_c), s	1.0	38.9	38.9	1.7	39.8	3.3	35.6	0.0	0.0	3.2	0.0	1.1
Prop In Lane	1.00		0.63	1.00		1.00	0.88		0.09	0.82		1.00
Lane Grp Cap(c), veh/h	37	713	675	53	1458	651	588	0	0	743	0	643
V/C Ratio(X)	0.52	1.08	1.11	0.60	1.02	0.13	0.82	0.00	0.00	0.12	0.00	0.05
Avail Cap(c_a), veh/h	386	713	675	386	1458	651	659	0	0	816	0	724
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.0	29.0	29.0	46.5	28.6	17.8	29.2	0.0	0.0	18.0	0.0	17.4
Incr Delay (d2), s/veh	4.1	56.3	69.6	4.0	29.6	0.1	7.5	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	25.6	26.7	0.8	20.7	1.1	11.6	0.0	0.0	1.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	85.3	98.6	50.5	58.1	17.9	36.7	0.0	0.0	18.1	0.0	17.5
LnGrp LOS	D	F	F	D	F	B	D	A	A	B	A	B
Approach Vol, veh/h		1537			1610			483				119
Approach Delay, s/veh		91.4			55.8			36.7				18.0
Approach LOS		F			E			D				B
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.1	7.5	45.4		44.1	6.6	46.3				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 44	21.0	38.9		* 44	21.0	38.9				
Max Q Clear Time (g_c+I1), s		37.6	3.7	40.9		5.2	3.0	41.8				
Green Ext Time (p_c), s		1.7	0.0	0.0		0.6	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	66.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh	16.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	84	517	340	22	689	19	464	88	9	55	98	83
Future Vol, veh/h	84	517	340	22	689	19	464	88	9	55	98	83
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	533	351	23	710	20	478	91	9	57	101	86
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	615.7	411	244.3	49.1
HCM LOS	F	F	F	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	83%	9%	3%	23%
Vol Thru, %	16%	55%	94%	42%
Vol Right, %	2%	36%	3%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	561	941	730	236
LT Vol	464	84	22	55
Through Vol	88	517	689	98
RT Vol	9	340	19	83
Lane Flow Rate	578	970	753	243
Geometry Grp	1	1	1	1
Degree of Util (X)	1.422	2.29	1.816	0.64
Departure Headway (Hd)	13.502	11.865	13.3	18.317
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	278	320	278	200
Service Time	11.502	9.865	11.3	16.317
HCM Lane V/C Ratio	2.079	3.031	2.709	1.215
HCM Control Delay	244.3	615.7	411	49.1
HCM Lane LOS	F	F	F	E
HCM 95th-tile Q	20.9	53.8	33.2	3.7

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	1	3	49	0	144	1	303	14	55	413	11
Future Vol, veh/h	3	1	3	49	0	144	1	303	14	55	413	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1	4	60	0	176	1	370	17	67	504	13

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1114	1034	511	1028	1032	379	517	0	0	387	0	0
Stage 1	645	645	-	381	381	-	-	-	-	-	-	-
Stage 2	469	389	-	647	651	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	185	232	563	212	233	668	1049	-	-	1171	-	-
Stage 1	461	467	-	641	613	-	-	-	-	-	-	-
Stage 2	575	608	-	460	465	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	128	213	563	197	214	668	1049	-	-	1171	-	-
Mov Cap-2 Maneuver	128	213	-	197	214	-	-	-	-	-	-	-
Stage 1	461	430	-	640	612	-	-	-	-	-	-	-
Stage 2	423	607	-	419	428	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23	24.3	0	0.9
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1049	-	-	209	416	1171	-
HCM Lane V/C Ratio	0.001	-	-	0.041	0.566	0.057	-
HCM Control Delay (s)	8.4	0	-	23	24.3	8.3	0
HCM Lane LOS	A	A	-	C	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	3.4	0.2	-

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	103	0	32	0	289	42	25	371	4
Future Vol, veh/h	0	0	0	103	0	32	0	289	42	25	371	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	116	0	36	0	325	47	28	417	4

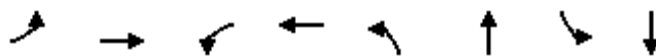
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	842	847	211	614	826	349	421	0	0	372	0	0
Stage 1	475	475	-	349	349	-	-	-	-	-	-	-
Stage 2	367	372	-	265	477	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	270	298	795	390	307	693	1136	-	-	1185	-	-
Stage 1	540	556	-	666	633	-	-	-	-	-	-	-
Stage 2	652	618	-	718	555	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	251	291	795	383	300	693	1136	-	-	1185	-	-
Mov Cap-2 Maneuver	372	390	-	486	402	-	-	-	-	-	-	-
Stage 1	540	543	-	666	633	-	-	-	-	-	-	-
Stage 2	618	618	-	701	542	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	13.7	0	0.5
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1136	-	-	-	486	693	1185	-	-
HCM Lane V/C Ratio	-	-	-	-	0.238	0.052	0.024	-	-
HCM Control Delay (s)	0	-	-	0	14.7	10.5	8.1	-	-
HCM Lane LOS	A	-	-	A	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0.2	0.1	-	-

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/22/2021

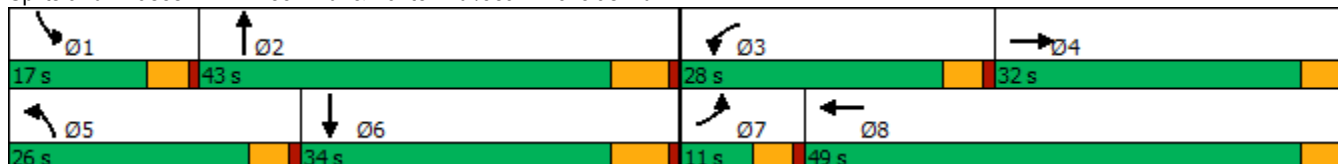


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	63	164	124	227	111	212	63	475
Future Volume (vph)	63	164	124	227	111	212	63	475
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	11.0	32.0	28.0	49.0	26.0	43.0	17.0	34.0
Total Split (%)	9.2%	26.7%	23.3%	40.8%	21.7%	35.8%	14.2%	28.3%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	6.4	13.2	23.5	30.3	12.5	33.8	8.8	27.9
Actuated g/C Ratio	0.07	0.14	0.24	0.31	0.13	0.35	0.09	0.29
v/c Ratio	0.72	0.67	0.39	0.42	0.65	0.32	0.53	0.66
Control Delay	80.2	30.4	35.8	22.9	54.7	22.9	55.4	35.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.2	30.4	35.8	22.9	54.7	22.9	55.4	35.1
LOS	F	C	D	C	D	C	E	D
Approach Delay		39.3		26.3		31.7		37.4
Approach LOS		D		C		C		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.3
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 33.6
 Intersection LOS: C
 Intersection Capacity Utilization 68.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	63	164	125	124	227	117	111	212	77	63	475	24
Future Volume (veh/h)	63	164	125	124	227	117	111	212	77	63	475	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	219	114	165	303	127	148	283	75	84	633	24
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	327	164	442	787	321	181	934	243	108	1028	39
Arrive On Green	0.07	0.14	0.14	0.25	0.32	0.32	0.10	0.34	0.34	0.06	0.29	0.29
Sat Flow, veh/h	1781	2290	1147	1781	2436	994	1781	2782	723	1781	3489	132
Grp Volume(v), veh/h	84	168	165	165	219	211	148	179	179	84	322	335
Grp Sat Flow(s),veh/h/ln	1781	1777	1661	1781	1777	1653	1781	1777	1728	1781	1777	1844
Q Serve(g_s), s	4.4	8.4	8.9	7.2	9.0	9.4	7.7	7.0	7.3	4.4	14.7	14.8
Cycle Q Clear(g_c), s	4.4	8.4	8.9	7.2	9.0	9.4	7.7	7.0	7.3	4.4	14.7	14.8
Prop In Lane	1.00		0.69	1.00		0.60	1.00		0.42	1.00		0.07
Lane Grp Cap(c), veh/h	121	254	237	442	574	534	181	597	580	108	523	543
V/C Ratio(X)	0.70	0.66	0.70	0.37	0.38	0.40	0.82	0.30	0.31	0.78	0.62	0.62
Avail Cap(c_a), veh/h	121	514	480	442	834	776	404	693	674	234	523	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	38.3	38.5	29.4	24.7	24.8	41.5	23.1	23.2	43.7	28.7	28.7
Incr Delay (d2), s/veh	28.2	2.9	3.7	2.4	0.4	0.5	3.4	0.3	0.3	4.5	5.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.8	3.8	3.4	3.8	3.7	3.4	2.8	2.8	2.0	6.6	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.3	41.2	42.2	31.8	25.1	25.3	44.9	23.4	23.5	48.2	34.0	33.9
LnGrp LOS	E	D	D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		417			595			506			741	
Approach Delay, s/veh		47.7			27.0			29.8			35.6	
Approach LOS		D			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	37.9	28.0	18.2	14.2	34.0	11.0	35.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	12.4	36.8	23.4	* 27	21.4	27.8	6.4	* 44				
Max Q Clear Time (g_c+I1), s	6.4	9.3	9.2	10.9	9.7	16.8	6.4	11.4				
Green Ext Time (p_c), s	0.0	1.8	0.2	1.8	0.1	2.6	0.0	2.9				

Intersection Summary

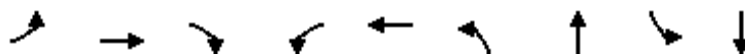
HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
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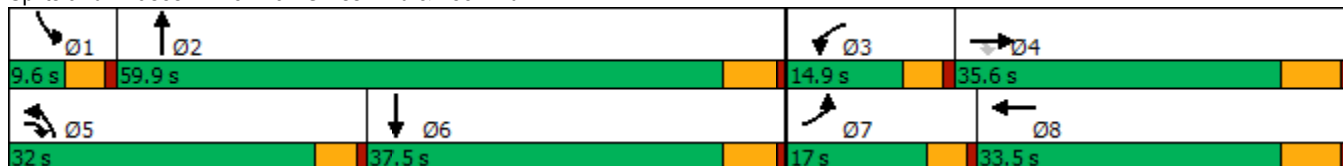


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖↗	↑↑	↖↗	↑↑
Traffic Volume (vph)	322	255	876	332	517	894	407	29	617
Future Volume (vph)	322	255	876	332	517	894	407	29	617
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	17.0	35.6	32.0	14.9	33.5	32.0	59.9	9.6	37.5
Total Split (%)	14.2%	29.7%	26.7%	12.4%	27.9%	26.7%	49.9%	8.0%	31.3%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	12.4	25.2	59.1	10.3	23.1	27.4	58.2	5.0	31.7
Actuated g/C Ratio	0.11	0.22	0.51	0.09	0.20	0.24	0.50	0.04	0.27
v/c Ratio	0.92	0.35	1.09	1.14	0.80	1.15	0.34	0.20	0.95
Control Delay	81.9	39.6	85.2	141.6	53.5	121.8	17.4	58.4	58.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.9	39.6	85.2	141.6	53.5	121.8	17.4	58.4	58.5
LOS	F	D	F	F	D	F	B	E	E
Approach Delay		76.5			87.1		81.7		58.5
Approach LOS		E			F		F		E

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 116.2
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 76.6
 Intersection LOS: E
 Intersection Capacity Utilization 101.5%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	322	255	876	332	517	21	894	407	150	29	617	256
Future Volume (veh/h)	322	255	876	332	517	21	894	407	150	29	617	256
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	335	266	779	346	539	16	931	424	97	30	643	248
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	357	862	746	297	793	24	789	1341	304	91	662	255
Arrive On Green	0.10	0.24	0.24	0.09	0.22	0.22	0.23	0.47	0.47	0.03	0.26	0.26
Sat Flow, veh/h	3456	3554	1585	3456	3524	105	3456	2877	653	3456	2507	966
Grp Volume(v), veh/h	335	266	779	346	272	283	931	260	261	30	456	435
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1852	1728	1777	1753	1728	1777	1696
Q Serve(g_s), s	11.6	7.4	29.1	10.3	16.8	16.8	27.4	11.0	11.2	1.0	30.5	30.5
Cycle Q Clear(g_c), s	11.6	7.4	29.1	10.3	16.8	16.8	27.4	11.0	11.2	1.0	30.5	30.5
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.37	1.00		0.57
Lane Grp Cap(c), veh/h	357	862	746	297	400	417	789	828	817	91	469	448
V/C Ratio(X)	0.94	0.31	1.04	1.17	0.68	0.68	1.18	0.31	0.32	0.33	0.97	0.97
Avail Cap(c_a), veh/h	357	862	746	297	400	417	789	828	817	144	469	448
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	37.2	31.8	54.8	42.5	42.6	46.3	20.0	20.1	57.4	43.7	43.7
Incr Delay (d2), s/veh	31.7	0.2	44.9	105.2	4.6	4.5	93.9	0.2	0.2	0.8	33.9	35.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	3.1	28.8	8.7	7.6	7.9	21.6	4.4	4.4	0.4	17.3	16.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.1	37.4	76.7	160.1	47.1	47.0	140.2	20.3	20.3	58.2	77.6	78.7
LnGrp LOS	F	D	F	F	D	D	F	C	C	E	E	E
Approach Vol, veh/h		1380			901			1452			921	
Approach Delay, s/veh		71.2			90.5			97.1			77.5	
Approach LOS		E			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	61.7	14.9	35.6	32.0	37.5	17.0	33.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	54.1	10.3	29.1	27.4	31.7	12.4	27.0				
Max Q Clear Time (g_c+I1), s	3.0	13.2	12.3	31.1	29.4	32.5	13.6	18.8				
Green Ext Time (p_c), s	0.0	3.1	0.0	0.0	0.0	0.0	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			84.3									
HCM 6th LOS			F									

Intersection												
Intersection Delay, s/veh	8.3											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕		↕			↕	
Traffic Vol, veh/h	0	114	15	12	117	0	10	0	7	1	0	0
Future Vol, veh/h	0	114	15	12	117	0	10	0	7	1	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	127	17	13	130	0	11	0	8	1	0	0
Number of Lanes	0	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	1
HCM Control Delay	8.3	8.3	8.1	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	59%	0%	100%	0%	0%	100%
Vol Thru, %	0%	88%	0%	100%	100%	0%
Vol Right, %	41%	12%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	129	12	117	0	1
LT Vol	10	0	12	0	0	1
Through Vol	0	114	0	117	0	0
RT Vol	7	15	0	0	0	0
Lane Flow Rate	19	143	13	130	0	1
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.027	0.181	0.019	0.168	0	0.002
Departure Headway (Hd)	5.231	4.558	5.14	4.639	4.639	5.747
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	688	783	693	770	0	626
Service Time	2.931	2.314	2.893	2.392	2.392	3.448
HCM Lane V/C Ratio	0.028	0.183	0.019	0.169	0	0.002
HCM Control Delay	8.1	8.3	8	8.3	7.4	8.5
HCM Lane LOS	A	A	A	A	N	A
HCM 95th-tile Q	0.1	0.7	0.1	0.6	0	0

Intersection						
Int Delay, s/veh	6.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	87	40	15	16	8
Future Vol, veh/h	3	87	40	15	16	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	107	49	19	20	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	133	25	30	0	0
Stage 1	25	-	-	-	-
Stage 2	108	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-
Pot Cap-1 Maneuver	854	1051	1582	-	-
Stage 1	997	-	-	-	-
Stage 2	905	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	828	1051	1582	-	-
Mov Cap-2 Maneuver	801	-	-	-	-
Stage 1	966	-	-	-	-
Stage 2	905	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	5.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1582	-	1040	-	-
HCM Lane V/C Ratio	0.031	-	0.107	-	-
HCM Control Delay (s)	7.3	-	8.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕		↵	↕			↕			↕	
Traffic Vol, veh/h	16	103	0	7	79	2	0	0	33	5	0	49
Future Vol, veh/h	16	103	0	7	79	2	0	0	33	5	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	112	0	8	86	2	0	0	36	5	0	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	88	0	0	112	0	0	205	250	56	193	249	44
Stage 1	-	-	-	-	-	-	146	146	-	103	103	-
Stage 2	-	-	-	-	-	-	59	104	-	90	146	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1506	-	-	1475	-	-	735	652	999	749	653	1017
Stage 1	-	-	-	-	-	-	842	775	-	892	809	-
Stage 2	-	-	-	-	-	-	946	808	-	907	775	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1506	-	-	1475	-	-	688	642	999	713	643	1017
Mov Cap-2 Maneuver	-	-	-	-	-	-	688	642	-	722	648	-
Stage 1	-	-	-	-	-	-	833	766	-	882	805	-
Stage 2	-	-	-	-	-	-	892	804	-	865	766	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.6			8.7			8.9		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	999	1506	-	-	1475	-	-	980
HCM Lane V/C Ratio	0.036	0.012	-	-	0.005	-	-	0.06
HCM Control Delay (s)	8.7	7.4	-	-	7.5	-	-	8.9
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	134	66	11	32	22
Future Vol, veh/h	7	134	66	11	32	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	146	72	12	35	24

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	84	0	-	0	167 42
Stage 1	-	-	-	-	78 -
Stage 2	-	-	-	-	89 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	1511	-	-	-	807 1019
Stage 1	-	-	-	-	936 -
Stage 2	-	-	-	-	924 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1511	-	-	-	803 1019
Mov Cap-2 Maneuver	-	-	-	-	790 -
Stage 1	-	-	-	-	931 -
Stage 2	-	-	-	-	924 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1511	-	-	-	870
HCM Lane V/C Ratio	0.005	-	-	-	0.067
HCM Control Delay (s)	7.4	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Timings
20: Winchester Rd. & Domenigoni Pkwy

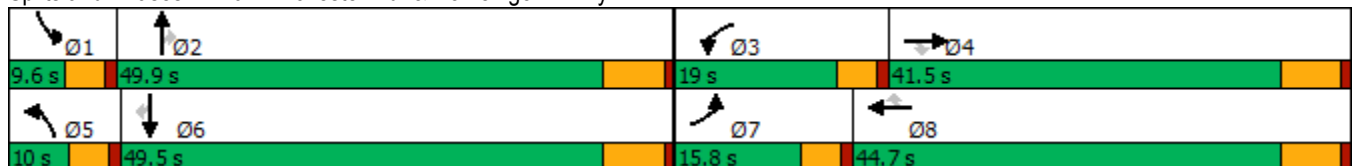
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	937	140	918	848	14	62	582	744	7	1104	235
Future Volume (vph)	172	937	140	918	848	14	62	582	744	7	1104	235
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	15.8	41.5	41.5	19.0	44.7	44.7	10.0	49.9	49.9	9.6	49.5	49.5
Total Split (%)	13.2%	34.6%	34.6%	15.8%	37.3%	37.3%	8.3%	41.6%	41.6%	8.0%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	10.0	35.0	35.0	14.4	39.4	39.4	5.4	50.3	50.3	5.0	42.2	42.2
Actuated g/C Ratio	0.08	0.29	0.29	0.12	0.33	0.33	0.05	0.42	0.42	0.04	0.35	0.35
v/c Ratio	0.64	0.96	0.27	2.36	0.54	0.03	0.82	0.41	0.92	0.09	0.94	0.36
Control Delay	63.4	61.7	10.8	644.0	34.3	0.1	118.5	25.7	36.3	58.3	51.8	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.4	61.7	10.8	644.0	34.3	0.1	118.5	25.7	36.3	58.3	51.8	8.2
LOS	E	E	B	F	C	A	F	C	D	E	D	A
Approach Delay		56.2			348.5			35.5			44.2	
Approach LOS		E			F			D			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.2
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.36
 Intersection Signal Delay: 138.7
 Intersection LOS: F
 Intersection Capacity Utilization 105.3%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

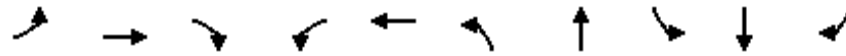
Keller Crossing (JN:13649)
 06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	937	140	918	848	14	62	582	744	7	1104	235
Future Volume (veh/h)	172	937	140	918	848	14	62	582	744	7	1104	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	997	93	977	902	9	66	619	595	7	1174	116
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	1044	465	419	1764	547	81	1385	618	15	1255	560
Arrive On Green	0.07	0.29	0.29	0.12	0.35	0.35	0.05	0.39	0.39	0.01	0.35	0.35
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	183	997	93	977	902	9	66	619	595	7	1174	116
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.2	32.7	5.2	14.4	16.7	0.4	4.4	15.3	43.6	0.5	37.9	6.1
Cycle Q Clear(g_c), s	6.2	32.7	5.2	14.4	16.7	0.4	4.4	15.3	43.6	0.5	37.9	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	1044	465	419	1764	547	81	1385	618	15	1255	560
V/C Ratio(X)	0.76	0.96	0.20	2.33	0.51	0.02	0.82	0.45	0.96	0.45	0.94	0.21
Avail Cap(c_a), veh/h	326	1046	467	419	1764	547	81	1385	618	75	1285	573
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	41.2	31.5	52.2	30.9	25.6	56.2	26.8	35.4	58.6	37.2	26.8
Incr Delay (d2), s/veh	4.5	18.0	0.2	607.8	0.2	0.0	42.9	0.2	27.2	7.5	12.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	16.0	1.9	41.3	6.5	0.2	2.8	6.1	20.0	0.2	17.4	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	59.2	31.7	660.0	31.2	25.6	99.2	27.0	62.6	66.1	49.7	27.0
LnGrp LOS	E	E	C	F	C	C	F	C	E	E	D	C
Approach Vol, veh/h		1273			1888			1280			1297	
Approach Delay, s/veh		57.2			356.6			47.3			47.8	
Approach LOS		E			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.6	52.8	19.0	41.4	10.0	48.5	12.9	47.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	43.4	14.4	35.0	5.4	43.0	11.2	38.2				
Max Q Clear Time (g_c+1), s	2.5	45.6	16.4	34.7	6.4	39.9	8.2	18.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	2.0	0.1	5.3				
Intersection Summary												
HCM 6th Ctrl Delay				151.4								
HCM 6th LOS				F								

Timings
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)

06/22/2021

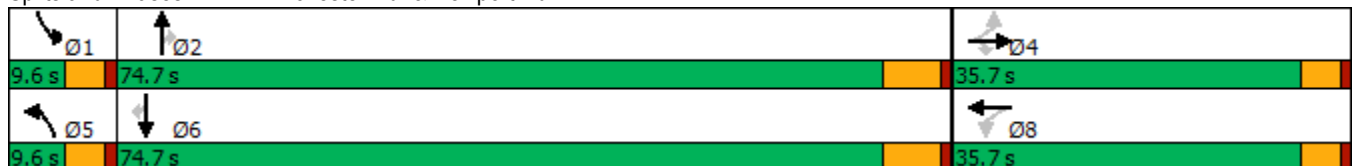


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↖	↑↑	↗
Traffic Volume (vph)	1	0	1	6	0	1	1382	9	2151	2
Future Volume (vph)	1	0	1	6	0	1	1382	9	2151	2
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)		10.0	10.0		10.0	5.0	86.8	5.0	86.8	86.8
Actuated g/C Ratio		0.11	0.11		0.11	0.05	0.94	0.05	0.94	0.94
v/c Ratio		0.00	0.00		0.05	0.01	0.31	0.10	0.69	0.00
Control Delay		40.0	0.0		0.4	45.0	1.8	46.2	5.3	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		40.0	0.0		0.4	45.0	1.8	46.2	5.3	0.0
LOS		D	A		A	D	A	D	A	A
Approach Delay		20.0			0.4		1.8		5.4	
Approach LOS		B			A		A		A	

Intersection Summary






















Cycle Length: 120
 Actuated Cycle Length: 92.2
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 4.0
 Intersection Capacity Utilization 89.1%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service E

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
 21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	6	0	6	1	1382	0	9	2151	2
Future Volume (veh/h)	1	0	1	6	0	6	1	1382	0	9	2151	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	0	0	6	0	1	1	1470	0	10	2288	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	0	32	115	0	4	2	3879	1204	22	2739	1222
Arrive On Green	0.02	0.00	0.00	0.02	0.00	0.02	0.00	0.76	0.00	0.01	0.77	0.77
Sat Flow, veh/h	1499	0	1585	1242	0	207	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	1	0	0	7	0	0	1	1470	0	10	2288	2
Grp Sat Flow(s),veh/h/ln	1499	0	1585	1449	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.3	0.0	0.0	0.0	7.3	0.0	0.4	31.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.3	0.0	0.0	0.0	7.3	0.0	0.4	31.0	0.0
Prop In Lane	1.00		1.00	0.86		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	0	32	119	0	0	2	3879	1204	22	2739	1222
V/C Ratio(X)	0.01	0.00	0.00	0.06	0.00	0.00	0.41	0.38	0.00	0.45	0.84	0.00
Avail Cap(c_a), veh/h	685	0	657	686	0	0	119	4678	1452	119	3256	1452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.9	0.0	0.0	36.0	0.0	0.0	37.3	3.0	0.0	36.7	5.5	2.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	35.9	0.1	0.0	5.1	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.7	0.0	0.2	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.9	0.0	0.0	36.2	0.0	0.0	73.2	3.1	0.0	41.8	7.2	2.0
LnGrp LOS	D	A	A	D	A	A	E	A	A	D	A	A
Approach Vol, veh/h		1			7			1471			2300	
Approach Delay, s/veh		35.9			36.2			3.1			7.4	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	63.0		6.2	4.7	63.8		6.2				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.0	68.5		* 31	5.0	68.5		* 31				
Max Q Clear Time (g_c+I1), s	2.4	9.3		2.0	2.0	33.0		2.3				
Green Ext Time (p_c), s	0.0	13.2		0.0	0.0	24.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↘	↑↑	↘	↑↑	↗
Traffic Volume (vph)	1	2	1	3	2	1382	1	2153	3
Future Volume (vph)	1	2	1	3	2	1382	1	2153	3
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	9.6	16.5	16.5
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	75.9	5.0	68.2	68.2
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.77	0.05	0.69	0.69
v/c Ratio	0.01	0.01	0.01	0.02	0.02	0.54	0.01	0.94	0.00
Control Delay	40.0	40.5	40.0	40.3	45.5	6.0	45.0	23.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	40.5	40.0	40.3	45.5	6.0	45.0	23.2	0.0
LOS	D	D	D	D	D	A	D	C	A
Approach Delay		40.3		40.3		6.0		23.2	
Approach LOS		D		D		A		C	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 16.5
 Intersection LOS: B
 Intersection Capacity Utilization 77.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	2	0	1	3	0	2	1382	0	1	2153	3
Future Volume (veh/h)	1	2	0	1	3	0	2	1382	0	1	2153	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	2	0	1	3	0	2	1470	0	1	2290	3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	189	0	214	189	0	90	2623	1170	2	2448	1092
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.00	0.05	0.74	0.00	0.00	0.69	0.69
Sat Flow, veh/h	1414	1870	0	1415	1870	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	1	2	0	1	3	0	2	1470	0	1	2290	3
Grp Sat Flow(s),veh/h/ln	1414	1870	0	1415	1870	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.1	0.1	0.0	0.1	0.1	0.0	0.1	18.3	0.0	0.1	55.8	0.1
Cycle Q Clear(g_c), s	0.2	0.1	0.0	0.2	0.1	0.0	0.1	18.3	0.0	0.1	55.8	0.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	189	0	214	189	0	90	2623	1170	2	2448	1092
V/C Ratio(X)	0.00	0.01	0.00	0.00	0.02	0.00	0.02	0.56	0.00	0.41	0.94	0.00
Avail Cap(c_a), veh/h	513	586	0	514	586	0	90	2623	1170	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	40.0	0.0	40.1	40.1	0.0	44.7	5.8	0.0	49.4	13.5	4.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.0	36.2	8.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.1	4.1	0.0	0.0	17.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	40.1	0.0	40.1	40.1	0.0	45.1	6.1	0.0	85.6	21.8	4.8
LnGrp LOS	D	D	A	D	D	A	D	A	A	F	C	A
Approach Vol, veh/h		3			4			1472			2294	
Approach Delay, s/veh		40.1			40.1			6.1			21.8	
Approach LOS		D			D			A			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	79.6		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	2.1	20.3		2.2	2.1	57.8		2.2				
Green Ext Time (p_c), s	0.0	13.6		0.0	0.0	9.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	10	20	18	1375	2137	17
Future Volume (vph)	10	20	18	1375	2137	17
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	24.5	24.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	10.1	10.1	5.0	93.6	89.9	89.9
Actuated g/C Ratio	0.10	0.10	0.05	0.89	0.85	0.85
v/c Ratio	0.07	0.13	0.24	0.48	0.78	0.01
Control Delay	47.4	20.1	57.9	3.0	10.4	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	20.1	57.9	3.0	10.4	1.8
LOS	D	C	E	A	B	A
Approach Delay	29.2			3.7	10.3	
Approach LOS	C			A	B	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 105.5	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 7.9	Intersection LOS: A
Intersection Capacity Utilization 76.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	20	18	1375	2137	17
Future Volume (veh/h)	10	20	18	1375	2137	17
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	14	20	1511	2348	19
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	92	81	39	2940	2684	1197
Arrive On Green	0.05	0.05	0.02	0.83	0.76	0.76
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	11	14	20	1511	2348	19
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.5	0.8	1.0	11.7	43.6	0.3
Cycle Q Clear(g_c), s	0.5	0.8	1.0	11.7	43.6	0.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	92	81	39	2940	2684	1197
V/C Ratio(X)	0.12	0.17	0.52	0.51	0.87	0.02
Avail Cap(c_a), veh/h	428	381	97	3375	3002	1339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	41.5	44.3	2.4	8.1	2.8
Incr Delay (d2), s/veh	0.6	1.0	3.9	0.1	2.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.6	8.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.0	42.5	48.2	2.5	11.0	2.8
LnGrp LOS	D	D	D	A	B	A
Approach Vol, veh/h	25			1531	2367	
Approach Delay, s/veh	42.3			3.1	10.9	
Approach LOS	D			A	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		82.2		9.3	6.6	75.6
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+11), s		13.7		2.8	3.0	45.6
Green Ext Time (p_c), s		15.2		0.0	0.0	23.5
Intersection Summary						
HCM 6th Ctrl Delay			8.1			
HCM 6th LOS			A			

Timings

24: Winchester Rd. & Scott Rd./Washington St,

06/22/2021

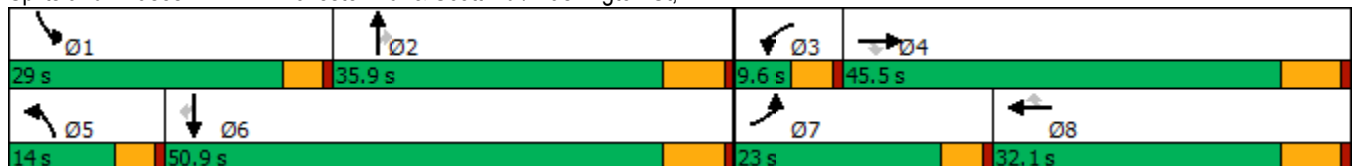


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR	Ø3
Lane Configurations	↖	↗	↘	↖	↗	↖	↑↑↑	↖	↑↑↑	↖	
Traffic Volume (vph)	280	173	152	183	223	153	973	318	1661	501	
Future Volume (vph)	280	173	152	183	223	153	973	318	1661	501	
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4		8		5	2	1	6		3
Permitted Phases			4		8						6
Detector Phase	7	4	4	8	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	45.5	45.5	16.5	16.5	9.6	35.5	9.6	44.5	44.5	9.6
Total Split (s)	23.0	45.5	45.5	32.1	32.1	14.0	35.9	29.0	50.9	50.9	9.6
Total Split (%)	19.2%	37.9%	37.9%	26.8%	26.8%	11.7%	29.9%	24.2%	42.4%	42.4%	8%
Yellow Time (s)	3.6	5.5	5.5	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	6.5	6.5	4.6	6.5	4.6	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	None
Act Effct Green (s)	18.4	40.0	40.0	17.0	17.0	9.4	30.3	23.6	44.4	44.4	
Actuated g/C Ratio	0.17	0.36	0.36	0.15	0.15	0.08	0.27	0.21	0.40	0.40	
v/c Ratio	1.02	0.28	0.24	0.69	0.54	1.09	0.75	0.90	0.87	0.57	
Control Delay	105.3	26.4	4.5	57.5	10.0	149.6	42.1	71.4	37.3	5.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	105.3	26.4	4.5	57.5	10.0	149.6	42.1	71.4	37.3	5.9	
LOS	F	C	A	E	A	F	D	E	D	A	
Approach Delay		57.4		31.4			56.7		35.3		
Approach LOS		E		C			E		D		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 111.5
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 43.1
 Intersection LOS: D
 Intersection Capacity Utilization 84.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



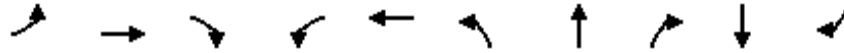
HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)
 06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	173	152	0	183	223	153	973	0	318	1661	501
Future Volume (veh/h)	280	173	152	0	183	223	153	973	0	318	1661	501
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	298	184	118	0	195	134	163	1035	0	338	1767	501
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	647	548	2	243	206	157	1444	448	367	2046	635
Arrive On Green	0.17	0.35	0.35	0.00	0.13	0.13	0.09	0.28	0.00	0.21	0.40	0.40
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	298	184	118	0	195	134	163	1035	0	338	1767	501
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	17.7	7.6	5.6	0.0	10.8	8.6	9.4	19.4	0.0	19.8	33.8	29.5
Cycle Q Clear(g_c), s	17.7	7.6	5.6	0.0	10.8	8.6	9.4	19.4	0.0	19.8	33.8	29.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	308	647	548	2	243	206	157	1444	448	367	2046	635
V/C Ratio(X)	0.97	0.28	0.22	0.00	0.80	0.65	1.04	0.72	0.00	0.92	0.86	0.79
Avail Cap(c_a), veh/h	308	685	580	84	449	381	157	1444	448	408	2128	661
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	25.3	24.6	0.0	45.0	44.0	48.6	34.4	0.0	41.4	29.3	28.0
Incr Delay (d2), s/veh	42.4	0.2	0.2	0.0	6.1	3.4	81.9	1.7	0.0	23.5	3.8	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	3.2	2.0	0.0	5.1	0.2	7.5	7.7	0.0	10.5	13.1	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.2	25.5	24.8	0.0	51.1	47.5	130.4	36.1	0.0	65.0	33.1	34.1
LnGrp LOS	F	C	C	A	D	D	F	D	A	E	C	C
Approach Vol, veh/h		600			329			1198			2606	
Approach Delay, s/veh		55.5			49.6			48.9			37.4	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.5	36.6	0.0	43.3	14.0	49.2	23.0	20.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	24.4	29.4	5.0	39.0	9.4	44.4	18.4	25.6				
Max Q Clear Time (g_c+I1), s	21.8	21.4	0.0	9.6	11.4	35.8	19.7	12.8				
Green Ext Time (p_c), s	0.1	3.8	0.0	1.2	0.0	6.9	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			43.5									
HCM 6th LOS			D									

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations	↖	↑	↗		↔	↖	↑↑	↗	↑↑	↗	
Traffic Volume (vph)	102	25	41	9	1	23	1025	10	1762	52	
Future Volume (vph)	102	25	41	9	1	23	1025	10	1762	52	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4			8	5	2		6		1
Permitted Phases	4		4	8				2		6	
Detector Phase	4	4	4	8	8	5	2	2	6	6	
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	47.7	47.7	9.6	62.7	62.7	62.7	62.7	9.6
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.0%	52.3%	52.3%	52.3%	52.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)	12.7	12.7	12.7		12.7	5.0	63.9	63.9	60.3	60.3	
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.06	0.73	0.73	0.69	0.69	
v/c Ratio	0.54	0.10	0.15		0.05	0.24	0.42	0.01	0.77	0.05	
Control Delay	44.9	32.8	4.3		32.3	46.8	5.6	0.0	14.0	2.3	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.9	32.8	4.3		32.3	46.8	5.6	0.0	14.0	2.3	
LOS	D	C	A		C	D	A	A	B	A	
Approach Delay		33.1			32.3		6.4		13.6		
Approach LOS		C			C		A		B		

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 87.9	
Natural Cycle: 135	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 12.3	Intersection LOS: B
Intersection Capacity Utilization 78.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	25	41	9	1	0	23	1025	10	0	1762	52
Future Volume (veh/h)	102	25	41	9	1	0	23	1025	10	0	1762	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	27	40	10	1	0	24	1090	11	0	1874	55
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	287	244	207	238	20	0	47	2559	1142	2	2248	1003
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.00	0.03	0.72	0.72	0.00	0.63	0.63
Sat Flow, veh/h	1416	1870	1585	1124	151	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	109	27	40	11	0	0	24	1090	11	0	1874	55
Grp Sat Flow(s),veh/h/ln	1416	1870	1585	1274	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.9	1.0	1.7	0.3	0.0	0.0	1.0	9.3	0.1	0.0	30.8	1.0
Cycle Q Clear(g_c), s	5.1	1.0	1.7	1.2	0.0	0.0	1.0	9.3	0.1	0.0	30.8	1.0
Prop In Lane	1.00		1.00	0.91		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	244	207	258	0	0	47	2559	1142	2	2248	1003
V/C Ratio(X)	0.38	0.11	0.19	0.04	0.00	0.00	0.51	0.43	0.01	0.00	0.83	0.05
Avail Cap(c_a), veh/h	913	1072	908	864	0	0	119	2662	1187	119	2662	1187
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	28.8	29.1	28.9	0.0	0.0	36.1	4.2	3.0	0.0	10.7	5.2
Incr Delay (d2), s/veh	0.8	0.2	0.4	0.1	0.0	0.0	3.2	0.1	0.0	0.0	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.4	0.7	0.2	0.0	0.0	0.4	1.5	0.0	0.0	7.9	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.3	29.0	29.5	28.9	0.0	0.0	39.3	4.4	3.0	0.0	12.8	5.3
LnGrp LOS	C	C	C	C	A	A	D	A	A	A	B	A
Approach Vol, veh/h		176			11			1125			1929	
Approach Delay, s/veh		30.5			28.9			5.1			12.6	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	60.5		14.5	6.6	54.0		14.5				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	5.0	56.2		* 43				
Max Q Clear Time (g_c+I1), s	0.0	11.3		7.1	3.0	32.8		3.2				
Green Ext Time (p_c), s	0.0	8.4		0.6	0.0	14.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
06/22/2021

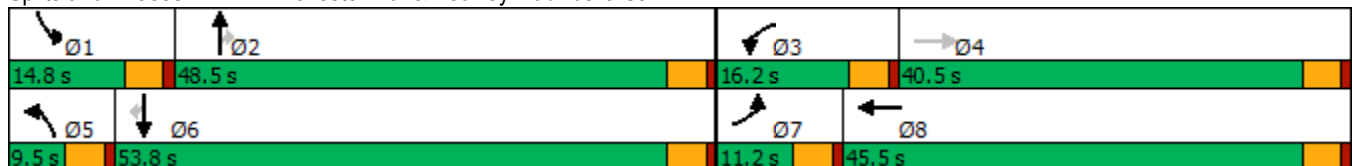


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	40	23	263	15	68	949	67	65	1675	72
Future Volume (vph)	40	23	263	15	68	949	67	65	1675	72
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	11.2	40.5	16.2	45.5	9.5	48.5	48.5	14.8	53.8	53.8
Total Split (%)	9.3%	33.8%	13.5%	37.9%	7.9%	40.4%	40.4%	12.3%	44.8%	44.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	6.2	10.0	11.7	19.5	5.0	48.2	48.2	8.1	49.3	49.3
Actuated g/C Ratio	0.07	0.11	0.12	0.21	0.05	0.51	0.51	0.09	0.52	0.52
v/c Ratio	0.39	0.32	1.36	0.13	0.82	0.59	0.08	0.49	1.03	0.09
Control Delay	51.8	15.7	222.5	11.8	99.5	18.7	0.2	51.4	51.1	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	15.7	222.5	11.8	99.5	18.7	0.2	51.4	51.1	0.7
LOS	D	B	F	B	F	B	A	D	D	A
Approach Delay		24.7		171.7		22.6			49.1	
Approach LOS		C		F		C			D	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 94
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.36
 Intersection Signal Delay: 52.0
 Intersection LOS: D
 Intersection Capacity Utilization 83.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	23	96	263	15	69	68	949	67	65	1675	72
Future Volume (veh/h)	40	23	96	263	15	69	68	949	67	65	1675	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	26	85	299	17	30	77	1078	76	74	1903	72
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	188	168	222	344	307	95	1864	831	95	1865	832
Arrive On Green	0.04	0.11	0.11	0.12	0.19	0.19	0.05	0.52	0.52	0.05	0.52	0.52
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	45	26	85	299	17	30	77	1078	76	74	1903	72
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.3	1.2	4.8	11.7	0.7	1.5	4.0	19.5	2.2	3.9	49.3	2.1
Cycle Q Clear(g_c), s	2.3	1.2	4.8	11.7	0.7	1.5	4.0	19.5	2.2	3.9	49.3	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	66	188	168	222	344	307	95	1864	831	95	1865	832
V/C Ratio(X)	0.69	0.14	0.51	1.35	0.05	0.10	0.81	0.58	0.09	0.78	1.02	0.09
Avail Cap(c_a), veh/h	127	681	607	222	775	692	95	1864	831	195	1865	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	38.1	39.7	41.1	30.8	31.1	44.0	15.2	11.2	43.9	22.3	11.1
Incr Delay (d2), s/veh	4.7	0.3	2.4	183.4	0.1	0.1	37.3	1.3	0.2	5.0	26.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.6	1.9	16.4	0.3	0.6	2.6	6.8	0.8	1.7	23.2	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	38.4	42.0	224.5	30.9	31.3	81.3	16.6	11.4	48.9	48.5	11.3
LnGrp LOS	D	D	D	F	C	C	F	B	B	D	F	B
Approach Vol, veh/h		156			346			1231			2049	
Approach Delay, s/veh		43.6			198.2			20.3			47.2	
Approach LOS		D			F			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	53.8	16.2	14.4	9.5	53.8	8.0	22.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.3	44.0	11.7	36.0	5.0	49.3	6.7	41.0				
Max Q Clear Time (g_c+I1), s	5.9	21.5	13.7	6.8	6.0	51.3	4.3	3.5				
Green Ext Time (p_c), s	0.0	7.3	0.0	0.6	0.0	0.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay				52.1								
HCM 6th LOS				D								

Timings

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/22/2021

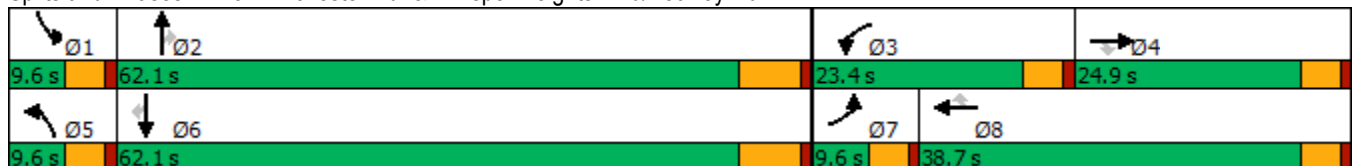


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↖↗	↑↑	↗
Traffic Volume (vph)	27	17	29	155	17	120	14	937	73	1944	18
Future Volume (vph)	27	17	29	155	17	120	14	937	73	1944	18
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	9.6	25.5	25.5
Total Split (s)	9.6	24.9	24.9	23.4	38.7	38.7	9.6	62.1	9.6	62.1	62.1
Total Split (%)	8.0%	20.8%	20.8%	19.5%	32.3%	32.3%	8.0%	51.8%	8.0%	51.8%	51.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	5.1	10.2	10.2	13.5	16.2	16.2	5.1	53.4	5.1	57.7	57.7
Actuated g/C Ratio	0.05	0.11	0.11	0.14	0.17	0.17	0.05	0.57	0.05	0.62	0.62
v/c Ratio	0.29	0.09	0.10	0.64	0.06	0.34	0.16	0.49	0.41	0.94	0.02
Control Delay	56.2	44.9	0.6	51.9	34.3	9.2	52.5	15.4	54.1	30.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.2	44.9	0.6	51.9	34.3	9.2	52.5	15.4	54.1	30.4	0.1
LOS	E	D	A	D	C	A	D	B	D	C	A
Approach Delay		31.2			33.3			15.9		31.0	
Approach LOS		C			C			B		C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 93.8	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 26.9	Intersection LOS: C
Intersection Capacity Utilization 83.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	27	17	29	155	17	120	14	937	0	73	1944	18
Future Volume (veh/h)	27	17	29	155	17	120	14	937	0	73	1944	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	18	12	163	18	69	15	986	0	77	2046	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	187	158	196	342	289	30	1912	853	154	2010	896
Arrive On Green	0.03	0.10	0.10	0.11	0.18	0.18	0.02	0.54	0.00	0.04	0.57	0.57
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	28	18	12	163	18	69	15	986	0	77	2046	16
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	1.5	0.9	0.7	8.8	0.8	3.7	0.8	17.4	0.0	2.1	55.6	0.4
Cycle Q Clear(g_c), s	1.5	0.9	0.7	8.8	0.8	3.7	0.8	17.4	0.0	2.1	55.6	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	187	158	196	342	289	30	1912	853	154	2010	896
V/C Ratio(X)	0.58	0.10	0.08	0.83	0.05	0.24	0.49	0.52	0.00	0.50	1.02	0.02
Avail Cap(c_a), veh/h	91	384	326	341	647	548	91	2010	896	176	2010	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	40.2	40.1	42.9	33.2	34.3	47.9	14.5	0.0	45.9	21.4	9.4
Incr Delay (d2), s/veh	4.0	0.2	0.2	3.5	0.1	0.4	4.5	0.2	0.0	0.9	24.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.4	0.3	4.0	0.4	1.4	0.4	5.9	0.0	0.9	25.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	40.4	40.3	46.3	33.2	34.8	52.4	14.7	0.0	46.8	46.0	9.4
LnGrp LOS	D	D	D	D	C	C	D	B	A	D	F	A
Approach Vol, veh/h		58			250			1001			2139	
Approach Delay, s/veh		45.6			42.2			15.3			45.8	
Approach LOS		D			D			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	59.4	15.4	14.5	6.3	62.1	7.3	22.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.6	18.8	* 20	5.0	55.6	5.0	* 34				
Max Q Clear Time (g_c+I1), s	4.1	19.4	10.8	2.9	2.8	57.6	3.5	5.7				
Green Ext Time (p_c), s	0.0	7.0	0.1	0.1	0.0	0.0	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	223	14	6	13	125	917	3	9	1638	99
Future Volume (vph)	101	10	223	14	6	13	125	917	3	9	1638	99
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.0	38.8	38.8	9.9	35.7	35.7	14.0	61.7	61.7	9.6	57.3	57.3
Total Split (%)	10.8%	32.3%	32.3%	8.3%	29.8%	29.8%	11.7%	51.4%	51.4%	8.0%	47.8%	47.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.9	13.3	13.3	5.2	11.9	11.9	9.5	63.7	63.7	5.0	51.3	51.3
Actuated g/C Ratio	0.11	0.14	0.14	0.06	0.13	0.13	0.10	0.68	0.68	0.05	0.55	0.55
v/c Ratio	0.61	0.04	0.71	0.16	0.03	0.05	0.78	0.43	0.00	0.11	0.95	0.12
Control Delay	57.8	35.7	27.7	49.9	38.0	0.3	72.4	9.4	0.0	49.0	33.7	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.8	35.7	27.7	49.9	38.0	0.3	72.4	9.4	0.0	49.0	33.7	4.1
LOS	E	D	C	D	D	A	E	A	A	D	C	A
Approach Delay		37.0			28.1			16.9			32.1	
Approach LOS		D			C			B			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 93.5
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 27.6
 Intersection LOS: C
 Intersection Capacity Utilization 77.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	101	10	223	14	6	13	125	917	3	9	1638	99
Future Volume (veh/h)	101	10	223	14	6	13	125	917	3	9	1638	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	113	11	178	16	7	5	140	1030	3	10	1840	85
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	304	257	32	190	161	170	2132	951	22	1836	819
Arrive On Green	0.08	0.16	0.16	0.02	0.10	0.10	0.10	0.60	0.60	0.01	0.52	0.52
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	113	11	178	16	7	5	140	1030	3	10	1840	85
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.1	0.5	10.4	0.9	0.3	0.3	7.6	16.1	0.1	0.5	50.8	2.7
Cycle Q Clear(g_c), s	6.1	0.5	10.4	0.9	0.3	0.3	7.6	16.1	0.1	0.5	50.8	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	304	257	32	190	161	170	2132	951	22	1836	819
V/C Ratio(X)	0.80	0.04	0.69	0.50	0.04	0.03	0.82	0.48	0.00	0.46	1.00	0.10
Avail Cap(c_a), veh/h	152	649	550	96	590	500	170	2132	951	91	1836	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	34.7	38.8	47.8	39.8	39.8	43.7	11.1	7.9	48.2	23.8	12.1
Incr Delay (d2), s/veh	22.0	0.0	3.3	4.4	0.1	0.1	25.3	0.8	0.0	5.6	21.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.2	4.2	0.4	0.2	0.1	4.3	5.3	0.0	0.3	23.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.5	34.7	42.2	52.2	39.9	39.9	69.0	11.9	7.9	53.8	45.3	12.4
LnGrp LOS	E	C	D	D	D	D	E	B	A	D	F	B
Approach Vol, veh/h		302			28			1173			1935	
Approach Delay, s/veh		51.0			46.9			18.7			43.9	
Approach LOS		D			D			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.8	65.5	6.4	20.7	14.0	57.3	12.4	14.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.2	5.3	* 34	9.4	50.8	8.4	* 31				
Max Q Clear Time (g_c+I1), s	2.5	18.1	2.9	12.4	9.6	52.8	8.1	2.3				
Green Ext Time (p_c), s	0.0	7.5	0.0	0.6	0.0	0.0	0.0	0.0				

Intersection Summary

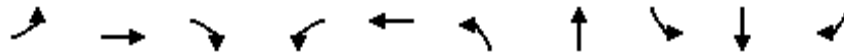
HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

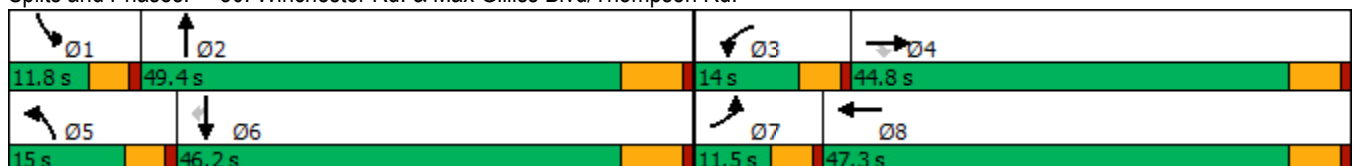


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↙	↑	↗↗	↙	↗	↙	↗↗	↙	↗↗	↙
Traffic Volume (vph)	87	219	985	367	366	517	973	83	1956	143
Future Volume (vph)	87	219	985	367	366	517	973	83	1956	143
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	11.5	44.8	44.8	14.0	47.3	15.0	49.4	11.8	46.2	46.2
Total Split (%)	9.6%	37.3%	37.3%	11.7%	39.4%	12.5%	41.2%	9.8%	38.5%	38.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	6.9	39.0	39.0	9.4	41.5	10.4	42.9	7.2	39.7	39.7
Actuated g/C Ratio	0.06	0.32	0.32	0.08	0.35	0.09	0.36	0.06	0.33	0.33
v/c Ratio	0.93	0.39	1.00	2.86	0.77	3.63	0.96	0.84	1.80	0.26
Control Delay	129.0	33.6	58.4	878.0	44.1	1217.4	54.4	108.1	389.5	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	129.0	33.6	58.4	878.0	44.1	1217.4	54.4	108.1	389.5	11.0
LOS	F	C	E	F	D	F	D	F	F	B
Approach Delay		59.0			416.7		423.7		354.0	
Approach LOS		E			F		F		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.63
 Intersection Signal Delay: 317.6
 Intersection LOS: F
 Intersection Capacity Utilization 132.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)

06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	219	985	367	366	88	517	973	139	83	1956	143
Future Volume (veh/h)	87	219	985	367	366	88	517	973	139	83	1956	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	94	235	908	395	394	92	556	1046	123	89	2103	132
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	608	887	140	506	118	154	1145	135	107	1176	524
Arrive On Green	0.06	0.32	0.32	0.08	0.35	0.35	0.09	0.36	0.36	0.06	0.33	0.33
Sat Flow, veh/h	1781	1870	2731	1781	1462	341	1781	3203	376	1781	3554	1585
Grp Volume(v), veh/h	94	235	908	395	0	486	556	580	589	89	2103	132
Grp Sat Flow(s),veh/h/ln	1781	1870	1365	1781	0	1804	1781	1777	1803	1781	1777	1585
Q Serve(g_s), s	6.3	11.6	39.0	9.4	0.0	29.0	10.4	37.4	37.4	5.9	39.7	7.3
Cycle Q Clear(g_c), s	6.3	11.6	39.0	9.4	0.0	29.0	10.4	37.4	37.4	5.9	39.7	7.3
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	102	608	887	140	0	624	154	635	644	107	1176	524
V/C Ratio(X)	0.92	0.39	1.02	2.83	0.00	0.78	3.60	0.91	0.91	0.83	1.79	0.25
Avail Cap(c_a), veh/h	102	608	887	140	0	624	154	635	644	107	1176	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	31.3	40.5	55.3	0.0	35.1	54.8	36.8	36.8	55.8	40.2	29.3
Incr Delay (d2), s/veh	62.1	0.4	36.2	843.4	0.0	6.3	1186.6	17.7	17.7	38.4	358.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	5.2	17.3	36.9	0.0	13.7	55.3	18.1	18.4	3.7	74.6	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	118.4	31.7	76.7	898.7	0.0	41.4	1241.4	54.4	54.5	94.2	398.5	29.6
LnGrp LOS	F	C	F	F	A	D	F	D	D	F	F	C
Approach Vol, veh/h		1237			881			1725			2324	
Approach Delay, s/veh		71.3			425.8			437.0			365.9	
Approach LOS		E			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	49.4	14.0	44.8	15.0	46.2	11.5	47.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	7.2	42.9	9.4	39.0	10.4	39.7	6.9	41.5				
Max Q Clear Time (g_c+I1), s	7.9	39.4	11.4	41.0	12.4	41.7	8.3	31.0				
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	0.0	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			335.3									
HCM 6th LOS			F									

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/22/2021

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↖↖	↖	↑↑↑	↖	↑↑
Traffic Volume (vph)	393	422	1167	623	2677
Future Volume (vph)	393	422	1167	623	2677
Turn Type	Prot	pm+ov	NA	Prot	NA
Protected Phases	8	1	2	1	6
Permitted Phases	8				
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	30.6	9.5	38.5	9.5	16.5
Total Split (s)	30.6	42.0	47.4	42.0	89.4
Total Split (%)	25.5%	35.0%	39.5%	35.0%	74.5%
Yellow Time (s)	3.6	3.5	5.5	3.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	6.5	4.5	6.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	18.7	60.8	40.9	37.5	83.0
Actuated g/C Ratio	0.17	0.54	0.36	0.33	0.74
v/c Ratio	0.73	0.52	0.79	1.11	1.08
Control Delay	52.5	18.8	35.6	108.9	61.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	18.8	35.6	108.9	61.9
LOS	D	B	D	F	E
Approach Delay	35.0		35.6		70.8
Approach LOS	D		D		E

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 112.8
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 56.7
 Intersection LOS: E
 Intersection Capacity Utilization 94.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/22/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	393	422	1167	199	623	2677
Future Volume (veh/h)	393	422	1167	199	623	2677
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	414	277	1228	157	656	2818
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	525	777	1691	216	603	2658
Arrive On Green	0.15	0.15	0.37	0.37	0.34	0.75
Sat Flow, veh/h	3456	1585	4751	586	1781	3647
Grp Volume(v), veh/h	414	277	912	473	656	2818
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1765	1781	1777
Q Serve(g_s), s	12.8	12.0	25.6	25.6	37.5	82.9
Cycle Q Clear(g_c), s	12.8	12.0	25.6	25.6	37.5	82.9
Prop In Lane	1.00	1.00		0.33	1.00	
Lane Grp Cap(c), veh/h	525	777	1256	651	603	2658
V/C Ratio(X)	0.79	0.36	0.73	0.73	1.09	1.06
Avail Cap(c_a), veh/h	811	908	1256	651	603	2658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	17.5	30.1	30.1	36.7	14.0
Incr Delay (d2), s/veh	2.9	0.3	2.1	4.0	63.0	36.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	4.4	10.0	10.7	25.4	33.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.2	17.7	32.3	34.2	99.7	50.0
LnGrp LOS	D	B	C	C	F	F
Approach Vol, veh/h	691		1385			3474
Approach Delay, s/veh	36.0		32.9			59.4
Approach LOS	D		C			E
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	42.0	47.4			89.4	21.4
Change Period (Y+Rc), s	4.5	6.5			6.5	4.6
Max Green Setting (Gmax), s	37.5	40.9			82.9	26.0
Max Q Clear Time (g_c+11), s	39.5	27.6			84.9	14.8
Green Ext Time (p_c), s	0.0	6.7			0.0	2.0
Intersection Summary						
HCM 6th Ctrl Delay			49.9			
HCM 6th LOS			D			

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↗	↖	↕
Traffic Volume (vph)	188	48	308	41	30	1134	303	246	2628
Future Volume (vph)	188	48	308	41	30	1134	303	246	2628
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	9.6	60.6	60.6	24.7	75.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	8.0%	50.5%	50.5%	20.6%	63.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	30.0	30.0	30.0	30.0	5.0	54.1	54.1	20.1	69.2
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.04	0.45	0.45	0.17	0.58
v/c Ratio	0.60	0.25	1.05	0.19	0.42	0.73	0.37	0.86	1.44
Control Delay	48.4	21.4	109.3	20.4	73.8	30.4	6.1	75.3	225.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	21.4	109.3	20.4	73.8	30.4	6.1	75.3	225.6
LOS	D	C	F	C	E	C	A	E	F
Approach Delay		38.4		90.0		26.3			213.6
Approach LOS		D		F		C			F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.44
 Intersection Signal Delay: 141.7
 Intersection LOS: F
 Intersection Capacity Utilization 119.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↗	
Traffic Volume (veh/h)	188	48	63	308	41	45	30	1134	303	246	2628	196
Future Volume (veh/h)	188	48	63	308	41	45	30	1134	303	246	2628	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	194	49	54	318	42	41	31	1169	238	254	2709	170
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	339	202	222	320	217	212	74	1602	715	298	1957	121
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.45	0.45	0.17	0.58	0.58
Sat Flow, veh/h	1315	807	889	1291	869	848	1781	3554	1585	1781	3394	210
Grp Volume(v), veh/h	194	0	103	318	0	83	31	1169	238	254	1403	1476
Grp Sat Flow(s),veh/h/ln	1315	0	1697	1291	0	1718	1781	1777	1585	1781	1777	1827
Q Serve(g_s), s	16.4	0.0	5.8	24.2	0.0	4.6	2.0	32.3	11.6	16.6	69.2	69.2
Cycle Q Clear(g_c), s	20.9	0.0	5.8	30.0	0.0	4.6	2.0	32.3	11.6	16.6	69.2	69.2
Prop In Lane	1.00		0.52	1.00		0.49	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	339	0	424	320	0	429	74	1602	715	298	1025	1054
V/C Ratio(X)	0.57	0.00	0.24	0.99	0.00	0.19	0.42	0.73	0.33	0.85	1.37	1.40
Avail Cap(c_a), veh/h	339	0	424	320	0	429	74	1602	715	298	1025	1054
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	0.0	35.9	50.1	0.0	35.5	56.1	27.0	21.3	48.5	25.4	25.4
Incr Delay (d2), s/veh	1.5	0.0	0.1	48.3	0.0	0.2	16.4	1.7	0.3	25.1	172.3	186.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	0.0	2.4	14.0	0.0	2.0	1.2	12.8	4.1	9.1	73.5	79.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	0.0	36.0	98.4	0.0	35.7	72.5	28.7	21.6	73.6	197.7	211.7
LnGrp LOS	D	A	D	F	A	D	E	C	C	E	F	F
Approach Vol, veh/h		297			401			1438			3133	
Approach Delay, s/veh		42.0			85.4			28.5			194.2	
Approach LOS		D			F			C			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.7	60.6		34.7	9.6	75.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	20.1	54.1		* 30	5.0	69.2		* 30				
Max Q Clear Time (g_c+I1), s	18.6	34.3		22.9	4.0	71.2		32.0				
Green Ext Time (p_c), s	0.1	8.2		0.4	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	132.1
HCM 6th LOS	F

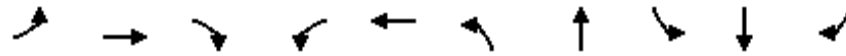
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	121	4	181	14	1	82	1275	11	2751	73
Future Volume (vph)	121	4	181	14	1	82	1275	11	2751	73
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	10.0	73.7	9.6	73.3	73.3
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	8.3%	61.4%	8.0%	61.1%	61.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	15.1	15.1	15.1		15.1	5.4	75.1	5.0	66.9	66.9
Actuated g/C Ratio	0.15	0.15	0.15		0.15	0.05	0.73	0.05	0.65	0.65
v/c Ratio	0.62	0.01	0.64		0.09	0.92	0.54	0.13	1.25	0.07
Control Delay	55.0	36.2	34.1		32.5	125.7	8.4	52.6	137.3	3.3
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	36.2	34.1		32.5	125.7	8.4	52.6	137.3	3.3
LOS	D	D	C		C	F	A	D	F	A
Approach Delay		42.4			32.5		15.2		133.5	
Approach LOS		D			C		B		F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 103.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.25	
Intersection Signal Delay: 90.6	Intersection LOS: F
Intersection Capacity Utilization 108.8%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way

Ø1	Ø2	Ø4
9.6 s	73.7 s	36.7 s
Ø5	Ø6	Ø8
10 s	73.3 s	36.7 s

HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	4	181	14	1	4	82	1275	44	11	2751	73
Future Volume (veh/h)	121	4	181	14	1	4	82	1275	44	11	2751	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	4	122	15	1	2	85	1328	39	11	2866	67
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	208	177	185	14	17	97	2524	74	23	2397	1069
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.05	0.72	0.72	0.01	0.67	0.67
Sat Flow, veh/h	1414	1870	1585	1059	130	149	1781	3525	103	1781	3554	1585
Grp Volume(v), veh/h	126	4	122	18	0	0	85	669	698	11	2866	67
Grp Sat Flow(s),veh/h/ln	1414	1870	1585	1337	0	0	1781	1777	1852	1781	1777	1585
Q Serve(g_s), s	7.2	0.2	7.3	0.7	0.0	0.0	4.7	17.0	17.0	0.6	66.8	1.4
Cycle Q Clear(g_c), s	8.3	0.2	7.3	1.1	0.0	0.0	4.7	17.0	17.0	0.6	66.8	1.4
Prop In Lane	1.00		1.00	0.83		0.11	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	234	208	177	216	0	0	97	1272	1326	23	2397	1069
V/C Ratio(X)	0.54	0.02	0.69	0.08	0.00	0.00	0.88	0.53	0.53	0.47	1.20	0.06
Avail Cap(c_a), veh/h	533	604	512	495	0	0	97	1272	1326	90	2397	1069
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.7	39.2	42.4	39.5	0.0	0.0	46.5	6.4	6.4	48.5	16.1	5.5
Incr Delay (d2), s/veh	1.9	0.0	4.8	0.2	0.0	0.0	52.0	0.4	0.4	5.3	92.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.1	3.1	0.4	0.0	0.0	3.4	4.2	4.4	0.3	49.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	39.2	47.1	39.7	0.0	0.0	98.4	6.8	6.8	53.8	108.5	5.5
LnGrp LOS	D	D	D	D	A	A	F	A	A	D	F	A
Approach Vol, veh/h		252			18			1452			2944	
Approach Delay, s/veh		45.7			39.7			12.2			106.0	
Approach LOS		D			D			B			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	77.4		15.7	10.0	73.3		15.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	5.4	66.8		* 32				
Max Q Clear Time (g_c+I1), s	2.6	19.0		10.3	6.7	68.8		3.1				
Green Ext Time (p_c), s	0.0	10.6		0.7	0.0	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	73.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	1144	451	1531	489	874	0	275
Future Volume (vph)	1144	451	1531	489	874	0	275
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	82.0	82.0	82.0	82.0	38.0	38.0	38.0
Total Split (%)	68.3%	68.3%	68.3%	68.3%	31.7%	31.7%	31.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	60.2	60.2	60.2	60.2	31.5	31.5	31.5
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.32	0.32	0.32
v/c Ratio	0.56	0.41	0.75	0.44	0.84	0.29	0.29
Control Delay	13.0	1.9	16.9	2.0	41.9	22.8	22.8
Queue Delay	0.0	0.0	0.4	0.2	0.0	0.0	0.0
Total Delay	13.0	1.9	17.2	2.2	41.9	22.8	22.8
LOS	B	A	B	A	D	C	C
Approach Delay	9.8		13.6			37.4	
Approach LOS	A		B			D	

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 100
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 18.1
 Intersection LOS: B
 Intersection Capacity Utilization 73.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↗	↗
Traffic Volume (veh/h)	0	1144	451	0	1531	489	0	0	0	874	0	275
Future Volume (veh/h)	0	1144	451	0	1531	489	0	0	0	874	0	275
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1192	467	0	1595	434				910	0	203
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2130	950	0	2130	950				1087	0	967
Arrive On Green	0.00	0.60	0.60	0.00	0.60	0.60				0.31	0.00	0.31
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	1192	467	0	1595	434				910	0	203
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	16.9	14.0	0.0	27.3	12.7				20.0	0.0	4.0
Cycle Q Clear(g_c), s	0.0	16.9	14.0	0.0	27.3	12.7				20.0	0.0	4.0
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2130	950	0	2130	950				1087	0	967
V/C Ratio(X)	0.00	0.56	0.49	0.00	0.75	0.46				0.84	0.00	0.21
Avail Cap(c_a), veh/h	0	3308	1476	0	3308	1476				1446	0	1286
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.1	9.5	0.0	12.2	9.3				27.2	0.0	21.6
Incr Delay (d2), s/veh	0.0	0.2	0.4	0.0	0.5	0.3				3.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.2	3.9	0.0	8.5	3.5				8.2	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.3	9.9	0.0	12.7	9.6				30.6	0.0	21.7
LnGrp LOS	A	B	A	A	B	A				C	A	C
Approach Vol, veh/h		1659			2029						1113	
Approach Delay, s/veh		10.2			12.1						29.0	
Approach LOS		B			B						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				54.2		29.6		54.2				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				78.0		34.0		78.0				
Max Q Clear Time (g_c+I1), s				18.9		22.0		29.3				
Green Ext Time (p_c), s				14.2		3.6		20.9				
Intersection Summary												
HCM 6th Ctrl Delay			15.3									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

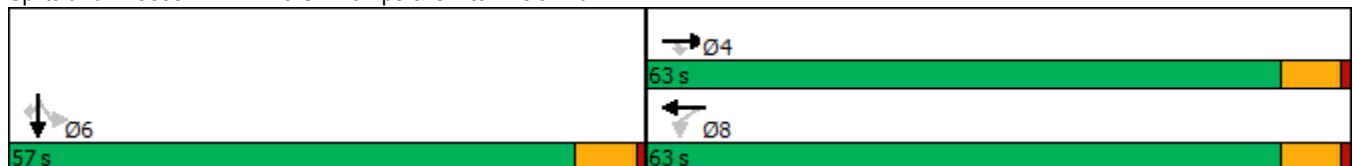


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑		↑↑↑	↑	↑↑
Traffic Volume (vph)	1590	360	52	1189	0	695
Future Volume (vph)	1590	360	52	1189	0	695
Turn Type	NA	Perm	Perm	NA	NA	Perm
Protected Phases	4			8	6	
Permitted Phases		4	8			6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5	16.5
Total Split (s)	63.0	63.0	63.0	63.0	57.0	57.0
Total Split (%)	52.5%	52.5%	52.5%	52.5%	47.5%	47.5%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5		6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	56.9	56.9		56.9	35.1	35.1
Actuated g/C Ratio	0.54	0.54		0.54	0.33	0.33
v/c Ratio	0.60	0.38		0.93	0.68	0.75
Control Delay	18.8	2.9		31.7	35.9	33.4
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	18.8	2.9		31.7	35.9	33.4
LOS	B	A		C	D	C
Approach Delay	15.9			31.7	34.3	
Approach LOS	B			C	C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 105.1	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 25.9	Intersection LOS: C
Intersection Capacity Utilization 105.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1590	360	52	1189	586	0	0	0	385	0	695
Future Volume (veh/h)	0	1590	360	52	1189	586	0	0	0	385	0	695
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1656	323	54	1239	610				401	0	348
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	2	2	2				2	2	2
Cap, veh/h	0	2865	865	83	1582	761				506	0	793
Arrive On Green	0.00	0.56	0.56	0.56	0.56	0.56				0.28	0.00	0.28
Sat Flow, veh/h	0	5274	1541	64	2819	1357				1781	0	2790
Grp Volume(v), veh/h	0	1656	323	577	686	640				401	0	348
Grp Sat Flow(s),veh/h/ln	0	1702	1541	1267	1549	1424				1781	0	1395
Q Serve(g_s), s	0.0	17.7	9.8	7.8	29.3	30.1				17.5	0.0	8.6
Cycle Q Clear(g_c), s	0.0	17.7	9.8	25.5	29.3	30.1				17.5	0.0	8.6
Prop In Lane	0.00		1.00	0.09		0.95				1.00		1.00
Lane Grp Cap(c), veh/h	0	2865	865	758	869	799				506	0	793
V/C Ratio(X)	0.00	0.58	0.37	0.76	0.79	0.80				0.79	0.00	0.44
Avail Cap(c_a), veh/h	0	3436	1037	881	1042	958				1072	0	1678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.0	10.2	12.2	14.5	14.7				27.8	0.0	24.6
Incr Delay (d2), s/veh	0.0	0.2	0.3	3.4	3.5	4.2				2.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.1	2.6	5.9	8.5	8.2				7.6	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.2	10.5	15.5	18.0	18.9				30.6	0.0	25.0
LnGrp LOS	A	B	B	B	B	B				C	A	C
Approach Vol, veh/h		1979			1903						749	
Approach Delay, s/veh		11.9			17.5						28.0	
Approach LOS		B			B						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				53.6		30.4		53.6				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				56.5		50.5		56.5				
Max Q Clear Time (g_c+I1), s				19.7		19.5		32.1				
Green Ext Time (p_c), s				16.6		4.4		15.0				
Intersection Summary												
HCM 6th Ctrl Delay			16.8									
HCM 6th LOS			B									

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↖	↗	↖	↗
Traffic Volume (vph)	240	1778	1321	746	0	900	0	699
Future Volume (vph)	240	1778	1321	746	0	900	0	699
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	88.0	88.0	88.0	88.0	32.0	32.0	32.0	32.0
Total Split (%)	73.3%	73.3%	73.3%	73.3%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	84.0	84.0	84.0	84.0	28.0	28.0	28.0	28.0
Actuated g/C Ratio	0.70	0.70	0.70	0.70	0.23	0.23	0.23	0.23
v/c Ratio	1.25	0.74	0.55	0.57	1.24	1.24	0.87	0.87
Control Delay	168.3	13.5	9.8	2.3	164.6	164.6	56.6	56.3
Queue Delay	0.0	17.8	19.1	1.9	0.0	0.0	0.0	0.0
Total Delay	168.3	31.3	28.9	4.2	164.6	164.6	56.6	56.3
LOS	F	C	C	A	F	F	E	E
Approach Delay		47.6	20.0		164.6		56.5	
Approach LOS		D	C		F		E	

Intersection Summary





















Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.25
 Intersection Signal Delay: 57.2
 Intersection Capacity Utilization 93.0%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service F

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	1778	0	0	1321	746	0	0	900	0	0	699
Future Volume (veh/h)	240	1778	0	0	1321	746	0	0	900	0	0	699
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	247	1833	0	0	1362	642	0	0	894	0	0	480
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	170	2488	0	0	2488	1110	0	436	740	0	436	740
Arrive On Green	0.70	0.70	0.00	0.00	0.70	0.70	0.00	0.00	0.23	0.00	0.00	0.23
Sat Flow, veh/h	214	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	247	1833	0	0	1362	642	0	0	894	0	0	480
Grp Sat Flow(s),veh/h/ln	214	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	61.6	38.3	0.0	0.0	22.4	24.5	0.0	0.0	28.0	0.0	0.0	16.4
Cycle Q Clear(g_c), s	84.0	38.3	0.0	0.0	22.4	24.5	0.0	0.0	28.0	0.0	0.0	16.4
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	170	2488	0	0	2488	1110	0	436	740	0	436	740
V/C Ratio(X)	1.45	0.74	0.00	0.00	0.55	0.58	0.00	0.00	1.21	0.00	0.00	0.65
Avail Cap(c_a), veh/h	170	2488	0	0	2488	1110	0	436	740	0	436	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	40.1	11.2	0.0	0.0	8.8	9.1	0.0	0.0	46.0	0.0	0.0	41.6
Incr Delay (d2), s/veh	233.0	1.2	0.0	0.0	0.3	0.8	0.0	0.0	106.3	0.0	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.1	12.6	0.0	0.0	7.2	7.2	0.0	0.0	21.5	0.0	0.0	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	273.0	12.3	0.0	0.0	9.0	9.8	0.0	0.0	152.3	0.0	0.0	43.6
LnGrp LOS	F	B	A	A	A	A	A	A	F	A	A	D
Approach Vol, veh/h		2080			2004			894				480
Approach Delay, s/veh		43.3			9.3			152.3				43.6
Approach LOS		D			A			F				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.0		88.0		32.0		88.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		28.0		84.0		28.0		84.0				
Max Q Clear Time (g_c+I1), s		30.0		86.0		18.4		26.5				
Green Ext Time (p_c), s		0.0		0.0		1.4		19.5				

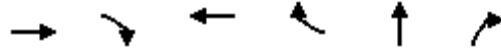
Intersection Summary

HCM 6th Ctrl Delay	48.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

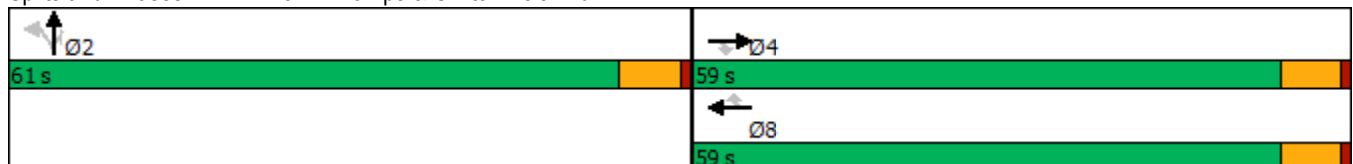


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑↑	↑↑	↑↑↑↑	↑↑	↔	↑↑
Traffic Volume (vph)	1403	607	1485	240	0	780
Future Volume (vph)	1403	607	1485	240	0	780
Turn Type	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		4		8		2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5	16.5
Total Split (s)	59.0	59.0	59.0	59.0	61.0	61.0
Total Split (%)	49.2%	49.2%	49.2%	49.2%	50.8%	50.8%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min	Min	Min	Min	None	None
Act Effct Green (s)	43.0	43.0	43.0	43.0	45.5	45.5
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.45	0.45
v/c Ratio	0.66	0.67	0.70	0.31	0.86	0.86
Control Delay	26.0	10.0	26.8	3.7	37.8	39.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	10.0	26.8	3.7	37.8	39.1
LOS	C	B	C	A	D	D
Approach Delay	21.2		23.6		38.4	
Approach LOS	C		C		D	

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 102.1
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 26.3
 Intersection LOS: C
 Intersection Capacity Utilization 79.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	1403	607	0	1485	240	436	0	780	0	0	0
Future Volume (veh/h)	0	1403	607	0	1485	240	436	0	780	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1417	613	0	1500	242	440	127	525			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2429	735	0	2429	738	544	157	617			
Arrive On Green	0.00	0.48	0.48	0.00	0.48	0.48	0.39	0.39	0.39			
Sat Flow, veh/h	0	5274	1546	0	5274	1551	1397	403	1585			
Grp Volume(v), veh/h	0	1417	613	0	1500	242	567	0	525			
Grp Sat Flow(s),veh/h/ln	0	1702	1546	0	1702	1551	1800	0	1585			
Q Serve(g_s), s	0.0	19.4	33.2	0.0	21.0	9.3	27.0	0.0	29.1			
Cycle Q Clear(g_c), s	0.0	19.4	33.2	0.0	21.0	9.3	27.0	0.0	29.1			
Prop In Lane	0.00		1.00	0.00		1.00	0.78		1.00			
Lane Grp Cap(c), veh/h	0	2429	735	0	2429	738	701	0	617			
V/C Ratio(X)	0.00	0.58	0.83	0.00	0.62	0.33	0.81	0.00	0.85			
Avail Cap(c_a), veh/h	0	2784	843	0	2784	846	1019	0	897			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	18.3	21.9	0.0	18.7	15.7	26.2	0.0	26.9			
Incr Delay (d2), s/veh	0.0	0.2	6.5	0.0	0.3	0.3	3.2	0.0	5.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	6.6	11.5	0.0	7.2	2.9	11.8	0.0	11.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.5	28.4	0.0	19.1	15.9	29.4	0.0	32.3			
LnGrp LOS	A	B	C	A	B	B	C	A	C			
Approach Vol, veh/h		2030			1742			1092				
Approach Delay, s/veh		21.5			18.6			30.8				
Approach LOS		C			B			C				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		44.0		52.3				52.3				
Change Period (Y+Rc), s		6.5		6.5				6.5				
Max Green Setting (Gmax), s		54.5		52.5				52.5				
Max Q Clear Time (g_c+I1), s		31.1		35.2				23.0				
Green Ext Time (p_c), s		6.3		10.6				12.8				
Intersection Summary												
HCM 6th Ctrl Delay			22.6									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

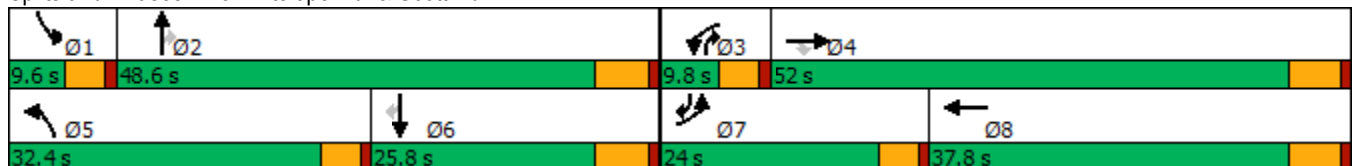


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↗	↖↗	↑↑↗	↖↗	↑↑	↗	↖	↑	↗
Traffic Volume (vph)	514	1704	459	82	1221	554	214	170	89	124	292
Future Volume (vph)	514	1704	459	82	1221	554	214	170	89	124	292
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	24.0	52.0	52.0	9.8	37.8	32.4	48.6	9.8	9.6	25.8	24.0
Total Split (%)	20.0%	43.3%	43.3%	8.2%	31.5%	27.0%	40.5%	8.2%	8.0%	21.5%	20.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	19.1	46.4	46.4	5.2	32.4	21.9	30.1	41.1	5.0	13.2	33.6
Actuated g/C Ratio	0.18	0.43	0.43	0.05	0.30	0.20	0.28	0.38	0.05	0.12	0.31
v/c Ratio	0.88	1.16	0.59	0.52	0.89	0.83	0.23	0.26	1.13	0.56	0.54
Control Delay	60.7	111.2	16.8	63.6	44.9	52.1	29.7	9.7	188.3	55.2	21.2
Queue Delay	0.9	1.2	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	112.4	21.1	63.6	44.9	52.1	29.7	9.7	188.3	55.2	21.2
LOS	E	F	C	E	D	D	C	A	F	E	C
Approach Delay		87.0			46.0		39.3			59.1	
Approach LOS		F			D		D			E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 107.6
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 66.0
 Intersection LOS: E
 Intersection Capacity Utilization 92.7%
 ICU Level of Service F
 Analysis Period (min) 15
































Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 			 	
Traffic Volume (veh/h)	514	1704	459	82	1221	78	554	214	170	89	124	292
Future Volume (veh/h)	514	1704	459	82	1221	78	554	214	170	89	124	292
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	535	1775	269	85	1272	73	577	223	85	93	129	185
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	598	1580	705	152	1559	89	656	934	486	86	227	464
Arrive On Green	0.17	0.44	0.44	0.04	0.32	0.32	0.19	0.26	0.26	0.05	0.12	0.12
Sat Flow, veh/h	3456	3554	1585	3456	4940	283	3456	3554	1585	1781	1870	1563
Grp Volume(v), veh/h	535	1775	269	85	876	469	577	223	85	93	129	185
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1819	1728	1777	1585	1781	1870	1563
Q Serve(g_s), s	15.7	46.2	11.8	2.5	24.7	24.7	16.9	5.1	4.1	5.0	6.8	9.8
Cycle Q Clear(g_c), s	15.7	46.2	11.8	2.5	24.7	24.7	16.9	5.1	4.1	5.0	6.8	9.8
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	598	1580	705	152	1075	574	656	934	486	86	227	464
V/C Ratio(X)	0.89	1.12	0.38	0.56	0.82	0.82	0.88	0.24	0.17	1.08	0.57	0.40
Avail Cap(c_a), veh/h	645	1580	705	173	1075	574	925	1464	723	86	360	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	28.8	19.3	48.7	32.8	32.8	40.9	30.1	26.4	49.4	43.1	29.3
Incr Delay (d2), s/veh	13.6	64.3	0.3	1.2	5.0	8.9	5.6	0.1	0.2	122.1	2.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	31.9	4.1	1.1	10.3	11.6	7.4	2.1	1.5	5.1	3.2	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	93.2	19.6	49.9	37.7	41.7	46.6	30.2	26.5	171.5	45.3	29.9
LnGrp LOS	E	F	B	D	D	D	D	C	C	F	D	C
Approach Vol, veh/h		2579			1430			885				407
Approach Delay, s/veh		77.7			39.7			40.5				67.1
Approach LOS		E			D			D				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	33.1	9.2	52.0	24.3	18.4	22.6	38.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	42.8	5.2	46.2	27.8	20.0	19.4	32.0				
Max Q Clear Time (g_c+1), s	7.0	7.1	4.5	48.2	18.9	11.8	17.7	26.7				
Green Ext Time (p_c), s	0.0	1.6	0.0	0.0	0.8	0.8	0.2	3.5				
Intersection Summary												
HCM 6th Ctrl Delay			60.5									
HCM 6th LOS			E									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

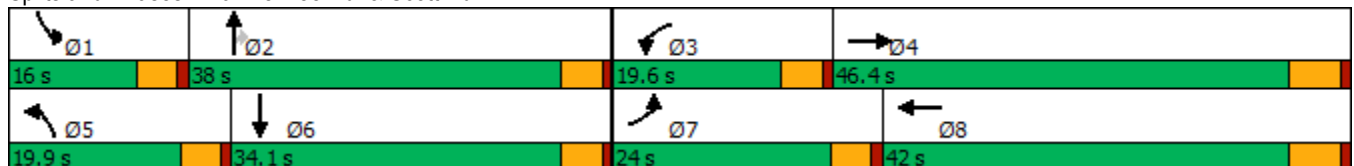


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	178	1324	189	1150	113	332	271	212	120
Future Volume (vph)	178	1324	189	1150	113	332	271	212	120
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	24.0	46.4	19.6	42.0	19.9	38.0	38.0	16.0	34.1
Total Split (%)	20.0%	38.7%	16.3%	35.0%	16.6%	31.7%	31.7%	13.3%	28.4%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	15.5	40.8	14.5	39.8	11.5	26.5	26.5	11.4	26.4
Actuated g/C Ratio	0.14	0.36	0.13	0.35	0.10	0.23	0.23	0.10	0.23
v/c Ratio	0.77	1.22	0.88	1.17	0.66	0.80	0.50	1.25	0.51
Control Delay	68.9	139.2	84.7	121.1	67.4	55.0	8.1	192.4	37.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.9	139.2	84.7	121.1	67.4	55.0	8.1	192.4	37.5
LOS	E	F	F	F	E	E	A	F	D
Approach Delay		131.6		116.7		39.2			115.5
Approach LOS		F		F		D			F

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 113
 Natural Cycle: 135
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.25
 Intersection Signal Delay: 109.4
 Intersection LOS: F
 Intersection Capacity Utilization 97.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	1324	138	189	1150	217	113	332	271	212	120	89
Future Volume (veh/h)	178	1324	138	189	1150	217	113	332	271	212	120	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	1394	131	199	1211	214	119	349	168	223	126	66
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	217	1215	114	228	1134	199	147	406	338	185	275	144
Arrive On Green	0.12	0.37	0.37	0.13	0.38	0.38	0.08	0.22	0.22	0.10	0.24	0.24
Sat Flow, veh/h	1781	3277	306	1781	3011	528	1781	1870	1556	1781	1150	602
Grp Volume(v), veh/h	187	752	773	199	711	714	119	349	168	223	0	192
Grp Sat Flow(s),veh/h/ln	1781	1777	1806	1781	1777	1762	1781	1870	1556	1781	0	1752
Q Serve(g_s), s	11.3	40.6	40.6	12.0	41.3	41.3	7.2	19.7	10.4	11.4	0.0	10.3
Cycle Q Clear(g_c), s	11.3	40.6	40.6	12.0	41.3	41.3	7.2	19.7	10.4	11.4	0.0	10.3
Prop In Lane	1.00		0.17	1.00		0.30	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	217	659	670	228	669	664	147	406	338	185	0	419
V/C Ratio(X)	0.86	1.14	1.15	0.87	1.06	1.08	0.81	0.86	0.50	1.20	0.00	0.46
Avail Cap(c_a), veh/h	316	659	670	244	669	664	249	569	473	185	0	470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.2	34.4	34.4	46.9	34.1	34.1	49.4	41.2	37.6	49.0	0.0	35.6
Incr Delay (d2), s/veh	10.9	81.0	85.7	25.0	52.4	57.0	4.0	9.3	1.1	131.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	31.1	32.5	6.7	26.3	26.9	3.4	10.0	3.9	11.8	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	115.4	120.1	71.9	86.6	91.1	53.5	50.5	38.7	180.2	0.0	36.4
LnGrp LOS	E	F	F	E	F	F	D	D	D	F	A	D
Approach Vol, veh/h		1712			1624			636			415	
Approach Delay, s/veh		111.3			86.8			48.0			113.6	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	28.5	18.6	46.4	13.6	30.9	18.0	47.1				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	11.4	* 33	15.0	40.6	15.3	* 29	19.4	36.2				
Max Q Clear Time (g_c+I1), s	13.4	21.7	14.0	42.6	9.2	12.3	13.3	43.3				
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.1	1.0	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				93.2								
HCM 6th LOS				F								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
7: Whitewood Rd. & Clinton Keith Rd.

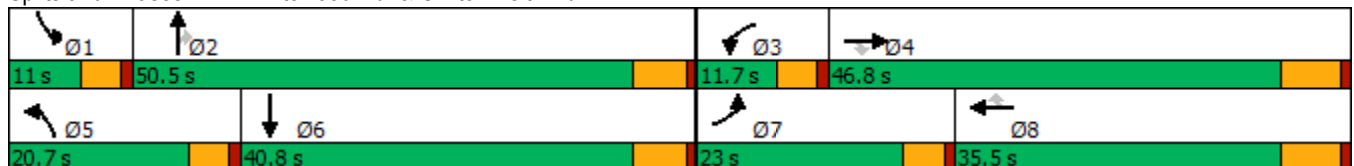
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	698	1351	173	162	1056	225	221	778	184	173	248
Future Volume (vph)	698	1351	173	162	1056	225	221	778	184	173	248
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	23.0	46.8	46.8	11.7	35.5	35.5	20.7	50.5	50.5	11.0	40.8
Total Split (%)	19.2%	39.0%	39.0%	9.8%	29.6%	29.6%	17.3%	42.1%	42.1%	9.2%	34.0%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	18.4	40.3	40.3	7.1	29.0	29.0	16.1	44.7	44.7	6.4	35.0
Actuated g/C Ratio	0.15	0.34	0.34	0.06	0.24	0.24	0.13	0.37	0.37	0.05	0.29
v/c Ratio	1.35	1.16	0.28	0.81	0.88	0.44	0.95	1.15	0.27	1.88	0.55
Control Delay	210.6	118.7	7.8	84.8	53.1	11.1	99.7	117.3	7.1	465.6	20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	210.6	118.7	7.8	84.8	53.1	11.1	99.7	117.3	7.1	465.6	20.1
LOS	F	F	A	F	D	B	F	F	A	F	C
Approach Delay		138.9			50.1			96.9			116.9
Approach LOS		F			D			F			F

Intersection Summary































Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.88	
Intersection Signal Delay: 104.3	Intersection LOS: F
Intersection Capacity Utilization 110.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  						 	
Traffic Volume (veh/h)	698	1351	173	162	1056	225	221	778	184	173	248	377
Future Volume (veh/h)	698	1351	173	162	1056	225	221	778	184	173	248	377
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	712	1379	151	165	1078	204	226	794	152	177	253	329
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	530	1193	532	204	1234	383	239	697	590	95	518	462
Arrive On Green	0.15	0.34	0.34	0.06	0.24	0.24	0.13	0.37	0.37	0.05	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	712	1379	151	165	1078	204	226	794	152	177	253	329
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	18.4	40.3	8.4	5.7	24.4	13.4	15.1	44.7	8.0	6.4	14.1	22.3
Cycle Q Clear(g_c), s	18.4	40.3	8.4	5.7	24.4	13.4	15.1	44.7	8.0	6.4	14.1	22.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	530	1193	532	204	1234	383	239	697	590	95	518	462
V/C Ratio(X)	1.34	1.16	0.28	0.81	0.87	0.53	0.95	1.14	0.26	1.86	0.49	0.71
Avail Cap(c_a), veh/h	530	1193	532	204	1234	383	239	697	590	95	518	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	39.8	29.3	55.8	43.7	39.6	51.5	37.6	26.1	56.8	35.1	38.0
Incr Delay (d2), s/veh	167.0	79.8	0.3	19.4	7.2	1.4	42.9	79.5	0.2	425.7	0.7	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.9	29.5	3.1	2.9	10.5	5.1	9.4	34.7	2.9	14.0	6.0	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	217.8	119.6	29.5	75.2	50.9	41.0	94.4	117.2	26.4	482.5	35.8	43.1
LnGrp LOS	F	F	C	E	D	D	F	F	C	F	D	D
Approach Vol, veh/h		2242			1447			1172			759	
Approach Delay, s/veh		144.7			52.3			101.0			143.1	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	50.5	11.7	46.8	20.7	40.8	23.0	35.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	6.4	44.7	7.1	40.3	16.1	35.0	18.4	29.0				
Max Q Clear Time (g_c+I1), s	8.4	46.7	7.7	42.3	17.1	24.3	20.4	26.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.5	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay				111.6								
HCM 6th LOS				F								

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

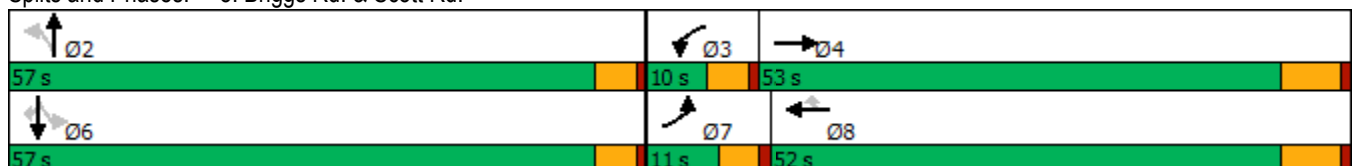


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗		↕		↕	↗
Traffic Volume (vph)	19	1344	40	1121	72	314	7	97	4	25
Future Volume (vph)	19	1344	40	1121	72	314	7	97	4	25
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	11.0	53.0	10.0	52.0	52.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	9.2%	44.2%	8.3%	43.3%	43.3%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	5.7	47.6	5.4	49.2	49.2		31.4		31.4	31.4
Actuated g/C Ratio	0.06	0.50	0.06	0.51	0.51		0.33		0.33	0.33
v/c Ratio	0.19	1.01	0.42	0.64	0.09		0.90		0.25	0.05
Control Delay	53.1	50.3	62.3	22.3	5.3		55.3		24.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	53.1	50.3	62.3	22.3	5.3		55.3		24.9	0.2
LOS	D	D	E	C	A		E		C	A
Approach Delay		50.4		22.6			55.3		20.0	
Approach LOS		D		C			E		C	

Intersection Summary





















Cycle Length: 120
 Actuated Cycle Length: 95.9
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 39.7
 Intersection LOS: D
 Intersection Capacity Utilization 83.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1344	318	40	1121	72	314	7	33	97	4	25
Future Volume (veh/h)	19	1344	318	40	1121	72	314	7	33	97	4	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	1400	274	42	1168	75	327	7	31	101	4	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	1402	270	62	1724	769	437	8	35	597	22	521
Arrive On Green	0.02	0.47	0.47	0.03	0.48	0.48	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	2972	572	1781	3554	1585	1103	24	105	1577	67	1564
Grp Volume(v), veh/h	20	827	847	42	1168	75	365	0	0	105	0	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1767	1781	1777	1585	1231	0	0	1644	0	1564
Q Serve(g_s), s	1.1	45.4	46.5	2.3	24.9	2.5	24.3	0.0	0.0	0.0	0.0	0.4
Cycle Q Clear(g_c), s	1.1	45.4	46.5	2.3	24.9	2.5	28.6	0.0	0.0	4.4	0.0	0.4
Prop In Lane	1.00		0.32	1.00		1.00	0.90		0.08	0.96		1.00
Lane Grp Cap(c), veh/h	38	838	834	62	1724	769	480	0	0	620	0	521
V/C Ratio(X)	0.52	0.99	1.02	0.68	0.68	0.10	0.76	0.00	0.00	0.17	0.00	0.02
Avail Cap(c_a), veh/h	116	838	834	98	1724	769	760	0	0	893	0	830
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.7	25.7	26.0	47.0	19.5	13.7	33.5	0.0	0.0	23.4	0.0	22.0
Incr Delay (d2), s/veh	4.1	27.7	35.2	4.8	1.1	0.1	2.5	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	22.6	24.6	1.0	9.0	0.8	8.5	0.0	0.0	1.7	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	53.5	61.2	51.9	20.6	13.8	36.1	0.0	0.0	23.5	0.0	22.1
LnGrp LOS	D	D	F	D	C	B	D	A	A	C	A	C
Approach Vol, veh/h		1694			1285			365			115	
Approach Delay, s/veh		57.3			21.2			36.1			23.4	
Approach LOS		E			C			D			C	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		37.6	8.0	53.0		37.6	6.7	54.3				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 52	5.4	46.5		* 52	6.4	45.5				
Max Q Clear Time (g_c+I1), s		30.6	4.3	48.5		6.4	3.1	26.9				
Green Ext Time (p_c), s		2.2	0.0	0.0		0.7	0.0	7.4				
Intersection Summary												
HCM 6th Ctrl Delay			40.5									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Intersection Delay, s/veh	646.8											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	76	831	477	15	710	37	390	60	17	28	49	60
Future Vol, veh/h	76	831	477	15	710	37	390	60	17	28	49	60
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	81	884	507	16	755	39	415	64	18	30	52	64
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	1016.4	402.1	130.9	33.3
HCM LOS	F	F	F	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	84%	5%	2%	20%
Vol Thru, %	13%	60%	93%	36%
Vol Right, %	4%	34%	5%	44%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	467	1384	762	137
LT Vol	390	76	15	28
Through Vol	60	831	710	49
RT Vol	17	477	37	60
Lane Flow Rate	497	1472	811	146
Geometry Grp	1	1	1	1
Degree of Util (X)	1.126	3.199	1.8	0.379
Departure Headway (Hd)	13.144	9.801	12.637	19.107
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	283	383	300	191
Service Time	11.144	7.801	10.637	17.107
HCM Lane V/C Ratio	1.756	3.843	2.703	0.764
HCM Control Delay	130.9	1016.4	402.1	33.3
HCM Lane LOS	F	F	F	D
HCM 95th-tile Q	13.1	105.2	34.1	1.6

Intersection												
Int Delay, s/veh	4.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	3	4	29	3	103	0	473	58	152	374	0
Future Vol, veh/h	4	3	4	29	3	103	0	473	58	152	374	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	3	4	32	3	113	0	520	64	167	411	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1355	1329	411	1301	1297	552	411	0	0	584	0	0
Stage 1	745	745	-	552	552	-	-	-	-	-	-	-
Stage 2	610	584	-	749	745	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	127	155	641	138	162	533	1148	-	-	991	-	-
Stage 1	406	421	-	518	515	-	-	-	-	-	-	-
Stage 2	482	498	-	404	421	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	82	121	641	112	127	533	1148	-	-	991	-	-
Mov Cap-2 Maneuver	82	121	-	112	127	-	-	-	-	-	-	-
Stage 1	406	329	-	518	515	-	-	-	-	-	-	-
Stage 2	377	498	-	311	329	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	33.6	30.7	0	2.7
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1148	-	-	138	284	991	-
HCM Lane V/C Ratio	-	-	-	0.088	0.522	0.169	-
HCM Control Delay (s)	0	-	-	33.6	30.7	9.4	0
HCM Lane LOS	A	-	-	D	D	A	A
HCM 95th %tile Q(veh)	0	-	-	0.3	2.8	0.6	-

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↘		↗	↘		↗	↕	↘
Traffic Vol, veh/h	0	0	0	80	0	27	0	493	120	30	398	0
Future Vol, veh/h	0	0	0	80	0	27	0	493	120	30	398	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	89	0	30	0	548	133	33	442	0

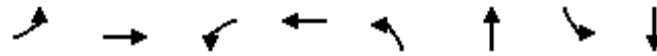
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1138	1189	221	902	1123	615	442	0	0	681	0	0
Stage 1	508	508	-	615	615	-	-	-	-	-	-	-
Stage 2	630	681	-	287	508	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	167	187	783	245	205	490	1116	-	-	910	-	-
Stage 1	517	538	-	478	481	-	-	-	-	-	-	-
Stage 2	469	449	-	697	538	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	152	180	783	238	198	490	1116	-	-	910	-	-
Mov Cap-2 Maneuver	276	291	-	358	318	-	-	-	-	-	-	-
Stage 1	517	519	-	478	481	-	-	-	-	-	-	-
Stage 2	440	449	-	672	519	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	16.9	0	0.6
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1116	-	-	-	358	490	910
HCM Lane V/C Ratio	-	-	-	-	0.248	0.061	0.037
HCM Control Delay (s)	0	-	-	0	18.3	12.8	9.1
HCM Lane LOS	A	-	-	A	C	B	A
HCM 95th %tile Q(veh)	0	-	-	-	1	0.2	0.1

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/22/2021

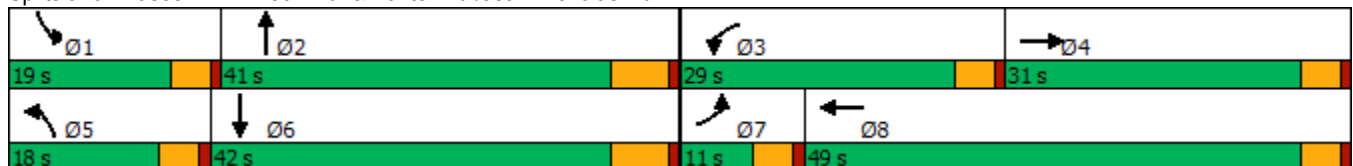


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	43	99	133	170	56	557	113	446
Future Volume (vph)	43	99	133	170	56	557	113	446
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	11.0	31.0	29.0	49.0	18.0	41.0	19.0	42.0
Total Split (%)	9.2%	25.8%	24.2%	40.8%	15.0%	34.2%	15.8%	35.0%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	6.4	10.4	24.5	28.4	7.9	31.3	11.0	36.6
Actuated g/C Ratio	0.07	0.11	0.25	0.29	0.08	0.32	0.11	0.38
v/c Ratio	0.41	0.40	0.33	0.34	0.43	0.74	0.63	0.38
Control Delay	57.0	31.5	33.9	15.2	53.3	32.8	56.7	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	31.5	33.9	15.2	53.3	32.8	56.7	23.9
LOS	E	C	C	B	D	C	E	C
Approach Delay		37.3		20.6		34.3		30.4
Approach LOS		D		C		C		C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 30.3
 Intersection LOS: C
 Intersection Capacity Utilization 72.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

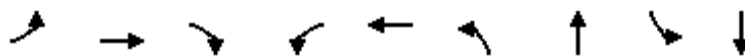
Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	
Traffic Volume (veh/h)	43	99	48	133	170	161	56	557	187	113	446	9
Future Volume (veh/h)	43	99	48	133	170	161	56	557	187	113	446	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	110	21	148	189	121	62	619	168	126	496	10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	354	66	453	648	394	80	910	246	156	1329	27
Arrive On Green	0.07	0.12	0.12	0.25	0.31	0.31	0.04	0.33	0.33	0.09	0.37	0.37
Sat Flow, veh/h	1781	2986	556	1781	2118	1288	1781	2755	746	1781	3563	72
Grp Volume(v), veh/h	48	64	67	148	157	153	62	399	388	126	247	259
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	1781	1777	1629	1781	1777	1725	1781	1777	1857
Q Serve(g_s), s	2.5	3.2	3.3	6.5	6.5	6.9	3.3	18.6	18.7	6.7	9.7	9.7
Cycle Q Clear(g_c), s	2.5	3.2	3.3	6.5	6.5	6.9	3.3	18.6	18.7	6.7	9.7	9.7
Prop In Lane	1.00		0.31	1.00		0.79	1.00		0.43	1.00		0.04
Lane Grp Cap(c), veh/h	119	210	209	453	544	498	80	587	569	156	663	693
V/C Ratio(X)	0.40	0.31	0.32	0.33	0.29	0.31	0.77	0.68	0.68	0.81	0.37	0.37
Avail Cap(c_a), veh/h	119	487	484	453	820	752	249	644	625	267	663	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	38.7	38.8	29.1	25.4	25.5	45.4	27.8	27.8	43.0	21.9	21.9
Incr Delay (d2), s/veh	9.9	0.8	0.9	1.9	0.3	0.3	5.9	2.6	2.7	3.7	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.4	1.5	3.0	2.7	2.7	1.5	7.6	7.5	2.9	4.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.9	39.5	39.6	31.0	25.6	25.9	51.2	30.3	30.5	46.7	23.5	23.5
LnGrp LOS	D	D	D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		179			458			849			632	
Approach Delay, s/veh		43.1			27.5			31.9			28.1	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	37.9	29.0	16.1	8.9	42.0	11.0	34.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	14.4	34.8	24.4	* 26	13.4	35.8	6.4	* 44				
Max Q Clear Time (g_c+I1), s	8.7	20.7	8.5	5.3	5.3	11.7	4.5	8.9				
Green Ext Time (p_c), s	0.1	3.8	0.2	0.6	0.0	2.6	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay				30.8								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↔↔	↑↑	↔↔	↑↑
Traffic Volume (vph)	175	655	1283	378	424	1070	436	17	289
Future Volume (vph)	175	655	1283	378	424	1070	436	17	289
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	11.4	33.5	39.4	11.4	33.5	39.4	65.5	9.6	35.7
Total Split (%)	9.5%	27.9%	32.8%	9.5%	27.9%	32.8%	54.6%	8.0%	29.8%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	6.8	24.9	66.4	6.8	24.9	34.9	53.1	5.0	17.2
Actuated g/C Ratio	0.06	0.24	0.63	0.06	0.24	0.33	0.50	0.05	0.16
v/c Ratio	0.84	0.83	1.29	1.81	0.56	1.00	0.49	0.11	0.71
Control Delay	80.7	48.6	156.0	413.4	38.5	63.6	13.3	52.3	44.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.7	48.6	156.0	413.4	38.5	63.6	13.3	52.3	44.8
LOS	F	D	F	F	D	E	B	D	D
Approach Delay		116.5			211.7		41.8		45.1
Approach LOS		F			F		D		D

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 105.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.81
 Intersection Signal Delay: 98.8
 Intersection LOS: F
 Intersection Capacity Utilization 114.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (veh/h)	175	655	1283	378	424	16	1070	436	382	17	289	102
Future Volume (veh/h)	175	655	1283	378	424	16	1070	436	382	17	289	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	697	1060	402	451	16	1138	464	373	18	307	75
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	914	933	224	900	32	1145	851	682	67	403	97
Arrive On Green	0.06	0.26	0.26	0.06	0.26	0.26	0.33	0.45	0.45	0.02	0.14	0.14
Sat Flow, veh/h	3456	3554	1585	3456	3501	124	3456	1874	1503	3456	2841	683
Grp Volume(v), veh/h	186	697	1060	402	229	238	1138	440	397	18	190	192
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1848	1728	1777	1600	1728	1777	1747
Q Serve(g_s), s	5.6	19.0	27.0	6.8	11.5	11.6	34.5	18.9	18.9	0.5	10.8	11.1
Cycle Q Clear(g_c), s	5.6	19.0	27.0	6.8	11.5	11.6	34.5	18.9	18.9	0.5	10.8	11.1
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.94	1.00		0.39
Lane Grp Cap(c), veh/h	224	914	933	224	457	475	1145	806	726	67	252	248
V/C Ratio(X)	0.83	0.76	1.14	1.80	0.50	0.50	0.99	0.55	0.55	0.27	0.75	0.77
Avail Cap(c_a), veh/h	224	914	933	224	457	475	1145	1010	910	165	506	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	36.0	21.6	49.1	33.2	33.3	35.0	20.8	20.8	50.7	43.3	43.4
Incr Delay (d2), s/veh	21.3	3.8	74.5	375.6	0.8	0.8	25.0	0.6	0.6	0.8	4.6	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	8.1	37.9	14.5	4.8	5.0	17.5	7.3	6.7	0.2	4.9	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.8	39.9	96.1	424.7	34.1	34.1	59.9	21.4	21.5	51.5	47.8	48.5
LnGrp LOS	E	D	F	F	C	C	E	C	C	D	D	D
Approach Vol, veh/h		1943			869			1975			400	
Approach Delay, s/veh		73.4			214.8			43.6			48.3	
Approach LOS		E			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	53.5	11.4	33.5	39.4	20.7	11.4	33.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	59.7	6.8	27.0	34.8	29.9	6.8	27.0				
Max Q Clear Time (g_c+I1), s	2.5	20.9	8.8	29.0	36.5	13.1	7.6	13.6				
Green Ext Time (p_c), s	0.0	5.7	0.0	0.0	0.0	1.8	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			83.8									
HCM 6th LOS			F									

Intersection												
Intersection Delay, s/veh	9.5											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕		↕			↕	
Traffic Vol, veh/h	0	158	17	8	186	0	20	0	18	0	0	0
Future Vol, veh/h	0	158	17	8	186	0	20	0	18	0	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	200	22	10	235	0	25	0	23	0	0	0
Number of Lanes	0	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	1
HCM Control Delay	9.5	9.7	8.8	0
HCM LOS	A	A	A	-

Lane	NBLn1	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	53%	0%	100%	0%	0%	0%
Vol Thru, %	0%	90%	0%	100%	100%	100%
Vol Right, %	47%	10%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	175	8	186	0	0
LT Vol	20	0	8	0	0	0
Through Vol	0	158	0	186	0	0
RT Vol	18	17	0	0	0	0
Lane Flow Rate	48	222	10	235	0	0
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.075	0.295	0.015	0.317	0	0
Departure Headway (Hd)	5.585	4.795	5.345	4.843	4.843	5.728
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	642	751	672	744	0	0
Service Time	3.311	2.51	3.06	2.558	2.558	3.46
HCM Lane V/C Ratio	0.075	0.296	0.015	0.316	0	0
HCM Control Delay	8.8	9.5	8.1	9.8	7.6	8.5
HCM Lane LOS	A	A	A	A	N	N
HCM 95th-tile Q	0.2	1.2	0	1.4	0	0

Intersection						
Int Delay, s/veh	6.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑	
Traffic Vol, veh/h	10	60	101	19	19	7
Future Vol, veh/h	10	60	101	19	19	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	75	126	24	24	9

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	293	29	33	0	0
Stage 1	29	-	-	-	-
Stage 2	264	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-
Pot Cap-1 Maneuver	686	1045	1578	-	-
Stage 1	993	-	-	-	-
Stage 2	757	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	631	1045	1578	-	-
Mov Cap-2 Maneuver	656	-	-	-	-
Stage 1	914	-	-	-	-
Stage 2	757	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	6.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1578	-	963	-	-
HCM Lane V/C Ratio	0.08	-	0.091	-	-
HCM Control Delay (s)	7.5	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.3	-	0.3	-	-

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗			↔			↔	
Traffic Vol, veh/h	55	115	1	4	157	6	1	0	5	4	0	32
Future Vol, veh/h	55	115	1	4	157	6	1	0	5	4	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	125	1	4	171	7	1	0	5	4	0	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	178	0	0	126	0	0	340	432	63	366	429	89
Stage 1	-	-	-	-	-	-	246	246	-	183	183	-
Stage 2	-	-	-	-	-	-	94	186	-	183	246	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1395	-	-	1458	-	-	590	515	988	565	517	951
Stage 1	-	-	-	-	-	-	736	701	-	801	747	-
Stage 2	-	-	-	-	-	-	902	745	-	801	701	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1395	-	-	1458	-	-	549	491	988	542	493	951
Mov Cap-2 Maneuver	-	-	-	-	-	-	549	491	-	595	544	-
Stage 1	-	-	-	-	-	-	704	671	-	767	745	-
Stage 2	-	-	-	-	-	-	867	743	-	762	671	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.5			0.2			9.2			9.2		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	872	1395	-	-	1458	-	-	892
HCM Lane V/C Ratio	0.007	0.043	-	-	0.003	-	-	0.044
HCM Control Delay (s)	9.2	7.7	-	-	7.5	-	-	9.2
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	100	153	37	21	14
Future Vol, veh/h	24	100	153	37	21	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	109	166	40	23	15

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	206	0	-	0	293
Stage 1	-	-	-	-	186
Stage 2	-	-	-	-	107
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	1363	-	-	-	674
Stage 1	-	-	-	-	827
Stage 2	-	-	-	-	906
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1363	-	-	-	661
Mov Cap-2 Maneuver	-	-	-	-	688
Stage 1	-	-	-	-	811
Stage 2	-	-	-	-	906

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1363	-	-	-	768
HCM Lane V/C Ratio	0.019	-	-	-	0.05
HCM Control Delay (s)	7.7	-	-	-	9.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Timings
20: Winchester Rd. & Domenigoni Pkwy

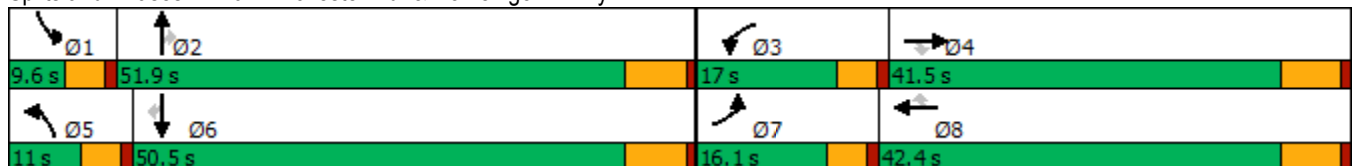
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	937	93	799	817	20	128	1273	1014	19	763	170
Future Volume (vph)	188	937	93	799	817	20	128	1273	1014	19	763	170
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	16.1	41.5	41.5	17.0	42.4	42.4	11.0	51.9	51.9	9.6	50.5	50.5
Total Split (%)	13.4%	34.6%	34.6%	14.2%	35.3%	35.3%	9.2%	43.3%	43.3%	8.0%	42.1%	42.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	10.0	33.9	33.9	12.4	36.3	36.3	6.4	45.5	45.5	5.0	38.1	38.1
Actuated g/C Ratio	0.09	0.30	0.30	0.11	0.32	0.32	0.06	0.40	0.40	0.04	0.34	0.34
v/c Ratio	0.64	0.90	0.17	2.16	0.51	0.03	1.31	0.91	1.26	0.24	0.65	0.27
Control Delay	60.5	51.1	4.4	557.7	33.2	0.1	236.7	43.5	148.8	62.4	34.9	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	51.1	4.4	557.7	33.2	0.1	236.7	43.5	148.8	62.4	34.9	4.9
LOS	E	D	A	F	C	A	F	D	F	E	C	A
Approach Delay		49.0			288.9			98.0			30.1	
Approach LOS		D			F			F			C	

Intersection Summary
































Cycle Length: 120
 Actuated Cycle Length: 113.1
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.16
 Intersection Signal Delay: 128.2
 Intersection LOS: F
 Intersection Capacity Utilization 107.5%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  			 			 	
Traffic Volume (veh/h)	188	937	93	799	817	20	128	1273	1014	19	763	170
Future Volume (veh/h)	188	937	93	799	817	20	128	1273	1014	19	763	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	956	37	815	834	12	131	1299	727	19	779	71
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	250	1034	461	369	1662	516	98	1390	620	35	1264	564
Arrive On Green	0.07	0.29	0.29	0.11	0.33	0.33	0.06	0.39	0.39	0.02	0.36	0.36
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	192	956	37	815	834	12	131	1299	727	19	779	71
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.3	30.3	2.0	12.4	15.3	0.6	6.4	40.7	45.4	1.2	21.0	3.5
Cycle Q Clear(g_c), s	6.3	30.3	2.0	12.4	15.3	0.6	6.4	40.7	45.4	1.2	21.0	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	250	1034	461	369	1662	516	98	1390	620	35	1264	564
V/C Ratio(X)	0.77	0.92	0.08	2.21	0.50	0.02	1.33	0.93	1.17	0.54	0.62	0.13
Avail Cap(c_a), veh/h	342	1071	478	369	1662	516	98	1390	620	77	1347	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	39.9	29.9	51.8	31.6	26.6	54.8	33.9	35.3	56.4	30.9	25.2
Incr Delay (d2), s/veh	4.4	12.8	0.1	552.3	0.2	0.0	204.1	11.8	94.0	4.7	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	14.1	0.7	33.4	5.9	0.2	8.3	18.3	32.1	0.6	8.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	52.7	29.9	604.1	31.8	26.6	259.0	45.8	129.4	61.1	31.6	25.3
LnGrp LOS	E	D	C	F	C	C	F	D	F	E	C	C
Approach Vol, veh/h		1185			1661			2157			869	
Approach Delay, s/veh		52.7			312.6			86.9			31.8	
Approach LOS		D			F			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	51.9	17.0	40.3	11.0	47.8	13.0	44.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	45.4	12.4	35.0	6.4	44.0	11.5	35.9				
Max Q Clear Time (g_c+1), s	3.2	47.4	14.4	32.3	8.4	23.0	8.3	17.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.5	0.0	4.8	0.1	4.8				
Intersection Summary												
HCM 6th Ctrl Delay				135.7								
HCM 6th LOS				F								

Timings

21: Winchester Rd. & Newport Rd.

06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	4	0	1	21	1	2	2390	10	6	1646	4
Future Volume (vph)	4	0	1	21	1	2	2390	10	6	1646	4
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	10.0	74.3	74.3	10.0	74.3	74.3
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.3%	61.9%	61.9%	8.3%	61.9%	61.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		10.8	10.8		10.8	5.4	68.4	68.4	5.5	68.4	68.4
Actuated g/C Ratio		0.13	0.13		0.13	0.07	0.85	0.85	0.07	0.85	0.85
v/c Ratio		0.02	0.00		0.21	0.02	0.59	0.01	0.05	0.59	0.00
Control Delay		40.0	0.0		28.9	44.5	5.3	0.0	45.2	5.6	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		40.0	0.0		28.9	44.5	5.3	0.0	45.2	5.6	0.0
LOS		D	A		C	D	A	A	D	A	A
Approach Delay		32.0			28.9		5.3			5.8	
Approach LOS		C			C		A			A	

Intersection Summary






















Cycle Length: 120	
Actuated Cycle Length: 80.4	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 5.8	Intersection LOS: A
Intersection Capacity Utilization 75.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	1	21	1	19	2	2390	10	6	1646	4
Future Volume (veh/h)	4	0	1	21	1	19	2	2390	10	6	1646	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	0	1	23	1	7	2	2570	11	6	1770	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	0	111	149	15	24	5	3667	1138	14	2570	1146
Arrive On Green	0.07	0.00	0.07	0.07	0.07	0.07	0.00	0.72	0.72	0.01	0.72	0.72
Sat Flow, veh/h	1504	0	1585	947	218	340	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	4	0	1	31	0	0	2	2570	11	6	1770	4
Grp Sat Flow(s),veh/h/ln	1504	0	1585	1505	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.7	0.0	0.0	0.1	21.7	0.1	0.3	20.9	0.1
Cycle Q Clear(g_c), s	0.2	0.0	0.0	1.4	0.0	0.0	0.1	21.7	0.1	0.3	20.9	0.1
Prop In Lane	1.00		1.00	0.74		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	200	0	111	188	0	0	5	3667	1138	14	2570	1146
V/C Ratio(X)	0.02	0.00	0.01	0.16	0.00	0.00	0.41	0.70	0.01	0.43	0.69	0.00
Avail Cap(c_a), veh/h	676	0	647	682	0	0	127	4577	1421	127	3186	1421
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	0.0	32.9	33.5	0.0	0.0	37.8	6.1	3.0	37.5	5.8	2.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	19.5	0.4	0.0	7.6	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.6	0.0	0.0	0.1	3.5	0.0	0.1	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	0.0	32.9	33.9	0.0	0.0	57.3	6.4	3.0	45.1	6.3	2.9
LnGrp LOS	C	A	C	C	A	A	E	A	A	D	A	A
Approach Vol, veh/h		5			31			2583			1780	
Approach Delay, s/veh		33.0			33.9			6.5			6.4	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	60.8		10.0	4.8	61.1		10.0				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.4	68.1		* 31	5.4	68.1		* 31				
Max Q Clear Time (g_c+I1), s	2.3	23.7		2.2	2.1	22.9		3.4				
Green Ext Time (p_c), s	0.0	30.8		0.0	0.0	18.7		0.1				

Intersection Summary

HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations	↶	↷	↶	↷	↶	↷	↷	↷	↷	
Traffic Volume (vph)	6	3	2	2	7	2391	3	1661	7	
Future Volume (vph)	6	3	2	2	7	2391	3	1661	7	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4		8	5	2		6		1
Permitted Phases	4		8				2		6	
Detector Phase	4	4	8	8	5	2	2	6	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	26.5	16.5	16.5	9.6
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	74.7	74.7	74.7	9.6
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	62.3%	62.3%	62.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max	None
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	77.8	77.8	68.2	68.2	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.69	0.69	
v/c Ratio	0.04	0.06	0.01	0.05	0.09	0.92	0.00	0.73	0.01	
Control Delay	41.2	26.8	40.5	27.7	47.1	15.9	0.0	12.0	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.2	26.8	40.5	27.7	47.1	15.9	0.0	12.0	0.0	
LOS	D	C	D	C	D	B	A	B	A	
Approach Delay		31.9		30.3		16.0		11.9		
Approach LOS		C		C		B		B		

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 99	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 14.4	Intersection LOS: B
Intersection Capacity Utilization 83.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Winchester Rd. & Holland Rd.

↶ Ø1 9.6 s	↷ Ø2 74.7 s	↷ Ø4 35.7 s
↶ Ø5 9.6 s	↷ Ø6 74.7 s	↷ Ø8 35.7 s

HCM 6th Signalized Intersection Summary
 22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	6	3	7	2	2	6	7	2391	3	0	1661	7
Future Volume (veh/h)	6	3	7	2	2	6	7	2391	3	0	1661	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	3	4	2	2	1	8	2571	2	0	1786	8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	73	98	210	119	59	90	2793	1246	2	2448	1092
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.00	0.69	0.69
Sat Flow, veh/h	1414	727	969	1409	1176	588	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	6	0	7	2	0	3	8	2571	2	0	1786	8
Grp Sat Flow(s),veh/h/ln	1414	0	1696	1409	0	1764	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.4	0.0	0.4	0.1	0.0	0.2	0.4	55.5	0.0	0.0	31.1	0.2
Cycle Q Clear(g_c), s	0.5	0.0	0.4	0.5	0.0	0.2	0.4	55.5	0.0	0.0	31.1	0.2
Prop In Lane	1.00		0.57	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	0	171	210	0	178	90	2793	1246	2	2448	1092
V/C Ratio(X)	0.03	0.00	0.04	0.01	0.00	0.02	0.09	0.92	0.00	0.00	0.73	0.01
Avail Cap(c_a), veh/h	513	0	531	509	0	553	90	2793	1246	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	0.0	40.2	40.4	0.0	40.1	44.8	8.2	2.3	0.0	9.6	4.8
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.0	1.9	5.7	0.0	0.0	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.0	0.0	0.1	0.2	11.0	0.0	0.0	8.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	0.0	40.3	40.4	0.0	40.1	46.8	13.9	2.3	0.0	11.6	4.8
LnGrp LOS	D	A	D	D	A	D	D	B	A	A	B	A
Approach Vol, veh/h		13			5			2581			1794	
Approach Delay, s/veh		40.3			40.2			14.0			11.6	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	84.3		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	0.0	57.5		2.5	2.4	33.1		2.5				
Green Ext Time (p_c), s	0.0	9.8		0.0	0.0	17.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	10	1	1	2392	1666	4
Future Volume (vph)	10	1	1	2392	1666	4
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	28.5	28.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effct Green (s)	10.0	10.0	5.0	101.2	99.3	99.3
Actuated g/C Ratio	0.09	0.09	0.05	0.96	0.94	0.94
v/c Ratio	0.07	0.01	0.01	0.78	0.55	0.00
Control Delay	43.6	33.0	47.0	5.0	3.3	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	33.0	47.0	5.0	3.3	2.0
LOS	D	C	D	A	A	A
Approach Delay	42.7			5.0	3.3	
Approach LOS	D			A	A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 105.3
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 4.4
 Intersection LOS: A
 Intersection Capacity Utilization 83.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	1	1	2392	1666	4
Future Volume (veh/h)	10	1	1	2392	1666	4
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	0	1	2658	1851	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	47	42	2	3068	2901	1294
Arrive On Green	0.03	0.00	0.00	0.86	0.82	0.82
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	11	0	1	2658	1851	4
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.6	0.0	0.1	40.8	20.1	0.0
Cycle Q Clear(g_c), s	0.6	0.0	0.1	40.8	20.1	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	47	42	2	3068	2901	1294
V/C Ratio(X)	0.23	0.00	0.41	0.87	0.64	0.00
Avail Cap(c_a), veh/h	389	346	88	3068	2901	1294
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	0.0	50.2	3.7	3.5	1.7
Incr Delay (d2), s/veh	2.5	0.0	36.2	3.6	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	1.5	2.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.5	0.0	86.4	7.3	4.6	1.7
LnGrp LOS	D	A	F	A	A	A
Approach Vol, veh/h	11			2659	1855	
Approach Delay, s/veh	50.5			7.3	4.6	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		7.2	4.7	88.7
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+11), s		42.8		2.6	2.1	22.1
Green Ext Time (p_c), s		34.9		0.0	0.0	21.8
Intersection Summary						
HCM 6th Ctrl Delay			6.3			
HCM 6th LOS			A			

Timings

24: Winchester Rd. & Scott Rd./Washington St,

06/22/2021

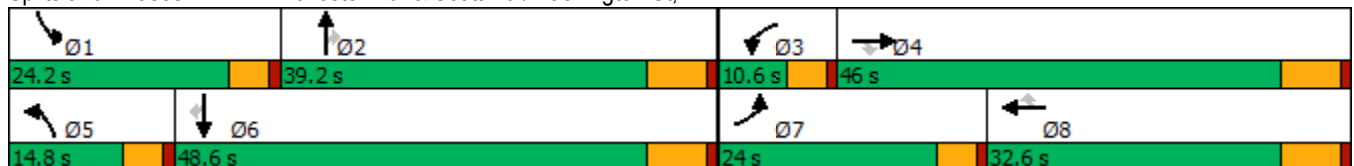


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↑↑↑	↖	↑↑↑	↘
Traffic Volume (vph)	438	240	151	54	225	582	184	1615	313	1195	411
Future Volume (vph)	438	240	151	54	225	582	184	1615	313	1195	411
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.5	45.5	9.6	16.5	16.5	9.6	35.5	9.6	44.5	44.5
Total Split (s)	24.0	46.0	46.0	10.6	32.6	32.6	14.8	39.2	24.2	48.6	48.6
Total Split (%)	20.0%	38.3%	38.3%	8.8%	27.2%	27.2%	12.3%	32.7%	20.2%	40.5%	40.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	19.4	41.6	41.6	5.8	26.1	26.1	10.2	32.7	19.6	42.1	42.1
Actuated g/C Ratio	0.16	0.35	0.35	0.05	0.22	0.22	0.08	0.27	0.16	0.35	0.35
v/c Ratio	1.61	0.39	0.24	0.67	0.59	1.11	1.29	1.23	1.14	0.71	0.52
Control Delay	324.5	32.7	5.4	91.1	48.8	96.8	215.9	146.9	140.9	36.2	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	324.5	32.7	5.4	91.1	48.8	96.8	215.9	146.9	140.9	36.2	5.0
LOS	F	C	A	F	D	F	F	F	F	D	A
Approach Delay		181.8			83.9			154.0		46.6	
Approach LOS		F			F			F		D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.61	
Intersection Signal Delay: 109.0	Intersection LOS: F
Intersection Capacity Utilization 106.2%	ICU Level of Service G
Analysis Period (min) 15	

























Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	438	240	151	54	225	582	184	1615	0	313	1195	411
Future Volume (veh/h)	438	240	151	54	225	582	184	1615	0	313	1195	411
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	461	253	148	57	237	554	194	1700	0	329	1258	413
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	619	525	86	407	345	151	1391	432	291	1791	556
Arrive On Green	0.16	0.33	0.33	0.05	0.22	0.22	0.08	0.27	0.00	0.16	0.35	0.35
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	461	253	148	57	237	554	194	1700	0	329	1258	413
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	19.4	12.6	8.3	3.8	13.6	26.1	10.2	32.7	0.0	19.6	25.5	27.4
Cycle Q Clear(g_c), s	19.4	12.6	8.3	3.8	13.6	26.1	10.2	32.7	0.0	19.6	25.5	27.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	619	525	86	407	345	151	1391	432	291	1791	556
V/C Ratio(X)	1.60	0.41	0.28	0.66	0.58	1.61	1.28	1.22	0.00	1.13	0.70	0.74
Avail Cap(c_a), veh/h	288	619	525	89	407	345	151	1391	432	291	1791	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	31.1	29.6	56.2	42.1	47.0	54.9	43.6	0.0	50.2	33.6	34.2
Incr Delay (d2), s/veh	286.1	0.4	0.3	12.9	2.1	286.3	167.5	106.5	0.0	92.8	1.3	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.1	5.4	3.0	1.9	6.2	37.1	11.4	26.6	0.0	15.8	10.0	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	336.4	31.5	29.9	69.1	44.2	333.3	222.4	150.1	0.0	143.0	34.8	39.5
LnGrp LOS	F	C	C	E	D	F	F	F	A	F	C	D
Approach Vol, veh/h		862			848			1894			2000	
Approach Delay, s/veh		194.3			234.7			157.5			53.6	
Approach LOS		F			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	39.2	10.4	46.2	14.8	48.6	24.0	32.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	19.6	32.7	6.0	39.5	10.2	42.1	19.4	26.1				
Max Q Clear Time (g_c+I1), s	21.6	34.7	5.8	14.6	12.2	29.4	21.4	28.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.7	0.0	7.3	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	137.8											
HCM 6th LOS	F											

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/22/2021

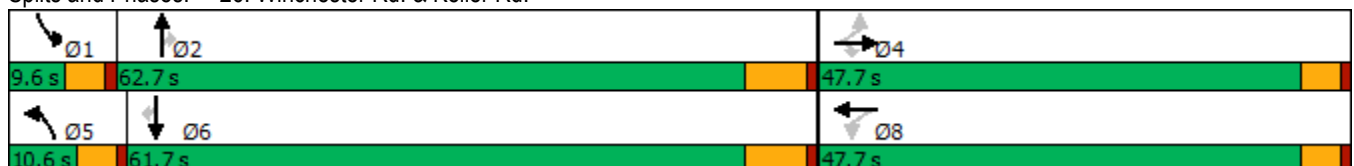


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	75	13	34	10	19	43	1716	88	6	1267	128
Future Volume (vph)	75	13	34	10	19	43	1716	88	6	1267	128
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5
Total Split (s)	47.7	47.7	47.7	47.7	47.7	10.6	62.7	62.7	9.6	61.7	61.7
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.8%	52.3%	52.3%	8.0%	51.4%	51.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	11.4	11.4	11.4		11.4	5.8	62.0	62.0	5.0	57.4	57.4
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.07	0.76	0.76	0.06	0.70	0.70
v/c Ratio	0.42	0.05	0.13		0.17	0.37	0.68	0.08	0.06	0.54	0.12
Control Delay	40.1	31.5	2.6		27.9	46.6	9.5	1.6	39.7	9.8	2.4
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	31.5	2.6		27.9	46.6	9.5	1.6	39.7	9.8	2.4
LOS	D	C	A		C	D	A	A	D	A	A
Approach Delay		28.8			27.9		10.0			9.3	
Approach LOS		C			C		B			A	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 81.9
 Natural Cycle: 125
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 10.6
 Intersection Capacity Utilization 67.6%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	13	34	10	19	8	43	1716	88	6	1267	128
Future Volume (veh/h)	75	13	34	10	19	8	43	1716	88	6	1267	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	14	30	11	20	6	46	1826	93	6	1348	134
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	252	214	105	154	37	75	2256	984	14	2134	952
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.04	0.63	0.63	0.01	0.60	0.60
Sat Flow, veh/h	1385	1870	1585	292	1143	278	1781	3554	1551	1781	3554	1585
Grp Volume(v), veh/h	80	14	30	37	0	0	46	1826	93	6	1348	134
Grp Sat Flow(s),veh/h/ln	1385	1870	1585	1712	0	0	1781	1777	1551	1781	1777	1585
Q Serve(g_s), s	2.1	0.5	1.2	0.0	0.0	0.0	1.8	27.4	1.7	0.2	17.3	2.6
Cycle Q Clear(g_c), s	3.4	0.5	1.2	1.3	0.0	0.0	1.8	27.4	1.7	0.2	17.3	2.6
Prop In Lane	1.00		1.00	0.30		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	252	214	297	0	0	75	2256	984	14	2134	952
V/C Ratio(X)	0.27	0.06	0.14	0.12	0.00	0.00	0.61	0.81	0.09	0.43	0.63	0.14
Avail Cap(c_a), veh/h	947	1132	960	1069	0	0	150	2812	1227	125	2762	1232
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	26.8	27.1	27.1	0.0	0.0	33.5	9.7	5.0	35.1	9.1	6.2
Incr Delay (d2), s/veh	0.5	0.1	0.3	0.2	0.0	0.0	3.0	1.5	0.0	7.5	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.2	0.5	0.6	0.0	0.0	0.8	6.5	0.3	0.1	4.3	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	26.9	27.4	27.3	0.0	0.0	36.5	11.2	5.1	42.6	9.4	6.3
LnGrp LOS	C	C	C	C	A	A	D	B	A	D	A	A
Approach Vol, veh/h		124			37			1965			1488	
Approach Delay, s/veh		28.0			27.3			11.5			9.3	
Approach LOS		C			C			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	51.6		14.3	7.6	49.2		14.3				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	6.0	55.2		* 43				
Max Q Clear Time (g_c+I1), s	2.2	29.4		5.4	3.8	19.3		3.3				
Green Ext Time (p_c), s	0.0	15.7		0.4	0.0	11.8		0.2				

Intersection Summary

HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/22/2021

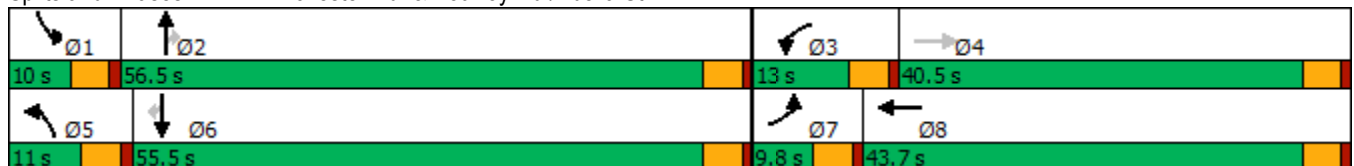


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	42	21	186	24	111	1737	128	67	1200	43
Future Volume (vph)	42	21	186	24	111	1737	128	67	1200	43
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	9.8	40.5	13.0	43.7	11.0	56.5	56.5	10.0	55.5	55.5
Total Split (%)	8.2%	33.8%	10.8%	36.4%	9.2%	47.1%	47.1%	8.3%	46.3%	46.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	5.2	10.0	8.5	15.2	6.5	52.0	52.0	5.5	51.0	51.0
Actuated g/C Ratio	0.06	0.11	0.09	0.16	0.07	0.55	0.55	0.06	0.54	0.54
v/c Ratio	0.45	0.28	1.23	0.17	0.96	0.93	0.15	0.69	0.66	0.05
Control Delay	57.7	14.0	182.7	14.2	117.6	30.1	4.1	77.0	17.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.7	14.0	182.7	14.2	117.6	30.1	4.1	77.0	17.4	0.2
LOS	E	B	F	B	F	C	A	E	B	A
Approach Delay		26.0		126.6		33.3			19.9	
Approach LOS		C		F		C			B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.23
 Intersection Signal Delay: 35.3
 Intersection LOS: D
 Intersection Capacity Utilization 80.4%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/22/2021

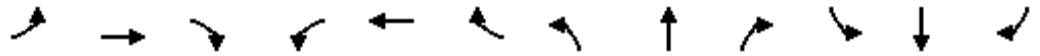
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	21	90	186	24	69	111	1737	128	67	1200	43
Future Volume (veh/h)	42	21	90	186	24	69	111	1737	128	67	1200	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	22	78	196	25	39	117	1828	135	71	1263	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	188	168	161	284	254	123	1993	889	91	1929	860
Arrive On Green	0.04	0.11	0.11	0.09	0.16	0.16	0.07	0.56	0.56	0.05	0.54	0.54
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	44	22	78	196	25	39	117	1828	135	71	1263	41
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.3	1.1	4.3	8.5	1.1	2.0	6.1	43.7	3.8	3.7	23.7	1.1
Cycle Q Clear(g_c), s	2.3	1.1	4.3	8.5	1.1	2.0	6.1	43.7	3.8	3.7	23.7	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	65	188	168	161	284	254	123	1993	889	91	1929	860
V/C Ratio(X)	0.68	0.12	0.46	1.22	0.09	0.15	0.95	0.92	0.15	0.78	0.65	0.05
Avail Cap(c_a), veh/h	100	681	607	161	741	661	123	1993	889	104	1929	860
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	38.0	39.5	42.7	33.6	34.0	43.6	18.7	9.9	44.0	15.2	10.1
Incr Delay (d2), s/veh	4.6	0.3	2.0	140.8	0.1	0.3	64.7	8.2	0.4	23.3	1.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.5	1.8	10.0	0.5	0.8	4.8	16.3	1.4	2.1	8.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	38.3	41.5	183.5	33.7	34.3	108.3	26.9	10.3	67.3	17.0	10.2
LnGrp LOS	D	D	D	F	C	C	F	C	B	E	B	B
Approach Vol, veh/h		144			260			2080			1375	
Approach Delay, s/veh		43.4			146.7			30.4			19.4	
Approach LOS		D			F			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	57.2	13.0	14.5	11.0	55.5	7.9	19.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	52.0	8.5	36.0	6.5	51.0	5.3	39.2				
Max Q Clear Time (g_c+I1), s	5.7	45.7	10.5	6.3	8.1	25.7	4.3	4.0				
Green Ext Time (p_c), s	0.0	5.1	0.0	0.6	0.0	9.2	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay				34.8								
HCM 6th LOS				C								

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/22/2021

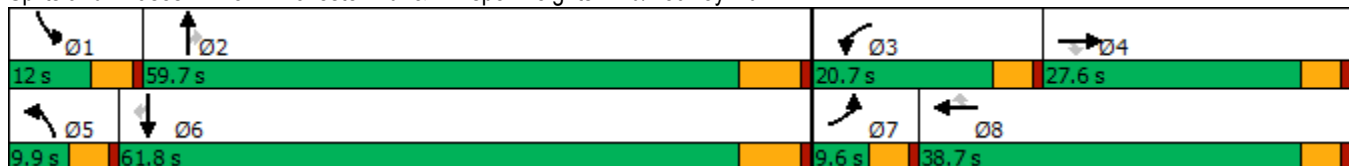


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↕	↗	↘	↕	↘
Traffic Volume (vph)	11	18	15	126	20	145	26	1822	1	148	1309	18
Future Volume (vph)	11	18	15	126	20	145	26	1822	1	148	1309	18
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	28.5	9.6	25.5	25.5
Total Split (s)	9.6	27.6	27.6	20.7	38.7	38.7	9.9	59.7	59.7	12.0	61.8	61.8
Total Split (%)	8.0%	23.0%	23.0%	17.3%	32.3%	32.3%	8.3%	49.8%	49.8%	10.0%	51.5%	51.5%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	5.0	10.1	10.1	12.3	18.7	18.7	5.2	53.7	53.7	7.2	60.1	60.1
Actuated g/C Ratio	0.05	0.10	0.10	0.13	0.19	0.19	0.05	0.55	0.55	0.07	0.62	0.62
v/c Ratio	0.12	0.10	0.05	0.58	0.06	0.36	0.29	0.97	0.00	0.61	0.62	0.02
Control Delay	51.5	44.8	0.3	52.6	32.4	8.4	55.8	38.4	0.0	56.3	16.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	44.8	0.3	52.6	32.4	8.4	55.8	38.4	0.0	56.3	16.3	0.1
LOS	D	D	A	D	C	A	E	D	A	E	B	A
Approach Delay		30.9			29.2			38.7			20.1	
Approach LOS		C			C			D			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 97.3	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 30.3	Intersection LOS: C
Intersection Capacity Utilization 81.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	11	18	15	126	20	145	26	1822	1	148	1309	18
Future Volume (veh/h)	11	18	15	126	20	145	26	1822	1	148	1309	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	19	9	131	21	96	27	1898	1	154	1364	18
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	23	187	158	162	332	277	47	1916	854	219	2047	913
Arrive On Green	0.01	0.10	0.10	0.09	0.18	0.18	0.03	0.54	0.54	0.06	0.58	0.58
Sat Flow, veh/h	1781	1870	1585	1781	1870	1561	1781	3554	1584	3456	3554	1585
Grp Volume(v), veh/h	11	19	9	131	21	96	27	1898	1	154	1364	18
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1561	1781	1777	1584	1728	1777	1585
Q Serve(g_s), s	0.6	0.9	0.5	7.1	0.9	5.3	1.5	52.1	0.0	4.3	26.1	0.5
Cycle Q Clear(g_c), s	0.6	0.9	0.5	7.1	0.9	5.3	1.5	52.1	0.0	4.3	26.1	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	23	187	158	162	332	277	47	1916	854	219	2047	913
V/C Ratio(X)	0.47	0.10	0.06	0.81	0.06	0.35	0.57	0.99	0.00	0.70	0.67	0.02
Avail Cap(c_a), veh/h	90	434	368	291	645	538	96	1916	854	259	2047	913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	40.4	40.2	44.0	33.7	35.6	47.5	22.5	10.5	45.3	14.4	9.0
Incr Delay (d2), s/veh	5.3	0.2	0.1	3.7	0.1	0.7	4.0	18.3	0.0	4.8	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.2	3.3	0.4	2.1	0.7	22.4	0.0	1.9	8.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	40.6	40.3	47.7	33.8	36.3	51.5	40.8	10.5	50.1	15.2	9.0
LnGrp LOS	D	D	D	D	C	D	D	D	B	D	B	A
Approach Vol, veh/h		39			248			1926				1536
Approach Delay, s/veh		44.2			42.1			40.9				18.6
Approach LOS		D			D			D				B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	59.7	13.6	14.6	7.2	63.3	5.9	22.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	7.4	53.2	16.1	* 23	5.3	55.3	5.0	* 34				
Max Q Clear Time (g_c+I1), s	6.3	54.1	9.1	2.9	3.5	28.1	2.6	7.3				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.1	0.0	10.4	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	6	160	9	6	17	295	1890	13	8	1264	105
Future Volume (vph)	113	6	160	9	6	17	295	1890	13	8	1264	105
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.1	39.2	39.2	9.6	35.7	35.7	24.0	61.6	61.6	9.6	47.2	47.2
Total Split (%)	10.9%	32.7%	32.7%	8.0%	29.8%	29.8%	20.0%	51.3%	51.3%	8.0%	39.3%	39.3%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.6	13.1	13.1	5.0	10.0	10.0	19.5	63.2	63.2	5.0	40.9	40.9
Actuated g/C Ratio	0.11	0.14	0.14	0.05	0.11	0.11	0.21	0.69	0.69	0.05	0.45	0.45
v/c Ratio	0.64	0.02	0.46	0.09	0.03	0.06	0.81	0.80	0.01	0.08	0.83	0.14
Control Delay	58.2	34.5	10.4	46.1	39.8	0.4	53.8	15.5	0.0	45.9	28.9	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	34.5	10.4	46.1	39.8	0.4	53.8	15.5	0.0	45.9	28.9	2.0
LOS	E	C	B	D	D	A	D	B	A	D	C	A
Approach Delay		30.3			20.0			20.5			27.0	
Approach LOS		C			C			C			C	

Intersection Summary

























Cycle Length: 120
 Actuated Cycle Length: 91.1
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 23.5
 Intersection LOS: C
 Intersection Capacity Utilization 84.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	6	160	9	6	17	295	1890	13	8	1264	105
Future Volume (veh/h)	113	6	160	9	6	17	295	1890	13	8	1264	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	118	6	117	9	6	4	307	1969	11	8	1317	91
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	340	286	20	207	176	337	2100	917	18	1463	644
Arrive On Green	0.08	0.18	0.18	0.01	0.11	0.11	0.19	0.59	0.59	0.01	0.41	0.41
Sat Flow, veh/h	1781	1870	1575	1781	1870	1585	1781	3554	1552	1781	3554	1565
Grp Volume(v), veh/h	118	6	117	9	6	4	307	1969	11	8	1317	91
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1870	1585	1781	1777	1552	1781	1777	1565
Q Serve(g_s), s	6.4	0.3	6.5	0.5	0.3	0.2	16.7	50.3	0.3	0.4	34.3	3.6
Cycle Q Clear(g_c), s	6.4	0.3	6.5	0.5	0.3	0.2	16.7	50.3	0.3	0.4	34.3	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	340	286	20	207	176	337	2100	917	18	1463	644
V/C Ratio(X)	0.81	0.02	0.41	0.46	0.03	0.02	0.91	0.94	0.01	0.45	0.90	0.14
Avail Cap(c_a), veh/h	153	652	549	90	586	497	349	2100	917	90	1463	644
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	33.2	35.8	48.6	39.2	39.2	39.3	18.6	8.3	48.7	27.2	18.2
Incr Delay (d2), s/veh	23.5	0.0	0.9	6.0	0.1	0.1	25.7	9.6	0.0	6.5	9.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.1	2.5	0.3	0.1	0.1	9.2	18.8	0.1	0.2	14.6	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.1	33.2	36.7	54.6	39.3	39.3	64.9	28.1	8.4	55.2	36.4	18.6
LnGrp LOS	E	C	D	D	D	D	E	C	A	E	D	B
Approach Vol, veh/h		241			19			2287			1416	
Approach Delay, s/veh		52.0			46.5			33.0			35.4	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.6	64.9	5.7	22.7	23.3	47.2	12.7	15.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.1	5.0	* 35	19.4	40.7	8.5	* 31				
Max Q Clear Time (g_c+I1), s	2.4	52.3	2.5	8.5	18.7	36.3	8.4	2.3				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.4	0.0	3.0	0.0	0.0				

Intersection Summary

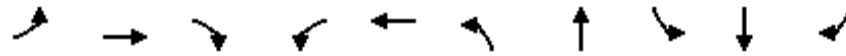
HCM 6th Ctrl Delay	35.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

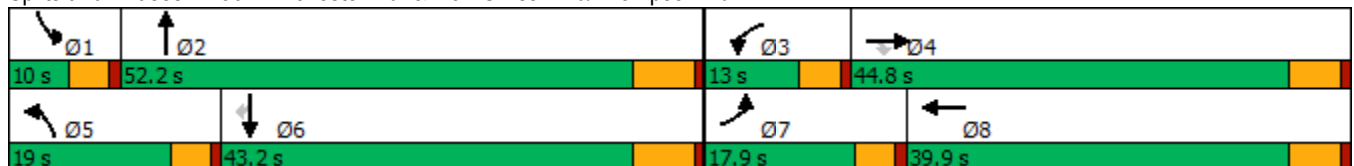


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↗	↘	↗	↘	↗↗	↘	↗↗	↘
Traffic Volume (vph)	206	308	679	330	319	821	2300	154	1410	149
Future Volume (vph)	206	308	679	330	319	821	2300	154	1410	149
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	17.9	44.8	44.8	13.0	39.9	19.0	52.2	10.0	43.2	43.2
Total Split (%)	14.9%	37.3%	37.3%	10.8%	33.3%	15.8%	43.5%	8.3%	36.0%	36.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	13.3	33.4	33.4	8.4	28.5	14.4	45.8	5.4	36.8	36.8
Actuated g/C Ratio	0.12	0.29	0.29	0.07	0.25	0.13	0.40	0.05	0.32	0.32
v/c Ratio	1.03	0.59	0.67	2.64	0.87	3.79	1.97	1.92	1.28	0.24
Control Delay	121.7	39.3	20.6	776.0	59.9	1286.2	463.4	483.2	167.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.7	39.3	20.6	776.0	59.9	1286.2	463.4	483.2	167.0	2.8
LOS	F	D	C	F	E	F	F	F	F	A
Approach Delay		42.9			391.2		657.5		181.1	
Approach LOS		D			F		F		F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 114.6
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.79
 Intersection Signal Delay: 412.4
 Intersection Capacity Utilization 136.9%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	308	679	330	319	64	821	2300	359	154	1410	149
Future Volume (veh/h)	206	308	679	330	319	64	821	2300	359	154	1410	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	318	541	340	329	64	846	2371	305	159	1454	134
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	532	776	132	366	71	227	1281	161	85	1152	507
Arrive On Green	0.12	0.28	0.28	0.07	0.24	0.24	0.13	0.40	0.40	0.05	0.32	0.32
Sat Flow, veh/h	1781	1870	2727	1781	1517	295	1781	3173	399	1781	3554	1564
Grp Volume(v), veh/h	212	318	541	340	0	393	846	1304	1372	159	1454	134
Grp Sat Flow(s),veh/h/ln	1781	1870	1363	1781	0	1813	1781	1777	1795	1781	1777	1564
Q Serve(g_s), s	13.3	16.6	20.0	8.4	0.0	23.8	14.4	45.7	45.7	5.4	36.7	7.2
Cycle Q Clear(g_c), s	13.3	16.6	20.0	8.4	0.0	23.8	14.4	45.7	45.7	5.4	36.7	7.2
Prop In Lane	1.00		1.00	1.00		0.16	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	209	532	776	132	0	437	227	717	725	85	1152	507
V/C Ratio(X)	1.01	0.60	0.70	2.57	0.00	0.90	3.73	1.82	1.89	1.87	1.26	0.26
Avail Cap(c_a), veh/h	209	644	939	132	0	546	227	717	725	85	1152	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	34.9	36.1	52.4	0.0	41.6	49.4	33.8	33.8	53.9	38.3	28.3
Incr Delay (d2), s/veh	65.6	1.1	1.8	729.2	0.0	15.3	1241.0	373.4	407.4	433.3	125.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	7.4	6.8	30.5	0.0	12.4	84.2	92.2	99.9	12.5	34.7	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	115.6	36.0	37.9	781.6	0.0	56.9	1290.4	407.2	441.2	487.2	163.3	28.6
LnGrp LOS	F	D	D	F	A	E	F	F	F	F	F	C
Approach Vol, veh/h		1071			733			3522			1747	
Approach Delay, s/veh		52.7			393.1			632.6			182.5	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	52.2	13.0	38.0	19.0	43.2	17.9	33.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.4	45.7	8.4	39.0	14.4	36.7	13.3	34.1				
Max Q Clear Time (g_c+I1), s	7.4	47.7	10.4	22.0	16.4	38.7	15.3	25.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	3.7	0.0	0.0	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			408.8									
HCM 6th LOS			F									

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/22/2021

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↖↖	↖	↖↖↖	↖	↖↖
Traffic Volume (vph)	336	903	2556	620	1756
Future Volume (vph)	336	903	2556	620	1756
Turn Type	Prot	pm+ov	NA	Prot	NA
Protected Phases	8	1	2	1	6
Permitted Phases	8				
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	30.6	9.5	38.5	9.5	16.5
Total Split (s)	30.6	32.0	57.4	32.0	89.4
Total Split (%)	25.5%	26.7%	47.8%	26.7%	74.5%
Yellow Time (s)	3.6	3.5	5.5	3.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	6.5	4.5	6.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	16.8	44.4	50.9	27.5	83.0
Actuated g/C Ratio	0.15	0.40	0.46	0.25	0.75
v/c Ratio	0.69	1.54	1.42	1.52	0.71
Control Delay	52.0	277.5	217.5	277.2	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	277.5	217.5	277.2	9.9
LOS	D	F	F	F	A
Approach Delay	216.4		217.5		79.7
Approach LOS	F		F		E

Intersection Summary
















Cycle Length: 120
 Actuated Cycle Length: 110.9
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.54
 Intersection Signal Delay: 168.0
 Intersection LOS: F
 Intersection Capacity Utilization 124.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/22/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  			 
Traffic Volume (veh/h)	336	903	2556	469	620	1756
Future Volume (veh/h)	336	903	2556	469	620	1756
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	361	767	2748	366	667	1888
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	749	707	1941	246	408	2455
Arrive On Green	0.22	0.22	0.42	0.42	0.23	0.69
Sat Flow, veh/h	3456	1585	4743	580	1781	3647
Grp Volume(v), veh/h	361	767	2010	1104	667	1888
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1751	1781	1777
Q Serve(g_s), s	11.0	26.0	50.9	50.9	27.5	42.1
Cycle Q Clear(g_c), s	11.0	26.0	50.9	50.9	27.5	42.1
Prop In Lane	1.00	1.00		0.33	1.00	
Lane Grp Cap(c), veh/h	749	707	1444	743	408	2455
V/C Ratio(X)	0.48	1.09	1.39	1.49	1.63	0.77
Avail Cap(c_a), veh/h	749	707	1444	743	408	2455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	33.3	34.5	34.6	46.3	12.2
Incr Delay (d2), s/veh	0.5	59.4	180.7	226.1	296.2	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	31.5	55.2	66.2	45.1	13.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.6	92.6	215.2	260.7	342.5	13.8
LnGrp LOS	D	F	F	F	F	B
Approach Vol, veh/h	1128		3114			2555
Approach Delay, s/veh	76.3		231.3			99.6
Approach LOS	E		F			F
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	32.0	57.4			89.4	30.6
Change Period (Y+Rc), s	4.5	6.5			6.5	4.6
Max Green Setting (Gmax), s	27.5	50.9			82.9	26.0
Max Q Clear Time (g_c+I1), s	29.5	52.9			44.1	28.0
Green Ext Time (p_c), s	0.0	0.0			19.6	0.0
Intersection Summary						
HCM 6th Ctrl Delay			156.1			
HCM 6th LOS			F			

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↗	↖	↕
Traffic Volume (vph)	121	38	306	55	85	2732	277	138	1797
Future Volume (vph)	121	38	306	55	85	2732	277	138	1797
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	11.6	75.7	75.7	9.6	73.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	9.7%	63.1%	63.1%	8.0%	61.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	30.0	30.0	30.0	30.0	7.0	69.2	69.2	5.0	67.2
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.06	0.58	0.58	0.04	0.56
v/c Ratio	0.64	0.24	1.06	0.51	0.86	1.41	0.30	1.99	1.05
Control Delay	56.7	15.9	112.8	30.3	113.9	212.5	8.1	518.5	61.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	15.9	112.8	30.3	113.9	212.5	8.1	518.5	61.6
LOS	E	B	F	C	F	F	A	F	E
Approach Delay		37.4		77.7		191.5			91.7
Approach LOS		D		E		F			F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.99
 Intersection Signal Delay: 140.3
 Intersection Capacity Utilization 125.5%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	38	70	306	55	172	85	2732	277	138	1797	158
Future Volume (veh/h)	121	38	70	306	55	172	85	2732	277	138	1797	158
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	40	57	322	58	176	89	2876	206	145	1892	139
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	174	248	325	102	310	104	2049	914	74	1878	136
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.06	0.58	0.58	0.04	0.56	0.56
Sat Flow, veh/h	1146	698	994	1298	408	1239	1781	3554	1585	1781	3354	243
Grp Volume(v), veh/h	127	0	97	322	0	234	89	2876	206	145	989	1042
Grp Sat Flow(s),veh/h/ln	1146	0	1691	1298	0	1647	1781	1777	1585	1781	1777	1820
Q Serve(g_s), s	13.1	0.0	5.5	24.5	0.0	14.9	5.9	69.2	7.6	5.0	66.4	67.2
Cycle Q Clear(g_c), s	28.0	0.0	5.5	30.0	0.0	14.9	5.9	69.2	7.6	5.0	66.4	67.2
Prop In Lane	1.00		0.59	1.00		0.75	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	204	0	423	325	0	412	104	2049	914	74	995	1019
V/C Ratio(X)	0.62	0.00	0.23	0.99	0.00	0.57	0.86	1.40	0.23	1.95	0.99	1.02
Avail Cap(c_a), veh/h	204	0	423	325	0	412	104	2049	914	74	995	1019
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.6	0.0	35.8	49.9	0.0	39.3	56.0	25.4	12.4	57.5	26.2	26.4
Incr Delay (d2), s/veh	4.3	0.0	0.1	47.0	0.0	1.8	55.6	184.5	0.1	474.1	27.1	33.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	2.3	14.0	0.0	6.2	4.2	77.0	2.4	11.9	31.3	34.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	0.0	35.9	96.9	0.0	41.2	111.6	209.9	12.5	531.6	53.3	60.2
LnGrp LOS	E	A	D	F	A	D	F	F	B	F	D	F
Approach Vol, veh/h		224			556			3171			2176	
Approach Delay, s/veh		47.2			73.4			194.4			88.5	
Approach LOS		D			E			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	75.7		34.7	11.6	73.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	69.2		* 30	7.0	67.2		* 30				
Max Q Clear Time (g_c+I1), s	7.0	71.2		30.0	7.9	69.2		32.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	140.4
HCM 6th LOS	F

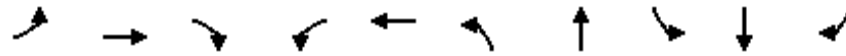
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/22/2021

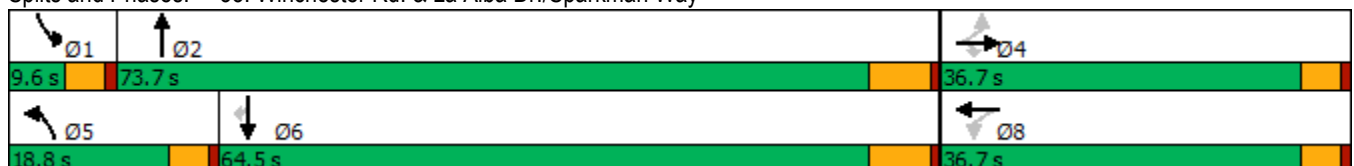


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	100	10	129	39	4	217	2763	12	1883	120
Future Volume (vph)	100	10	129	39	4	217	2763	12	1883	120
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	18.8	73.7	9.6	64.5	64.5
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	15.7%	61.4%	8.0%	53.8%	53.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	13.4	13.4	13.4		13.4	14.2	75.0	5.0	58.0	58.0
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.14	0.74	0.05	0.57	0.57
v/c Ratio	0.56	0.04	0.41		0.31	0.91	1.12	0.14	0.96	0.13
Control Delay	53.0	37.8	10.9		33.1	82.1	77.4	51.5	34.4	3.8
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	37.8	10.9		33.1	82.1	77.4	51.5	34.4	3.8
LOS	D	D	B		C	F	E	D	C	A
Approach Delay		29.6			33.1		77.7		32.6	
Approach LOS		C			C		E		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 101.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.12
 Intersection Signal Delay: 58.1
 Intersection LOS: E
 Intersection Capacity Utilization 106.3%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	10	129	39	4	20	217	2763	73	12	1883	120
Future Volume (veh/h)	100	10	129	39	4	20	217	2763	73	12	1883	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	10	61	40	4	10	224	2848	61	12	1941	102
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	194	165	166	21	28	256	2551	54	25	2089	911
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.14	0.72	0.72	0.01	0.59	0.59
Sat Flow, veh/h	1400	1870	1585	965	200	265	1781	3556	76	1781	3554	1550
Grp Volume(v), veh/h	103	10	61	54	0	0	224	1417	1492	12	1941	102
Grp Sat Flow(s),veh/h/ln	1400	1870	1585	1430	0	0	1781	1777	1855	1781	1777	1550
Q Serve(g_s), s	2.6	0.5	3.4	2.5	0.0	0.0	11.8	68.9	68.9	0.6	47.6	2.8
Cycle Q Clear(g_c), s	5.9	0.5	3.4	3.2	0.0	0.0	11.8	68.9	68.9	0.6	47.6	2.8
Prop In Lane	1.00		1.00	0.74		0.19	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	233	194	165	214	0	0	256	1275	1331	25	2089	911
V/C Ratio(X)	0.44	0.05	0.37	0.25	0.00	0.00	0.87	1.11	1.12	0.47	0.93	0.11
Avail Cap(c_a), veh/h	554	623	528	535	0	0	263	1275	1331	93	2146	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	38.8	40.1	39.9	0.0	0.0	40.3	13.6	13.6	47.0	18.0	8.7
Incr Delay (d2), s/veh	1.3	0.1	1.4	0.6	0.0	0.0	24.7	61.8	65.0	5.0	7.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.2	1.4	1.2	0.0	0.0	6.6	37.8	40.7	0.3	17.2	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	38.9	41.5	40.6	0.0	0.0	65.0	75.4	78.6	52.0	25.7	8.8
LnGrp LOS	D	D	D	D	A	A	E	F	F	D	C	A
Approach Vol, veh/h		174			54			3133			2055	
Approach Delay, s/veh		41.8			40.6			76.2			25.0	
Approach LOS		D			D			E			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0	75.4		14.7	18.4	63.0		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	14.2	58.0		* 32				
Max Q Clear Time (g_c+I1), s	2.6	70.9		7.9	13.8	49.6		5.2				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	6.8		0.2				

Intersection Summary

HCM 6th Ctrl Delay	55.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 7.2:

EAPC (2023) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAPC (2023) Conditions - Weekday PM Peak Hour**

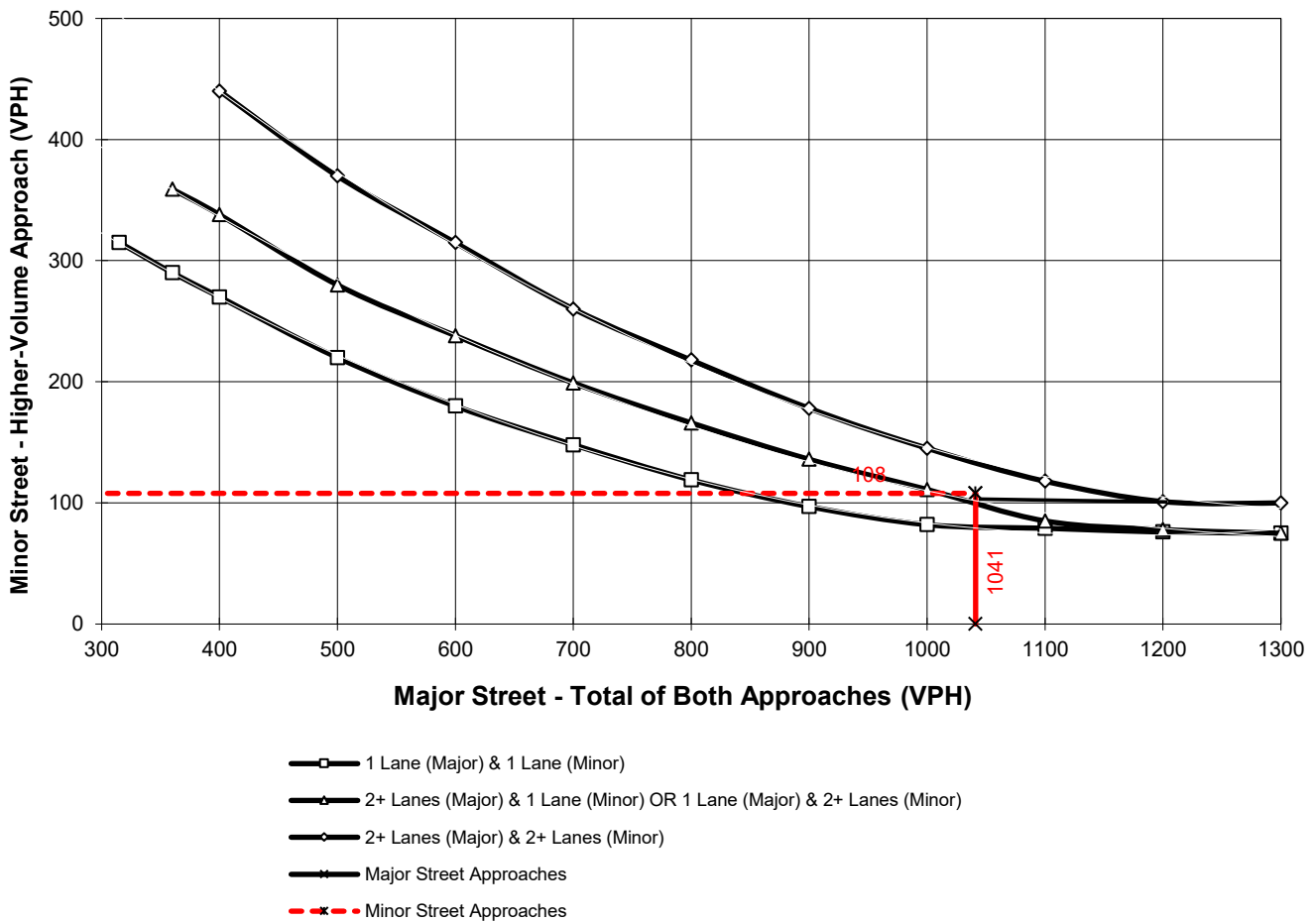
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **1041**
 Number of Approach Lanes Major Street = **2**

Minor Street Name = **Whisper Heights Pkwy.**

High Volume Approach (VPH) = **108**
 Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAPC (2023) Conditions - Weekday PM Peak Hour**

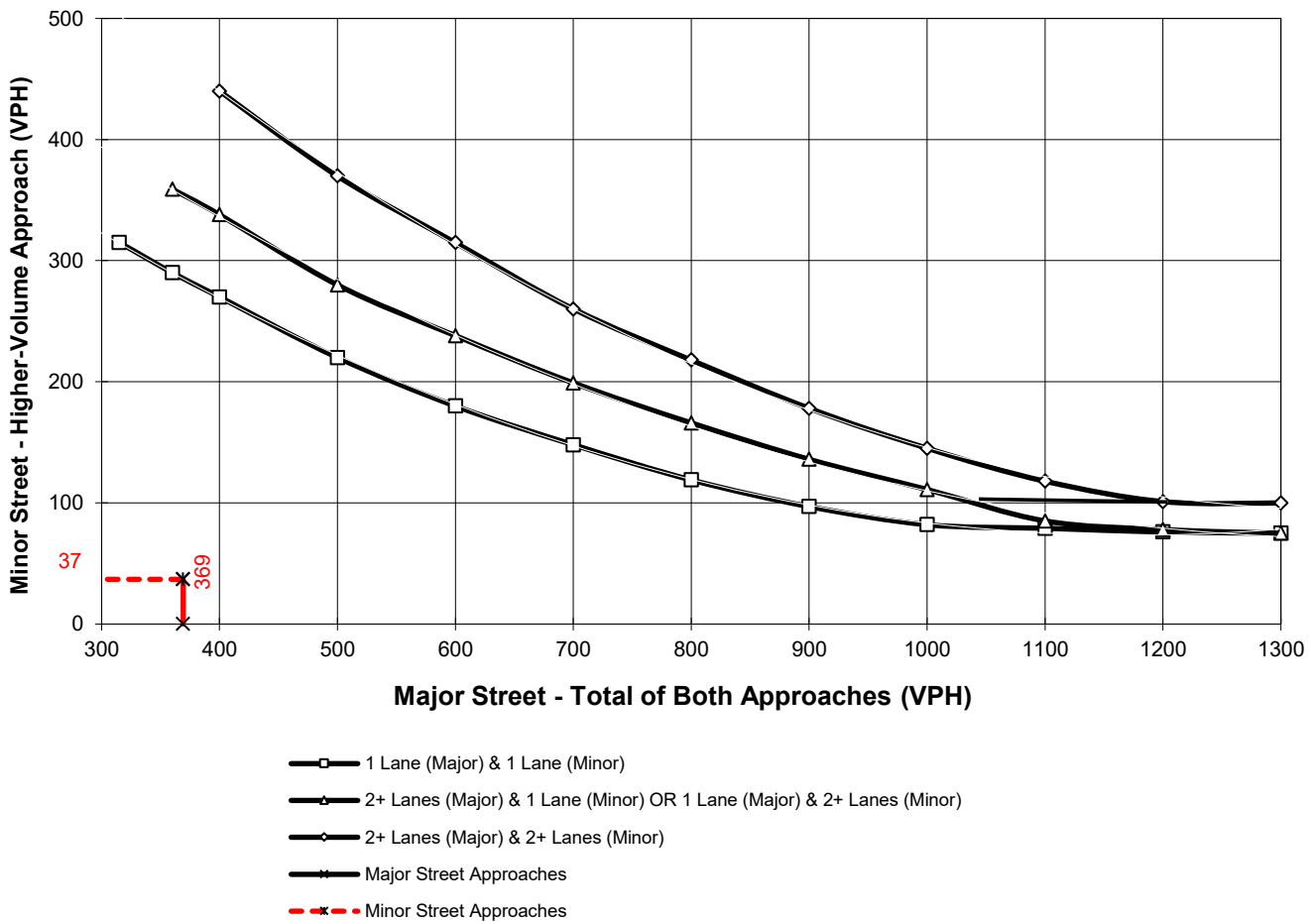
Major Street Name = **Keller Rd.**

Total of Both Approaches (VPH) = **369**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pourroy Rd.**

High Volume Approach (VPH) = **37**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAPC (2023) Conditions - Weekday AM Peak Hour**

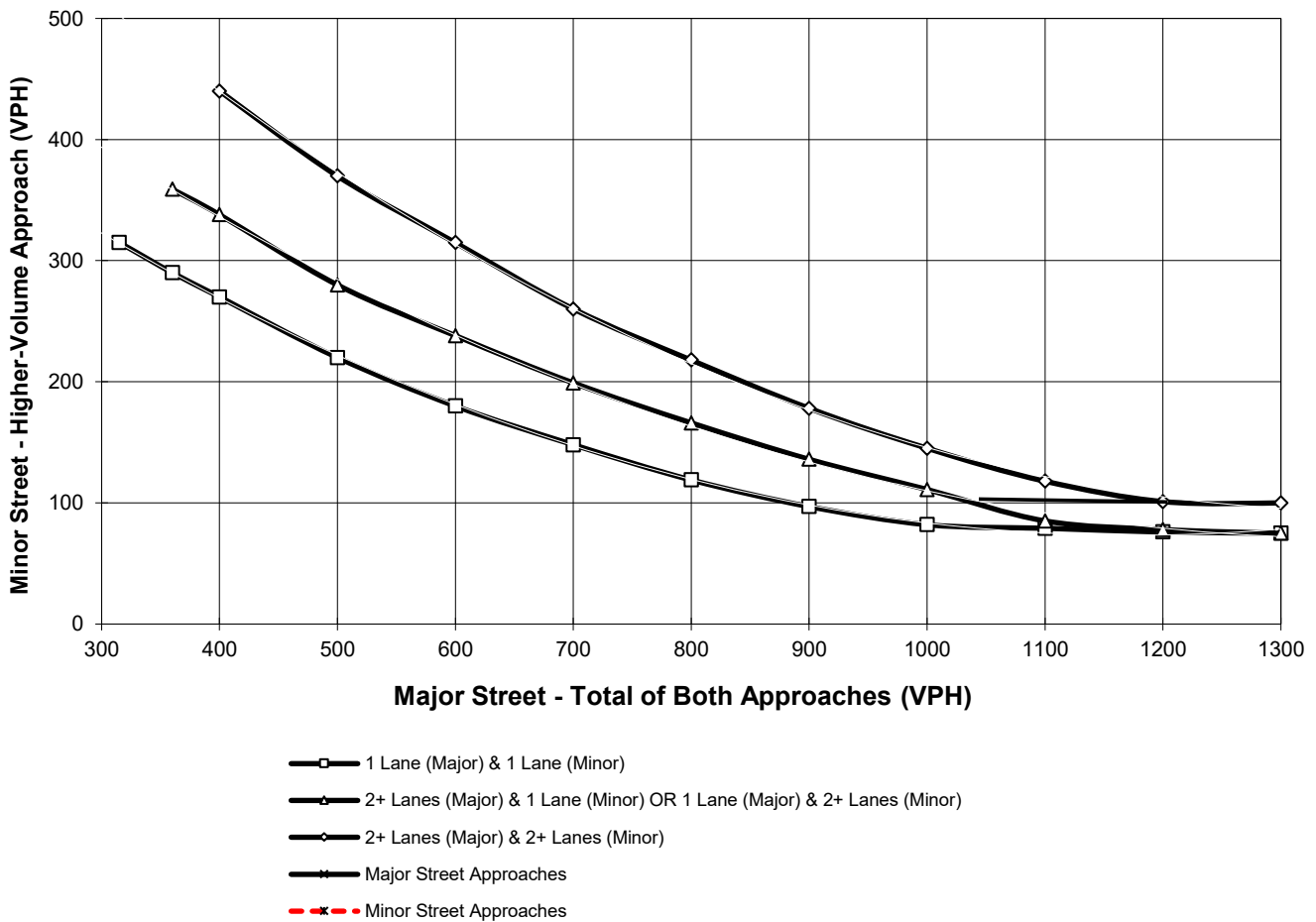
Major Street Name = **Pourroy Rd.**

Total of Both Approaches (VPH) = **145**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pat Rd.**

High Volume Approach (VPH) = **70**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	<u>EAPC (2023)</u>
Jurisdiction: <u>County of Riverside</u>				CALC <u>CP</u>	DATE <u>12/14/11</u>
Major Street: <u>Keller Rd.</u>				CHK <u>CP</u>	DATE <u>12/14/11</u>
Minor Street: <u>Street A</u>				Critical Approach Speed (Major) <u>45</u> mph	
				Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u> lane
Major Street Future ADT =		<u>3,491</u>	vpd	Minor Street Future ADT =	<u>460</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input checked="" type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume	XX	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 3,491</u>	<u>1 460</u>				
<u>2+</u>	<u>1</u>	8,000	5,600	2,400	1,680
<u>2+</u>	<u>2+</u>	9,600	6,720	2,400	1,680
<u>1</u>	<u>2+</u>	9,600	6,720	3,200	2,240
		8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 3,491</u>	<u>1 460</u>				
<u>2+</u>	<u>1</u>	12,000	8,400	1,200	850
<u>2+</u>	<u>2+</u>	14,400	10,080	1,200	850
<u>1</u>	<u>2+</u>	14,400	10,080	1,600	1,120
		12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	27%				
	<u>B</u>				
	42%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	<u>EAPC (2023)</u>
Jurisdiction: <u>County of Riverside</u>				CALC <u>CP</u>	DATE <u>12/14/11</u>
Major Street: <u>Keller Rd.</u>				CHK <u>CP</u>	DATE <u>12/14/11</u>
Minor Street: <u>Street B</u>				Critical Approach Speed (Major) <u>45</u> mph	
				Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes =	<u>1</u>	lane	Minor Street Approach Lanes =	<u>1</u>	lane
Major Street Future ADT =	<u>3,188</u>	vpd	Minor Street Future ADT =	<u>460</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);				<input checked="" type="checkbox"/>	
				or	RURAL (R)
In built up area of isolated community of < 10,000 population				<input type="checkbox"/>	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume	XX				
<u>Satisfied</u>	<u>Not Satisfied</u>	Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
	XX	(Total of Both Approaches)		(One Direction Only)	
Number of lanes for moving traffic on each approach	Number of lanes for moving traffic on each approach	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 3,188	1 460	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic	XX				
<u>Satisfied</u>	<u>Not Satisfied</u>	Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
	XX	(Total of Both Approaches)		(One Direction Only)	
Number of lanes for moving traffic on each approach	Number of lanes for moving traffic on each approach	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 3,188	1 460	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B	XX				
<u>Satisfied</u>	<u>Not Satisfied</u>	2 CONDITIONS		2 CONDITIONS	
No one condition satisfied, but following conditions fulfilled 80% of more	XX	80%		80%	
	A				
	27%				
	B				
	38%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



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APPENDIX 7.3:

EAPC (2023) CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Queues

1: I-215 SB Ramps & Scott Rd.

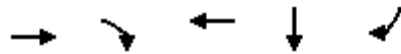


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	799	735	1020	806	787	137	137
v/c Ratio	0.43	0.62	0.55	0.66	0.66	0.23	0.23
Control Delay	11.5	3.5	12.8	3.9	23.4	7.3	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	3.5	12.8	4.0	23.4	7.3	7.3
Queue Length 50th (ft)	95	0	132	0	138	7	7
Queue Length 95th (ft)	188	38	255	39	259	47	47
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	3229	1509	3229	1515	2170	991	991
Starvation Cap Reductn	0	0	256	36	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.49	0.34	0.54	0.36	0.14	0.14

Intersection Summary

Queues

2: I-215 SB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1534	514	2185	334	862
v/c Ratio	0.61	0.50	0.88	0.49	0.79
Control Delay	21.9	3.4	29.0	28.5	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	3.4	29.1	28.5	34.8
Queue Length 50th (ft)	281	0	471	182	298
Queue Length 95th (ft)	372	58	618	266	384
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	2672	1055	2603	831	1327
Starvation Cap Reductn	0	0	6	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.57	0.49	0.84	0.40	0.65

Intersection Summary

Queues

3: I-215 NB Ramps & Scott Rd.



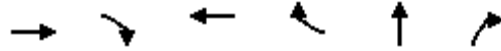
Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	208	1292	1425	732	168	167	150	150
v/c Ratio	0.90	0.48	0.53	0.53	0.57	0.57	0.56	0.56
Control Delay	49.9	3.5	3.8	1.6	21.7	21.5	25.2	25.2
Queue Delay	0.0	0.1	0.4	0.6	0.0	0.0	0.0	0.0
Total Delay	49.9	3.7	4.2	2.3	21.7	21.5	25.2	25.2
Queue Length 50th (ft)	45	71	84	0	12	12	16	16
Queue Length 95th (ft)	#91	135	158	17	97	95	102	102
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	281	3298	3298	1525	413	413	391	391
Starvation Cap Reductn	0	862	1159	426	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.53	0.67	0.67	0.41	0.40	0.38	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

4: I-215 NB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	1126	699	1787	297	404	378
v/c Ratio	0.42	0.62	0.67	0.30	0.76	0.72
Control Delay	13.6	3.7	17.1	2.4	37.2	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	3.7	17.1	2.4	37.2	32.2
Queue Length 50th (ft)	131	0	251	0	194	157
Queue Length 95th (ft)	207	53	382	39	392	337
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	3885	1329	3885	1279	803	767
Starvation Cap Reductn	0	13	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.53	0.46	0.23	0.50	0.49

Intersection Summary

Queues
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	109	27	44	11	24	1090	11	1874	55
v/c Ratio	0.54	0.10	0.15	0.05	0.24	0.42	0.01	0.77	0.05
Control Delay	44.9	32.8	4.3	32.3	46.8	5.6	0.0	14.0	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	32.8	4.3	32.3	46.8	5.6	0.0	14.0	2.3
Queue Length 50th (ft)	50	12	0	5	12	100	0	253	0
Queue Length 95th (ft)	111	37	13	21	40	166	0	596	14
Internal Link Dist (ft)		125		754		1334		662	
Turn Bay Length (ft)	100				530		530		540
Base Capacity (vph)	686	915	815	746	101	2573	1166	2427	1103
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.03	0.05	0.01	0.24	0.42	0.01	0.77	0.05

Intersection Summary

Queues

1: I-215 SB Ramps & Scott Rd.



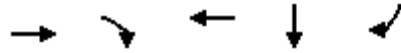
Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1192	470	1595	509	910	143	143
v/c Ratio	0.56	0.41	0.75	0.44	0.84	0.29	0.29
Control Delay	13.0	1.9	16.9	2.0	41.9	22.8	22.8
Queue Delay	0.0	0.0	0.4	0.2	0.0	0.0	0.0
Total Delay	13.0	1.9	17.2	2.2	41.9	22.8	22.8
Queue Length 50th (ft)	236	0	382	0	278	50	50
Queue Length 95th (ft)	287	35	461	36	#479	126	126
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	2796	1349	2796	1357	1206	554	554
Starvation Cap Reductn	0	0	567	276	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.35	0.72	0.47	0.75	0.26	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1656	375	1903	401	724
v/c Ratio	0.60	0.38	0.93	0.68	0.75
Control Delay	18.8	2.9	31.7	35.9	33.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	2.9	31.7	35.9	33.4
Queue Length 50th (ft)	260	0	387	229	225
Queue Length 95th (ft)	407	51	#661	328	295
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	2753	991	2045	856	1377
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.38	0.93	0.47	0.53

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	247	1833	1362	769	464	464	361	360
v/c Ratio	1.25	0.74	0.55	0.57	1.24	1.24	0.87	0.87
Control Delay	168.3	13.5	9.8	2.3	164.6	164.6	56.6	56.3
Queue Delay	0.0	17.8	19.1	1.9	0.0	0.0	0.0	0.0
Total Delay	168.3	31.3	28.9	4.2	164.6	164.6	56.6	56.3
Queue Length 50th (ft)	~239	416	243	0	~449	~449	226	225
Queue Length 95th (ft)	#251	503	294	34	#670	#670	#408	#406
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	198	2477	2477	1338	375	375	413	413
Starvation Cap Reductn	0	687	1144	396	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.25	1.02	1.02	0.82	1.24	1.24	0.87	0.87

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

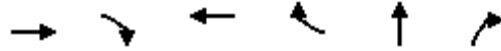
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

4: I-215 NB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	1417	613	1500	242	637	591
v/c Ratio	0.66	0.67	0.70	0.31	0.86	0.86
Control Delay	26.0	10.0	26.8	3.7	37.8	39.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	10.0	26.8	3.7	37.8	39.1
Queue Length 50th (ft)	296	69	321	0	386	357
Queue Length 95th (ft)	358	202	387	47	#662	#628
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	2740	1038	2740	946	927	855
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.59	0.55	0.26	0.69	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	80	14	36	40	46	1826	94	6	1348	136
v/c Ratio	0.42	0.05	0.13	0.17	0.37	0.68	0.08	0.06	0.54	0.12
Control Delay	40.1	31.5	2.6	27.9	46.6	9.5	1.6	39.7	9.8	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	31.5	2.6	27.9	46.6	9.5	1.6	39.7	9.8	2.4
Queue Length 50th (ft)	36	6	0	14	22	214	0	3	207	3
Queue Length 95th (ft)	86	24	7	45	61	520	18	16	310	26
Internal Link Dist (ft)		125		754		1334			662	
Turn Bay Length (ft)	100				530		530	540		540
Base Capacity (vph)	717	981	869	879	130	2679	1195	108	2654	1216
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.01	0.04	0.05	0.35	0.68	0.08	0.06	0.51	0.11

Intersection Summary

APPENDIX 7.4:
**EAPC (2023) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS
WITH IMPROVEMENTS**

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Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

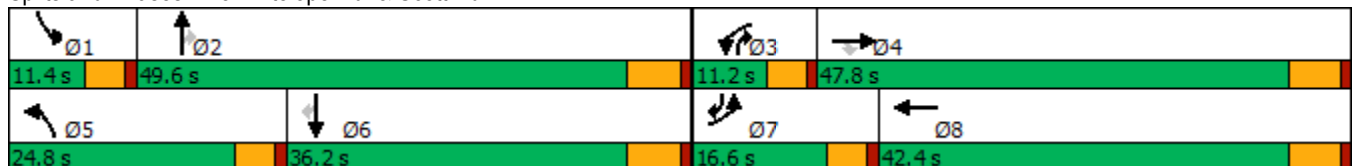


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘↘	↑↑↑	↗	↘↘	↑↑↑	↘↘	↑↑	↗	↘	↑	↗
Traffic Volume (vph)	128	897	456	72	1232	346	42	60	60	138	385
Future Volume (vph)	128	897	456	72	1232	346	42	60	60	138	385
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	16.6	47.8	47.8	11.2	42.4	24.8	49.6	11.2	11.4	36.2	16.6
Total Split (%)	13.8%	39.8%	39.8%	9.3%	35.3%	20.7%	41.3%	9.3%	9.5%	30.2%	13.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	9.3	39.1	39.1	6.2	33.5	14.9	22.8	31.4	11.6	13.6	28.8
Actuated g/C Ratio	0.10	0.42	0.42	0.07	0.36	0.16	0.25	0.34	0.13	0.15	0.31
v/c Ratio	0.40	0.45	0.52	0.34	0.76	0.68	0.05	0.11	0.29	0.55	0.74
Control Delay	44.9	21.2	4.2	49.5	30.0	44.7	28.9	1.3	47.9	46.8	30.2
Queue Delay	0.0	0.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	21.8	4.8	49.5	30.0	44.7	28.9	1.3	47.9	46.8	30.2
LOS	D	C	A	D	C	D	C	A	D	D	C
Approach Delay		18.5			31.0		37.4			36.0	
Approach LOS		B			C		D			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92.5
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 27.7
 Intersection LOS: C
 Intersection Capacity Utilization 71.1%
 ICU Level of Service C
 Analysis Period (min) 15



































Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	 
Traffic Volume (veh/h)	128	897	456	72	1232	51	346	42	60	60	138	385
Future Volume (veh/h)	128	897	456	72	1232	51	346	42	60	60	138	385
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	975	354	78	1339	50	376	46	35	65	150	244
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	217	1879	583	179	1803	67	474	959	510	86	338	386
Arrive On Green	0.06	0.37	0.37	0.05	0.36	0.36	0.14	0.27	0.27	0.05	0.18	0.18
Sat Flow, veh/h	3456	5106	1585	3456	5052	189	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	139	975	354	78	902	487	376	46	35	65	150	244
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1836	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	3.1	11.8	14.4	1.7	18.4	18.4	8.3	0.8	1.2	2.9	5.7	10.9
Cycle Q Clear(g_c), s	3.1	11.8	14.4	1.7	18.4	18.4	8.3	0.8	1.2	2.9	5.7	10.9
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	217	1879	583	179	1215	655	474	959	510	86	338	386
V/C Ratio(X)	0.64	0.52	0.61	0.44	0.74	0.74	0.79	0.05	0.07	0.76	0.44	0.63
Avail Cap(c_a), veh/h	523	2706	840	288	1572	848	881	1964	958	153	718	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	19.6	20.4	36.4	22.3	22.3	33.1	21.4	18.6	37.3	28.9	26.8
Incr Delay (d2), s/veh	1.2	0.2	1.0	0.6	1.4	2.6	1.2	0.0	0.1	5.1	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.2	4.9	0.7	6.7	7.5	3.3	0.3	0.4	1.3	2.4	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	19.8	21.4	37.1	23.7	24.9	34.3	21.4	18.7	42.4	29.8	28.5
LnGrp LOS	D	B	C	D	C	C	C	C	B	D	C	C
Approach Vol, veh/h		1468			1467			457			459	
Approach Delay, s/veh		21.8			24.8			31.8			30.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	27.2	8.7	35.0	15.5	20.1	9.6	34.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.8	43.8	6.6	42.0	20.2	30.4	12.0	36.6				
Max Q Clear Time (g_c+I1), s	4.9	3.2	3.7	16.4	10.3	12.9	5.1	20.4				
Green Ext Time (p_c), s	0.0	0.3	0.0	8.4	0.5	1.4	0.1	7.9				
Intersection Summary												
HCM 6th Ctrl Delay			25.2									
HCM 6th LOS			C									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

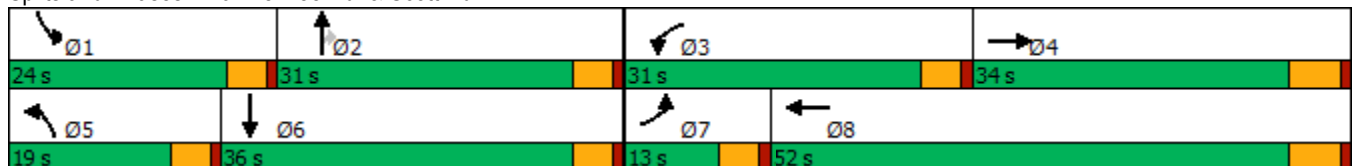


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↕↕↕	↖	↕↕↕	↖	↕	↗	↖	↗
Traffic Volume (vph)	67	851	275	1242	132	105	244	187	231
Future Volume (vph)	67	851	275	1242	132	105	244	187	231
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	13.0	34.0	31.0	52.0	19.0	31.0	31.0	24.0	36.0
Total Split (%)	10.8%	28.3%	25.8%	43.3%	15.8%	25.8%	25.8%	20.0%	30.0%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	7.5	25.6	20.7	41.6	11.8	19.4	19.4	15.3	22.9
Actuated g/C Ratio	0.07	0.25	0.20	0.41	0.12	0.19	0.19	0.15	0.23
v/c Ratio	0.55	0.76	0.80	0.73	0.68	0.31	0.50	0.74	0.78
Control Delay	66.9	40.9	57.5	29.0	63.9	40.6	8.6	61.1	50.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.9	40.9	57.5	29.0	63.9	40.6	8.6	61.1	50.4
LOS	E	D	E	C	E	D	A	E	D
Approach Delay		42.7		33.6		30.8			54.5
Approach LOS		D		C		C			D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 101.5
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 38.5
 Intersection LOS: D
 Intersection Capacity Utilization 73.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑	↗	↗	↗	↗
Traffic Volume (veh/h)	67	851	73	275	1242	180	132	105	244	187	231	75
Future Volume (veh/h)	67	851	73	275	1242	180	132	105	244	187	231	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	896	66	289	1307	176	139	111	150	197	243	64
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	1284	94	331	1817	245	174	322	273	237	296	78
Arrive On Green	0.05	0.26	0.26	0.19	0.40	0.40	0.10	0.17	0.17	0.13	0.21	0.21
Sat Flow, veh/h	1781	4854	357	1781	4551	613	1781	1870	1585	1781	1427	376
Grp Volume(v), veh/h	71	628	334	289	978	505	139	111	150	197	0	307
Grp Sat Flow(s),veh/h/ln	1781	1702	1806	1781	1702	1760	1781	1870	1585	1781	0	1803
Q Serve(g_s), s	3.2	13.4	13.5	12.7	19.5	19.5	6.2	4.2	7.0	8.7	0.0	13.1
Cycle Q Clear(g_c), s	3.2	13.4	13.5	12.7	19.5	19.5	6.2	4.2	7.0	8.7	0.0	13.1
Prop In Lane	1.00		0.20	1.00		0.35	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	91	900	478	331	1359	703	174	322	273	237	0	374
V/C Ratio(X)	0.78	0.70	0.70	0.87	0.72	0.72	0.80	0.34	0.55	0.83	0.00	0.82
Avail Cap(c_a), veh/h	185	1190	631	583	1949	1008	318	610	517	428	0	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.8	26.8	26.8	31.9	20.4	20.4	35.6	29.4	30.5	34.1	0.0	30.5
Incr Delay (d2), s/veh	5.3	1.2	2.3	2.8	0.7	1.4	3.2	0.6	1.7	2.9	0.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.1	5.6	5.3	6.9	7.3	2.8	1.9	2.6	3.9	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	27.9	29.1	34.7	21.2	21.8	38.8	30.0	32.3	37.0	0.0	35.0
LnGrp LOS	D	C	C	C	C	C	D	C	C	D	A	D
Approach Vol, veh/h		1033			1772			400				504
Approach Delay, s/veh		29.3			23.6			33.9				35.8
Approach LOS		C			C			C				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.3	18.6	19.6	27.1	12.5	21.5	8.7	38.0				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	19.4	* 26	26.4	28.2	14.4	* 31	8.4	46.2				
Max Q Clear Time (g_c+I1), s	10.7	9.0	14.7	15.5	8.2	15.1	5.2	21.5				
Green Ext Time (p_c), s	0.2	1.0	0.3	4.7	0.1	1.6	0.0	10.7				

Intersection Summary

































HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (veh/h)	406	1008	161	252	1372	147	157	134	109	134	368	425
Future Volume (veh/h)	406	1008	161	252	1372	147	157	134	109	134	368	425
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	451	1120	118	280	1524	135	174	149	38	149	409	333
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	556	2077	587	340	1649	466	201	296	132	466	453	366
Arrive On Green	0.16	0.37	0.37	0.10	0.29	0.29	0.11	0.08	0.08	0.26	0.24	0.24
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	3554	1585	1781	1867	1508
Grp Volume(v), veh/h	451	1120	118	280	1524	135	174	149	38	149	389	353
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1599
Q Serve(g_s), s	14.7	18.8	6.1	9.3	31.6	7.9	11.5	4.8	2.2	8.1	25.5	25.7
Cycle Q Clear(g_c), s	14.7	18.8	6.1	9.3	31.6	7.9	11.5	4.8	2.2	8.1	25.5	25.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Lane Grp Cap(c), veh/h	556	2077	587	340	1649	466	201	296	132	466	431	388
V/C Ratio(X)	0.81	0.54	0.20	0.82	0.92	0.29	0.87	0.50	0.29	0.32	0.90	0.91
Avail Cap(c_a), veh/h	556	2077	587	457	1669	472	214	936	417	466	459	413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.56	0.56	0.56	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	29.7	25.7	53.3	41.1	32.7	52.4	52.6	33.2	35.7	44.1	44.2
Incr Delay (d2), s/veh	7.2	0.9	0.7	3.8	6.3	0.9	26.7	1.3	1.2	0.1	20.2	23.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	8.1	2.3	4.2	14.6	3.0	6.5	2.2	1.1	3.4	13.2	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	30.6	26.4	57.1	47.4	33.6	79.1	53.9	34.4	35.8	64.3	67.3
LnGrp LOS	E	C	C	E	D	C	E	D	C	D	E	E
Approach Vol, veh/h		1689			1939			361			891	
Approach Delay, s/veh		37.1			47.8			64.0			60.7	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	37.2	15.8	16.1	50.9	18.1	34.9	25.2	41.8				
Change Period (Y+Rc), s	5.8	* 5.8	4.6	6.5	4.6	5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	13.8	* 32	15.4	37.7	14.4	31.0	17.4	* 36				
Max Q Clear Time (g_c+I1), s	10.1	6.8	11.3	20.8	13.5	27.7	16.7	33.6				
Green Ext Time (p_c), s	0.1	0.9	0.2	6.8	0.0	1.4	0.1	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			47.7									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/21/2021

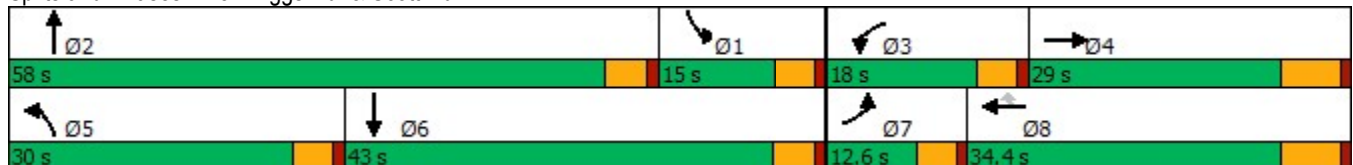


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↖	↖	↖	↖
Traffic Volume (vph)	18	976	30	1388	88	397	11	69	15
Future Volume (vph)	18	976	30	1388	88	397	11	69	15
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	9.6	35.7	9.6	28.7
Total Split (s)	12.6	29.0	18.0	34.4	34.4	30.0	58.0	15.0	43.0
Total Split (%)	10.5%	24.2%	15.0%	28.7%	28.7%	25.0%	48.3%	12.5%	35.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	Min	None	None	None	None
Act Effct Green (s)	5.7	26.9	6.2	29.3	29.3	25.8	20.2	17.0	10.2
Actuated g/C Ratio	0.07	0.33	0.08	0.36	0.36	0.32	0.25	0.21	0.12
v/c Ratio	0.15	0.93dr	0.24	0.74	0.14	0.76	0.13	0.20	0.28
Control Delay	41.8	33.3	42.8	27.3	2.0	38.4	16.3	26.7	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	33.3	42.8	27.3	2.0	38.4	16.3	26.7	17.9
LOS	D	C	D	C	A	D	B	C	B
Approach Delay		33.4		26.2			35.9		22.4
Approach LOS		C		C			D		C

Intersection Summary

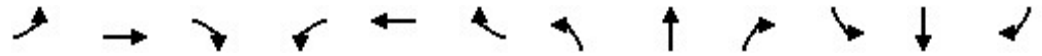
Cycle Length: 120
 Actuated Cycle Length: 81.6
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 30.3
 Intersection LOS: C
 Intersection Capacity Utilization 68.2%
 ICU Level of Service C
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖	↖	↑		↖	↑	
Traffic Volume (veh/h)	18	976	506	30	1388	88	397	11	41	69	15	51
Future Volume (veh/h)	18	976	506	30	1388	88	397	11	41	69	15	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	1049	469	32	1492	86	427	12	44	74	16	29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	1189	504	57	1841	520	473	45	164	466	74	135
Arrive On Green	0.02	0.32	0.32	0.03	0.33	0.33	0.27	0.13	0.13	0.26	0.12	0.12
Sat Flow, veh/h	1781	3741	1585	1781	5611	1585	1781	351	1287	1781	596	1080
Grp Volume(v), veh/h	19	1049	469	32	1492	86	427	0	56	74	0	45
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1639	1781	0	1676
Q Serve(g_s), s	0.8	20.9	22.5	1.4	19.1	1.2	18.2	0.0	2.4	2.5	0.0	1.9
Cycle Q Clear(g_c), s	0.8	20.9	22.5	1.4	19.1	1.2	18.2	0.0	2.4	2.5	0.0	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.79	1.00		0.64
Lane Grp Cap(c), veh/h	38	1189	504	57	1841	520	473	0	209	466	0	209
V/C Ratio(X)	0.49	0.88	0.93	0.56	0.81	0.17	0.90	0.00	0.27	0.16	0.00	0.22
Avail Cap(c_a), veh/h	182	1189	504	304	1994	563	576	0	1113	466	0	818
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	25.4	25.9	37.5	24.1	3.0	27.8	0.0	30.9	22.3	0.0	30.9
Incr Delay (d2), s/veh	3.6	8.0	24.2	3.2	2.5	0.1	15.4	0.0	0.7	0.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	9.2	10.6	0.6	7.6	0.9	9.4	0.0	1.0	1.0	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.6	33.4	50.1	40.6	26.6	3.1	43.2	0.0	31.6	22.5	0.0	31.4
LnGrp LOS	D	C	D	D	C	A	D	A	C	C	A	C
Approach Vol, veh/h		1537			1610			483				119
Approach Delay, s/veh		38.6			25.6			41.9				25.9
Approach LOS		D			C			D				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.2	14.7	7.1	31.4	25.5	14.5	6.3	32.3				
Change Period (Y+Rc), s	* 4.7	* 4.7	4.6	6.5	4.6	* 4.7	4.6	6.5				
Max Green Setting (Gmax), s	* 10	* 53	13.4	22.5	25.4	* 38	8.0	27.9				
Max Q Clear Time (g_c+I1), s	4.5	4.4	3.4	24.5	20.2	3.9	2.8	21.1				
Green Ext Time (p_c), s	0.1	0.3	0.0	0.0	0.7	0.2	0.0	4.7				

Intersection Summary

HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

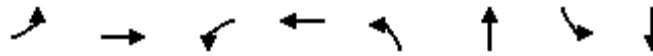
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

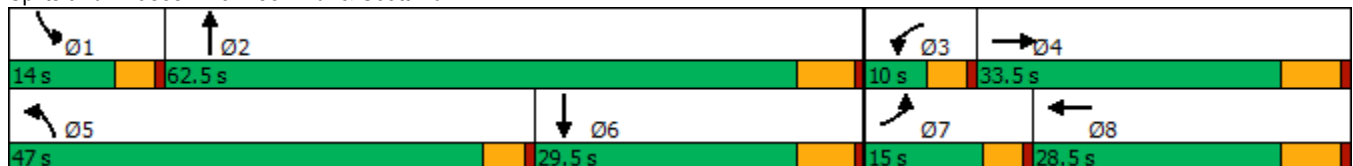


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↘	↑↑↑	↘	↑	↘	↑
Traffic Volume (vph)	84	517	22	689	464	88	55	98
Future Volume (vph)	84	517	22	689	464	88	55	98
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	28.5	9.6	28.5	9.6	28.2	9.6	28.2
Total Split (s)	15.0	33.5	10.0	28.5	47.0	62.5	14.0	29.5
Total Split (%)	12.5%	27.9%	8.3%	23.8%	39.2%	52.1%	11.7%	24.6%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effct Green (s)	8.6	26.5	5.6	19.5	29.8	40.6	7.6	15.2
Actuated g/C Ratio	0.09	0.28	0.06	0.21	0.32	0.44	0.08	0.16
v/c Ratio	0.53	0.61	0.22	0.69	0.85	0.12	0.40	0.61
Control Delay	59.4	28.7	56.0	40.6	46.0	18.3	56.0	42.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.4	28.7	56.0	40.6	46.0	18.3	56.0	42.3
LOS	E	C	E	D	D	B	E	D
Approach Delay		31.5		41.0		41.2		45.5
Approach LOS		C		D		D		D

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 93.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 37.8	Intersection LOS: D
Intersection Capacity Utilization 76.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 9: Leon Rd. & Scott Rd.

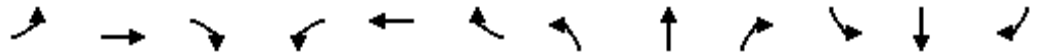
Keller Crossing (JN:13649)
 06/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	517	340	22	689	19	464	88	9	55	98	83
Future Volume (veh/h)	84	517	340	22	689	19	464	88	9	55	98	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	533	196	23	710	20	478	91	9	57	101	29
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	877	313	46	1015	29	526	647	64	84	194	56
Arrive On Green	0.06	0.24	0.24	0.03	0.20	0.20	0.30	0.39	0.39	0.05	0.14	0.14
Sat Flow, veh/h	1781	3711	1325	1781	5105	143	1781	1675	166	1781	1397	401
Grp Volume(v), veh/h	87	488	241	23	473	257	478	0	100	57	0	130
Grp Sat Flow(s),veh/h/ln	1781	1702	1632	1781	1702	1845	1781	0	1841	1781	0	1798
Q Serve(g_s), s	3.5	9.2	9.5	0.9	9.3	9.3	18.6	0.0	2.5	2.3	0.0	4.8
Cycle Q Clear(g_c), s	3.5	9.2	9.5	0.9	9.3	9.3	18.6	0.0	2.5	2.3	0.0	4.8
Prop In Lane	1.00		0.81	1.00		0.08	1.00		0.09	1.00		0.22
Lane Grp Cap(c), veh/h	112	804	385	46	677	367	526	0	711	84	0	249
V/C Ratio(X)	0.78	0.61	0.63	0.50	0.70	0.70	0.91	0.00	0.14	0.68	0.00	0.52
Avail Cap(c_a), veh/h	258	1278	613	134	1041	564	1050	0	1441	233	0	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.2	24.5	24.6	34.6	26.8	26.8	24.4	0.0	14.3	33.7	0.0	28.8
Incr Delay (d2), s/veh	4.3	0.7	1.7	3.2	1.3	2.4	2.6	0.0	0.1	3.5	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.3	3.4	0.4	3.4	3.8	7.1	0.0	0.9	1.0	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.5	25.2	26.3	37.8	28.1	29.3	27.0	0.0	14.4	37.2	0.0	30.5
LnGrp LOS	D	C	C	D	C	C	C	A	B	D	A	C
Approach Vol, veh/h		816			753			578				187
Approach Delay, s/veh		26.9			28.8			24.8				32.5
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	34.0	6.4	23.5	25.8	16.2	9.1	20.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5				
Max Green Setting (Gmax), s	9.4	56.3	5.4	27.0	42.4	23.3	10.4	22.0				
Max Q Clear Time (g_c+I1), s	4.3	4.5	2.9	11.5	20.6	6.8	5.5	11.3				
Green Ext Time (p_c), s	0.0	0.5	0.0	3.7	0.6	0.5	0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay				27.4								
HCM 6th LOS				C								

Timings
20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)

06/24/2021

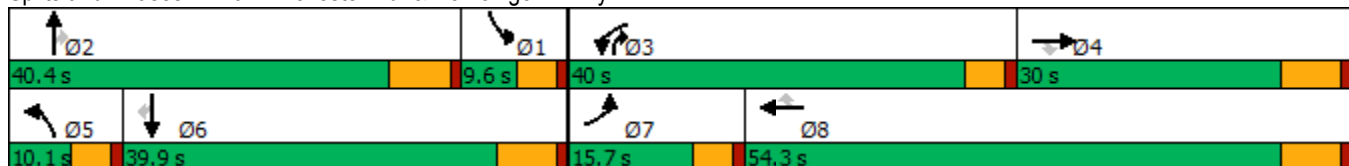


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖	↑↑↑	↖	↖	↑↑↑	↖
Traffic Volume (vph)	172	937	140	918	848	14	62	582	744	7	1104	235
Future Volume (vph)	172	937	140	918	848	14	62	582	744	7	1104	235
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.5	16.5	9.6	38.5	38.5	9.6	38.5	9.6	9.6	38.5	38.5
Total Split (s)	15.7	30.0	30.0	40.0	54.3	54.3	10.1	40.4	40.0	9.6	39.9	39.9
Total Split (%)	13.1%	25.0%	25.0%	33.3%	45.3%	45.3%	8.4%	33.7%	33.3%	8.0%	33.3%	33.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	9.7	23.4	23.4	34.3	47.9	47.9	5.5	37.4	77.3	7.1	31.2	31.2
Actuated g/C Ratio	0.08	0.20	0.20	0.29	0.41	0.41	0.05	0.32	0.66	0.06	0.27	0.27
v/c Ratio	0.62	0.89	0.30	0.94	0.39	0.02	0.80	0.35	0.73	0.07	0.78	0.41
Control Delay	61.7	56.9	2.6	57.5	25.2	0.1	109.5	32.4	16.1	51.4	44.0	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.7	56.9	2.6	57.5	25.2	0.1	109.5	32.4	16.1	51.4	44.0	6.3
LOS	E	E	A	E	C	A	F	C	B	D	D	A
Approach Delay		51.4			41.7			27.1			37.4	
Approach LOS		D			D			C			D	

Intersection Summary



































Cycle Length: 120
 Actuated Cycle Length: 116.6
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 39.3
 Intersection LOS: D
 Intersection Capacity Utilization 88.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			  			  	
Traffic Volume (veh/h)	172	937	140	918	848	14	62	582	744	7	1104	235
Future Volume (veh/h)	172	937	140	918	848	14	62	582	744	7	1104	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	997	93	977	902	9	66	619	552	7	1174	223
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	1134	320	1033	2374	671	88	1145	783	158	1461	413
Arrive On Green	0.07	0.20	0.20	0.43	0.42	0.42	0.05	0.20	0.20	0.09	0.26	0.26
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	183	997	93	977	902	9	66	619	552	7	1174	223
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.6	19.3	5.6	29.5	12.4	0.2	4.1	11.0	15.6	0.4	21.9	13.5
Cycle Q Clear(g_c), s	5.6	19.3	5.6	29.5	12.4	0.2	4.1	11.0	15.6	0.4	21.9	13.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	245	1134	320	1033	2374	671	88	1145	783	158	1461	413
V/C Ratio(X)	0.75	0.88	0.29	0.95	0.38	0.01	0.75	0.54	0.70	0.04	0.80	0.54
Avail Cap(c_a), veh/h	353	1179	333	1127	2397	677	88	1700	940	158	1675	473
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	43.3	37.8	30.8	22.2	7.8	52.5	39.8	7.7	46.7	38.7	35.6
Incr Delay (d2), s/veh	2.4	7.7	0.5	14.5	0.1	0.0	27.5	0.4	1.9	0.0	2.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	9.2	2.1	11.7	5.0	0.1	2.4	4.8	3.9	0.2	9.7	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.5	51.0	38.3	45.2	22.3	7.8	80.1	40.2	9.6	46.7	41.3	36.7
LnGrp LOS	D	D	D	D	C	A	F	D	A	D	D	D
Approach Vol, veh/h		1273			1888			1237			1404	
Approach Delay, s/veh		50.4			34.1			28.7			40.6	
Approach LOS		D			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.4	29.3	37.0	29.1	10.1	35.6	12.3	53.8				
Change Period (Y+Rc), s	6.5	* 6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	* 34	35.4	23.5	5.5	33.4	11.1	47.8				
Max Q Clear Time (g_c+I1), s	2.4	17.6	31.5	21.3	6.1	23.9	7.6	14.4				
Green Ext Time (p_c), s	0.0	5.3	1.0	1.3	0.0	5.2	0.1	6.1				
Intersection Summary												
HCM 6th Ctrl Delay			38.1									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

24: Winchester Rd. & Scott Rd./Washington St,

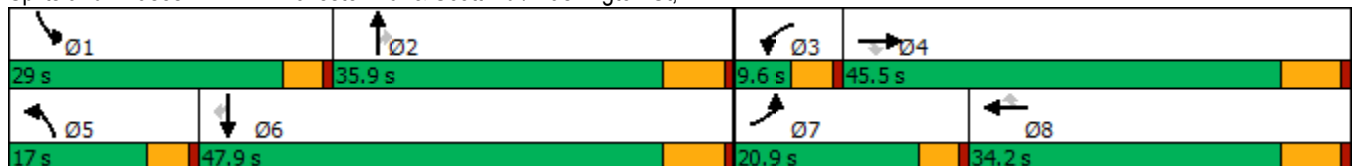


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR	Ø3
Lane Configurations	↖↗	↑↑	↖	↑	↖	↖	↑↑↑	↖	↑↑↑	↖	
Traffic Volume (vph)	280	173	152	183	223	153	973	318	1661	501	
Future Volume (vph)	280	173	152	183	223	153	973	318	1661	501	
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4		8		5	2	1	6		3
Permitted Phases			4		8					6	
Detector Phase	7	4	4	8	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	45.5	45.5	16.5	16.5	9.6	35.5	9.6	44.5	44.5	9.6
Total Split (s)	20.9	45.5	45.5	34.2	34.2	17.0	35.9	29.0	47.9	47.9	9.6
Total Split (%)	17.4%	37.9%	37.9%	28.5%	28.5%	14.2%	29.9%	24.2%	39.9%	39.9%	8%
Yellow Time (s)	3.6	5.5	5.5	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	6.5	6.5	4.6	6.5	4.6	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	None
Act Effct Green (s)	12.9	34.0	34.0	16.4	16.4	12.1	29.6	23.4	40.9	40.9	
Actuated g/C Ratio	0.12	0.32	0.32	0.16	0.16	0.12	0.28	0.22	0.39	0.39	
v/c Ratio	0.69	0.15	0.26	0.67	0.53	0.80	0.65	0.86	0.81	0.59	
Control Delay	53.4	25.0	4.8	53.7	9.7	74.7	36.5	61.6	33.0	7.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.4	25.0	4.8	53.7	9.7	74.7	36.5	61.6	33.0	7.0	
LOS	D	C	A	D	A	E	D	E	C	A	
Approach Delay		33.1		29.6			41.7		31.4		
Approach LOS		C		C			D		C		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.7
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 34.0
 Intersection LOS: C
 Intersection Capacity Utilization 76.7%
 ICU Level of Service D
 Analysis Period (min) 15































Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 						  			  	
Traffic Volume (veh/h)	280	173	152	0	183	223	153	973	0	318	1661	501
Future Volume (veh/h)	280	173	152	0	183	223	153	973	0	318	1661	501
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	298	184	118	0	195	-2	163	1035	0	338	1767	81
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	382	1084	460	2	246	209	197	1707	482	374	2266	640
Arrive On Green	0.11	0.29	0.29	0.00	0.13	0.00	0.11	0.30	0.00	0.21	0.40	0.40
Sat Flow, veh/h	3563	3741	1585	1781	1870	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	298	184	118	0	195	-2	163	1035	0	338	1767	81
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.3	3.3	5.1	0.0	9.1	0.0	8.1	14.1	0.0	16.6	24.6	2.9
Cycle Q Clear(g_c), s	7.3	3.3	5.1	0.0	9.1	0.0	8.1	14.1	0.0	16.6	24.6	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	382	1084	460	2	246	209	197	1707	482	374	2266	640
V/C Ratio(X)	0.78	0.17	0.26	0.00	0.79	-0.01	0.83	0.61	0.00	0.90	0.78	0.13
Avail Cap(c_a), veh/h	646	1623	688	99	576	488	246	1835	518	483	2584	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.1	23.8	24.5	0.0	37.8	0.0	39.2	26.7	0.0	34.6	23.3	16.8
Incr Delay (d2), s/veh	1.3	0.1	0.3	0.0	5.7	0.0	14.2	0.5	0.0	14.9	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	1.3	1.8	0.0	4.2	0.0	4.0	5.7	0.0	8.1	9.6	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	23.9	24.8	0.0	43.5	0.0	53.4	27.2	0.0	49.6	24.7	16.9
LnGrp LOS	D	C	C	A	D	A	D	C	A	D	C	B
Approach Vol, veh/h		600			193			1198			2186	
Approach Delay, s/veh		32.3			44.0			30.8			28.3	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.5	33.9	0.0	32.6	14.5	42.8	14.2	18.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	24.4	29.4	5.0	39.0	12.4	41.4	16.3	27.7				
Max Q Clear Time (g_c+I1), s	18.6	16.1	0.0	7.1	10.1	26.6	9.3	11.1				
Green Ext Time (p_c), s	0.3	5.2	0.0	1.4	0.0	9.7	0.3	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			30.3									
HCM 6th LOS			C									

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

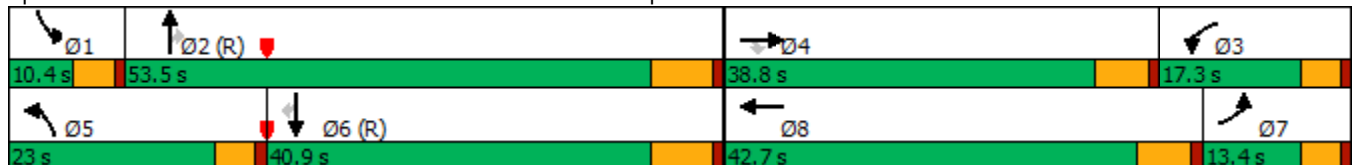


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗↗	↖	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗
Traffic Volume (vph)	87	219	985	367	366	517	973	139	83	1956	143
Future Volume (vph)	87	219	985	367	366	517	973	139	83	1956	143
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.8	38.8	9.6	15.8	9.6	36.5	36.5	9.6	38.5	38.5
Total Split (s)	13.4	38.8	38.8	17.3	42.7	23.0	53.5	53.5	10.4	40.9	40.9
Total Split (%)	11.2%	32.3%	32.3%	14.4%	35.6%	19.2%	44.6%	44.6%	8.7%	34.1%	34.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	0.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	6.5	3.6	5.5	6.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	12.2	31.1	30.1	16.6	35.5	19.4	48.1	47.1	6.7	35.4	34.4
Actuated g/C Ratio	0.10	0.26	0.25	0.14	0.30	0.16	0.40	0.39	0.06	0.30	0.29
v/c Ratio	0.53	0.49	0.90	1.61	0.90	0.97	0.47	0.21	0.45	0.96	0.27
Control Delay	64.0	40.8	31.9	327.0	60.6	85.9	19.1	1.2	62.5	53.1	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.0	40.8	31.9	327.0	60.6	85.9	19.1	1.2	62.5	53.1	6.7
LOS	E	D	C	F	E	F	B	A	E	D	A
Approach Delay		35.6			179.7		38.8			50.4	
Approach LOS		D			F		D			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 13 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.61	
Intersection Signal Delay: 61.9	Intersection LOS: E
Intersection Capacity Utilization 95.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	219	985	367	366	88	517	973	139	83	1956	143
Future Volume (veh/h)	87	219	985	367	366	88	517	973	139	83	1956	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	94	235	494	395	394	4	556	1046	58	89	2103	132
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	317	504	265	452	5	576	2740	761	170	2802	580
Arrive On Green	0.07	0.17	0.16	0.22	0.24	0.24	0.32	0.73	0.96	0.05	0.56	0.37
Sat Flow, veh/h	1781	1870	3128	1781	1848	19	3563	5611	1585	3563	7481	1585
Grp Volume(v), veh/h	94	235	494	395	0	398	556	1046	58	89	2103	132
Grp Sat Flow(s),veh/h/ln	1781	1870	1564	1781	0	1867	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.2	14.3	13.5	17.8	0.0	24.6	18.4	8.3	0.1	2.9	25.6	5.2
Cycle Q Clear(g_c), s	6.2	14.3	13.5	17.8	0.0	24.6	18.4	8.3	0.1	2.9	25.6	5.2
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	131	317	504	265	0	456	576	2740	761	170	2802	580
V/C Ratio(X)	0.72	0.74	0.98	1.49	0.00	0.87	0.97	0.38	0.08	0.52	0.75	0.23
Avail Cap(c_a), veh/h	145	530	860	265	0	590	576	2740	761	202	2802	580
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	2.00	1.50	2.00	1.00	1.50	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	0.00	1.00	0.79	0.79	0.79	0.73	0.73	0.73
Uniform Delay (d), s/veh	54.4	47.3	25.6	46.6	0.0	43.5	40.3	9.3	0.4	55.8	22.1	14.8
Incr Delay (d2), s/veh	1.1	0.3	3.7	240.8	0.0	11.1	24.8	0.3	0.2	0.7	1.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	6.5	5.3	25.0	0.0	12.7	8.1	2.7	0.1	1.3	8.1	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.4	47.6	29.3	287.5	0.0	54.7	65.1	9.6	0.5	56.5	23.4	15.5
LnGrp LOS	E	D	C	F	A	D	E	A	A	E	C	B
Approach Vol, veh/h		823			793			1660			2324	
Approach Delay, s/veh		37.5			170.6			27.9			24.3	
Approach LOS		D			F			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	64.1	21.4	25.1	23.0	50.4	12.4	34.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.8	47.0	12.7	33.0	18.4	34.4	8.8	36.9				
Max Q Clear Time (g_c+I1), s	4.9	10.3	19.8	16.3	20.4	27.6	8.2	26.6				
Green Ext Time (p_c), s	0.0	7.7	0.0	3.0	0.0	5.8	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			48.0									
HCM 6th LOS			D									

Timings
31: Winchester Rd. & Benton Rd.

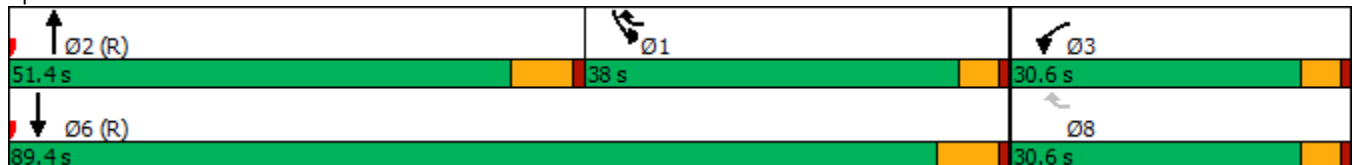
Keller Crossing (JN:13649)
06/24/2021

	↙	↖	↑	↘	↓	∅8
Lane Group	WBL	WBR	NBT	SBL	SBT	∅8
Lane Configurations	↔↔	↔	↔↔↔	↔↔	↔↔↔	
Traffic Volume (vph)	393	422	1167	623	2677	
Future Volume (vph)	393	422	1167	623	2677	
Turn Type	Prot	pm+ov	NA	Prot	NA	
Protected Phases	3	1	2	1	6	8
Permitted Phases		8				
Detector Phase	3	1	2	1	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.6	9.6	38.5	9.6	16.5	30.6
Total Split (s)	30.6	38.0	51.4	38.0	89.4	30.6
Total Split (%)	25.5%	31.7%	42.8%	31.7%	74.5%	26%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag		Lag	Lead	Lag		
Lead-Lag Optimize?		Yes	Yes	Yes		
Recall Mode	None	None	C-Min	None	C-Min	None
Act Effct Green (s)	18.4	53.2	55.7	30.2	90.5	
Actuated g/C Ratio	0.15	0.44	0.46	0.25	0.75	
v/c Ratio	0.76	0.63	0.56	0.74	0.67	
Control Delay	58.2	28.3	25.1	30.7	7.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.2	28.3	25.1	30.7	7.8	
LOS	E	C	C	C	A	
Approach Delay	42.7		25.1		12.1	
Approach LOS	D		C		B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 19.9
 Intersection LOS: B
 Intersection Capacity Utilization 72.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰↰	↰	↕↕↕		↰↰	↕↕↕
Traffic Volume (veh/h)	393	422	1167	199	623	2677
Future Volume (veh/h)	393	422	1167	199	623	2677
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	414	418	1228	46	656	2818
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	503	908	1506	56	1539	4300
Arrive On Green	0.14	0.14	0.42	0.28	0.86	1.00
Sat Flow, veh/h	3563	1585	5374	201	3563	5611
Grp Volume(v), veh/h	414	418	855	419	656	2818
Grp Sat Flow(s),veh/h/ln	1781	1585	1870	1834	1781	1870
Q Serve(g_s), s	13.6	0.0	24.2	24.4	4.8	0.0
Cycle Q Clear(g_c), s	13.6	0.0	24.2	24.4	4.8	0.0
Prop In Lane	1.00	1.00		0.11	1.00	
Lane Grp Cap(c), veh/h	503	908	1048	514	1539	4300
V/C Ratio(X)	0.82	0.46	0.82	0.82	0.43	0.66
Avail Cap(c_a), veh/h	772	1028	1400	686	1539	4300
HCM Platoon Ratio	1.00	1.00	1.50	1.00	2.00	1.50
Upstream Filter(I)	1.00	1.00	0.84	0.84	0.09	0.09
Uniform Delay (d), s/veh	50.1	14.8	32.0	33.0	5.0	0.0
Incr Delay (d2), s/veh	2.4	0.1	5.9	11.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	6.5	9.5	10.4	1.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.5	15.0	38.0	44.4	5.0	0.1
LnGrp LOS	D	B	D	D	A	A
Approach Vol, veh/h	832		1274			3474
Approach Delay, s/veh	33.6		40.1			1.0
Approach LOS	C		D			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	58.3	40.1			98.5	21.5
Change Period (Y+Rc), s	6.5	* 6.5			6.5	4.6
Max Green Setting (Gmax), s	33.4	* 45			82.9	26.0
Max Q Clear Time (g_c+I1), s	6.8	26.4			2.0	15.6
Green Ext Time (p_c), s	1.2	7.3			52.8	1.4

Intersection Summary

HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙↘	↘	↙↘	↘	↙	↑↑↑	↘	↙	↑↑↑
Traffic Volume (vph)	188	48	308	41	30	1134	303	246	2628
Future Volume (vph)	188	48	308	41	30	1134	303	246	2628
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.8	34.8	34.8	34.8	9.8	53.2	53.2	32.0	75.4
Total Split (%)	29.0%	29.0%	29.0%	29.0%	8.2%	44.3%	44.3%	26.7%	62.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	20.3	20.3	20.3	20.3	5.2	46.8	46.8	27.5	69.1
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.05	0.42	0.42	0.25	0.63
v/c Ratio	0.42	0.32	0.75	0.25	0.37	0.54	0.37	0.58	0.92
Control Delay	42.2	23.8	54.2	22.4	65.9	25.5	3.8	43.5	25.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	23.8	54.2	22.4	65.9	25.5	3.8	43.5	25.4
LOS	D	C	D	C	E	C	A	D	C
Approach Delay		35.4		47.3		21.9			26.8
Approach LOS		D		D		C			C

Intersection Summary

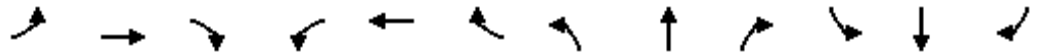
Cycle Length: 120
 Actuated Cycle Length: 110.4
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 27.5
 Intersection LOS: C
 Intersection Capacity Utilization 87.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔↔	↔		↔	↑↑↑	↔	↔	↑↑↑	
Traffic Volume (veh/h)	188	48	63	308	41	45	30	1134	303	246	2628	196
Future Volume (veh/h)	188	48	63	308	41	45	30	1134	303	246	2628	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	194	49	54	318	42	41	31	1169	238	254	2709	47
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	559	166	183	524	179	174	88	1952	606	466	3070	53
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.05	0.38	0.38	0.26	0.59	0.59
Sat Flow, veh/h	2551	807	889	2505	869	848	1781	5106	1585	1781	5167	89
Grp Volume(v), veh/h	194	0	103	318	0	83	31	1169	238	254	1780	976
Grp Sat Flow(s),veh/h/ln	1276	0	1696	1253	0	1718	1781	1702	1585	1781	1702	1852
Q Serve(g_s), s	7.2	0.0	5.4	12.9	0.0	4.2	1.8	19.2	11.4	12.9	46.6	47.4
Cycle Q Clear(g_c), s	11.4	0.0	5.4	18.3	0.0	4.2	1.8	19.2	11.4	12.9	46.6	47.4
Prop In Lane	1.00		0.52	1.00		0.49	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	559	0	349	524	0	353	88	1952	606	466	2022	1100
V/C Ratio(X)	0.35	0.00	0.30	0.61	0.00	0.24	0.35	0.60	0.39	0.55	0.88	0.89
Avail Cap(c_a), veh/h	767	0	487	728	0	493	88	2275	706	466	2237	1217
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	0.0	35.2	42.9	0.0	34.8	48.2	25.9	23.5	33.4	18.1	18.3
Incr Delay (d2), s/veh	0.1	0.0	0.2	1.1	0.0	0.3	10.6	0.3	0.4	4.5	3.8	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	2.2	4.0	0.0	1.8	1.0	7.1	4.0	5.8	15.7	18.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	0.0	35.4	44.1	0.0	35.1	58.8	26.3	23.9	37.9	21.9	25.4
LnGrp LOS	D	A	D	D	A	D	E	C	C	D	C	C
Approach Vol, veh/h		297			401			1438			3010	
Approach Delay, s/veh		38.2			42.2			26.6			24.4	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.0	46.6		26.3	9.8	68.8		26.3				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	27.4	46.7		* 30	5.2	68.9		* 30				
Max Q Clear Time (g_c+I1), s	14.9	21.2		13.4	3.8	49.4		20.3				
Green Ext Time (p_c), s	0.3	8.9		0.7	0.0	12.9		1.3				

Intersection Summary

HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

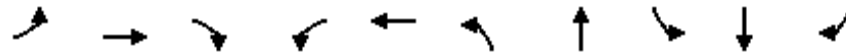
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/24/2021

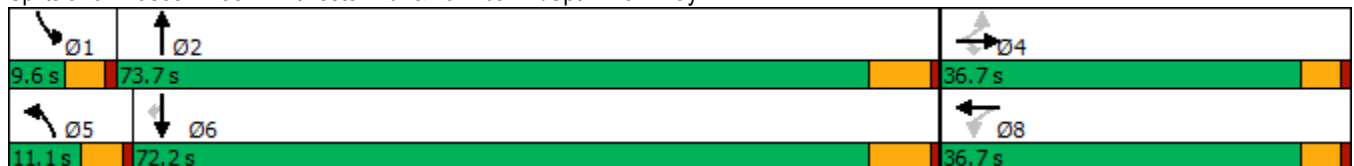


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	121	4	181	14	1	82	1275	11	2751	73
Future Volume (vph)	121	4	181	14	1	82	1275	11	2751	73
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	11.1	73.7	9.6	72.2	72.2
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	9.3%	61.4%	8.0%	60.2%	60.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	15.0	15.0	15.0		15.0	6.5	75.2	5.0	65.8	65.8
Actuated g/C Ratio	0.15	0.15	0.15		0.15	0.06	0.73	0.05	0.64	0.64
v/c Ratio	0.63	0.01	0.64		0.09	0.77	0.37	0.13	0.88	0.07
Control Delay	55.2	36.2	33.9		32.6	88.4	6.4	52.5	20.6	2.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	36.2	33.9		32.6	88.4	6.4	52.5	20.6	2.9
LOS	E	D	C		C	F	A	D	C	A
Approach Delay		42.4			32.6		11.2		20.3	
Approach LOS		D			C		B		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 19.0
 Intersection LOS: B
 Intersection Capacity Utilization 85.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	4	181	14	1	4	82	1275	44	11	2751	73
Future Volume (veh/h)	121	4	181	14	1	4	82	1275	44	11	2751	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	4	122	15	1	2	85	1328	39	11	2866	67
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	210	178	188	15	17	108	3614	106	24	3376	1048
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.06	0.71	0.71	0.01	0.66	0.66
Sat Flow, veh/h	1414	1870	1585	1057	131	149	1781	5098	150	1781	5106	1585
Grp Volume(v), veh/h	126	4	122	18	0	0	85	887	480	11	2866	67
Grp Sat Flow(s),veh/h/ln	1414	1870	1585	1337	0	0	1781	1702	1843	1781	1702	1585
Q Serve(g_s), s	7.0	0.2	7.1	0.6	0.0	0.0	4.5	9.8	9.8	0.6	41.4	1.4
Cycle Q Clear(g_c), s	8.0	0.2	7.1	1.0	0.0	0.0	4.5	9.8	9.8	0.6	41.4	1.4
Prop In Lane	1.00		1.00	0.83		0.11	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	238	210	178	219	0	0	108	2413	1307	24	3376	1048
V/C Ratio(X)	0.53	0.02	0.69	0.08	0.00	0.00	0.78	0.37	0.37	0.47	0.85	0.06
Avail Cap(c_a), veh/h	553	627	531	513	0	0	121	2413	1307	93	3515	1091
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	37.7	40.7	38.0	0.0	0.0	44.2	5.5	5.5	46.8	12.5	5.7
Incr Delay (d2), s/veh	1.8	0.0	4.6	0.2	0.0	0.0	22.1	0.1	0.2	5.2	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.1	3.0	0.4	0.0	0.0	2.5	2.2	2.5	0.3	11.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	37.7	45.3	38.2	0.0	0.0	66.3	5.6	5.6	52.0	14.5	5.7
LnGrp LOS	D	D	D	D	A	A	E	A	A	D	B	A
Approach Vol, veh/h		252			18			1452			2944	
Approach Delay, s/veh		44.0			38.2			9.1			14.5	
Approach LOS		D			D			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	74.2		15.4	10.4	69.6		15.4				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	6.5	65.7		* 32				
Max Q Clear Time (g_c+I1), s	2.6	11.8		10.0	6.5	43.4		3.0				
Green Ext Time (p_c), s	0.0	10.6		0.7	0.0	19.8		0.1				

Intersection Summary

HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

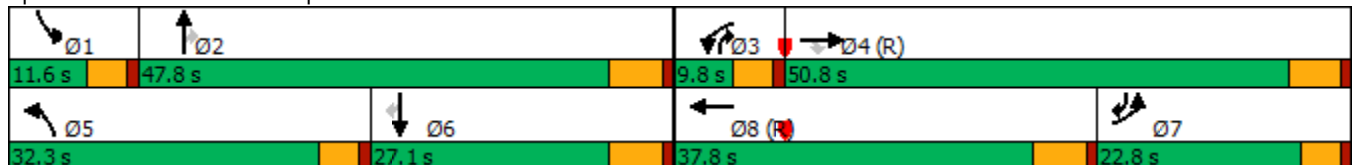
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	514	1704	459	82	1221	554	214	170	89	124	292	
Future Volume (vph)	514	1704	459	82	1221	554	214	170	89	124	292	
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	
Protected Phases	7	4		3	8	5	2	3	1	6	7	
Permitted Phases			4					2			6	
Detector Phase	7	4	4	3	8	5	2	3	1	6	7	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6	
Total Split (s)	22.8	50.8	50.8	9.8	37.8	32.3	47.8	9.8	11.6	27.1	22.8	
Total Split (%)	19.0%	42.3%	42.3%	8.2%	31.5%	26.9%	39.8%	8.2%	9.7%	22.6%	19.0%	
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None	None	None	
Act Effct Green (s)	18.2	54.8	54.8	7.1	43.6	23.5	30.4	43.2	7.0	13.9	33.3	
Actuated g/C Ratio	0.15	0.46	0.46	0.06	0.36	0.20	0.25	0.36	0.06	0.12	0.28	
v/c Ratio	1.00	0.70	0.53	0.42	0.74	0.83	0.25	0.27	0.90	0.60	0.56	
Control Delay	89.5	29.1	10.0	66.0	60.9	57.4	35.1	9.2	121.9	61.6	13.3	
Queue Delay	0.0	48.2	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.5	77.3	12.0	66.0	60.9	57.4	35.1	9.2	121.9	61.6	13.3	
LOS	F	E	B	E	E	E	D	A	F	E	B	
Approach Delay		68.4			61.2		43.6			44.3		
Approach LOS		E			E		D			D		

Intersection Summary


































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 70 (58%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 60.2
 Intersection LOS: E
 Intersection Capacity Utilization 81.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	 			 	
Traffic Volume (veh/h)	514	1704	459	82	1221	78	554	214	170	89	124	292
Future Volume (veh/h)	514	1704	459	82	1221	78	554	214	170	89	124	292
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	535	1775	269	85	1272	13	577	223	85	93	129	185
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1004	2889	816	136	1367	14	645	762	402	104	171	590
Arrive On Green	0.28	0.51	0.51	0.05	0.35	0.35	0.18	0.21	0.21	0.06	0.09	0.09
Sat Flow, veh/h	3563	5611	1585	3456	5212	53	3563	3554	1585	1781	1870	1562
Grp Volume(v), veh/h	535	1775	269	85	831	454	577	223	85	93	129	185
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1702	1861	1781	1777	1585	1781	1870	1562
Q Serve(g_s), s	15.2	26.9	11.9	2.9	28.2	28.2	19.0	6.3	5.1	6.2	8.1	3.5
Cycle Q Clear(g_c), s	15.2	26.9	11.9	2.9	28.2	28.2	19.0	6.3	5.1	6.2	8.1	3.5
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1004	2889	816	136	893	488	645	762	402	104	171	590
V/C Ratio(X)	0.53	0.61	0.33	0.63	0.93	0.93	0.89	0.29	0.21	0.90	0.75	0.31
Avail Cap(c_a), veh/h	1004	2889	816	150	908	496	822	1244	617	104	332	724
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.4	20.7	17.0	56.0	38.0	38.0	48.0	39.5	35.3	56.1	53.2	9.8
Incr Delay (d2), s/veh	0.2	0.7	0.8	2.7	11.9	18.8	9.0	0.2	0.3	55.0	6.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	11.1	4.3	1.3	11.9	14.0	9.0	2.7	1.9	4.3	4.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.6	21.4	17.8	58.8	49.9	56.8	57.0	39.7	35.6	111.2	59.7	10.1
LnGrp LOS	D	C	B	E	D	E	E	D	D	F	E	B
Approach Vol, veh/h		2579			1370			885			407	
Approach Delay, s/veh		24.2			52.8			50.6			48.9	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	31.5	9.3	67.6	26.3	16.8	39.6	37.3				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	5.8	* 5.8				
Max Green Setting (Gmax), s	7.0	42.0	5.2	45.0	27.7	21.3	18.2	* 32				
Max Q Clear Time (g_c+I1), s	8.2	8.3	4.9	28.9	21.0	10.1	17.2	30.2				
Green Ext Time (p_c), s	0.0	1.6	0.0	11.2	0.7	0.9	0.1	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			38.0									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

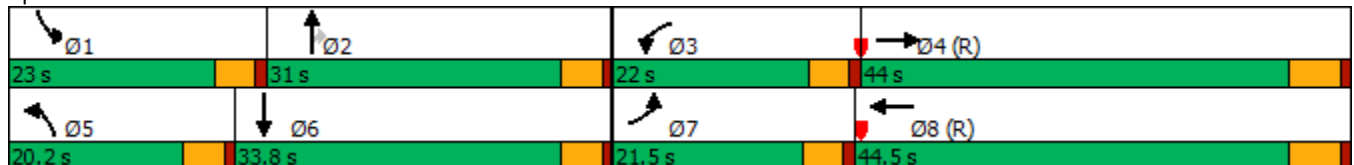


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↕↕↕	↖	↕↕↕	↖	↕	↗	↖	↗
Traffic Volume (vph)	178	1324	189	1150	113	332	271	212	120
Future Volume (vph)	178	1324	189	1150	113	332	271	212	120
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	21.5	44.0	22.0	44.5	20.2	31.0	31.0	23.0	33.8
Total Split (%)	17.9%	36.7%	18.3%	37.1%	16.8%	25.8%	25.8%	19.2%	28.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Act Effct Green (s)	15.3	41.9	16.0	42.5	12.0	25.2	25.2	17.3	30.4
Actuated g/C Ratio	0.13	0.35	0.13	0.35	0.10	0.21	0.21	0.14	0.25
v/c Ratio	0.83	0.80	0.85	0.74	0.67	0.89	0.52	0.88	0.48
Control Delay	71.9	55.1	80.6	36.5	70.2	71.7	8.1	82.5	36.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.9	55.1	80.6	36.5	70.2	71.7	8.1	82.5	36.6
LOS	E	E	F	D	E	E	A	F	D
Approach Delay		56.9		41.9		47.4			59.7
Approach LOS		E		D		D			E

Intersection Summary


























Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 62.4 (52%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 50.2
 Intersection LOS: D
 Intersection Capacity Utilization 84.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (veh/h)	178	1324	138	189	1150	217	113	332	271	212	120	89
Future Volume (veh/h)	178	1324	138	189	1150	217	113	332	271	212	120	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	1394	56	199	1211	96	119	349	127	223	126	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	1950	78	226	1904	151	145	382	318	250	329	136
Arrive On Green	0.16	0.48	0.48	0.13	0.37	0.37	0.08	0.20	0.20	0.14	0.26	0.26
Sat Flow, veh/h	1781	5351	215	1781	5122	406	1781	1870	1556	1781	1252	517
Grp Volume(v), veh/h	187	975	475	199	884	423	119	349	127	223	0	178
Grp Sat Flow(s),veh/h/ln	1781	1870	1825	1781	1870	1787	1781	1870	1556	1781	0	1769
Q Serve(g_s), s	12.3	24.6	24.6	13.2	23.3	23.4	7.9	21.9	8.5	14.8	0.0	9.9
Cycle Q Clear(g_c), s	12.3	24.6	24.6	13.2	23.3	23.4	7.9	21.9	8.5	14.8	0.0	9.9
Prop In Lane	1.00		0.12	1.00		0.23	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	213	1363	665	226	1391	664	145	382	318	250	0	465
V/C Ratio(X)	0.88	0.71	0.71	0.88	0.64	0.64	0.82	0.91	0.40	0.89	0.00	0.38
Avail Cap(c_a), veh/h	251	1363	665	258	1391	664	232	410	341	273	0	465
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.6	26.0	26.0	51.5	31.0	31.0	54.3	46.7	41.4	50.7	0.0	36.2
Incr Delay (d2), s/veh	17.0	2.2	4.5	20.8	1.9	3.9	5.6	23.6	0.8	26.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	9.7	9.9	7.0	10.4	10.3	3.8	12.6	3.2	8.4	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	28.2	30.5	72.3	32.9	35.0	59.9	70.3	42.2	76.7	0.0	36.7
LnGrp LOS	E	C	C	E	C	C	E	E	D	E	A	D
Approach Vol, veh/h		1637			1506			595			401	
Approach Delay, s/veh		33.3			38.7			62.2			59.0	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.4	29.2	19.8	49.5	14.4	36.3	18.9	50.4				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	18.4	* 26	17.4	38.2	15.6	* 29	16.9	38.7				
Max Q Clear Time (g_c+I1), s	16.8	23.9	15.2	26.6	9.9	11.9	14.3	25.4				
Green Ext Time (p_c), s	0.1	0.6	0.1	6.7	0.1	0.9	0.1	6.6				
Intersection Summary												
HCM 6th Ctrl Delay			41.9									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)

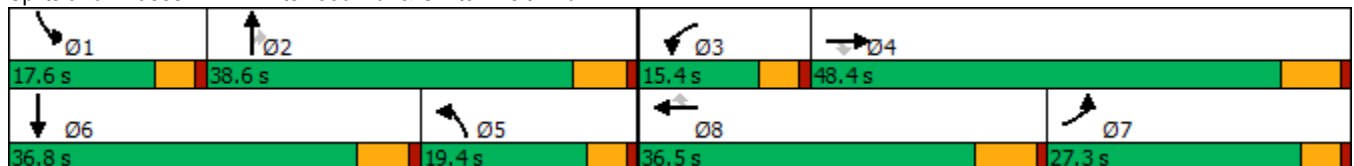
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	698	1351	173	162	1056	225	221	778	184	173	248
Future Volume (vph)	698	1351	173	162	1056	225	221	778	184	173	248
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	36.8	36.8	9.6	36.8
Total Split (s)	27.3	48.4	48.4	15.4	36.5	36.5	19.4	38.6	38.6	17.6	36.8
Total Split (%)	22.8%	40.3%	40.3%	12.8%	30.4%	30.4%	16.2%	32.2%	32.2%	14.7%	30.7%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	22.8	42.0	42.0	9.4	28.6	28.6	24.1	30.4	30.4	12.9	19.2
Actuated g/C Ratio	0.20	0.36	0.36	0.08	0.25	0.25	0.21	0.26	0.26	0.11	0.17
v/c Ratio	1.03	0.72	0.26	0.60	0.83	0.41	0.62	0.86	0.35	0.90	0.81
Control Delay	88.1	35.2	4.9	61.6	47.9	6.9	52.2	51.4	8.0	95.9	31.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.1	35.2	4.9	61.6	47.9	6.9	52.2	51.4	8.0	95.9	31.8
LOS	F	D	A	E	D	A	D	D	A	F	C
Approach Delay		49.4			43.0			44.8			45.7
Approach LOS		D			D			D			D

Intersection Summary

































Cycle Length: 120	
Actuated Cycle Length: 116.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.03	
Intersection Signal Delay: 46.3	Intersection LOS: D
Intersection Capacity Utilization 89.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (veh/h)	698	1351	173	162	1056	225	221	778	184	173	248	377
Future Volume (veh/h)	698	1351	173	162	1056	225	221	778	184	173	248	377
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	712	1379	162	165	1078	215	226	794	173	177	253	155
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	694	2051	610	223	1269	377	365	906	404	199	325	192
Arrive On Green	0.19	0.38	0.38	0.06	0.24	0.24	0.20	0.25	0.25	0.11	0.15	0.15
Sat Flow, veh/h	3563	5331	1585	3456	5331	1585	1781	3554	1585	1781	2148	1271
Grp Volume(v), veh/h	712	1379	162	165	1078	215	226	794	173	177	208	200
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1642
Q Serve(g_s), s	22.7	25.0	4.0	5.5	22.5	10.2	13.5	25.0	10.6	11.4	13.1	13.7
Cycle Q Clear(g_c), s	22.7	25.0	4.0	5.5	22.5	10.2	13.5	25.0	10.6	11.4	13.1	13.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	694	2051	610	223	1269	377	365	906	404	199	269	249
V/C Ratio(X)	1.03	0.67	0.27	0.74	0.85	0.57	0.62	0.88	0.43	0.89	0.77	0.81
Avail Cap(c_a), veh/h	694	2051	610	320	1372	408	365	1000	446	199	473	437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	29.8	6.0	53.6	42.4	20.8	42.2	41.7	36.3	51.1	47.5	47.8
Incr Delay (d2), s/veh	41.0	0.9	0.2	2.5	5.0	1.6	2.4	8.3	0.7	34.7	4.7	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	10.0	2.7	2.4	9.9	3.6	6.0	11.6	4.0	6.9	6.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.9	30.6	6.3	56.0	47.4	22.4	44.6	50.0	37.0	85.7	52.2	53.8
LnGrp LOS	F	C	A	E	D	C	D	D	D	F	D	D
Approach Vol, veh/h		2253			1458			1193			585	
Approach Delay, s/veh		47.0			44.7			47.1			62.9	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.6	35.5	12.1	51.3	29.7	23.5	29.2	34.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	5.8	* 5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	13.0	32.8	10.8	41.9	14.8	* 31	22.7	* 30				
Max Q Clear Time (g_c+I1), s	13.4	27.0	7.5	27.0	15.5	15.7	24.7	24.5				
Green Ext Time (p_c), s	0.0	2.7	0.1	7.9	0.0	1.9	0.0	3.2				
Intersection Summary												
HCM 6th Ctrl Delay			48.1									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/23/2021

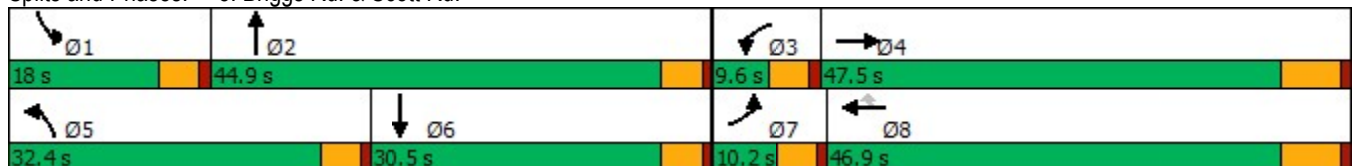


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↑↑↑	↙	↑↑↑	↗	↙	↗	↙	↗
Traffic Volume (vph)	19	1344	40	1121	72	314	7	97	4
Future Volume (vph)	19	1344	40	1121	72	314	7	97	4
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	9.6	35.7	9.6	28.7
Total Split (s)	10.2	47.5	9.6	46.9	46.9	32.4	44.9	18.0	30.5
Total Split (%)	8.5%	39.6%	8.0%	39.1%	39.1%	27.0%	37.4%	15.0%	25.4%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	Min	None	None	None	None
Act Effct Green (s)	5.8	37.3	5.5	38.8	38.8	22.5	19.1	13.2	11.1
Actuated g/C Ratio	0.07	0.44	0.07	0.46	0.46	0.27	0.23	0.16	0.13
v/c Ratio	0.16	0.71	0.36	0.45	0.09	0.69	0.10	0.36	0.13
Control Delay	49.9	23.0	56.0	18.5	0.2	39.8	13.9	43.5	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	23.0	56.0	18.5	0.2	39.8	13.9	43.5	20.6
LOS	D	C	E	B	A	D	B	D	C
Approach Delay		23.3		18.7			36.9		38.2
Approach LOS		C		B			D		D

Intersection Summary

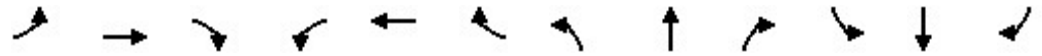
Cycle Length: 120
 Actuated Cycle Length: 84
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 23.6
 Intersection LOS: C
 Intersection Capacity Utilization 66.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖	↖	↑		↖	↑	
Traffic Volume (veh/h)	19	1344	318	40	1121	72	314	7	33	97	4	25
Future Volume (veh/h)	19	1344	318	40	1121	72	314	7	33	97	4	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	1400	34	42	1168	75	327	7	29	101	4	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	1972	48	68	2117	598	379	84	348	131	59	147
Arrive On Green	0.02	0.36	0.36	0.04	0.38	0.38	0.21	0.26	0.26	0.07	0.13	0.13
Sat Flow, veh/h	1781	5455	132	1781	5611	1585	1781	318	1316	1781	468	1170
Grp Volume(v), veh/h	20	960	474	42	1168	75	327	0	36	101	0	14
Grp Sat Flow(s),veh/h/ln	1781	1870	1847	1781	1870	1585	1781	0	1634	1781	0	1637
Q Serve(g_s), s	0.9	17.2	17.2	1.8	12.7	2.4	13.8	0.0	1.3	4.3	0.0	0.6
Cycle Q Clear(g_c), s	0.9	17.2	17.2	1.8	12.7	2.4	13.8	0.0	1.3	4.3	0.0	0.6
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.81	1.00		0.71
Lane Grp Cap(c), veh/h	40	1352	668	68	2117	598	379	0	432	131	0	206
V/C Ratio(X)	0.50	0.71	0.71	0.62	0.55	0.13	0.86	0.00	0.08	0.77	0.00	0.07
Avail Cap(c_a), veh/h	128	1969	972	114	2911	822	636	0	843	306	0	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.6	21.4	21.4	36.9	19.1	15.9	29.6	0.0	21.5	35.4	0.0	30.0
Incr Delay (d2), s/veh	3.5	0.7	1.4	3.3	0.2	0.1	6.5	0.0	0.1	9.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.5	6.5	0.8	4.7	0.8	6.3	0.0	0.5	2.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	22.1	22.8	40.2	19.3	15.9	36.0	0.0	21.6	44.6	0.0	30.2
LnGrp LOS	D	C	C	D	B	B	D	A	C	D	A	C
Approach Vol, veh/h		1454			1285			363				115
Approach Delay, s/veh		22.6			19.8			34.6				42.9
Approach LOS		C			B			C				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	25.3	7.6	34.7	21.2	14.5	6.4	35.9				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	6.5	4.6	* 4.7	4.6	6.5				
Max Green Setting (Gmax), s	13.4	* 40	5.0	41.0	27.8	* 26	5.6	40.4				
Max Q Clear Time (g_c+I1), s	6.3	3.3	3.8	19.2	15.8	2.6	2.9	14.7				
Green Ext Time (p_c), s	0.1	0.2	0.0	9.0	0.8	0.0	0.0	8.2				

Intersection Summary

HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

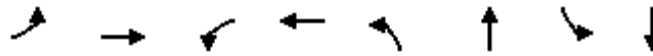
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

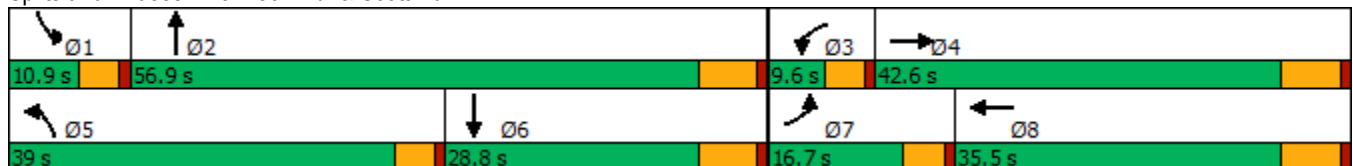


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↘	↑↑↑	↘	↑	↘	↑
Traffic Volume (vph)	76	831	15	710	390	60	28	49
Future Volume (vph)	76	831	15	710	390	60	28	49
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	28.5	9.6	28.5	9.6	28.2	9.6	28.2
Total Split (s)	16.7	42.6	9.6	35.5	39.0	56.9	10.9	28.8
Total Split (%)	13.9%	35.5%	8.0%	29.6%	32.5%	47.4%	9.1%	24.0%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effct Green (s)	8.7	32.3	5.2	24.6	26.4	36.9	5.9	11.5
Actuated g/C Ratio	0.10	0.35	0.06	0.27	0.29	0.40	0.06	0.13
v/c Ratio	0.48	0.78	0.16	0.58	0.81	0.11	0.26	0.45
Control Delay	53.5	29.0	52.7	32.4	45.1	18.2	53.3	33.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.5	29.0	52.7	32.4	45.1	18.2	53.3	33.4
LOS	D	C	D	C	D	B	D	C
Approach Delay		30.4		32.8		40.7		37.5
Approach LOS		C		C		D		D

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 91.3	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 33.2	Intersection LOS: C
Intersection Capacity Utilization 73.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑		↖	↑		↗	↑	
Traffic Volume (veh/h)	76	831	477	15	710	37	390	60	17	28	49	60
Future Volume (veh/h)	76	831	477	15	710	37	390	60	17	28	49	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	81	884	241	16	755	18	415	64	13	30	52	16
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	1233	335	34	1379	33	460	536	109	55	175	54
Arrive On Green	0.06	0.31	0.31	0.02	0.27	0.27	0.26	0.36	0.36	0.03	0.13	0.13
Sat Flow, veh/h	1781	3995	1084	1781	5130	122	1781	1509	306	1781	1372	422
Grp Volume(v), veh/h	81	753	372	16	501	272	415	0	77	30	0	68
Grp Sat Flow(s),veh/h/ln	1781	1702	1675	1781	1702	1848	1781	0	1815	1781	0	1794
Q Serve(g_s), s	3.4	15.0	15.1	0.7	9.6	9.7	17.2	0.0	2.2	1.3	0.0	2.6
Cycle Q Clear(g_c), s	3.4	15.0	15.1	0.7	9.6	9.7	17.2	0.0	2.2	1.3	0.0	2.6
Prop In Lane	1.00		0.65	1.00		0.07	1.00		0.17	1.00		0.24
Lane Grp Cap(c), veh/h	105	1051	517	34	915	497	460	0	644	55	0	229
V/C Ratio(X)	0.78	0.72	0.72	0.48	0.55	0.55	0.90	0.00	0.12	0.55	0.00	0.30
Avail Cap(c_a), veh/h	282	1608	792	117	1292	702	802	0	1205	147	0	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.5	23.4	23.5	37.1	23.9	24.0	27.4	0.0	16.6	36.5	0.0	30.2
Incr Delay (d2), s/veh	4.6	0.9	1.9	3.9	0.5	0.9	3.7	0.0	0.1	3.1	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.3	5.4	0.3	3.4	3.8	6.9	0.0	0.8	0.6	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.0	24.4	25.4	41.0	24.5	24.9	31.2	0.0	16.7	39.6	0.0	30.9
LnGrp LOS	D	C	C	D	C	C	C	A	B	D	A	C
Approach Vol, veh/h		1206			789			492				98
Approach Delay, s/veh		25.7			24.9			28.9				33.6
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	33.3	6.0	30.1	24.3	16.0	9.1	27.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5				
Max Green Setting (Gmax), s	6.3	50.7	5.0	36.1	34.4	22.6	12.1	29.0				
Max Q Clear Time (g_c+I1), s	3.3	4.2	2.7	17.1	19.2	4.6	5.4	11.7				
Green Ext Time (p_c), s	0.0	0.4	0.0	6.5	0.5	0.2	0.0	4.0				

Intersection Summary												
HCM 6th Ctrl Delay				26.4								
HCM 6th LOS				C								

Timings
20: Winchester Rd. & Domenigoni Pkwy

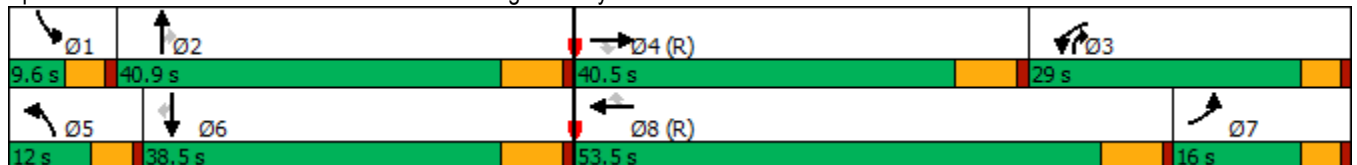
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	937	93	799	817	20	128	1273	1014	19	763	170
Future Volume (vph)	188	937	93	799	817	20	128	1273	1014	19	763	170
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.5	38.5	9.6	38.5	38.5	9.6	38.5	9.6	9.6	38.5	38.5
Total Split (s)	16.0	40.5	40.5	29.0	53.5	53.5	12.0	40.9	29.0	9.6	38.5	38.5
Total Split (%)	13.3%	33.8%	33.8%	24.2%	44.6%	44.6%	10.0%	34.1%	24.2%	8.0%	32.1%	32.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	34.2	33.2	33.2	31.4	30.4	30.4	7.4	33.9	70.0	5.0	25.8	25.8
Actuated g/C Ratio	0.28	0.28	0.28	0.26	0.25	0.25	0.06	0.28	0.58	0.04	0.22	0.22
v/c Ratio	0.19	0.62	0.17	0.88	0.59	0.04	1.20	0.82	1.08	0.26	0.65	0.36
Control Delay	34.3	40.0	0.6	55.4	41.5	0.1	197.8	45.3	75.4	64.7	45.1	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	40.0	0.6	55.4	41.5	0.1	197.8	45.3	75.4	64.7	45.1	7.1
LOS	C	D	A	E	D	A	F	D	E	E	D	A
Approach Delay		36.1			47.8			66.0			38.7	
Approach LOS		D			D			E			D	

Intersection Summary




































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 81.5 (68%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.20
 Intersection Signal Delay: 51.2
 Intersection LOS: D
 Intersection Capacity Utilization 98.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  			  			  	
Traffic Volume (veh/h)	188	937	93	799	817	20	128	1273	1014	19	763	170
Future Volume (veh/h)	188	937	93	799	817	20	128	1273	1014	19	763	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	956	37	815	834	12	131	1299	572	19	779	168
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1154	1209	342	1098	1120	316	110	1525	919	35	1289	364
Arrive On Green	0.32	0.26	0.22	0.31	0.24	0.20	0.06	0.33	0.27	0.02	0.28	0.23
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	192	956	37	815	834	12	131	1299	572	19	779	168
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.6	19.1	1.8	24.6	16.5	0.6	7.4	25.9	3.9	1.3	14.5	5.0
Cycle Q Clear(g_c), s	4.6	19.1	1.8	24.6	16.5	0.6	7.4	25.9	3.9	1.3	14.5	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1154	1209	342	1098	1120	316	110	1525	919	35	1289	364
V/C Ratio(X)	0.17	0.79	0.11	0.74	0.74	0.04	1.19	0.85	0.62	0.55	0.60	0.46
Avail Cap(c_a), veh/h	1154	1590	449	1098	2198	621	110	1609	943	74	1496	423
HCM Platoon Ratio	1.00	1.20	1.00	1.00	1.20	1.00	1.00	1.20	1.00	1.00	1.20	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	42.0	24.4	37.2	42.8	28.6	56.3	38.2	7.1	58.3	38.7	8.4
Incr Delay (d2), s/veh	0.0	5.3	0.6	2.4	4.5	0.2	136.3	3.5	0.9	4.9	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	8.6	0.9	10.4	7.4	0.3	7.3	11.1	4.7	0.6	6.1	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	47.3	25.0	39.7	47.3	28.9	192.6	41.6	8.1	63.2	39.2	9.3
LnGrp LOS	C	D	C	D	D	C	F	D	A	E	D	A
Approach Vol, veh/h		1185			1661			2002			966	
Approach Delay, s/veh		43.6			43.4			41.9			34.5	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	39.1	41.6	32.4	12.0	34.1	43.5	30.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	34.4	24.4	34.0	7.4	32.0	11.4	47.0				
Max Q Clear Time (g_c+I1), s	3.3	27.9	26.6	21.1	9.4	16.5	6.6	18.5				
Green Ext Time (p_c), s	0.0	4.7	0.0	4.8	0.0	4.6	0.1	5.4				
Intersection Summary												
HCM 6th Ctrl Delay			41.5									
HCM 6th LOS			D									

Timings

24: Winchester Rd. & Scott Rd./Washington St,

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑	↖	↖	↑↑↑	↖	↑↑↑	↖
Traffic Volume (vph)	438	240	151	54	225	582	184	1615	313	1195	411
Future Volume (vph)	438	240	151	54	225	582	184	1615	313	1195	411
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.5	39.5	9.6	16.5	16.5	9.6	35.5	9.6	39.5	39.5
Total Split (s)	21.2	41.2	41.2	9.6	29.6	29.6	26.5	42.2	27.0	42.7	42.7
Total Split (%)	17.7%	34.3%	34.3%	8.0%	24.7%	24.7%	22.1%	35.2%	22.5%	35.6%	35.6%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	16.6	36.6	36.6	5.0	23.1	23.1	17.0	35.7	22.4	41.1	41.1
Actuated g/C Ratio	0.14	0.30	0.30	0.04	0.19	0.19	0.14	0.30	0.19	0.34	0.34
v/c Ratio	0.97	0.23	0.27	0.78	0.66	1.05	0.77	1.12	1.00	0.72	0.53
Control Delay	86.8	32.6	6.1	113.6	54.8	72.6	69.4	104.4	98.0	38.1	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.8	32.6	6.1	113.6	54.8	72.6	69.4	104.4	98.0	38.1	6.0
LOS	F	C	A	F	D	E	E	F	F	D	A
Approach Delay		56.4			70.5			100.8		41.0	
Approach LOS		E			E			F		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.12
 Intersection Signal Delay: 67.9
 Intersection LOS: E
 Intersection Capacity Utilization 94.4%
 ICU Level of Service F
 Analysis Period (min) 15































Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 						  			  	
Traffic Volume (veh/h)	438	240	151	54	225	582	184	1615	0	313	1195	411
Future Volume (veh/h)	438	240	151	54	225	582	184	1615	0	313	1195	411
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	461	253	154	57	237	139	194	1700	0	329	1258	91
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	504	891	398	78	279	236	223	1601	497	350	1965	610
Arrive On Green	0.15	0.25	0.25	0.04	0.15	0.15	0.13	0.47	0.00	0.20	0.58	0.38
Sat Flow, veh/h	3456	3554	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	461	253	154	57	237	139	194	1700	0	329	1258	91
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	15.0	6.5	9.2	3.6	14.1	9.3	12.2	35.7	0.0	20.7	18.8	4.3
Cycle Q Clear(g_c), s	15.0	6.5	9.2	3.6	14.1	9.3	12.2	35.7	0.0	20.7	18.8	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	504	891	398	78	279	236	223	1601	497	350	1965	610
V/C Ratio(X)	0.92	0.28	0.39	0.73	0.85	0.59	0.87	1.06	0.00	0.94	0.64	0.15
Avail Cap(c_a), veh/h	504	1083	483	78	379	322	343	1601	497	350	1965	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	34.4	35.4	53.8	47.2	45.2	48.9	30.2	0.0	45.1	18.8	22.9
Incr Delay (d2), s/veh	21.0	0.2	0.6	25.6	12.7	2.3	9.3	41.0	0.0	32.2	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	2.7	3.4	2.1	7.2	3.6	5.7	16.9	0.0	11.8	5.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	34.6	36.0	79.4	59.9	47.5	58.1	71.1	0.0	77.3	19.5	23.0
LnGrp LOS	E	C	D	E	E	D	E	F	A	E	B	C
Approach Vol, veh/h		868			433			1894			1678	
Approach Delay, s/veh		53.1			58.5			69.8			31.0	
Approach LOS		D			E			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.0	42.2	9.6	35.1	18.9	50.3	21.2	23.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	22.4	35.7	5.0	34.7	21.9	36.2	16.6	23.1				
Max Q Clear Time (g_c+1), s	22.7	37.7	5.6	11.2	14.2	20.8	17.0	16.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.1	7.2	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay			52.5									
HCM 6th LOS			D									

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

06/24/2021

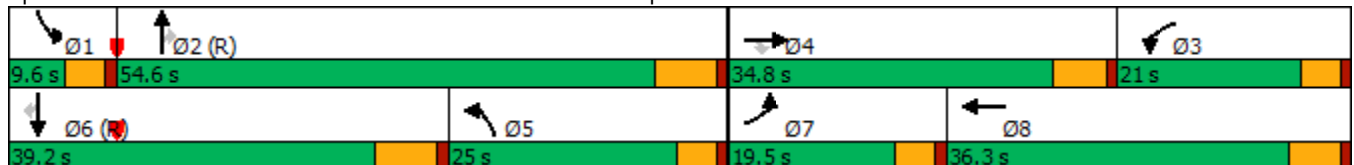


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗↘	↖	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗
Traffic Volume (vph)	206	308	679	330	319	821	2300	359	154	1410	149
Future Volume (vph)	206	308	679	330	319	821	2300	359	154	1410	149
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	15.8	9.6	36.5	36.5	9.6	38.5	38.5
Total Split (s)	19.5	34.8	34.8	21.0	36.3	25.0	54.6	54.6	9.6	39.2	39.2
Total Split (%)	16.3%	29.0%	29.0%	17.5%	30.3%	20.8%	45.5%	45.5%	8.0%	32.7%	32.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	0.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	6.5	3.6	5.5	6.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	15.8	26.7	25.7	20.7	31.6	21.4	49.1	48.1	6.0	33.7	32.7
Actuated g/C Ratio	0.13	0.22	0.21	0.17	0.26	0.18	0.41	0.40	0.05	0.28	0.27
v/c Ratio	0.91	0.77	0.58	1.12	0.82	1.34	1.04	0.48	0.90	0.93	0.28
Control Delay	91.8	56.2	5.6	133.0	55.7	198.4	63.0	17.4	103.3	53.1	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.8	56.2	5.6	133.0	55.7	198.4	63.0	17.4	103.3	53.1	4.4
LOS	F	E	A	F	E	F	E	B	F	D	A
Approach Delay		33.5			91.5		90.3			53.4	
Approach LOS		C			F		F			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 86 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.34
 Intersection Signal Delay: 71.9
 Intersection LOS: E
 Intersection Capacity Utilization 100.4%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↘	↘	↗		↗↘	↑↑↑	↗	↗↘	↑↑↑	↗
Traffic Volume (veh/h)	206	308	679	330	319	64	821	2300	359	154	1410	149
Future Volume (veh/h)	206	308	679	330	319	64	821	2300	359	154	1410	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	318	365	340	329	-58	846	2371	365	159	1454	149
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	377	603	258	419	0	723	2513	694	178	1565	423
Arrive On Green	0.20	0.30	0.19	0.22	0.34	0.00	0.30	0.67	0.44	0.08	0.42	0.27
Sat Flow, veh/h	1781	1870	3125	1781	1870	0	3563	5611	1579	3563	5611	1563
Grp Volume(v), veh/h	212	318	365	340	271	0	846	2371	365	159	1454	149
Grp Sat Flow(s),veh/h/ln	1781	1870	1562	1781	1870	0	1781	1870	1579	1781	1870	1563
Q Serve(g_s), s	13.9	19.1	12.8	17.4	14.8	0.0	24.4	45.5	11.6	5.3	29.6	6.5
Cycle Q Clear(g_c), s	13.9	19.1	12.8	17.4	14.8	0.0	24.4	45.5	11.6	5.3	29.6	6.5
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	236	377	603	258	419	0	723	2513	694	178	1565	423
V/C Ratio(X)	0.90	0.84	0.61	1.32	0.65	0.00	1.17	0.94	0.53	0.89	0.93	0.35
Avail Cap(c_a), veh/h	236	468	755	258	491	0	723	2513	694	178	1576	426
HCM Platoon Ratio	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	0.00	0.09	0.09	0.09	0.78	0.78	0.78
Uniform Delay (d), s/veh	47.3	40.1	44.2	47.0	35.8	0.0	41.7	18.3	8.1	55.2	33.8	17.4
Incr Delay (d2), s/veh	4.5	1.1	0.1	167.1	2.3	0.0	78.0	1.0	0.3	31.7	9.1	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	7.8	5.0	19.2	6.4	0.0	16.8	10.9	3.8	3.0	11.9	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	41.3	44.3	214.0	38.1	0.0	119.7	19.4	8.3	86.9	42.9	19.2
LnGrp LOS	D	D	D	F	D	A	F	B	A	F	D	B
Approach Vol, veh/h		895			611			3582			1762	
Approach Delay, s/veh		45.0			136.0			41.9			44.9	
Approach LOS		D			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	59.2	22.2	29.0	29.9	39.0	19.5	31.7				
Change Period (Y+Rc), s	4.6	6.5	5.8	* 5.8	6.5	* 6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.0	48.1	16.4	* 29	20.4	* 33	14.9	30.5				
Max Q Clear Time (g_c+I1), s	7.3	47.5	19.4	21.1	26.4	31.6	15.9	16.8				
Green Ext Time (p_c), s	0.0	0.6	0.0	2.1	0.0	0.9	0.0	1.3				

Intersection Summary

HCM 6th Ctrl Delay	51.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
31: Winchester Rd. & Benton Rd.

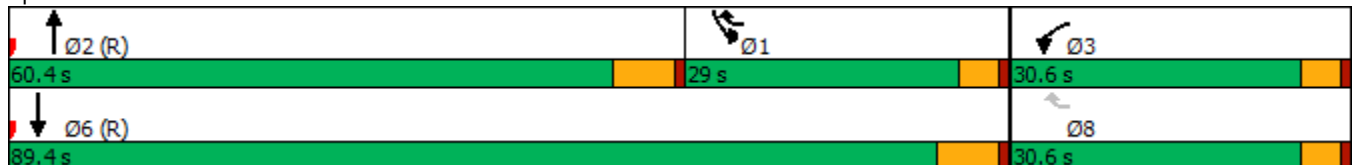
Keller Crossing (JN:13649)
06/24/2021

	↙	↖	↑	↘	↓	∅8
Lane Group	WBL	WBR	NBT	SBL	SBT	∅8
Lane Configurations	↔↔	↔	↔↔↔	↔↔	↔↔↔	
Traffic Volume (vph)	336	903	2556	620	1756	
Future Volume (vph)	336	903	2556	620	1756	
Turn Type	Prot	pm+ov	NA	Prot	NA	
Protected Phases	3	1	2	1	6	8
Permitted Phases		8				
Detector Phase	3	1	2	1	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.6	9.6	38.5	9.6	16.5	30.6
Total Split (s)	30.6	29.0	60.4	29.0	89.4	30.6
Total Split (%)	25.5%	24.2%	50.3%	24.2%	74.5%	26%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag		Lag	Lead	Lag		
Lead-Lag Optimize?		Yes	Yes	Yes		
Recall Mode	None	None	C-Min	None	C-Min	None
Act Effct Green (s)	16.6	41.0	63.3	24.4	92.3	
Actuated g/C Ratio	0.14	0.34	0.53	0.20	0.77	
v/c Ratio	0.74	1.80	1.12	0.93	0.44	
Control Delay	58.7	395.9	88.6	75.2	13.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.7	395.9	88.6	75.2	13.2	
LOS	E	F	F	E	B	
Approach Delay	304.5		88.6		29.4	
Approach LOS	F		F		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.80
 Intersection Signal Delay: 107.7
 Intersection LOS: F
 Intersection Capacity Utilization 125.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔	↔↔↔		↔↔	↔↔↔
Traffic Volume (veh/h)	336	903	2556	469	620	1756
Future Volume (veh/h)	336	903	2556	469	620	1756
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	361	165	2748	20	667	1888
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	437	641	2498	18	1003	4403
Arrive On Green	0.12	0.12	0.45	0.45	0.19	0.53
Sat Flow, veh/h	3563	1585	5562	40	3563	5611
Grp Volume(v), veh/h	361	165	1846	922	667	1888
Grp Sat Flow(s),veh/h/ln	1781	1585	1870	1862	1781	1870
Q Serve(g_s), s	11.9	0.0	53.9	53.9	20.8	24.7
Cycle Q Clear(g_c), s	11.9	0.0	53.9	53.9	20.8	24.7
Prop In Lane	1.00	1.00		0.02	1.00	
Lane Grp Cap(c), veh/h	437	641	1680	836	1003	4403
V/C Ratio(X)	0.83	0.26	1.10	1.10	0.67	0.43
Avail Cap(c_a), veh/h	772	789	1680	836	1003	4403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.34	0.34	0.40	0.40
Uniform Delay (d), s/veh	51.4	23.8	33.0	33.1	43.4	12.0
Incr Delay (d2), s/veh	1.5	0.1	48.1	53.0	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	3.1	33.1	34.1	9.4	10.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.9	23.9	81.2	86.0	44.0	12.1
LnGrp LOS	D	C	F	F	D	B
Approach Vol, veh/h	526		2768			2555
Approach Delay, s/veh	43.8		82.8			20.4
Approach LOS	D		F			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	40.3	60.4			100.7	19.3
Change Period (Y+Rc), s	6.5	* 6.5			6.5	4.6
Max Green Setting (Gmax), s	24.4	* 54			82.9	26.0
Max Q Clear Time (g_c+I1), s	22.8	55.9			26.7	13.9
Green Ext Time (p_c), s	0.3	0.0			20.6	0.9

Intersection Summary

HCM 6th Ctrl Delay	52.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021

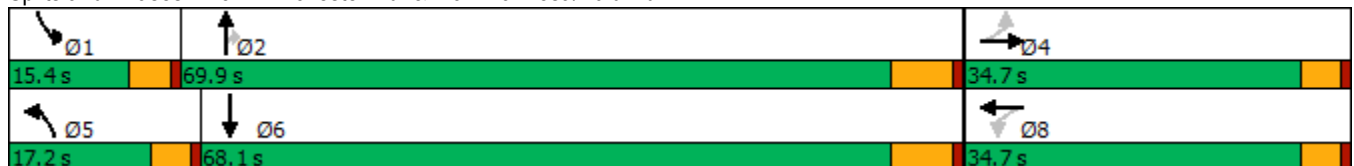


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙↘	↘	↙↘	↘	↙	↑↑↑	↗	↙	↑↑↑
Traffic Volume (vph)	121	38	306	55	85	2732	277	138	1797
Future Volume (vph)	121	38	306	55	85	2732	277	138	1797
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	17.2	69.9	69.9	15.4	68.1
Total Split (%)	28.9%	28.9%	28.9%	28.9%	14.3%	58.3%	58.3%	12.8%	56.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	21.2	21.2	21.2	21.2	12.6	63.5	63.5	10.8	61.7
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.11	0.57	0.57	0.10	0.55
v/c Ratio	0.53	0.30	0.74	0.58	0.45	0.90	0.30	0.84	0.67
Control Delay	48.7	17.3	52.7	24.5	55.5	27.1	6.3	88.7	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	17.3	52.7	24.5	55.5	27.1	6.3	88.7	19.5
LOS	D	B	D	C	E	C	A	F	B
Approach Delay		33.8		40.7		26.0			24.1
Approach LOS		C		D		C			C

Intersection Summary





























Cycle Length: 120	
Actuated Cycle Length: 111.4	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 26.9	Intersection LOS: C
Intersection Capacity Utilization 99.3%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 				  			  	
Traffic Volume (veh/h)	121	38	70	306	55	172	85	2732	277	138	1797	158
Future Volume (veh/h)	121	38	70	306	55	172	85	2732	277	138	1797	158
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	40	57	322	58	18	89	2876	206	145	1892	-18
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	554	140	200	513	275	85	200	3150	890	172	3060	0
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.11	0.56	0.56	0.10	0.55	0.00
Sat Flow, veh/h	2567	698	994	2519	1369	425	1781	5611	1585	1781	5611	0
Grp Volume(v), veh/h	127	0	97	322	0	76	89	2876	206	145	1874	0
Grp Sat Flow(s),veh/h/ln	1284	0	1691	1259	0	1794	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	4.9	0.0	5.4	13.9	0.0	4.0	5.2	51.6	7.3	9.0	25.5	0.0
Cycle Q Clear(g_c), s	8.8	0.0	5.4	19.4	0.0	4.0	5.2	51.6	7.3	9.0	25.5	0.0
Prop In Lane	1.00		0.59	1.00		0.24	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	554	0	340	513	0	361	200	3150	890	172	3060	0
V/C Ratio(X)	0.23	0.00	0.29	0.63	0.00	0.21	0.44	0.91	0.23	0.84	0.61	0.00
Avail Cap(c_a), veh/h	726	0	453	681	0	481	200	3177	898	172	3087	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.0	0.0	37.9	46.1	0.0	37.3	46.4	22.1	12.4	49.8	17.4	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	1.3	0.0	0.3	7.0	4.6	0.1	37.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	2.3	4.4	0.0	1.8	2.6	20.3	2.3	5.6	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	0.0	38.1	47.4	0.0	37.6	53.4	26.7	12.5	86.8	17.6	0.0
LnGrp LOS	D	A	D	D	A	D	D	C	B	F	B	A
Approach Vol, veh/h		224			398			3171			2019	
Approach Delay, s/veh		39.8			45.5			26.5			22.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.4	69.4		27.2	17.2	67.6		27.2				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	10.8	63.4		* 30	12.6	61.6		* 30				
Max Q Clear Time (g_c+I1), s	11.0	53.6		10.8	7.2	27.5		21.4				
Green Ext Time (p_c), s	0.0	9.2		0.6	0.1	10.4		1.2				

Intersection Summary

HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

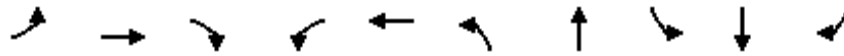
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/24/2021

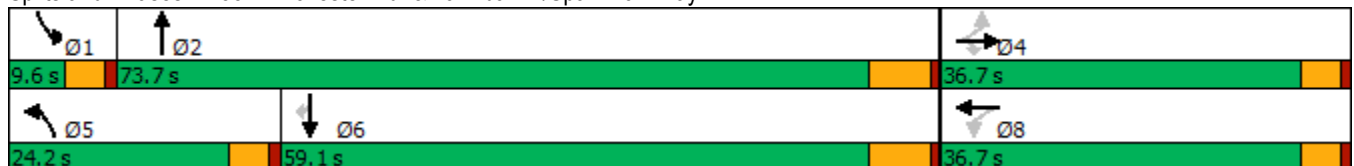


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	100	10	129	39	4	217	2763	12	1883	120
Future Volume (vph)	100	10	129	39	4	217	2763	12	1883	120
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	24.2	73.7	9.6	59.1	59.1
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	20.2%	61.4%	8.0%	49.3%	49.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	13.2	13.2	13.2		13.2	16.2	66.9	5.1	47.8	47.8
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.17	0.72	0.05	0.51	0.51
v/c Ratio	0.51	0.04	0.39		0.29	0.73	0.73	0.12	0.68	0.15
Control Delay	48.5	37.2	10.7		31.9	52.6	10.1	50.2	19.0	3.1
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	37.2	10.7		31.9	52.6	10.1	50.2	19.0	3.1
LOS	D	D	B		C	D	B	D	B	A
Approach Delay		27.6			31.9		13.2		18.3	
Approach LOS		C			C		B		B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 93.2
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 15.9
 Intersection LOS: B
 Intersection Capacity Utilization 82.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	10	129	39	4	20	217	2763	73	12	1883	120
Future Volume (veh/h)	100	10	129	39	4	20	217	2763	73	12	1883	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	10	61	40	4	10	224	2848	3	12	1941	102
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	217	184	185	23	31	262	3843	4	26	3103	857
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.15	0.69	0.69	0.01	0.55	0.55
Sat Flow, veh/h	1400	1870	1585	965	200	265	1781	5604	6	1781	5611	1550
Grp Volume(v), veh/h	103	10	61	54	0	0	224	1901	950	12	1941	102
Grp Sat Flow(s),veh/h/ln	1400	1870	1585	1430	0	0	1781	1870	1869	1781	1870	1550
Q Serve(g_s), s	2.4	0.4	3.0	2.1	0.0	0.0	10.5	27.9	27.9	0.6	20.3	2.7
Cycle Q Clear(g_c), s	5.2	0.4	3.0	2.8	0.0	0.0	10.5	27.9	27.9	0.6	20.3	2.7
Prop In Lane	1.00		1.00	0.74		0.19	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	217	184	239	0	0	262	2565	1282	26	3103	857
V/C Ratio(X)	0.40	0.05	0.33	0.23	0.00	0.00	0.85	0.74	0.74	0.46	0.63	0.12
Avail Cap(c_a), veh/h	618	697	590	598	0	0	406	2926	1462	104	3435	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	33.8	34.9	34.8	0.0	0.0	35.7	8.6	8.6	42.0	13.1	9.2
Incr Delay (d2), s/veh	1.0	0.1	1.0	0.5	0.0	0.0	6.4	0.9	1.8	4.8	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.2	1.2	1.1	0.0	0.0	4.6	7.1	7.4	0.3	6.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	33.8	36.0	35.2	0.0	0.0	42.1	9.5	10.4	46.8	13.4	9.2
LnGrp LOS	D	C	D	D	A	A	D	A	B	D	B	A
Approach Vol, veh/h		174			54			3075			2055	
Approach Delay, s/veh		36.3			35.2			12.2			13.4	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	65.4		14.7	17.2	54.0		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	19.6	52.6		* 32				
Max Q Clear Time (g_c+I1), s	2.6	29.9		7.2	12.5	22.3		4.8				
Green Ext Time (p_c), s	0.0	29.0		0.5	0.2	17.1		0.2				

Intersection Summary

HCM 6th Ctrl Delay	13.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 8.1:

EAPC (2028) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings
1: I-215 SB Ramps & Scott Rd.



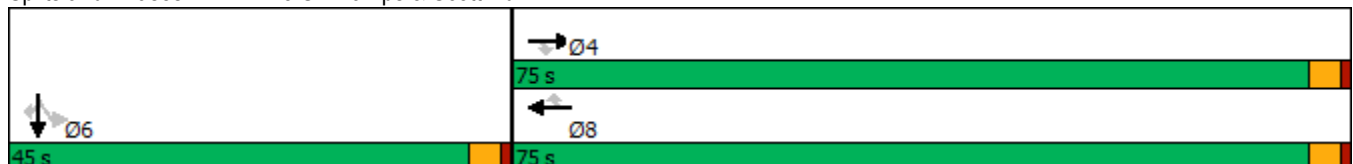
Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	832	697	1052	897	918	0	261
Future Volume (vph)	832	697	1052	897	918	0	261
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	75.0	75.0	75.0	75.0	45.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	62.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	55.0	55.0	55.0	55.0	37.0	37.0	37.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55	0.37	0.37	0.37
v/c Ratio	0.50	0.66	0.63	0.78	0.84	0.25	0.25
Control Delay	15.0	3.7	17.3	5.5	38.0	15.6	15.6
Queue Delay	0.0	0.0	0.2	0.4	0.0	0.0	0.0
Total Delay	15.0	3.7	17.5	5.9	38.0	15.6	15.6
LOS	B	A	B	A	D	B	B
Approach Delay	9.9		12.2			33.1	
Approach LOS	A		B			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 100.3
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 16.7
 Intersection Capacity Utilization 61.9%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 1: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↖	↗
Traffic Volume (veh/h)	0	832	697	0	1052	897	0	0	0	918	0	261
Future Volume (veh/h)	0	832	697	0	1052	897	0	0	0	918	0	261
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	967	802	0	1223	949				1067	0	204
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2152	960	0	2152	960				1162	0	1034
Arrive On Green	0.00	0.61	0.61	0.00	0.61	0.61				0.33	0.00	0.33
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	967	802	0	1223	949				1067	0	204
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	17.3	47.4	0.0	24.3	69.0				33.8	0.0	5.4
Cycle Q Clear(g_c), s	0.0	17.3	47.4	0.0	24.3	69.0				33.8	0.0	5.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2152	960	0	2152	960				1162	0	1034
V/C Ratio(X)	0.00	0.45	0.84	0.00	0.57	0.99				0.92	0.00	0.20
Avail Cap(c_a), veh/h	0	2152	960	0	2152	960				1246	0	1108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.5	18.5	0.0	13.9	22.7				38.0	0.0	28.4
Incr Delay (d2), s/veh	0.0	0.1	6.5	0.0	0.4	26.2				10.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.2	16.8	0.0	8.8	29.0				15.7	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.7	25.0	0.0	14.3	49.0				48.4	0.0	28.5
LnGrp LOS	A	B	C	A	B	D				D	A	C
Approach Vol, veh/h		1769			2172						1271	
Approach Delay, s/veh		18.3			29.4						45.2	
Approach LOS		B			C						D	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				75.0		42.3		75.0				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				71.0		41.0		71.0				
Max Q Clear Time (g_c+I1), s				49.4		35.8		71.0				
Green Ext Time (p_c), s				10.5		2.5		0.0				

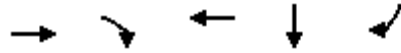
Intersection Summary

HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

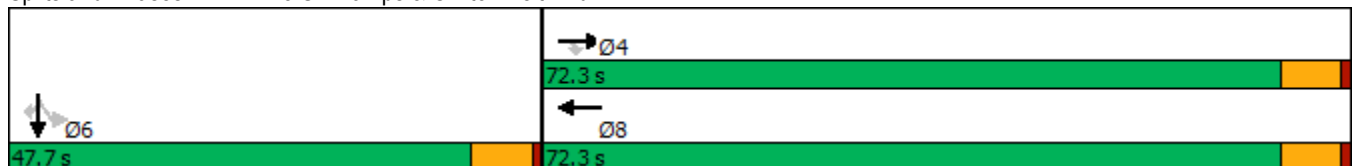


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↑↑
Traffic Volume (vph)	1729	557	1568	0	915
Future Volume (vph)	1729	557	1568	0	915
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	72.3	72.3	72.3	47.7	47.7
Total Split (%)	60.3%	60.3%	60.3%	39.8%	39.8%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	57.1	57.1	57.1	41.5	41.5
Actuated g/C Ratio	0.51	0.51	0.51	0.37	0.37
v/c Ratio	0.71	0.55	0.64	0.72	0.92
Control Delay	22.3	3.2	20.8	39.1	48.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	3.2	20.8	39.1	48.7
LOS	C	A	C	D	D
Approach Delay	17.6		20.8	45.6	
Approach LOS	B		C	D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 111.7
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 25.9
 Intersection LOS: C
 Intersection Capacity Utilization 73.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1729	557	0	1568	0	0	0	0	442	0	915
Future Volume (veh/h)	0	1729	557	0	1568	0	0	0	0	442	0	915
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1839	510	0	1668	0				470	0	639
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	2
Cap, veh/h	0	2695	819	0	2695	0				583	0	913
Arrive On Green	0.00	0.53	0.53	0.00	0.53	0.00				0.33	0.00	0.33
Sat Flow, veh/h	0	5274	1551	0	5443	0				1781	0	2790
Grp Volume(v), veh/h	0	1839	510	0	1668	0				470	0	639
Grp Sat Flow(s),veh/h/ln	0	1702	1551	0	1702	0				1781	0	1395
Q Serve(g_s), s	0.0	23.8	20.7	0.0	20.5	0.0				21.6	0.0	17.9
Cycle Q Clear(g_c), s	0.0	23.8	20.7	0.0	20.5	0.0				21.6	0.0	17.9
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2695	819	0	2695	0				583	0	913
V/C Ratio(X)	0.00	0.68	0.62	0.00	0.62	0.00				0.81	0.00	0.70
Avail Cap(c_a), veh/h	0	3748	1138	0	3748	0				819	0	1282
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.6	14.9	0.0	14.8	0.0				27.6	0.0	26.3
Incr Delay (d2), s/veh	0.0	0.3	0.8	0.0	0.2	0.0				4.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.5	6.1	0.0	6.5	0.0				9.5	0.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.9	15.7	0.0	15.1	0.0				31.7	0.0	27.3
LnGrp LOS	A	B	B	A	B	A				C	A	C
Approach Vol, veh/h		2349			1668						1109	
Approach Delay, s/veh		15.9			15.1						29.2	
Approach LOS		B			B						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				53.8		35.8		53.8				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				65.8		41.2		65.8				
Max Q Clear Time (g_c+I1), s				25.8		23.6		22.5				
Green Ext Time (p_c), s				21.5		5.7		15.4				
Intersection Summary												
HCM 6th Ctrl Delay			18.5									
HCM 6th LOS			B									

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↖	↖	↖	↖
Traffic Volume (vph)	208	1542	1647	1078	0	389	0	301
Future Volume (vph)	208	1542	1647	1078	0	389	0	301
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	103.0	103.0	103.0	103.0	17.0	17.0	17.0	17.0
Total Split (%)	85.8%	85.8%	85.8%	85.8%	14.2%	14.2%	14.2%	14.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	87.1	87.1	87.1	87.1	13.3	13.3	13.3	13.3
Actuated g/C Ratio	0.80	0.80	0.80	0.80	0.12	0.12	0.12	0.12
v/c Ratio	1.58	0.60	0.64	0.80	0.87	0.87	0.71	0.71
Control Delay	311.3	4.8	5.3	5.0	67.4	66.7	50.5	50.1
Queue Delay	0.0	0.8	2.2	2.3	0.0	0.0	0.0	0.0
Total Delay	311.3	5.6	7.4	7.3	67.4	66.7	50.5	50.1
LOS	F	A	A	A	E	E	D	D
Approach Delay		42.0	7.4		67.1		50.3	
Approach LOS		D	A		E		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 108.7
 Natural Cycle: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.58
 Intersection Signal Delay: 26.1
 Intersection Capacity Utilization 96.3%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service F

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗		↗	↗		↗	↗
Traffic Volume (veh/h)	208	1542	0	0	1647	1078	0	0	389	0	0	301
Future Volume (veh/h)	208	1542	0	0	1647	1078	0	0	389	0	0	301
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	229	1695	0	0	1810	1062	0	0	406	0	0	179
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	118	2932	0	0	2932	1308	0	203	343	0	203	343
Arrive On Green	0.82	0.82	0.00	0.00	0.82	0.82	0.00	0.00	0.11	0.00	0.00	0.11
Sat Flow, veh/h	90	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	229	1695	0	0	1810	1062	0	0	406	0	0	179
Grp Sat Flow(s),veh/h/ln	90	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	77.2	19.2	0.0	0.0	21.8	42.6	0.0	0.0	13.0	0.0	0.0	6.4
Cycle Q Clear(g_c), s	99.0	19.2	0.0	0.0	21.8	42.6	0.0	0.0	13.0	0.0	0.0	6.4
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	118	2932	0	0	2932	1308	0	203	343	0	203	343
V/C Ratio(X)	1.94	0.58	0.00	0.00	0.62	0.81	0.00	0.00	1.18	0.00	0.00	0.52
Avail Cap(c_a), veh/h	118	2932	0	0	2932	1308	0	203	343	0	203	343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	41.0	3.5	0.0	0.0	3.7	5.6	0.0	0.0	53.5	0.0	0.0	50.6
Incr Delay (d2), s/veh	452.0	0.3	0.0	0.0	0.4	4.0	0.0	0.0	107.8	0.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.3	3.8	0.0	0.0	4.3	8.7	0.0	0.0	10.2	0.0	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	493.0	3.8	0.0	0.0	4.1	9.6	0.0	0.0	161.3	0.0	0.0	52.0
LnGrp LOS	F	A	A	A	A	A	A	A	F	A	A	D
Approach Vol, veh/h		1924			2872			406				179
Approach Delay, s/veh		62.0			6.2			161.3				52.0
Approach LOS		E			A			F				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.0		103.0		17.0		103.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		13.0		99.0		13.0		99.0				
Max Q Clear Time (g_c+I1), s		15.0		101.0		8.4		44.6				
Green Ext Time (p_c), s		0.0		0.0		0.2		36.3				

Intersection Summary

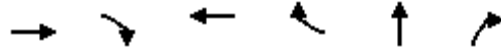
HCM 6th Ctrl Delay	39.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

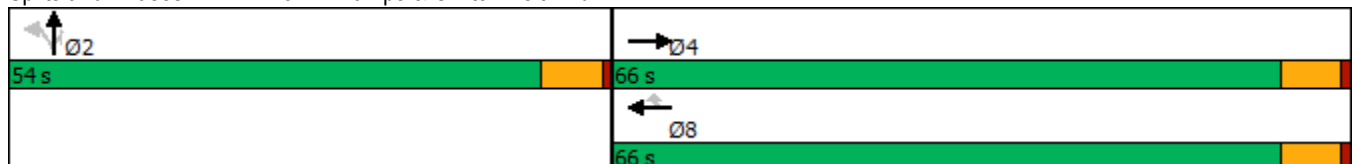


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↔	↑
Traffic Volume (vph)	1422	765	2295	385	0	790
Future Volume (vph)	1422	765	2295	385	0	790
Turn Type	NA	Free	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		Free		8		2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	23.5		16.5	16.5	16.5	16.5
Total Split (s)	66.0		66.0	66.0	54.0	54.0
Total Split (%)	55.0%		55.0%	55.0%	45.0%	45.0%
Yellow Time (s)	5.5		5.5	5.5	5.5	5.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min		Min	Min	None	None
Act Effct Green (s)	59.6	117.2	59.6	59.6	44.5	44.5
Actuated g/C Ratio	0.51	1.00	0.51	0.51	0.38	0.38
v/c Ratio	0.57	0.51	0.91	0.42	0.92	0.92
Control Delay	21.4	1.2	33.8	6.0	53.5	55.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	1.2	33.8	6.0	53.5	55.2
LOS	C	A	C	A	D	E
Approach Delay	14.3		29.8		54.3	
Approach LOS	B		C		D	

Intersection Summary













Cycle Length: 120	
Actuated Cycle Length: 117.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 28.6	Intersection LOS: C
Intersection Capacity Utilization 87.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	1422	765	0	2295	385	298	0	790	0	0	0
Future Volume (veh/h)	0	1422	765	0	2295	385	298	0	790	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1466	0	0	2366	397	307	240	467			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2725		0	2725	846	353	276	548			
Arrive On Green	0.00	0.53	0.00	0.00	0.53	0.53	0.35	0.35	0.35			
Sat Flow, veh/h	0	5274	1585	0	5274	1585	1021	798	1585			
Grp Volume(v), veh/h	0	1466	0	0	2366	397	547	0	467			
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1702	1585	1819	0	1585			
Q Serve(g_s), s	0.0	20.2	0.0	0.0	43.4	16.8	30.3	0.0	29.5			
Cycle Q Clear(g_c), s	0.0	20.2	0.0	0.0	43.4	16.8	30.3	0.0	29.5			
Prop In Lane	0.00		1.00	0.00		1.00	0.56		1.00			
Lane Grp Cap(c), veh/h	0	2725		0	2725	846	629	0	548			
V/C Ratio(X)	0.00	0.54		0.00	0.87	0.47	0.87	0.00	0.85			
Avail Cap(c_a), veh/h	0	2818		0	2818	875	801	0	698			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	16.4	0.0	0.0	21.8	15.6	33.0	0.0	32.7			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	3.1	0.4	8.4	0.0	8.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	6.9	0.0	0.0	15.4	5.4	14.5	0.0	12.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.6	0.0	0.0	24.9	16.0	41.4	0.0	40.8			
LnGrp LOS	A	B		A	C	B	D	A	D			
Approach Vol, veh/h		1466	A		2763			1014				
Approach Delay, s/veh		16.6			23.7			41.1				
Approach LOS		B			C			D				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		43.8		64.0				64.0				
Change Period (Y+Rc), s		6.5		6.5				6.5				
Max Green Setting (Gmax), s		47.5		59.5				59.5				
Max Q Clear Time (g_c+I1), s		32.3		22.2				45.4				
Green Ext Time (p_c), s		4.9		12.1				12.1				

Intersection Summary

HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

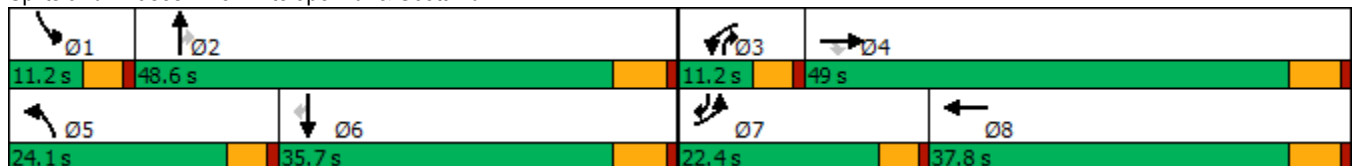
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	141	1286	503	79	1918	382	47	67	100	152	426	
Future Volume (vph)	141	1286	503	79	1918	382	47	67	100	152	426	
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	
Protected Phases	7	4		3	8	5	2	3	1	6	7	
Permitted Phases			4					2			6	
Detector Phase	7	4	4	3	8	5	2	3	1	6	7	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6	
Total Split (s)	22.4	49.0	49.0	11.2	37.8	24.1	48.6	11.2	11.2	35.7	22.4	
Total Split (%)	18.7%	40.8%	40.8%	9.3%	31.5%	20.1%	40.5%	9.3%	9.3%	29.8%	18.7%	
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	12.7	43.4	43.4	6.2	36.9	16.0	22.7	31.2	11.2	14.5	33.0	
Actuated g/C Ratio	0.13	0.43	0.43	0.06	0.37	0.16	0.22	0.31	0.11	0.14	0.33	
v/c Ratio	0.35	0.92	0.64	0.41	1.19	0.76	0.06	0.13	0.55	0.62	0.78	
Control Delay	42.7	39.3	14.5	53.6	120.9	51.0	28.9	1.9	60.4	51.7	32.9	
Queue Delay	0.0	46.5	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.7	85.8	18.2	53.6	120.9	51.0	28.9	1.9	60.4	51.7	32.9	
LOS	D	F	B	D	F	D	C	A	E	D	C	
Approach Delay		65.0			118.3		42.3			41.2		
Approach LOS		E			F		D			D		

Intersection Summary

































Cycle Length: 120	
Actuated Cycle Length: 100.9	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.19	
Intersection Signal Delay: 81.2	Intersection LOS: F
Intersection Capacity Utilization 89.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 		 	 	
Traffic Volume (veh/h)	141	1286	503	79	1918	100	382	47	67	100	152	426
Future Volume (veh/h)	141	1286	503	79	1918	100	382	47	67	100	152	426
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	1398	405	86	2085	104	415	51	43	109	165	289
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	1477	659	153	1974	98	487	975	505	114	369	414
Arrive On Green	0.06	0.42	0.42	0.04	0.40	0.40	0.14	0.27	0.27	0.06	0.20	0.20
Sat Flow, veh/h	3456	3554	1585	3456	4982	248	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	153	1398	405	86	1422	767	415	51	43	109	165	289
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1826	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	4.5	39.1	20.7	2.5	40.8	40.8	12.1	1.1	2.0	6.3	8.0	17.0
Cycle Q Clear(g_c), s	4.5	39.1	20.7	2.5	40.8	40.8	12.1	1.1	2.0	6.3	8.0	17.0
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	220	1477	659	153	1349	723	487	975	505	114	369	414
V/C Ratio(X)	0.70	0.95	0.61	0.56	1.05	1.06	0.85	0.05	0.09	0.96	0.45	0.70
Avail Cap(c_a), veh/h	597	1489	664	221	1349	723	654	1476	728	114	543	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	29.0	23.6	48.3	31.1	31.1	43.2	27.5	24.6	48.1	36.4	34.4
Incr Delay (d2), s/veh	1.5	12.8	1.7	1.2	40.1	50.6	6.4	0.0	0.1	69.6	0.8	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	17.8	7.5	1.1	22.9	26.6	5.4	0.4	0.7	4.9	3.6	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	41.8	25.3	49.5	71.2	81.8	49.7	27.6	24.7	117.7	37.2	36.8
LnGrp LOS	D	D	C	D	F	F	D	C	C	F	D	D
Approach Vol, veh/h		1956			2275			509			563	
Approach Delay, s/veh		38.9			74.0			45.3			52.6	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	34.1	9.2	48.6	19.1	26.2	11.2	46.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.6	42.8	6.6	43.2	19.5	29.9	17.8	32.0				
Max Q Clear Time (g_c+I1), s	8.3	4.0	4.5	41.1	14.1	19.0	6.5	42.8				
Green Ext Time (p_c), s	0.0	0.4	0.0	1.8	0.4	1.4	0.2	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			56.0									
HCM 6th LOS			E									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

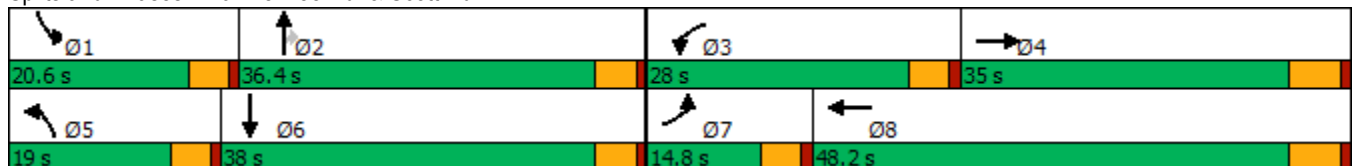


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	74	1268	369	1972	146	116	358	296	255
Future Volume (vph)	74	1268	369	1972	146	116	358	296	255
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	14.8	35.0	28.0	48.2	19.0	36.4	36.4	20.6	38.0
Total Split (%)	12.3%	29.2%	23.3%	40.2%	15.8%	30.3%	30.3%	17.2%	31.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	8.4	29.4	23.5	46.7	12.6	22.4	22.4	16.1	25.8
Actuated g/C Ratio	0.08	0.26	0.21	0.42	0.11	0.20	0.20	0.14	0.23
v/c Ratio	0.58	1.53	1.04	1.64	0.77	0.33	0.64	1.22	0.83
Control Delay	68.9	273.4	100.8	317.0	73.5	39.2	11.2	170.6	56.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.9	273.4	100.8	317.0	73.5	39.2	11.2	170.6	56.4
LOS	E	F	F	F	E	D	B	F	E
Approach Delay		262.8		287.0		31.1			109.8
Approach LOS		F		F		C			F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 111.2
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.64
 Intersection Signal Delay: 229.7
 Intersection LOS: F
 Intersection Capacity Utilization 111.6%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	1268	80	369	1972	312	146	116	358	296	255	83
Future Volume (veh/h)	74	1268	80	369	1972	312	146	116	358	296	255	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	1335	73	388	2076	315	154	122	270	312	268	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	912	50	380	1315	195	183	365	309	260	338	91
Arrive On Green	0.06	0.27	0.27	0.21	0.42	0.42	0.10	0.20	0.20	0.15	0.24	0.24
Sat Flow, veh/h	1781	3427	187	1781	3105	459	1781	1870	1585	1781	1420	382
Grp Volume(v), veh/h	78	691	717	388	1165	1226	154	122	270	312	0	340
Grp Sat Flow(s),veh/h/ln	1781	1777	1837	1781	1777	1788	1781	1870	1585	1781	0	1802
Q Serve(g_s), s	4.7	29.2	29.2	23.4	46.5	46.5	9.3	6.2	18.1	16.0	0.0	19.4
Cycle Q Clear(g_c), s	4.7	29.2	29.2	23.4	46.5	46.5	9.3	6.2	18.1	16.0	0.0	19.4
Prop In Lane	1.00		0.10	1.00		0.26	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	100	473	489	380	753	757	183	365	309	260	0	429
V/C Ratio(X)	0.78	1.46	1.47	1.02	1.55	1.62	0.84	0.33	0.87	1.20	0.00	0.79
Avail Cap(c_a), veh/h	166	473	489	380	753	757	234	541	458	260	0	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	40.2	40.2	43.1	31.6	31.6	48.3	38.0	42.8	46.8	0.0	39.2
Incr Delay (d2), s/veh	5.0	218.9	220.8	51.6	253.0	284.7	15.9	0.5	11.9	121.2	0.0	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	40.9	42.5	15.3	71.2	78.3	4.9	2.9	7.8	15.8	0.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.1	259.1	261.1	94.8	284.6	316.3	64.2	38.6	54.7	168.1	0.0	45.4
LnGrp LOS	E	F	F	F	F	F	E	D	D	F	A	D
Approach Vol, veh/h		1486			2779			546			652	
Approach Delay, s/veh		249.4			272.1			53.8			104.1	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.6	26.1	28.0	35.0	15.9	30.8	10.7	52.3				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	16.0	* 32	23.4	29.2	14.4	* 33	10.2	42.4				
Max Q Clear Time (g_c+I1), s	18.0	20.1	25.4	31.2	11.3	21.4	6.7	48.5				
Green Ext Time (p_c), s	0.0	1.3	0.0	0.0	0.1	1.6	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	224.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
7: Whitewood Rd. & Clinton Keith Rd.

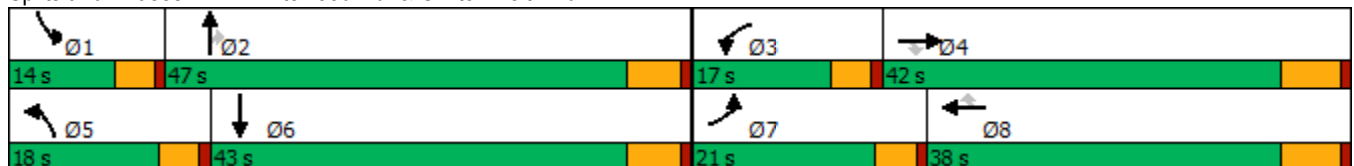
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	537	1389	191	298	1870	221	215	172	143	219	413
Future Volume (vph)	537	1389	191	298	1870	221	215	172	143	219	413
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	21.0	42.0	42.0	17.0	38.0	38.0	18.0	47.0	47.0	14.0	43.0
Total Split (%)	17.5%	35.0%	35.0%	14.2%	31.7%	31.7%	15.0%	39.2%	39.2%	11.7%	35.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	16.4	35.5	35.5	12.4	31.5	31.5	13.4	38.6	38.6	9.4	34.6
Actuated g/C Ratio	0.14	0.30	0.30	0.11	0.27	0.27	0.11	0.33	0.33	0.08	0.29
v/c Ratio	1.25	1.44	0.38	0.91	1.52	0.44	1.18	0.31	0.25	1.72	0.91
Control Delay	169.3	237.0	16.3	82.8	271.5	11.9	167.8	30.9	5.3	386.4	41.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	169.3	237.0	16.3	82.8	271.5	11.9	167.8	30.9	5.3	386.4	41.7
LOS	F	F	B	F	F	B	F	C	A	F	D
Approach Delay		200.0			224.0			79.5			107.1
Approach LOS		F			F			E			F

Intersection Summary

























Cycle Length: 120
 Actuated Cycle Length: 117.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.72
 Intersection Signal Delay: 181.6
 Intersection LOS: F
 Intersection Capacity Utilization 109.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	537	1389	191	298	1870	221	215	172	143	219	413	520
Future Volume (veh/h)	537	1389	191	298	1870	221	215	172	143	219	413	520
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	597	1543	151	331	2078	218	239	191	131	243	459	439
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	479	1067	476	362	1360	422	202	624	529	142	533	475
Arrive On Green	0.14	0.30	0.30	0.10	0.27	0.27	0.11	0.33	0.33	0.08	0.30	0.30
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	597	1543	151	331	2078	218	239	191	131	243	459	439
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	16.4	35.5	8.7	11.2	31.5	13.8	13.4	9.0	7.1	9.4	28.8	31.7
Cycle Q Clear(g_c), s	16.4	35.5	8.7	11.2	31.5	13.8	13.4	9.0	7.1	9.4	28.8	31.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	479	1067	476	362	1360	422	202	624	529	142	533	475
V/C Ratio(X)	1.25	1.45	0.32	0.91	1.53	0.52	1.18	0.31	0.25	1.72	0.86	0.92
Avail Cap(c_a), veh/h	479	1067	476	362	1360	422	202	652	552	142	559	499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	41.4	32.0	52.4	43.4	36.9	52.4	29.2	28.6	54.4	39.1	40.1
Incr Delay (d2), s/veh	127.2	206.2	0.4	26.3	241.3	1.1	121.9	0.3	0.2	350.3	12.6	22.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.2	45.0	3.2	6.0	42.8	5.2	12.6	3.9	2.6	17.9	13.9	14.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	178.1	247.6	32.4	78.7	284.7	38.0	174.3	29.5	28.9	404.8	51.7	62.6
LnGrp LOS	F	F	C	E	F	D	F	C	C	F	D	E
Approach Vol, veh/h		2291			2627			561			1141	
Approach Delay, s/veh		215.3			238.3			91.0			131.1	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	45.3	17.0	42.0	18.0	41.3	21.0	38.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	9.4	41.2	12.4	35.5	13.4	37.2	16.4	31.5				
Max Q Clear Time (g_c+I1), s	11.4	11.0	13.2	37.5	15.4	33.7	18.4	33.5				
Green Ext Time (p_c), s	0.0	1.4	0.0	0.0	0.0	1.7	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			199.4									
HCM 6th LOS			F									

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/21/2021

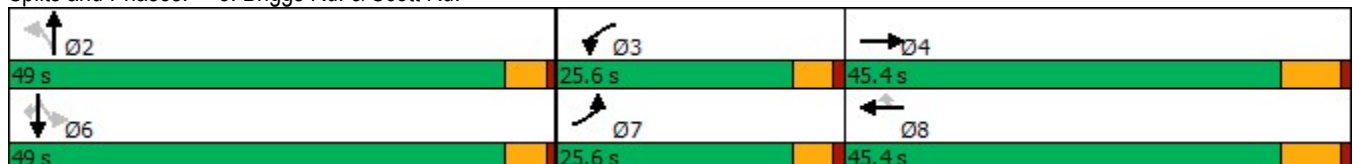


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	20	1584	61	2314	185	438	12	129	17	56
Future Volume (vph)	20	1584	61	2314	185	438	12	129	17	56
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	25.6	45.4	25.6	45.4	45.4	49.0	49.0	49.0	49.0	49.0
Total Split (%)	21.3%	37.8%	21.3%	37.8%	37.8%	40.8%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	6.0	39.0	8.3	45.3	45.3		44.4		44.4	44.4
Actuated g/C Ratio	0.06	0.37	0.08	0.43	0.43		0.42		0.42	0.42
v/c Ratio	0.22	1.79	0.47	1.64	0.25		1.17		0.33	0.08
Control Delay	54.1	384.7	58.5	315.2	4.0		125.2		24.2	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	54.1	384.7	58.5	315.2	4.0		125.2		24.2	3.8
LOS	D	F	E	F	A		F		C	A
Approach Delay		381.6		286.6			125.2		18.5	
Approach LOS		F		F			F		B	

Intersection Summary

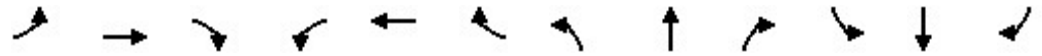
Cycle Length: 120
 Actuated Cycle Length: 105.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.79
 Intersection Signal Delay: 298.3
 Intersection LOS: F
 Intersection Capacity Utilization 111.8%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1584	559	61	2314	185	438	12	90	129	17	56
Future Volume (veh/h)	20	1584	559	61	2314	185	438	12	90	129	17	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	1703	526	66	2488	190	471	13	97	139	18	34
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	1014	297	85	1419	633	472	11	84	646	80	675
Arrive On Green	0.02	0.37	0.37	0.05	0.40	0.40	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1781	2709	795	1781	3554	1585	961	27	198	1364	188	1585
Grp Volume(v), veh/h	22	1086	1143	66	2488	190	581	0	0	157	0	34
Grp Sat Flow(s),veh/h/ln	1781	1777	1727	1781	1777	1585	1185	0	0	1552	0	1585
Q Serve(g_s), s	1.3	38.9	38.9	3.8	41.5	8.5	37.6	0.0	0.0	0.0	0.0	1.3
Cycle Q Clear(g_c), s	1.3	38.9	38.9	3.8	41.5	8.5	44.3	0.0	0.0	6.7	0.0	1.3
Prop In Lane	1.00		0.46	1.00		1.00	0.81		0.17	0.89		1.00
Lane Grp Cap(c), veh/h	40	665	646	85	1419	633	568	0	0	726	0	675
V/C Ratio(X)	0.55	1.63	1.77	0.77	1.75	0.30	1.02	0.00	0.00	0.22	0.00	0.05
Avail Cap(c_a), veh/h	360	665	646	360	1419	633	568	0	0	726	0	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.3	32.5	32.5	48.9	31.2	21.3	35.3	0.0	0.0	19.0	0.0	17.5
Incr Delay (d2), s/veh	4.2	292.0	352.4	5.5	341.7	0.3	43.9	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	68.8	77.8	1.7	83.1	2.9	21.7	0.0	0.0	2.4	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.5	324.5	384.9	54.4	372.9	21.6	79.1	0.0	0.0	19.2	0.0	17.5
LnGrp LOS	D	F	F	D	F	C	F	A	A	B	A	B
Approach Vol, veh/h		2251			2744			581				191
Approach Delay, s/veh		352.5			340.9			79.1				18.9
Approach LOS		F			F			E				B
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		49.0	9.6	45.4		49.0	7.0	48.0				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 44	21.0	38.9		* 44	21.0	38.9				
Max Q Clear Time (g_c+I1), s		46.3	5.8	40.9		8.7	3.3	43.5				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.1	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	308.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Intersection Delay, s/v	11.7											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	183	846	613	24	1251	33	826	160	10	88	153	182
Future Vol, veh/h	183	846	613	24	1251	33	826	160	10	88	153	182
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	189	872	632	25	1290	34	852	165	10	91	158	188
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	1614.7	1254.2	886.9	280.4
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	83%	11%	2%	21%
Vol Thru, %	16%	52%	96%	36%
Vol Right, %	1%	37%	3%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	996	1642	1308	423
LT Vol	826	183	24	88
Through Vol	160	846	1251	153
RT Vol	10	613	33	182
Lane Flow Rate	1027	1693	1348	436
Geometry Grp	1	1	1	1
Degree of Util (X)	2.793	4.434	3.603	1.14
Departure Headway (Hd)	31.151	29.367	34.219	63.148
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	133	152	121	65
Service Time	29.151	27.367	32.219	61.148
HCM Lane V/C Ratio	7.722	11.138	11.14	6.708
HCM Control Delay	886.9	1614.7	1254.2	280.4
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	29.9	56.2	38	5.5

Intersection												
Int Delay, s/veh	374.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	2	3	98	0	334	2	537	57	167	631	12
Future Vol, veh/h	3	2	3	98	0	334	2	537	57	167	631	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	2	4	120	0	407	2	655	70	204	770	15

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2084	1915	778	1883	1887	690	785	0	0	725	0	0
Stage 1	1186	1186	-	694	694	-	-	-	-	-	-	-
Stage 2	898	729	-	1189	1193	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	39	68	396	~ 54	70	445	834	-	-	878	-	-
Stage 1	230	262	-	433	444	-	-	-	-	-	-	-
Stage 2	334	428	-	229	260	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 2	40	396	~ 35	41	445	834	-	-	878	-	-
Mov Cap-2 Maneuver	~ 2	40	-	~ 35	41	-	-	-	-	-	-	-
Stage 1	229	154	-	431	442	-	-	-	-	-	-	-
Stage 2	28	426	-	131	153	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, \$	1762.4	1565.2	0	2.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	834	-	-	5	122	878	-	-
HCM Lane V/C Ratio	0.003	-	-	1.951	4.318	0.232	-	-
HCM Control Delay (s)	9.3	0	\$ 1762.4	1565.2	10.3	0	-	-
HCM Lane LOS	A	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0	-	-	2.2	54.2	0.9	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	8.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	227	0	60	0	538	88	36	620	5
Future Vol, veh/h	0	0	0	227	0	60	0	538	88	36	620	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	255	0	67	0	604	99	40	697	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1467	1483	352	1083	1437	654	703	0	0	703	0	0
Stage 1	780	780	-	654	654	-	-	-	-	-	-	-
Stage 2	687	703	-	429	783	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	97	124	645	~ 183	133	466	892	-	-	892	-	-
Stage 1	355	405	-	455	462	-	-	-	-	-	-	-
Stage 2	436	439	-	575	404	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	80	118	645	~ 177	127	466	892	-	-	892	-	-
Mov Cap-2 Maneuver	193	233	-	307	249	-	-	-	-	-	-	-
Stage 1	355	387	-	455	462	-	-	-	-	-	-	-
Stage 2	373	439	-	549	386	-	-	-	-	-	-	-

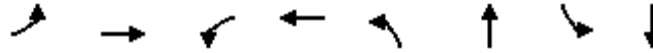
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	46.4	0	0.5
HCM LOS	A	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	892	-	-	-	307	466	892	-	-
HCM Lane V/C Ratio	-	-	-	-	0.831	0.145	0.045	-	-
HCM Control Delay (s)	0	-	-	0	55	14	9.2	-	-
HCM Lane LOS	A	-	-	A	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	7.1	0.5	0.1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/24/2021

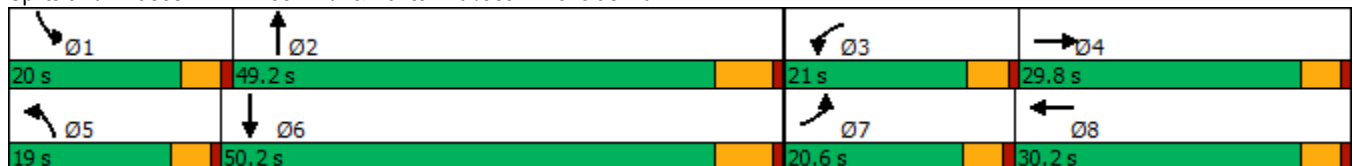


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↕	↘	↕	↘	↕	↘	↕
Traffic Volume (vph)	130	240	137	276	123	411	86	814
Future Volume (vph)	130	240	137	276	123	411	86	814
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	20.6	29.8	21.0	30.2	19.0	49.2	20.0	50.2
Total Split (%)	17.2%	24.8%	17.5%	25.2%	15.8%	41.0%	16.7%	41.8%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	16.0	22.0	16.4	22.4	13.1	45.7	11.5	44.1
Actuated g/C Ratio	0.14	0.19	0.14	0.19	0.11	0.39	0.10	0.38
v/c Ratio	0.71	0.72	0.73	0.84	0.82	0.48	0.65	0.86
Control Delay	65.3	42.6	66.4	47.8	81.0	27.7	68.0	41.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	42.6	66.4	47.8	81.0	27.7	68.0	41.1
LOS	E	D	E	D	F	C	E	D
Approach Delay		48.4		52.1		38.3		43.5
Approach LOS		D		D		D		D

Intersection Summary

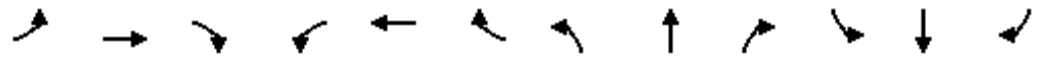
Cycle Length: 120	
Actuated Cycle Length: 115.8	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 45.2	Intersection LOS: D
Intersection Capacity Utilization 75.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	
Traffic Volume (veh/h)	130	240	138	137	276	178	123	411	85	86	814	44
Future Volume (veh/h)	130	240	138	137	276	178	123	411	85	86	814	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	173	320	131	183	368	208	164	548	85	115	1085	51
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	483	194	253	431	239	192	1260	195	141	1316	62
Arrive On Green	0.14	0.20	0.20	0.14	0.20	0.20	0.11	0.41	0.41	0.08	0.38	0.38
Sat Flow, veh/h	1781	2474	993	1781	2171	1202	1781	3078	476	1781	3453	162
Grp Volume(v), veh/h	173	228	223	183	300	276	164	316	317	115	558	578
Grp Sat Flow(s),veh/h/ln	1781	1777	1690	1781	1777	1596	1781	1777	1777	1781	1777	1838
Q Serve(g_s), s	10.7	13.7	14.1	11.3	18.8	19.4	10.4	14.7	14.8	7.3	32.7	32.7
Cycle Q Clear(g_c), s	10.7	13.7	14.1	11.3	18.8	19.4	10.4	14.7	14.8	7.3	32.7	32.7
Prop In Lane	1.00		0.59	1.00		0.75	1.00		0.27	1.00		0.09
Lane Grp Cap(c), veh/h	247	347	330	253	353	317	192	727	727	141	677	701
V/C Ratio(X)	0.70	0.66	0.68	0.72	0.85	0.87	0.86	0.43	0.44	0.81	0.82	0.82
Avail Cap(c_a), veh/h	247	386	367	253	393	353	222	727	727	238	677	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	42.9	43.1	47.3	44.6	44.8	50.6	24.5	24.5	52.3	32.2	32.2
Incr Delay (d2), s/veh	15.3	3.5	4.3	16.4	14.9	19.1	21.6	0.4	0.4	4.3	10.9	10.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	6.3	6.3	6.2	9.7	9.3	5.6	5.9	5.9	3.3	15.1	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.8	46.4	47.3	63.8	59.5	63.9	72.3	24.9	24.9	56.6	43.2	42.9
LnGrp LOS	E	D	D	E	E	E	E	C	C	E	D	D
Approach Vol, veh/h		624			759			797			1251	
Approach Delay, s/veh		51.3			62.2			34.7			44.3	
Approach LOS		D			E			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	53.5	21.0	27.2	17.0	50.2	20.6	27.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	15.4	43.0	16.4	* 25	14.4	44.0	16.0	* 26				
Max Q Clear Time (g_c+I1), s	9.3	16.8	13.3	16.1	12.4	34.7	12.7	21.4				
Green Ext Time (p_c), s	0.1	3.5	0.1	1.8	0.0	4.4	0.1	1.4				

Intersection Summary

HCM 6th Ctrl Delay	47.3
HCM 6th LOS	D

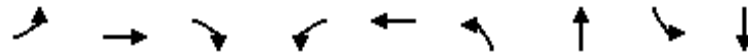
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)

06/22/2021

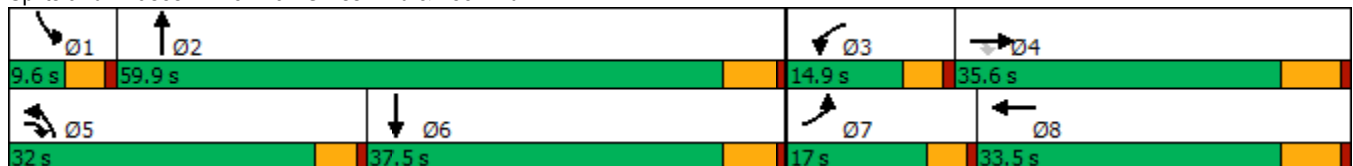


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↔↔	↑↑	↔↔	↑↑
Traffic Volume (vph)	356	400	1183	505	739	1182	459	35	697
Future Volume (vph)	356	400	1183	505	739	1182	459	35	697
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases	4								
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	17.0	35.6	32.0	14.9	33.5	32.0	59.9	9.6	37.5
Total Split (%)	14.2%	29.7%	26.7%	12.4%	27.9%	26.7%	49.9%	8.0%	31.3%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	12.4	29.1	63.0	10.3	27.0	27.4	57.9	5.0	31.7
Actuated g/C Ratio	0.10	0.24	0.52	0.09	0.22	0.23	0.48	0.04	0.26
v/c Ratio	1.05	0.49	1.43	1.79	1.00	1.57	0.46	0.25	1.10
Control Delay	112.7	41.3	225.3	400.4	79.0	296.2	18.1	60.2	99.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.7	41.3	225.3	400.4	79.0	296.2	18.1	60.2	99.1
LOS	F	D	F	F	E	F	B	E	F
Approach Delay	166.6		206.9			189.4		97.8	
Approach LOS	F		F			F		F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.79
 Intersection Signal Delay: 170.7
 Intersection LOS: F
 Intersection Capacity Utilization 128.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	356	400	1183	505	739	25	1182	459	278	35	697	283
Future Volume (veh/h)	356	400	1183	505	739	25	1182	459	278	35	697	283
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	371	417	1099	526	770	20	1231	478	231	36	726	276
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	357	862	746	297	796	21	789	1079	518	101	665	253
Arrive On Green	0.10	0.24	0.24	0.09	0.22	0.22	0.23	0.46	0.46	0.03	0.26	0.26
Sat Flow, veh/h	3456	3554	1585	3456	3539	92	3456	2328	1118	3456	2518	957
Grp Volume(v), veh/h	371	417	1099	526	387	403	1231	364	345	36	512	490
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1854	1728	1777	1669	1728	1777	1698
Q Serve(g_s), s	12.4	12.1	29.1	10.3	25.9	25.9	27.4	16.6	16.8	1.2	31.7	31.7
Cycle Q Clear(g_c), s	12.4	12.1	29.1	10.3	25.9	25.9	27.4	16.6	16.8	1.2	31.7	31.7
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.67	1.00		0.56
Lane Grp Cap(c), veh/h	357	862	746	297	400	417	789	823	773	101	469	449
V/C Ratio(X)	1.04	0.48	1.47	1.77	0.97	0.97	1.56	0.44	0.45	0.36	1.09	1.09
Avail Cap(c_a), veh/h	357	862	746	297	400	417	789	823	773	144	469	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	39.0	31.8	54.8	46.1	46.1	46.3	21.7	21.8	57.2	44.2	44.2
Incr Delay (d2), s/veh	58.1	0.4	219.9	361.4	36.3	35.5	258.2	0.4	0.4	0.8	68.6	69.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	5.1	65.1	19.2	14.9	15.5	39.6	6.6	6.3	0.5	22.3	21.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.9	39.4	251.7	416.3	82.4	81.5	304.5	22.1	22.2	57.9	112.8	113.7
LnGrp LOS	F	D	F	F	F	F	F	C	C	E	F	F
Approach Vol, veh/h		1887			1316			1940			1038	
Approach Delay, s/veh		177.3			215.6			201.3			111.3	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	61.4	14.9	35.6	32.0	37.5	17.0	33.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	54.1	10.3	29.1	27.4	31.7	12.4	27.0				
Max Q Clear Time (g_c+I1), s	3.2	18.8	12.3	31.1	29.4	33.7	14.4	27.9				
Green Ext Time (p_c), s	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			181.9									
HCM 6th LOS			F									

Intersection												
Intersection Delay, s/veh	12											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕		↕			↕	
Traffic Vol, veh/h	0	338	17	19	284	0	11	0	10	2	0	0
Future Vol, veh/h	0	338	17	19	284	0	11	0	10	2	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	376	19	21	316	0	12	0	11	2	0	0
Number of Lanes	0	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	1
HCM Control Delay	12.9	11.1	9.2	9.6
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	52%	0%	100%	0%	0%	100%
Vol Thru, %	0%	95%	0%	100%	100%	0%
Vol Right, %	48%	5%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	355	19	284	0	2
LT Vol	11	0	19	0	0	2
Through Vol	0	338	0	284	0	0
RT Vol	10	17	0	0	0	0
Lane Flow Rate	23	394	21	316	0	2
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.04	0.53	0.032	0.43	0	0.004
Departure Headway (Hd)	6.178	4.838	5.411	4.908	4.908	6.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	579	749	664	735	0	526
Service Time	3.921	2.553	3.126	2.623	2.623	4.549
HCM Lane V/C Ratio	0.04	0.526	0.032	0.43	0	0.004
HCM Control Delay	9.2	12.9	8.3	11.3	7.6	9.6
HCM Lane LOS	A	B	A	B	N	A
HCM 95th-tile Q	0.1	3.2	0.1	2.2	0	0

Intersection						
Int Delay, s/veh	7.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑	
Traffic Vol, veh/h	6	155	64	18	21	12
Future Vol, veh/h	6	155	64	18	21	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	191	79	22	26	15

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	203	34	41	0	0
Stage 1	34	-	-	-	-
Stage 2	169	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-
Pot Cap-1 Maneuver	776	1039	1567	-	-
Stage 1	988	-	-	-	-
Stage 2	844	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	737	1039	1567	-	-
Mov Cap-2 Maneuver	737	-	-	-	-
Stage 1	939	-	-	-	-
Stage 2	844	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	5.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1567	-	1023	-	-
HCM Lane V/C Ratio	0.05	-	0.194	-	-
HCM Control Delay (s)	7.4	-	9.4	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕		↵	↕			↕			↕	
Traffic Vol, veh/h	27	318	0	11	234	3	0	0	39	7	0	62
Future Vol, veh/h	27	318	0	11	234	3	0	0	39	7	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	346	0	12	254	3	0	0	42	8	0	67

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	257	0	0	346	0	0	555	685	173	511	684	129
Stage 1	-	-	-	-	-	-	404	404	-	280	280	-
Stage 2	-	-	-	-	-	-	151	281	-	231	404	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1305	-	-	1210	-	-	414	369	840	446	370	897
Stage 1	-	-	-	-	-	-	594	598	-	703	678	-
Stage 2	-	-	-	-	-	-	836	677	-	751	598	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1305	-	-	1210	-	-	373	357	840	413	358	897
Mov Cap-2 Maneuver	-	-	-	-	-	-	373	357	-	502	443	-
Stage 1	-	-	-	-	-	-	581	585	-	688	671	-
Stage 2	-	-	-	-	-	-	766	670	-	697	585	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.4	9.5	9.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	840	1305	-	-	1210	-	-	831
HCM Lane V/C Ratio	0.05	0.022	-	-	0.01	-	-	0.09
HCM Control Delay (s)	9.5	7.8	-	-	8	-	-	9.8
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.3

Intersection						
Int Delay, s/veh	8.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	117	247	155	80	231	93
Future Vol, veh/h	117	247	155	80	231	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	127	268	168	87	251	101

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	255	0	-	0	600 128
Stage 1	-	-	-	-	212 -
Stage 2	-	-	-	-	388 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	1307	-	-	-	432 898
Stage 1	-	-	-	-	803 -
Stage 2	-	-	-	-	655 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1307	-	-	-	390 898
Mov Cap-2 Maneuver	-	-	-	-	491 -
Stage 1	-	-	-	-	725 -
Stage 2	-	-	-	-	655 -

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1307	-	-	-	564
HCM Lane V/C Ratio	0.097	-	-	-	0.624
HCM Control Delay (s)	8.1	-	-	-	21.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	4.3

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	478	186	125	0	49
Future Vol, veh/h	0	478	186	125	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	520	202	136	0	53

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	- 169
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0 845
Stage 1	0	-	-	-	0 -
Stage 2	0	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	- 845
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	845
HCM Lane V/C Ratio	-	-	-	0.063
HCM Control Delay (s)	-	-	-	9.5
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.2

Timings
20: Winchester Rd. & Domenigoni Pkwy

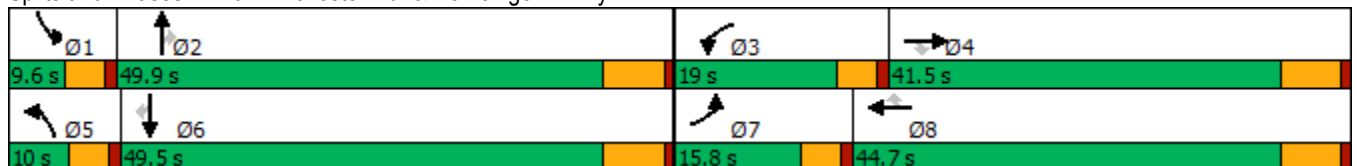
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	1035	154	1108	936	16	69	920	943	7	1380	260
Future Volume (vph)	190	1035	154	1108	936	16	69	920	943	7	1380	260
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	15.8	41.5	41.5	19.0	44.7	44.7	10.0	49.9	49.9	9.6	49.5	49.5
Total Split (%)	13.2%	34.6%	34.6%	15.8%	37.3%	37.3%	8.3%	41.6%	41.6%	8.0%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	10.3	35.0	35.0	14.4	39.1	39.1	5.4	51.1	51.1	5.0	43.0	43.0
Actuated g/C Ratio	0.09	0.29	0.29	0.12	0.33	0.33	0.04	0.43	0.43	0.04	0.36	0.36
v/c Ratio	0.68	1.07	0.30	2.87	0.60	0.03	0.92	0.65	1.16	0.10	1.16	0.41
Control Delay	65.5	88.6	12.7	867.6	36.0	0.1	139.3	30.5	109.5	58.3	116.0	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.5	88.6	12.7	867.6	36.0	0.1	139.3	30.5	109.5	58.3	116.0	12.1
LOS	E	F	B	F	D	A	F	C	F	E	F	B
Approach Delay		76.9			483.0			72.9			99.3	
Approach LOS		E			F			E			F	

Intersection Summary
































Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.87
 Intersection Signal Delay: 200.3
 Intersection LOS: F
 Intersection Capacity Utilization 121.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



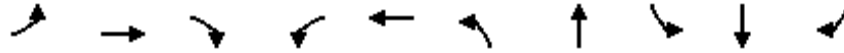
HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  			 			 	
Traffic Volume (veh/h)	190	1035	154	1108	936	16	69	920	943	7	1380	260
Future Volume (veh/h)	190	1035	154	1108	936	16	69	920	943	7	1380	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	202	1101	108	1179	996	11	73	979	807	7	1468	143
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	1036	462	415	1721	534	80	1403	626	15	1273	568
Arrive On Green	0.07	0.29	0.29	0.12	0.34	0.34	0.05	0.39	0.39	0.01	0.36	0.36
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	202	1101	108	1179	996	11	73	979	807	7	1468	143
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.9	35.0	6.2	14.4	19.3	0.6	4.9	27.6	47.4	0.5	43.0	7.6
Cycle Q Clear(g_c), s	6.9	35.0	6.2	14.4	19.3	0.6	4.9	27.6	47.4	0.5	43.0	7.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	1036	462	415	1721	534	80	1403	626	15	1273	568
V/C Ratio(X)	0.78	1.06	0.23	2.84	0.58	0.02	0.91	0.70	1.29	0.45	1.15	0.25
Avail Cap(c_a), veh/h	323	1036	462	415	1721	534	80	1403	626	74	1273	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	42.5	32.3	52.8	32.8	26.6	57.1	30.3	36.3	59.2	38.5	27.2
Incr Delay (d2), s/veh	7.3	46.0	0.3	836.0	0.5	0.0	69.9	1.5	142.3	7.5	78.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	21.0	2.3	54.1	7.5	0.2	3.7	11.2	41.4	0.2	31.1	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.9	88.5	32.6	888.8	33.3	26.6	126.9	31.9	178.6	66.7	116.7	27.4
LnGrp LOS	E	F	C	F	C	C	F	C	F	E	F	C
Approach Vol, veh/h		1411			2186			1859			1618	
Approach Delay, s/veh		80.4			494.7			99.3			108.5	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.6	53.9	19.0	41.5	10.0	49.5	13.6	46.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	43.4	14.4	35.0	5.4	43.0	11.2	38.2				
Max Q Clear Time (g_c+1), s	2.5	49.4	16.4	37.0	6.9	45.0	8.9	21.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.6				
Intersection Summary												
HCM 6th Ctrl Delay				219.8								
HCM 6th LOS				F								

Timings
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↖	↑↑	↗
Traffic Volume (vph)	1	0	1	6	0	1	1924	10	2631	2
Future Volume (vph)	1	0	1	6	0	1	1924	10	2631	2
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)		10.0	10.0		10.0	5.0	87.2	5.0	87.2	87.2
Actuated g/C Ratio		0.11	0.11		0.11	0.05	0.94	0.05	0.94	0.94
v/c Ratio		0.00	0.00		0.05	0.01	0.43	0.12	0.84	0.00
Control Delay		40.0	0.0		0.4	45.0	2.2	46.9	8.5	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		40.0	0.0		0.4	45.0	2.2	46.9	8.5	0.0
LOS		D	A		A	D	A	D	A	A
Approach Delay		20.0			0.4		2.3		8.6	
Approach LOS		B			A		A		A	

Intersection Summary






















Cycle Length: 120
 Actuated Cycle Length: 92.6
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 5.9
 Intersection LOS: A
 Intersection Capacity Utilization 102.4%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
 21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	6	0	6	1	1924	0	10	2631	2
Future Volume (veh/h)	1	0	1	6	0	6	1	1924	0	10	2631	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	0	0	6	0	1	1	2047	0	11	2799	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	0	32	103	0	4	2	4012	1245	24	2835	1264
Arrive On Green	0.02	0.00	0.00	0.02	0.00	0.02	0.00	0.79	0.00	0.01	0.80	0.80
Sat Flow, veh/h	1500	0	1585	1242	0	207	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	1	0	0	7	0	0	1	2047	0	11	2799	2
Grp Sat Flow(s),veh/h/ln	1500	0	1585	1449	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	12.3	0.0	0.5	64.4	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	12.3	0.0	0.5	64.4	0.0
Prop In Lane	1.00		1.00	0.86		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	114	0	32	107	0	0	2	4012	1245	24	2835	1264
V/C Ratio(X)	0.01	0.00	0.00	0.07	0.00	0.00	0.41	0.51	0.00	0.46	0.99	0.00
Avail Cap(c_a), veh/h	597	0	573	598	0	0	104	4076	1265	104	2837	1265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	0.0	0.0	41.4	0.0	0.0	42.8	3.3	0.0	42.0	8.3	1.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	36.0	0.1	0.0	5.0	14.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	1.3	0.0	0.2	11.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	0.0	0.0	41.6	0.0	0.0	78.8	3.4	0.0	47.0	22.3	1.8
LnGrp LOS	D	A	A	D	A	A	E	A	A	D	C	A
Approach Vol, veh/h		1			7			2048			2812	
Approach Delay, s/veh		41.2			41.6			3.4			22.4	
Approach LOS		D			D			A			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	73.6		6.4	4.7	74.7		6.4				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.0	68.5		* 31	5.0	68.5		* 31				
Max Q Clear Time (g_c+I1), s	2.5	14.3		2.0	2.0	66.4		2.4				
Green Ext Time (p_c), s	0.0	23.6		0.0	0.0	2.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				14.4								
HCM 6th LOS				B								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↙	↘	↙	↘	↙	↑↑	↙	↑↑	↘
Traffic Volume (vph)	1	2	1	4	2	1924	1	2633	4
Future Volume (vph)	1	2	1	4	2	1924	1	2633	4
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	9.6	16.5	16.5
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	75.9	5.0	68.2	68.2
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.77	0.05	0.69	0.69
v/c Ratio	0.01	0.01	0.01	0.02	0.02	0.75	0.01	1.15	0.00
Control Delay	40.0	40.5	40.0	40.5	45.5	9.5	45.0	90.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	40.5	40.0	40.5	45.5	9.5	45.0	90.9	0.0
LOS	D	D	D	D	D	A	D	F	A
Approach Delay		40.3		40.4		9.5		90.8	
Approach LOS		D		D		A		F	

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 99	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 56.5	Intersection LOS: E
Intersection Capacity Utilization 90.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	2	0	1	4	0	2	1924	0	1	2633	4
Future Volume (veh/h)	1	2	0	1	4	0	2	1924	0	1	2633	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	2	0	1	4	0	2	2047	0	1	2801	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	189	0	214	189	0	90	2623	1170	2	2448	1092
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.00	0.05	0.74	0.00	0.00	0.69	0.69
Sat Flow, veh/h	1412	1870	0	1415	1870	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	1	2	0	1	4	0	2	2047	0	1	2801	4
Grp Sat Flow(s),veh/h/ln	1412	1870	0	1415	1870	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.1	0.1	0.0	0.1	0.2	0.0	0.1	35.2	0.0	0.1	68.2	0.1
Cycle Q Clear(g_c), s	0.3	0.1	0.0	0.2	0.2	0.0	0.1	35.2	0.0	0.1	68.2	0.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	189	0	214	189	0	90	2623	1170	2	2448	1092
V/C Ratio(X)	0.00	0.01	0.00	0.00	0.02	0.00	0.02	0.78	0.00	0.41	1.14	0.00
Avail Cap(c_a), veh/h	512	586	0	514	586	0	90	2623	1170	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	40.0	0.0	40.1	40.1	0.0	44.7	8.0	0.0	49.4	15.4	4.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.6	0.0	36.2	70.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.1	8.3	0.0	0.0	41.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	40.1	0.0	40.1	40.1	0.0	45.1	9.6	0.0	85.6	85.7	4.8
LnGrp LOS	D	D	A	D	D	A	D	A	A	F	F	A
Approach Vol, veh/h		3			5			2049			2806	
Approach Delay, s/veh		40.1			40.1			9.6			85.5	
Approach LOS		D			D			A			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	79.6		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	2.1	37.2		2.3	2.1	70.2		2.2				
Green Ext Time (p_c), s	0.0	19.4		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	53.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	11	22	20	1916	2616	19
Future Volume (vph)	11	22	20	1916	2616	19
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	24.5	24.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effect Green (s)	10.1	10.1	5.0	95.7	90.2	90.2
Actuated g/C Ratio	0.09	0.09	0.05	0.89	0.84	0.84
v/c Ratio	0.07	0.14	0.27	0.67	0.97	0.02
Control Delay	47.7	19.7	59.8	4.8	25.2	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	19.7	59.8	4.8	25.2	1.8
LOS	D	B	E	A	C	A
Approach Delay	29.0			5.3	25.0	
Approach LOS	C			A	C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 107.7
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 16.8
 Intersection LOS: B
 Intersection Capacity Utilization 89.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
 23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	22	20	1916	2616	19
Future Volume (veh/h)	11	22	20	1916	2616	19
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	16	22	2105	2875	21
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	96	85	41	2970	2727	1216
Arrive On Green	0.05	0.05	0.02	0.84	0.77	0.77
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	12	16	22	2105	2875	21
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.6	1.0	1.2	24.0	77.3	0.3
Cycle Q Clear(g_c), s	0.6	1.0	1.2	24.0	77.3	0.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	96	85	41	2970	2727	1216
V/C Ratio(X)	0.12	0.19	0.54	0.71	1.05	0.02
Avail Cap(c_a), veh/h	389	346	88	3066	2727	1216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	45.5	48.7	3.3	11.7	2.8
Incr Delay (d2), s/veh	0.6	1.0	4.1	0.7	33.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.6	1.8	27.5	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.0	46.6	52.8	4.1	45.4	2.8
LnGrp LOS	D	D	D	A	F	A
Approach Vol, veh/h	28			2127	2896	
Approach Delay, s/veh	46.3			4.6	45.1	
Approach LOS	D			A	D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		90.7		10.0	6.9	83.8
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+I1), s		26.0		3.0	3.2	79.3
Green Ext Time (p_c), s		29.2		0.0	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			28.0			
HCM 6th LOS			C			

Timings

24: Winchester Rd. & Scott Rd./Washington St,

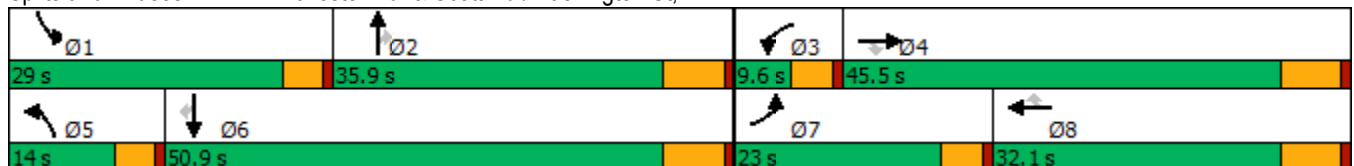


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR	Ø3
Lane Configurations	↖	↗	↘	↖	↗	↖	↑↑↑	↖	↑↑↑	↖	
Traffic Volume (vph)	471	257	243	305	290	246	1368	381	2135	875	
Future Volume (vph)	471	257	243	305	290	246	1368	381	2135	875	
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4		8		5	2	1	6		3
Permitted Phases			4		8						6
Detector Phase	7	4	4	8	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	45.5	45.5	16.5	16.5	9.6	35.5	9.6	44.5	44.5	9.6
Total Split (s)	23.0	45.5	45.5	32.1	32.1	14.0	35.9	29.0	50.9	50.9	9.6
Total Split (%)	19.2%	37.9%	37.9%	26.8%	26.8%	11.7%	29.9%	24.2%	42.4%	42.4%	8%
Yellow Time (s)	3.6	5.5	5.5	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	6.5	6.5	4.6	6.5	4.6	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	None
Act Effct Green (s)	18.4	46.5	46.5	23.5	23.5	9.4	29.4	24.4	44.4	44.4	
Actuated g/C Ratio	0.16	0.39	0.39	0.20	0.20	0.08	0.25	0.21	0.38	0.38	
v/c Ratio	1.82	0.37	0.33	0.88	0.61	1.86	1.15	1.11	1.19	1.11	
Control Delay	410.8	27.0	4.0	70.1	15.7	445.0	116.5	123.2	123.3	88.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	410.8	27.0	4.0	70.1	15.7	445.0	116.5	123.2	123.3	88.0	
LOS	F	C	A	E	B	F	F	F	F	F	
Approach Delay		207.3		43.6			166.6		114.1		
Approach LOS		F		D			F		F		

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 117.9	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.86	
Intersection Signal Delay: 134.4	Intersection LOS: F
Intersection Capacity Utilization 115.5%	ICU Level of Service H
Analysis Period (min) 15	

























Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

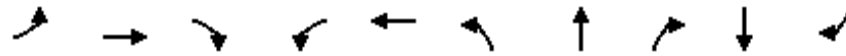
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	257	243	0	305	290	246	1368	0	381	2135	875
Future Volume (veh/h)	471	257	243	0	305	290	246	1368	0	381	2135	875
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	501	273	215	0	324	206	262	1455	0	405	2271	899
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	280	730	618	2	362	307	143	1282	398	371	1937	601
Arrive On Green	0.16	0.39	0.39	0.00	0.19	0.19	0.08	0.25	0.00	0.21	0.38	0.38
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	501	273	215	0	324	206	262	1455	0	405	2271	899
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	18.4	12.2	11.2	0.0	19.8	14.1	9.4	29.4	0.0	24.4	44.4	44.4
Cycle Q Clear(g_c), s	18.4	12.2	11.2	0.0	19.8	14.1	9.4	29.4	0.0	24.4	44.4	44.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	280	730	618	2	362	307	143	1282	398	371	1937	601
V/C Ratio(X)	1.79	0.37	0.35	0.00	0.89	0.67	1.83	1.13	0.00	1.09	1.17	1.50
Avail Cap(c_a), veh/h	280	730	618	76	409	347	143	1282	398	371	1937	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	25.5	25.2	0.0	46.0	43.8	53.8	43.8	0.0	46.3	36.3	36.3
Incr Delay (d2), s/veh	369.2	0.3	0.3	0.0	20.1	4.2	400.1	70.7	0.0	73.3	83.5	231.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	36.5	5.1	4.0	0.0	10.7	5.6	19.9	20.0	0.0	17.8	31.8	54.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	418.5	25.8	25.5	0.0	66.1	48.0	454.0	114.5	0.0	119.6	119.9	267.9
LnGrp LOS	F	C	C	A	E	D	F	F	A	F	F	F
Approach Vol, veh/h		989			530			1717			3575	
Approach Delay, s/veh		224.7			59.1			166.3			157.1	
Approach LOS		F			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.0	35.9	0.0	52.2	14.0	50.9	23.0	29.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	24.4	29.4	5.0	39.0	9.4	44.4	18.4	25.6				
Max Q Clear Time (g_c+I1), s	26.4	31.4	0.0	14.2	11.4	46.4	20.4	21.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay				161.6								
HCM 6th LOS				F								

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/22/2021

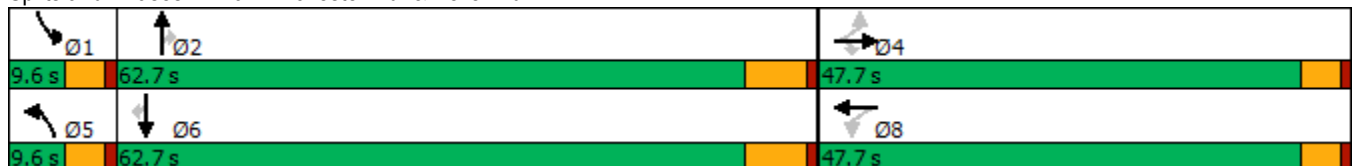


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations											
Traffic Volume (vph)	270	28	182	10	1	149	1345	11	2217	162	
Future Volume (vph)	270	28	182	10	1	149	1345	11	2217	162	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4			8	5	2		6		1
Permitted Phases	4		4	8				2		6	
Detector Phase	4	4	4	8	8	5	2	2	6	6	
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	47.7	47.7	9.6	62.7	62.7	62.7	62.7	9.6
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.0%	52.3%	52.3%	52.3%	52.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)	26.9	26.9	26.9		26.9	5.0	66.2	66.2	56.5	56.5	
Actuated g/C Ratio	0.26	0.26	0.26		0.26	0.05	0.63	0.63	0.54	0.54	
v/c Ratio	0.80	0.06	0.41		0.03	1.87	0.64	0.01	1.23	0.19	
Control Delay	52.6	27.9	18.7		27.1	464.2	14.7	0.0	133.4	8.0	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.6	27.9	18.7		27.1	464.2	14.7	0.0	133.4	8.0	
LOS	D	C	B		C	F	B	A	F	A	
Approach Delay		38.3			27.1		59.2		124.9		
Approach LOS		D			C		E		F		

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 104.3	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.87	
Intersection Signal Delay: 92.5	Intersection LOS: F
Intersection Capacity Utilization 98.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	28	182	10	1	0	149	1345	11	0	2217	162
Future Volume (veh/h)	270	28	182	10	1	0	149	1345	11	0	2217	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	287	30	190	11	1	0	159	1431	12	0	2359	172
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	400	425	360	305	25	0	89	2347	1047	2	2005	894
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.00	0.05	0.66	0.66	0.00	0.56	0.56
Sat Flow, veh/h	1416	1870	1585	1038	109	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	287	30	190	12	0	0	159	1431	12	0	2359	172
Grp Sat Flow(s),veh/h/ln	1416	1870	1585	1148	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	17.2	1.3	10.5	0.5	0.0	0.0	5.0	22.8	0.3	0.0	56.2	5.3
Cycle Q Clear(g_c), s	19.0	1.3	10.5	1.8	0.0	0.0	5.0	22.8	0.3	0.0	56.2	5.3
Prop In Lane	1.00		1.00	0.92		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	400	425	360	330	0	0	89	2347	1047	2	2005	894
V/C Ratio(X)	0.72	0.07	0.53	0.04	0.00	0.00	1.78	0.61	0.01	0.00	1.18	0.19
Avail Cap(c_a), veh/h	690	807	684	575	0	0	89	2347	1047	89	2005	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	30.2	33.8	30.5	0.0	0.0	47.3	9.6	5.8	0.0	21.7	10.6
Incr Delay (d2), s/veh	2.4	0.1	1.2	0.0	0.0	0.0	391.6	0.5	0.0	0.0	85.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.6	4.1	0.2	0.0	0.0	11.8	6.6	0.1	0.0	42.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	30.3	35.0	30.6	0.0	0.0	438.9	10.1	5.8	0.0	106.9	10.7
LnGrp LOS	D	C	D	C	A	A	F	B	A	A	F	B
Approach Vol, veh/h		507			12			1602			2531	
Approach Delay, s/veh		37.2			30.6			52.6			100.3	
Approach LOS		D			C			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	72.3		27.3	9.6	62.7		27.3				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	5.0	56.2		* 43				
Max Q Clear Time (g_c+I1), s	0.0	24.8		21.0	7.0	58.2		3.8				
Green Ext Time (p_c), s	0.0	11.7		1.6	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	76.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
06/22/2021

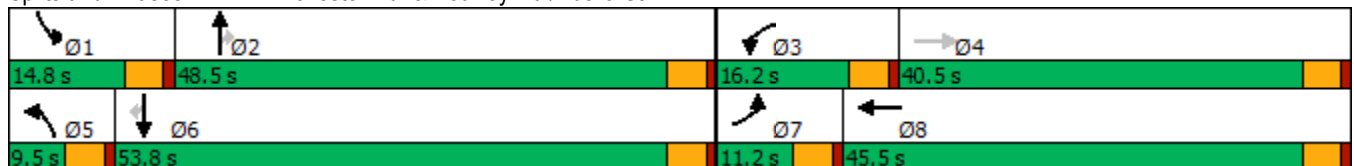


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕	↘	↕	↘	↕	↗	↘	↕	↗
Traffic Volume (vph)	59	30	416	23	108	1364	146	77	2233	100
Future Volume (vph)	59	30	416	23	108	1364	146	77	2233	100
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	11.2	40.5	16.2	45.5	9.5	48.5	48.5	14.8	53.8	53.8
Total Split (%)	9.3%	33.8%	13.5%	37.9%	7.9%	40.4%	40.4%	12.3%	44.8%	44.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	6.4	10.8	11.7	18.1	5.0	47.8	47.8	8.5	49.3	49.3
Actuated g/C Ratio	0.07	0.11	0.12	0.19	0.05	0.50	0.50	0.09	0.52	0.52
v/c Ratio	0.56	0.53	2.17	0.18	1.32	0.87	0.19	0.55	1.38	0.13
Control Delay	61.5	27.7	565.0	11.7	238.9	29.0	2.7	54.5	198.1	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	27.7	565.0	11.7	238.9	29.0	2.7	54.5	198.1	1.9
LOS	E	C	F	B	F	C	A	D	F	A
Approach Delay		35.3		453.8		40.6			185.3	
Approach LOS		D		F		D			F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 94.8
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.17
 Intersection Signal Delay: 157.5
 Intersection LOS: F
 Intersection Capacity Utilization 114.1%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	30	175	416	23	82	108	1364	146	77	2233	100
Future Volume (veh/h)	59	30	175	416	23	82	108	1364	146	77	2233	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	34	175	473	26	45	123	1550	166	88	2538	104
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	249	222	213	376	335	91	1751	781	112	1794	800
Arrive On Green	0.05	0.14	0.14	0.12	0.21	0.21	0.05	0.49	0.49	0.06	0.50	0.50
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	67	34	175	473	26	45	123	1550	166	88	2538	104
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.6	1.6	10.4	11.7	1.1	2.3	5.0	38.3	5.8	4.8	49.3	3.4
Cycle Q Clear(g_c), s	3.6	1.6	10.4	11.7	1.1	2.3	5.0	38.3	5.8	4.8	49.3	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	249	222	213	376	335	91	1751	781	112	1794	800
V/C Ratio(X)	0.78	0.14	0.79	2.22	0.07	0.13	1.35	0.88	0.21	0.78	1.42	0.13
Avail Cap(c_a), veh/h	122	655	584	213	746	665	91	1751	781	188	1794	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	36.8	40.6	43.0	30.8	31.3	46.3	22.3	14.0	45.1	24.2	12.8
Incr Delay (d2), s/veh	11.1	0.2	6.1	562.6	0.1	0.2	213.3	7.0	0.6	4.5	190.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.7	4.4	38.4	0.5	0.9	7.5	15.1	2.1	2.1	64.4	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	37.1	46.7	605.6	30.9	31.4	259.6	29.3	14.7	49.6	214.3	13.2
LnGrp LOS	E	D	D	F	C	C	F	C	B	D	F	B
Approach Vol, veh/h		276			544			1839			2730	
Approach Delay, s/veh		48.1			530.6			43.3			201.4	
Approach LOS		D			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	52.6	16.2	18.2	9.5	53.8	9.2	25.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.3	44.0	11.7	36.0	5.0	49.3	6.7	41.0				
Max Q Clear Time (g_c+I1), s	6.8	40.3	13.7	12.4	7.0	51.3	5.6	4.3				
Green Ext Time (p_c), s	0.0	2.9	0.0	1.3	0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay	172.8											
HCM 6th LOS	F											

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/22/2021

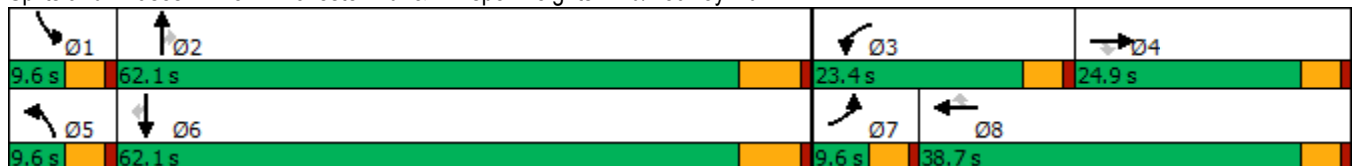


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↙	↑	↘	↙	↑	↘	↙	↑↑	↘↘	↑↑	↘
Traffic Volume (vph)	38	18	45	171	18	158	19	1421	126	2665	32
Future Volume (vph)	38	18	45	171	18	158	19	1421	126	2665	32
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	9.6	25.5	25.5
Total Split (s)	9.6	24.9	24.9	23.4	38.7	38.7	9.6	62.1	9.6	62.1	62.1
Total Split (%)	8.0%	20.8%	20.8%	19.5%	32.3%	32.3%	8.0%	51.8%	8.0%	51.8%	51.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	5.1	10.2	10.2	14.7	18.4	18.4	5.1	51.6	5.1	57.9	57.9
Actuated g/C Ratio	0.05	0.10	0.10	0.15	0.19	0.19	0.05	0.52	0.05	0.59	0.59
v/c Ratio	0.44	0.10	0.15	0.68	0.05	0.42	0.22	0.81	0.75	1.35	0.03
Control Delay	65.1	46.2	1.1	55.4	34.7	16.1	55.5	24.9	75.3	182.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.1	46.2	1.1	55.4	34.7	16.1	55.5	24.9	75.3	182.7	0.1
LOS	E	D	A	E	C	B	E	C	E	F	A
Approach Delay		33.3			36.5			25.3		175.8	
Approach LOS		C			D			C		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.35
 Intersection Signal Delay: 116.5
 Intersection LOS: F
 Intersection Capacity Utilization 104.6%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	38	18	45	171	18	158	19	1421	0	126	2665	32
Future Volume (veh/h)	38	18	45	171	18	158	19	1421	0	126	2665	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	19	28	180	19	109	20	1496	0	133	2805	31
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	186	158	213	347	294	38	1873	835	173	1975	881
Arrive On Green	0.03	0.10	0.10	0.12	0.19	0.19	0.02	0.53	0.00	0.05	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	40	19	28	180	19	109	20	1496	0	133	2805	31
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.2	0.9	1.6	9.9	0.8	6.0	1.1	34.4	0.0	3.8	55.6	0.9
Cycle Q Clear(g_c), s	2.2	0.9	1.6	9.9	0.8	6.0	1.1	34.4	0.0	3.8	55.6	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	186	158	213	347	294	38	1873	835	173	1975	881
V/C Ratio(X)	0.67	0.10	0.18	0.85	0.05	0.37	0.53	0.80	0.00	0.77	1.42	0.04
Avail Cap(c_a), veh/h	89	378	320	335	635	539	89	1975	881	173	1975	881
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	41.0	41.3	43.1	33.5	35.6	48.5	19.3	0.0	47.0	22.2	10.1
Incr Delay (d2), s/veh	4.8	0.2	0.5	6.4	0.1	0.8	4.2	2.3	0.0	17.3	192.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.4	0.7	4.7	0.4	0.1	0.5	12.4	0.0	2.0	71.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	41.2	41.8	49.5	33.6	36.4	52.6	21.6	0.0	64.3	214.5	10.1
LnGrp LOS	D	D	D	D	C	D	D	C	A	E	F	B
Approach Vol, veh/h		87			308			1516			2969	
Approach Delay, s/veh		46.6			43.9			22.1			205.7	
Approach LOS		D			D			C			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	59.2	16.6	14.7	6.7	62.1	8.0	23.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.6	18.8	* 20	5.0	55.6	5.0	* 34				
Max Q Clear Time (g_c+I1), s	5.8	36.4	11.9	3.6	3.1	57.6	4.2	8.0				
Green Ext Time (p_c), s	0.0	9.8	0.1	0.1	0.0	0.0	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	135.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

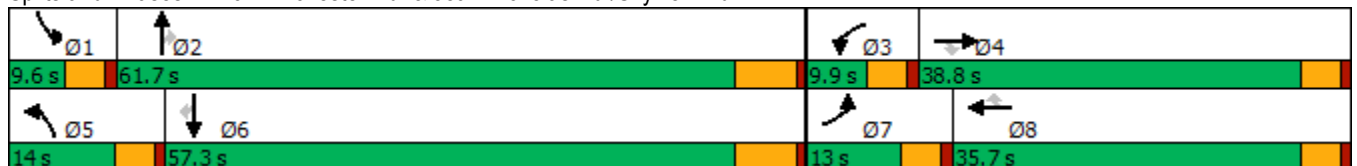
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	11	334	16	6	20	171	1373	4	15	2309	135
Future Volume (vph)	135	11	334	16	6	20	171	1373	4	15	2309	135
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.0	38.8	38.8	9.9	35.7	35.7	14.0	61.7	61.7	9.6	57.3	57.3
Total Split (%)	10.8%	32.3%	32.3%	8.3%	29.8%	29.8%	11.7%	51.4%	51.4%	8.0%	47.8%	47.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	10.9	21.7	21.7	5.2	16.3	16.3	9.5	62.4	62.4	5.1	51.6	51.6
Actuated g/C Ratio	0.11	0.21	0.21	0.05	0.16	0.16	0.09	0.61	0.61	0.05	0.50	0.50
v/c Ratio	0.81	0.03	0.83	0.20	0.02	0.06	1.16	0.71	0.00	0.20	1.45	0.18
Control Delay	79.2	31.6	39.7	57.4	35.2	0.3	165.1	20.5	0.0	57.7	232.2	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.2	31.6	39.7	57.4	35.2	0.3	165.1	20.5	0.0	57.7	232.2	7.9
LOS	E	C	D	E	D	A	F	C	A	E	F	A
Approach Delay		50.6			27.4			36.5			218.8	
Approach LOS		D			C			D			F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.3
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.45
 Intersection Signal Delay: 136.9
 Intersection LOS: F
 Intersection Capacity Utilization 101.8%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (veh/h)	135	11	334	16	6	20	171	1373	4	15	2309	135
Future Volume (veh/h)	135	11	334	16	6	20	171	1373	4	15	2309	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	12	302	18	7	12	192	1543	4	17	2594	126
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	398	337	35	285	241	159	1972	879	33	1720	767
Arrive On Green	0.08	0.21	0.21	0.02	0.15	0.15	0.09	0.55	0.55	0.02	0.48	0.48
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	152	12	302	18	7	12	192	1543	4	17	2594	126
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.4	0.5	19.5	1.1	0.3	0.7	9.4	35.9	0.1	1.0	50.8	4.7
Cycle Q Clear(g_c), s	8.4	0.5	19.5	1.1	0.3	0.7	9.4	35.9	0.1	1.0	50.8	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	398	337	35	285	241	159	1972	879	33	1720	767
V/C Ratio(X)	1.07	0.03	0.90	0.52	0.02	0.05	1.20	0.78	0.00	0.51	1.51	0.16
Avail Cap(c_a), veh/h	143	608	515	90	552	468	159	1972	879	85	1720	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	32.7	40.2	51.0	37.9	38.0	47.8	18.4	10.4	51.0	27.1	15.2
Incr Delay (d2), s/veh	94.2	0.0	12.6	4.4	0.0	0.1	136.5	3.2	0.0	4.5	231.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.2	8.7	0.5	0.2	0.3	10.0	13.1	0.0	0.5	73.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	142.5	32.8	52.8	55.4	37.9	38.1	184.3	21.6	10.4	55.5	259.0	15.7
LnGrp LOS	F	C	D	E	D	D	F	C	B	E	F	B
Approach Vol, veh/h		466			37			1739			2737	
Approach Delay, s/veh		81.6			46.5			39.5			246.5	
Approach LOS		F			D			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	64.7	6.6	27.0	14.0	57.3	13.0	20.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.2	5.3	* 34	9.4	50.8	8.4	* 31				
Max Q Clear Time (g_c+I1), s	3.0	37.9	3.1	21.5	11.4	52.8	10.4	2.7				
Green Ext Time (p_c), s	0.0	9.6	0.0	0.9	0.0	0.0	0.0	0.0				

Intersection Summary

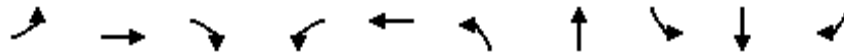
HCM 6th Ctrl Delay	157.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

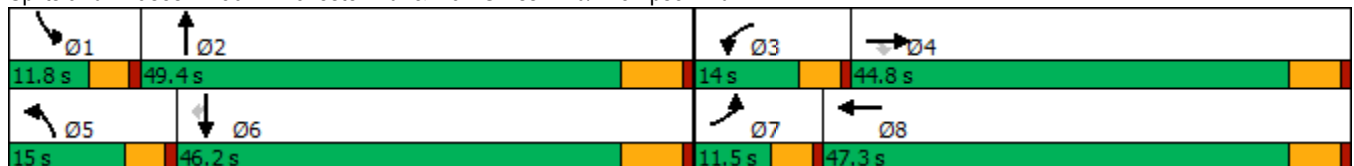


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↗	↘	↗	↘	↗↗	↘	↗↗	↘
Traffic Volume (vph)	160	270	1368	489	458	745	1325	123	2624	250
Future Volume (vph)	160	270	1368	489	458	745	1325	123	2624	250
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	11.5	44.8	44.8	14.0	47.3	15.0	49.4	11.8	46.2	46.2
Total Split (%)	9.6%	37.3%	37.3%	11.7%	39.4%	12.5%	41.2%	9.8%	38.5%	38.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	6.9	39.0	39.0	9.4	41.5	10.4	42.9	7.2	39.7	39.7
Actuated g/C Ratio	0.06	0.32	0.32	0.08	0.35	0.09	0.36	0.06	0.33	0.33
v/c Ratio	1.70	0.48	1.39	3.81	1.08	5.24	1.31	1.25	2.41	0.45
Control Delay	388.9	35.6	208.4	1298.1	97.9	1931.6	178.2	213.2	659.5	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	388.9	35.6	208.4	1298.1	97.9	1931.6	178.2	213.2	659.5	21.0
LOS	F	D	F	F	F	F	F	F	F	C
Approach Delay		198.5			621.4		754.3		587.9	
Approach LOS		F			F		F		F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 5.24
 Intersection Signal Delay: 553.0
 Intersection LOS: F
 Intersection Capacity Utilization 175.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	270	1368	489	458	175	745	1325	197	123	2624	250
Future Volume (veh/h)	160	270	1368	489	458	175	745	1325	197	123	2624	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	172	290	1320	526	492	185	801	1425	186	132	2822	247
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	608	887	140	446	168	154	1131	146	107	1176	524
Arrive On Green	0.06	0.32	0.32	0.08	0.35	0.35	0.09	0.36	0.36	0.06	0.33	0.33
Sat Flow, veh/h	1781	1870	2731	1781	1290	485	1781	3164	409	1781	3554	1585
Grp Volume(v), veh/h	172	290	1320	526	0	677	801	794	817	132	2822	247
Grp Sat Flow(s),veh/h/ln	1781	1870	1365	1781	0	1776	1781	1777	1797	1781	1777	1585
Q Serve(g_s), s	6.9	14.9	39.0	9.4	0.0	41.5	10.4	42.9	42.9	7.2	39.7	14.8
Cycle Q Clear(g_c), s	6.9	14.9	39.0	9.4	0.0	41.5	10.4	42.9	42.9	7.2	39.7	14.8
Prop In Lane	1.00		1.00	1.00		0.27	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	102	608	887	140	0	614	154	635	642	107	1176	524
V/C Ratio(X)	1.68	0.48	1.49	3.77	0.00	1.10	5.19	1.25	1.27	1.24	2.40	0.47
Avail Cap(c_a), veh/h	102	608	887	140	0	614	154	635	642	107	1176	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	32.4	40.5	55.3	0.0	39.3	54.8	38.5	38.6	56.4	40.2	31.8
Incr Delay (d2), s/veh	344.3	0.6	225.3	1263.7	0.0	67.6	1899.2	125.3	134.2	163.1	632.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.8	6.6	40.7	53.2	0.0	29.3	85.9	39.3	41.3	7.9	119.4	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	400.8	32.9	265.8	1319.0	0.0	106.9	1954.0	163.9	172.8	219.5	672.9	32.5
LnGrp LOS	F	C	F	F	A	F	F	F	F	F	F	C
Approach Vol, veh/h		1782			1203			2412			3201	
Approach Delay, s/veh		241.0			636.8			761.4			604.8	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	49.4	14.0	44.8	15.0	46.2	11.5	47.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	7.2	42.9	9.4	39.0	10.4	39.7	6.9	41.5				
Max Q Clear Time (g_c+1), s	9.2	44.9	11.4	41.0	12.4	41.7	8.9	43.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			577.8									
HCM 6th LOS			F									

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/22/2021

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↖↖	↖	↑↑↑	↖	↑↑
Traffic Volume (vph)	437	582	1593	903	3559
Future Volume (vph)	437	582	1593	903	3559
Turn Type	Prot	pm+ov	NA	Prot	NA
Protected Phases	8	1	2	1	6
Permitted Phases	8				
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	30.6	9.5	38.5	9.5	16.5
Total Split (s)	30.6	42.0	47.4	42.0	89.4
Total Split (%)	25.5%	35.0%	39.5%	35.0%	74.5%
Yellow Time (s)	3.6	3.5	5.5	3.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	6.5	4.5	6.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	20.4	62.5	41.0	37.6	83.0
Actuated g/C Ratio	0.18	0.55	0.36	0.33	0.72
v/c Ratio	0.75	0.71	1.06	1.64	1.46
Control Delay	53.0	24.6	75.3	323.9	229.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	24.6	75.3	323.9	229.6
LOS	D	C	E	F	F
Approach Delay	36.8		75.3		248.7
Approach LOS	D		E		F

Intersection Summary
















Cycle Length: 120
 Actuated Cycle Length: 114.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.64
 Intersection Signal Delay: 175.9
 Intersection LOS: F
 Intersection Capacity Utilization 120.1%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/22/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		  			 
Traffic Volume (veh/h)	437	582	1593	222	903	3559
Future Volume (veh/h)	437	582	1593	222	903	3559
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	460	446	1677	182	951	3746
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	724	832	1609	174	562	2478
Arrive On Green	0.21	0.21	0.34	0.34	0.32	0.70
Sat Flow, veh/h	3456	1585	4845	506	1781	3647
Grp Volume(v), veh/h	460	446	1219	640	951	3746
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1779	1781	1777
Q Serve(g_s), s	14.4	22.1	40.9	40.9	37.5	82.9
Cycle Q Clear(g_c), s	14.4	22.1	40.9	40.9	37.5	82.9
Prop In Lane	1.00	1.00		0.28	1.00	
Lane Grp Cap(c), veh/h	724	832	1171	612	562	2478
V/C Ratio(X)	0.64	0.54	1.04	1.05	1.69	1.51
Avail Cap(c_a), veh/h	756	847	1171	612	562	2478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	18.7	39.0	39.0	40.7	18.0
Incr Delay (d2), s/veh	1.7	0.6	37.7	48.7	319.4	232.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	8.1	21.9	24.8	65.1	104.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.5	19.3	76.7	87.7	360.1	250.5
LnGrp LOS	D	B	F	F	F	F
Approach Vol, veh/h	906		1859			4697
Approach Delay, s/veh	32.1		80.5			272.7
Approach LOS	C		F			F
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	42.0	47.4			89.4	29.5
Change Period (Y+Rc), s	4.5	6.5			6.5	4.6
Max Green Setting (Gmax), s	37.5	40.9			82.9	26.0
Max Q Clear Time (g_c+I1), s	39.5	42.9			84.9	24.1
Green Ext Time (p_c), s	0.0	0.0			0.0	0.8
Intersection Summary						
HCM 6th Ctrl Delay			195.6			
HCM 6th LOS			F			

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/22/2021

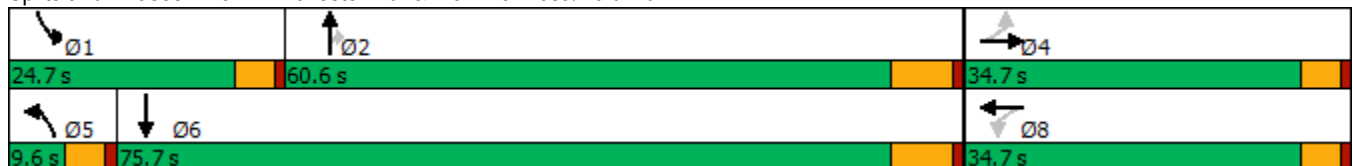


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↗	↖	↕
Traffic Volume (vph)	229	73	358	51	43	1480	355	372	3389
Future Volume (vph)	229	73	358	51	43	1480	355	372	3389
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	9.6	60.6	60.6	24.7	75.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	8.0%	50.5%	50.5%	20.6%	63.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	30.0	30.0	30.0	30.0	5.0	54.1	54.1	20.1	69.2
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.04	0.45	0.45	0.17	0.58
v/c Ratio	0.90	0.37	1.45	0.33	0.60	0.96	0.44	1.30	1.85
Control Delay	78.9	28.3	256.2	20.4	89.0	46.6	9.9	196.8	406.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.9	28.3	256.2	20.4	89.0	46.6	9.9	196.8	406.1
LOS	E	C	F	C	F	D	A	F	F
Approach Delay		57.7		184.9		40.6			386.6
Approach LOS		E		F		D			F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.85
 Intersection Signal Delay: 256.4
 Intersection LOS: F
 Intersection Capacity Utilization 151.7%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↗	
Traffic Volume (veh/h)	229	73	92	358	51	104	43	1480	355	372	3389	235
Future Volume (veh/h)	229	73	92	358	51	104	43	1480	355	372	3389	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	236	75	84	369	53	102	44	1526	292	384	3494	210
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	200	224	272	143	275	74	1602	715	298	1963	117
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.45	0.45	0.17	0.58	0.58
Sat Flow, veh/h	1232	800	896	1227	572	1100	1781	3554	1585	1781	3404	202
Grp Volume(v), veh/h	236	0	159	369	0	155	44	1526	292	384	1805	1899
Grp Sat Flow(s),veh/h/ln	1232	0	1695	1227	0	1672	1781	1777	1585	1781	1777	1829
Q Serve(g_s), s	20.8	0.0	9.3	20.7	0.0	9.2	2.9	49.6	14.9	20.1	69.2	69.2
Cycle Q Clear(g_c), s	30.0	0.0	9.3	30.0	0.0	9.2	2.9	49.6	14.9	20.1	69.2	69.2
Prop In Lane	1.00		0.53	1.00		0.66	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	274	0	424	272	0	418	74	1602	715	298	1025	1055
V/C Ratio(X)	0.86	0.00	0.38	1.36	0.00	0.37	0.59	0.95	0.41	1.29	1.76	1.80
Avail Cap(c_a), veh/h	274	0	424	272	0	418	74	1602	715	298	1025	1055
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.6	0.0	37.2	51.9	0.0	37.2	56.5	31.7	22.2	50.0	25.4	25.4
Incr Delay (d2), s/veh	22.6	0.0	0.2	183.5	0.0	0.5	30.3	13.0	0.4	152.1	346.5	364.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.0	3.9	22.1	0.0	3.8	1.9	22.0	5.2	21.1	123.1	132.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.2	0.0	37.4	235.5	0.0	37.7	86.8	44.7	22.6	202.1	371.9	389.6
LnGrp LOS	E	A	D	F	A	D	F	D	C	F	F	F
Approach Vol, veh/h		395			524			1862			4088	
Approach Delay, s/veh		58.8			177.0			42.2			364.2	
Approach LOS		E			F			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.7	60.6		34.7	9.6	75.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	20.1	54.1		* 30	5.0	69.2		* 30				
Max Q Clear Time (g_c+I1), s	22.1	51.6		32.0	4.9	71.2		32.0				
Green Ext Time (p_c), s	0.0	2.1		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	245.1
HCM 6th LOS	F

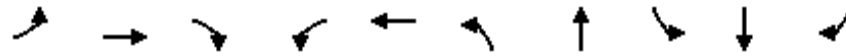
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	147	5	200	16	2	90	1565	17	3338	102
Future Volume (vph)	147	5	200	16	2	90	1565	17	3338	102
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	10.0	73.7	9.6	73.3	73.3
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	8.3%	61.4%	8.0%	61.1%	61.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	16.9	16.9	16.9		16.9	5.4	73.3	5.0	67.0	67.0
Actuated g/C Ratio	0.16	0.16	0.16		0.16	0.05	0.70	0.05	0.64	0.64
v/c Ratio	0.69	0.02	0.65		0.12	1.03	0.68	0.21	1.54	0.10
Control Delay	58.0	35.4	35.7		27.2	156.0	13.0	56.7	268.1	4.8
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	35.4	35.7		27.2	156.0	13.0	56.7	268.1	4.8
LOS	E	D	D		C	F	B	E	F	A
Approach Delay		45.0			27.2		20.6		259.2	
Approach LOS		D			C		C		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 105.1
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.54
 Intersection Signal Delay: 171.1
 Intersection Capacity Utilization 126.2%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

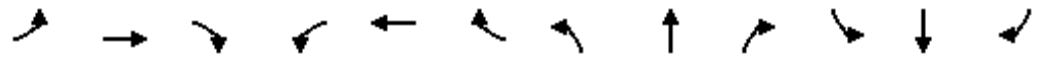
Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way

Ø1	Ø2	Ø4
9.6 s	73.7 s	36.7 s
Ø5	Ø6	Ø8
10 s	73.3 s	36.7 s

HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	5	200	16	2	11	90	1565	48	17	3338	102
Future Volume (veh/h)	147	5	200	16	2	11	90	1565	48	17	3338	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	5	141	17	2	9	94	1630	43	18	3477	97
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	244	207	155	27	59	95	2454	65	35	2346	1046
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.05	0.69	0.69	0.02	0.66	0.66
Sat Flow, veh/h	1404	1870	1585	750	206	453	1781	3537	93	1781	3554	1585
Grp Volume(v), veh/h	153	5	141	28	0	0	94	817	856	18	3477	97
Grp Sat Flow(s),veh/h/ln	1404	1870	1585	1409	0	0	1781	1777	1854	1781	1777	1585
Q Serve(g_s), s	8.9	0.2	8.6	0.2	0.0	0.0	5.3	26.4	26.6	1.0	66.8	2.2
Cycle Q Clear(g_c), s	10.3	0.2	8.6	1.5	0.0	0.0	5.3	26.4	26.6	1.0	66.8	2.2
Prop In Lane	1.00		1.00	0.61		0.32	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	260	244	207	241	0	0	95	1233	1286	35	2346	1046
V/C Ratio(X)	0.59	0.02	0.68	0.12	0.00	0.00	0.99	0.66	0.67	0.52	1.48	0.09
Avail Cap(c_a), veh/h	520	591	501	496	0	0	95	1233	1286	88	2346	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	38.4	42.0	38.9	0.0	0.0	47.9	8.8	8.8	49.1	17.2	6.2
Incr Delay (d2), s/veh	2.1	0.0	3.9	0.2	0.0	0.0	88.4	1.3	1.3	4.3	219.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.1	3.6	0.6	0.0	0.0	4.6	7.4	7.8	0.5	90.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.7	38.4	45.9	39.1	0.0	0.0	136.3	10.1	10.1	53.4	236.5	6.3
LnGrp LOS	D	D	D	D	A	A	F	B	B	D	F	A
Approach Vol, veh/h		299			28			1767			3592	
Approach Delay, s/veh		45.2			39.1			16.8			229.4	
Approach LOS		D			D			B			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	76.7		17.9	10.0	73.3		17.9				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	5.4	66.8		* 32				
Max Q Clear Time (g_c+I1), s	3.0	28.6		12.3	7.3	68.8		3.5				
Green Ext Time (p_c), s	0.0	14.7		0.9	0.0	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	152.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

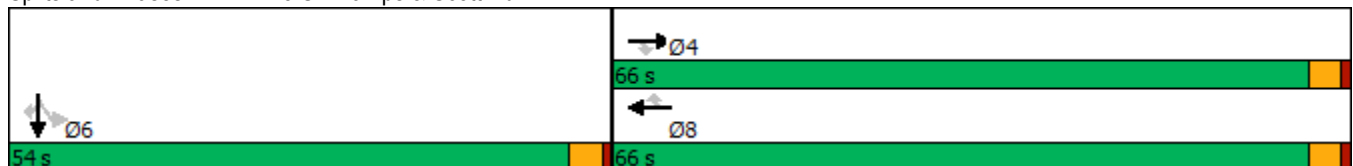


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	1362	498	1776	645	1367	0	304
Future Volume (vph)	1362	498	1776	645	1367	0	304
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	66.0	66.0	66.0	66.0	54.0	54.0	54.0
Total Split (%)	55.0%	55.0%	55.0%	55.0%	45.0%	45.0%	45.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	62.0	62.0	62.0	62.0	50.0	50.0	50.0
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.42	0.42	0.42
v/c Ratio	0.78	0.50	1.01	0.59	1.00	0.25	0.25
Control Delay	27.1	4.0	53.3	3.5	58.0	22.8	22.7
Queue Delay	0.0	0.0	34.2	0.6	0.0	0.0	0.0
Total Delay	27.1	4.0	87.5	4.1	58.0	22.8	22.7
LOS	C	A	F	A	E	C	C
Approach Delay	20.9		65.3			51.6	
Approach LOS	C		E			D	

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 47.6
 Intersection LOS: D
 Intersection Capacity Utilization 94.8%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: I-215 SB Ramps & Scott Rd.

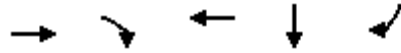


HCM 6th Signalized Intersection Summary
 1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↗	↗
Traffic Volume (veh/h)	0	1362	498	0	1776	645	0	0	0	1367	0	304
Future Volume (veh/h)	0	1362	498	0	1776	645	0	0	0	1367	0	304
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1419	516	0	1850	597				1424	0	270
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	1842	822	0	1842	822				1478	0	1315
Arrive On Green	0.00	0.52	0.52	0.00	0.52	0.52				0.41	0.00	0.41
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	1419	516	0	1850	597				1424	0	270
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	38.3	27.8	0.0	62.0	34.8				46.6	0.0	6.5
Cycle Q Clear(g_c), s	0.0	38.3	27.8	0.0	62.0	34.8				46.6	0.0	6.5
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1842	822	0	1842	822				1478	0	1315
V/C Ratio(X)	0.00	0.77	0.63	0.00	1.00	0.73				0.96	0.00	0.21
Avail Cap(c_a), veh/h	0	1842	822	0	1842	822				1489	0	1325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	23.1	20.6	0.0	28.8	22.3				34.1	0.0	22.4
Incr Delay (d2), s/veh	0.0	2.1	1.5	0.0	22.0	3.2				15.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.2	9.9	0.0	29.4	12.7				22.0	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.2	22.1	0.0	50.8	25.5				49.6	0.0	22.5
LnGrp LOS	A	C	C	A	F	C				D	A	C
Approach Vol, veh/h		1935			2447						1694	
Approach Delay, s/veh		24.3			44.6						45.3	
Approach LOS		C			D						D	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				66.0		53.6		66.0				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				62.0		50.0		62.0				
Max Q Clear Time (g_c+I1), s				40.3		48.6		64.0				
Green Ext Time (p_c), s				12.6		1.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			38.3									
HCM 6th LOS			D									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

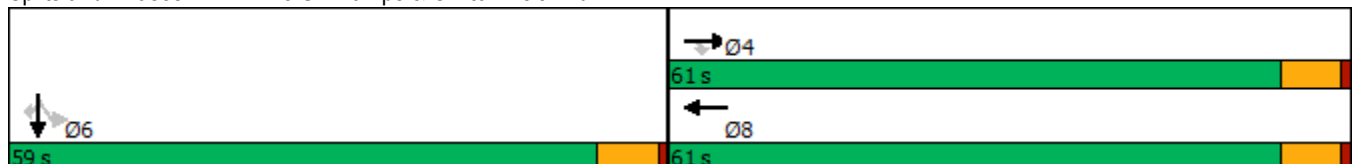


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↗	↑↑↑	↕	↗↗
Traffic Volume (vph)	1867	398	1453	0	767
Future Volume (vph)	1867	398	1453	0	767
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	61.0	61.0	61.0	59.0	59.0
Total Split (%)	50.8%	50.8%	50.8%	49.2%	49.2%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	51.3	51.3	51.3	43.8	43.8
Actuated g/C Ratio	0.47	0.47	0.47	0.40	0.40
v/c Ratio	0.81	0.44	0.63	0.79	0.70
Control Delay	28.6	3.5	23.6	37.5	29.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	3.5	23.6	37.5	29.4
LOS	C	A	C	D	C
Approach Delay	24.2		23.6	32.8	
Approach LOS	C		C	C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 108.4	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 76.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1867	398	0	1453	0	0	0	0	541	0	767
Future Volume (veh/h)	0	1867	398	0	1453	0	0	0	0	541	0	767
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1945	363	0	1514	0				564	0	423
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	2
Cap, veh/h	0	2512	757	0	2512	0				665	0	1041
Arrive On Green	0.00	0.49	0.49	0.00	0.49	0.00				0.37	0.00	0.37
Sat Flow, veh/h	0	5274	1539	0	5443	0				1781	0	2790
Grp Volume(v), veh/h	0	1945	363	0	1514	0				564	0	423
Grp Sat Flow(s),veh/h/ln	0	1702	1539	0	1702	0				1781	0	1395
Q Serve(g_s), s	0.0	30.1	15.1	0.0	20.6	0.0				28.0	0.0	10.8
Cycle Q Clear(g_c), s	0.0	30.1	15.1	0.0	20.6	0.0				28.0	0.0	10.8
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2512	757	0	2512	0				665	0	1041
V/C Ratio(X)	0.00	0.77	0.48	0.00	0.60	0.00				0.85	0.00	0.41
Avail Cap(c_a), veh/h	0	2890	871	0	2890	0				971	0	1521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.1	16.3	0.0	17.7	0.0				27.7	0.0	22.3
Incr Delay (d2), s/veh	0.0	1.2	0.5	0.0	0.3	0.0				4.9	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.3	4.6	0.0	6.9	0.0				12.3	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.3	16.7	0.0	17.9	0.0				32.5	0.0	22.6
LnGrp LOS	A	C	B	A	B	A				C	A	C
Approach Vol, veh/h		2308			1514							987
Approach Delay, s/veh		20.5			17.9							28.3
Approach LOS		C			B							C
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				53.9		42.4		53.9				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				54.5		52.5		54.5				
Max Q Clear Time (g_c+I1), s				32.1		30.0		22.6				
Green Ext Time (p_c), s				15.3		6.0		12.0				
Intersection Summary												
HCM 6th Ctrl Delay			21.3									
HCM 6th LOS			C									

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↖	↗	↖	↖
Traffic Volume (vph)	265	2464	1650	1100	0	1152	0	771
Future Volume (vph)	265	2464	1650	1100	0	1152	0	771
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	85.0	85.0	85.0	85.0	35.0	35.0	35.0	35.0
Total Split (%)	70.8%	70.8%	70.8%	70.8%	29.2%	29.2%	29.2%	29.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	81.0	81.0	81.0	81.0	31.0	31.0	31.0	31.0
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.26	0.26	0.26	0.26
v/c Ratio	2.70	1.06	0.71	0.80	1.50	1.50	0.96	0.96
Control Delay	810.3	58.8	14.3	5.7	272.2	272.2	75.6	75.0
Queue Delay	0.0	15.7	48.2	2.8	0.0	0.0	0.0	0.0
Total Delay	810.3	74.6	62.5	8.6	272.2	272.2	75.6	75.0
LOS	F	E	E	A	F	F	E	E
Approach Delay		146.0	40.9		272.2		75.3	
Approach LOS		F	D		F		E	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.70	
Intersection Signal Delay: 119.2	Intersection LOS: F
Intersection Capacity Utilization 122.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗		↗	↗		↗	↗
Traffic Volume (veh/h)	265	2464	0	0	1650	1100	0	0	1152	0	0	771
Future Volume (veh/h)	265	2464	0	0	1650	1100	0	0	1152	0	0	771
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	273	2540	0	0	1701	722	0	0	776	0	0	554
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	114	2401	0	0	2401	1071	0	482	817	0	482	817
Arrive On Green	0.68	0.68	0.00	0.00	0.68	0.68	0.00	0.00	0.26	0.00	0.00	0.26
Sat Flow, veh/h	142	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	273	2540	0	0	1701	722	0	0	776	0	0	554
Grp Sat Flow(s),veh/h/ln	142	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	45.3	81.0	0.0	0.0	35.7	32.6	0.0	0.0	28.8	0.0	0.0	18.8
Cycle Q Clear(g_c), s	81.0	81.0	0.0	0.0	35.7	32.6	0.0	0.0	28.8	0.0	0.0	18.8
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	114	2401	0	0	2401	1071	0	482	817	0	482	817
V/C Ratio(X)	2.40	1.06	0.00	0.00	0.71	0.67	0.00	0.00	0.95	0.00	0.00	0.68
Avail Cap(c_a), veh/h	114	2401	0	0	2401	1071	0	484	820	0	484	820
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	49.3	19.5	0.0	0.0	12.1	11.6	0.0	0.0	43.7	0.0	0.0	40.0
Incr Delay (d2), s/veh	657.9	36.1	0.0	0.0	1.0	1.7	0.0	0.0	20.1	0.0	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.1	38.9	0.0	0.0	12.2	10.1	0.0	0.0	13.1	0.0	0.0	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	707.2	55.5	0.0	0.0	13.1	13.3	0.0	0.0	63.9	0.0	0.0	42.3
LnGrp LOS	F	F	A	A	B	B	A	A	E	A	A	D
Approach Vol, veh/h		2813			2423			776				554
Approach Delay, s/veh		118.8			13.1			63.9				42.3
Approach LOS		F			B			E				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.9		85.0		34.9		85.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		31.0		81.0		31.0		81.0				
Max Q Clear Time (g_c+I1), s		30.8		83.0		20.8		37.7				
Green Ext Time (p_c), s		0.1		0.0		1.7		24.9				

Intersection Summary

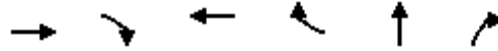
HCM 6th Ctrl Delay	66.8
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

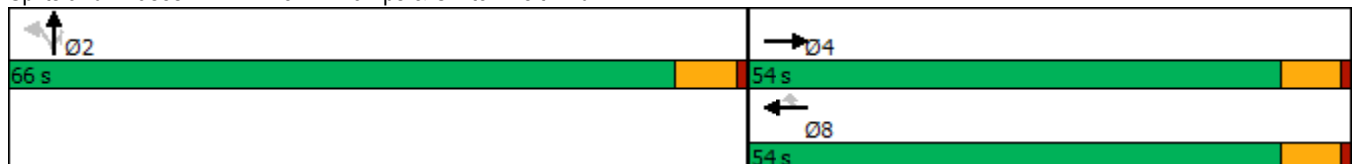


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↔	↑
Traffic Volume (vph)	1796	695	2135	394	0	1204
Future Volume (vph)	1796	695	2135	394	0	1204
Turn Type	NA	Free	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		Free		8		2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	23.5		16.5	16.5	16.5	16.5
Total Split (s)	54.0		54.0	54.0	66.0	66.0
Total Split (%)	45.0%		45.0%	45.0%	55.0%	55.0%
Yellow Time (s)	5.5		5.5	5.5	5.5	5.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min		Min	Min	None	None
Act Effct Green (s)	47.5	120.0	47.5	47.5	59.5	59.5
Actuated g/C Ratio	0.40	1.00	0.40	0.40	0.50	0.50
v/c Ratio	0.90	0.45	1.07	0.51	1.11	1.10
Control Delay	41.5	1.0	77.9	10.6	95.9	93.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	1.0	77.9	10.6	95.9	93.5
LOS	D	A	E	B	F	F
Approach Delay	30.2		67.4		94.7	
Approach LOS	C		E		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 60.6
 Intersection LOS: E
 Intersection Capacity Utilization 105.7%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	1796	695	0	2135	394	524	0	1204	0	0	0
Future Volume (veh/h)	0	1796	695	0	2135	394	524	0	1204	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1814	0	0	2157	398	529	212	670			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2135		0	2135	648	603	241	741			
Arrive On Green	0.00	0.42	0.00	0.00	0.42	0.42	0.47	0.47	0.47			
Sat Flow, veh/h	0	5274	1585	0	5274	1551	1289	517	1585			
Grp Volume(v), veh/h	0	1814	0	0	2157	398	741	0	670			
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1702	1551	1806	0	1585			
Q Serve(g_s), s	0.0	36.4	0.0	0.0	47.5	22.8	42.1	0.0	44.3			
Cycle Q Clear(g_c), s	0.0	36.4	0.0	0.0	47.5	22.8	42.1	0.0	44.3			
Prop In Lane	0.00		1.00	0.00		1.00	0.71		1.00			
Lane Grp Cap(c), veh/h	0	2135		0	2135	648	844	0	741			
V/C Ratio(X)	0.00	0.85		0.00	1.01	0.61	0.88	0.00	0.90			
Avail Cap(c_a), veh/h	0	2135		0	2135	648	946	0	830			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	29.8	0.0	0.0	33.0	25.9	27.3	0.0	27.9			
Incr Delay (d2), s/veh	0.0	3.5	0.0	0.0	22.0	1.7	8.7	0.0	12.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	14.1	0.0	0.0	21.9	8.0	19.5	0.0	18.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	33.3	0.0	0.0	55.0	27.6	36.1	0.0	40.4			
LnGrp LOS	A	C		A	F	C	D	A	D			
Approach Vol, veh/h		1814	A		2555			1411				
Approach Delay, s/veh		33.3			50.7			38.1				
Approach LOS		C			D			D				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		59.6		54.0				54.0				
Change Period (Y+Rc), s		6.5		6.5				6.5				
Max Green Setting (Gmax), s		59.5		47.5				47.5				
Max Q Clear Time (g_c+I1), s		46.3		38.4				49.5				
Green Ext Time (p_c), s		6.8		6.7				0.0				

Intersection Summary

HCM 6th Ctrl Delay	42.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

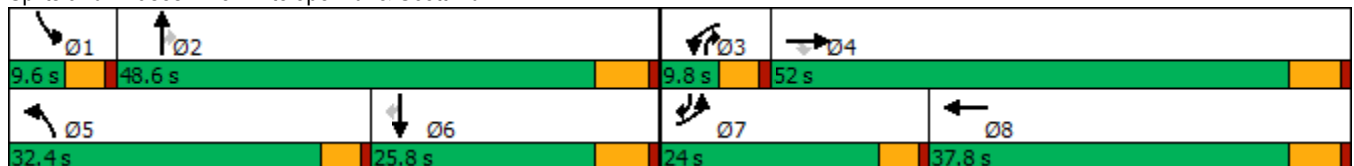


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑↔	↔↔	↑↑	↗	↖	↑	↗
Traffic Volume (vph)	568	2542	506	91	1815	612	236	188	153	137	322
Future Volume (vph)	568	2542	506	91	1815	612	236	188	153	137	322
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	24.0	52.0	52.0	9.8	37.8	32.4	48.6	9.8	9.6	25.8	24.0
Total Split (%)	20.0%	43.3%	43.3%	8.2%	31.5%	27.0%	40.5%	8.2%	8.0%	21.5%	20.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	19.5	46.4	46.4	5.2	32.1	23.8	32.9	43.9	5.0	14.1	34.8
Actuated g/C Ratio	0.18	0.42	0.42	0.05	0.29	0.22	0.30	0.40	0.05	0.13	0.32
v/c Ratio	0.98	1.78	0.70	0.59	1.38	0.86	0.23	0.28	1.99	0.60	0.59
Control Delay	78.1	379.2	24.7	68.5	207.5	54.7	29.2	10.6	516.4	57.2	23.7
Queue Delay	4.3	0.5	18.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.4	379.7	43.2	68.5	207.5	54.7	29.2	10.6	516.4	57.2	23.7
LOS	F	F	D	E	F	D	C	B	F	E	C
Approach Delay		285.9			201.3		40.9			154.2	
Approach LOS		F			F		D			F	

Intersection Summary






























Cycle Length: 120
 Actuated Cycle Length: 110.4
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.99
 Intersection Signal Delay: 216.5
 Intersection LOS: F
 Intersection Capacity Utilization 117.6%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 				
Traffic Volume (veh/h)	568	2542	506	91	1815	132	612	236	188	153	137	322
Future Volume (veh/h)	568	2542	506	91	1815	132	612	236	188	153	137	322
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	592	2648	318	95	1891	130	638	246	104	159	143	216
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	612	1515	676	149	1426	98	710	1048	536	81	253	492
Arrive On Green	0.18	0.43	0.43	0.04	0.29	0.29	0.21	0.29	0.29	0.05	0.14	0.14
Sat Flow, veh/h	3456	3554	1585	3456	4880	334	3456	3554	1585	1781	1870	1563
Grp Volume(v), veh/h	592	2648	318	95	1317	704	638	246	104	159	143	216
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1810	1728	1777	1585	1781	1870	1563
Q Serve(g_s), s	18.6	46.7	15.8	3.0	32.0	32.0	19.7	5.7	5.1	5.0	7.8	12.1
Cycle Q Clear(g_c), s	18.6	46.7	15.8	3.0	32.0	32.0	19.7	5.7	5.1	5.0	7.8	12.1
Prop In Lane	1.00		1.00	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	612	1515	676	149	995	529	710	1048	536	81	253	492
V/C Ratio(X)	0.97	1.75	0.47	0.64	1.32	1.33	0.90	0.23	0.19	1.95	0.57	0.44
Avail Cap(c_a), veh/h	612	1515	676	164	995	529	877	1389	688	81	342	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	31.4	22.5	51.5	38.7	38.7	42.4	29.2	25.7	52.2	44.3	30.0
Incr Delay (d2), s/veh	28.0	339.2	0.5	4.6	152.8	161.2	9.3	0.1	0.2	470.9	2.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	89.8	5.6	1.3	33.7	37.1	9.0	2.4	1.9	12.8	3.7	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	370.7	23.0	56.2	191.6	200.0	51.7	29.4	25.8	523.1	46.3	30.6
LnGrp LOS	E	F	C	E	F	F	D	C	C	F	D	C
Approach Vol, veh/h		3558			2116			988				518
Approach Delay, s/veh		290.0			188.3			43.4				186.1
Approach LOS		F			F			D				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	38.1	9.3	52.5	27.1	20.6	24.0	37.8				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	42.8	5.2	46.2	27.8	20.0	19.4	32.0				
Max Q Clear Time (g_c+I1), s	7.0	7.7	5.0	48.7	21.7	14.1	20.6	34.0				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.0	0.8	0.7	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			218.6									
HCM 6th LOS			F									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

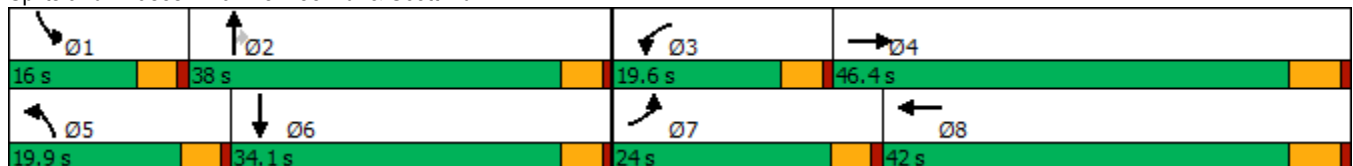


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	196	2176	302	1782	124	367	393	385	133
Future Volume (vph)	196	2176	302	1782	124	367	393	385	133
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	24.0	46.4	19.6	42.0	19.9	38.0	38.0	16.0	34.1
Total Split (%)	20.0%	38.7%	16.3%	35.0%	16.6%	31.7%	31.7%	13.3%	28.4%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	16.6	40.7	15.0	39.1	12.3	28.9	28.9	11.4	28.1
Actuated g/C Ratio	0.14	0.35	0.13	0.34	0.11	0.25	0.25	0.10	0.24
v/c Ratio	0.81	1.99	1.39	1.93	0.70	0.83	0.71	2.33	0.55
Control Delay	72.9	472.4	237.4	445.8	70.2	57.0	20.9	638.2	39.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.9	472.4	237.4	445.8	70.2	57.0	20.9	638.2	39.1
LOS	E	F	F	F	E	E	C	F	D
Approach Delay		441.5		420.1		42.8			412.9
Approach LOS		F		F		D			F

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 115.8
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.33
 Intersection Signal Delay: 376.2
 Intersection LOS: F
 Intersection Capacity Utilization 138.8%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	2176	152	302	1782	369	124	367	393	385	133	99
Future Volume (veh/h)	196	2176	152	302	1782	369	124	367	393	385	133	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	206	2291	146	318	1876	374	131	386	297	405	140	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	1211	76	235	1059	203	159	443	369	179	281	153
Arrive On Green	0.13	0.36	0.36	0.13	0.36	0.36	0.09	0.24	0.24	0.10	0.25	0.25
Sat Flow, veh/h	1781	3389	213	1781	2962	568	1781	1870	1557	1781	1134	616
Grp Volume(v), veh/h	206	1187	1250	318	1096	1154	131	386	297	405	0	216
Grp Sat Flow(s),veh/h/ln	1781	1777	1825	1781	1777	1754	1781	1870	1557	1781	0	1749
Q Serve(g_s), s	12.9	40.6	40.6	15.0	40.6	40.6	8.2	22.5	20.4	11.4	0.0	12.0
Cycle Q Clear(g_c), s	12.9	40.6	40.6	15.0	40.6	40.6	8.2	22.5	20.4	11.4	0.0	12.0
Prop In Lane	1.00		0.12	1.00		0.32	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	235	635	652	235	635	627	159	443	369	179	0	434
V/C Ratio(X)	0.88	1.87	1.92	1.35	1.73	1.84	0.83	0.87	0.81	2.27	0.00	0.50
Avail Cap(c_a), veh/h	304	635	652	235	635	627	240	548	456	179	0	453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.4	36.5	36.5	49.3	36.5	36.5	50.9	41.7	40.9	51.1	0.0	36.6
Incr Delay (d2), s/veh	16.9	397.4	417.8	183.8	333.2	384.5	8.0	12.2	8.3	587.1	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	86.6	92.7	18.5	75.3	83.2	4.0	11.8	8.4	34.2	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.4	433.9	454.3	233.1	369.7	421.0	58.9	53.9	49.2	638.2	0.0	37.5
LnGrp LOS	E	F	F	F	F	F	E	D	D	F	A	D
Approach Vol, veh/h		2643			2568			814				621
Approach Delay, s/veh		414.8			375.8			53.0				429.3
Approach LOS		F			F			D				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	31.6	19.6	46.4	14.7	32.9	19.6	46.4				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	11.4	* 33	15.0	40.6	15.3	* 29	19.4	36.2				
Max Q Clear Time (g_c+I1), s	13.4	24.5	17.0	42.6	10.2	14.0	14.9	42.6				
Green Ext Time (p_c), s	0.0	2.4	0.0	0.0	0.1	1.1	0.1	0.0				

Intersection Summary

HCM 6th Ctrl Delay	356.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
7: Whitewood Rd. & Clinton Keith Rd.

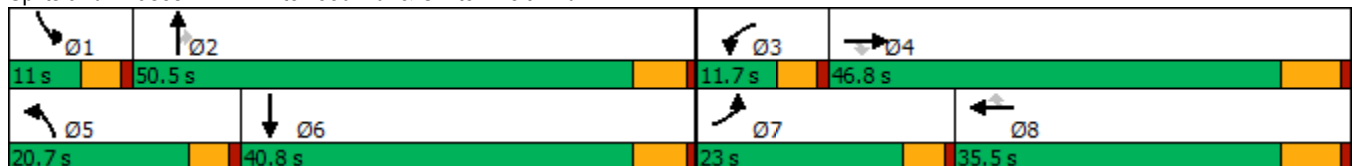
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	852	1929	216	212	1561	347	291	878	229	286	301
Future Volume (vph)	852	1929	216	212	1561	347	291	878	229	286	301
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	23.0	46.8	46.8	11.7	35.5	35.5	20.7	50.5	50.5	11.0	40.8
Total Split (%)	19.2%	39.0%	39.0%	9.8%	29.6%	29.6%	17.3%	42.1%	42.1%	9.2%	34.0%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	18.4	40.3	40.3	7.1	29.0	29.0	16.1	44.7	44.7	6.4	35.0
Actuated g/C Ratio	0.15	0.34	0.34	0.06	0.24	0.24	0.13	0.37	0.37	0.05	0.29
v/c Ratio	1.65	1.66	0.35	1.06	1.30	0.67	1.25	1.29	0.34	3.11	0.75
Control Delay	334.8	328.1	11.6	134.5	177.5	25.2	186.5	175.4	10.6	994.3	29.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	334.8	328.1	11.6	134.5	177.5	25.2	186.5	175.4	10.6	994.3	29.7
LOS	F	F	B	F	F	C	F	F	B	F	C
Approach Delay		307.2			148.3			150.7			275.9
Approach LOS		F			F			F			F

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.11
 Intersection Signal Delay: 229.8
 Intersection LOS: F
 Intersection Capacity Utilization 139.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  						 	
Traffic Volume (veh/h)	852	1929	216	212	1561	347	291	878	229	286	301	534
Future Volume (veh/h)	852	1929	216	212	1561	347	291	878	229	286	301	534
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	869	1968	194	216	1593	328	297	896	198	292	307	489
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	530	1193	532	204	1234	383	239	697	590	95	518	462
Arrive On Green	0.15	0.34	0.34	0.06	0.24	0.24	0.13	0.37	0.37	0.05	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	869	1968	194	216	1593	328	297	896	198	292	307	489
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	18.4	40.3	11.1	7.1	29.0	23.7	16.1	44.7	10.7	6.4	17.8	35.0
Cycle Q Clear(g_c), s	18.4	40.3	11.1	7.1	29.0	23.7	16.1	44.7	10.7	6.4	17.8	35.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	530	1193	532	204	1234	383	239	697	590	95	518	462
V/C Ratio(X)	1.64	1.65	0.36	1.06	1.29	0.86	1.24	1.29	0.34	3.07	0.59	1.06
Avail Cap(c_a), veh/h	530	1193	532	204	1234	383	239	697	590	95	518	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	39.8	30.2	56.4	45.5	43.5	52.0	37.6	27.0	56.8	36.4	42.5
Incr Delay (d2), s/veh	296.5	295.8	0.4	78.6	137.1	17.1	139.4	139.4	0.3	960.4	1.8	58.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.4	65.3	4.1	5.2	27.2	10.6	16.2	46.3	3.9	28.2	7.7	20.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	347.3	335.7	30.6	135.1	182.6	60.7	191.4	177.1	27.3	1017.2	38.2	100.5
LnGrp LOS	F	F	C	F	F	E	F	F	C	F	D	F
Approach Vol, veh/h		3031			2137			1391			1088	
Approach Delay, s/veh		319.5			159.1			158.8			328.9	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	50.5	11.7	46.8	20.7	40.8	23.0	35.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	6.4	44.7	7.1	40.3	16.1	35.0	18.4	29.0				
Max Q Clear Time (g_c+1), s	8.4	46.7	9.1	42.3	18.1	37.0	20.4	31.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			246.8									
HCM 6th LOS			F									

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

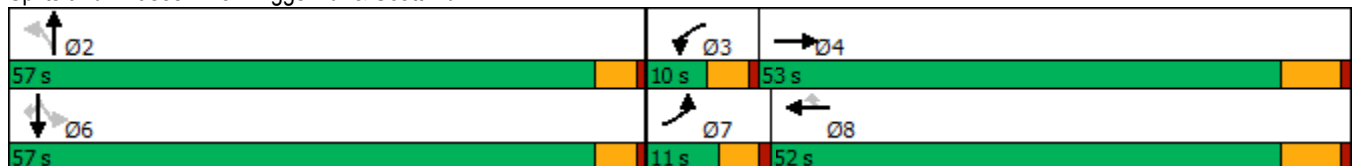


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↕	↖	↕	↖		↕		↕	↖
Traffic Volume (vph)	21	2441	86	1976	159	346	7	211	5	28
Future Volume (vph)	21	2441	86	1976	159	346	7	211	5	28
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	11.0	53.0	10.0	52.0	52.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	9.2%	44.2%	8.3%	43.3%	43.3%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	5.7	46.9	5.4	52.9	52.9		41.7		41.7	41.7
Actuated g/C Ratio	0.05	0.43	0.05	0.48	0.48		0.38		0.38	0.38
v/c Ratio	0.24	1.95	1.03	1.21	0.20		1.17		0.52	0.05
Control Delay	60.0	454.7	159.8	127.4	4.3		131.1		30.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	60.0	454.7	159.8	127.4	4.3		131.1		30.4	0.1
LOS	E	F	F	F	A		F		C	A
Approach Delay		451.7		119.9			131.1		26.9	
Approach LOS		F		F			F		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 109.9
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.95
 Intersection Signal Delay: 280.4
 Intersection Capacity Utilization 118.6%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	2441	351	86	1976	159	346	7	73	211	5	28
Future Volume (veh/h)	21	2441	351	86	1976	159	346	7	73	211	5	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	2543	309	90	2058	166	360	7	73	220	5	13
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	1265	151	82	1492	665	436	7	77	692	14	663
Arrive On Green	0.02	0.40	0.40	0.05	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1781	3198	381	1781	3554	1585	896	17	182	1490	34	1564
Grp Volume(v), veh/h	22	1389	1463	90	2058	166	440	0	0	225	0	13
Grp Sat Flow(s),veh/h/ln	1781	1777	1802	1781	1777	1585	1095	0	0	1524	0	1564
Q Serve(g_s), s	1.4	46.5	46.5	5.4	49.3	8.0	35.3	0.0	0.0	0.0	0.0	0.6
Cycle Q Clear(g_c), s	1.4	46.5	46.5	5.4	49.3	8.0	46.9	0.0	0.0	11.6	0.0	0.6
Prop In Lane	1.00		0.21	1.00		1.00	0.82		0.17	0.98		1.00
Lane Grp Cap(c), veh/h	39	703	713	82	1492	665	520	0	0	707	0	663
V/C Ratio(X)	0.57	1.98	2.05	1.10	1.38	0.25	0.85	0.00	0.00	0.32	0.00	0.02
Avail Cap(c_a), veh/h	97	703	713	82	1492	665	550	0	0	735	0	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.9	35.5	35.5	56.1	34.1	22.1	38.7	0.0	0.0	22.8	0.0	19.7
Incr Delay (d2), s/veh	4.7	444.4	478.0	129.1	175.0	0.2	11.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	105.1	113.2	5.3	55.4	2.8	13.8	0.0	0.0	4.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	479.9	513.5	185.1	209.1	22.3	49.9	0.0	0.0	23.1	0.0	19.7
LnGrp LOS	E	F	F	F	F	C	D	A	A	C	A	B
Approach Vol, veh/h		2874			2314			440				238
Approach Delay, s/veh		493.8			194.7			49.9				22.9
Approach LOS		F			F			D				C
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		54.5	10.0	53.0		54.5	7.2	55.8				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 52	5.4	46.5		* 52	6.4	45.5				
Max Q Clear Time (g_c+I1), s		48.9	7.4	48.5		13.6	3.4	51.3				
Green Ext Time (p_c), s		0.9	0.0	0.0		1.5	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	323.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh 773

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	159	1543	925	17	1256	74	766	99	18	52	82	118
Future Vol, veh/h	159	1543	925	17	1256	74	766	99	18	52	82	118
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	169	1641	984	18	1336	79	815	105	19	55	87	126
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	2592.4	1196.1	672.4	170.8
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	87%	6%	1%	21%
Vol Thru, %	11%	59%	93%	33%
Vol Right, %	2%	35%	5%	47%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	883	2627	1347	252
LT Vol	766	159	17	52
Through Vol	99	1543	1256	82
RT Vol	18	925	74	118
Lane Flow Rate	939	2795	1433	268
Geometry Grp	1	1	1	1
Degree of Util (X)	2.329	6.651	3.477	0.699
Departure Headway (Hd)	27.095	21.429	33.397	71.224
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	150	224	129	54
Service Time	25.095	19.429	31.397	69.224
HCM Lane V/C Ratio	6.26	12.478	11.109	4.963
HCM Control Delay	672.4	2592.4	1196.1	170.8
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	26.5	122.1	37.2	2.8

Intersection												
Int Delay, s/veh	2189.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	3	5	60	3	226	0	777	97	333	672	0
Future Vol, veh/h	5	3	5	60	3	226	0	777	97	333	672	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	3	5	66	3	248	0	854	107	366	738	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2503	2431	738	2382	2378	908	738	0	0	961	0	0
Stage 1	1470	1470	-	908	908	-	-	-	-	-	-	-
Stage 2	1033	961	-	1474	1470	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	19	32	418	~24	34	334	868	-	-	716	-	-
Stage 1	158	191	-	330	354	-	-	-	-	-	-	-
Stage 2	281	335	-	158	191	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~1	4	418	~2	5	334	868	-	-	716	-	-
Mov Cap-2 Maneuver	~1	4	-	~2	5	-	-	-	-	-	-	-
Stage 1	158	25	-	330	354	-	-	-	-	-	-	-
Stage 2	71	335	-	~18	25	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, \$	5961.3	16235.4	0	5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	868	-	-	2	9	716	-	-
HCM Lane V/C Ratio	-	-	-	7.143	35.287	0.511	-	-
HCM Control Delay (s)	0	-	-	\$ 5961.3	\$ 16235.4	15.2	0	-
HCM Lane LOS	A	-	-	F	F	C	A	-
HCM 95th %tile Q(veh)	0	-	-	3.2	41.4	2.9	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	11.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	174	0	46	0	817	264	60	699	0
Future Vol, veh/h	0	0	0	174	0	46	0	817	264	60	699	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	193	0	51	0	908	293	67	777	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1991	2112	389	1578	1966	1055	777	0	0	1201	0	0
Stage 1	911	911	-	1055	1055	-	-	-	-	-	-	-
Stage 2	1080	1201	-	523	911	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	40	51	610	~81	63	273	837	-	-	579	-	-
Stage 1	296	352	-	272	302	-	-	-	-	-	-	-
Stage 2	263	257	-	506	352	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	30	45	610	~74	56	273	837	-	-	579	-	-
Mov Cap-2 Maneuver	102	127	-	~186	165	-	-	-	-	-	-	-
Stage 1	296	311	-	272	302	-	-	-	-	-	-	-
Stage 2	214	257	-	447	311	-	-	-	-	-	-	-

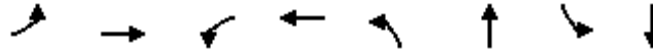
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	106.3	0	1
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	837	-	-	-	186	273	579	-	-
HCM Lane V/C Ratio	-	-	-	-	1.039	0.187	0.115	-	-
HCM Control Delay (s)	0	-	-	0	128.8	21.2	12	-	-
HCM Lane LOS	A	-	-	A	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	9	0.7	0.4	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/24/2021

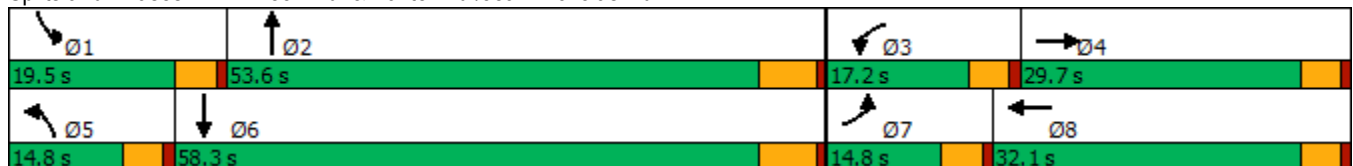


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	90	175	147	277	62	980	178	776
Future Volume (vph)	90	175	147	277	62	980	178	776
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	14.8	29.7	17.2	32.1	14.8	53.6	19.5	58.3
Total Split (%)	12.3%	24.8%	14.3%	26.8%	12.3%	44.7%	16.3%	48.6%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	10.3	17.5	12.7	19.9	8.2	45.8	14.5	54.3
Actuated g/C Ratio	0.09	0.16	0.11	0.18	0.07	0.41	0.13	0.49
v/c Ratio	0.61	0.45	0.81	0.76	0.53	0.92	0.86	0.51
Control Delay	67.2	39.8	78.4	38.7	66.0	41.8	80.9	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	39.8	78.4	38.7	66.0	41.8	80.9	22.0
LOS	E	D	E	D	E	D	F	C
Approach Delay		47.6		47.9		43.0		32.8
Approach LOS		D		D		D		C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 110.7
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 41.3
 Intersection LOS: D
 Intersection Capacity Utilization 89.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	175	52	147	277	210	62	980	207	178	776	17
Future Volume (veh/h)	90	175	52	147	277	210	62	980	207	178	776	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	194	26	163	308	175	69	1089	190	198	862	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	504	67	209	400	222	89	1231	214	227	1726	38
Arrive On Green	0.10	0.16	0.16	0.12	0.18	0.18	0.05	0.41	0.41	0.13	0.49	0.49
Sat Flow, veh/h	1781	3153	417	1781	2197	1216	1781	3020	525	1781	3555	78
Grp Volume(v), veh/h	100	108	112	163	248	235	69	639	640	198	431	450
Grp Sat Flow(s),veh/h/ln	1781	1777	1793	1781	1777	1636	1781	1777	1768	1781	1777	1856
Q Serve(g_s), s	5.8	5.8	6.0	9.5	14.2	14.8	4.1	35.7	36.0	11.7	17.7	17.7
Cycle Q Clear(g_c), s	5.8	5.8	6.0	9.5	14.2	14.8	4.1	35.7	36.0	11.7	17.7	17.7
Prop In Lane	1.00		0.23	1.00		0.74	1.00		0.30	1.00		0.04
Lane Grp Cap(c), veh/h	169	284	287	209	324	298	89	724	721	227	863	901
V/C Ratio(X)	0.59	0.38	0.39	0.78	0.76	0.79	0.78	0.88	0.89	0.87	0.50	0.50
Avail Cap(c_a), veh/h	169	414	418	209	454	418	169	785	781	247	863	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	40.3	40.4	46.0	41.7	41.9	50.4	29.4	29.5	45.9	18.7	18.7
Incr Delay (d2), s/veh	14.2	0.8	0.9	24.4	5.0	6.7	5.4	11.0	11.5	23.9	2.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	2.6	2.7	5.6	6.6	6.5	1.9	16.1	16.2	6.5	7.1	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.8	41.2	41.2	70.4	46.6	48.6	55.8	40.4	41.0	69.8	20.8	20.7
LnGrp LOS	E	D	D	E	D	D	E	D	D	E	C	C
Approach Vol, veh/h		320			646			1348			1079	
Approach Delay, s/veh		47.3			53.3			41.5			29.8	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.3	49.9	17.2	21.9	9.9	58.3	14.8	24.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	14.9	47.4	12.6	* 25	10.2	52.1	10.2	* 27				
Max Q Clear Time (g_c+I1), s	13.7	38.0	11.5	8.0	6.1	19.7	7.8	16.8				
Green Ext Time (p_c), s	0.0	5.1	0.0	1.1	0.0	5.4	0.0	2.2				

Intersection Summary

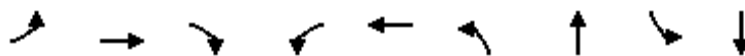
HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↔↔	↑↑	↔↔	↑↑
Traffic Volume (vph)	193	918	1677	647	618	1460	501	24	335
Future Volume (vph)	193	918	1677	647	618	1460	501	24	335
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	11.4	33.5	39.4	11.4	33.5	39.4	65.5	9.6	35.7
Total Split (%)	9.5%	27.9%	32.8%	9.5%	27.9%	32.8%	54.6%	8.0%	29.8%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	6.8	27.1	68.4	6.8	27.1	34.9	53.7	5.0	19.8
Actuated g/C Ratio	0.06	0.25	0.62	0.06	0.25	0.32	0.49	0.05	0.18
v/c Ratio	0.97	1.12	1.72	3.25	0.79	1.43	0.72	0.17	0.74
Control Delay	106.6	109.6	350.5	1040.2	46.9	229.2	20.7	54.9	46.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.6	109.6	350.5	1040.2	46.9	229.2	20.7	54.9	46.6
LOS	F	F	F	F	D	F	C	D	D
Approach Delay		254.3			545.4		136.7		47.0
Approach LOS		F			F		F		D

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 110.1
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.25
 Intersection Signal Delay: 249.9
 Intersection LOS: F
 Intersection Capacity Utilization 147.7%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (veh/h)	193	918	1677	647	618	24	1460	501	664	24	335	113
Future Volume (veh/h)	193	918	1677	647	618	24	1460	501	664	24	335	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	205	977	1479	688	657	25	1553	533	673	26	356	86
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	874	893	214	859	33	1096	837	747	86	509	121
Arrive On Green	0.06	0.25	0.25	0.06	0.25	0.25	0.32	0.47	0.47	0.02	0.18	0.18
Sat Flow, veh/h	3456	3554	1585	3456	3491	133	3456	1777	1585	3456	2846	679
Grp Volume(v), veh/h	205	977	1479	688	334	348	1553	533	673	26	221	221
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1846	1728	1777	1585	1728	1777	1748
Q Serve(g_s), s	6.5	27.0	27.0	6.8	19.2	19.2	34.8	24.9	42.8	0.8	12.8	13.1
Cycle Q Clear(g_c), s	6.5	27.0	27.0	6.8	19.2	19.2	34.8	24.9	42.8	0.8	12.8	13.1
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	214	874	893	214	437	454	1096	837	747	86	318	313
V/C Ratio(X)	0.96	1.12	1.66	3.21	0.76	0.77	1.42	0.64	0.90	0.30	0.69	0.71
Avail Cap(c_a), veh/h	214	874	893	214	437	454	1096	967	862	157	484	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	41.4	24.0	51.5	38.4	38.4	37.5	21.9	26.7	52.6	42.2	42.4
Incr Delay (d2), s/veh	48.9	68.0	300.5	1007.7	7.8	7.6	193.1	1.1	11.5	0.7	2.7	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	19.3	94.0	32.8	8.9	9.2	43.2	9.8	17.1	0.4	5.6	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.3	109.4	324.5	1059.2	46.3	46.0	230.5	23.0	38.1	53.3	45.0	45.3
LnGrp LOS	F	F	F	F	D	D	F	C	D	D	D	D
Approach Vol, veh/h		2661			1370			2759			468	
Approach Delay, s/veh		228.2			554.9			143.5			45.6	
Approach LOS		F			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	57.5	11.4	33.5	39.4	25.4	11.4	33.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	59.7	6.8	27.0	34.8	29.9	6.8	27.0				
Max Q Clear Time (g_c+I1), s	2.8	44.8	8.8	29.0	36.8	15.1	8.5	21.2				
Green Ext Time (p_c), s	0.0	6.9	0.0	0.0	0.0	2.0	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			245.9									
HCM 6th LOS			F									

Intersection												
Intersection Delay, s/veh	16.7											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕		↕			↕	
Traffic Vol, veh/h	0	330	19	9	389	0	22	0	17	0	0	0
Future Vol, veh/h	0	330	19	9	389	0	22	0	17	0	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	418	24	11	492	0	28	0	22	0	0	0
Number of Lanes	0	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	1
HCM Control Delay	15.8	18.2	10.2	0
HCM LOS	C	C	B	-

Lane	NBLn1	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	56%	0%	100%	0%	0%	0%
Vol Thru, %	0%	95%	0%	100%	100%	100%
Vol Right, %	44%	5%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	349	9	389	0	0
LT Vol	22	0	9	0	0	0
Through Vol	0	330	0	389	0	0
RT Vol	17	19	0	0	0	0
Lane Flow Rate	49	442	11	492	0	0
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.092	0.622	0.018	0.691	0	0
Departure Headway (Hd)	6.709	5.065	5.557	5.054	5.054	6.971
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	531	711	643	714	0	0
Service Time	4.496	2.805	3.297	2.793	2.793	4.671
HCM Lane V/C Ratio	0.092	0.622	0.017	0.689	0	0
HCM Control Delay	10.2	15.8	8.4	18.4	7.8	9.7
HCM Lane LOS	B	C	A	C	N	N
HCM 95th-tile Q	0.3	4.4	0.1	5.6	0	0

Intersection						
Int Delay, s/veh	7.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑	
Traffic Vol, veh/h	10	103	176	19	21	7
Future Vol, veh/h	10	103	176	19	21	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	129	220	24	26	9

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	483	31	35	0	-	0
Stage 1	31	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	527	1043	1575	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	453	1043	1575	-	-	-
Mov Cap-2 Maneuver	516	-	-	-	-	-
Stage 1	852	-	-	-	-	-
Stage 2	609	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	6.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1575	-	957	-	-
HCM Lane V/C Ratio	0.14	-	0.148	-	-
HCM Control Delay (s)	7.7	-	9.4	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.5	-	0.5	-	-

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	39	307	0	0	373	4	0	0	0	3	0	25
Future Vol, veh/h	39	307	0	0	373	4	0	0	0	3	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	334	0	0	405	4	0	0	0	3	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	409	0	0	334	0	0	621	827	167	658	825	205
Stage 1	-	-	-	-	-	-	418	418	-	407	407	-
Stage 2	-	-	-	-	-	-	203	409	-	251	418	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1146	-	-	1222	-	-	372	305	848	350	306	802
Stage 1	-	-	-	-	-	-	583	589	-	592	596	-
Stage 2	-	-	-	-	-	-	780	594	-	731	589	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1146	-	-	1222	-	-	349	294	848	340	295	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	349	294	-	439	400	-
Stage 1	-	-	-	-	-	-	561	567	-	570	596	-
Stage 2	-	-	-	-	-	-	754	594	-	704	567	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0	0	10.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1146	-	-	1222	-	-	737
HCM Lane V/C Ratio	-	0.037	-	-	-	-	-	0.041
HCM Control Delay (s)		0	8.3	-	-	0	-	10.1
HCM Lane LOS		A	A	-	-	A	-	B
HCM 95th %tile Q(veh)		-	0.1	-	-	0	-	0.1

Intersection						
Int Delay, s/veh	11.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	136	174	319	96	299	58
Future Vol, veh/h	136	174	319	96	299	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	148	189	347	104	325	63

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	451	0	-	0	790 226
Stage 1	-	-	-	-	399 -
Stage 2	-	-	-	-	391 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	1106	-	-	-	327 777
Stage 1	-	-	-	-	647 -
Stage 2	-	-	-	-	653 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1106	-	-	-	~ 283 777
Mov Cap-2 Maneuver	-	-	-	-	468 -
Stage 1	-	-	-	-	560 -
Stage 2	-	-	-	-	653 -

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	32.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1106	-	-	-	500
HCM Lane V/C Ratio	0.134	-	-	-	0.776
HCM Control Delay (s)	8.8	-	-	-	32.9
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.5	-	-	-	6.9

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	473	373	243	0	43
Future Vol, veh/h	0	473	373	243	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	514	405	264	0	47

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	- 335
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	- 3.32
Pot Cap-1 Maneuver	0	-	-	-	0 661
Stage 1	0	-	-	-	0 -
Stage 2	0	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	- 661
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	661
HCM Lane V/C Ratio	-	-	-	0.071
HCM Control Delay (s)	-	-	-	10.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Timings
20: Winchester Rd. & Domenigoni Pkwy

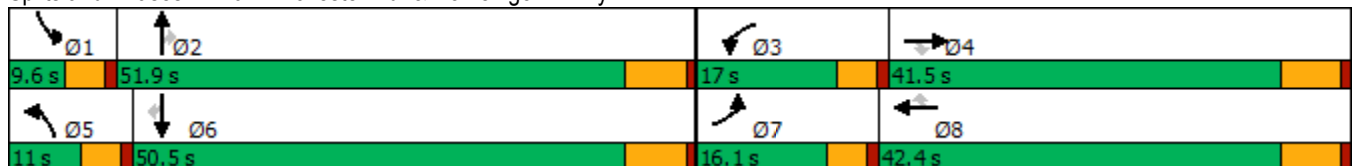
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	1035	103	1041	902	22	141	1647	1258	21	1165	188
Future Volume (vph)	207	1035	103	1041	902	22	141	1647	1258	21	1165	188
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	16.1	41.5	41.5	17.0	42.4	42.4	11.0	51.9	51.9	9.6	50.5	50.5
Total Split (%)	13.4%	34.6%	34.6%	14.2%	35.3%	35.3%	9.2%	43.3%	43.3%	8.0%	42.1%	42.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	10.5	35.0	35.0	12.4	36.9	36.9	6.4	50.2	50.2	5.0	43.0	43.0
Actuated g/C Ratio	0.09	0.29	0.29	0.10	0.31	0.31	0.05	0.42	0.42	0.04	0.36	0.36
v/c Ratio	0.70	1.01	0.19	2.97	0.58	0.04	1.52	1.13	1.52	0.28	0.93	0.29
Control Delay	65.4	73.6	5.6	915.6	36.8	0.1	317.9	99.3	264.6	65.8	50.1	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.4	73.6	5.6	915.6	36.8	0.1	317.9	99.3	264.6	65.8	50.1	7.9
LOS	E	E	A	F	D	A	F	F	F	E	D	A
Approach Delay		67.1			502.1			177.7			44.6	
Approach LOS		E			F			F			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 119	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.97	
Intersection Signal Delay: 217.2	Intersection LOS: F
Intersection Capacity Utilization 126.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	1035	103	1041	902	22	141	1647	1258	21	1165	188
Future Volume (veh/h)	207	1035	103	1041	902	22	141	1647	1258	21	1165	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	1056	47	1062	920	14	144	1681	976	21	1189	90
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	1048	467	361	1644	510	96	1395	622	37	1278	570
Arrive On Green	0.08	0.29	0.29	0.10	0.32	0.32	0.05	0.39	0.39	0.02	0.36	0.36
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	211	1056	47	1062	920	14	144	1681	976	21	1189	90
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.1	35.0	2.6	12.4	17.7	0.7	6.4	46.6	46.6	1.4	38.2	4.6
Cycle Q Clear(g_c), s	7.1	35.0	2.6	12.4	17.7	0.7	6.4	46.6	46.6	1.4	38.2	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	1048	467	361	1644	510	96	1395	622	37	1278	570
V/C Ratio(X)	0.79	1.01	0.10	2.94	0.56	0.03	1.50	1.21	1.57	0.56	0.93	0.16
Avail Cap(c_a), veh/h	335	1048	467	361	1644	510	96	1395	622	75	1318	588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	41.8	30.4	53.1	33.3	27.5	56.1	36.0	36.0	57.5	36.6	25.8
Incr Delay (d2), s/veh	7.4	29.6	0.1	880.9	0.4	0.0	271.1	99.5	263.8	4.8	11.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	18.6	0.9	49.3	6.9	0.3	10.0	37.6	62.0	0.7	17.3	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.2	71.5	30.5	934.1	33.7	27.5	327.3	135.5	299.9	62.3	48.2	25.9
LnGrp LOS	E	F	C	F	C	C	F	F	F	E	D	C
Approach Vol, veh/h		1314			1996			2801			1300	
Approach Delay, s/veh		68.4			512.7			202.6			46.9	
Approach LOS		E			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	53.1	17.0	41.5	11.0	49.2	13.8	44.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	45.4	12.4	35.0	6.4	44.0	11.5	35.9				
Max Q Clear Time (g_c+1), s	3.4	48.6	14.4	37.0	8.4	40.2	9.1	19.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.5	0.1	5.1				
Intersection Summary												
HCM 6th Ctrl Delay			235.0									
HCM 6th LOS			F									

Timings
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	5	0	1	23	1	2	3020	11	6	2297	5
Future Volume (vph)	5	0	1	23	1	2	3020	11	6	2297	5
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	10.0	74.3	74.3	10.0	74.3	74.3
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.3%	61.9%	61.9%	8.3%	61.9%	61.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		10.1	10.1		10.1	5.0	80.4	80.4	5.1	80.5	80.5
Actuated g/C Ratio		0.10	0.10		0.10	0.05	0.81	0.81	0.05	0.81	0.81
v/c Ratio		0.03	0.00		0.29	0.02	0.78	0.01	0.07	0.86	0.00
Control Delay		40.8	0.0		30.8	45.5	9.3	0.0	46.3	13.0	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		40.8	0.0		30.8	45.5	9.3	0.0	46.3	13.0	0.0
LOS		D	A		C	D	A	A	D	B	A
Approach Delay		34.0			30.8		9.2			13.0	
Approach LOS		C			C		A			B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.8
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 11.1
 Intersection LOS: B
 Intersection Capacity Utilization 93.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
 21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
 06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	1	23	1	21	2	3020	11	6	2297	5
Future Volume (veh/h)	5	0	1	23	1	21	2	3020	11	6	2297	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	0	1	25	1	10	2	3247	12	6	2470	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	0	115	133	15	30	5	3805	1181	14	2666	1189
Arrive On Green	0.07	0.00	0.07	0.07	0.07	0.07	0.00	0.75	0.75	0.01	0.75	0.75
Sat Flow, veh/h	1514	0	1585	884	207	420	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	5	0	1	36	0	0	2	3247	12	6	2470	5
Grp Sat Flow(s),veh/h/ln	1514	0	1585	1511	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	0.1	1.0	0.0	0.0	0.1	39.5	0.2	0.3	50.6	0.1
Cycle Q Clear(g_c), s	0.2	0.0	0.1	1.9	0.0	0.0	0.1	39.5	0.2	0.3	50.6	0.1
Prop In Lane	1.00		1.00	0.69		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	0	115	178	0	0	5	3805	1181	14	2666	1189
V/C Ratio(X)	0.03	0.00	0.01	0.20	0.00	0.00	0.41	0.85	0.01	0.43	0.93	0.00
Avail Cap(c_a), veh/h	579	0	553	584	0	0	108	3913	1215	108	2723	1215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	0.0	38.2	39.0	0.0	0.0	44.2	7.9	2.9	43.9	9.1	2.8
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	19.7	2.0	0.0	7.8	6.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.8	0.0	0.0	0.1	7.5	0.0	0.2	11.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	0.0	38.3	39.6	0.0	0.0	63.9	9.9	2.9	51.7	15.2	2.8
LnGrp LOS	D	A	D	D	A	A	E	A	A	D	B	A
Approach Vol, veh/h		6			36			3261			2481	
Approach Delay, s/veh		38.4			39.6			9.9			15.3	
Approach LOS		D			D			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	72.4		11.2	4.8	72.9		11.2				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.4	68.1		* 31	5.4	68.1		* 31				
Max Q Clear Time (g_c+I1), s	2.3	41.5		2.2	2.1	52.6		3.9				
Green Ext Time (p_c), s	0.0	24.7		0.0	0.0	13.5		0.1				

Intersection Summary												
HCM 6th Ctrl Delay				12.4								
HCM 6th LOS				B								

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations	↖	↗	↖	↗	↖	↕	↗	↕	↗	
Traffic Volume (vph)	6	4	2	2	7	3021	4	2314	7	
Future Volume (vph)	6	4	2	2	7	3021	4	2314	7	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4		8	5	2		6		1
Permitted Phases	4		8				2		6	
Detector Phase	4	4	8	8	5	2	2	6	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	26.5	16.5	16.5	9.6
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	74.7	74.7	74.7	9.6
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	62.3%	62.3%	62.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max	None
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	77.8	77.8	68.2	68.2	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.69	0.69	
v/c Ratio	0.04	0.07	0.01	0.05	0.09	1.17	0.00	1.02	0.01	
Control Delay	41.2	27.8	40.5	27.7	47.1	95.0	0.0	40.4	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.2	27.8	40.5	27.7	47.1	95.0	0.0	40.4	0.0	
LOS	D	C	D	C	D	F	A	D	A	
Approach Delay		32.3		30.3		94.7		40.3		
Approach LOS		C		C		F		D		

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.17
 Intersection Signal Delay: 70.9
 Intersection Capacity Utilization 101.2%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service G

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
 22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	4	7	2	2	6	7	3021	4	0	2314	7
Future Volume (veh/h)	6	4	7	2	2	6	7	3021	4	0	2314	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	4	4	2	2	1	8	3248	3	0	2488	8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	87	87	209	119	59	90	2793	1246	2	2448	1092
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.00	0.69	0.69
Sat Flow, veh/h	1414	858	858	1407	1176	588	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	6	0	8	2	0	3	8	3248	3	0	2488	8
Grp Sat Flow(s),veh/h/ln	1414	0	1716	1407	0	1764	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.4	0.0	0.4	0.1	0.0	0.2	0.4	77.8	0.0	0.0	68.2	0.2
Cycle Q Clear(g_c), s	0.5	0.0	0.4	0.5	0.0	0.2	0.4	77.8	0.0	0.0	68.2	0.2
Prop In Lane	1.00		0.50	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	0	173	209	0	178	90	2793	1246	2	2448	1092
V/C Ratio(X)	0.03	0.00	0.05	0.01	0.00	0.02	0.09	1.16	0.00	0.00	1.02	0.01
Avail Cap(c_a), veh/h	513	0	537	507	0	553	90	2793	1246	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	0.0	40.2	40.4	0.0	40.1	44.8	10.6	2.3	0.0	15.4	4.8
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.0	1.9	77.7	0.0	0.0	22.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.0	0.0	0.1	0.2	42.6	0.0	0.0	25.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	0.0	40.3	40.5	0.0	40.1	46.8	88.3	2.3	0.0	37.8	4.8
LnGrp LOS	D	A	D	D	A	D	D	F	A	A	F	A
Approach Vol, veh/h		14			5			3259			2496	
Approach Delay, s/veh		40.3			40.2			88.1			37.7	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	84.3		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	0.0	79.8		2.5	2.4	70.2		2.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				66.2								
HCM 6th LOS				E								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	11	2	2	3022	2320	5
Future Volume (vph)	11	2	2	3022	2320	5
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	28.5	28.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effct Green (s)	10.0	10.0	5.0	99.7	97.8	97.8
Actuated g/C Ratio	0.09	0.09	0.05	0.92	0.90	0.90
v/c Ratio	0.07	0.01	0.02	1.03	0.81	0.00
Control Delay	46.1	31.5	50.0	33.0	9.2	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	31.5	50.0	33.0	9.2	2.2
LOS	D	C	D	C	A	A
Approach Delay	44.0			33.0	9.1	
Approach LOS	D			C	A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 108.2
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 22.7
 Intersection LOS: C
 Intersection Capacity Utilization 101.1%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	2	2	3022	2320	5
Future Volume (veh/h)	11	2	2	3022	2320	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	1	2	3358	2578	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	54	48	5	3056	2884	1287
Arrive On Green	0.03	0.03	0.00	0.86	0.81	0.81
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	12	1	2	3358	2578	6
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	0.7	0.1	0.1	86.9	50.3	0.1
Cycle Q Clear(g_c), s	0.7	0.1	0.1	86.9	50.3	0.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	54	48	5	3056	2884	1287
V/C Ratio(X)	0.22	0.02	0.42	1.10	0.89	0.00
Avail Cap(c_a), veh/h	388	345	88	3056	2884	1287
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	47.5	50.3	7.1	6.5	1.8
Incr Delay (d2), s/veh	2.1	0.2	19.9	50.3	4.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.1	21.3	8.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.9	47.7	70.2	57.4	11.3	1.8
LnGrp LOS	D	D	E	F	B	A
Approach Vol, veh/h	13			3360	2584	
Approach Delay, s/veh	49.7			57.4	11.3	
Approach LOS	D			E	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		7.7	4.9	88.5
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+11), s		88.9		2.7	2.1	52.3
Green Ext Time (p_c), s		0.0		0.0	0.0	21.2
Intersection Summary						
HCM 6th Ctrl Delay			37.4			
HCM 6th LOS			D			

Timings

24: Winchester Rd. & Scott Rd./Washington St,

06/22/2021

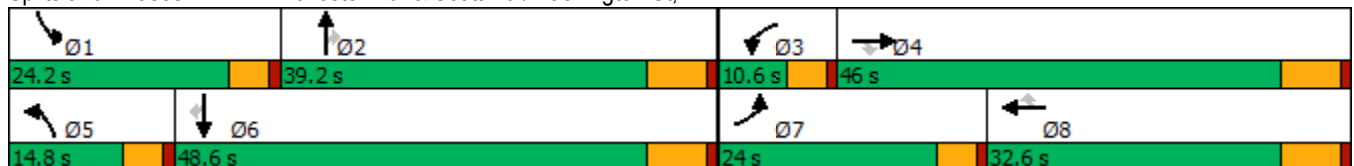


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↑↑↑	↖	↑↑↑	↘
Traffic Volume (vph)	694	392	266	60	334	677	309	2218	397	1743	766
Future Volume (vph)	694	392	266	60	334	677	309	2218	397	1743	766
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.5	45.5	9.6	16.5	16.5	9.6	35.5	9.6	44.5	44.5
Total Split (s)	24.0	46.0	46.0	10.6	32.6	32.6	14.8	39.2	24.2	48.6	48.6
Total Split (%)	20.0%	38.3%	38.3%	8.8%	27.2%	27.2%	12.3%	32.7%	20.2%	40.5%	40.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	19.4	41.6	41.6	5.9	26.1	26.1	10.2	32.7	19.6	42.1	42.1
Actuated g/C Ratio	0.16	0.35	0.35	0.05	0.22	0.22	0.08	0.27	0.16	0.35	0.35
v/c Ratio	2.56	0.64	0.41	0.72	0.87	1.30	2.17	1.69	1.45	1.03	1.00
Control Delay	732.3	39.2	10.1	98.0	67.6	172.6	573.0	341.7	256.1	67.7	53.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	732.3	39.2	10.1	98.0	67.6	172.6	573.0	341.7	256.1	67.7	53.5
LOS	F	D	B	F	E	F	F	F	F	E	D
Approach Delay		389.3			135.7			369.9		89.7	
Approach LOS		F			F			F		F	

Intersection Summary

























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.56
 Intersection Signal Delay: 237.7
 Intersection LOS: F
 Intersection Capacity Utilization 139.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	694	392	266	60	334	677	309	2218	0	397	1743	766
Future Volume (veh/h)	694	392	266	60	334	677	309	2218	0	397	1743	766
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	731	413	269	63	352	654	325	2335	0	418	1835	786
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	616	522	89	407	345	151	1391	432	291	1791	556
Arrive On Green	0.16	0.33	0.33	0.05	0.22	0.22	0.08	0.27	0.00	0.16	0.35	0.35
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	731	413	269	63	352	654	325	2335	0	418	1835	786
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	19.4	22.8	16.5	4.2	21.8	26.1	10.2	32.7	0.0	19.6	42.1	42.1
Cycle Q Clear(g_c), s	19.4	22.8	16.5	4.2	21.8	26.1	10.2	32.7	0.0	19.6	42.1	42.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	616	522	89	407	345	151	1391	432	291	1791	556
V/C Ratio(X)	2.54	0.67	0.52	0.71	0.87	1.90	2.15	1.68	0.00	1.44	1.02	1.41
Avail Cap(c_a), veh/h	288	616	522	89	407	345	151	1391	432	291	1791	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	34.7	32.5	56.1	45.3	47.0	54.9	43.6	0.0	50.2	38.9	39.0
Incr Delay (d2), s/veh	702.4	2.8	0.9	19.6	17.4	414.4	537.3	308.3	0.0	215.1	27.7	196.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	64.4	10.2	6.1	2.3	11.5	49.4	27.0	52.6	0.0	25.7	20.8	45.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	752.7	37.5	33.4	75.8	62.7	461.4	592.2	352.0	0.0	265.3	66.6	235.5
LnGrp LOS	F	D	C	E	E	F	F	F	A	F	F	F
Approach Vol, veh/h		1413			1069			2660			3039	
Approach Delay, s/veh		406.7			307.4			381.3			137.6	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	39.2	10.6	46.0	14.8	48.6	24.0	32.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	19.6	32.7	6.0	39.5	10.2	42.1	19.4	26.1				
Max Q Clear Time (g_c+I1), s	21.6	34.7	6.2	24.8	12.2	44.1	21.4	28.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			285.5									
HCM 6th LOS			F									

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/22/2021

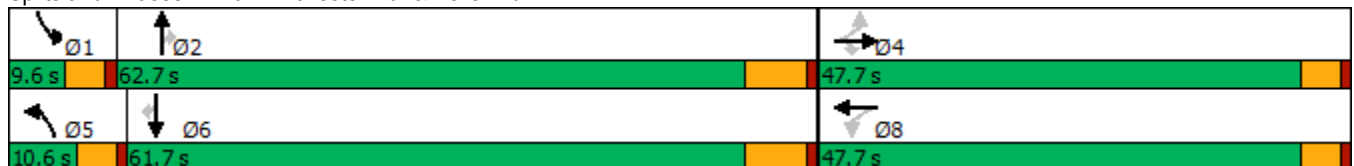


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	238	14	222	11	21	215	2280	98	6	1684	379
Future Volume (vph)	238	14	222	11	21	215	2280	98	6	1684	379
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5
Total Split (s)	47.7	47.7	47.7	47.7	47.7	10.6	62.7	62.7	9.6	61.7	61.7
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.8%	52.3%	52.3%	8.0%	51.4%	51.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	24.4	24.4	24.4		24.4	6.0	64.5	64.5	5.0	55.5	55.5
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.06	0.63	0.63	0.05	0.54	0.54
v/c Ratio	0.78	0.03	0.52		0.11	2.20	1.08	0.10	0.07	0.93	0.41
Control Delay	52.5	27.9	23.2		23.9	593.7	67.3	3.0	51.8	32.7	6.7
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	27.9	23.2		23.9	593.7	67.3	3.0	51.8	32.7	6.7
LOS	D	C	C		C	F	E	A	D	C	A
Approach Delay		38.1			23.9		108.6			28.0	
Approach LOS		D			C		F			C	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 101.9
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.20
 Intersection Signal Delay: 69.3
 Intersection Capacity Utilization 100.2%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service G

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	14	222	11	21	9	215	2280	98	6	1684	379
Future Volume (veh/h)	238	14	222	11	21	9	215	2280	98	6	1684	379
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	15	230	12	22	7	229	2426	103	6	1791	401
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	392	332	121	206	57	113	2187	954	14	1988	887
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.06	0.62	0.62	0.01	0.56	0.56
Sat Flow, veh/h	1381	1870	1585	342	984	273	1781	3554	1550	1781	3554	1585
Grp Volume(v), veh/h	253	15	230	41	0	0	229	2426	103	6	1791	401
Grp Sat Flow(s),veh/h/ln	1381	1870	1585	1599	0	0	1781	1777	1550	1781	1777	1585
Q Serve(g_s), s	14.4	0.6	12.7	0.0	0.0	0.0	6.0	58.1	2.6	0.3	42.2	14.1
Cycle Q Clear(g_c), s	16.1	0.6	12.7	1.7	0.0	0.0	6.0	58.1	2.6	0.3	42.2	14.1
Prop In Lane	1.00		1.00	0.29		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	373	392	332	384	0	0	113	2187	954	14	1988	887
V/C Ratio(X)	0.68	0.04	0.69	0.11	0.00	0.00	2.02	1.11	0.11	0.44	0.90	0.45
Avail Cap(c_a), veh/h	713	852	722	761	0	0	113	2187	954	94	2078	927
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	29.7	34.5	30.2	0.0	0.0	44.2	18.2	7.5	46.6	18.5	12.3
Incr Delay (d2), s/veh	2.2	0.0	2.6	0.1	0.0	0.0	489.6	56.5	0.0	7.9	5.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.3	5.0	0.8	0.0	0.0	17.9	34.5	0.7	0.2	15.2	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	29.8	37.1	30.3	0.0	0.0	533.8	74.6	7.5	54.5	24.2	12.6
LnGrp LOS	D	C	D	C	A	A	F	F	A	D	C	B
Approach Vol, veh/h		498			41			2758			2198	
Approach Delay, s/veh		37.2			30.3			110.2			22.1	
Approach LOS		D			C			F			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	64.6		24.5	10.6	59.3		24.5				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	6.0	55.2		* 43				
Max Q Clear Time (g_c+I1), s	2.3	60.1		18.1	8.0	44.2		3.7				
Green Ext Time (p_c), s	0.0	0.0		1.6	0.0	8.6		0.2				

Intersection Summary

HCM 6th Ctrl Delay	67.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/22/2021

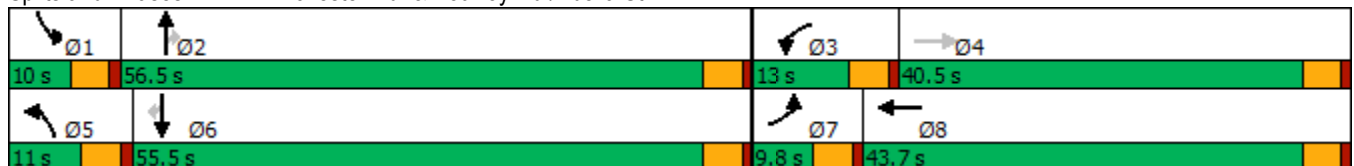


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	85	39	311	41	210	2424	296	81	1753	82
Future Volume (vph)	85	39	311	41	210	2424	296	81	1753	82
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	9.8	40.5	13.0	43.7	11.0	56.5	56.5	10.0	55.5	55.5
Total Split (%)	8.2%	33.8%	10.8%	36.4%	9.2%	47.1%	47.1%	8.3%	46.3%	46.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	5.3	10.5	8.5	13.7	6.5	52.0	52.0	5.5	51.0	51.0
Actuated g/C Ratio	0.06	0.11	0.09	0.14	0.07	0.55	0.55	0.06	0.54	0.54
v/c Ratio	0.90	0.50	2.06	0.24	1.83	1.31	0.33	0.83	0.97	0.10
Control Delay	114.3	25.2	521.7	15.3	427.8	166.8	7.5	97.7	35.9	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.3	25.2	521.7	15.3	427.8	166.8	7.5	97.7	35.9	2.4
LOS	F	C	F	B	F	F	A	F	D	A
Approach Delay		51.4		376.9		169.4			37.0	
Approach LOS		D		F		F			D	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 94.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.06
 Intersection Signal Delay: 134.0
 Intersection LOS: F
 Intersection Capacity Utilization 112.1%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	39	164	311	41	84	210	2424	296	81	1753	82
Future Volume (veh/h)	85	39	164	311	41	84	210	2424	296	81	1753	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	41	156	327	43	54	221	2552	312	85	1845	82
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	228	203	157	287	256	120	1918	855	102	1881	839
Arrive On Green	0.06	0.13	0.13	0.09	0.16	0.16	0.07	0.54	0.54	0.06	0.53	0.53
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	89	41	156	327	43	54	221	2552	312	85	1845	82
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.8	2.0	9.2	8.5	2.0	2.8	6.5	52.0	10.9	4.6	49.0	2.5
Cycle Q Clear(g_c), s	4.8	2.0	9.2	8.5	2.0	2.8	6.5	52.0	10.9	4.6	49.0	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	228	203	157	287	256	120	1918	855	102	1881	839
V/C Ratio(X)	0.91	0.18	0.77	2.08	0.15	0.21	1.84	1.33	0.36	0.84	0.98	0.10
Avail Cap(c_a), veh/h	98	664	592	157	723	645	120	1918	855	102	1881	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	37.5	40.6	43.9	34.7	35.1	44.9	22.2	12.7	45.0	22.2	11.3
Incr Delay (d2), s/veh	61.0	0.4	6.0	507.5	0.2	0.4	408.0	152.5	1.2	40.6	16.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.9	3.9	25.9	0.9	1.1	16.3	57.9	4.0	3.0	20.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.3	37.9	46.6	551.5	35.0	35.5	452.9	174.6	13.9	85.6	38.9	11.5
LnGrp LOS	F	D	D	F	C	D	F	F	B	F	D	B
Approach Vol, veh/h		286			424			3085			2012	
Approach Delay, s/veh		63.9			433.4			178.3			39.7	
Approach LOS		E			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	56.5	13.0	16.9	11.0	55.5	9.8	20.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	52.0	8.5	36.0	6.5	51.0	5.3	39.2				
Max Q Clear Time (g_c+I1), s	6.6	54.0	10.5	11.2	8.5	51.0	6.8	4.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay	143.3											
HCM 6th LOS	F											

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

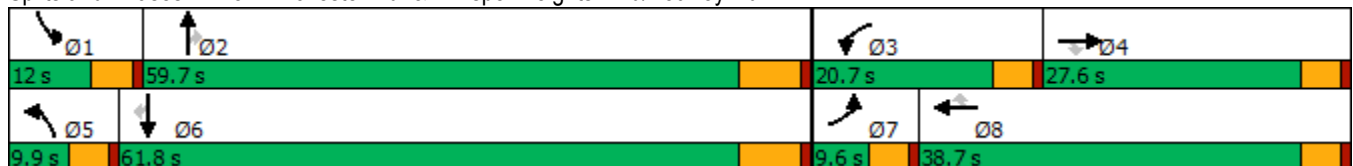
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	20	22	139	22	212	42	2690	1	203	1994	31
Future Volume (vph)	28	20	22	139	22	212	42	2690	1	203	1994	31
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	28.5	9.6	25.5	25.5
Total Split (s)	9.6	27.6	27.6	20.7	38.7	38.7	9.9	59.7	59.7	12.0	61.8	61.8
Total Split (%)	8.0%	23.0%	23.0%	17.3%	32.3%	32.3%	8.3%	49.8%	49.8%	10.0%	51.5%	51.5%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	5.0	10.1	10.1	12.7	15.4	15.4	5.3	53.7	53.7	7.5	60.3	60.3
Actuated g/C Ratio	0.05	0.10	0.10	0.13	0.16	0.16	0.05	0.55	0.55	0.08	0.62	0.62
v/c Ratio	0.32	0.11	0.08	0.63	0.08	0.63	0.46	1.44	0.00	0.81	0.95	0.03
Control Delay	57.9	45.2	0.5	54.7	36.1	25.6	64.3	225.8	0.0	70.0	33.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	45.2	0.5	54.7	36.1	25.6	64.3	225.8	0.0	70.0	33.1	0.1
LOS	E	D	A	D	D	C	E	F	A	E	C	A
Approach Delay		36.2			37.1			223.3			36.0	
Approach LOS		D			D			F			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 97.9	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.44	
Intersection Signal Delay: 130.8	Intersection LOS: F
Intersection Capacity Utilization 108.1%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑	↗	↗↘	↑↑	↗
Traffic Volume (veh/h)	28	20	22	139	22	212	42	2690	1	203	1994	31
Future Volume (veh/h)	28	20	22	139	22	212	42	2690	1	203	1994	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	21	16	145	23	166	44	2802	1	211	2077	31
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	185	157	176	318	266	63	1872	835	253	2008	896
Arrive On Green	0.03	0.10	0.10	0.10	0.17	0.17	0.04	0.53	0.53	0.07	0.57	0.57
Sat Flow, veh/h	1781	1870	1585	1781	1870	1561	1781	3554	1584	3456	3554	1585
Grp Volume(v), veh/h	29	21	16	145	23	166	44	2802	1	211	2077	31
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1561	1781	1777	1584	1728	1777	1585
Q Serve(g_s), s	1.6	1.0	0.9	8.1	1.0	10.0	2.5	53.2	0.0	6.1	57.1	0.9
Cycle Q Clear(g_c), s	1.6	1.0	0.9	8.1	1.0	10.0	2.5	53.2	0.0	6.1	57.1	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	49	185	157	176	318	266	63	1872	835	253	2008	896
V/C Ratio(X)	0.59	0.11	0.10	0.82	0.07	0.62	0.70	1.50	0.00	0.83	1.03	0.03
Avail Cap(c_a), veh/h	88	424	359	284	630	526	93	1872	835	253	2008	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	41.5	41.4	44.6	35.2	38.9	48.2	23.9	11.3	46.2	22.0	9.7
Incr Delay (d2), s/veh	4.2	0.3	0.3	4.5	0.1	2.4	5.3	226.3	0.0	19.5	29.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.5	0.4	3.8	0.5	4.0	1.1	77.2	0.0	3.2	27.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	41.7	41.7	49.1	35.3	41.3	53.5	250.2	11.3	65.7	51.5	9.8
LnGrp LOS	D	D	D	D	D	D	D	F	B	E	F	A
Approach Vol, veh/h		66			334			2847			2319	
Approach Delay, s/veh		46.5			44.3			247.1			52.3	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	59.7	14.6	14.7	8.1	63.6	7.4	21.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	7.4	53.2	16.1	* 23	5.3	55.3	5.0	* 34				
Max Q Clear Time (g_c+I1), s	8.1	55.2	10.1	3.0	4.5	59.1	3.6	12.0				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay	151.3
HCM 6th LOS	F

Notes

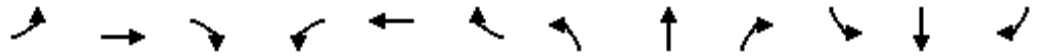
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/22/2021

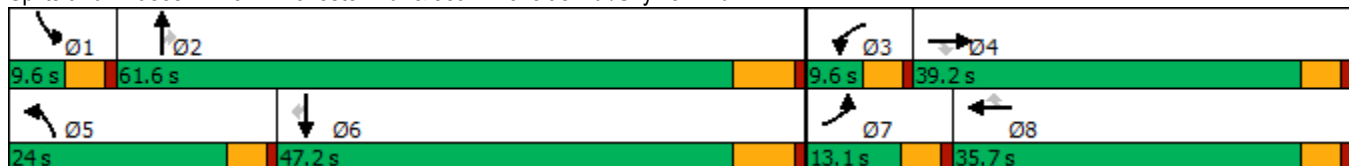


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	174	6	238	10	6	27	426	2723	15	16	1897	161
Future Volume (vph)	174	6	238	10	6	27	426	2723	15	16	1897	161
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.1	39.2	39.2	9.6	35.7	35.7	24.0	61.6	61.6	9.6	47.2	47.2
Total Split (%)	10.9%	32.7%	32.7%	8.0%	29.8%	29.8%	20.0%	51.3%	51.3%	8.0%	39.3%	39.3%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.2	15.7	15.7	5.0	10.1	10.1	19.5	61.4	61.4	5.0	40.9	40.9
Actuated g/C Ratio	0.10	0.17	0.17	0.05	0.11	0.11	0.21	0.65	0.65	0.05	0.44	0.44
v/c Ratio	1.04	0.02	0.53	0.11	0.03	0.09	1.21	1.22	0.02	0.18	1.28	0.22
Control Delay	124.7	33.8	9.6	47.5	40.7	0.6	151.8	125.0	0.0	49.5	157.9	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	124.7	33.8	9.6	47.5	40.7	0.6	151.8	125.0	0.0	49.5	157.9	5.6
LOS	F	C	A	D	D	A	F	F	A	D	F	A
Approach Delay		57.8			16.7			128.0			145.2	
Approach LOS		E			B			F			F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 93.8
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.28
 Intersection Signal Delay: 128.3
 Intersection LOS: F
 Intersection Capacity Utilization 110.2%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	174	6	238	10	6	27	426	2723	15	16	1897	161
Future Volume (veh/h)	174	6	238	10	6	27	426	2723	15	16	1897	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	181	6	198	10	6	14	444	2836	13	17	1976	150
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	344	290	22	208	176	345	2066	902	34	1444	636
Arrive On Green	0.08	0.18	0.18	0.01	0.11	0.11	0.19	0.58	0.58	0.02	0.41	0.41
Sat Flow, veh/h	1781	1870	1575	1781	1870	1585	1781	3554	1552	1781	3554	1565
Grp Volume(v), veh/h	181	6	198	10	6	14	444	2836	13	17	1976	150
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1870	1585	1781	1777	1552	1781	1777	1565
Q Serve(g_s), s	8.5	0.3	11.8	0.6	0.3	0.8	19.4	58.2	0.4	0.9	40.7	6.3
Cycle Q Clear(g_c), s	8.5	0.3	11.8	0.6	0.3	0.8	19.4	58.2	0.4	0.9	40.7	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	344	290	22	208	176	345	2066	902	34	1444	636
V/C Ratio(X)	1.20	0.02	0.68	0.46	0.03	0.08	1.29	1.37	0.01	0.51	1.37	0.24
Avail Cap(c_a), veh/h	151	644	542	89	579	491	345	2066	902	89	1444	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	33.4	38.1	49.1	39.7	39.9	40.4	21.0	8.9	48.7	29.7	19.5
Incr Delay (d2), s/veh	135.9	0.0	2.8	5.6	0.1	0.2	149.2	170.9	0.0	4.4	170.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	0.1	4.7	0.3	0.1	0.3	22.2	67.9	0.1	0.4	49.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	181.7	33.5	41.0	54.8	39.7	40.1	189.6	191.9	8.9	53.0	199.9	20.4
LnGrp LOS	F	C	D	D	D	D	F	F	A	D	F	C
Approach Vol, veh/h		385			30			3293			2143	
Approach Delay, s/veh		107.0			44.9			190.9			186.2	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	64.7	5.8	23.1	24.0	47.2	13.1	15.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.1	5.0	* 35	19.4	40.7	8.5	* 31				
Max Q Clear Time (g_c+I1), s	2.9	60.2	2.6	13.8	21.4	42.7	10.5	2.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0				

Intersection Summary

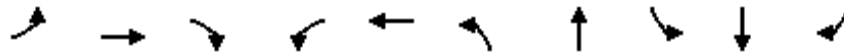
HCM 6th Ctrl Delay	182.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

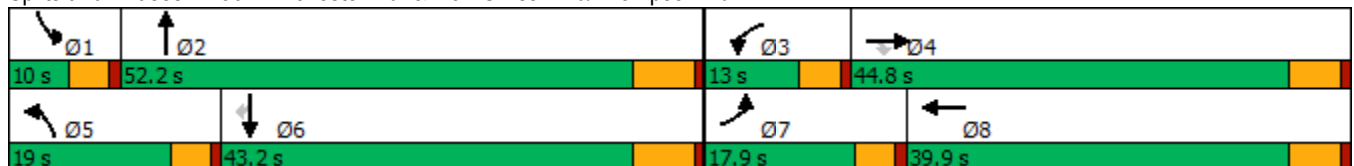


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↗	↘	↗	↘	↗↗	↘	↗↗	↘
Traffic Volume (vph)	362	430	1036	451	425	1271	3082	258	1924	272
Future Volume (vph)	362	430	1036	451	425	1271	3082	258	1924	272
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	17.9	44.8	44.8	13.0	39.9	19.0	52.2	10.0	43.2	43.2
Total Split (%)	14.9%	37.3%	37.3%	10.8%	33.3%	15.8%	43.5%	8.3%	36.0%	36.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	13.3	39.0	39.0	8.4	34.1	14.4	45.7	5.4	36.7	36.7
Actuated g/C Ratio	0.11	0.32	0.32	0.07	0.28	0.12	0.38	0.04	0.31	0.31
v/c Ratio	1.90	0.73	0.96	3.78	1.10	6.18	2.79	3.37	1.83	0.46
Control Delay	454.6	44.3	45.4	1286.4	110.2	2350.3	827.5	1114.2	406.0	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	454.6	44.3	45.4	1286.4	110.2	2350.3	827.5	1114.2	406.0	13.3
LOS	F	D	D	F	F	F	F	F	F	B
Approach Delay		126.2			638.1		1225.8		437.0	
Approach LOS		F			F		F		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 6.18
 Intersection Signal Delay: 778.7
 Intersection LOS: F
 Intersection Capacity Utilization 191.8%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	362	430	1036	451	425	129	1271	3082	505	258	1924	272
Future Volume (veh/h)	362	430	1036	451	425	129	1271	3082	505	258	1924	272
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	373	443	909	465	438	131	1310	3177	456	266	1984	260
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	608	886	125	392	117	214	1191	167	80	1087	478
Arrive On Green	0.11	0.32	0.32	0.07	0.28	0.28	0.12	0.38	0.38	0.05	0.31	0.31
Sat Flow, veh/h	1781	1870	2728	1781	1378	412	1781	3127	438	1781	3554	1564
Grp Volume(v), veh/h	373	443	909	465	0	569	1310	1770	1863	266	1984	260
Grp Sat Flow(s),veh/h/ln	1781	1870	1364	1781	0	1790	1781	1777	1788	1781	1777	1564
Q Serve(g_s), s	13.3	25.1	39.0	8.4	0.0	34.1	14.4	45.7	45.7	5.4	36.7	16.6
Cycle Q Clear(g_c), s	13.3	25.1	39.0	8.4	0.0	34.1	14.4	45.7	45.7	5.4	36.7	16.6
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	197	608	886	125	0	509	214	677	681	80	1087	478
V/C Ratio(X)	1.89	0.73	1.03	3.73	0.00	1.12	6.13	2.62	2.74	3.32	1.83	0.54
Avail Cap(c_a), veh/h	197	608	886	125	0	509	214	677	681	80	1087	478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	35.8	40.5	55.8	0.0	43.0	52.8	37.1	37.2	57.3	41.7	34.7
Incr Delay (d2), s/veh	418.7	4.4	36.9	1247.6	0.0	76.7	2317.8	731.3	785.7	1074.5	375.1	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.8	11.7	17.4	47.0	0.0	25.7	143.8	155.6	166.8	26.3	71.6	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	472.1	40.2	77.4	1303.4	0.0	119.6	2370.6	768.4	822.9	1131.8	416.7	35.9
LnGrp LOS	F	D	F	F	A	F	F	F	F	F	F	D
Approach Vol, veh/h		1725			1034			4943			2510	
Approach Delay, s/veh		153.2			652.0			1213.6			453.1	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	52.2	13.0	44.8	19.0	43.2	17.9	39.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.4	45.7	8.4	39.0	14.4	36.7	13.3	34.1				
Max Q Clear Time (g_c+I1), s	7.4	47.7	10.4	41.0	16.4	38.7	15.3	36.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			790.7									
HCM 6th LOS			F									

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/22/2021

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↖↖	↖	↑↑↑	↖	↑↑
Traffic Volume (vph)	374	1238	3570	800	2510
Future Volume (vph)	374	1238	3570	800	2510
Turn Type	Prot	pm+ov	NA	Prot	NA
Protected Phases	8	1	2	1	6
Permitted Phases		8			
Detector Phase	8	1	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	30.6	9.5	38.5	9.5	16.5
Total Split (s)	30.6	32.0	57.4	32.0	89.4
Total Split (%)	25.5%	26.7%	47.8%	26.7%	74.5%
Yellow Time (s)	3.6	3.5	5.5	3.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	6.5	4.5	6.5
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	18.3	45.9	51.0	27.5	83.0
Actuated g/C Ratio	0.16	0.41	0.45	0.24	0.74
v/c Ratio	0.72	2.07	1.94	1.99	1.03
Control Delay	52.4	509.2	446.6	477.7	43.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.4	509.2	446.6	477.7	43.1
LOS	D	F	F	F	D
Approach Delay	403.2		446.6		148.1
Approach LOS	F		F		F

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 112.4
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.07
 Intersection Signal Delay: 329.3
 Intersection LOS: F
 Intersection Capacity Utilization 166.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/22/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	374	1238	3570	522	800	2510
Future Volume (veh/h)	374	1238	3570	522	800	2510
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	402	1127	3839	423	860	2699
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	749	707	1984	210	408	2455
Arrive On Green	0.22	0.22	0.42	0.42	0.23	0.69
Sat Flow, veh/h	3456	1585	4846	495	1781	3647
Grp Volume(v), veh/h	402	1127	2751	1511	860	2699
Grp Sat Flow(s),veh/h/ln	1728	1585	1702	1769	1781	1777
Q Serve(g_s), s	12.4	26.0	50.9	50.9	27.5	82.9
Cycle Q Clear(g_c), s	12.4	26.0	50.9	50.9	27.5	82.9
Prop In Lane	1.00	1.00		0.28	1.00	
Lane Grp Cap(c), veh/h	749	707	1444	750	408	2455
V/C Ratio(X)	0.54	1.59	1.91	2.01	2.11	1.10
Avail Cap(c_a), veh/h	749	707	1444	750	408	2455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	33.3	34.5	34.6	46.3	18.5
Incr Delay (d2), s/veh	0.8	274.3	409.9	461.2	506.3	51.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	73.7	101.2	115.9	68.9	42.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.4	307.6	444.4	495.8	552.5	70.3
LnGrp LOS	D	F	F	F	F	F
Approach Vol, veh/h	1529		4262			3559
Approach Delay, s/veh	237.9		462.6			186.8
Approach LOS	F		F			F
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	32.0	57.4			89.4	30.6
Change Period (Y+Rc), s	4.5	6.5			6.5	4.6
Max Green Setting (Gmax), s	27.5	50.9			82.9	26.0
Max Q Clear Time (g_c+1), s	29.5	52.9			84.9	28.0
Green Ext Time (p_c), s	0.0	0.0			0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			320.9			
HCM 6th LOS			F			

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↗	↖	↕
Traffic Volume (vph)	174	48	361	81	124	3622	324	246	2422
Future Volume (vph)	174	48	361	81	124	3622	324	246	2422
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	11.6	75.7	75.7	9.6	73.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	9.7%	63.1%	63.1%	8.0%	61.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	30.0	30.0	30.0	30.0	7.0	69.2	69.2	5.0	67.2
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.06	0.58	0.58	0.04	0.56
v/c Ratio	2.44	0.33	1.42	0.85	1.27	1.87	0.36	3.55	1.42
Control Delay	708.4	20.8	245.7	52.6	223.5	415.2	10.0	1196.6	215.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	708.4	20.8	245.7	52.6	223.5	415.2	10.0	1196.6	215.9
LOS	F	C	F	D	F	F	B	F	F
Approach Delay		392.0		147.0		377.1			299.6
Approach LOS		F		F		F			F

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.55
 Intersection Signal Delay: 328.6
 Intersection LOS: F
 Intersection Capacity Utilization 163.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	48	100	361	81	296	124	3622	324	246	2422	216
Future Volume (veh/h)	174	48	100	361	81	296	124	3622	324	246	2422	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	51	88	380	85	307	131	3813	255	259	2549	200
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	154	266	288	89	321	104	2049	914	74	1868	144
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.06	0.58	0.58	0.04	0.56	0.56
Sat Flow, veh/h	992	616	1063	1250	355	1284	1781	3554	1585	1781	3336	258
Grp Volume(v), veh/h	183	0	139	380	0	392	131	3813	255	259	1339	1410
Grp Sat Flow(s),veh/h/ln	992	0	1679	1250	0	1639	1781	1777	1585	1781	1777	1817
Q Serve(g_s), s	1.7	0.0	8.1	21.9	0.0	28.3	7.0	69.2	9.7	5.0	67.2	67.2
Cycle Q Clear(g_c), s	30.0	0.0	8.1	30.0	0.0	28.3	7.0	69.2	9.7	5.0	67.2	67.2
Prop In Lane	1.00		0.63	1.00		0.78	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	74	0	420	288	0	410	104	2049	914	74	995	1018
V/C Ratio(X)	2.47	0.00	0.33	1.32	0.00	0.96	1.26	1.86	0.28	3.49	1.35	1.39
Avail Cap(c_a), veh/h	74	0	420	288	0	410	104	2049	914	74	995	1018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.8	0.0	36.8	51.3	0.0	44.4	56.5	25.4	12.8	57.5	26.4	26.4
Incr Delay (d2), s/veh	698.8	0.0	0.2	166.4	0.0	33.3	173.9	389.2	0.2	1153.3	162.4	179.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	0.0	3.4	22.1	0.0	15.2	8.0	135.3	3.1	25.9	69.0	75.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	758.7	0.0	37.0	217.7	0.0	77.7	230.4	414.6	13.0	1210.8	188.8	205.9
LnGrp LOS	F	A	D	F	A	E	F	F	B	F	F	F
Approach Vol, veh/h		322			772			4199			3008	
Approach Delay, s/veh		447.1			146.6			384.4			284.8	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	75.7		34.7	11.6	73.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	69.2		* 30	7.0	67.2		* 30				
Max Q Clear Time (g_c+I1), s	7.0	71.2		32.0	9.0	69.2		32.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	328.7
HCM 6th LOS	F

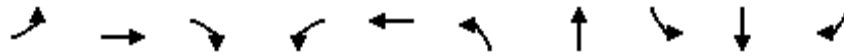
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/22/2021

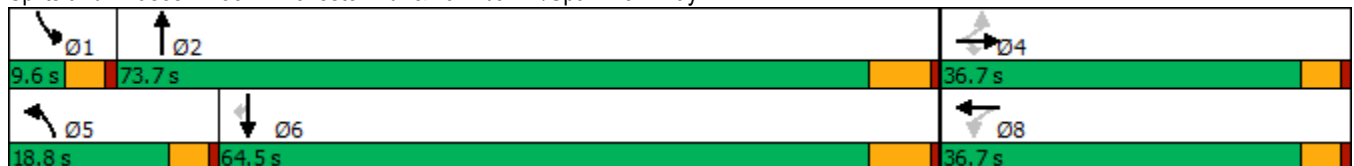


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	137	11	142	43	5	239	3411	20	2340	152
Future Volume (vph)	137	11	142	43	5	239	3411	20	2340	152
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	18.8	73.7	9.6	64.5	64.5
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	15.7%	61.4%	8.0%	53.8%	53.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	16.2	16.2	16.2		16.2	14.2	73.3	5.0	58.1	58.1
Actuated g/C Ratio	0.16	0.16	0.16		0.16	0.14	0.70	0.05	0.56	0.56
v/c Ratio	0.69	0.04	0.40		0.32	1.02	1.45	0.25	1.22	0.17
Control Delay	58.7	36.3	9.6		30.4	109.7	225.8	57.4	129.9	5.7
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	36.3	9.6		30.4	109.7	225.8	57.4	129.9	5.7
LOS	E	D	A		C	F	F	E	F	A
Approach Delay		33.8			30.4		218.4		121.8	
Approach LOS		C			C		F		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.4
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.45
 Intersection Signal Delay: 171.4
 Intersection Capacity Utilization 126.4%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	11	142	43	5	30	239	3411	80	20	2340	152
Future Volume (veh/h)	137	11	142	43	5	30	239	3411	80	20	2340	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	11	74	44	5	20	246	3516	68	21	2412	135
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	216	183	153	25	49	254	2508	48	39	2072	904
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.14	0.70	0.70	0.02	0.58	0.58
Sat Flow, veh/h	1386	1870	1585	813	217	420	1781	3564	69	1781	3554	1550
Grp Volume(v), veh/h	141	11	74	69	0	0	246	1746	1838	21	2412	135
Grp Sat Flow(s),veh/h/ln	1386	1870	1585	1449	0	0	1781	1777	1856	1781	1777	1550
Q Serve(g_s), s	4.6	0.5	4.3	3.1	0.0	0.0	13.7	70.0	70.0	1.2	58.0	4.0
Cycle Q Clear(g_c), s	8.8	0.5	4.3	4.2	0.0	0.0	13.7	70.0	70.0	1.2	58.0	4.0
Prop In Lane	1.00		1.00	0.64		0.29	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	246	216	183	227	0	0	254	1250	1306	39	2072	904
V/C Ratio(X)	0.57	0.05	0.40	0.30	0.00	0.00	0.97	1.40	1.41	0.53	1.16	0.15
Avail Cap(c_a), veh/h	532	602	510	518	0	0	254	1250	1306	90	2072	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	39.1	40.8	40.7	0.0	0.0	42.4	14.7	14.7	48.1	20.7	9.5
Incr Delay (d2), s/veh	2.1	0.1	1.4	0.7	0.0	0.0	47.1	183.5	188.0	4.1	79.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.2	1.7	1.6	0.0	0.0	8.9	81.4	86.6	0.5	41.6	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.7	39.2	42.3	41.4	0.0	0.0	89.5	198.2	202.7	52.2	100.4	9.6
LnGrp LOS	D	D	D	D	A	A	F	F	F	D	F	A
Approach Vol, veh/h		226			69			3830			2568	
Approach Delay, s/veh		43.6			41.4			193.4			95.2	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	76.5		16.2	18.8	64.5		16.2				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	14.2	58.0		* 32				
Max Q Clear Time (g_c+I1), s	3.2	72.0		10.8	15.7	60.0		6.2				
Green Ext Time (p_c), s	0.0	0.0		0.6	0.0	0.0		0.3				

Intersection Summary

HCM 6th Ctrl Delay	149.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 8.2:

**EAPC (2028) ALTERNATIVE ACCESS CONDITIONS INTERSECTION OPERATIONS
ANALYSIS WORKSHEETS**

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Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Traffic Vol, veh/h	23	322	0	11	243	7	0	0	39	15	0	53
Future Vol, veh/h	23	322	0	11	243	7	0	0	39	15	0	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	350	0	12	264	8	0	0	42	16	0	58

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	272	0	0	350	0	0	556	696	175	517	692	136
Stage 1	-	-	-	-	-	-	400	400	-	292	292	-
Stage 2	-	-	-	-	-	-	156	296	-	225	400	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1288	-	-	1206	-	-	414	364	838	441	366	888
Stage 1	-	-	-	-	-	-	597	600	-	692	670	-
Stage 2	-	-	-	-	-	-	831	667	-	757	600	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1288	-	-	1206	-	-	378	353	838	409	355	888
Mov Cap-2 Maneuver	-	-	-	-	-	-	378	353	-	500	442	-
Stage 1	-	-	-	-	-	-	586	589	-	679	663	-
Stage 2	-	-	-	-	-	-	769	660	-	705	589	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.3			9.5			10.3		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	838	1288	-	-	1206	-	-	758
HCM Lane V/C Ratio	0.051	0.019	-	-	0.01	-	-	0.098
HCM Control Delay (s)	9.5	7.8	-	-	8	-	-	10.3
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.3

Intersection						
Int Delay, s/veh	5.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	121	255	159	69	147	101
Future Vol, veh/h	121	255	159	69	147	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	277	173	75	160	110

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	248	0	-	0	614
Stage 1	-	-	-	-	211
Stage 2	-	-	-	-	403
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	1315	-	-	-	424
Stage 1	-	-	-	-	804
Stage 2	-	-	-	-	644
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1315	-	-	-	382
Mov Cap-2 Maneuver	-	-	-	-	484
Stage 1	-	-	-	-	724
Stage 2	-	-	-	-	644

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1315	-	-	-	597
HCM Lane V/C Ratio	0.1	-	-	-	0.452
HCM Control Delay (s)	8	-	-	-	15.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.3

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	402	179	109	0	49
Future Vol, veh/h	0	402	179	109	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	437	195	118	0	53

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	- 157
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	- 3.32
Pot Cap-1 Maneuver	0	-	-	-	0 861
Stage 1	0	-	-	-	0 -
Stage 2	0	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	- 861
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	861
HCM Lane V/C Ratio	-	-	-	0.062
HCM Control Delay (s)	-	-	-	9.5
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	↗
Traffic Vol, veh/h	0	120	0	1614	2310	68
Future Vol, veh/h	0	120	0	1614	2310	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	130	0	1754	2511	74

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	1256	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	163	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	163	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

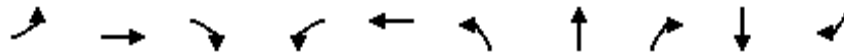
Approach	EB	NB	SB
HCM Control Delay, s	82	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	-	163	-
HCM Lane V/C Ratio	-	0.8	-
HCM Control Delay (s)	-	82	-
HCM Lane LOS	-	F	-
HCM 95th %tile Q(veh)	-	5.2	-

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations											
Traffic Volume (vph)	240	28	106	10	1	149	1345	11	2337	94	
Future Volume (vph)	240	28	106	10	1	149	1345	11	2337	94	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4			8	5	2		6		1
Permitted Phases	4		4	8				2		6	
Detector Phase	4	4	4	8	8	5	2	2	6	6	
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	47.7	47.7	9.6	62.7	62.7	62.7	62.7	9.6
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.0%	52.3%	52.3%	52.3%	52.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)	23.7	23.7	23.7		23.7	5.0	66.1	66.1	56.4	56.4	
Actuated g/C Ratio	0.23	0.23	0.23		0.23	0.05	0.65	0.65	0.56	0.56	
v/c Ratio	0.78	0.07	0.26		0.03	1.81	0.62	0.01	1.26	0.11	
Control Delay	52.7	29.0	10.7		28.3	437.6	12.7	0.0	143.9	6.6	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.7	29.0	10.7		28.3	437.6	12.7	0.0	143.9	6.6	
LOS	D	C	B		C	F	B	A	F	A	
Approach Delay		39.0			28.3		54.8		138.6		
Approach LOS		D			C		D		F		

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 101
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.81
 Intersection Signal Delay: 100.5
 Intersection Capacity Utilization 99.6%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service F

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	28	106	10	1	0	149	1345	11	0	2337	94
Future Volume (veh/h)	240	28	106	10	1	0	149	1345	11	0	2337	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	255	30	109	11	1	0	159	1431	12	0	2486	100
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	369	380	322	295	24	0	92	2420	1079	2	2067	922
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.00	0.05	0.68	0.68	0.00	0.58	0.58
Sat Flow, veh/h	1416	1870	1585	1103	118	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	255	30	109	12	0	0	159	1431	12	0	2486	100
Grp Sat Flow(s),veh/h/ln	1416	1870	1585	1221	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	14.6	1.3	5.7	0.5	0.0	0.0	5.0	20.8	0.2	0.0	56.2	2.7
Cycle Q Clear(g_c), s	16.4	1.3	5.7	1.7	0.0	0.0	5.0	20.8	0.2	0.0	56.2	2.7
Prop In Lane	1.00		1.00	0.92		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	369	380	322	319	0	0	92	2420	1079	2	2067	922
V/C Ratio(X)	0.69	0.08	0.34	0.04	0.00	0.00	1.72	0.59	0.01	0.00	1.20	0.11
Avail Cap(c_a), veh/h	711	832	705	630	0	0	92	2420	1079	92	2067	922
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	31.2	32.9	31.5	0.0	0.0	45.8	8.2	5.0	0.0	20.2	9.0
Incr Delay (d2), s/veh	2.3	0.1	0.6	0.0	0.0	0.0	367.4	0.4	0.0	0.0	96.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.6	2.2	0.2	0.0	0.0	11.5	5.6	0.1	0.0	45.4	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	31.3	33.6	31.5	0.0	0.0	413.2	8.6	5.0	0.0	116.3	9.1
LnGrp LOS	D	C	C	C	A	A	F	A	A	A	F	A
Approach Vol, veh/h		394			12			1602			2586	
Approach Delay, s/veh		37.1			31.5			48.7			112.2	
Approach LOS		D			C			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	72.3		24.3	9.6	62.7		24.3				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	5.0	56.2		* 43				
Max Q Clear Time (g_c+I1), s	0.0	22.8		18.4	7.0	58.2		3.7				
Green Ext Time (p_c), s	0.0	11.9		1.3	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	83.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕		↵	↕			↕			↕	↕
Traffic Vol, veh/h	34	302	1	9	366	10	1	0	11	6	0	22
Future Vol, veh/h	34	302	1	9	366	10	1	0	11	6	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	328	1	10	398	11	1	0	12	7	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	409	0	0	329	0	0	622	832	165	662	827	205
Stage 1	-	-	-	-	-	-	403	403	-	424	424	-
Stage 2	-	-	-	-	-	-	219	429	-	238	403	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1146	-	-	1227	-	-	371	303	850	347	305	802
Stage 1	-	-	-	-	-	-	595	598	-	578	585	-
Stage 2	-	-	-	-	-	-	763	582	-	744	598	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1146	-	-	1227	-	-	349	291	850	332	293	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	349	291	-	432	396	-
Stage 1	-	-	-	-	-	-	576	579	-	560	580	-
Stage 2	-	-	-	-	-	-	734	577	-	710	579	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0.2			9.8			10.6		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	759	1146	-	-	1227	-	-	678
HCM Lane V/C Ratio	0.017	0.032	-	-	0.008	-	-	0.045
HCM Control Delay (s)	9.8	8.2	-	-	8	-	-	10.6
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	10.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	142	176	324	80	238	61
Future Vol, veh/h	142	176	324	80	238	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	154	191	352	87	259	66

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	439	0	-	0	800 220
Stage 1	-	-	-	-	396 -
Stage 2	-	-	-	-	404 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	1117	-	-	-	322 784
Stage 1	-	-	-	-	649 -
Stage 2	-	-	-	-	643 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1117	-	-	-	278 784
Mov Cap-2 Maneuver	-	-	-	-	399 -
Stage 1	-	-	-	-	559 -
Stage 2	-	-	-	-	643 -

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	32.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1117	-	-	-	443
HCM Lane V/C Ratio	0.138	-	-	-	0.734
HCM Control Delay (s)	8.7	-	-	-	32.4
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.5	-	-	-	5.9

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	414	361	225	0	43
Future Vol, veh/h	0	414	361	225	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	450	392	245	0	47

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	- 319
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	- 3.32
Pot Cap-1 Maneuver	0	-	-	-	0 677
Stage 1	0	-	-	-	0 -
Stage 2	0	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	- 677
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	677
HCM Lane V/C Ratio	-	-	-	0.069
HCM Control Delay (s)	-	-	-	10.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	↗
Traffic Vol, veh/h	0	170	0	2527	1928	141
Future Vol, veh/h	0	170	0	2527	1928	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	185	0	2747	2096	153

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	1048	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	224	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	224	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	68.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	224	-	-
HCM Lane V/C Ratio	-	0.825	-	-
HCM Control Delay (s)	-	68.4	-	-
HCM Lane LOS	-	F	-	-
HCM 95th %tile Q(veh)	-	6.2	-	-

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/22/2021

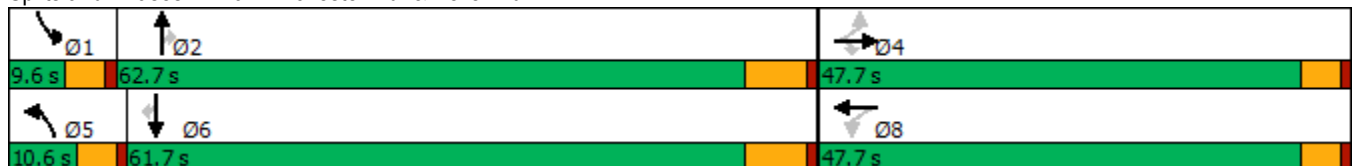


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	238	14	52	11	21	215	2280	98	6	1854	238
Future Volume (vph)	238	14	52	11	21	215	2280	98	6	1854	238
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5
Total Split (s)	47.7	47.7	47.7	47.7	47.7	10.6	62.7	62.7	9.6	61.7	61.7
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.8%	52.3%	52.3%	8.0%	51.4%	51.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	24.0	24.0	24.0		24.0	6.0	64.4	64.4	5.0	55.5	55.5
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.06	0.64	0.64	0.05	0.55	0.55
v/c Ratio	0.79	0.03	0.13		0.11	2.18	1.08	0.10	0.07	1.02	0.27
Control Delay	53.8	28.2	4.5		24.1	588.1	65.3	2.9	51.5	49.8	6.7
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	28.2	4.5		24.1	588.1	65.3	2.9	51.5	49.8	6.7
LOS	D	C	A		C	F	E	A	D	D	A
Approach Delay		44.2			24.1		106.3			44.9	
Approach LOS		D			C		F			D	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 101.4
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.18
 Intersection Signal Delay: 76.3
 Intersection Capacity Utilization 100.2%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service G

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	14	52	11	21	9	215	2280	98	6	1854	238
Future Volume (veh/h)	238	14	52	11	21	9	215	2280	98	6	1854	238
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	15	49	12	22	7	229	2426	103	6	1972	251
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	380	322	122	208	58	111	2222	970	14	2029	905
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.06	0.63	0.63	0.01	0.57	0.57
Sat Flow, veh/h	1381	1870	1585	363	1025	286	1781	3554	1551	1781	3554	1585
Grp Volume(v), veh/h	253	15	49	41	0	0	229	2426	103	6	1972	251
Grp Sat Flow(s),veh/h/ln	1381	1870	1585	1674	0	0	1781	1777	1551	1781	1777	1585
Q Serve(g_s), s	14.8	0.6	2.5	0.0	0.0	0.0	6.0	60.3	2.6	0.3	51.6	7.8
Cycle Q Clear(g_c), s	16.6	0.6	2.5	1.8	0.0	0.0	6.0	60.3	2.6	0.3	51.6	7.8
Prop In Lane	1.00		1.00	0.29		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	362	380	322	388	0	0	111	2222	970	14	2029	905
V/C Ratio(X)	0.70	0.04	0.15	0.11	0.00	0.00	2.07	1.09	0.11	0.44	0.97	0.28
Avail Cap(c_a), veh/h	698	834	707	784	0	0	111	2222	970	92	2034	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	30.9	31.6	31.3	0.0	0.0	45.2	18.1	7.2	47.6	20.0	10.6
Incr Delay (d2), s/veh	2.4	0.0	0.2	0.1	0.0	0.0	509.7	49.3	0.0	7.9	13.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.3	1.0	0.8	0.0	0.0	18.2	33.1	0.7	0.2	20.5	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	30.9	31.8	31.5	0.0	0.0	554.9	67.3	7.3	55.6	33.9	10.7
LnGrp LOS	D	C	C	C	A	A	F	F	A	E	C	B
Approach Vol, veh/h		317			41			2758			2229	
Approach Delay, s/veh		37.9			31.5			105.6			31.3	
Approach LOS		D			C			F			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	66.8		24.3	10.6	61.6		24.3				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	6.0	55.2		* 43				
Max Q Clear Time (g_c+I1), s	2.3	62.3		18.6	8.0	53.6		3.8				
Green Ext Time (p_c), s	0.0	0.0		1.0	0.0	1.5		0.2				

Intersection Summary

HCM 6th Ctrl Delay	70.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 8.3:

EAPC (2028) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAPC (2028) Conditions - Weekday PM Peak Hour**

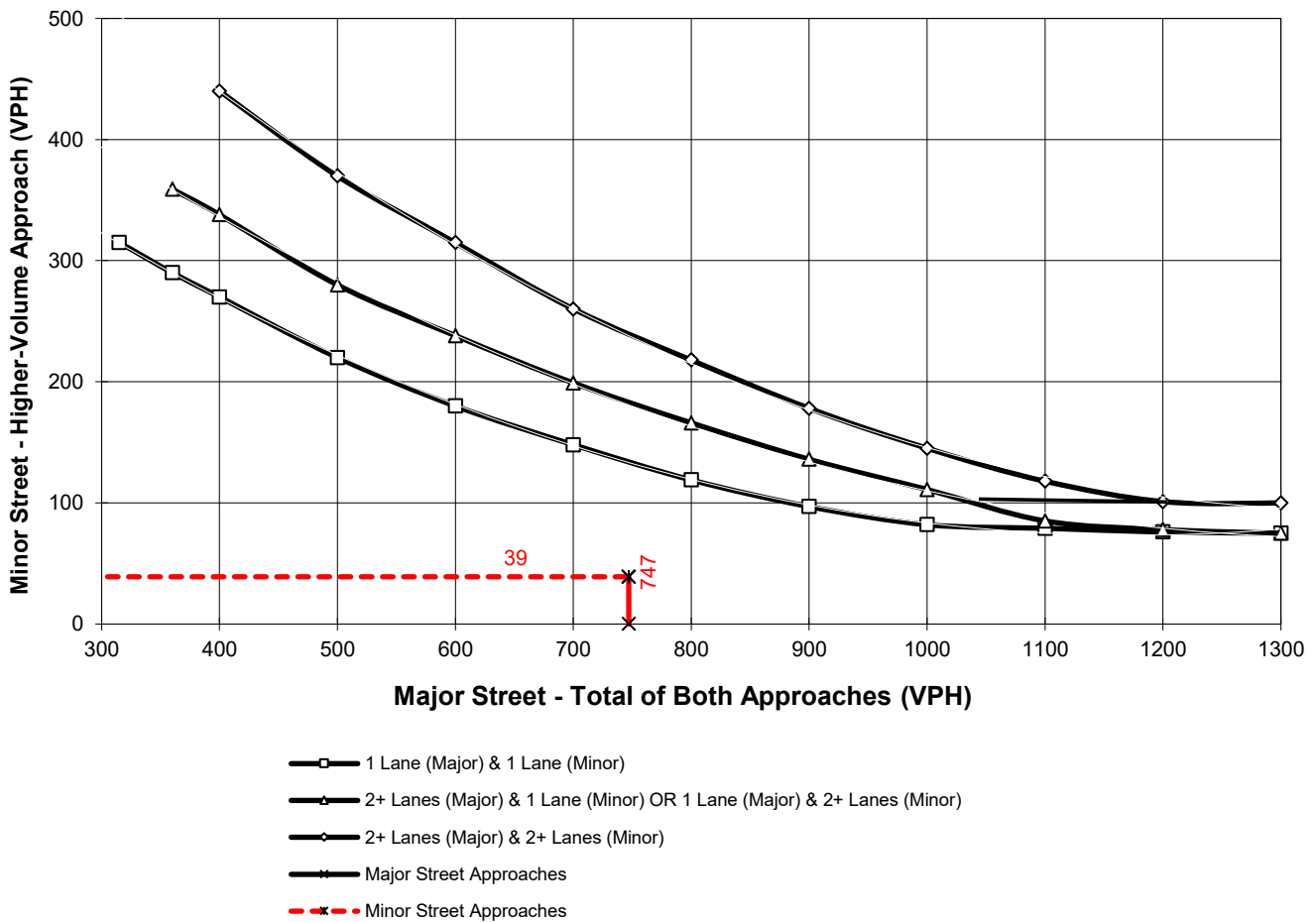
Major Street Name = **Keller Rd.**

Total of Both Approaches (VPH) = **747**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pourroy Rd.**

High Volume Approach (VPH) = **39**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAPC (2023) Conditions - Weekday AM Peak Hour**

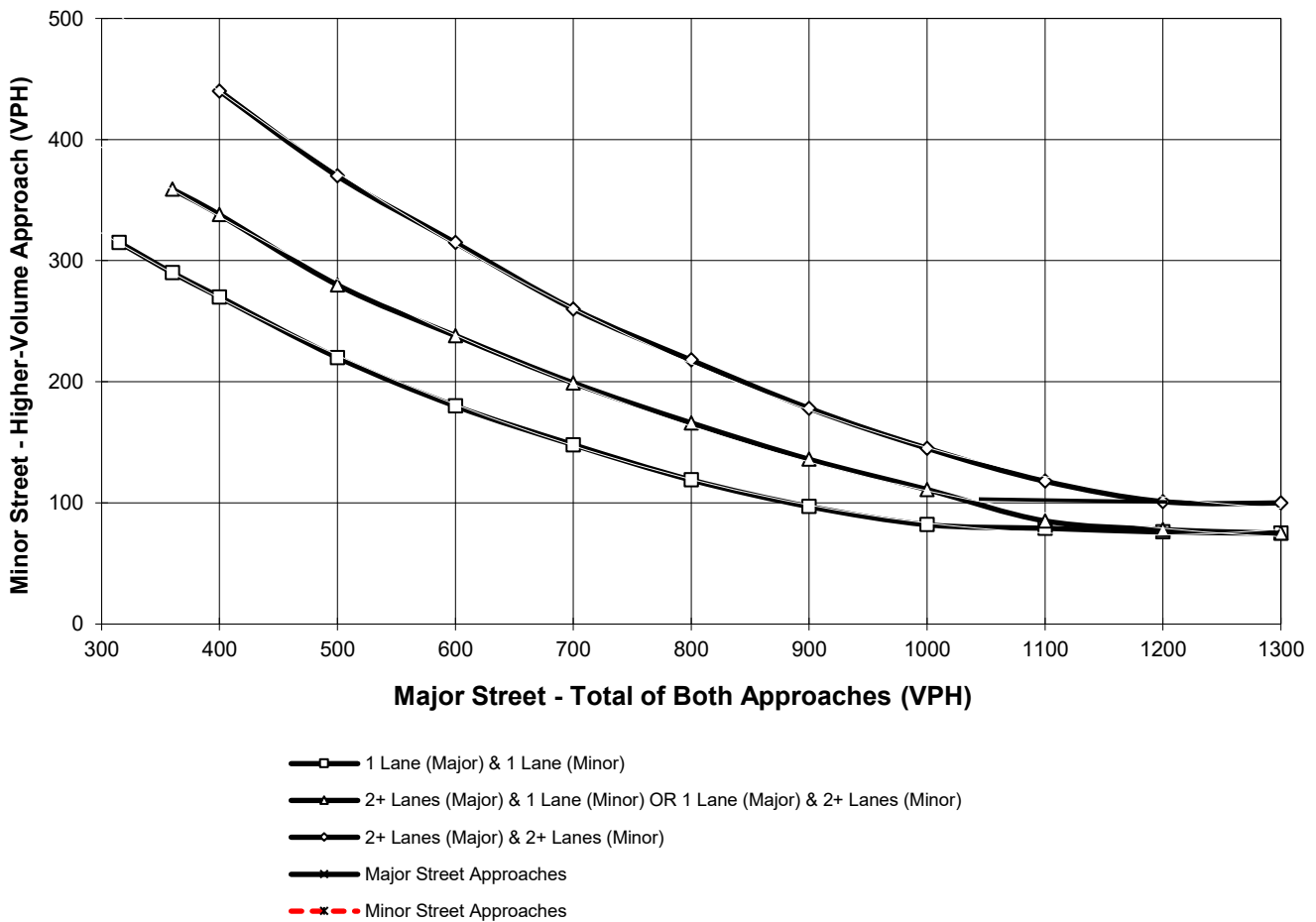
Major Street Name = **Pourroy Rd.**

Total of Both Approaches (VPH) = **223**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pat Rd.**

High Volume Approach (VPH) = **113**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

	<u> </u>	<u> </u>	<u> </u>		TRAFFIC CONDITIONS	EAPC (2028)
DIST	CO	RTE	PM	CALC	<u>CP</u>	DATE
Jurisdiction: <u>County of Riverside</u>				CHK	<u>CP</u>	DATE
Major Street: <u>Keller Rd.</u>				Critical Approach Speed (Major)		<u>45</u> mph
Minor Street: <u>Street A</u>				Critical Approach Speed (Minor)		<u>25</u> mph
Major Street Approach Lanes = <u>1</u> lane				Minor Street Approach Lanes: <u>1</u> lane		
Major Street Future ADT = <u>7,556</u> vpd				Minor Street Future ADT = <u>379</u> vpd		
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input checked="" type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
CONDITION A - Minimum Vehicular Volume <u>Satisfied</u> <u>Not Satisfied</u> XX		EADT			
		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 7,556	1 379	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic <u>Satisfied</u> <u>Not Satisfied</u> XX		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 7,556	1 379	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B <u>Satisfied</u> <u>Not Satisfied</u> XX No one condition satisfied, but following conditions fulfilled 80% of more		2 CONDITIONS 80%		2 CONDITIONS 80%	
		<u>A</u>		<u>B</u>	
		23%		45%	

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>EAPC (2028)</u>
Jurisdiction: <u>County of Riverside</u>				<u>CP</u>		<u>DATE 12/14/11</u>
Major Street: <u>Keller Rd.</u>				<u>CP</u>		<u>DATE 12/14/11</u>
Minor Street: <u>Street B</u>					Critical Approach Speed (Major) <u>45 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes =		<u>1</u> lane
Major Street Future ADT =		<u>7,404</u>	vpd	Minor Street Future ADT =		<u>2,220</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input checked="" type="checkbox"/>	
					or	RURAL (R)
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	<u>Minimum Requirements</u>			
	XX	<u>EADT</u>			
CONDITION A - Minimum Vehicular Volume		<u>Vehicles Per Day on Major Street</u>		<u>Vehicles Per Day on Higher-Volume Minor Street Approach</u>	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>(Total of Both Approaches)</u>		<u>(One Direction Only)</u>	
XX		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 7,404	1 2,220	8,000	5,600 *	2,400	1,680 *
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		<u>Vehicles Per Day on Major Street</u>		<u>Vehicles Per Day on Higher-Volume Minor Street Approach</u>	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>(Total of Both Approaches)</u>		<u>(One Direction Only)</u>	
XX		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 7,404	1 2,220	12,000	8,400	1,200	850 *
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		<u>2 CONDITIONS</u>		<u>2 CONDITIONS</u>	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>	<u>B</u>			
	100%	88%			

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



APPENDIX 8.4:

**EAPC (2028) ALTERNATIVE ACCESS CONDITIONS TRAFFIC SIGNAL WARRANT
ANALYSIS WORKSHEETS**

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>CP</u>	TRAFFIC CONDITIONS	P (2028) - Alternat
Jurisdiction: <u>County of Riverside</u>				CHK <u>CP</u>		DATE <u>12/14/11</u>
Major Street: <u>Keller Rd.</u>					Critical Approach Speed (Major)	<u>45</u> mph
Minor Street: <u>Street A</u>					Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u>	lane
Major Street Future ADT =		<u>7,649</u>	vpd	Minor Street Future ADT =	<u>378</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input checked="" type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	XX <u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 7,649</u>	<u>1 378</u>				
2 +	1	8,000	5,600 *	2,400	1,680
2 +	2 +	9,600	6,720	2,400	1,680
1	2 +	9,600	6,720	3,200	2,240
		8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	XX <u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 7,649</u>	<u>1 378</u>				
2 +	1	12,000	8,400	1,200	850
2 +	2 +	14,400	10,080	1,200	850
1	2 +	14,400	10,080	1,600	1,120
		12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	XX <u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	23%				
	<u>B</u>				
	44%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	<u>EAP (2023)</u>
Jurisdiction: <u>County of Riverside</u>				CALC <u>CP</u>	DATE <u>12/14/11</u>
Major Street: <u>Keller Rd.</u>				CHK <u>CP</u>	DATE <u>12/14/11</u>
Minor Street: <u>Street B</u>				Critical Approach Speed (Major) <u>45</u> mph	
				Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes =	<u>1</u>	lane	Minor Street Approach Lanes:	<u>1</u>	lane
Major Street Future ADT =	<u>7,072</u>	vpd	Minor Street Future ADT =	<u>1,795</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input checked="" type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 7,072</u>	<u>1 1,795</u>				
<u>2+</u>	<u>1</u>	8,000	5,600 *	2,400	1,680 *
<u>2+</u>	<u>2+</u>	9,600	6,720	2,400	1,680
<u>1</u>	<u>2+</u>	9,600	6,720	3,200	2,240
		8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 7,072</u>	<u>1 1,795</u>				
<u>2+</u>	<u>1</u>	12,000	8,400	1,200	850 *
<u>2+</u>	<u>2+</u>	14,400	10,080	1,200	850
<u>1</u>	<u>2+</u>	14,400	10,080	1,600	1,120
		12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	100%				
	<u>B</u>				
	84%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



APPENDIX 8.5:

EAPC (2028) CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Queues

1: I-215 SB Ramps & Scott Rd.

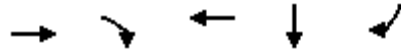


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	967	810	1223	1043	1067	152	151
v/c Ratio	0.50	0.66	0.63	0.78	0.84	0.25	0.25
Control Delay	15.0	3.7	17.3	5.5	38.0	15.6	15.6
Queue Delay	0.0	0.0	0.2	0.4	0.0	0.0	0.0
Total Delay	15.0	3.7	17.5	5.9	38.0	15.6	15.6
Queue Length 50th (ft)	209	0	293	0	324	37	36
Queue Length 95th (ft)	241	34	332	33	463	94	94
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	2589	1375	2589	1438	1461	680	680
Starvation Cap Reductn	0	0	572	98	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.59	0.61	0.78	0.73	0.22	0.22

Intersection Summary

Queues

2: I-215 SB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1839	593	1668	470	973
v/c Ratio	0.71	0.55	0.64	0.72	0.92
Control Delay	22.3	3.2	20.8	39.1	48.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	3.2	20.8	39.1	48.7
Queue Length 50th (ft)	353	0	304	301	384
Queue Length 95th (ft)	405	51	351	458	#578
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	3015	1157	3015	657	1054
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.51	0.55	0.72	0.92

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	229	1695	1810	1185	214	213	166	165
v/c Ratio	1.58	0.60	0.64	0.80	0.87	0.87	0.71	0.71
Control Delay	311.3	4.8	5.3	5.0	67.4	66.7	50.5	50.1
Queue Delay	0.0	0.8	2.2	2.3	0.0	0.0	0.0	0.0
Total Delay	311.3	5.6	7.4	7.3	67.4	66.7	50.5	50.1
Queue Length 50th (ft)	~132	178	203	10	120	118	87	86
Queue Length 95th (ft)	#295	215	245	32	#284	#282	#204	#203
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	158	3097	3097	1521	247	247	237	237
Starvation Cap Reductn	0	967	1095	207	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.45	0.80	0.90	0.90	0.87	0.86	0.70	0.70

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

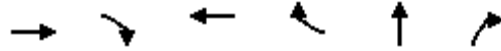
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

4: I-215 NB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	1466	789	2366	397	576	545
v/c Ratio	0.57	0.51	0.91	0.42	0.92	0.92
Control Delay	21.4	1.2	33.8	6.0	53.5	55.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	1.2	33.8	6.0	53.5	55.2
Queue Length 50th (ft)	285	0	613	39	411	388
Queue Length 95th (ft)	332	0	#697	105	#640	#616
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	2587	1548	2587	952	669	629
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.51	0.91	0.42	0.86	0.87

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	287	30	194	12	159	1431	12	2359	172
v/c Ratio	0.80	0.06	0.41	0.03	1.87	0.64	0.01	1.23	0.19
Control Delay	52.6	27.9	18.7	27.1	464.2	14.7	0.0	133.4	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	27.9	18.7	27.1	464.2	14.7	0.0	133.4	8.0
Queue Length 50th (ft)	178	15	55	6	~162	283	0	~1025	26
Queue Length 95th (ft)	274	37	116	20	#328	481	0	#1381	76
Internal Link Dist (ft)		125		754		1334		662	
Turn Bay Length (ft)	100				530		530		540
Base Capacity (vph)	579	772	709	661	85	2245	1025	1917	897
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.04	0.27	0.02	1.87	0.64	0.01	1.23	0.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

1: I-215 SB Ramps & Scott Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1419	519	1850	672	1424	159	158
v/c Ratio	0.78	0.50	1.01	0.59	1.00	0.25	0.25
Control Delay	27.1	4.0	53.3	3.5	58.0	22.8	22.7
Queue Delay	0.0	0.0	34.2	0.6	0.0	0.0	0.0
Total Delay	27.1	4.0	87.5	4.1	58.0	22.8	22.7
Queue Length 50th (ft)	450	17	~755	0	557	77	77
Queue Length 95th (ft)	543	76	#933	57	#725	131	130
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	1828	1046	1828	1142	1430	631	631
Starvation Cap Reductn	0	0	389	181	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.50	1.29	0.70	1.00	0.25	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

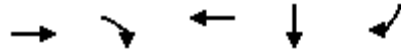
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

2: I-215 SB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1945	415	1514	564	799
v/c Ratio	0.81	0.44	0.63	0.79	0.70
Control Delay	28.6	3.5	23.6	37.5	29.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	3.5	23.6	37.5	29.4
Queue Length 50th (ft)	434	0	297	354	259
Queue Length 95th (ft)	545	56	379	495	336
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	2609	979	2609	875	1394
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.42	0.58	0.64	0.57

Intersection Summary

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	273	2540	1701	1134	594	594	398	397
v/c Ratio	2.70	1.06	0.71	0.80	1.50	1.50	0.96	0.96
Control Delay	810.3	58.8	14.3	5.7	272.2	272.2	75.6	75.0
Queue Delay	0.0	15.7	48.2	2.8	0.0	0.0	0.0	0.0
Total Delay	810.3	74.6	62.5	8.6	272.2	272.2	75.6	75.0
Queue Length 50th (ft)	~282	~1141	395	10	~672	~672	296	295
Queue Length 95th (ft)	#457	#1273	475	53	#912	#912	#509	#507
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	101	2388	2388	1423	395	395	415	415
Starvation Cap Reductn	0	355	910	186	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.70	1.25	1.15	0.92	1.50	1.50	0.96	0.96

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

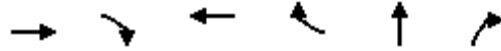
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

4: I-215 NB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	1814	702	2157	398	906	839
v/c Ratio	0.90	0.45	1.07	0.51	1.11	1.10
Control Delay	41.5	1.0	77.9	10.6	95.9	93.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	1.0	77.9	10.6	95.9	93.5
Queue Length 50th (ft)	477	0	~679	62	~833	~765
Queue Length 95th (ft)	547	0	#774	153	#1097	#1026
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	2012	1548	2012	779	815	761
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.45	1.07	0.51	1.11	1.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	253	15	236	44	229	2426	104	6	1791	403
v/c Ratio	0.78	0.03	0.52	0.11	2.20	1.08	0.10	0.07	0.93	0.41
Control Delay	52.5	27.9	23.2	23.9	593.7	67.3	3.0	51.8	32.7	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	27.9	23.2	23.9	593.7	67.3	3.0	51.8	32.7	6.7
Queue Length 50th (ft)	153	8	77	17	~240	~913	0	4	535	44
Queue Length 95th (ft)	242	23	149	44	#434	#1377	29	19	#885	131
Internal Link Dist (ft)		125		754		1334			662	
Turn Bay Length (ft)	100				530		530	540		540
Base Capacity (vph)	575	790	726	730	104	2238	1016	87	1928	981
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.02	0.33	0.06	2.20	1.08	0.10	0.07	0.93	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

APPENDIX 8.6:

EAPC (2028) ALTERNATIVE ACCESS CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	255	30	113	12	159	1431	12	2486	100
v/c Ratio	0.78	0.07	0.26	0.03	1.81	0.62	0.01	1.26	0.11
Control Delay	52.7	29.0	10.7	28.3	437.6	12.7	0.0	143.9	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	29.0	10.7	28.3	437.6	12.7	0.0	143.9	6.6
Queue Length 50th (ft)	154	15	12	6	~154	250	0	~1051	12
Queue Length 95th (ft)	243	38	53	20	#314	430	0	#1392	44
Internal Link Dist (ft)		125		754		1334		662	
Turn Bay Length (ft)	100				530		530		540
Base Capacity (vph)	597	796	728	677	88	2315	1055	1977	909
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.04	0.16	0.02	1.81	0.62	0.01	1.26	0.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	253	15	55	44	229	2426	104	6	1972	253
v/c Ratio	0.79	0.03	0.13	0.11	2.18	1.08	0.10	0.07	1.02	0.27
Control Delay	53.8	28.2	4.5	24.1	588.1	65.3	2.9	51.5	49.8	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	28.2	4.5	24.1	588.1	65.3	2.9	51.5	49.8	6.7
Queue Length 50th (ft)	153	8	0	17	~237	~897	0	4	~668	31
Queue Length 95th (ft)	243	23	19	44	#432	#1362	28	19	#1017	90
Internal Link Dist (ft)		125		754		1334			662	
Turn Bay Length (ft)	100				530		530	540		540
Base Capacity (vph)	578	794	717	734	105	2248	1020	87	1936	933
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.02	0.08	0.06	2.18	1.08	0.10	0.07	1.02	0.27

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

APPENDIX 8.7:

**EAPC (2028) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS
WITH IMPROVEMENTS**

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Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↑↑↑	↑↑↑	↗	↖	↗	↖	↗
Traffic Volume (vph)	208	1542	1647	1078	0	389	0	301
Future Volume (vph)	208	1542	1647	1078	0	389	0	301
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	88.0	88.0	88.0	88.0	32.0	32.0	32.0	32.0
Total Split (%)	73.3%	73.3%	73.3%	73.3%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	84.2	84.2	84.2	84.2	18.2	18.2	18.2	18.2
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.16	0.16	0.16	0.16
v/c Ratio	3.42	0.44	0.65	0.56	0.76	0.75	0.60	0.60
Control Delay	1142.9	5.7	7.6	2.4	51.9	51.6	43.0	42.8
Queue Delay	0.0	0.4	8.5	1.6	0.0	0.0	0.0	0.0
Total Delay	1142.9	6.1	16.1	4.0	51.9	51.6	43.0	42.8
LOS	F	A	B	A	D	D	D	D
Approach Delay		141.4	13.4		51.8		42.9	
Approach LOS		F	B		D		D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 110.5	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.42	
Intersection Signal Delay: 61.4	Intersection LOS: E
Intersection Capacity Utilization 74.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑			↑↑↑	↗		↗	↗		↗	↗
Traffic Volume (veh/h)	208	1542	0	0	1647	1078	0	0	389	0	0	301
Future Volume (veh/h)	208	1542	0	0	1647	1078	0	0	389	0	0	301
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	229	1695	0	0	2326	718	0	0	406	0	0	179
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	113	3942	0	0	4332	1224	0	289	489	0	289	489
Arrive On Green	0.77	0.77	0.00	0.00	0.77	0.77	0.00	0.00	0.15	0.00	0.00	0.15
Sat Flow, veh/h	76	5274	0	0	5611	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	229	1695	0	0	2326	718	0	0	406	0	0	179
Grp Sat Flow(s),veh/h/ln	76	1702	0	0	1870	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	66.4	12.3	0.0	0.0	17.6	20.5	0.0	0.0	13.5	0.0	0.0	5.5
Cycle Q Clear(g_c), s	84.0	12.3	0.0	0.0	17.6	20.5	0.0	0.0	13.5	0.0	0.0	5.5
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	113	3942	0	0	4332	1224	0	289	489	0	289	489
V/C Ratio(X)	2.04	0.43	0.00	0.00	0.54	0.59	0.00	0.00	0.83	0.00	0.00	0.37
Avail Cap(c_a), veh/h	113	3942	0	0	4332	1224	0	481	816	0	481	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	40.7	4.2	0.0	0.0	4.8	5.2	0.0	0.0	44.6	0.0	0.0	41.2
Incr Delay (d2), s/veh	495.5	0.1	0.0	0.0	0.1	0.7	0.0	0.0	3.7	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.5	2.8	0.0	0.0	4.4	4.6	0.0	0.0	5.4	0.0	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	536.2	4.3	0.0	0.0	5.0	5.9	0.0	0.0	48.3	0.0	0.0	41.7
LnGrp LOS	F	A	A	A	A	A	A	A	D	A	A	D
Approach Vol, veh/h		1924			3044			406				179
Approach Delay, s/veh		67.6			5.2			48.3				41.7
Approach LOS		E			A			D				D
Timer - Assigned Phs		2		4		6			8			
Phs Duration (G+Y+Rc), s		20.8		88.0		20.8		88.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		28.0		84.0		28.0		84.0				
Max Q Clear Time (g_c+I1), s		15.5		86.0		7.5		22.5				
Green Ext Time (p_c), s		1.3		0.0		0.6		42.6				

Intersection Summary

HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings
5: Antelope Rd. & Scott Rd.

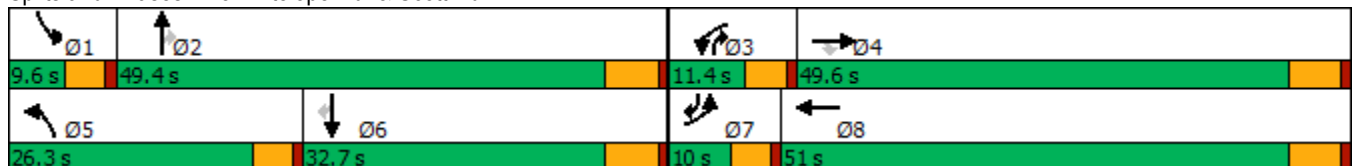
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	141	1286	503	79	1918	382	47	67	100	152	426	
Future Volume (vph)	141	1286	503	79	1918	382	47	67	100	152	426	
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	
Protected Phases	7	4		3	8	5	2	3	1	6	7	
Permitted Phases			4					2			6	
Detector Phase	7	4	4	3	8	5	2	3	1	6	7	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6	
Total Split (s)	10.0	49.6	49.6	11.4	51.0	26.3	49.4	11.4	9.6	32.7	10.0	
Total Split (%)	8.3%	41.3%	41.3%	9.5%	42.5%	21.9%	41.2%	9.5%	8.0%	27.3%	8.3%	
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	5.4	44.4	44.4	6.3	45.3	16.2	20.5	29.3	9.8	10.8	22.0	
Actuated g/C Ratio	0.05	0.45	0.45	0.06	0.46	0.16	0.21	0.30	0.10	0.11	0.22	
v/c Ratio	0.81	0.61	0.37	0.39	0.94	0.74	0.07	0.14	0.32	0.43	0.65	
Control Delay	78.6	22.6	4.9	50.8	35.8	47.6	29.6	6.7	49.2	45.2	31.7	
Queue Delay	0.0	12.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	78.6	34.5	5.3	50.8	35.8	47.6	29.6	6.7	49.2	45.2	31.7	
LOS	E	C	A	D	D	D	C	A	D	D	C	
Approach Delay		30.1			36.4		40.4			37.3		
Approach LOS		C			D		D			D		

Intersection Summary




































Cycle Length: 120
 Actuated Cycle Length: 98.5
 Natural Cycle: 125
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 34.5
 Intersection LOS: C
 Intersection Capacity Utilization 80.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  	 	 	  		 	 		 	 	 
Traffic Volume (veh/h)	141	1286	503	79	1918	100	382	47	67	100	152	426
Future Volume (veh/h)	141	1286	503	79	1918	100	382	47	67	100	152	426
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	1398	405	86	2085	104	415	51	43	109	165	289
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	2376	1298	160	2274	113	494	807	433	169	472	525
Arrive On Green	0.06	0.47	0.47	0.05	0.46	0.46	0.14	0.23	0.23	0.05	0.13	0.13
Sat Flow, veh/h	3456	5106	2790	3456	4982	248	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	153	1398	405	86	1422	767	415	51	43	109	165	289
Grp Sat Flow(s),veh/h/ln	1728	1702	1395	1728	1702	1826	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	4.3	19.7	8.9	2.4	38.1	38.5	11.4	1.1	2.0	3.0	4.1	9.2
Cycle Q Clear(g_c), s	4.3	19.7	8.9	2.4	38.1	38.5	11.4	1.1	2.0	3.0	4.1	9.2
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	2376	1298	160	1554	833	494	807	433	169	472	525
V/C Ratio(X)	0.80	0.59	0.31	0.54	0.92	0.92	0.84	0.06	0.10	0.65	0.35	0.55
Avail Cap(c_a), veh/h	191	2376	1298	240	1573	844	767	1584	780	177	977	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	19.2	16.4	45.6	24.8	24.9	40.8	29.6	26.6	45.7	38.6	36.0
Incr Delay (d2), s/veh	19.9	0.4	0.1	1.1	8.7	15.1	2.9	0.0	0.1	5.6	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	7.1	2.6	1.0	15.5	18.3	4.8	0.5	0.7	1.4	1.8	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.5	19.6	16.5	46.7	33.5	40.0	43.7	29.7	26.7	51.3	39.0	36.9
LnGrp LOS	E	B	B	D	C	D	D	C	C	D	D	D
Approach Vol, veh/h		1956			2275			509			563	
Approach Delay, s/veh		22.6			36.2			40.9			40.3	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	28.0	9.1	51.3	18.6	18.8	10.0	50.4				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	43.6	6.8	43.8	21.7	26.9	5.4	45.2				
Max Q Clear Time (g_c+I1), s	5.0	4.0	4.4	21.7	13.4	11.2	6.3	40.5				
Green Ext Time (p_c), s	0.0	0.4	0.0	11.8	0.5	1.8	0.0	4.1				
Intersection Summary												
HCM 6th Ctrl Delay			32.1									
HCM 6th LOS			C									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

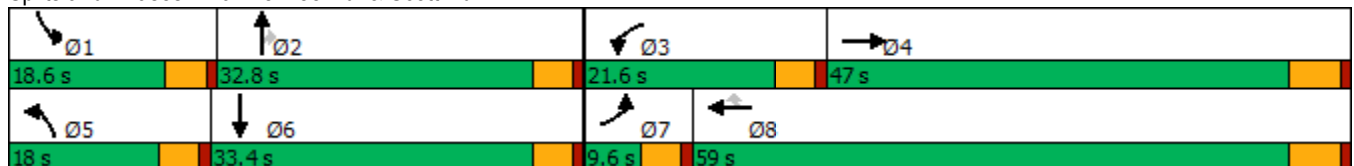


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↕↗	↖↗	↕↕↕	↖	↗	↕	↖	↖↗	↗
Traffic Volume (vph)	74	1268	369	1972	312	146	116	358	296	255
Future Volume (vph)	74	1268	369	1972	312	146	116	358	296	255
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	9.6	47.0	21.6	59.0	59.0	18.0	32.8	32.8	18.6	33.4
Total Split (%)	8.0%	39.2%	18.0%	49.2%	49.2%	15.0%	27.3%	27.3%	15.5%	27.8%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	5.1	39.1	15.6	52.2	52.2	12.3	24.6	24.6	13.0	25.3
Actuated g/C Ratio	0.05	0.35	0.14	0.46	0.46	0.11	0.22	0.22	0.12	0.23
v/c Ratio	0.50	0.81	0.82	0.88	0.38	0.80	0.30	0.74	0.78	0.86
Control Delay	67.4	37.9	62.7	34.0	6.6	79.4	39.9	27.5	64.4	61.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.4	37.9	62.7	34.0	6.6	79.4	39.9	27.5	64.4	61.6
LOS	E	D	E	C	A	E	D	C	E	E
Approach Delay		39.4		34.8			42.1			62.9
Approach LOS		D		C			D			E

Intersection Summary































Cycle Length: 120	
Actuated Cycle Length: 112.4	
Natural Cycle: 95	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 40.2	Intersection LOS: D
Intersection Capacity Utilization 85.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  					 		
Traffic Volume (veh/h)	74	1268	80	369	1972	312	146	116	358	296	255	83
Future Volume (veh/h)	74	1268	80	369	1972	312	146	116	358	296	255	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	1335	73	388	2076	315	154	122	270	312	268	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1869	102	450	2381	739	183	385	326	373	300	81
Arrive On Green	0.04	0.38	0.38	0.13	0.47	0.47	0.10	0.21	0.21	0.11	0.21	0.21
Sat Flow, veh/h	3456	4955	271	3456	5106	1585	1781	1870	1585	3456	1420	382
Grp Volume(v), veh/h	78	917	491	388	2076	315	154	122	270	312	0	340
Grp Sat Flow(s),veh/h/ln	1728	1702	1822	1728	1702	1585	1781	1870	1585	1728	0	1802
Q Serve(g_s), s	2.4	25.3	25.3	12.1	40.3	14.6	9.4	6.1	18.0	9.8	0.0	20.2
Cycle Q Clear(g_c), s	2.4	25.3	25.3	12.1	40.3	14.6	9.4	6.1	18.0	9.8	0.0	20.2
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	142	1284	687	450	2381	739	183	385	326	373	0	381
V/C Ratio(X)	0.55	0.71	0.71	0.86	0.87	0.43	0.84	0.32	0.83	0.84	0.00	0.89
Avail Cap(c_a), veh/h	157	1284	687	533	2463	765	216	476	404	439	0	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.9	29.3	29.3	47.0	26.5	19.6	48.6	37.2	41.9	48.2	0.0	42.3
Incr Delay (d2), s/veh	1.2	1.9	3.5	10.6	3.6	0.4	19.5	0.5	11.1	10.1	0.0	16.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	10.1	11.1	5.7	15.7	5.1	5.1	2.8	7.8	4.7	0.0	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.1	31.2	32.8	57.6	30.1	20.0	68.1	37.7	53.1	58.3	0.0	59.0
LnGrp LOS	D	C	C	E	C	B	E	D	D	E	A	E
Approach Vol, veh/h		1486			2779			546			652	
Approach Delay, s/veh		32.9			32.8			53.9			58.7	
Approach LOS		C			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.5	27.4	19.0	47.4	15.9	28.0	9.1	57.2				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	14.0	* 28	17.0	41.2	13.4	* 29	5.0	53.2				
Max Q Clear Time (g_c+I1), s	11.8	20.0	14.1	27.3	11.4	22.2	4.4	42.3				
Green Ext Time (p_c), s	0.2	1.0	0.2	7.3	0.0	1.1	0.0	9.1				

Intersection Summary

HCM 6th Ctrl Delay	38.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
7: Whitewood Rd. & Clinton Keith Rd.

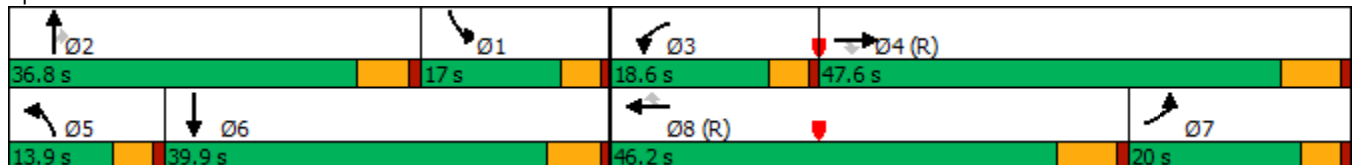
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	537	1389	191	298	1870	221	215	172	143	219	413
Future Volume (vph)	537	1389	191	298	1870	221	215	172	143	219	413
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	36.8	36.8	9.6	36.8
Total Split (s)	20.0	47.6	47.6	18.6	46.2	46.2	13.9	36.8	36.8	17.0	39.9
Total Split (%)	16.7%	39.7%	39.7%	15.5%	38.5%	38.5%	11.6%	30.7%	30.7%	14.2%	33.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	15.4	41.6	41.6	13.5	39.7	39.7	9.3	12.1	12.1	31.3	34.1
Actuated g/C Ratio	0.13	0.35	0.35	0.11	0.33	0.33	0.08	0.10	0.10	0.26	0.28
v/c Ratio	1.31	0.80	0.31	0.83	1.12	0.36	0.90	0.54	0.49	0.53	0.94
Control Delay	197.9	39.3	5.3	70.3	101.4	6.1	89.4	56.6	9.6	43.5	47.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	197.9	39.3	5.3	70.3	101.4	6.1	89.4	56.6	9.6	43.5	47.5
LOS	F	D	A	E	F	A	F	E	A	D	D
Approach Delay		76.5			88.7			57.2			46.8
Approach LOS		E			F			E			D

Intersection Summary



































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 75 (63%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.31
 Intersection Signal Delay: 74.0
 Intersection LOS: E
 Intersection Capacity Utilization 103.6%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

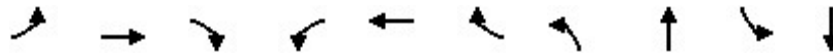
Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	 			 	
Traffic Volume (veh/h)	537	1389	191	298	1870	221	215	172	143	219	413	520
Future Volume (veh/h)	537	1389	191	298	1870	221	215	172	143	219	413	520
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	597	1543	151	331	2078	218	239	191	76	243	459	439
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1890	4312	1218	387	1856	524	268	299	133	477	505	450
Arrive On Green	0.53	0.77	0.77	0.11	0.33	0.33	0.08	0.08	0.08	0.27	0.28	0.28
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	3456	3554	1585	1781	1777	1585
Grp Volume(v), veh/h	597	1543	151	331	2078	218	239	191	76	243	459	439
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	11.3	10.5	2.9	11.0	39.7	12.8	8.2	6.2	6.9	13.9	29.9	32.9
Cycle Q Clear(g_c), s	11.3	10.5	2.9	11.0	39.7	12.8	8.2	6.2	6.9	13.9	29.9	32.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1890	4312	1218	387	1856	524	268	299	133	477	505	450
V/C Ratio(X)	0.32	0.36	0.12	0.86	1.12	0.42	0.89	0.64	0.57	0.51	0.91	0.97
Avail Cap(c_a), veh/h	1890	4312	1218	416	1856	524	268	918	409	477	505	450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	0.12	0.12	0.12	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	4.4	3.6	52.6	40.1	31.2	54.9	53.2	81.7	37.3	41.5	42.5
Incr Delay (d2), s/veh	0.0	0.2	0.1	2.0	54.8	0.3	28.2	2.3	3.8	0.4	20.4	35.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	2.7	0.7	4.8	26.3	4.7	4.5	2.8	2.3	5.9	15.4	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	4.6	3.7	54.6	95.0	31.4	83.1	55.5	85.5	37.7	61.8	78.2
LnGrp LOS	B	A	A	D	F	C	F	E	F	D	E	E
Approach Vol, veh/h		2291			2627			506			1141	
Approach Delay, s/veh		7.5			84.6			73.0			63.0	
Approach LOS		A			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	37.9	15.9	17.6	98.9	13.9	39.9	70.3	46.2				
Change Period (Y+Rc), s	5.8	* 5.8	4.6	6.5	4.6	5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	12.4	* 31	14.0	41.1	9.3	34.1	15.4	* 40				
Max Q Clear Time (g_c+I1), s	15.9	8.9	13.0	12.5	10.2	34.9	13.3	41.7				
Green Ext Time (p_c), s	0.0	1.2	0.1	12.6	0.0	0.0	0.3	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			53.0									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/21/2021

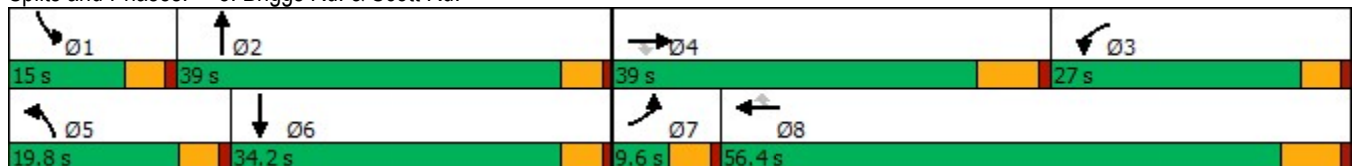


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘↗	↗	↘	↗
Traffic Volume (vph)	20	1584	559	61	2314	185	438	12	129	17
Future Volume (vph)	20	1584	559	61	2314	185	438	12	129	17
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	23.5	9.6	29.5	29.5	9.6	35.7	9.6	28.7
Total Split (s)	9.6	39.0	39.0	27.0	56.4	56.4	19.8	39.0	15.0	34.2
Total Split (%)	8.0%	32.5%	32.5%	22.5%	47.0%	47.0%	16.5%	32.5%	12.5%	28.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	4.7	4.6	4.7
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None
Act Effct Green (s)	5.0	36.4	36.4	14.7	50.1	50.1	17.4	13.9	10.4	10.1
Actuated g/C Ratio	0.05	0.39	0.39	0.16	0.53	0.53	0.19	0.15	0.11	0.11
v/c Ratio	0.23	0.79	0.66	0.24	0.83	0.21	0.72	0.34	0.71	0.34
Control Delay	51.1	31.0	10.2	35.2	22.6	2.6	45.2	13.5	62.4	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	31.0	10.2	35.2	22.6	2.6	45.2	13.5	62.4	20.3
LOS	D	C	B	D	C	A	D	B	E	C
Approach Delay		25.8			21.5			39.2		47.2
Approach LOS		C			C			D		D

Intersection Summary

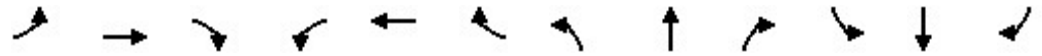
Cycle Length: 120
 Actuated Cycle Length: 93.9
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 25.9
 Intersection LOS: C
 Intersection Capacity Utilization 79.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑	↗	↖↗	↑		↖	↗	
Traffic Volume (veh/h)	20	1584	559	61	2314	185	438	12	90	129	17	56
Future Volume (veh/h)	20	1584	559	61	2314	185	438	12	90	129	17	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	1703	526	66	2488	190	471	13	97	139	18	34
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	1880	531	314	2852	806	541	31	229	170	60	114
Arrive On Green	0.02	0.34	0.34	0.18	0.51	0.51	0.15	0.16	0.16	0.10	0.10	0.10
Sat Flow, veh/h	1781	5611	1585	1781	5611	1585	3563	191	1423	1781	579	1094
Grp Volume(v), veh/h	22	1703	526	66	2488	190	471	0	110	139	0	52
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1614	1781	0	1673
Q Serve(g_s), s	1.2	27.8	18.9	3.0	37.6	6.4	12.4	0.0	5.9	7.3	0.0	2.8
Cycle Q Clear(g_c), s	1.2	27.8	18.9	3.0	37.6	6.4	12.4	0.0	5.9	7.3	0.0	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.88	1.00		0.65
Lane Grp Cap(c), veh/h	41	1880	531	314	2852	806	541	0	259	170	0	174
V/C Ratio(X)	0.53	0.91	0.99	0.21	0.87	0.24	0.87	0.00	0.42	0.82	0.00	0.30
Avail Cap(c_a), veh/h	93	1900	537	416	2917	824	564	0	577	193	0	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.4	30.5	11.3	33.8	20.8	13.2	39.8	0.0	36.3	42.6	0.0	39.7
Incr Delay (d2), s/veh	3.9	6.7	36.1	0.1	3.1	0.1	13.5	0.0	1.1	21.3	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	12.3	10.5	1.2	14.4	2.0	6.4	0.0	2.4	4.2	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	37.1	47.5	33.9	24.0	13.3	53.3	0.0	37.4	63.9	0.0	40.7
LnGrp LOS	D	D	D	C	C	B	D	A	D	E	A	D
Approach Vol, veh/h		2251			2744			581				191
Approach Delay, s/veh		39.7			23.5			50.2				57.5
Approach LOS		D			C			D				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	20.1	23.4	38.7	19.2	14.7	6.8	55.3				
Change Period (Y+Rc), s	4.6	* 4.7	6.5	* 6.5	4.6	* 4.7	4.6	6.5				
Max Green Setting (Gmax), s	10.4	* 34	22.4	* 33	15.2	* 30	5.0	49.9				
Max Q Clear Time (g_c+I1), s	9.3	7.9	5.0	29.8	14.4	4.8	3.2	39.6				
Green Ext Time (p_c), s	0.0	0.6	0.1	2.4	0.2	0.2	0.0	9.2				

Intersection Summary

HCM 6th Ctrl Delay	33.6
HCM 6th LOS	C

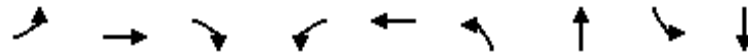
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

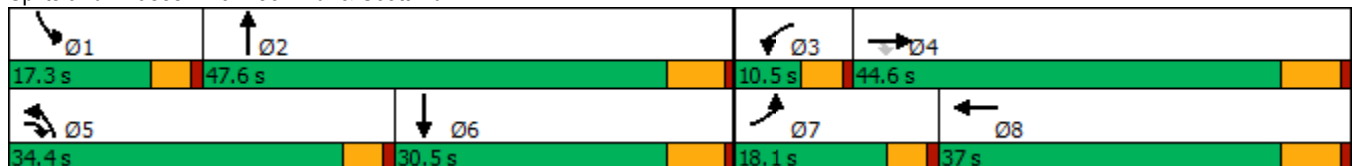


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↘↗	↗	↘	↗
Traffic Volume (vph)	183	846	613	24	1251	826	160	88	153
Future Volume (vph)	183	846	613	24	1251	826	160	88	153
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	28.5	9.6	9.6	28.5	9.6	28.2	9.6	28.2
Total Split (s)	18.1	44.6	34.4	10.5	37.0	34.4	47.6	17.3	30.5
Total Split (%)	15.1%	37.2%	28.7%	8.8%	30.8%	28.7%	39.7%	14.4%	25.4%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	13.5	42.4	78.7	5.6	30.5	29.8	43.2	10.0	23.4
Actuated g/C Ratio	0.11	0.36	0.66	0.05	0.26	0.25	0.36	0.08	0.20
v/c Ratio	0.94	0.48	0.53	0.30	1.02	0.99	0.26	0.61	0.93
Control Delay	103.2	31.9	5.1	64.8	73.7	73.8	28.2	70.0	73.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.2	31.9	5.1	64.8	73.7	73.8	28.2	70.0	73.6
LOS	F	C	A	E	E	E	C	E	E
Approach Delay		29.9			73.6		66.0		72.9
Approach LOS		C			E		E		E

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 55.4
 Intersection LOS: E
 Intersection Capacity Utilization 96.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 9: Leon Rd. & Scott Rd.



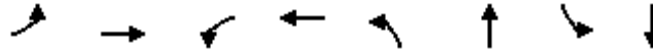
HCM 6th Signalized Intersection Summary
 9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)
 06/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	846	613	24	1251	33	826	160	10	88	153	182
Future Volume (veh/h)	183	846	613	24	1251	33	826	160	10	88	153	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	872	477	25	1290	34	852	165	10	91	158	131
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	1794	959	42	1330	35	878	653	40	114	174	145
Arrive On Green	0.12	0.35	0.35	0.02	0.26	0.26	0.25	0.37	0.37	0.06	0.18	0.18
Sat Flow, veh/h	1781	5106	1585	1781	5115	135	3456	1746	106	1781	945	784
Grp Volume(v), veh/h	189	872	477	25	858	466	852	0	175	91	0	289
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1846	1728	0	1851	1781	0	1729
Q Serve(g_s), s	12.3	15.7	19.9	1.6	29.3	29.3	28.6	0.0	7.7	5.9	0.0	19.2
Cycle Q Clear(g_c), s	12.3	15.7	19.9	1.6	29.3	29.3	28.6	0.0	7.7	5.9	0.0	19.2
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.06	1.00		0.45
Lane Grp Cap(c), veh/h	205	1794	959	42	885	480	878	0	693	114	0	319
V/C Ratio(X)	0.92	0.49	0.50	0.59	0.97	0.97	0.97	0.00	0.25	0.80	0.00	0.91
Avail Cap(c_a), veh/h	205	1794	959	90	885	480	878	0	693	193	0	358
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.4	29.8	13.1	56.7	43.0	43.0	43.3	0.0	25.4	54.1	0.0	46.9
Incr Delay (d2), s/veh	41.1	0.2	0.4	4.8	23.1	33.4	23.3	0.0	0.2	4.7	0.0	24.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	6.0	6.1	0.8	14.4	17.0	14.4	0.0	3.2	2.7	0.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.4	30.0	13.5	61.5	66.1	76.3	66.6	0.0	25.6	58.8	0.0	71.1
LnGrp LOS	F	C	B	E	E	E	E	A	C	E	A	E
Approach Vol, veh/h		1538			1349			1027			380	
Approach Delay, s/veh		32.5			69.6			59.6			68.1	
Approach LOS		C			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	50.1	7.4	47.7	34.4	27.8	18.1	37.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5				
Max Green Setting (Gmax), s	12.7	41.4	5.9	38.1	29.8	24.3	13.5	30.5				
Max Q Clear Time (g_c+I1), s	7.9	9.7	3.6	21.9	30.6	21.2	14.3	31.3				
Green Ext Time (p_c), s	0.0	0.8	0.0	6.4	0.0	0.4	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			53.8									
HCM 6th LOS			D									

Timings
10: Leon Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↖	↗	↖
Traffic Volume (vph)	3	2	98	0	2	537	167	631
Future Volume (vph)	3	2	98	0	2	537	167	631
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	26.7	26.7	26.7	26.7	28.2	28.2	28.2	28.2
Total Split (s)	46.0	46.0	46.0	46.0	74.0	74.0	74.0	74.0
Total Split (%)	38.3%	38.3%	38.3%	38.3%	61.7%	61.7%	61.7%	61.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7		4.7	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		23.5		23.5	37.1	37.1	37.1	37.1
Actuated g/C Ratio		0.32		0.32	0.51	0.51	0.51	0.51
v/c Ratio		0.02		0.78	0.01	0.69	0.71	0.74
Control Delay		18.9		27.1	10.5	18.5	33.2	20.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		18.9		27.1	10.5	18.5	33.2	20.4
LOS		B		C	B	B	C	C
Approach Delay		18.9		27.1		18.5		23.0
Approach LOS		B		C		B		C

Intersection Summary



















Cycle Length: 120	
Actuated Cycle Length: 73.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 22.5	Intersection LOS: C
Intersection Capacity Utilization 86.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 10: Leon Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
10: Leon Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	2	3	98	0	334	2	537	57	167	631	12
Future Volume (veh/h)	3	2	3	98	0	334	2	537	57	167	631	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	2	3	107	0	363	2	584	62	182	686	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	117	139	151	17	405	281	904	96	312	995	19
Arrive On Green	0.34	0.34	0.34	0.34	0.00	0.34	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	343	346	413	304	50	1201	747	1662	176	785	1829	35
Grp Volume(v), veh/h	8	0	0	470	0	0	2	0	646	182	0	699
Grp Sat Flow(s),veh/h/ln	1102	0	0	1555	0	0	747	0	1839	785	0	1864
Q Serve(g_s), s	0.0	0.0	0.0	22.2	0.0	0.0	0.2	0.0	22.7	19.5	0.0	25.1
Cycle Q Clear(g_c), s	0.3	0.0	0.0	26.3	0.0	0.0	25.3	0.0	22.7	42.2	0.0	25.1
Prop In Lane	0.37		0.37	0.23		0.77	1.00		0.10	1.00		0.02
Lane Grp Cap(c), veh/h	425	0	0	573	0	0	281	0	1000	312	0	1014
V/C Ratio(X)	0.02	0.00	0.00	0.82	0.00	0.00	0.01	0.00	0.65	0.58	0.00	0.69
Avail Cap(c_a), veh/h	578	0	0	746	0	0	425	0	1357	464	0	1376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	0.0	28.8	0.0	0.0	24.5	0.0	14.7	29.5	0.0	15.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.7	1.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	10.3	0.0	0.0	0.0	0.0	8.0	3.5	0.0	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	0.0	0.0	34.4	0.0	0.0	24.5	0.0	15.4	31.3	0.0	16.2
LnGrp LOS	C	A	A	C	A	A	C	A	B	C	A	B
Approach Vol, veh/h		8			470			648			881	
Approach Delay, s/veh		20.3			34.4			15.4			19.3	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.2		35.7		56.2		35.7				
Change Period (Y+Rc), s		6.2		* 4.7		6.2		* 4.7				
Max Green Setting (Gmax), s		67.8		* 41		67.8		* 41				
Max Q Clear Time (g_c+I1), s		27.3		2.3		44.2		28.3				
Green Ext Time (p_c), s		4.3		0.0		5.8		2.7				

Intersection Summary

HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
11: Leon Rd. & Whisper Heights Blvd

Keller Crossing (JN:13649)
06/24/2021



Lane Group	WBL	WBT	NBT	SBL	SBT	Ø4
Lane Configurations	↰	↱	↱	↰	↱↰	
Traffic Volume (vph)	227	0	538	36	620	
Future Volume (vph)	227	0	538	36	620	
Turn Type	Perm	NA	NA	Perm	NA	
Protected Phases		8	2		6	4
Permitted Phases	8			6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.7	21.7	23.2	23.2	23.2	21.7
Total Split (s)	43.0	43.0	77.0	77.0	77.0	43.0
Total Split (%)	35.8%	35.8%	64.2%	64.2%	64.2%	36%
Yellow Time (s)	3.7	3.7	5.2	5.2	5.2	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	6.2	6.2	6.2	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	Min	None
Act Effct Green (s)	17.3	17.3	30.0	30.0	30.0	
Actuated g/C Ratio	0.29	0.29	0.51	0.51	0.51	
v/c Ratio	0.60	0.10	0.73	0.16	0.38	
Control Delay	27.0	0.3	17.0	10.6	9.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.0	0.3	17.0	10.6	9.7	
LOS	C	A	B	B	A	
Approach Delay		21.4	17.0		9.7	
Approach LOS		C	B		A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 59.2
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 14.8
 Intersection LOS: B
 Intersection Capacity Utilization 55.3%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 11: Leon Rd. & Whisper Heights Blvd



HCM 6th Signalized Intersection Summary
 11: Leon Rd. & Whisper Heights Blvd

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	0	0	0	227	0	60	0	538	88	36	620	5
Future Volume (veh/h)	0	0	0	227	0	60	0	538	88	36	620	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	247	0	65	0	585	96	39	674	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	444	0	598	0	376	176	778	128	325	1796	13
Arrive On Green	0.00	0.00	0.00	0.24	0.00	0.24	0.00	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	0	1870	0	1781	0	1585	761	1567	257	759	3616	27
Grp Volume(v), veh/h	0	0	0	247	0	65	0	0	681	39	331	348
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	761	0	1824	759	1777	1866
Q Serve(g_s), s	0.0	0.0	0.0	5.0	0.0	1.3	0.0	0.0	12.3	1.8	4.7	4.7
Cycle Q Clear(g_c), s	0.0	0.0	0.0	5.0	0.0	1.3	0.0	0.0	12.3	14.1	4.7	4.7
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.14	1.00		0.01
Lane Grp Cap(c), veh/h	0	444	0	598	0	376	176	0	906	325	883	927
V/C Ratio(X)	0.00	0.00	0.00	0.41	0.00	0.17	0.00	0.00	0.75	0.12	0.38	0.38
Avail Cap(c_a), veh/h	0	1749	0	1842	0	1482	1113	0	3153	1261	3072	3225
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	13.8	0.0	12.4	0.0	0.0	8.3	13.9	6.4	6.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.2	0.0	0.0	1.3	0.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.7	0.0	0.4	0.0	0.0	2.4	0.2	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	14.3	0.0	12.6	0.0	0.0	9.6	14.1	6.6	6.6
LnGrp LOS	A	A	A	B	A	B	A	A	A	B	A	A
Approach Vol, veh/h		0			312			681			718	
Approach Delay, s/veh		0.0			13.9			9.6			7.0	
Approach LOS					B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.5		14.4		26.5		14.4				
Change Period (Y+Rc), s		6.2		* 4.7		6.2		* 4.7				
Max Green Setting (Gmax), s		70.8		* 38		70.8		* 38				
Max Q Clear Time (g_c+I1), s		14.3		0.0		16.1		7.0				
Green Ext Time (p_c), s		4.8		0.0		4.3		1.1				

Intersection Summary

HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
20: Winchester Rd. & Domenigoni Pkwy

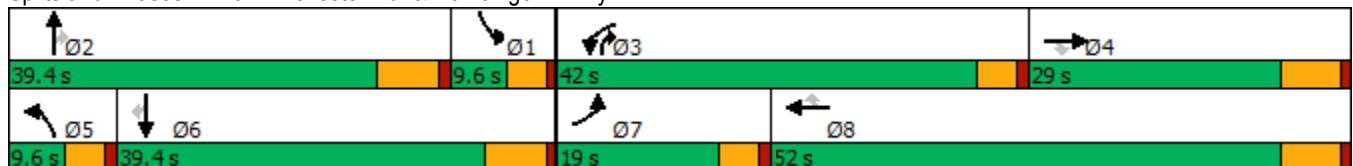
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	1035	154	1108	936	16	69	920	943	7	1380	260
Future Volume (vph)	190	1035	154	1108	936	16	69	920	943	7	1380	260
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.5	16.5	9.6	38.5	38.5	9.6	38.5	9.6	9.6	38.5	38.5
Total Split (s)	19.0	29.0	29.0	42.0	52.0	52.0	9.6	39.4	42.0	9.6	39.4	39.4
Total Split (%)	15.8%	24.2%	24.2%	35.0%	43.3%	43.3%	8.0%	32.8%	35.0%	8.0%	32.8%	32.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	11.2	22.5	22.5	37.4	48.7	48.7	5.0	40.6	83.6	5.0	32.9	32.9
Actuated g/C Ratio	0.09	0.19	0.19	0.31	0.41	0.41	0.04	0.34	0.70	0.04	0.27	0.27
v/c Ratio	0.61	1.05	0.35	1.07	0.44	0.02	1.00	0.52	0.88	0.10	0.96	0.45
Control Delay	60.2	89.3	3.9	87.7	26.9	0.1	163.2	33.6	23.7	58.3	58.1	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	89.3	3.9	87.7	26.9	0.1	163.2	33.6	23.7	58.3	58.1	8.7
LOS	E	F	A	F	C	A	F	C	C	E	E	A
Approach Delay		75.8			59.4			33.3			50.3	
Approach LOS		E			E			C			D	

Intersection Summary



































Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 53.3
 Intersection LOS: D
 Intersection Capacity Utilization 100.9%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			  			  	
Traffic Volume (veh/h)	190	1035	154	1108	936	16	69	920	943	7	1380	260
Future Volume (veh/h)	190	1035	154	1108	936	16	69	920	943	7	1380	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	202	1101	108	1179	996	11	73	979	764	7	1468	250
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	1052	297	1110	2388	675	74	1489	915	62	1538	435
Arrive On Green	0.07	0.19	0.19	0.47	0.43	0.43	0.04	0.27	0.27	0.03	0.27	0.27
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	202	1101	108	1179	996	11	73	979	764	7	1468	250
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.7	22.5	7.1	37.4	14.9	0.4	4.9	18.6	27.0	0.5	30.9	16.3
Cycle Q Clear(g_c), s	6.7	22.5	7.1	37.4	14.9	0.4	4.9	18.6	27.0	0.5	30.9	16.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	262	1052	297	1110	2388	675	74	1489	915	62	1538	435
V/C Ratio(X)	0.77	1.05	0.36	1.06	0.42	0.02	0.98	0.66	0.84	0.11	0.95	0.58
Avail Cap(c_a), veh/h	428	1052	297	1110	2388	675	74	1538	929	74	1538	435
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	48.7	42.5	31.9	24.1	11.2	57.5	39.2	7.7	56.1	42.8	37.5
Incr Delay (d2), s/veh	1.8	40.7	0.7	45.0	0.1	0.0	98.4	1.0	6.6	0.3	13.6	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	13.9	2.7	19.2	6.1	0.2	4.2	8.2	7.6	0.2	15.3	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	89.4	43.2	77.0	24.2	11.3	155.8	40.2	14.3	56.4	56.5	39.4
LnGrp LOS	E	F	D	F	C	B	F	D	B	E	E	D
Approach Vol, veh/h		1411			2186			1816			1725	
Approach Delay, s/veh		81.2			52.6			34.0			54.0	
Approach LOS		F			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	38.3	42.0	29.0	9.6	39.4	13.4	57.6				
Change Period (Y+Rc), s	6.5	* 6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	* 33	37.4	22.5	5.0	32.9	14.4	45.5				
Max Q Clear Time (g_c+I1), s	2.5	29.0	39.4	24.5	6.9	32.9	8.7	16.9				
Green Ext Time (p_c), s	0.0	2.9	0.0	0.0	0.0	0.0	0.2	6.7				

Intersection Summary

HCM 6th Ctrl Delay	53.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↑↑↑	↖	↑↑↑	↗
Traffic Volume (vph)	1	2	1	4	2	1924	1	2633	4
Future Volume (vph)	1	2	1	4	2	1924	1	2633	4
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	9.6	16.5	16.5
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	75.9	5.0	68.2	68.2
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.77	0.05	0.69	0.69
v/c Ratio	0.01	0.01	0.01	0.02	0.02	0.53	0.01	0.80	0.00
Control Delay	40.0	40.5	40.0	40.5	45.5	5.5	45.0	13.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	40.5	40.0	40.5	45.5	5.5	45.0	13.0	0.0
LOS	D	D	D	D	D	A	D	B	A
Approach Delay		40.3		40.4		5.5		13.0	
Approach LOS		D		D		A		B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 9.9
 Intersection Capacity Utilization 68.5%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
 22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (veh/h)	1	2	0	1	4	0	2	1924	0	1	2633	4
Future Volume (veh/h)	1	2	0	1	4	0	2	1924	0	1	2633	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	2	0	1	4	0	2	2047	0	1	2801	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	189	0	214	189	0	90	3768	1170	2	3518	1092
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.00	0.05	0.74	0.00	0.00	0.69	0.69
Sat Flow, veh/h	1412	1870	0	1415	1870	0	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	1	2	0	1	4	0	2	2047	0	1	2801	4
Grp Sat Flow(s),veh/h/ln	1412	1870	0	1415	1870	0	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	0.1	0.1	0.0	0.1	0.2	0.0	0.1	17.4	0.0	0.1	37.4	0.1
Cycle Q Clear(g_c), s	0.3	0.1	0.0	0.2	0.2	0.0	0.1	17.4	0.0	0.1	37.4	0.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	189	0	214	189	0	90	3768	1170	2	3518	1092
V/C Ratio(X)	0.00	0.01	0.00	0.00	0.02	0.00	0.02	0.54	0.00	0.41	0.80	0.00
Avail Cap(c_a), veh/h	512	586	0	514	586	0	90	3768	1170	90	3518	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	40.0	0.0	40.1	40.1	0.0	44.7	5.7	0.0	49.4	10.6	4.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.0	36.2	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.1	3.7	0.0	0.0	10.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	40.1	0.0	40.1	40.1	0.0	45.1	5.8	0.0	85.6	12.6	4.8
LnGrp LOS	D	D	A	D	D	A	D	A	A	F	B	A
Approach Vol, veh/h		3			5			2049			2806	
Approach Delay, s/veh		40.1			40.1			5.9			12.6	
Approach LOS		D			D			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	79.6		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	2.1	19.4		2.3	2.1	39.4		2.2				
Green Ext Time (p_c), s	0.0	22.7		0.0	0.0	24.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

06/24/2021

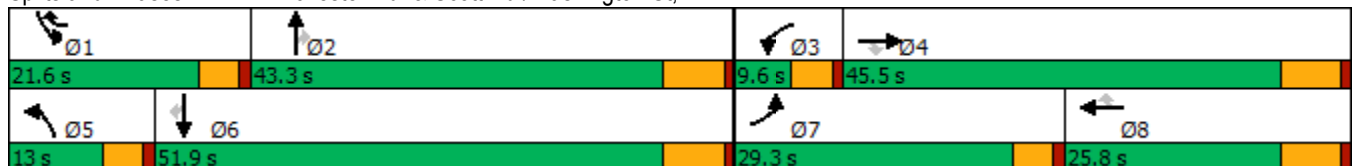


Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR	Ø3
Lane Configurations	↖↗	↑↑	↖	↑↑	↖	↖↗	↑↑↑	↖↗	↑↑↑	↖	
Traffic Volume (vph)	471	257	243	305	290	246	1368	381	2135	875	
Future Volume (vph)	471	257	243	305	290	246	1368	381	2135	875	
Turn Type	Prot	NA	Perm	NA	pm+ov	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4		8	1	5	2	1	6		3
Permitted Phases			4		8						6
Detector Phase	7	4	4	8	1	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	45.5	45.5	16.5	9.6	9.6	35.5	9.6	44.5	44.5	9.6
Total Split (s)	29.3	45.5	45.5	25.8	21.6	13.0	43.3	21.6	51.9	51.9	9.6
Total Split (%)	24.4%	37.9%	37.9%	21.5%	18.0%	10.8%	36.1%	18.0%	43.3%	43.3%	8%
Yellow Time (s)	3.6	5.5	5.5	5.5	3.6	3.6	5.5	3.6	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	6.5	4.6	4.6	6.5	4.6	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	None
Act Effct Green (s)	19.6	39.0	39.0	14.8	37.0	8.4	38.4	15.6	45.6	45.6	
Actuated g/C Ratio	0.18	0.35	0.35	0.13	0.33	0.08	0.35	0.14	0.41	0.41	
v/c Ratio	0.80	0.21	0.36	0.65	0.51	0.97	0.75	0.81	0.99	0.99	
Control Delay	54.3	25.0	4.3	52.4	21.2	101.0	36.2	60.5	49.2	44.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.3	25.0	4.3	52.4	21.2	101.0	36.2	60.5	49.2	44.1	
LOS	D	C	A	D	C	F	D	E	D	D	
Approach Delay		34.0		37.2			46.1		49.2		
Approach LOS		C		D			D		D		

Intersection Summary



































Cycle Length: 120
 Actuated Cycle Length: 110.7
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 45.1
 Intersection LOS: D
 Intersection Capacity Utilization 88.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	471	257	243	0	305	290	246	1368	0	381	2135	875
Future Volume (veh/h)	471	257	243	0	305	290	246	1368	0	381	2135	875
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	501	273	215	0	324	70	262	1455	0	405	2271	479
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	578	1201	509	3	430	393	285	2122	599	474	2419	683
Arrive On Green	0.16	0.32	0.32	0.00	0.11	0.11	0.08	0.38	0.00	0.13	0.43	0.43
Sat Flow, veh/h	3563	3741	1585	3563	3741	1585	3563	5611	1585	3563	5611	1585
Grp Volume(v), veh/h	501	273	215	0	324	70	262	1455	0	405	2271	479
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	14.4	5.6	11.2	0.0	8.8	3.6	7.7	22.8	0.0	11.7	40.6	25.9
Cycle Q Clear(g_c), s	14.4	5.6	11.2	0.0	8.8	3.6	7.7	22.8	0.0	11.7	40.6	25.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	578	1201	509	3	430	393	285	2122	599	474	2419	683
V/C Ratio(X)	0.87	0.23	0.42	0.00	0.75	0.18	0.92	0.69	0.00	0.86	0.94	0.70
Avail Cap(c_a), veh/h	839	1390	589	170	688	502	285	2122	599	577	2428	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	26.1	28.0	0.0	45.0	31.0	47.9	27.4	0.0	44.5	28.5	24.3
Incr Delay (d2), s/veh	4.8	0.1	0.6	0.0	2.7	0.2	32.2	0.9	0.0	8.9	8.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	2.3	4.0	0.0	4.0	1.3	4.5	9.4	0.0	5.4	17.8	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	26.2	28.5	0.0	47.7	31.3	80.2	28.3	0.0	53.4	36.5	27.5
LnGrp LOS	D	C	C	A	D	C	F	C	A	D	D	C
Approach Vol, veh/h		989			394			1717			3155	
Approach Delay, s/veh		37.6			44.8			36.2			37.3	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.6	46.2	0.0	40.2	13.0	51.7	21.6	18.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	17.0	36.8	5.0	39.0	8.4	45.4	24.7	19.3				
Max Q Clear Time (g_c+I1), s	13.7	24.8	0.0	13.2	9.7	42.6	16.4	10.8				
Green Ext Time (p_c), s	0.3	6.8	0.0	2.2	0.0	2.6	0.7	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			37.5									
HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	↗
Traffic Vol, veh/h	0	120	0	1614	2310	68
Future Vol, veh/h	0	120	0	1614	2310	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	130	0	1754	2511	74

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	1256	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	*378	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %		1		-	-
Mov Cap-1 Maneuver	-	*378	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

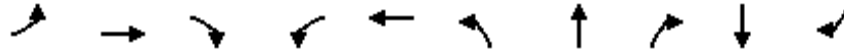
Approach	EB	NB	SB
HCM Control Delay, s	19.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	378	-	-
HCM Lane V/C Ratio	-	0.345	-	-
HCM Control Delay (s)	-	19.5	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	1.5	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

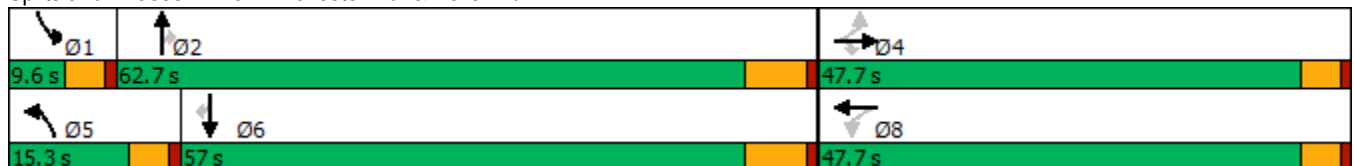


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations											
Traffic Volume (vph)	270	28	182	10	1	149	1345	11	2217	162	
Future Volume (vph)	270	28	182	10	1	149	1345	11	2217	162	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4			8	5	2		6		1
Permitted Phases	4		4	8				2		6	
Detector Phase	4	4	4	8	8	5	2	2	6	6	
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	47.7	47.7	15.3	62.7	62.7	57.0	57.0	9.6
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	12.8%	52.3%	52.3%	47.5%	47.5%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)	26.9	26.9	26.9		26.9	10.8	66.2	66.2	50.8	50.8	
Actuated g/C Ratio	0.26	0.26	0.26		0.26	0.10	0.63	0.63	0.49	0.49	
v/c Ratio	0.80	0.06	0.39		0.03	0.87	0.44	0.01	0.91	0.21	
Control Delay	52.6	27.9	14.7		27.1	89.0	11.2	0.0	32.5	7.1	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.6	27.9	14.7		27.1	89.0	11.2	0.0	32.5	7.1	
LOS	D	C	B		C	F	B	A	C	A	
Approach Delay		36.8			27.1		18.9		30.8		
Approach LOS		D			C		B		C		

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 104.3	
Natural Cycle: 125	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 27.3	Intersection LOS: C
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	28	182	10	1	0	149	1345	11	0	2217	162
Future Volume (veh/h)	270	28	182	10	1	0	149	1345	11	0	2217	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	287	30	104	11	1	0	159	1431	12	0	2359	172
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	400	422	357	323	26	0	190	3367	1045	2	2694	801
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.00	0.11	0.66	0.66	0.00	0.51	0.51
Sat Flow, veh/h	1416	1870	1585	1117	117	0	1781	5106	1585	1781	5331	1585
Grp Volume(v), veh/h	287	30	104	12	0	0	159	1431	12	0	2359	172
Grp Sat Flow(s),veh/h/ln	1416	1870	1585	1234	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	16.9	1.2	5.3	0.5	0.0	0.0	8.5	12.9	0.3	0.0	38.2	5.9
Cycle Q Clear(g_c), s	18.6	1.2	5.3	1.7	0.0	0.0	8.5	12.9	0.3	0.0	38.2	5.9
Prop In Lane	1.00		1.00	0.92		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	400	422	357	349	0	0	190	3367	1045	2	2694	801
V/C Ratio(X)	0.72	0.07	0.29	0.03	0.00	0.00	0.84	0.43	0.01	0.00	0.88	0.21
Avail Cap(c_a), veh/h	707	827	701	629	0	0	196	3367	1045	92	2768	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	29.6	31.2	29.9	0.0	0.0	42.6	7.8	5.7	0.0	21.3	13.3
Incr Delay (d2), s/veh	2.4	0.1	0.4	0.0	0.0	0.0	23.9	0.1	0.0	0.0	3.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.6	2.0	0.2	0.0	0.0	4.8	3.5	0.1	0.0	14.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	29.7	31.7	29.9	0.0	0.0	66.5	7.9	5.7	0.0	24.7	13.5
LnGrp LOS	D	C	C	C	A	A	E	A	A	A	C	B
Approach Vol, veh/h		421			12			1602			2531	
Approach Delay, s/veh		36.3			29.9			13.7			24.0	
Approach LOS		D			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	70.6		26.6	15.0	55.6		26.6				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	10.7	50.5		* 43				
Max Q Clear Time (g_c+I1), s	0.0	14.9		20.6	10.5	40.2		3.7				
Green Ext Time (p_c), s	0.0	12.0		1.3	0.0	9.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

27: Winchester Rd. & Pourroy Rd./Abelia St.

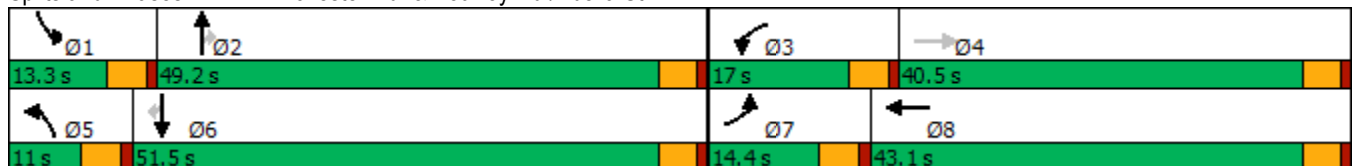


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↘	↗	↗	↘	↗	↗
Traffic Volume (vph)	59	30	416	23	108	1364	146	77	2233	100
Future Volume (vph)	59	30	416	23	108	1364	146	77	2233	100
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	14.4	40.5	17.0	43.1	11.0	49.2	49.2	13.3	51.5	51.5
Total Split (%)	12.0%	33.8%	14.2%	35.9%	9.2%	41.0%	41.0%	11.1%	42.9%	42.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	7.7	10.6	12.5	17.3	6.5	45.4	45.4	8.1	47.0	47.0
Actuated g/C Ratio	0.08	0.11	0.13	0.18	0.07	0.48	0.48	0.09	0.50	0.50
v/c Ratio	0.47	0.52	1.04	0.32	1.02	0.63	0.20	0.58	1.00	0.14
Control Delay	51.7	24.2	95.4	14.3	132.3	20.1	3.7	57.6	43.6	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	24.2	95.4	14.3	132.3	20.1	3.7	57.6	43.6	4.4
LOS	D	C	F	B	F	C	A	E	D	A
Approach Delay		30.3		79.1		26.1			42.4	
Approach LOS		C		E		C			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.6
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 40.3
 Intersection LOS: D
 Intersection Capacity Utilization 84.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕		↘↙	↘		↘	↕↕↕	↘	↘	↕↕↕	↘
Traffic Volume (veh/h)	59	30	175	416	23	82	108	1364	146	77	2233	100
Future Volume (veh/h)	59	30	175	416	23	82	108	1364	146	77	2233	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	34	175	473	26	45	123	1550	166	88	2538	104
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	249	222	442	135	234	119	2475	768	112	2457	763
Arrive On Green	0.05	0.14	0.14	0.13	0.22	0.22	0.07	0.48	0.48	0.06	0.48	0.48
Sat Flow, veh/h	1781	1777	1585	3456	615	1064	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	67	34	175	473	0	71	123	1550	166	88	2538	104
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	0	1679	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	3.6	1.6	10.4	12.5	0.0	3.4	6.5	21.9	5.9	4.8	47.0	3.6
Cycle Q Clear(g_c), s	3.6	1.6	10.4	12.5	0.0	3.4	6.5	21.9	5.9	4.8	47.0	3.6
Prop In Lane	1.00		1.00	1.00		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	249	222	442	0	369	119	2475	768	112	2457	763
V/C Ratio(X)	0.78	0.14	0.79	1.07	0.00	0.19	1.04	0.63	0.22	0.78	1.03	0.14
Avail Cap(c_a), veh/h	181	655	584	442	0	663	119	2475	768	160	2457	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	36.8	40.6	42.6	0.0	31.1	45.6	18.6	14.5	45.1	25.3	14.1
Incr Delay (d2), s/veh	5.5	0.2	6.1	62.6	0.0	0.3	93.1	1.2	0.6	9.1	27.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.7	4.4	9.1	0.0	1.4	5.8	7.7	2.2	2.3	22.1	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	37.1	46.7	105.2	0.0	31.3	138.7	19.8	15.1	54.2	52.7	14.4
LnGrp LOS	D	D	D	F	A	C	F	B	B	D	F	B
Approach Vol, veh/h		276			544			1839			2730	
Approach Delay, s/veh		46.7			95.6			27.4			51.3	
Approach LOS		D			F			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	51.9	17.0	18.2	11.0	51.5	9.2	25.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.8	44.7	12.5	36.0	6.5	47.0	9.9	38.6				
Max Q Clear Time (g_c+I1), s	6.8	23.9	14.5	12.4	8.5	49.0	5.6	5.4				
Green Ext Time (p_c), s	0.0	10.9	0.0	1.3	0.0	0.0	0.0	0.4				

Intersection Summary												
HCM 6th Ctrl Delay				47.3								
HCM 6th LOS				D								

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/24/2021

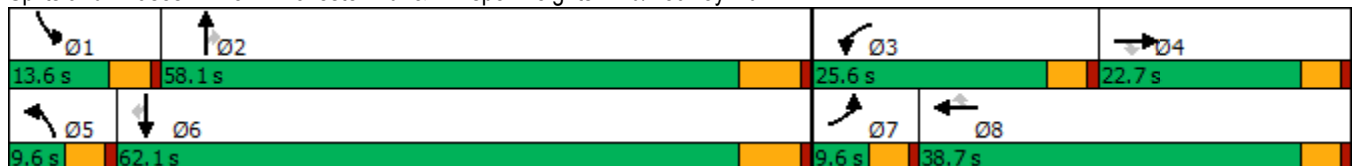


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↘↗	↑↑↑	↗
Traffic Volume (vph)	38	18	45	171	18	158	19	1421	126	2665	32
Future Volume (vph)	38	18	45	171	18	158	19	1421	126	2665	32
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	9.6	25.5	25.5
Total Split (s)	9.6	22.7	22.7	25.6	38.7	38.7	9.6	58.1	13.6	62.1	62.1
Total Split (%)	8.0%	18.9%	18.9%	21.3%	32.3%	32.3%	8.0%	48.4%	11.3%	51.8%	51.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	5.1	10.2	10.2	14.6	20.5	20.5	5.1	47.6	7.7	56.6	56.6
Actuated g/C Ratio	0.05	0.10	0.10	0.15	0.21	0.21	0.05	0.49	0.08	0.58	0.58
v/c Ratio	0.43	0.10	0.15	0.68	0.05	0.39	0.22	0.60	0.49	0.95	0.03
Control Delay	64.1	45.9	1.1	53.9	33.4	14.5	55.1	20.6	51.9	30.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.1	45.9	1.1	53.9	33.4	14.5	55.1	20.6	51.9	30.2	0.1
LOS	E	D	A	D	C	B	E	C	D	C	A
Approach Delay		32.9			34.9			21.0		30.8	
Approach LOS		C			C			C		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.2
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 28.2
 Intersection LOS: C
 Intersection Capacity Utilization 82.5%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘↗	↑↑↑	↗
Traffic Volume (veh/h)	38	18	45	171	18	158	19	1421	0	126	2665	32
Future Volume (veh/h)	38	18	45	171	18	158	19	1421	0	126	2665	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	19	28	180	19	109	20	1496	0	133	2805	31
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	186	158	213	348	295	38	2655	824	196	2836	880
Arrive On Green	0.03	0.10	0.10	0.12	0.19	0.19	0.02	0.52	0.00	0.06	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	40	19	28	180	19	109	20	1496	0	133	2805	31
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	2.2	0.9	1.6	9.9	0.8	6.0	1.1	19.9	0.0	3.8	54.2	0.9
Cycle Q Clear(g_c), s	2.2	0.9	1.6	9.9	0.8	6.0	1.1	19.9	0.0	3.8	54.2	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	186	158	213	348	295	38	2655	824	196	2836	880
V/C Ratio(X)	0.67	0.10	0.18	0.84	0.05	0.37	0.53	0.56	0.00	0.68	0.99	0.04
Avail Cap(c_a), veh/h	89	336	285	374	635	538	89	2655	824	311	2836	880
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	41.0	41.3	43.1	33.5	35.6	48.5	16.3	0.0	46.3	21.9	10.1
Incr Delay (d2), s/veh	4.8	0.2	0.5	3.5	0.1	0.8	4.2	0.3	0.0	1.5	14.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.4	0.7	4.5	0.4	0.1	0.5	6.7	0.0	1.6	21.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	41.2	41.8	46.6	33.6	36.4	52.6	16.6	0.0	47.8	36.3	10.1
LnGrp LOS	D	D	D	D	C	D	D	B	A	D	D	B
Approach Vol, veh/h		87			308			1516			2969	
Approach Delay, s/veh		46.6			42.2			17.1			36.5	
Approach LOS		D			D			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	58.5	16.6	14.7	6.7	62.1	8.0	23.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	9.0	51.6	21.0	* 18	5.0	55.6	5.0	* 34				
Max Q Clear Time (g_c+I1), s	5.8	21.9	11.9	3.6	3.1	56.2	4.2	8.0				
Green Ext Time (p_c), s	0.1	11.5	0.2	0.1	0.0	0.0	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

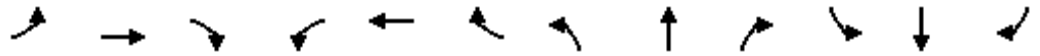
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↘	↙	↑	↘	↙	↑↑↑	↘	↙	↑↑↑	↘
Traffic Volume (vph)	135	11	334	16	6	20	171	1373	4	15	2309	135
Future Volume (vph)	135	11	334	16	6	20	171	1373	4	15	2309	135
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.0	39.1	39.1	9.6	35.7	35.7	15.0	61.4	61.4	9.9	56.3	56.3
Total Split (%)	10.8%	32.6%	32.6%	8.0%	29.8%	29.8%	12.5%	51.2%	51.2%	8.3%	46.9%	46.9%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	10.4	20.7	20.7	5.1	15.8	15.8	10.6	62.3	62.3	5.2	50.5	50.5
Actuated g/C Ratio	0.10	0.20	0.20	0.05	0.16	0.16	0.10	0.62	0.62	0.05	0.50	0.50
v/c Ratio	0.81	0.03	0.81	0.19	0.02	0.06	1.01	0.48	0.00	0.18	0.99	0.17
Control Delay	80.6	31.7	35.7	57.1	35.5	0.3	117.4	14.5	0.0	56.1	42.5	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.6	31.7	35.7	57.1	35.5	0.3	117.4	14.5	0.0	56.1	42.5	4.3
LOS	F	C	D	E	D	A	F	B	A	E	D	A
Approach Delay		48.3			26.7			25.9			40.5	
Approach LOS		D			C			C			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 101.2	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 36.2	Intersection LOS: D
Intersection Capacity Utilization 82.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (veh/h)	135	11	334	16	6	20	171	1373	4	15	2309	135
Future Volume (veh/h)	135	11	334	16	6	20	171	1373	4	15	2309	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	12	292	17	7	12	186	1492	4	16	2510	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	387	328	33	271	230	178	2863	889	32	2443	758
Arrive On Green	0.08	0.21	0.21	0.02	0.14	0.14	0.10	0.56	0.56	0.02	0.48	0.48
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	147	12	292	17	7	12	186	1492	4	16	2510	122
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	8.4	0.5	18.6	1.0	0.3	0.7	10.4	18.9	0.1	0.9	49.8	4.5
Cycle Q Clear(g_c), s	8.4	0.5	18.6	1.0	0.3	0.7	10.4	18.9	0.1	0.9	49.8	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	387	328	33	271	230	178	2863	889	32	2443	758
V/C Ratio(X)	1.02	0.03	0.89	0.51	0.03	0.05	1.04	0.52	0.00	0.50	1.03	0.16
Avail Cap(c_a), veh/h	144	618	524	86	557	472	178	2863	889	91	2443	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	32.9	40.1	50.6	38.2	38.3	46.8	14.2	10.1	50.7	27.1	15.3
Incr Delay (d2), s/veh	81.1	0.0	11.1	4.5	0.0	0.1	79.8	0.7	0.0	4.6	25.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.2	8.2	0.5	0.2	0.3	8.3	6.3	0.0	0.4	23.1	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	128.9	33.0	51.3	55.1	38.2	38.4	126.6	14.9	10.1	55.2	52.7	15.8
LnGrp LOS	F	C	D	E	D	D	F	B	B	E	F	B
Approach Vol, veh/h		451			36			1682			2648	
Approach Delay, s/veh		76.1			46.2			27.2			51.0	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	64.8	6.5	26.2	15.0	56.3	13.0	19.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.3	54.9	5.0	* 34	10.4	49.8	8.4	* 31				
Max Q Clear Time (g_c+I1), s	2.9	20.9	3.0	20.6	12.4	51.8	10.4	2.7				
Green Ext Time (p_c), s	0.0	12.1	0.0	0.9	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

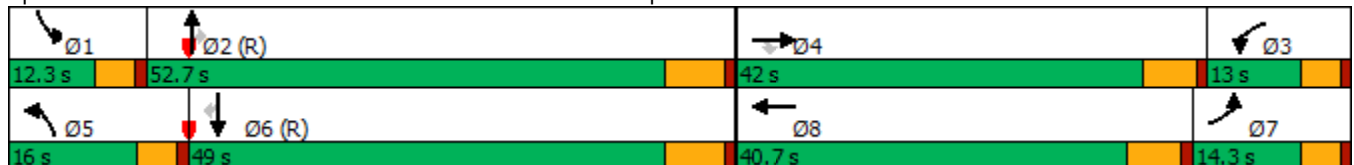


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑	↔↔	↔↔	↔↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	160	270	1368	489	458	745	1325	197	123	2624	250
Future Volume (vph)	160	270	1368	489	458	745	1325	197	123	2624	250
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.8	38.8	9.6	15.8	9.6	36.5	36.5	9.6	38.5	38.5
Total Split (s)	14.3	42.0	42.0	13.0	40.7	16.0	52.7	52.7	12.3	49.0	49.0
Total Split (%)	11.9%	35.0%	35.0%	10.8%	33.9%	13.3%	43.9%	43.9%	10.3%	40.8%	40.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	0.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	6.5	3.6	5.5	6.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	17.5	37.2	36.2	9.4	29.1	12.4	47.5	46.5	8.4	43.5	42.5
Actuated g/C Ratio	0.15	0.31	0.30	0.08	0.24	0.10	0.40	0.39	0.07	0.36	0.35
v/c Ratio	0.33	0.50	1.29	1.90	0.75	2.19	0.64	0.29	0.53	1.05	0.43
Control Delay	49.7	37.5	165.2	448.1	44.0	574.6	16.6	0.7	62.1	68.1	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.7	37.5	165.2	448.1	44.0	574.6	16.6	0.7	62.1	68.1	19.3
LOS	D	D	F	F	D	F	B	A	E	E	B
Approach Delay		135.7			220.2		198.6			63.8	
Approach LOS		F			F		F			E	

Intersection Summary
































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 13 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.19
 Intersection Signal Delay: 138.4
 Intersection LOS: F
 Intersection Capacity Utilization 112.6%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 	 	 		 	  		 	 	
Traffic Volume (veh/h)	160	270	1368	489	458	175	745	1325	197	123	2624	250
Future Volume (veh/h)	160	270	1368	489	458	175	745	1325	197	123	2624	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	172	290	1014	526	492	97	801	1425	121	132	2822	247
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	437	469	758	279	625	122	368	2606	723	216	3156	655
Arrive On Green	0.12	0.25	0.24	0.12	0.21	0.20	0.21	0.70	0.91	0.06	0.63	0.41
Sat Flow, veh/h	3563	1870	3129	3563	3031	594	3563	5611	1585	3563	7481	1585
Grp Volume(v), veh/h	172	290	1014	526	303	286	801	1425	121	132	2822	247
Grp Sat Flow(s),veh/h/ln	1781	1870	1565	1781	1870	1754	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.3	16.5	22.1	9.4	18.4	18.6	12.4	14.9	0.7	4.3	38.3	8.4
Cycle Q Clear(g_c), s	5.3	16.5	22.1	9.4	18.4	18.6	12.4	14.9	0.7	4.3	38.3	8.4
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	437	469	758	279	386	362	368	2606	723	216	3156	655
V/C Ratio(X)	0.39	0.62	1.34	1.88	0.78	0.79	2.18	0.55	0.17	0.61	0.89	0.38
Avail Cap(c_a), veh/h	437	580	944	279	560	525	368	2606	723	258	3156	655
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	2.00	1.50	2.00	1.00	1.50	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.67	0.67	0.67	0.18	0.18	0.18
Uniform Delay (d), s/veh	48.5	39.9	26.3	52.9	45.1	45.3	47.6	12.0	1.4	55.0	19.8	10.2
Incr Delay (d2), s/veh	0.0	0.1	152.6	411.5	4.5	5.2	535.1	0.6	0.3	0.2	0.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	7.4	24.2	20.0	9.0	8.6	32.0	4.5	0.4	1.9	10.3	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.5	40.0	178.8	464.4	49.6	50.5	582.7	12.6	1.8	55.2	20.6	10.5
LnGrp LOS	D	D	F	F	D	D	F	B	A	E	C	B
Approach Vol, veh/h		1476			1115			2347			3201	
Approach Delay, s/veh		136.4			245.5			206.6			21.3	
Approach LOS		F			F			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	61.2	13.0	34.9	16.0	56.1	18.3	29.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	7.7	46.2	8.4	36.2	11.4	42.5	9.7	34.9				
Max Q Clear Time (g_c+I1), s	6.3	16.9	11.4	24.1	14.4	40.3	7.3	20.6				
Green Ext Time (p_c), s	0.0	11.3	0.0	5.0	0.0	2.2	0.1	3.1				
Intersection Summary												
HCM 6th Ctrl Delay			126.3									
HCM 6th LOS			F									

Timings
31: Winchester Rd. & Benton Rd.

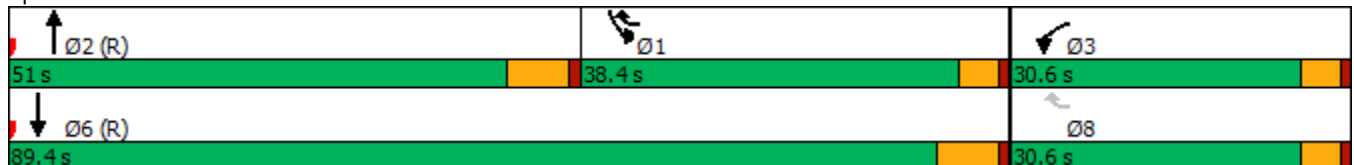
Keller Crossing (JN:13649)
06/24/2021

	↙	↖	↑	↘	↓	∅8
Lane Group	WBL	WBR	NBT	SBL	SBT	∅8
Lane Configurations	↔↔	↔	↑↑↑	↔↔	↑↑↑	
Traffic Volume (vph)	437	582	1593	903	3559	
Future Volume (vph)	437	582	1593	903	3559	
Turn Type	Prot	pm+ov	NA	Prot	NA	
Protected Phases	3	1	2	1	6	8
Permitted Phases		8				
Detector Phase	3	1	2	1	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.6	9.6	38.5	9.6	16.5	30.6
Total Split (s)	30.6	38.4	51.0	38.4	89.4	30.6
Total Split (%)	25.5%	32.0%	42.5%	32.0%	74.5%	26%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag		Lag	Lead	Lag		
Lead-Lag Optimize?		Yes	Yes	Yes		
Recall Mode	None	None	C-Min	None	C-Min	None
Act Effct Green (s)	19.9	62.0	46.9	37.5	89.0	
Actuated g/C Ratio	0.17	0.52	0.39	0.31	0.74	
v/c Ratio	0.78	0.75	0.66	0.86	0.90	
Control Delay	57.7	29.9	30.9	33.7	10.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.7	29.9	30.9	33.7	10.5	
LOS	E	C	C	C	B	
Approach Delay	41.8		30.9		15.2	
Approach LOS	D		C		B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 22.8
 Intersection LOS: C
 Intersection Capacity Utilization 90.5%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	437	582	1593	222	903	3559
Future Volume (veh/h)	437	582	1593	222	903	3559
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	460	587	1677	71	951	3746
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	557	872	2163	92	1402	4216
Arrive On Green	0.16	0.16	0.46	0.30	0.79	1.00
Sat Flow, veh/h	3563	1585	7126	302	3563	5611
Grp Volume(v), veh/h	460	587	1320	428	951	3746
Grp Sat Flow(s),veh/h/ln	1781	1585	1870	1816	1781	1870
Q Serve(g_s), s	15.0	0.0	23.8	24.2	14.6	0.0
Cycle Q Clear(g_c), s	15.0	0.0	23.8	24.2	14.6	0.0
Prop In Lane	1.00	1.00		0.17	1.00	
Lane Grp Cap(c), veh/h	557	872	1703	551	1402	4216
V/C Ratio(X)	0.83	0.67	0.78	0.78	0.68	0.89
Avail Cap(c_a), veh/h	772	967	2081	673	1402	4216
HCM Platoon Ratio	1.00	1.00	1.50	1.00	2.00	1.50
Upstream Filter(I)	1.00	1.00	0.73	0.73	0.09	0.09
Uniform Delay (d), s/veh	49.1	19.3	29.2	30.7	9.3	0.0
Incr Delay (d2), s/veh	3.8	1.2	2.6	7.7	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	11.6	8.7	9.7	3.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.8	20.5	31.8	38.4	9.4	0.3
LnGrp LOS	D	C	C	D	A	A
Approach Vol, veh/h	1047		1748			4697
Approach Delay, s/veh	34.7		33.4			2.1
Approach LOS	C		C			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	53.7	42.9			96.7	23.3
Change Period (Y+Rc), s	6.5	* 6.5			6.5	4.6
Max Green Setting (Gmax), s	33.8	* 45			82.9	26.0
Max Q Clear Time (g_c+I1), s	16.6	26.2			2.0	17.0
Green Ext Time (p_c), s	1.7	10.3			75.6	1.7

Intersection Summary

HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021

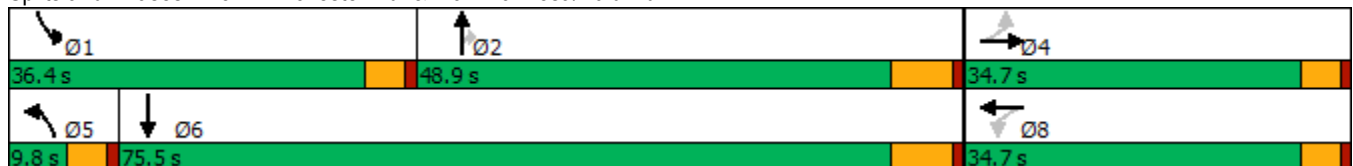


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖↗	↖	↖	↑↑↑↑	↖	↖	↑↑↑↑
Traffic Volume (vph)	229	73	358	51	43	1480	355	372	3389
Future Volume (vph)	229	73	358	51	43	1480	355	372	3389
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	9.8	48.9	48.9	36.4	75.5
Total Split (%)	28.9%	28.9%	28.9%	28.9%	8.2%	40.8%	40.8%	30.3%	62.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	25.6	25.6	25.6	25.6	5.2	42.5	42.5	31.9	69.1
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.04	0.37	0.37	0.28	0.60
v/c Ratio	0.54	0.41	0.87	0.37	0.56	0.65	0.46	0.79	0.99
Control Delay	44.4	29.4	64.9	21.2	81.6	32.5	5.8	52.7	35.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	29.4	64.9	21.2	81.6	32.5	5.8	52.7	35.2
LOS	D	C	E	C	F	C	A	D	D
Approach Delay		38.1		51.7		28.6			36.8
Approach LOS		D		D		C			D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.8
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 35.7
 Intersection LOS: D
 Intersection Capacity Utilization 94.0%
 ICU Level of Service F
 Analysis Period (min) 15

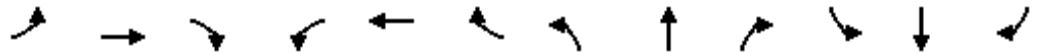
Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔↔	↔		↔	↑↑↑	↔	↔	↑↑↑	↔
Traffic Volume (veh/h)	229	73	92	358	51	104	43	1480	355	372	3389	235
Future Volume (veh/h)	229	73	92	358	51	104	43	1480	355	372	3389	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	236	75	84	369	53	102	44	1526	292	384	3494	87
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	531	199	222	527	142	273	78	2262	557	476	3740	92
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.35	0.35	0.27	0.58	0.58
Sat Flow, veh/h	2390	800	896	2381	572	1100	1781	6434	1585	1781	6503	160
Grp Volume(v), veh/h	236	0	159	369	0	155	44	1526	292	384	2584	997
Grp Sat Flow(s),veh/h/ln	1195	0	1695	1191	0	1672	1781	1609	1585	1781	1609	1837
Q Serve(g_s), s	10.8	0.0	9.3	18.1	0.0	9.1	2.9	24.0	17.4	24.0	58.3	59.9
Cycle Q Clear(g_c), s	19.9	0.0	9.3	27.4	0.0	9.1	2.9	24.0	17.4	24.0	58.3	59.9
Prop In Lane	1.00		0.53	1.00		0.66	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	531	0	421	527	0	415	78	2262	557	476	2775	1057
V/C Ratio(X)	0.44	0.00	0.38	0.70	0.00	0.37	0.57	0.67	0.52	0.81	0.93	0.94
Avail Cap(c_a), veh/h	540	0	428	536	0	422	78	2293	565	476	2799	1066
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	0.0	37.1	48.4	0.0	37.0	55.8	32.8	30.7	40.7	23.1	23.5
Incr Delay (d2), s/veh	0.2	0.0	0.2	4.0	0.0	0.6	26.5	0.8	0.9	13.6	6.3	15.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	3.9	5.6	0.0	3.8	1.8	8.8	6.4	11.7	20.2	26.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	0.0	37.3	52.4	0.0	37.6	82.2	33.6	31.5	54.3	29.4	38.9
LnGrp LOS	D	A	D	D	A	D	F	C	C	D	C	D
Approach Vol, veh/h		395			524			1862			3965	
Approach Delay, s/veh		42.2			48.0			34.4			34.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	36.4	48.3		34.2	9.8	74.9		34.2				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	31.8	42.4		* 30	5.2	69.0		* 30				
Max Q Clear Time (g_c+I1), s	26.0	26.0		21.9	4.9	61.9		29.4				
Green Ext Time (p_c), s	0.3	9.7		0.8	0.0	6.5		0.2				

Intersection Summary

HCM 6th Ctrl Delay	35.8
HCM 6th LOS	D

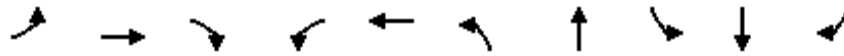
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	147	5	200	16	2	90	1565	17	3338	102
Future Volume (vph)	147	5	200	16	2	90	1565	17	3338	102
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	11.7	73.2	10.1	71.6	71.6
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	9.8%	61.0%	8.4%	59.7%	59.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	17.0	17.0	17.0		17.0	7.1	73.1	5.3	65.2	65.2
Actuated g/C Ratio	0.16	0.16	0.16		0.16	0.07	0.69	0.05	0.62	0.62
v/c Ratio	0.69	0.02	0.64		0.12	0.79	0.38	0.20	0.88	0.10
Control Delay	57.6	35.4	32.8		27.2	90.6	8.1	55.7	20.8	2.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	35.4	32.8		27.2	90.6	8.1	55.7	20.8	2.9
LOS	E	D	C		C	F	A	E	C	A
Approach Delay		43.2			27.2		12.5		20.5	
Approach LOS		D			C		B		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 105.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 19.5
 Intersection LOS: B
 Intersection Capacity Utilization 82.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	5	200	16	2	11	90	1565	48	17	3338	102
Future Volume (veh/h)	147	5	200	16	2	11	90	1565	48	17	3338	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	5	141	17	2	9	94	1630	43	18	3477	97
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	261	245	207	156	27	59	119	4490	118	35	4146	1021
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.07	0.69	0.69	0.02	0.64	0.64
Sat Flow, veh/h	1404	1870	1585	750	207	453	1781	6494	171	1781	6434	1585
Grp Volume(v), veh/h	153	5	141	28	0	0	94	1211	462	18	3477	97
Grp Sat Flow(s),veh/h/ln	1404	1870	1585	1410	0	0	1781	1609	1840	1781	1609	1585
Q Serve(g_s), s	8.8	0.2	8.5	0.1	0.0	0.0	5.2	10.3	10.3	1.0	41.8	2.3
Cycle Q Clear(g_c), s	10.2	0.2	8.5	1.4	0.0	0.0	5.2	10.3	10.3	1.0	41.8	2.3
Prop In Lane	1.00		1.00	0.61		0.32	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	261	245	207	242	0	0	119	3336	1272	35	4146	1021
V/C Ratio(X)	0.59	0.02	0.68	0.12	0.00	0.00	0.79	0.36	0.36	0.51	0.84	0.09
Avail Cap(c_a), veh/h	527	599	508	502	0	0	127	3336	1272	98	4193	1033
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	37.8	41.4	38.3	0.0	0.0	45.9	6.3	6.4	48.5	13.7	6.7
Incr Delay (d2), s/veh	2.1	0.0	3.9	0.2	0.0	0.0	24.0	0.1	0.2	4.3	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.1	3.5	0.6	0.0	0.0	3.0	2.5	2.9	0.5	11.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	37.9	45.3	38.6	0.0	0.0	70.0	6.4	6.5	52.8	15.4	6.8
LnGrp LOS	D	D	D	D	A	A	E	A	A	D	B	A
Approach Vol, veh/h		299			28			1767			3592	
Approach Delay, s/veh		44.6			38.6			9.8			15.3	
Approach LOS		D			D			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	75.6		17.8	11.3	70.9		17.8				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.5	66.7		* 32	7.1	65.1		* 32				
Max Q Clear Time (g_c+I1), s	3.0	12.3		12.2	7.2	43.8		3.4				
Green Ext Time (p_c), s	0.0	14.7		0.9	0.0	20.6		0.1				

Intersection Summary

HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↑↑↑	↑↑↑	↖	↖	↖	↖	↖
Traffic Volume (vph)	265	2464	1650	1100	0	1152	0	771
Future Volume (vph)	265	2464	1650	1100	0	1152	0	771
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	85.0	85.0	85.0	85.0	35.0	35.0	35.0	35.0
Total Split (%)	70.8%	70.8%	70.8%	70.8%	29.2%	29.2%	29.2%	29.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	81.0	81.0	81.0	81.0	31.0	31.0	31.0	31.0
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.26	0.26	0.26	0.26
v/c Ratio	4.48	0.74	0.69	0.57	1.50	1.50	0.96	0.96
Control Delay	1612.4	14.4	12.4	2.7	272.2	272.2	75.6	75.0
Queue Delay	0.0	16.1	44.8	1.8	0.0	0.0	0.0	0.0
Total Delay	1612.4	30.5	57.3	4.5	272.2	272.2	75.6	75.0
LOS	F	C	E	A	F	F	E	E
Approach Delay		184.0	45.3		272.2		75.3	
Approach LOS		F	D		F		E	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.48	
Intersection Signal Delay: 134.9	Intersection LOS: F
Intersection Capacity Utilization 101.8%	ICU Level of Service G
Analysis Period (min) 15	

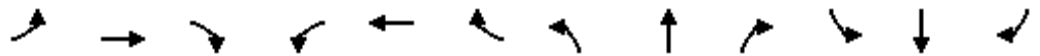
Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑			↑↑↑	↗		↗	↗		↗	↗
Traffic Volume (veh/h)	265	2464	0	0	1650	1100	0	0	1152	0	0	771
Future Volume (veh/h)	265	2464	0	0	1650	1100	0	0	1152	0	0	771
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	273	2540	0	0	1875	606	0	0	776	0	0	554
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	129	3449	0	0	3790	1071	0	482	817	0	482	817
Arrive On Green	0.68	0.68	0.00	0.00	0.68	0.68	0.00	0.00	0.26	0.00	0.00	0.26
Sat Flow, veh/h	134	5274	0	0	5611	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	273	2540	0	0	1875	606	0	0	776	0	0	554
Grp Sat Flow(s),veh/h/ln	134	1702	0	0	1870	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	61.5	38.5	0.0	0.0	19.5	24.1	0.0	0.0	28.8	0.0	0.0	18.8
Cycle Q Clear(g_c), s	81.0	38.5	0.0	0.0	19.5	24.1	0.0	0.0	28.8	0.0	0.0	18.8
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	129	3449	0	0	3790	1071	0	482	817	0	482	817
V/C Ratio(X)	2.12	0.74	0.00	0.00	0.49	0.57	0.00	0.00	0.95	0.00	0.00	0.68
Avail Cap(c_a), veh/h	129	3449	0	0	3790	1071	0	484	820	0	484	820
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	43.6	12.6	0.0	0.0	9.5	10.2	0.0	0.0	43.7	0.0	0.0	40.0
Incr Delay (d2), s/veh	530.3	0.8	0.0	0.0	0.1	0.7	0.0	0.0	20.1	0.0	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.8	12.5	0.0	0.0	6.8	7.3	0.0	0.0	13.1	0.0	0.0	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	573.9	13.4	0.0	0.0	9.6	10.9	0.0	0.0	63.9	0.0	0.0	42.3
LnGrp LOS	F	B	A	A	A	B	A	A	E	A	A	D
Approach Vol, veh/h		2813			2481			776				554
Approach Delay, s/veh		67.8			9.9			63.9				42.3
Approach LOS		E			A			E				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.9		85.0		34.9		85.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		31.0		81.0		31.0		81.0				
Max Q Clear Time (g_c+I1), s		30.8		83.0		20.8		26.1				
Green Ext Time (p_c), s		0.1		0.0		1.7		28.6				

Intersection Summary

HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

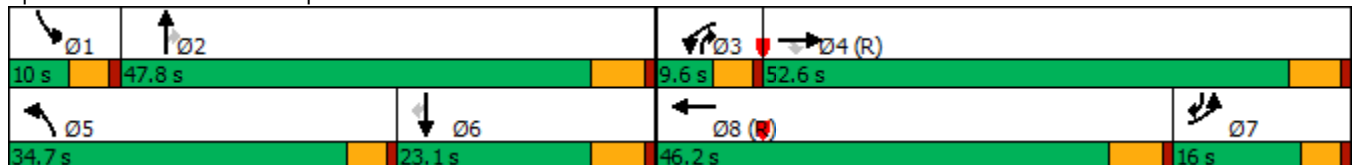
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	568	2542	506	91	1815	612	236	188	153	137	322	
Future Volume (vph)	568	2542	506	91	1815	612	236	188	153	137	322	
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	
Protected Phases	7	4		3	8	5	2	3	1	6	7	
Permitted Phases			4					2			6	
Detector Phase	7	4	4	3	8	5	2	3	1	6	7	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6	
Total Split (s)	16.0	52.6	52.6	9.6	46.2	34.7	47.8	9.6	10.0	23.1	16.0	
Total Split (%)	13.3%	43.8%	43.8%	8.0%	38.5%	28.9%	39.8%	8.0%	8.3%	19.3%	13.3%	
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None	None	None	
Act Effct Green (s)	11.4	55.0	55.0	7.7	51.3	25.6	31.1	44.6	5.4	10.9	23.5	
Actuated g/C Ratio	0.10	0.46	0.46	0.06	0.43	0.21	0.26	0.37	0.04	0.09	0.20	
v/c Ratio	1.76	1.03	0.37	0.43	0.94	0.85	0.27	0.30	1.03	0.45	0.51	
Control Delay	387.0	59.9	12.2	61.6	56.2	56.3	35.3	10.6	137.1	56.1	15.0	
Queue Delay	0.0	28.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	387.0	88.1	12.9	61.6	56.2	56.3	35.3	10.6	137.1	56.1	15.0	
LOS	F	F	B	E	E	E	D	B	F	E	B	
Approach Delay		124.5			56.5		43.2			54.7		
Approach LOS		F			E		D			D		

Intersection Summary




































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 70 (58%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.76
 Intersection Signal Delay: 88.1
 Intersection LOS: F
 Intersection Capacity Utilization 97.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  	 	 	  		 	 		 	 	 
Traffic Volume (veh/h)	568	2542	506	91	1815	132	612	236	188	153	137	322
Future Volume (veh/h)	568	2542	506	91	1815	132	612	236	188	153	137	322
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	592	2648	318	95	1891	70	638	246	104	159	143	216
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	706	2823	1403	144	1702	63	707	842	442	156	296	782
Arrive On Green	0.20	0.50	0.50	0.06	0.45	0.45	0.20	0.24	0.24	0.05	0.08	0.08
Sat Flow, veh/h	3563	5611	2790	3456	5054	187	3563	3554	1585	3456	3554	2749
Grp Volume(v), veh/h	592	2648	318	95	1273	688	638	246	104	159	143	216
Grp Sat Flow(s),veh/h/ln	1781	1870	1395	1728	1702	1837	1781	1777	1585	1728	1777	1374
Q Serve(g_s), s	19.2	53.3	7.7	3.2	40.4	40.4	21.0	6.8	6.1	5.4	4.6	2.4
Cycle Q Clear(g_c), s	19.2	53.3	7.7	3.2	40.4	40.4	21.0	6.8	6.1	5.4	4.6	2.4
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	706	2823	1403	144	1146	618	707	842	442	156	296	782
V/C Ratio(X)	0.84	0.94	0.23	0.66	1.11	1.11	0.90	0.29	0.24	1.02	0.48	0.28
Avail Cap(c_a), veh/h	706	2823	1403	144	1146	618	894	1244	621	156	512	949
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.34	0.34	0.34	0.56	0.56	0.56	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	28.1	16.7	55.8	33.1	33.1	46.9	37.5	33.4	57.3	52.5	13.3
Incr Delay (d2), s/veh	3.0	3.0	0.1	4.9	57.4	63.7	9.2	0.2	0.3	78.2	1.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	22.5	2.4	1.5	23.3	26.2	9.9	2.9	2.3	4.0	2.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	31.0	16.8	60.8	90.6	96.8	56.1	37.7	33.7	135.5	53.8	13.5
LnGrp LOS	D	C	B	E	F	F	E	D	C	F	D	B
Approach Vol, veh/h		3558			2056			988				518
Approach Delay, s/veh		32.8			91.3			49.2				62.1
Approach LOS		C			F			D				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	34.2	9.6	66.2	28.4	15.8	29.6	46.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	5.8	* 5.8				
Max Green Setting (Gmax), s	5.4	42.0	5.0	46.8	30.1	17.3	11.4	* 40				
Max Q Clear Time (g_c+1), s	7.4	8.8	5.2	55.3	23.0	6.6	21.2	42.4				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.0	0.9	1.2	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	54.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

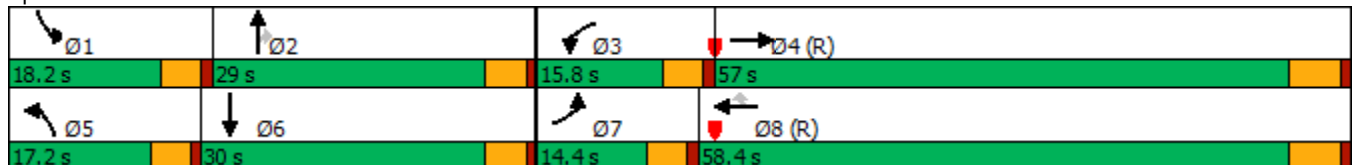


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↕↕↕	↔↔	↕↕↕	↔	↔	↕	↔	↔↔	↔
Traffic Volume (vph)	196	2176	302	1782	369	124	367	393	385	133
Future Volume (vph)	196	2176	302	1782	369	124	367	393	385	133
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	14.4	57.0	15.8	58.4	58.4	17.2	29.0	29.0	18.2	30.0
Total Split (%)	12.0%	47.5%	13.2%	48.7%	48.7%	14.3%	24.2%	24.2%	15.2%	25.0%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	9.5	51.2	11.2	52.9	52.9	11.5	24.3	24.3	13.6	26.4
Actuated g/C Ratio	0.08	0.43	0.09	0.44	0.44	0.10	0.20	0.20	0.11	0.22
v/c Ratio	0.76	1.04	0.96	0.76	0.44	0.78	1.02	0.96	1.01	0.61
Control Delay	55.2	59.1	95.5	30.8	5.1	81.7	99.9	65.6	100.4	44.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	59.1	95.5	30.8	5.1	81.7	99.9	65.6	100.4	44.8
LOS	E	E	F	C	A	F	F	E	F	D
Approach Delay		58.8		34.9			82.1			79.5
Approach LOS		E		C			F			E

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 62.4 (52%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 54.9
 Intersection LOS: D
 Intersection Capacity Utilization 100.8%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  					 		
Traffic Volume (veh/h)	196	2176	152	302	1782	369	124	367	393	385	133	99
Future Volume (veh/h)	196	2176	152	302	1782	369	124	367	393	385	133	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	206	2291	71	318	1876	256	131	386	256	405	140	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	2309	71	333	2496	696	157	379	315	404	278	123
Arrive On Green	0.10	0.57	0.57	0.09	0.44	0.44	0.09	0.20	0.20	0.11	0.23	0.23
Sat Flow, veh/h	3456	5411	167	3563	5611	1565	1781	1870	1556	3563	1222	541
Grp Volume(v), veh/h	206	1580	782	318	1876	256	131	386	256	405	0	202
Grp Sat Flow(s),veh/h/ln	1728	1870	1837	1781	1870	1565	1781	1870	1556	1781	0	1764
Q Serve(g_s), s	7.0	50.1	50.8	10.7	33.5	13.0	8.7	24.3	18.9	13.6	0.0	12.0
Cycle Q Clear(g_c), s	7.0	50.1	50.8	10.7	33.5	13.0	8.7	24.3	18.9	13.6	0.0	12.0
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	260	1596	784	333	2496	696	157	379	315	404	0	402
V/C Ratio(X)	0.79	0.99	1.00	0.96	0.75	0.37	0.83	1.02	0.81	1.00	0.00	0.50
Avail Cap(c_a), veh/h	282	1596	784	333	2496	696	187	379	315	404	0	402
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.13	0.13	0.13	0.75	0.75	0.75	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.1	25.7	25.9	54.2	27.8	22.1	53.8	47.8	45.7	53.2	0.0	40.4
Incr Delay (d2), s/veh	1.7	6.2	10.9	31.5	1.6	1.1	20.3	51.2	14.9	45.6	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	18.8	19.8	6.1	14.4	4.8	4.8	16.6	8.4	8.6	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	31.9	36.8	85.6	29.4	23.2	74.2	99.0	60.6	98.8	0.0	41.4
LnGrp LOS	D	C	D	F	C	C	E	F	E	F	A	D
Approach Vol, veh/h		2568			2450			773				607
Approach Delay, s/veh		35.2			36.0			82.1				79.7
Approach LOS		D			D			F				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.2	29.0	15.8	57.0	15.2	32.0	13.6	59.2				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	13.6	* 24	11.2	51.2	12.6	* 25	9.8	52.6				
Max Q Clear Time (g_c+I1), s	15.6	26.3	12.7	52.8	10.7	14.0	9.0	35.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.8	0.0	12.3				
Intersection Summary												
HCM 6th Ctrl Delay			45.4									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
7: Whitewood Rd. & Clinton Keith Rd.

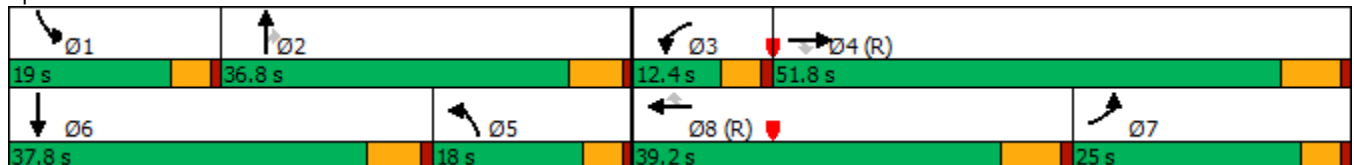
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	852	1929	216	212	1561	347	291	878	229	286	301
Future Volume (vph)	852	1929	216	212	1561	347	291	878	229	286	301
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	36.8	36.8	9.6	36.8
Total Split (s)	25.0	51.8	51.8	12.4	39.2	39.2	18.0	36.8	36.8	19.0	37.8
Total Split (%)	20.8%	43.2%	43.2%	10.3%	32.7%	32.7%	15.0%	30.7%	30.7%	15.8%	31.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	20.4	45.3	45.3	7.8	32.7	32.7	18.4	31.0	31.0	14.4	27.0
Actuated g/C Ratio	0.17	0.38	0.38	0.06	0.27	0.27	0.15	0.26	0.26	0.12	0.22
v/c Ratio	1.45	0.98	0.31	0.97	1.10	0.56	0.57	0.98	0.43	1.38	0.86
Control Delay	246.5	53.5	8.3	108.9	97.6	12.7	53.2	69.8	13.1	236.4	35.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	246.5	53.5	8.3	108.9	97.6	12.7	53.2	69.8	13.1	236.4	35.1
LOS	F	D	A	F	F	B	D	E	B	F	D
Approach Delay		105.1			84.9			57.1			86.5
Approach LOS		F			F			E			F

Intersection Summary


































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 80.8 (67%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.45
 Intersection Signal Delay: 87.9
 Intersection LOS: F
 Intersection Capacity Utilization 112.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



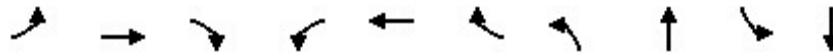
HCM 6th Signalized Intersection Summary
 7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 			 	
Traffic Volume (veh/h)	852	1929	216	212	1561	347	291	878	229	286	301	534
Future Volume (veh/h)	852	1929	216	212	1561	347	291	878	229	286	301	534
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	869	1968	205	216	1593	339	297	896	219	292	307	315
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2090	4317	1284	225	1453	432	493	918	409	214	401	358
Arrive On Green	0.59	0.81	0.81	0.06	0.27	0.27	0.14	0.26	0.26	0.12	0.23	0.23
Sat Flow, veh/h	3563	5331	1585	3456	5331	1585	3456	3554	1585	1781	1777	1585
Grp Volume(v), veh/h	869	1968	205	216	1593	339	297	896	219	292	307	315
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.0	13.3	6.7	7.5	32.7	30.9	9.7	30.0	14.3	14.4	19.4	23.0
Cycle Q Clear(g_c), s	16.0	13.3	6.7	7.5	32.7	30.9	9.7	30.0	14.3	14.4	19.4	23.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2090	4317	1284	225	1453	432	493	918	409	214	401	358
V/C Ratio(X)	0.42	0.46	0.16	0.96	1.10	0.78	0.60	0.98	0.53	1.37	0.77	0.88
Avail Cap(c_a), veh/h	2090	4317	1284	225	1453	432	493	918	409	214	474	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.26	0.26	0.26	0.24	0.24	0.24	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	3.4	9.8	56.0	43.7	68.5	48.3	44.1	38.3	52.8	43.5	44.9
Incr Delay (d2), s/veh	0.0	0.1	0.1	20.5	46.7	3.5	1.5	23.9	1.4	191.7	6.2	16.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.5	0.8	3.8	19.7	12.3	4.2	15.7	5.4	17.6	8.9	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.6	3.5	9.9	76.4	90.3	72.0	49.7	68.0	39.7	244.5	49.7	61.8
LnGrp LOS	B	A	A	E	F	E	D	E	D	F	D	E
Approach Vol, veh/h		3042			2148			1412			914	
Approach Delay, s/veh		6.8			86.0			59.8			116.1	
Approach LOS		A			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	36.8	12.4	103.8	22.9	32.9	77.0	39.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	5.8	* 5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	14.4	31.0	7.8	45.3	13.4	* 32	20.4	* 33				
Max Q Clear Time (g_c+I1), s	16.4	32.0	9.5	15.3	11.7	25.0	18.0	34.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	17.8	0.1	2.0	0.6	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			52.7									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/23/2021

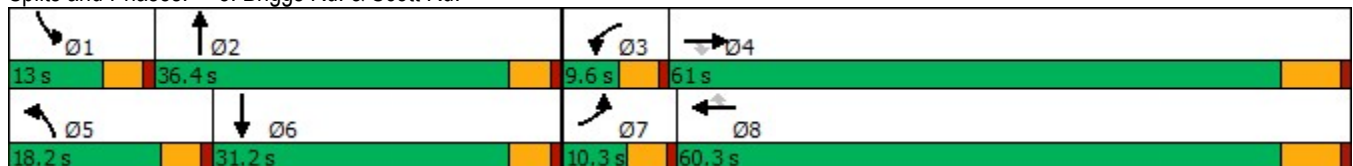


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘↗	↑	↘	↗
Traffic Volume (vph)	21	2441	351	86	1976	159	346	7	211	5
Future Volume (vph)	21	2441	351	86	1976	159	346	7	211	5
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	23.5	9.6	29.5	29.5	9.6	35.7	9.6	28.7
Total Split (s)	10.3	61.0	61.0	9.6	60.3	60.3	18.2	36.4	13.0	31.2
Total Split (%)	8.6%	50.8%	50.8%	8.0%	50.3%	50.3%	15.2%	30.3%	10.8%	26.0%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None
Act Effct Green (s)	5.4	54.7	54.7	5.0	60.4	60.4	15.4	13.0	9.4	10.0
Actuated g/C Ratio	0.05	0.55	0.55	0.05	0.61	0.61	0.15	0.13	0.09	0.10
v/c Ratio	0.23	0.83	0.37	1.01	0.61	0.16	0.68	0.30	1.32	0.18
Control Delay	52.7	22.3	5.2	149.2	14.8	2.5	48.3	14.1	215.8	20.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	22.3	5.2	149.2	14.8	2.5	48.3	14.1	215.8	20.7
LOS	D	C	A	F	B	A	D	B	F	C
Approach Delay		20.4			19.1			41.9		189.7
Approach LOS		C			B			D		F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99.4
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.32
 Intersection Signal Delay: 28.7
 Intersection LOS: C
 Intersection Capacity Utilization 83.5%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/23/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	2441	351	86	1976	159	346	7	73	211	5	28
Future Volume (veh/h)	21	2441	351	86	1976	159	346	7	73	211	5	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	2543	69	90	2058	166	360	7	71	220	5	13
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	2940	831	88	3090	873	427	20	207	148	46	119
Arrive On Green	0.02	0.52	0.52	0.05	0.55	0.55	0.12	0.14	0.14	0.08	0.10	0.10
Sat Flow, veh/h	1781	5611	1585	1781	5611	1585	3456	144	1463	1781	454	1180
Grp Volume(v), veh/h	22	2543	69	90	2058	166	360	0	78	220	0	18
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	0	1607	1781	0	1634
Q Serve(g_s), s	1.2	39.9	2.2	5.0	26.3	5.3	10.3	0.0	4.4	8.4	0.0	1.0
Cycle Q Clear(g_c), s	1.2	39.9	2.2	5.0	26.3	5.3	10.3	0.0	4.4	8.4	0.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.91	1.00		0.72
Lane Grp Cap(c), veh/h	41	2940	831	88	3090	873	427	0	227	148	0	165
V/C Ratio(X)	0.54	0.86	0.08	1.02	0.67	0.19	0.84	0.00	0.34	1.49	0.00	0.11
Avail Cap(c_a), veh/h	101	3027	855	88	3090	873	465	0	504	148	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.8	20.9	12.0	48.0	16.1	11.4	43.3	0.0	39.1	46.3	0.0	41.3
Incr Delay (d2), s/veh	4.1	2.8	0.0	101.6	0.6	0.1	12.4	0.0	0.9	250.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	15.2	0.7	4.6	9.5	1.6	5.1	0.0	1.8	14.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.0	23.7	12.0	149.6	16.7	11.5	55.7	0.0	40.0	297.1	0.0	41.6
LnGrp LOS	D	C	B	F	B	B	E	A	D	F	A	D
Approach Vol, veh/h		2634			2314			438				238
Approach Delay, s/veh		23.7			21.5			52.9				277.8
Approach LOS		C			C			D				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	19.0	9.6	59.4	17.1	14.9	6.9	62.1				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	6.5	4.6	* 4.7	4.6	6.5				
Max Green Setting (Gmax), s	8.4	* 32	5.0	54.5	13.6	* 27	5.7	53.8				
Max Q Clear Time (g_c+I1), s	10.4	6.4	7.0	41.9	12.3	3.0	3.2	28.3				
Green Ext Time (p_c), s	0.0	0.4	0.0	11.1	0.2	0.0	0.0	16.8				

Intersection Summary

HCM 6th Ctrl Delay	35.8
HCM 6th LOS	D

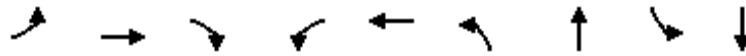
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

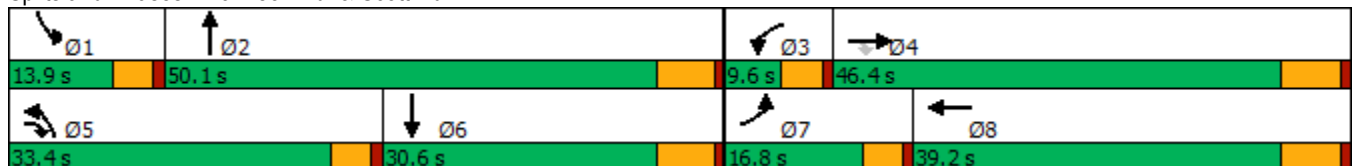


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↑	↘	↑
Traffic Volume (vph)	159	1543	925	17	1256	766	99	52	82
Future Volume (vph)	159	1543	925	17	1256	766	99	52	82
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases	4								
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	28.5	9.6	9.6	28.5	9.6	28.2	9.6	28.2
Total Split (s)	16.8	46.4	33.4	9.6	39.2	33.4	50.1	13.9	30.6
Total Split (%)	14.0%	38.7%	27.8%	8.0%	32.7%	27.8%	41.8%	11.6%	25.5%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	12.2	45.9	81.3	5.0	32.8	28.9	39.6	7.5	16.2
Actuated g/C Ratio	0.11	0.41	0.73	0.04	0.29	0.26	0.35	0.07	0.14
v/c Ratio	0.88	0.79	0.74	0.23	0.96	0.92	0.19	0.47	0.73
Control Delay	89.8	33.7	8.0	60.8	54.4	57.8	25.2	64.1	48.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.8	33.7	8.0	60.8	54.4	57.8	25.2	64.1	48.4
LOS	F	C	A	E	D	E	C	E	D
Approach Delay	28.0		54.5			53.5		51.6	
Approach LOS	C		D			D		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 40.6
 Intersection LOS: D
 Intersection Capacity Utilization 86.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 9: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)
 06/24/2021

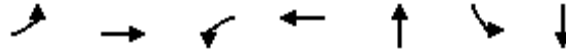


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑		↖↗	↑		↖	↗	
Traffic Volume (veh/h)	159	1543	925	17	1256	74	766	99	18	52	82	118
Future Volume (veh/h)	159	1543	925	17	1256	74	766	99	18	52	82	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	169	1641	718	18	1336	58	815	105	14	55	87	78
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	2012	1030	35	1515	66	883	540	72	71	108	96
Arrive On Green	0.11	0.39	0.39	0.02	0.30	0.30	0.26	0.33	0.33	0.04	0.12	0.12
Sat Flow, veh/h	1781	5106	1585	1781	5017	218	3456	1616	215	1781	909	815
Grp Volume(v), veh/h	169	1641	718	18	906	488	815	0	119	55	0	165
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1831	1728	0	1832	1781	0	1724
Q Serve(g_s), s	9.6	29.6	29.9	1.0	26.1	26.1	23.7	0.0	4.8	3.2	0.0	9.6
Cycle Q Clear(g_c), s	9.6	29.6	29.9	1.0	26.1	26.1	23.7	0.0	4.8	3.2	0.0	9.6
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.12	1.00		0.47
Lane Grp Cap(c), veh/h	199	2012	1030	35	1028	553	883	0	612	71	0	204
V/C Ratio(X)	0.85	0.82	0.70	0.52	0.88	0.88	0.92	0.00	0.19	0.78	0.00	0.81
Avail Cap(c_a), veh/h	211	2012	1030	86	1079	581	965	0	780	161	0	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	27.9	11.6	50.1	34.2	34.2	37.4	0.0	24.4	49.1	0.0	44.3
Incr Delay (d2), s/veh	23.9	2.7	2.1	4.4	8.4	14.3	12.7	0.0	0.2	6.7	0.0	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	11.2	8.5	0.5	11.1	12.8	10.9	0.0	2.0	1.5	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	30.6	13.6	54.4	42.7	48.6	50.1	0.0	24.6	55.7	0.0	51.8
LnGrp LOS	E	C	B	D	D	D	D	A	C	E	A	D
Approach Vol, veh/h		2528			1412			934			220	
Approach Delay, s/veh		28.3			44.9			46.8			52.7	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	40.7	6.6	47.1	31.0	18.4	16.1	37.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5				
Max Green Setting (Gmax), s	9.3	43.9	5.0	39.9	28.8	24.4	12.2	32.7				
Max Q Clear Time (g_c+I1), s	5.2	6.8	3.0	31.9	25.7	11.6	11.6	28.1				
Green Ext Time (p_c), s	0.0	0.6	0.0	6.5	0.7	0.6	0.0	3.0				

Intersection Summary												
HCM 6th Ctrl Delay											37.4	
HCM 6th LOS											D	

Timings
10: Leon Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

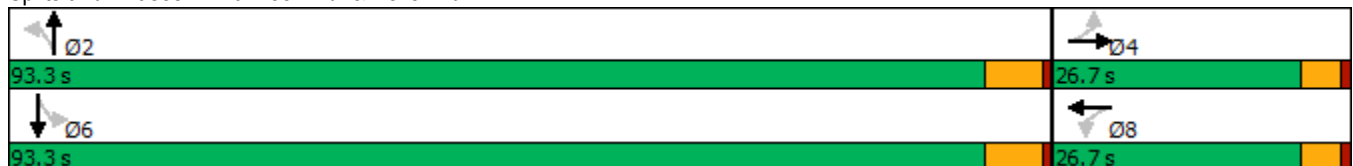


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations		↕		↕	↕	↕	↕
Traffic Volume (vph)	5	3	60	3	777	333	672
Future Volume (vph)	5	3	60	3	777	333	672
Turn Type	Perm	NA	Perm	NA	NA	Perm	NA
Protected Phases		4		8	2		6
Permitted Phases	4		8			6	
Detector Phase	4	4	8	8	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	26.7	26.7	26.7	26.7	28.2	28.2	28.2
Total Split (s)	26.7	26.7	26.7	26.7	93.3	93.3	93.3
Total Split (%)	22.3%	22.3%	22.3%	22.3%	77.8%	77.8%	77.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7		4.7	6.2	6.2	6.2
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min
Act Effct Green (s)		18.4		18.4	87.3	87.3	87.3
Actuated g/C Ratio		0.16		0.16	0.75	0.75	0.75
v/c Ratio		0.06		0.88	0.69	1.18	0.52
Control Delay		32.2		53.7	11.5	130.0	8.2
Queue Delay		0.0		0.0	0.0	0.0	0.0
Total Delay		32.2		53.7	11.5	130.0	8.2
LOS		C		D	B	F	A
Approach Delay		32.2		53.7	11.5		48.6
Approach LOS		C		D	B		D

Intersection Summary



















Cycle Length: 120	
Actuated Cycle Length: 116.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 34.3	Intersection LOS: C
Intersection Capacity Utilization 98.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 10: Leon Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
10: Leon Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	3	5	60	3	226	0	777	97	333	672	0
Future Volume (veh/h)	5	3	5	60	3	226	0	777	97	333	672	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	3	5	65	3	246	0	845	105	362	730	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	64	77	86	12	224	60	1184	147	315	1358	0
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.73	0.73	0.73	0.73	0.00
Sat Flow, veh/h	320	348	418	270	68	1223	726	1631	203	590	1870	0
Grp Volume(v), veh/h	13	0	0	314	0	0	0	0	950	362	730	0
Grp Sat Flow(s),veh/h/ln	1086	0	0	1561	0	0	726	0	1834	590	1870	0
Q Serve(g_s), s	0.0	0.0	0.0	18.6	0.0	0.0	0.0	0.0	35.4	51.7	21.1	0.0
Cycle Q Clear(g_c), s	0.7	0.0	0.0	22.0	0.0	0.0	0.0	0.0	35.4	87.1	21.1	0.0
Prop In Lane	0.38		0.38	0.21		0.78	1.00		0.11	1.00		0.00
Lane Grp Cap(c), veh/h	241	0	0	322	0	0	60	0	1331	315	1358	0
V/C Ratio(X)	0.05	0.00	0.00	0.97	0.00	0.00	0.00	0.00	0.71	1.15	0.54	0.00
Avail Cap(c_a), veh/h	241	0	0	322	0	0	60	0	1331	315	1358	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.3	0.0	0.0	49.9	0.0	0.0	0.0	0.0	9.4	39.1	7.4	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	42.9	0.0	0.0	0.0	0.0	1.8	98.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	13.4	0.0	0.0	0.0	0.0	11.2	17.9	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	0.0	0.0	92.8	0.0	0.0	0.0	0.0	11.2	137.1	7.8	0.0
LnGrp LOS	D	A	A	F	A	A	A	A	B	F	A	A
Approach Vol, veh/h		13			314			950			1092	
Approach Delay, s/veh		40.4			92.8			11.2			50.7	
Approach LOS		D			F			B			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		93.3		26.7		93.3		26.7				
Change Period (Y+Rc), s		6.2		* 4.7		6.2		* 4.7				
Max Green Setting (Gmax), s		87.1		* 22		87.1		* 22				
Max Q Clear Time (g_c+I1), s		37.4		2.7		89.1		24.0				
Green Ext Time (p_c), s		8.4		0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				40.4								
HCM 6th LOS				D								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
11: Leon Rd. & Whisper Heights Blvd

Keller Crossing (JN:13649)
06/24/2021



Lane Group	WBL	WBT	NBT	SBL	SBT	Ø4
Lane Configurations	↖	↗	↗	↖	↕	
Traffic Volume (vph)	174	0	817	60	699	
Future Volume (vph)	174	0	817	60	699	
Turn Type	Perm	NA	NA	Perm	NA	
Protected Phases		8	2		6	4
Permitted Phases	8			6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.7	21.7	23.2	23.2	23.2	21.7
Total Split (s)	25.0	25.0	95.0	95.0	95.0	25.0
Total Split (%)	20.8%	20.8%	79.2%	79.2%	79.2%	21%
Yellow Time (s)	3.7	3.7	5.2	5.2	5.2	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	6.2	6.2	6.2	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	Min	None
Act Effct Green (s)	17.9	17.9	75.0	75.0	75.0	
Actuated g/C Ratio	0.17	0.17	0.72	0.72	0.72	
v/c Ratio	0.80	0.11	0.92	0.64	0.30	
Control Delay	68.4	0.5	25.1	40.6	5.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	68.4	0.5	25.1	40.6	5.5	
LOS	E	A	C	D	A	
Approach Delay		54.2	25.1		8.3	
Approach LOS		D	C		A	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104.1
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 22.0
 Intersection LOS: C
 Intersection Capacity Utilization 77.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 11: Leon Rd. & Whisper Heights Blvd



HCM 6th Signalized Intersection Summary
 11: Leon Rd. & Whisper Heights Blvd

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	0	0	0	174	0	46	0	817	264	60	699	0
Future Volume (veh/h)	0	0	0	174	0	46	0	817	264	60	699	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	193	0	51	0	908	210	67	777	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	261	0	349	0	221	100	1041	241	220	2517	0
Arrive On Green	0.00	0.00	0.00	0.14	0.00	0.14	0.00	0.71	0.71	0.71	0.71	0.00
Sat Flow, veh/h	0	1870	0	1781	0	1585	694	1469	340	504	3647	0
Grp Volume(v), veh/h	0	0	0	193	0	51	0	0	1118	67	777	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	694	0	1809	504	1777	0
Q Serve(g_s), s	0.0	0.0	0.0	7.5	0.0	2.1	0.0	0.0	33.8	8.4	5.9	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	7.5	0.0	2.1	0.0	0.0	33.8	42.2	5.9	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.19	1.00		0.00
Lane Grp Cap(c), veh/h	0	261	0	349	0	221	100	0	1282	220	2517	0
V/C Ratio(X)	0.00	0.00	0.00	0.55	0.00	0.23	0.00	0.00	0.87	0.30	0.31	0.00
Avail Cap(c_a), veh/h	0	530	0	605	0	449	469	0	2241	487	4401	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	29.8	0.0	27.4	0.0	0.0	8.0	24.1	3.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.4	0.0	0.5	0.0	0.0	2.0	0.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	3.2	0.0	0.8	0.0	0.0	6.7	0.9	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	31.1	0.0	27.9	0.0	0.0	10.0	24.9	4.0	0.0
LnGrp LOS	A	A	A	C	A	C	A	A	A	C	A	A
Approach Vol, veh/h		0			244			1118			844	
Approach Delay, s/veh		0.0			30.5			10.0			5.6	
Approach LOS					C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.0		14.7		57.0		14.7				
Change Period (Y+Rc), s		6.2		* 4.7		6.2		* 4.7				
Max Green Setting (Gmax), s		88.8		* 20		88.8		* 20				
Max Q Clear Time (g_c+I1), s		35.8		0.0		44.2		9.5				
Green Ext Time (p_c), s		12.3		0.0		6.6		0.6				

Intersection Summary

HCM 6th Ctrl Delay	10.6
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
20: Winchester Rd. & Domenigoni Pkwy

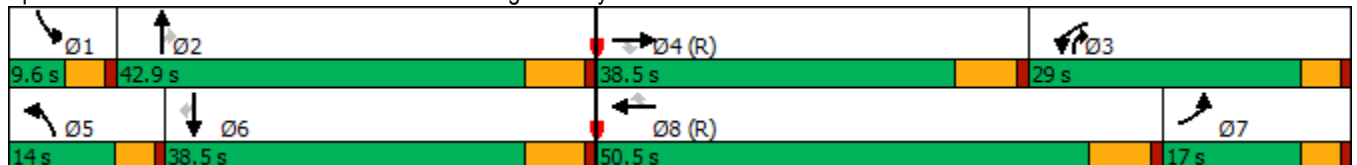
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	1035	103	1041	902	22	141	1647	1258	21	1165	188
Future Volume (vph)	207	1035	103	1041	902	22	141	1647	1258	21	1165	188
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.5	38.5	9.6	38.5	38.5	9.6	38.5	9.6	9.6	38.5	38.5
Total Split (s)	17.0	38.5	38.5	29.0	50.5	50.5	14.0	42.9	29.0	9.6	38.5	38.5
Total Split (%)	14.2%	32.1%	32.1%	24.2%	42.1%	42.1%	11.7%	35.8%	24.2%	8.0%	32.1%	32.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	29.1	30.3	30.3	26.8	28.0	28.0	9.4	41.5	73.0	5.0	31.3	31.3
Actuated g/C Ratio	0.24	0.25	0.25	0.22	0.23	0.23	0.08	0.35	0.61	0.04	0.26	0.26
v/c Ratio	0.25	0.75	0.20	1.34	0.71	0.05	1.04	0.87	1.29	0.29	0.82	0.35
Control Delay	38.7	45.1	1.0	200.2	45.2	0.2	142.1	43.2	161.2	66.0	46.9	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	45.1	1.0	200.2	45.2	0.2	142.1	43.2	161.2	66.0	46.9	6.6
LOS	D	D	A	F	D	A	F	D	F	E	D	A
Approach Delay		40.7			126.9			96.5			41.6	
Approach LOS		D			F			F			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 81.5 (68%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.34
 Intersection Signal Delay: 84.8
 Intersection LOS: F
 Intersection Capacity Utilization 115.1%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
06/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	1035	103	1041	902	22	141	1647	1258	21	1165	188
Future Volume (veh/h)	207	1035	103	1041	902	22	141	1647	1258	21	1165	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	1056	47	1062	920	14	144	1681	821	21	1189	187
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	972	1281	362	930	1215	343	140	1710	897	37	1388	392
Arrive On Green	0.27	0.27	0.23	0.26	0.26	0.22	0.08	0.37	0.30	0.02	0.30	0.25
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	1781	5611	1585	1781	5611	1585
Grp Volume(v), veh/h	211	1056	47	1062	920	14	144	1681	821	21	1189	187
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.5	21.2	2.2	31.3	18.1	0.7	9.4	35.6	12.7	1.4	24.0	6.2
Cycle Q Clear(g_c), s	5.5	21.2	2.2	31.3	18.1	0.7	9.4	35.6	12.7	1.4	24.0	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	972	1281	362	930	1215	343	140	1710	897	37	1388	392
V/C Ratio(X)	0.22	0.82	0.13	1.14	0.76	0.04	1.03	0.98	0.92	0.56	0.86	0.48
Avail Cap(c_a), veh/h	972	1496	423	930	2057	581	140	1710	897	74	1496	423
HCM Platoon Ratio	1.00	1.20	1.00	1.00	1.20	1.00	1.00	1.20	1.00	1.00	1.20	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.53	0.53	0.53	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	41.3	22.3	44.3	41.5	27.2	55.3	37.8	10.9	58.2	40.2	10.2
Incr Delay (d2), s/veh	0.0	6.1	0.7	76.7	4.4	0.2	64.0	12.2	8.2	4.8	4.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	9.6	1.1	22.9	8.1	0.3	6.5	16.2	11.3	0.7	10.5	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	47.4	23.1	121.0	45.9	27.4	119.3	50.0	19.2	63.0	45.1	11.1
LnGrp LOS	C	D	C	F	D	C	F	D	B	E	D	B
Approach Vol, veh/h		1314			1996			2646			1397	
Approach Delay, s/veh		44.4			85.8			44.2			40.8	
Approach LOS		D			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	43.1	35.9	33.9	14.0	36.2	37.3	32.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	36.4	24.4	32.0	9.4	32.0	12.4	44.0				
Max Q Clear Time (g_c+I1), s	3.4	37.6	33.3	23.2	11.4	26.0	7.5	20.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.2	0.0	3.7	0.2	5.9				
Intersection Summary												
HCM 6th Ctrl Delay			54.9									
HCM 6th LOS			D									

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations	↘	↗	↘	↗	↘	↑↑↑	↗	↑↑↑	↗	
Traffic Volume (vph)	6	4	2	2	7	3021	4	2314	7	
Future Volume (vph)	6	4	2	2	7	3021	4	2314	7	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4		8	5	2		6		1
Permitted Phases	4		8				2		6	
Detector Phase	4	4	8	8	5	2	2	6	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	26.5	16.5	16.5	9.6
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	74.7	74.7	74.7	9.6
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	62.3%	62.3%	62.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max	None
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	77.8	77.8	68.2	68.2	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.69	0.69	
v/c Ratio	0.04	0.07	0.01	0.05	0.09	0.81	0.00	0.71	0.01	
Control Delay	41.2	27.8	40.5	27.7	47.1	8.5	0.0	10.8	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.2	27.8	40.5	27.7	47.1	8.5	0.0	10.8	0.0	
LOS	D	C	D	C	D	A	A	B	A	
Approach Delay		32.3		30.3		8.6		10.8		
Approach LOS		C		C		A		B		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 9.6
 Intersection Capacity Utilization 76.0%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service D

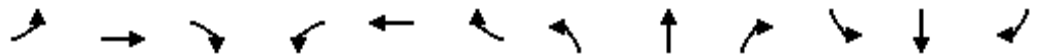
Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)

06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↑↑↑	↔	↔	↑↑↑	↔
Traffic Volume (veh/h)	6	4	7	2	2	6	7	3021	4	0	2314	7
Future Volume (veh/h)	6	4	7	2	2	6	7	3021	4	0	2314	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	4	4	2	2	1	8	3248	3	0	2488	8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	87	87	209	119	59	90	4013	1246	2	3518	1092
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.00	0.69	0.69
Sat Flow, veh/h	1414	858	858	1407	1176	588	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	6	0	8	2	0	3	8	3248	3	0	2488	8
Grp Sat Flow(s),veh/h/ln	1414	0	1716	1407	0	1764	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	0.4	0.0	0.4	0.1	0.0	0.2	0.4	37.1	0.0	0.0	29.3	0.2
Cycle Q Clear(g_c), s	0.5	0.0	0.4	0.5	0.0	0.2	0.4	37.1	0.0	0.0	29.3	0.2
Prop In Lane	1.00		0.50	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	0	173	209	0	178	90	4013	1246	2	3518	1092
V/C Ratio(X)	0.03	0.00	0.05	0.01	0.00	0.02	0.09	0.81	0.00	0.00	0.71	0.01
Avail Cap(c_a), veh/h	513	0	537	507	0	553	90	4013	1246	90	3518	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	0.0	40.2	40.4	0.0	40.1	44.8	6.2	2.3	0.0	9.3	4.8
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.0	1.9	1.3	0.0	0.0	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.0	0.0	0.1	0.2	6.1	0.0	0.0	7.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	0.0	40.3	40.5	0.0	40.1	46.8	7.6	2.3	0.0	10.6	4.8
LnGrp LOS	D	A	D	D	A	D	D	A	A	A	B	A
Approach Vol, veh/h		14			5			3259			2496	
Approach Delay, s/veh		40.3			40.2			7.6			10.6	
Approach LOS		D			D			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	84.3		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	0.0	39.1		2.5	2.4	31.3		2.5				
Green Ext Time (p_c), s	0.0	26.9		0.0	0.0	26.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

24: Winchester Rd. & Scott Rd./Washington St,

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗↗	↔↔	↑↑↑	↔↔	↑↑↑	↗
Traffic Volume (vph)	694	392	266	60	334	677	309	2218	397	1743	766
Future Volume (vph)	694	392	266	60	334	677	309	2218	397	1743	766
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	1	5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	1	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.5	39.5	9.6	16.5	9.6	9.6	35.5	9.6	39.5	39.5
Total Split (s)	29.1	40.4	40.4	9.6	20.9	16.0	24.0	54.0	16.0	46.0	46.0
Total Split (%)	24.3%	33.7%	33.7%	8.0%	17.4%	13.3%	20.0%	45.0%	13.3%	38.3%	38.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	24.5	35.5	35.5	5.0	14.0	31.9	15.3	47.5	11.4	43.6	43.6
Actuated g/C Ratio	0.20	0.30	0.30	0.04	0.12	0.27	0.13	0.40	0.10	0.36	0.36
v/c Ratio	1.01	0.37	0.42	0.43	0.81	0.74	0.72	1.05	1.24	0.90	0.92
Control Delay	83.3	35.1	5.9	65.2	66.4	36.3	59.3	70.3	175.5	43.6	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.3	35.1	5.9	65.2	66.4	36.3	59.3	70.3	175.5	43.6	32.2
LOS	F	D	A	E	E	D	E	E	F	D	C
Approach Delay		54.1			47.3			69.0		58.6	
Approach LOS		D			D			E		E	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 119.6	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.24	
Intersection Signal Delay: 59.6	Intersection LOS: E
Intersection Capacity Utilization 101.7%	ICU Level of Service G
Analysis Period (min) 15	




































Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 	 	 	  		 	  	
Traffic Volume (veh/h)	694	392	266	60	334	677	309	2218	0	397	1743	766
Future Volume (veh/h)	694	392	266	60	334	677	309	2218	0	397	1743	766
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	731	413	275	63	352	239	325	2335	0	418	1835	464
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	733	1035	438	150	422	661	389	2239	633	341	2164	611
Arrive On Green	0.21	0.28	0.28	0.04	0.11	0.11	0.11	0.60	0.00	0.10	0.58	0.39
Sat Flow, veh/h	3563	3741	1585	3563	3741	3170	3563	5611	1585	3563	5611	1585
Grp Volume(v), veh/h	731	413	275	63	352	239	325	2335	0	418	1835	464
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	24.4	10.7	18.1	2.1	11.0	7.7	10.6	47.5	0.0	11.4	32.2	30.3
Cycle Q Clear(g_c), s	24.4	10.7	18.1	2.1	11.0	7.7	10.6	47.5	0.0	11.4	32.2	30.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	733	1035	438	150	422	661	389	2239	633	341	2164	611
V/C Ratio(X)	1.00	0.40	0.63	0.42	0.83	0.36	0.84	1.04	0.00	1.23	0.85	0.76
Avail Cap(c_a), veh/h	733	1065	451	150	453	687	581	2239	633	341	2164	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	35.0	37.7	55.6	51.7	40.3	52.0	23.9	0.0	53.8	22.2	31.7
Incr Delay (d2), s/veh	32.4	0.2	2.6	0.7	12.0	0.3	4.2	31.3	0.0	124.6	3.4	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	4.7	6.9	0.9	5.6	2.9	4.8	20.0	0.0	10.8	10.2	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.6	35.3	40.3	56.3	63.7	40.6	56.2	55.2	0.0	178.4	25.5	37.2
LnGrp LOS	E	D	D	E	E	D	E	F	A	F	C	D
Approach Vol, veh/h		1419			654			2660			2717	
Approach Delay, s/veh		59.1			54.6			55.3			51.1	
Approach LOS		E			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	54.0	9.6	39.4	17.6	52.4	29.1	19.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	11.4	47.5	5.0	33.9	19.4	39.5	24.5	14.4				
Max Q Clear Time (g_c+I1), s	13.4	49.5	4.1	20.1	12.6	34.2	26.4	13.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.7	0.3	4.5	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			54.4									
HCM 6th LOS			D									

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/24/2021

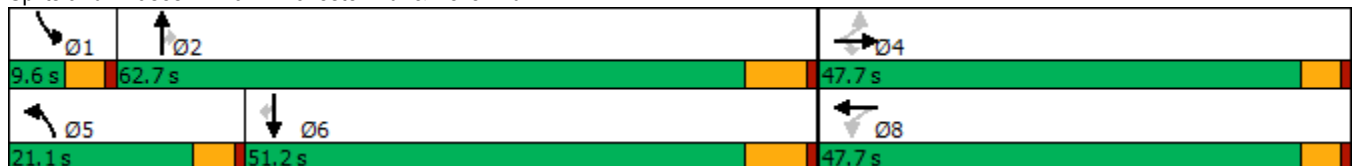


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗		↔	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (vph)	238	14	222	11	21	215	2280	98	6	1684	379
Future Volume (vph)	238	14	222	11	21	215	2280	98	6	1684	379
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5
Total Split (s)	47.7	47.7	47.7	47.7	47.7	21.1	62.7	62.7	9.6	51.2	51.2
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	17.6%	52.3%	52.3%	8.0%	42.7%	42.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	24.4	24.4	24.4		24.4	16.1	62.5	62.5	5.1	43.4	43.4
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.16	0.62	0.62	0.05	0.43	0.43
v/c Ratio	0.76	0.03	0.42		0.10	0.80	0.76	0.10	0.07	0.81	0.46
Control Delay	50.7	27.9	6.7		23.9	64.2	17.6	2.9	51.8	29.4	6.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	27.9	6.7		23.9	64.2	17.6	2.9	51.8	29.4	6.9
LOS	D	C	A		C	E	B	A	D	C	A
Approach Delay		29.4			23.9		21.0			25.4	
Approach LOS		C			C		C			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 100
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 23.5
 Intersection LOS: C
 Intersection Capacity Utilization 81.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 26: Winchester Rd. & Keller Rd.



Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	↗
Traffic Vol, veh/h	0	170	0	2527	1928	141
Future Vol, veh/h	0	170	0	2527	1928	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	185	0	2747	2096	153

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	1048	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	*485	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %		1		-	-
Mov Cap-1 Maneuver	-	*485	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-























Approach	EB	NB	SB
HCM Control Delay, s	16.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	485	-	-
HCM Lane V/C Ratio	-	0.381	-	-
HCM Control Delay (s)	-	16.9	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	1.8	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	14	222	11	21	9	215	2280	98	6	1684	379
Future Volume (veh/h)	238	14	222	11	21	9	215	2280	98	6	1684	379
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	15	230	12	22	7	229	2426	103	6	1791	401
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	384	398	337	125	211	58	266	3047	925	14	2324	722
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.15	0.60	0.60	0.01	0.46	0.46
Sat Flow, veh/h	1381	1870	1585	335	995	274	1781	5106	1550	1781	5106	1585
Grp Volume(v), veh/h	253	15	230	41	0	0	229	2426	103	6	1791	401
Grp Sat Flow(s),veh/h/ln	1381	1870	1585	1604	0	0	1781	1702	1550	1781	1702	1585
Q Serve(g_s), s	13.1	0.5	11.5	0.0	0.0	0.0	10.8	31.5	2.5	0.3	25.4	15.9
Cycle Q Clear(g_c), s	14.7	0.5	11.5	1.6	0.0	0.0	10.8	31.5	2.5	0.3	25.4	15.9
Prop In Lane	1.00		1.00	0.29		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	384	398	337	395	0	0	266	3047	925	14	2324	722
V/C Ratio(X)	0.66	0.04	0.68	0.10	0.00	0.00	0.86	0.80	0.11	0.43	0.77	0.56
Avail Cap(c_a), veh/h	778	931	789	832	0	0	340	3323	1009	103	2643	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	27.0	31.3	27.4	0.0	0.0	35.9	13.4	7.5	42.7	19.7	17.2
Incr Delay (d2), s/veh	1.9	0.0	2.4	0.1	0.0	0.0	13.7	1.3	0.1	7.8	1.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.2	4.5	0.7	0.0	0.0	5.3	9.1	0.6	0.1	8.6	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	27.0	33.8	27.5	0.0	0.0	49.6	14.7	7.6	50.4	21.0	17.8
LnGrp LOS	C	C	C	C	A	A	D	B	A	D	C	B
Approach Vol, veh/h		498			41			2758			2198	
Approach Delay, s/veh		33.8			27.5			17.3			20.5	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	58.0		23.1	17.5	45.8		23.1				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	16.5	44.7		* 43				
Max Q Clear Time (g_c+I1), s	2.3	33.5		16.7	12.8	27.4		3.6				
Green Ext Time (p_c), s	0.0	17.8		1.7	0.1	11.9		0.2				

Intersection Summary

HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/24/2021

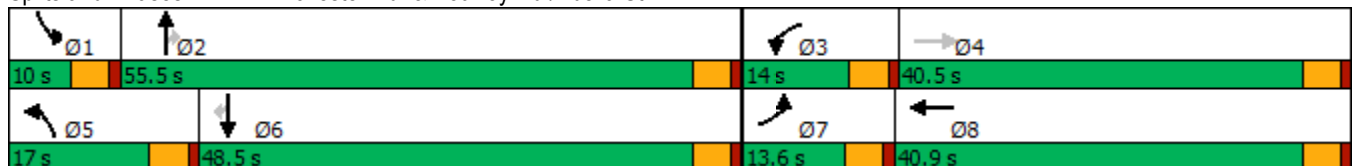


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↘	↗	↗	↘	↗	↗
Traffic Volume (vph)	85	39	311	41	210	2424	296	81	1753	82
Future Volume (vph)	85	39	311	41	210	2424	296	81	1753	82
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	13.6	40.5	14.0	40.9	17.0	55.5	55.5	10.0	48.5	48.5
Total Split (%)	11.3%	33.8%	11.7%	34.1%	14.2%	46.3%	46.3%	8.3%	40.4%	40.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	8.3	10.5	9.5	11.7	12.5	51.0	51.0	5.5	44.0	44.0
Actuated g/C Ratio	0.09	0.11	0.10	0.12	0.13	0.54	0.54	0.06	0.47	0.47
v/c Ratio	0.58	0.45	0.95	0.46	0.94	0.93	0.33	0.83	0.78	0.11
Control Delay	56.6	17.5	81.1	21.0	89.0	27.9	5.6	97.7	24.1	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	17.5	81.1	21.0	89.0	27.9	5.6	97.7	24.1	1.0
LOS	E	B	F	C	F	C	A	F	C	A
Approach Delay		29.0		63.9		30.0			26.3	
Approach LOS		C		E		C			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 31.3
 Intersection LOS: C
 Intersection Capacity Utilization 83.5%
 ICU Level of Service E
 Analysis Period (min) 15























Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/24/2021

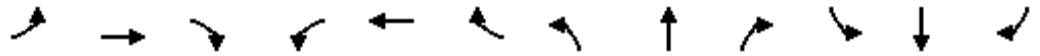
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	39	164	311	41	84	210	2424	296	81	1753	82
Future Volume (veh/h)	85	39	164	311	41	84	210	2424	296	81	1753	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	41	78	327	43	54	221	2552	312	85	1845	82
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	189	169	349	108	136	237	2770	860	104	2390	742
Arrive On Green	0.06	0.11	0.11	0.10	0.14	0.14	0.13	0.54	0.54	0.06	0.47	0.47
Sat Flow, veh/h	1781	1777	1585	3456	754	946	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	89	41	78	327	0	97	221	2552	312	85	1845	82
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	0	1700	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	4.6	2.0	4.3	8.8	0.0	4.9	11.5	43.0	10.5	4.4	28.3	2.7
Cycle Q Clear(g_c), s	4.6	2.0	4.3	8.8	0.0	4.9	11.5	43.0	10.5	4.4	28.3	2.7
Prop In Lane	1.00		1.00	1.00		0.56	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	114	189	169	349	0	244	237	2770	860	104	2390	742
V/C Ratio(X)	0.78	0.22	0.46	0.94	0.00	0.40	0.93	0.92	0.36	0.82	0.77	0.11
Avail Cap(c_a), veh/h	172	681	607	349	0	658	237	2770	860	104	2390	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	38.4	39.5	41.9	0.0	36.6	40.3	19.7	12.2	43.7	20.8	14.0
Incr Delay (d2), s/veh	5.9	0.6	2.0	31.7	0.0	1.0	39.9	6.4	1.2	35.4	2.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.9	1.8	5.3	0.0	2.1	7.3	15.1	3.8	2.9	10.1	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	39.0	41.4	73.7	0.0	37.6	80.2	26.1	13.4	79.1	23.3	14.3
LnGrp LOS	D	D	D	E	A	D	F	C	B	E	C	B
Approach Vol, veh/h		208			424			3085			2012	
Approach Delay, s/veh		44.3			65.4			28.7			25.3	
Approach LOS		D			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	55.5	14.0	14.5	17.0	48.5	10.5	18.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	51.0	9.5	36.0	12.5	44.0	9.1	36.4				
Max Q Clear Time (g_c+I1), s	6.4	45.0	10.8	6.3	13.5	30.3	6.6	6.9				
Green Ext Time (p_c), s	0.0	5.7	0.0	0.7	0.0	9.5	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay				30.8								
HCM 6th LOS				C								

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/24/2021

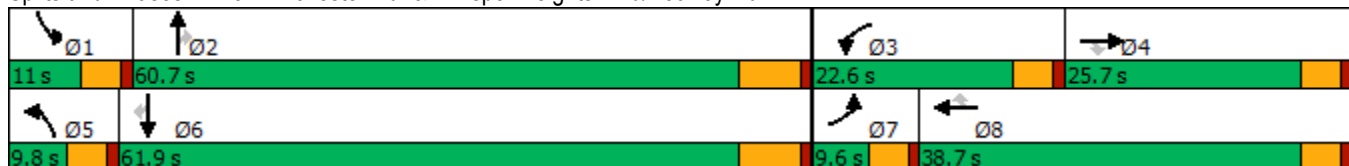


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↑↑↑	↗	↖↗	↑↑↑	↖
Traffic Volume (vph)	28	20	22	139	22	212	42	2690	1	203	1994	31
Future Volume (vph)	28	20	22	139	22	212	42	2690	1	203	1994	31
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	28.5	9.6	25.5	25.5
Total Split (s)	9.6	25.7	25.7	22.6	38.7	38.7	9.8	60.7	60.7	11.0	61.9	61.9
Total Split (%)	8.0%	21.4%	21.4%	18.8%	32.3%	32.3%	8.2%	50.6%	50.6%	9.2%	51.6%	51.6%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	5.1	10.1	10.1	13.0	15.8	15.8	5.2	54.8	54.8	6.5	58.2	58.2
Actuated g/C Ratio	0.05	0.10	0.10	0.13	0.16	0.16	0.05	0.56	0.56	0.07	0.59	0.59
v/c Ratio	0.32	0.11	0.08	0.62	0.08	0.63	0.47	0.99	0.00	0.94	0.69	0.03
Control Delay	58.4	45.7	0.5	53.5	35.8	26.0	65.7	38.4	0.0	94.1	17.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	45.7	0.5	53.5	35.8	26.0	65.7	38.4	0.0	94.1	17.9	0.1
LOS	E	D	A	D	D	C	E	D	A	F	B	A
Approach Delay		36.5			36.9			38.8			24.6	
Approach LOS		D			D			D			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 98.3	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 32.8	Intersection LOS: C
Intersection Capacity Utilization 85.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘↗	↑↑↑	↗
Traffic Volume (veh/h)	28	20	22	139	22	212	42	2690	1	203	1994	31
Future Volume (veh/h)	28	20	22	139	22	212	42	2690	1	203	1994	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	21	16	145	23	166	44	2802	1	211	2077	31
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	185	157	176	319	266	63	2740	850	219	2885	895
Arrive On Green	0.03	0.10	0.10	0.10	0.17	0.17	0.04	0.54	0.54	0.06	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1561	1781	5106	1584	3456	5106	1585
Grp Volume(v), veh/h	29	21	16	145	23	166	44	2802	1	211	2077	31
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1561	1781	1702	1584	1728	1702	1585
Q Serve(g_s), s	1.6	1.0	0.9	8.1	1.0	10.0	2.5	54.2	0.0	6.2	30.1	0.9
Cycle Q Clear(g_c), s	1.6	1.0	0.9	8.1	1.0	10.0	2.5	54.2	0.0	6.2	30.1	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	49	185	157	176	319	266	63	2740	850	219	2885	895
V/C Ratio(X)	0.59	0.11	0.10	0.82	0.07	0.62	0.70	1.02	0.00	0.96	0.72	0.03
Avail Cap(c_a), veh/h	88	389	330	317	630	526	92	2740	850	219	2885	895
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	41.5	41.4	44.6	35.2	38.9	48.2	23.4	10.8	47.2	16.1	9.7
Incr Delay (d2), s/veh	4.2	0.3	0.3	3.6	0.1	2.4	5.3	23.2	0.0	50.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.5	0.4	3.7	0.5	4.0	1.1	23.6	0.0	4.0	9.8	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	41.7	41.7	48.2	35.3	41.3	53.5	46.6	10.8	97.2	17.0	9.8
LnGrp LOS	D	D	D	D	D	D	D	F	B	F	B	A
Approach Vol, veh/h		66			334			2847			2319	
Approach Delay, s/veh		46.5			43.9			46.7			24.2	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	60.7	14.6	14.7	8.1	63.6	7.4	21.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	6.4	54.2	18.0	* 21	5.2	55.4	5.0	* 34				
Max Q Clear Time (g_c+I1), s	8.2	56.2	10.1	3.0	4.5	32.1	3.6	12.0				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.1	0.0	15.4	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay	37.1
HCM 6th LOS	D

Notes

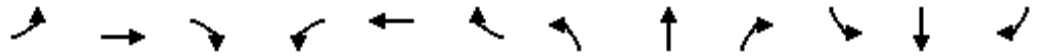
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/24/2021

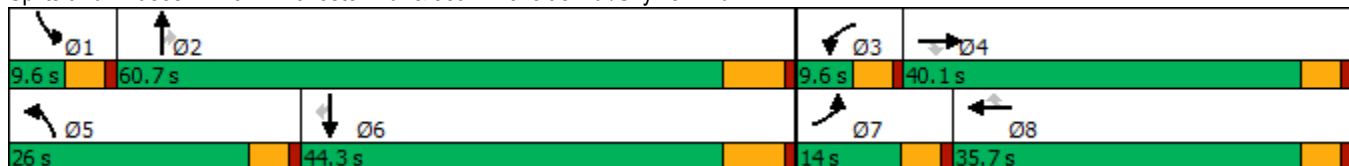


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↘	↙	↑	↘	↙	↑↑↑	↘	↙	↑↑↑	↘
Traffic Volume (vph)	174	6	238	10	6	27	426	2723	15	16	1897	161
Future Volume (vph)	174	6	238	10	6	27	426	2723	15	16	1897	161
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	14.0	40.1	40.1	9.6	35.7	35.7	26.0	60.7	60.7	9.6	44.3	44.3
Total Split (%)	11.7%	33.4%	33.4%	8.0%	29.8%	29.8%	21.7%	50.6%	50.6%	8.0%	36.9%	36.9%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.8	16.2	16.2	5.0	10.1	10.1	21.5	60.5	60.5	5.0	38.0	38.0
Actuated g/C Ratio	0.10	0.17	0.17	0.05	0.11	0.11	0.23	0.65	0.65	0.05	0.41	0.41
v/c Ratio	0.98	0.02	0.52	0.11	0.03	0.09	1.09	0.86	0.02	0.18	0.96	0.23
Control Delay	106.8	33.2	9.2	47.5	40.7	0.6	107.8	19.7	0.0	49.4	40.3	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.8	33.2	9.2	47.5	40.7	0.6	107.8	19.7	0.0	49.4	40.3	6.2
LOS	F	C	A	D	D	A	F	B	A	D	D	A
Approach Delay		50.2			16.7			31.4			37.7	
Approach LOS		D			B			C			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 93.4
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 35.0
 Intersection LOS: C
 Intersection Capacity Utilization 91.0%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (veh/h)	174	6	238	10	6	27	426	2723	15	16	1897	161
Future Volume (veh/h)	174	6	238	10	6	27	426	2723	15	16	1897	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	181	6	198	10	6	14	444	2836	13	17	1976	150
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	361	304	22	208	176	381	2922	888	34	1927	591
Arrive On Green	0.09	0.19	0.19	0.01	0.11	0.11	0.21	0.57	0.57	0.02	0.38	0.38
Sat Flow, veh/h	1781	1870	1575	1781	1870	1585	1781	5106	1552	1781	5106	1565
Grp Volume(v), veh/h	181	6	198	10	6	14	444	2836	13	17	1976	150
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1870	1585	1781	1702	1552	1781	1702	1565
Q Serve(g_s), s	9.4	0.3	11.6	0.6	0.3	0.8	21.4	53.5	0.4	0.9	37.8	6.6
Cycle Q Clear(g_c), s	9.4	0.3	11.6	0.6	0.3	0.8	21.4	53.5	0.4	0.9	37.8	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	361	304	22	208	176	381	2922	888	34	1927	591
V/C Ratio(X)	1.08	0.02	0.65	0.46	0.03	0.08	1.17	0.97	0.01	0.51	1.03	0.25
Avail Cap(c_a), veh/h	167	661	557	89	579	491	381	2922	888	89	1927	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	32.7	37.3	49.1	39.7	39.9	39.4	20.6	9.2	48.7	31.2	21.5
Incr Delay (d2), s/veh	93.3	0.0	2.4	5.6	0.1	0.2	99.8	11.0	0.0	4.4	27.2	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	0.1	4.6	0.3	0.1	0.3	19.2	19.8	0.1	0.4	18.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	138.7	32.7	39.6	54.8	39.7	40.1	139.1	31.6	9.3	53.0	58.4	22.5
LnGrp LOS	F	C	D	D	D	D	F	C	A	D	F	C
Approach Vol, veh/h		385			30			3293			2143	
Approach Delay, s/veh		86.1			44.9			46.1			55.8	
Approach LOS		F			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	63.8	5.8	24.0	26.0	44.3	14.0	15.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	54.2	5.0	* 35	21.4	37.8	9.4	* 31				
Max Q Clear Time (g_c+I1), s	2.9	55.5	2.6	13.6	23.4	39.8	11.4	2.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	52.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

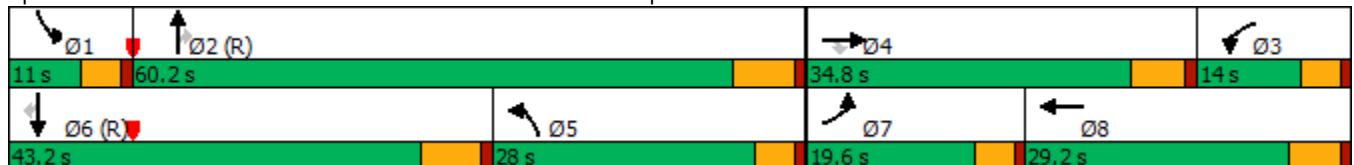


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔↔	↔↔	↑↓	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	362	430	1036	451	425	1271	3082	505	258	1924	272
Future Volume (vph)	362	430	1036	451	425	1271	3082	505	258	1924	272
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	15.8	9.6	36.5	36.5	9.6	38.5	38.5
Total Split (s)	19.6	34.8	34.8	14.0	29.2	28.0	60.2	60.2	11.0	43.2	43.2
Total Split (%)	16.3%	29.0%	29.0%	11.7%	24.3%	23.3%	50.2%	50.2%	9.2%	36.0%	36.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	0.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	6.5	3.6	5.5	6.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	15.5	26.4	25.4	14.0	24.9	24.4	54.7	53.7	7.4	37.7	36.7
Actuated g/C Ratio	0.13	0.22	0.21	0.12	0.21	0.20	0.46	0.45	0.06	0.31	0.31
v/c Ratio	0.81	0.54	0.85	1.13	0.74	1.82	1.25	0.61	1.22	1.13	0.47
Control Delay	65.8	43.5	19.6	132.3	48.8	401.7	147.1	18.5	179.8	104.9	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.8	43.5	19.6	132.3	48.8	401.7	147.1	18.5	179.8	104.9	14.8
LOS	E	D	B	F	D	F	F	B	F	F	B
Approach Delay		34.4			86.3		200.3			102.8	
Approach LOS		C			F		F			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 86 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.82	
Intersection Signal Delay: 135.5	Intersection LOS: F
Intersection Capacity Utilization 114.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔↔	↔↔	↑↑		↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	362	430	1036	451	425	129	1271	3082	505	258	1924	272
Future Volume (veh/h)	362	430	1036	451	425	129	1271	3082	505	258	1924	272
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	373	443	733	465	438	9	1310	3177	516	266	1984	275
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	935	756	309	804	17	1970	4609	1286	220	1763	478
Arrive On Green	0.19	0.38	0.24	0.13	0.33	0.21	0.83	1.00	0.81	0.09	0.47	0.31
Sat Flow, veh/h	3563	3741	3126	3563	3651	75	3563	5611	1582	3563	5611	1564
Grp Volume(v), veh/h	373	443	733	465	224	223	1310	3177	516	266	1984	275
Grp Sat Flow(s),veh/h/ln	1781	1870	1563	1781	1870	1856	1781	1870	1582	1781	1870	1564
Q Serve(g_s), s	12.1	10.8	27.9	10.4	11.7	11.8	16.8	0.0	22.2	7.4	37.7	22.0
Cycle Q Clear(g_c), s	12.1	10.8	27.9	10.4	11.7	11.8	16.8	0.0	22.2	7.4	37.7	22.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	450	935	756	309	412	409	1970	4609	1286	220	1763	478
V/C Ratio(X)	0.83	0.47	0.97	1.51	0.54	0.55	0.66	0.69	0.40	1.21	1.13	0.58
Avail Cap(c_a), veh/h	475	935	756	309	412	409	1970	4609	1286	220	1763	478
HCM Platoon Ratio	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.09	0.09	0.09	0.31	0.31	0.31
Uniform Delay (d), s/veh	47.4	31.5	45.1	52.2	35.3	35.5	6.0	0.0	13.0	54.5	31.7	53.7
Incr Delay (d2), s/veh	1.0	0.0	4.9	243.9	1.5	1.5	0.1	0.1	0.1	107.7	59.2	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	4.4	11.2	14.9	5.1	5.1	3.2	0.0	7.6	6.4	22.5	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	31.5	50.0	296.1	36.7	37.0	6.1	0.1	13.1	162.2	90.9	55.3
LnGrp LOS	D	C	D	F	D	D	A	A	B	F	F	E
Approach Vol, veh/h		1549			912			5003			2525	
Approach Delay, s/veh		44.3			169.1			3.0			94.5	
Approach LOS		D			F			A			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	104.1	15.2	34.8	71.9	43.2	18.8	31.2				
Change Period (Y+Rc), s	4.6	6.5	5.8	* 5.8	6.5	* 6.5	4.6	5.8				
Max Green Setting (Gmax), s	6.4	53.7	9.4	* 29	23.4	* 37	15.0	23.4				
Max Q Clear Time (g_c+I1), s	9.4	24.2	12.4	29.9	18.8	39.7	14.1	13.8				
Green Ext Time (p_c), s	0.0	27.7	0.0	0.0	1.5	0.0	0.1	1.8				

Intersection Summary

HCM 6th Ctrl Delay	47.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

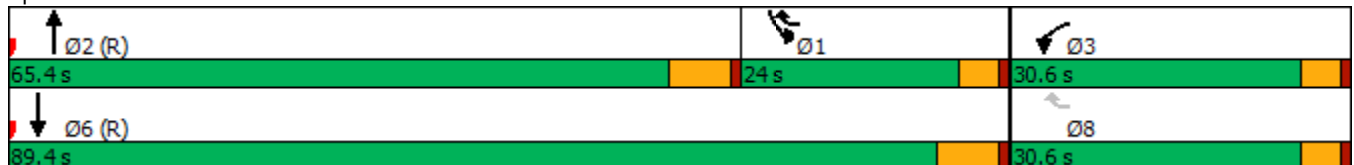
Timings
31: Winchester Rd. & Benton Rd.

	↙	↖	↑	↘	↓	∅8
Lane Group	WBL	WBR	NBT	SBL	SBT	∅8
Lane Configurations	↔↔	↔	↑↑↑	↔↔	↑↑↑	
Traffic Volume (vph)	374	1238	3570	800	2510	
Future Volume (vph)	374	1238	3570	800	2510	
Turn Type	Prot	pm+ov	NA	Prot	NA	
Protected Phases	3	1	2	1	6	8
Permitted Phases		8				
Detector Phase	3	1	2	1	6	
Switch Phase						
Minimum Initial (s)	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.6	9.6	38.5	9.6	16.5	30.6
Total Split (s)	30.6	24.0	65.4	24.0	89.4	30.6
Total Split (%)	25.5%	20.0%	54.5%	20.0%	74.5%	26%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag		Lag	Lead	Lag		
Lead-Lag Optimize?		Yes	Yes	Yes		
Recall Mode	None	None	C-Min	None	C-Min	None
Act Effct Green (s)	18.0	37.4	66.9	19.4	90.9	
Actuated g/C Ratio	0.15	0.31	0.56	0.16	0.76	
v/c Ratio	0.76	2.72	1.08	1.50	0.64	
Control Delay	58.4	798.8	66.2	269.0	17.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.4	798.8	66.2	269.0	17.7	
LOS	E	F	E	F	B	
Approach Delay	627.1		66.2		78.5	
Approach LOS	F		E		E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.72
 Intersection Signal Delay: 171.0
 Intersection LOS: F
 Intersection Capacity Utilization 146.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	374	1238	3570	522	800	2510
Future Volume (veh/h)	374	1238	3570	522	800	2510
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	402	525	3839	77	860	2699
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	497	575	3587	71	795	4309
Arrive On Green	0.14	0.14	0.49	0.49	0.22	0.77
Sat Flow, veh/h	3563	1585	7307	145	3563	5611
Grp Volume(v), veh/h	402	525	2937	979	860	2699
Grp Sat Flow(s),veh/h/ln	1781	1585	1870	1841	1781	1870
Q Serve(g_s), s	13.1	11.1	58.9	58.9	26.8	25.8
Cycle Q Clear(g_c), s	13.1	11.1	58.9	58.9	26.8	25.8
Prop In Lane	1.00	1.00		0.08	1.00	
Lane Grp Cap(c), veh/h	497	575	2754	903	795	4309
V/C Ratio(X)	0.81	0.91	1.07	1.08	1.08	0.63
Avail Cap(c_a), veh/h	772	697	2754	903	795	4309
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	0.09	0.09
Uniform Delay (d), s/veh	50.1	36.5	30.5	30.6	46.6	6.2
Incr Delay (d2), s/veh	1.8	13.5	30.8	39.8	39.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	4.8	31.2	33.0	15.6	6.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.9	49.9	61.4	70.4	86.2	6.3
LnGrp LOS	D	D	F	F	F	A
Approach Vol, veh/h	927		3916			3559
Approach Delay, s/veh	50.8		63.6			25.6
Approach LOS	D		E			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	33.3	65.4			98.7	21.3
Change Period (Y+Rc), s	6.5	* 6.5			6.5	4.6
Max Green Setting (Gmax), s	19.4	* 59			82.9	26.0
Max Q Clear Time (g_c+I1), s	28.8	60.9			27.8	15.1
Green Ext Time (p_c), s	0.0	0.0			38.2	1.6

Intersection Summary

HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

32: Winchester Rd. & Via Mira Mosa/Auld Rd.

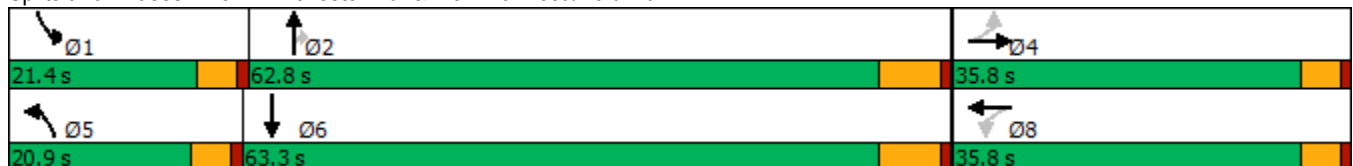


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↗	↖↗	↗	↖	↑↑↑↑	↗	↖	↑↑↑↑
Traffic Volume (vph)	174	48	361	81	124	3622	324	246	2422
Future Volume (vph)	174	48	361	81	124	3622	324	246	2422
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	35.8	35.8	35.8	35.8	20.9	62.8	62.8	21.4	63.3
Total Split (%)	29.8%	29.8%	29.8%	29.8%	17.4%	52.3%	52.3%	17.8%	52.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	31.1	31.1	31.1	31.1	16.3	56.3	56.3	16.8	56.8
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.14	0.47	0.47	0.14	0.47
v/c Ratio	1.08	0.32	0.70	0.74	0.55	1.09	0.41	1.05	0.80
Control Delay	135.9	19.0	48.3	34.4	57.7	77.7	10.8	120.4	28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	135.9	19.0	48.3	34.4	57.7	77.7	10.8	120.4	28.6
LOS	F	B	D	C	E	E	B	F	C
Approach Delay		82.1		41.2		71.8			36.4
Approach LOS		F		D		E			D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 56.7
 Intersection LOS: E
 Intersection Capacity Utilization 114.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔↔	↔		↔	↑↑↑↑	↔	↔	↑↑↑↑	
Traffic Volume (veh/h)	174	48	100	361	81	296	124	3622	324	246	2422	216
Future Volume (veh/h)	174	48	100	361	81	296	124	3622	324	246	2422	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	51	88	380	85	149	131	3813	255	259	2549	43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	398	152	262	554	150	263	246	3572	757	254	3532	60
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.14	0.48	0.48	0.14	0.48	0.48
Sat Flow, veh/h	2224	616	1063	2425	610	1068	1781	7481	1585	1781	7332	124
Grp Volume(v), veh/h	183	0	139	380	0	234	131	3813	255	259	1950	642
Grp Sat Flow(s),veh/h/ln	1112	0	1679	1212	0	1678	1781	1870	1585	1781	1870	1845
Q Serve(g_s), s	9.3	0.0	8.0	18.0	0.0	14.4	8.1	56.3	11.8	16.8	32.6	32.6
Cycle Q Clear(g_c), s	23.7	0.0	8.0	26.0	0.0	14.4	8.1	56.3	11.8	16.8	32.6	32.6
Prop In Lane	1.00		0.63	1.00		0.64	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	398	0	413	554	0	413	246	3572	757	254	2703	889
V/C Ratio(X)	0.46	0.00	0.34	0.69	0.00	0.57	0.53	1.07	0.34	1.02	0.72	0.72
Avail Cap(c_a), veh/h	437	0	443	597	0	443	246	3572	757	254	2703	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	0.0	36.5	47.2	0.0	38.9	47.3	30.8	19.2	50.6	24.3	24.3
Incr Delay (d2), s/veh	0.3	0.0	0.2	3.0	0.0	1.5	8.0	36.9	0.3	61.9	0.8	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	3.3	5.6	0.0	6.1	4.0	31.6	4.0	11.5	13.1	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	0.0	36.7	50.2	0.0	40.4	55.3	67.7	19.4	112.5	25.1	26.8
LnGrp LOS	D	A	D	D	A	D	E	F	B	F	C	C
Approach Vol, veh/h		322			614			4199			2851	
Approach Delay, s/veh		44.0			46.5			64.4			33.4	
Approach LOS		D			D			E			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.4	62.8		33.7	20.9	63.3		33.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	16.8	56.3		* 31	16.3	56.8		* 31				
Max Q Clear Time (g_c+I1), s	18.8	58.3		25.7	10.1	34.6		28.0				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.1	12.6		1.0				

Intersection Summary

HCM 6th Ctrl Delay	51.2
HCM 6th LOS	D

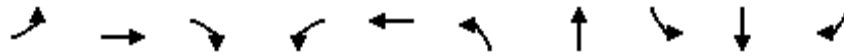
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	137	11	142	43	5	239	3411	20	2340	152
Future Volume (vph)	137	11	142	43	5	239	3411	20	2340	152
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	30.0	73.3	10.0	53.3	53.3
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	25.0%	61.1%	8.3%	44.4%	44.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	16.0	16.0	16.0		16.0	17.6	67.9	5.3	49.2	49.2
Actuated g/C Ratio	0.16	0.16	0.16		0.16	0.18	0.69	0.05	0.50	0.50
v/c Ratio	0.65	0.04	0.39		0.31	0.78	0.71	0.22	0.65	0.19
Control Delay	53.5	35.5	9.4		29.4	56.5	12.0	54.7	21.0	3.7
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.5	35.5	9.4		29.4	56.5	12.0	54.7	21.0	3.7
LOS	D	D	A		C	E	B	D	C	A
Approach Delay		31.2			29.4		14.8		20.2	
Approach LOS		C			C		B		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.8
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 17.8
 Intersection LOS: B
 Intersection Capacity Utilization 80.4%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	11	142	43	5	30	239	3411	80	20	2340	152
Future Volume (veh/h)	137	11	142	43	5	30	239	3411	80	20	2340	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	11	74	44	5	20	246	3516	10	21	2412	135
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	257	217	184	158	26	49	283	5126	15	40	4124	854
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.16	0.69	0.69	0.02	0.55	0.55
Sat Flow, veh/h	1386	1870	1585	805	227	421	1781	7456	21	1781	7481	1550
Grp Volume(v), veh/h	141	11	74	69	0	0	246	2645	881	21	2412	135
Grp Sat Flow(s),veh/h/ln	1386	1870	1585	1453	0	0	1781	1870	1866	1781	1870	1550
Q Serve(g_s), s	4.1	0.5	3.9	2.7	0.0	0.0	12.2	25.3	25.4	1.1	19.4	3.9
Cycle Q Clear(g_c), s	7.9	0.5	3.9	3.8	0.0	0.0	12.2	25.3	25.4	1.1	19.4	3.9
Prop In Lane	1.00		1.00	0.64		0.29	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	257	217	184	233	0	0	283	3858	1283	40	4124	854
V/C Ratio(X)	0.55	0.05	0.40	0.30	0.00	0.00	0.87	0.69	0.69	0.52	0.58	0.16
Avail Cap(c_a), veh/h	584	658	558	567	0	0	498	4124	1371	106	4124	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	35.7	37.3	37.1	0.0	0.0	37.3	8.4	8.4	43.9	13.5	10.0
Incr Delay (d2), s/veh	1.8	0.1	1.4	0.7	0.0	0.0	3.2	0.4	1.3	3.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.2	1.6	1.4	0.0	0.0	5.2	6.6	7.0	0.5	6.6	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	35.8	38.7	37.8	0.0	0.0	40.5	8.8	9.7	47.8	13.7	10.1
LnGrp LOS	D	D	D	D	A	A	D	A	A	D	B	B
Approach Vol, veh/h		226			69			3772			2568	
Approach Delay, s/veh		39.7			37.8			11.1			13.8	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	69.0		15.2	19.1	56.6		15.2				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.4	66.8		* 32	25.4	46.8		* 32				
Max Q Clear Time (g_c+I1), s	3.1	27.4		9.9	14.2	21.4		5.8				
Green Ext Time (p_c), s	0.0	35.1		0.7	0.2	19.5		0.3				

Intersection Summary

HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 9.1:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS
ANALYSIS WORKSHEETS**

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Timings
1: I-215 SB Ramps & Scott Rd.



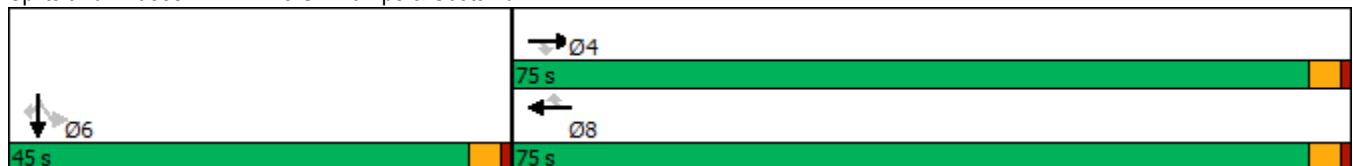
Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	917	767	1145	987	971	0	287
Future Volume (vph)	917	767	1145	987	971	0	287
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	75.0	75.0	75.0	75.0	45.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	62.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	56.5	56.5	56.5	56.5	36.8	36.8	36.8
Actuated g/C Ratio	0.56	0.56	0.56	0.56	0.36	0.36	0.36
v/c Ratio	0.51	0.67	0.63	0.79	0.85	0.27	0.27
Control Delay	15.0	3.7	17.2	5.8	39.1	16.7	16.7
Queue Delay	0.0	0.0	0.3	0.5	0.0	0.0	0.0
Total Delay	15.0	3.7	17.4	6.3	39.1	16.7	16.7
LOS	B	A	B	A	D	B	B
Approach Delay	9.9		12.3			34.0	
Approach LOS	A		B			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 101.7
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 16.9
 Intersection Capacity Utilization 66.0%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service C













Splits and Phases: 1: I-215 SB Ramps & Scott Rd.



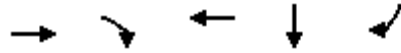
HCM 6th Signalized Intersection Summary
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↗	↗
Traffic Volume (veh/h)	0	917	767	0	1145	987	0	0	0	971	0	287
Future Volume (veh/h)	0	917	767	0	1145	987	0	0	0	971	0	287
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	997	826	0	1245	985				1055	0	220
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2158	963	0	2158	963				1155	0	1028
Arrive On Green	0.00	0.61	0.61	0.00	0.61	0.61				0.32	0.00	0.32
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	997	826	0	1245	985				1055	0	220
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	17.9	50.0	0.0	24.8	71.0				33.2	0.0	5.9
Cycle Q Clear(g_c), s	0.0	17.9	50.0	0.0	24.8	71.0				33.2	0.0	5.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2158	963	0	2158	963				1155	0	1028
V/C Ratio(X)	0.00	0.46	0.86	0.00	0.58	1.02				0.91	0.00	0.21
Avail Cap(c_a), veh/h	0	2158	963	0	2158	963				1249	0	1112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.5	18.8	0.0	13.9	23.0				37.9	0.0	28.7
Incr Delay (d2), s/veh	0.0	0.2	7.8	0.0	0.4	35.0				9.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.4	18.0	0.0	8.9	31.9				15.3	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.7	26.7	0.0	14.3	58.0				47.8	0.0	28.8
LnGrp LOS	A	B	C	A	B	F				D	A	C
Approach Vol, veh/h		1823			2230						1275	
Approach Delay, s/veh		19.0			33.6						44.5	
Approach LOS		B			C						D	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				75.0		41.9		75.0				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				71.0		41.0		71.0				
Max Q Clear Time (g_c+I1), s				52.0		35.2		73.0				
Green Ext Time (p_c), s				10.1		2.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			31.2									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

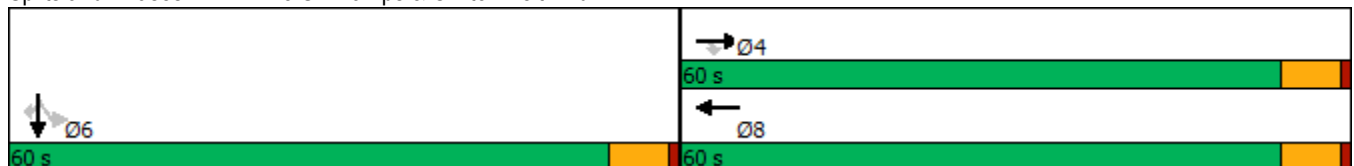


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑↑
Traffic Volume (vph)	1919	612	1824	0	1007
Future Volume (vph)	1919	612	1824	0	1007
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	60.0	60.0	60.0	60.0	60.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	53.4	53.4	53.4	51.0	51.0
Actuated g/C Ratio	0.45	0.45	0.45	0.43	0.43
v/c Ratio	0.88	0.62	0.84	0.67	0.87
Control Delay	35.3	4.4	32.8	31.7	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	4.4	32.9	31.7	38.4
LOS	D	A	C	C	D
Approach Delay	27.8		32.9	36.2	
Approach LOS	C		C	D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 117.4
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 31.5
 Intersection LOS: C
 Intersection Capacity Utilization 81.3%
 ICU Level of Service D
 Analysis Period (min) 15

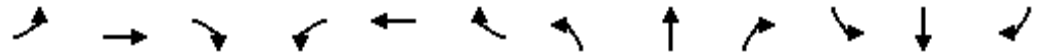
Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)

06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1919	612	0	1824	0	0	0	0	486	0	1007
Future Volume (veh/h)	0	1919	612	0	1824	0	0	0	0	486	0	1007
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	2041	568	0	1940	0				517	0	737
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	2
Cap, veh/h	0	2580	784	0	2580	0				642	0	1006
Arrive On Green	0.00	0.51	0.51	0.00	0.51	0.00				0.36	0.00	0.36
Sat Flow, veh/h	0	5274	1551	0	5443	0				1781	0	2790
Grp Volume(v), veh/h	0	2041	568	0	1940	0				517	0	737
Grp Sat Flow(s),veh/h/ln	0	1702	1551	0	1702	0				1781	0	1395
Q Serve(g_s), s	0.0	31.9	27.7	0.0	29.4	0.0				25.3	0.0	22.3
Cycle Q Clear(g_c), s	0.0	31.9	27.7	0.0	29.4	0.0				25.3	0.0	22.3
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2580	784	0	2580	0				642	0	1006
V/C Ratio(X)	0.00	0.79	0.72	0.00	0.75	0.00				0.81	0.00	0.73
Avail Cap(c_a), veh/h	0	2818	856	0	2818	0				983	0	1540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.8	18.7	0.0	19.1	0.0				27.9	0.0	26.9
Incr Delay (d2), s/veh	0.0	1.5	2.8	0.0	1.1	0.0				2.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.9	9.0	0.0	10.0	0.0				11.0	0.0	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.2	21.5	0.0	20.2	0.0				30.8	0.0	28.0
LnGrp LOS	A	C	C	A	C	A				C	A	C
Approach Vol, veh/h		2609			1940						1254	
Approach Delay, s/veh		21.3			20.2						29.1	
Approach LOS		C			C						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				55.5		41.4		55.5				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				53.5		53.5		53.5				
Max Q Clear Time (g_c+I1), s				33.9		27.3		31.4				
Green Ext Time (p_c), s				15.1		7.6		13.7				
Intersection Summary												
HCM 6th Ctrl Delay			22.6									
HCM 6th LOS			C									

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↕	↕	↗	↖	↗	↖	↗
Traffic Volume (vph)	240	1648	1800	1126	0	428	0	331
Future Volume (vph)	240	1648	1800	1126	0	428	0	331
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	103.0	103.0	103.0	103.0	17.0	17.0	17.0	17.0
Total Split (%)	85.8%	85.8%	85.8%	85.8%	14.2%	14.2%	14.2%	14.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	99.0	99.0	99.0	99.0	13.0	13.0	13.0	13.0
Actuated g/C Ratio	0.82	0.82	0.82	0.82	0.11	0.11	0.11	0.11
v/c Ratio	2.07	0.61	0.67	0.82	1.08	1.07	0.89	0.89
Control Delay	525.7	4.8	5.5	5.8	121.3	119.9	79.4	79.4
Queue Delay	0.0	1.8	15.1	3.2	0.0	0.0	0.0	0.0
Total Delay	525.7	6.6	20.6	9.0	121.3	119.9	79.4	79.4
LOS	F	A	C	A	F	F	E	E
Approach Delay		72.7	16.1		120.6		79.4	
Approach LOS		E	B		F		E	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 40	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.07	
Intersection Signal Delay: 47.1	Intersection LOS: D
Intersection Capacity Utilization 101.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗		↗	↗		↗	↗
Traffic Volume (veh/h)	240	1648	0	0	1800	1126	0	0	428	0	0	331
Future Volume (veh/h)	240	1648	0	0	1800	1126	0	0	428	0	0	331
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	261	1791	0	0	1957	1102	0	0	444	0	0	210
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	106	2932	0	0	2932	1308	0	203	343	0	203	343
Arrive On Green	0.82	0.82	0.00	0.00	0.82	0.82	0.00	0.00	0.11	0.00	0.00	0.11
Sat Flow, veh/h	75	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	261	1791	0	0	1957	1102	0	0	444	0	0	210
Grp Sat Flow(s),veh/h/ln	75	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	73.3	21.3	0.0	0.0	25.7	47.9	0.0	0.0	13.0	0.0	0.0	7.6
Cycle Q Clear(g_c), s	99.0	21.3	0.0	0.0	25.7	47.9	0.0	0.0	13.0	0.0	0.0	7.6
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	106	2932	0	0	2932	1308	0	203	343	0	203	343
V/C Ratio(X)	2.47	0.61	0.00	0.00	0.67	0.84	0.00	0.00	1.29	0.00	0.00	0.61
Avail Cap(c_a), veh/h	106	2932	0	0	2932	1308	0	203	343	0	203	343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	44.2	3.7	0.0	0.0	4.1	6.0	0.0	0.0	53.5	0.0	0.0	51.1
Incr Delay (d2), s/veh	689.6	0.4	0.0	0.0	0.6	5.2	0.0	0.0	151.9	0.0	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.4	4.3	0.0	0.0	5.2	10.1	0.0	0.0	12.3	0.0	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	733.7	4.1	0.0	0.0	4.7	11.2	0.0	0.0	205.4	0.0	0.0	54.3
LnGrp LOS	F	A	A	A	A	B	A	A	F	A	A	D
Approach Vol, veh/h		2052			3059			444				210
Approach Delay, s/veh		96.9			7.0			205.4				54.3
Approach LOS		F			A			F				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.0		103.0		17.0		103.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		13.0		99.0		13.0		99.0				
Max Q Clear Time (g_c+I1), s		15.0		101.0		9.6		49.9				
Green Ext Time (p_c), s		0.0		0.0		0.2		37.0				

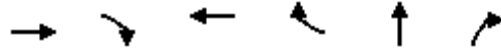
Intersection Summary

HCM 6th Ctrl Delay	56.0
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

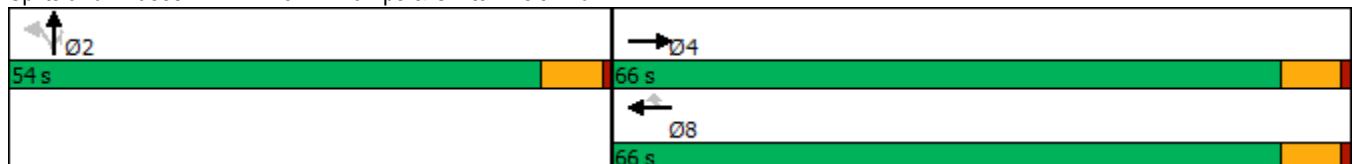


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↔	↑
Traffic Volume (vph)	1564	842	2660	423	0	847
Future Volume (vph)	1564	842	2660	423	0	847
Turn Type	NA	Free	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		Free		8		2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	23.5		16.5	16.5	16.5	16.5
Total Split (s)	66.0		66.0	66.0	54.0	54.0
Total Split (%)	55.0%		55.0%	55.0%	45.0%	45.0%
Yellow Time (s)	5.5		5.5	5.5	5.5	5.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min		Min	Min	None	None
Act Effct Green (s)	59.5	119.3	59.5	59.5	46.8	46.8
Actuated g/C Ratio	0.50	1.00	0.50	0.50	0.39	0.39
v/c Ratio	0.64	0.56	1.08	0.47	0.97	0.96
Control Delay	23.5	1.5	74.2	8.1	62.1	62.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	1.5	74.2	8.1	62.1	62.2
LOS	C	A	E	A	E	E
Approach Delay	15.8		65.2		62.1	
Approach LOS	B		E		E	

Intersection Summary













Cycle Length: 120	
Actuated Cycle Length: 119.3	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay: 46.8	Intersection LOS: D
Intersection Capacity Utilization 97.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	1564	842	0	2660	423	328	0	847	0	0	0
Future Volume (veh/h)	0	1564	842	0	2660	423	328	0	847	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1612	0	0	2742	436	338	261	512			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2655		0	2655	824	376	291	581			
Arrive On Green	0.00	0.52	0.00	0.00	0.52	0.52	0.37	0.37	0.37			
Sat Flow, veh/h	0	5274	1585	0	5274	1585	1026	793	1585			
Grp Volume(v), veh/h	0	1612	0	0	2742	436	599	0	512			
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1702	1585	1819	0	1585			
Q Serve(g_s), s	0.0	25.4	0.0	0.0	59.5	20.8	35.6	0.0	34.6			
Cycle Q Clear(g_c), s	0.0	25.4	0.0	0.0	59.5	20.8	35.6	0.0	34.6			
Prop In Lane	0.00		1.00	0.00		1.00	0.56		1.00			
Lane Grp Cap(c), veh/h	0	2655		0	2655	824	667	0	581			
V/C Ratio(X)	0.00	0.61		0.00	1.03	0.53	0.90	0.00	0.88			
Avail Cap(c_a), veh/h	0	2655		0	2655	824	755	0	658			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	19.3	0.0	0.0	27.5	18.2	34.2	0.0	33.9			
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	26.6	0.6	12.6	0.0	12.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	8.9	0.0	0.0	27.3	6.9	17.7	0.0	15.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.7	0.0	0.0	54.1	18.8	46.9	0.0	46.1			
LnGrp LOS	A	B		A	F	B	D	A	D			
Approach Vol, veh/h		1612	A		3178			1111				
Approach Delay, s/veh		19.7			49.3			46.5				
Approach LOS		B			D			D				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		48.4		66.0				66.0				
Change Period (Y+Rc), s		6.5		6.5				6.5				
Max Green Setting (Gmax), s		47.5		59.5				59.5				
Max Q Clear Time (g_c+I1), s		37.6		27.4				61.5				
Green Ext Time (p_c), s		4.4		13.2				0.0				

Intersection Summary

HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

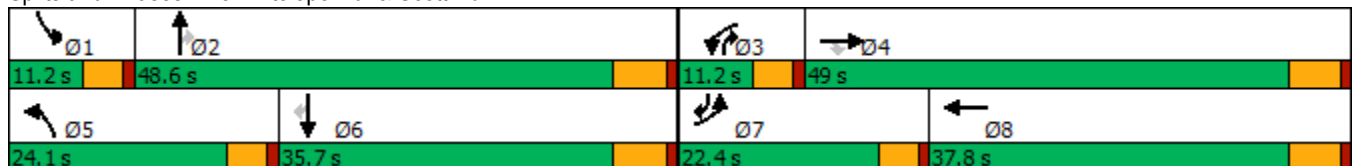


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑↑	↖↗	↑↑	↖	↖	↑	↖
Traffic Volume (vph)	155	1367	554	108	2038	420	51	101	103	179	468
Future Volume (vph)	155	1367	554	108	2038	420	51	101	103	179	468
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	22.4	49.0	49.0	11.2	37.8	24.1	48.6	11.2	11.2	35.7	22.4
Total Split (%)	18.7%	40.8%	40.8%	9.3%	31.5%	20.1%	40.5%	9.3%	9.3%	29.8%	18.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	14.3	43.4	43.4	6.4	35.5	17.3	25.4	34.0	11.7	16.2	36.3
Actuated g/C Ratio	0.14	0.42	0.42	0.06	0.34	0.17	0.24	0.33	0.11	0.16	0.35
v/c Ratio	0.36	1.01	0.72	0.55	1.35	0.80	0.06	0.19	0.57	0.67	0.82
Control Delay	43.2	57.4	18.2	59.6	190.8	53.8	28.2	4.7	62.1	53.9	35.2
Queue Delay	0.0	35.2	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	92.6	25.5	59.6	190.8	53.8	28.2	4.7	62.1	53.9	35.2
LOS	D	F	C	E	F	D	C	A	E	D	D
Approach Delay		71.0			184.5		42.9			43.4	
Approach LOS		E			F		D			D	

Intersection Summary

































Cycle Length: 120	
Actuated Cycle Length: 104.2	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.35	
Intersection Signal Delay: 109.7	Intersection LOS: F
Intersection Capacity Utilization 95.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 		 	 	
Traffic Volume (veh/h)	155	1367	554	108	2038	102	420	51	101	103	179	468
Future Volume (veh/h)	155	1367	554	108	2038	102	420	51	101	103	179	468
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	1486	460	117	2215	106	457	55	80	112	195	335
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	1388	619	173	1866	89	520	1107	573	106	412	456
Arrive On Green	0.07	0.39	0.39	0.05	0.37	0.37	0.15	0.31	0.31	0.06	0.22	0.22
Sat Flow, veh/h	3456	3554	1585	3456	4994	238	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	168	1486	460	117	1506	815	457	55	80	112	195	335
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1828	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	5.3	43.2	27.5	3.7	41.3	41.3	14.3	1.2	3.8	6.6	10.0	21.1
Cycle Q Clear(g_c), s	5.3	43.2	27.5	3.7	41.3	41.3	14.3	1.2	3.8	6.6	10.0	21.1
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	1388	619	173	1272	683	520	1107	573	106	412	456
V/C Ratio(X)	0.72	1.07	0.74	0.68	1.18	1.19	0.88	0.05	0.14	1.05	0.47	0.73
Avail Cap(c_a), veh/h	556	1388	619	206	1272	683	609	1376	693	106	506	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.6	33.7	28.9	51.6	34.6	34.6	46.0	26.6	23.7	52.0	37.5	35.6
Incr Delay (d2), s/veh	1.6	45.4	4.8	4.3	91.0	101.0	11.2	0.0	0.1	102.4	0.8	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	26.0	10.6	1.7	32.0	36.3	6.7	0.5	1.4	5.9	4.5	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.2	79.0	33.7	55.9	125.6	135.6	57.2	26.6	23.8	154.4	38.3	39.9
LnGrp LOS	D	F	C	E	F	F	E	C	C	F	D	D
Approach Vol, veh/h		2114			2438			592			642	
Approach Delay, s/veh		67.0			125.6			49.8			59.4	
Approach LOS		E			F			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	40.2	10.1	49.0	21.2	30.2	12.0	47.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.6	42.8	6.6	43.2	19.5	29.9	17.8	32.0				
Max Q Clear Time (g_c+I1), s	8.6	5.8	5.7	45.2	16.3	23.1	7.3	43.3				
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.3	1.3	0.2	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			89.1									
HCM 6th LOS			F									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

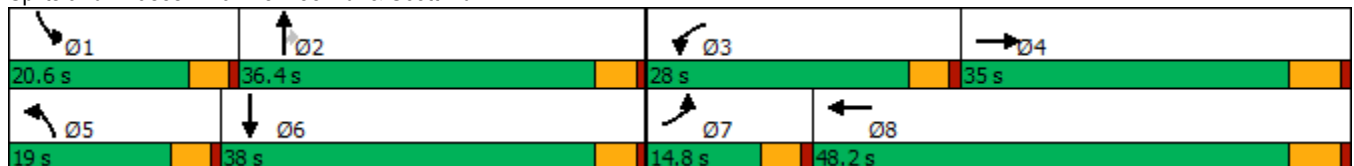


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	82	1341	410	2090	166	247	489	310	421
Future Volume (vph)	82	1341	410	2090	166	247	489	310	421
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	14.8	35.0	28.0	48.2	19.0	36.4	36.4	20.6	38.0
Total Split (%)	12.3%	29.2%	23.3%	40.2%	15.8%	30.3%	30.3%	17.2%	31.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	8.9	29.2	23.4	45.8	13.7	31.0	31.0	16.0	33.3
Actuated g/C Ratio	0.07	0.24	0.20	0.38	0.11	0.26	0.26	0.13	0.28
v/c Ratio	0.65	1.75	1.24	1.90	0.86	0.54	0.78	1.38	1.05
Control Delay	76.2	370.0	173.0	431.2	87.5	42.7	22.8	232.1	95.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.2	370.0	173.0	431.2	87.5	42.7	22.8	232.1	95.9
LOS	E	F	F	F	F	D	C	F	F
Approach Delay		354.1		393.7		40.2			147.2
Approach LOS		F		F		D			F

Intersection Summary


























Cycle Length: 120
 Actuated Cycle Length: 119.3
 Natural Cycle: 135
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.90
 Intersection Signal Delay: 297.7
 Intersection LOS: F
 Intersection Capacity Utilization 125.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (veh/h)	82	1341	88	410	2090	324	166	247	489	310	421	91
Future Volume (veh/h)	82	1341	88	410	2090	324	166	247	489	310	421	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	1412	82	432	2200	328	175	260	408	326	443	81
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	831	48	347	1175	171	202	494	419	238	437	80
Arrive On Green	0.06	0.24	0.24	0.20	0.38	0.38	0.11	0.26	0.26	0.13	0.28	0.28
Sat Flow, veh/h	1781	3414	198	1781	3113	453	1781	1870	1585	1781	1538	281
Grp Volume(v), veh/h	86	733	761	432	1232	1296	175	260	408	326	0	524
Grp Sat Flow(s),veh/h/ln	1781	1777	1835	1781	1777	1789	1781	1870	1585	1781	0	1820
Q Serve(g_s), s	5.7	29.2	29.2	23.4	45.3	45.3	11.6	14.3	30.6	16.0	0.0	34.1
Cycle Q Clear(g_c), s	5.7	29.2	29.2	23.4	45.3	45.3	11.6	14.3	30.6	16.0	0.0	34.1
Prop In Lane	1.00		0.11	1.00		0.25	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	108	432	446	347	671	675	202	494	419	238	0	517
V/C Ratio(X)	0.79	1.70	1.70	1.24	1.84	1.92	0.87	0.53	0.97	1.37	0.00	1.01
Avail Cap(c_a), veh/h	151	432	446	347	671	675	214	494	419	238	0	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.6	45.4	45.4	48.3	37.3	37.3	52.3	37.7	43.7	52.0	0.0	42.9
Incr Delay (d2), s/veh	11.7	322.7	326.5	131.7	382.0	419.3	27.0	1.0	37.2	192.0	0.0	42.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	51.1	53.3	22.7	89.7	97.3	6.7	6.7	15.8	19.8	0.0	21.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.3	368.1	371.9	180.0	419.3	456.6	79.3	38.8	80.9	244.0	0.0	85.7
LnGrp LOS	E	F	F	F	F	F	E	D	F	F	A	F
Approach Vol, veh/h		1580			2960			843				850
Approach Delay, s/veh		353.6			400.7			67.6				146.4
Approach LOS		F			F			E				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.6	36.4	28.0	35.0	18.2	38.8	11.9	51.1				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	16.0	* 32	23.4	29.2	14.4	* 33	10.2	42.4				
Max Q Clear Time (g_c+I1), s	18.0	32.6	25.4	31.2	13.6	36.1	7.7	47.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			309.0									
HCM 6th LOS			F									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
7: Whitewood Rd. & Clinton Keith Rd.

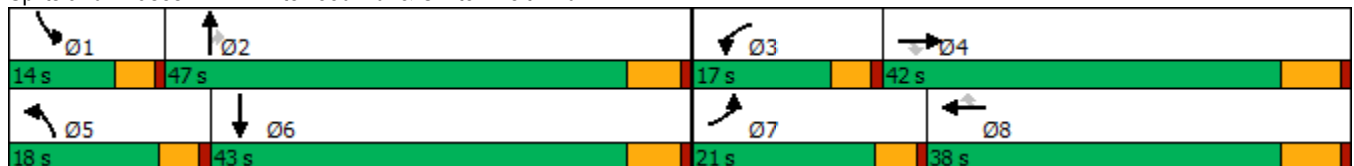
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	645	1490	210	323	1998	232	237	189	153	230	454
Future Volume (vph)	645	1490	210	323	1998	232	237	189	153	230	454
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	21.0	42.0	42.0	17.0	38.0	38.0	18.0	47.0	47.0	14.0	43.0
Total Split (%)	17.5%	35.0%	35.0%	14.2%	31.7%	31.7%	15.0%	39.2%	39.2%	11.7%	35.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	16.4	35.5	35.5	12.4	31.5	31.5	13.4	40.5	40.5	9.4	36.5
Actuated g/C Ratio	0.14	0.30	0.30	0.10	0.26	0.26	0.11	0.34	0.34	0.08	0.31
v/c Ratio	1.49	1.54	0.41	0.99	1.62	0.45	1.30	0.32	0.26	1.80	0.96
Control Delay	266.5	278.9	17.4	97.9	312.8	13.1	209.6	31.0	5.2	419.4	49.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	266.5	278.9	17.4	97.9	312.8	13.1	209.6	31.0	5.2	419.4	49.2
LOS	F	F	B	F	F	B	F	C	A	F	D
Approach Delay		252.1			258.4			97.4			116.6
Approach LOS		F			F			F			F

Intersection Summary
































Cycle Length: 120	
Actuated Cycle Length: 119.3	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.80	
Intersection Signal Delay: 215.8	Intersection LOS: F
Intersection Capacity Utilization 119.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  			 			 	
Traffic Volume (veh/h)	645	1490	210	323	1998	232	237	189	153	230	454	580
Future Volume (veh/h)	645	1490	210	323	1998	232	237	189	153	230	454	580
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	701	1620	168	351	2172	225	258	205	139	250	493	494
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	472	1051	469	357	1340	416	199	642	544	140	551	491
Arrive On Green	0.14	0.30	0.30	0.10	0.26	0.26	0.11	0.34	0.34	0.08	0.31	0.31
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	701	1620	168	351	2172	225	258	205	139	250	493	494
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	16.4	35.5	10.0	12.2	31.5	14.6	13.4	9.7	7.6	9.4	31.8	37.2
Cycle Q Clear(g_c), s	16.4	35.5	10.0	12.2	31.5	14.6	13.4	9.7	7.6	9.4	31.8	37.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	472	1051	469	357	1340	416	199	642	544	140	551	491
V/C Ratio(X)	1.48	1.54	0.36	0.98	1.62	0.54	1.30	0.32	0.26	1.79	0.90	1.01
Avail Cap(c_a), veh/h	472	1051	469	357	1340	416	199	642	544	140	551	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	42.3	33.3	53.7	44.3	38.0	53.3	29.1	28.4	55.3	39.5	41.4
Incr Delay (d2), s/veh	229.0	248.2	0.5	42.8	282.7	1.4	165.6	0.3	0.2	383.4	17.1	41.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.8	50.8	3.7	7.2	47.5	5.6	15.0	4.3	2.8	19.0	15.9	19.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	280.8	290.5	33.7	96.5	326.9	39.4	218.9	29.3	28.6	438.7	56.6	83.3
LnGrp LOS	F	F	C	F	F	D	F	C	C	F	E	F
Approach Vol, veh/h		2489			2748			602			1237	
Approach Delay, s/veh		270.4			274.0			110.4			144.5	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	47.0	17.0	42.0	18.0	43.0	21.0	38.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	9.4	41.2	12.4	35.5	13.4	37.2	16.4	31.5				
Max Q Clear Time (g_c+I1), s	11.4	11.7	14.2	37.5	15.4	39.2	18.4	33.5				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			236.2									
HCM 6th LOS			F									

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/21/2021

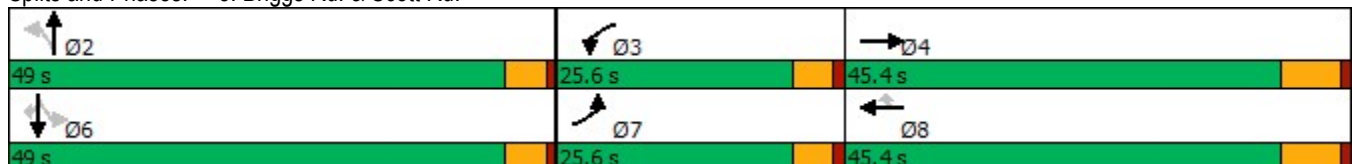


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	22	1662	62	2434	190	482	14	133	25	62
Future Volume (vph)	22	1662	62	2434	190	482	14	133	25	62
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	25.6	45.4	25.6	45.4	45.4	49.0	49.0	49.0	49.0	49.0
Total Split (%)	21.3%	37.8%	21.3%	37.8%	37.8%	40.8%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	6.1	39.0	8.4	45.3	45.3		44.5		44.5	44.5
Actuated g/C Ratio	0.06	0.37	0.08	0.43	0.43		0.42		0.42	0.42
v/c Ratio	0.24	2.10	0.48	1.72	0.26		1.31		0.34	0.09
Control Delay	54.5	520.0	58.6	352.9	4.0		181.9		24.5	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	54.5	520.0	58.6	352.9	4.0		181.9		24.5	4.7
LOS	D	F	E	F	A		F		C	A
Approach Delay		515.9		321.5			181.9		18.9	
Approach LOS		F		F			F		B	

Intersection Summary

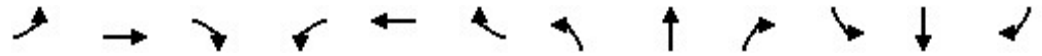
Cycle Length: 120	
Actuated Cycle Length: 105.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.10	
Intersection Signal Delay: 378.8	Intersection LOS: F
Intersection Capacity Utilization 122.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1662	864	62	2434	190	482	14	94	133	25	62
Future Volume (veh/h)	22	1662	864	62	2434	190	482	14	94	133	25	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	1787	854	67	2617	195	518	15	101	143	27	41
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	896	396	87	1416	632	464	12	78	622	112	675
Arrive On Green	0.02	0.37	0.37	0.05	0.40	0.40	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1781	2397	1059	1781	3554	1585	943	27	184	1313	264	1585
Grp Volume(v), veh/h	24	1287	1354	67	2617	195	634	0	0	170	0	41
Grp Sat Flow(s),veh/h/ln	1781	1777	1680	1781	1777	1585	1155	0	0	1576	0	1585
Q Serve(g_s), s	1.4	38.9	38.9	3.9	41.5	8.8	37.1	0.0	0.0	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.4	38.9	38.9	3.9	41.5	8.8	44.3	0.0	0.0	7.2	0.0	1.6
Prop In Lane	1.00		0.63	1.00		1.00	0.82		0.16	0.84		1.00
Lane Grp Cap(c), veh/h	43	664	628	87	1416	632	554	0	0	735	0	675
V/C Ratio(X)	0.56	1.94	2.16	0.77	1.85	0.31	1.14	0.00	0.00	0.23	0.00	0.06
Avail Cap(c_a), veh/h	359	664	628	359	1416	632	554	0	0	735	0	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.2	32.6	32.6	48.9	31.3	21.5	35.6	0.0	0.0	19.2	0.0	17.6
Incr Delay (d2), s/veh	4.2	427.2	525.9	5.4	384.5	0.3	84.4	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	93.8	105.9	1.8	91.4	3.0	27.4	0.0	0.0	2.6	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.4	459.8	558.5	54.3	415.8	21.7	119.9	0.0	0.0	19.4	0.0	17.7
LnGrp LOS	D	F	F	D	F	C	F	A	A	B	A	B
Approach Vol, veh/h		2665			2879			634				211
Approach Delay, s/veh		506.3			380.7			119.9				19.0
Approach LOS		F			F			F				B
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		49.0	9.7	45.4		49.0	7.1	48.0				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 44	21.0	38.9		* 44	21.0	38.9				
Max Q Clear Time (g_c+I1), s		46.3	5.9	40.9		9.2	3.4	43.5				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.2	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	395.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/v ~~40~~ 99.7

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	201	930	581	27	1376	36	780	174	11	99	166	200
Future Vol, veh/h	201	930	581	27	1376	36	780	174	11	99	166	200
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	207	959	599	28	1419	37	804	179	11	102	171	206
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	1710	1419.8	859.2	331.4
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	81%	12%	2%	21%
Vol Thru, %	18%	54%	96%	36%
Vol Right, %	1%	34%	3%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	965	1712	1439	465
LT Vol	780	201	27	99
Through Vol	174	930	1376	166
RT Vol	11	581	36	200
Lane Flow Rate	995	1765	1484	479
Geometry Grp	1	1	1	1
Degree of Util (X)	2.704	4.633	3.964	1.254
Departure Headway (Hd)	35.985	32.139	36.201	67.683
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	119	141	119	62
Service Time	33.985	30.139	34.201	65.683
HCM Lane V/C Ratio	8.361	12.518	12.471	7.726
HCM Control Delay	859.2	1710	1419.8	331.4
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	25.3	54.4	40.5	5.9

Intersection												
Int Delay, s/veh	32.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	4	21	39	0	237	14	590	11	88	695	29
Future Vol, veh/h	6	4	21	39	0	237	14	590	11	88	695	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	4	23	42	0	258	15	641	12	96	755	32

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1769	1646	771	1654	1656	647	787	0	0	653	0	0
Stage 1	963	963	-	677	677	-	-	-	-	-	-	-
Stage 2	806	683	-	977	979	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	65	99	400	78	98	471	832	-	-	934	-	-
Stage 1	307	334	-	443	452	-	-	-	-	-	-	-
Stage 2	376	449	-	302	328	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	25	79	400	59	78	471	832	-	-	934	-	-
Mov Cap-2 Maneuver	25	79	-	59	78	-	-	-	-	-	-	-
Stage 1	298	273	-	431	439	-	-	-	-	-	-	-
Stage 2	166	436	-	229	268	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	67.2	190.6	0.2	1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	832	-	-	90	237	934	-
HCM Lane V/C Ratio	0.018	-	-	0.374	1.266	0.102	-
HCM Control Delay (s)	9.4	0	-	67.2	190.6	9.3	0
HCM Lane LOS	A	A	-	F	F	A	A
HCM 95th %tile Q(veh)	0.1	-	-	1.5	15.3	0.3	-

Intersection												
Int Delay, s/veh	12.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Vol, veh/h	24	18	8	249	19	98	2	538	97	39	608	10
Future Vol, veh/h	24	18	8	249	19	98	2	538	97	39	608	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	20	9	271	21	107	2	585	105	42	661	11

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1457	1445	336	1067	1398	638	672	0	0	690	0	0
Stage 1	751	751	-	642	642	-	-	-	-	-	-	-
Stage 2	706	694	-	425	756	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	99	131	661	~ 188	140	476	917	-	-	903	-	-
Stage 1	370	417	-	462	468	-	-	-	-	-	-	-
Stage 2	426	443	-	578	415	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	69	125	661	~ 168	133	476	917	-	-	903	-	-
Mov Cap-2 Maneuver	174	239	-	298	255	-	-	-	-	-	-	-
Stage 1	369	397	-	461	467	-	-	-	-	-	-	-
Stage 2	315	442	-	517	395	-	-	-	-	-	-	-

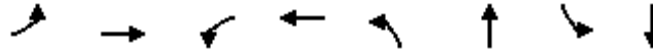
Approach	EB	WB	NB	SB
HCM Control Delay, s	26.4	53	0	0.5
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	917	-	-	222	298	417	903	-	-
HCM Lane V/C Ratio	0.002	-	-	0.245	0.908	0.305	0.047	-	-
HCM Control Delay (s)	8.9	-	-	26.4	69.7	17.4	9.2	-	-
HCM Lane LOS	A	-	-	D	F	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9	8.5	1.3	0.1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/22/2021

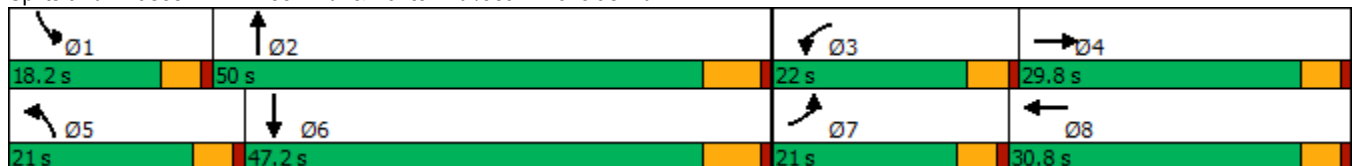


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	143	264	150	304	135	398	94	821
Future Volume (vph)	143	264	150	304	135	398	94	821
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	21.0	29.8	22.0	30.8	21.0	50.0	18.2	47.2
Total Split (%)	17.5%	24.8%	18.3%	25.7%	17.5%	41.7%	15.2%	39.3%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	16.5	19.5	17.5	20.5	12.9	43.8	10.4	41.2
Actuated g/C Ratio	0.15	0.18	0.16	0.18	0.12	0.39	0.09	0.37
v/c Ratio	0.59	0.69	0.59	0.78	0.72	0.39	0.62	0.73
Control Delay	56.4	40.6	54.9	42.7	67.8	25.0	66.4	35.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	40.6	54.9	42.7	67.8	25.0	66.4	35.2
LOS	E	D	D	D	E	C	E	D
Approach Delay		44.7		45.5		34.2		38.2
Approach LOS		D		D		C		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 111.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 40.3
 Intersection LOS: D
 Intersection Capacity Utilization 77.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	264	152	150	304	196	135	398	94	94	821	49
Future Volume (veh/h)	143	264	152	150	304	196	135	398	94	94	821	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	287	122	163	330	189	147	433	79	102	892	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	442	184	284	411	229	176	1209	219	128	1292	67
Arrive On Green	0.15	0.18	0.18	0.16	0.19	0.19	0.10	0.40	0.40	0.07	0.38	0.38
Sat Flow, veh/h	1781	2447	1015	1781	2164	1207	1781	2998	543	1781	3435	177
Grp Volume(v), veh/h	155	206	203	163	269	250	147	255	257	102	461	477
Grp Sat Flow(s),veh/h/ln	1781	1777	1686	1781	1777	1594	1781	1777	1764	1781	1777	1835
Q Serve(g_s), s	8.8	11.7	12.2	9.2	15.8	16.4	8.8	10.9	11.1	6.1	23.8	23.8
Cycle Q Clear(g_c), s	8.8	11.7	12.2	9.2	15.8	16.4	8.8	10.9	11.1	6.1	23.8	23.8
Prop In Lane	1.00		0.60	1.00		0.76	1.00		0.31	1.00		0.10
Lane Grp Cap(c), veh/h	268	321	305	284	338	303	176	717	711	128	668	690
V/C Ratio(X)	0.58	0.64	0.66	0.57	0.80	0.82	0.83	0.36	0.36	0.80	0.69	0.69
Avail Cap(c_a), veh/h	268	409	388	284	426	382	268	717	711	222	668	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	41.4	41.6	42.4	42.1	42.4	48.2	22.7	22.7	49.8	28.6	28.6
Incr Delay (d2), s/veh	8.8	2.2	2.9	8.2	8.2	11.2	7.9	0.3	0.3	4.3	5.8	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	5.3	5.3	4.7	7.6	7.3	4.2	4.3	4.4	2.8	10.5	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	43.6	44.4	50.5	50.3	53.6	56.1	23.0	23.0	54.1	34.4	34.2
LnGrp LOS	D	D	D	D	D	D	E	C	C	D	C	C
Approach Vol, veh/h		564			682			659			1040	
Approach Delay, s/veh		46.2			51.6			30.4			36.3	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	50.2	22.0	24.4	15.4	47.2	21.0	25.4				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	13.6	43.8	17.4	* 25	16.4	41.0	16.4	* 26				
Max Q Clear Time (g_c+I1), s	8.1	13.1	11.2	14.2	10.8	25.8	10.8	18.4				
Green Ext Time (p_c), s	0.0	2.8	0.1	1.8	0.1	4.7	0.1	2.0				

Intersection Summary

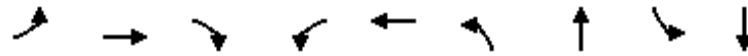
HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
06/23/2021

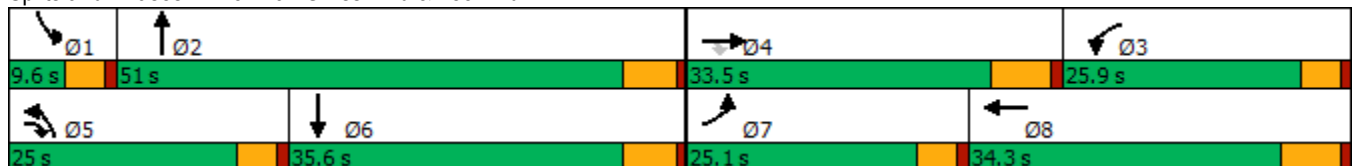


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↔↔	↑↑	↔↔	↑↑	
Traffic Volume (vph)	391	386	819	555	738	698	504	39	766	
Future Volume (vph)	391	386	819	555	738	698	504	39	766	
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA	
Protected Phases	7	4	5	3	8	5	2	1	6	
Permitted Phases	4									
Detector Phase	7	4	5	3	8	5	2	1	6	
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8	
Total Split (s)	25.1	33.5	25.0	25.9	34.3	25.0	51.0	9.6	35.6	
Total Split (%)	20.9%	27.9%	20.8%	21.6%	28.6%	20.8%	42.5%	8.0%	29.7%	
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.6	5.5	4.6	3.6	5.5	3.6	4.8	3.6	4.8	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None	None	
Act Effct Green (s)	18.2	18.8	40.1	27.4	28.1	21.4	48.3	6.0	30.8	
Actuated g/C Ratio	0.16	0.16	0.35	0.24	0.24	0.18	0.42	0.05	0.27	
v/c Ratio	0.74	0.67	1.41	0.69	0.89	1.11	0.54	0.22	1.14	
Control Delay	55.2	51.4	217.8	45.8	55.6	114.4	23.3	57.3	111.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.2	51.4	217.8	45.8	55.6	114.4	23.3	57.3	111.6	
LOS	E	D	F	D	E	F	C	E	F	
Approach Delay	137.8					51.5		65.4		109.7
Approach LOS	F					D		E		F

Intersection Summary

































Cycle Length: 120
 Actuated Cycle Length: 116
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.41
 Intersection Signal Delay: 91.8
 Intersection Capacity Utilization 108.8%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service G

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 	 	 	 		 	 		 	 	 
Traffic Volume (veh/h)	391	386	819	555	738	28	698	504	306	39	766	311
Future Volume (veh/h)	391	386	819	555	738	28	698	504	306	39	766	311
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	407	402	436	578	769	14	727	525	314	41	798	116
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	504	649	550	672	871	16	682	929	554	147	871	127
Arrive On Green	0.14	0.26	0.16	0.28	0.36	0.23	0.29	0.42	0.41	0.04	0.27	0.26
Sat Flow, veh/h	3563	3741	1585	3563	3662	67	3563	2195	1310	3563	3193	464
Grp Volume(v), veh/h	407	402	436	578	393	390	727	447	392	41	467	447
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1858	1781	1870	1635	1781	1870	1787
Q Serve(g_s), s	12.4	10.6	13.4	17.2	22.0	22.1	21.4	20.3	20.5	1.2	27.1	27.1
Cycle Q Clear(g_c), s	12.4	10.6	13.4	17.2	22.0	22.1	21.4	20.3	20.5	1.2	27.1	27.1
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.80	1.00		0.26
Lane Grp Cap(c), veh/h	504	649	550	672	445	442	682	791	692	147	510	487
V/C Ratio(X)	0.81	0.62	0.79	0.86	0.88	0.88	1.07	0.57	0.57	0.28	0.92	0.92
Avail Cap(c_a), veh/h	685	937	672	711	482	479	682	791	692	191	515	492
HCM Platoon Ratio	1.00	1.50	1.00	1.50	1.50	1.00	1.50	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	38.1	12.0	38.7	34.5	34.7	39.8	24.5	24.8	52.0	39.4	39.5
Incr Delay (d2), s/veh	3.6	1.0	5.3	9.4	16.5	16.6	53.4	0.9	1.1	0.4	21.1	21.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	4.4	4.4	7.3	10.2	10.3	13.1	8.6	7.7	0.6	14.8	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.2	39.0	17.4	48.1	51.0	51.4	93.2	25.4	25.9	52.4	60.5	61.4
LnGrp LOS	D	D	B	D	D	D	F	C	C	D	E	E
Approach Vol, veh/h		1245			1361			1566			955	
Approach Delay, s/veh		35.1			49.9			57.0			60.6	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	52.1	26.6	24.9	25.0	35.3	19.4	32.1				
Change Period (Y+Rc), s	4.6	5.8	6.5	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	45.2	21.3	* 27	20.4	29.8	20.5	27.8				
Max Q Clear Time (g_c+I1), s	3.2	22.5	19.2	15.4	23.4	29.1	14.4	24.1				
Green Ext Time (p_c), s	0.0	5.1	0.3	3.0	0.0	0.4	0.4	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			50.5									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

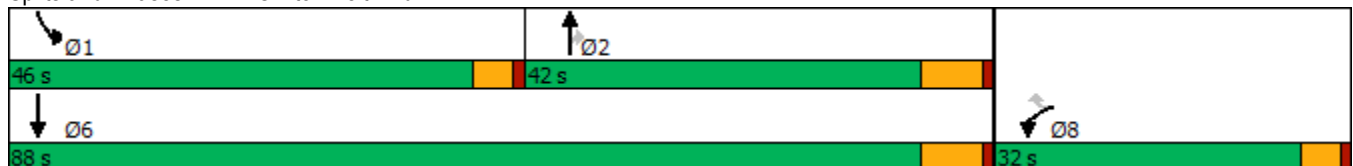
Timings
14: Clinton Keith Rd.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	218	823	707	273	877	602
Future Volume (vph)	218	823	707	273	877	602
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	28.5	28.5	9.6	16.5
Total Split (s)	32.0	32.0	42.0	42.0	46.0	88.0
Total Split (%)	26.7%	26.7%	35.0%	35.0%	38.3%	73.3%
Yellow Time (s)	3.6	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	17.6	17.6	28.7	28.7	30.5	64.0
Actuated g/C Ratio	0.19	0.19	0.31	0.31	0.33	0.69
v/c Ratio	0.75	0.70	0.70	0.43	0.84	0.27
Control Delay	22.0	10.4	34.1	5.7	38.3	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	10.4	34.1	5.7	38.3	6.2
LOS	C	B	C	A	D	A
Approach Delay	17.5		26.2			25.2
Approach LOS	B		C			C

Intersection Summary

















Cycle Length: 120	
Actuated Cycle Length: 93.4	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 23.2	Intersection LOS: C
Intersection Capacity Utilization 72.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
14: Clinton Keith Rd.

Keller Crossing (JN:13649)
06/23/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (veh/h)	218	823	707	273	877	602
Future Volume (veh/h)	218	823	707	273	877	602
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	234	885	760	294	943	647
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	486	865	965	430	1034	2191
Arrive On Green	0.27	0.27	0.27	0.27	0.30	0.62
Sat Flow, veh/h	1781	3170	3647	1585	3456	3647
Grp Volume(v), veh/h	234	885	760	294	943	647
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1728	1777
Q Serve(g_s), s	11.0	27.4	19.9	16.7	26.4	8.6
Cycle Q Clear(g_c), s	11.0	27.4	19.9	16.7	26.4	8.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	486	865	965	430	1034	2191
V/C Ratio(X)	0.48	1.02	0.79	0.68	0.91	0.30
Avail Cap(c_a), veh/h	486	865	1257	560	1425	2885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	36.5	33.9	32.7	33.9	9.0
Incr Delay (d2), s/veh	0.7	36.5	2.6	2.3	5.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	14.1	8.8	6.6	10.9	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.3	73.0	36.4	35.0	39.8	9.1
LnGrp LOS	C	F	D	C	D	A
Approach Vol, veh/h	1119		1054			1590
Approach Delay, s/veh	64.3		36.0			27.3
Approach LOS	E		D			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	34.6	33.8			68.4	32.0
Change Period (Y+Rc), s	4.6	6.5			6.5	4.6
Max Green Setting (Gmax), s	41.4	35.5			81.5	27.4
Max Q Clear Time (g_c+I1), s	28.4	21.9			10.6	29.4
Green Ext Time (p_c), s	1.6	5.4			4.2	0.0

Intersection Summary

HCM 6th Ctrl Delay	40.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection												
Intersection Delay, s/veh	8.4											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	221	19	2	107	0	12	0	3	2	0	0
Future Vol, veh/h	0	221	19	2	107	0	12	0	3	2	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	240	21	2	116	0	13	0	3	2	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	7.9	7.9	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	80%	0%	2%	100%
Vol Thru, %	0%	92%	98%	0%
Vol Right, %	20%	8%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	240	109	2
LT Vol	12	0	2	2
Through Vol	0	221	107	0
RT Vol	3	19	0	0
Lane Flow Rate	16	261	118	2
Geometry Grp	1	1	1	1
Degree of Util (X)	0.022	0.29	0.137	0.003
Departure Headway (Hd)	4.787	4.006	4.164	4.967
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	752	892	853	725
Service Time	2.787	2.051	2.231	2.968
HCM Lane V/C Ratio	0.021	0.293	0.138	0.003
HCM Control Delay	7.9	8.7	7.9	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.2	0.5	0

Intersection						
Int Delay, s/veh	6.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑	
Traffic Vol, veh/h	2	215	100	25	99	3
Future Vol, veh/h	2	215	100	25	99	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	234	109	27	108	3

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	342	110	111	0	-	0
Stage 1	110	-	-	-	-	-
Stage 2	232	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	641	943	1478	-	-	-
Stage 1	914	-	-	-	-	-
Stage 2	785	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	594	943	1478	-	-	-
Mov Cap-2 Maneuver	641	-	-	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	785	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	6.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1478	-	939	-	-
HCM Lane V/C Ratio	0.074	-	0.251	-	-
HCM Control Delay (s)	7.6	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1	-	-

Timings
20: Winchester Rd. & Domenigoni Pkwy

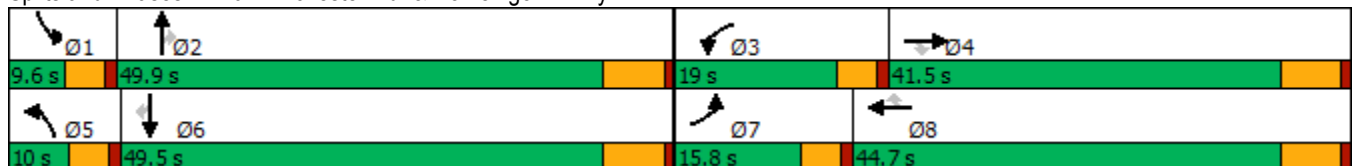
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	604	179	831	476	293	250	600	781	642	886	40
Future Volume (vph)	77	604	179	831	476	293	250	600	781	642	886	40
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	15.8	41.5	41.5	19.0	44.7	44.7	10.0	49.9	49.9	9.6	49.5	49.5
Total Split (%)	13.2%	34.6%	34.6%	15.8%	37.3%	37.3%	8.3%	41.6%	41.6%	8.0%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	7.1	26.5	26.5	14.4	35.9	35.9	5.4	43.5	43.5	5.0	43.1	43.1
Actuated g/C Ratio	0.06	0.24	0.24	0.13	0.32	0.32	0.05	0.39	0.39	0.04	0.39	0.39
v/c Ratio	0.38	0.77	0.41	2.00	0.31	0.47	3.13	0.46	1.06	8.65	0.69	0.06
Control Delay	56.1	46.2	17.0	482.7	29.7	10.8	1000.3	27.5	71.9	3472.9	32.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	46.2	17.0	482.7	29.7	10.8	1000.3	27.5	71.9	3472.9	32.7	0.2
LOS	E	D	B	F	C	B	F	C	E	F	C	A
Approach Delay		41.0			261.5			197.9			1439.7	
Approach LOS		D			F			F			F	

Intersection Summary

































Cycle Length: 120
 Actuated Cycle Length: 111.7
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 8.65
 Intersection Signal Delay: 536.3
 Intersection LOS: F
 Intersection Capacity Utilization 115.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
20: Winchester Rd. & Domenigoni Pkwy

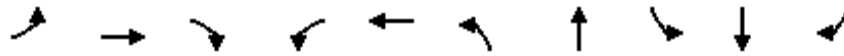
Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  			 		 	 	
Traffic Volume (veh/h)	77	604	179	831	476	293	250	600	781	642	886	40
Future Volume (veh/h)	77	604	179	831	476	293	250	600	781	642	886	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	643	134	884	506	306	266	638	635	683	943	-91
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	791	353	455	1595	495	88	1410	629	81	1397	623
Arrive On Green	0.04	0.22	0.22	0.13	0.31	0.31	0.05	0.40	0.40	0.05	0.39	0.00
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	82	643	134	884	506	306	266	638	635	683	943	-91
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.5	18.8	7.8	14.4	8.3	18.0	5.4	14.4	43.4	5.0	24.0	0.0
Cycle Q Clear(g_c), s	2.5	18.8	7.8	14.4	8.3	18.0	5.4	14.4	43.4	5.0	24.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	791	353	455	1595	495	88	1410	629	81	1397	623
V/C Ratio(X)	0.57	0.81	0.38	1.94	0.32	0.62	3.02	0.45	1.01	8.39	0.67	-0.15
Avail Cap(c_a), veh/h	354	1137	507	455	1784	554	88	1410	629	81	1397	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	51.4	40.3	36.1	47.5	28.7	32.0	52.0	24.2	33.0	52.2	27.4	0.0
Incr Delay (d2), s/veh	1.3	3.0	0.7	432.2	0.1	1.7	940.4	0.2	38.2	3348.5	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.0	2.9	33.2	3.2	6.6	25.3	5.6	21.6	77.9	9.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	43.4	36.8	479.6	28.8	33.8	992.4	24.5	71.2	3400.7	28.7	0.0
LnGrp LOS	D	D	D	F	C	C	F	C	F	F	C	A
Approach Vol, veh/h		859			1696			1539			1535	
Approach Delay, s/veh		43.2			264.7			211.0			1530.8	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	49.9	19.0	30.9	10.0	49.5	9.2	40.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	43.4	14.4	35.0	5.4	43.0	11.2	38.2				
Max Q Clear Time (g_c+I1), s	7.0	45.4	16.4	20.8	7.4	26.0	4.5	20.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	3.6	0.0	5.3	0.0	3.8				
Intersection Summary												
HCM 6th Ctrl Delay				561.5								
HCM 6th LOS				F								

Timings
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↖	↑↑	↗
Traffic Volume (vph)	79	0	31	5	0	7	1497	10	1873	13
Future Volume (vph)	79	0	31	5	0	7	1497	10	1873	13
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)		12.1	12.1		12.1	5.2	64.5	5.2	64.5	64.5
Actuated g/C Ratio		0.15	0.15		0.15	0.06	0.77	0.06	0.77	0.77
v/c Ratio		0.38	0.11		0.22	0.06	0.40	0.10	0.73	0.01
Control Delay		42.1	1.9		10.4	45.6	5.4	46.2	10.3	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		42.1	1.9		10.4	45.6	5.4	46.2	10.3	0.0
LOS		D	A		B	D	A	D	B	A
Approach Delay		30.8			10.4		5.5		10.4	
Approach LOS		C			B		A		B	

Intersection Summary


























Cycle Length: 120
 Actuated Cycle Length: 83.3
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 9.0
 Intersection LOS: A
 Intersection Capacity Utilization 81.4%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
 21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (veh/h)	79	0	31	5	0	55	7	1497	0	10	1873	13
Future Volume (veh/h)	79	0	31	5	0	55	7	1497	0	10	1873	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	0	32	5	0	54	7	1593	0	11	1993	14
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	0	192	55	10	176	16	3440	1068	24	2410	1075
Arrive On Green	0.12	0.00	0.12	0.12	0.00	0.12	0.01	0.67	0.00	0.01	0.68	0.68
Sat Flow, veh/h	1469	0	1585	53	82	1455	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	84	0	32	59	0	0	7	1593	0	11	1993	14
Grp Sat Flow(s),veh/h/ln	1469	0	1585	1590	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	1.1	0.0	1.5	0.0	0.0	0.0	0.3	12.0	0.0	0.5	33.2	0.2
Cycle Q Clear(g_c), s	3.8	0.0	1.5	2.7	0.0	0.0	0.3	12.0	0.0	0.5	33.2	0.2
Prop In Lane	1.00		1.00	0.08		0.92	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	267	0	192	241	0	0	16	3440	1068	24	2410	1075
V/C Ratio(X)	0.31	0.00	0.17	0.24	0.00	0.00	0.44	0.46	0.00	0.46	0.83	0.01
Avail Cap(c_a), veh/h	621	0	607	651	0	0	110	4324	1342	110	3009	1342
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.8	0.0	31.9	32.4	0.0	0.0	39.9	6.3	0.0	39.6	9.5	4.2
Incr Delay (d2), s/veh	0.7	0.0	0.4	0.5	0.0	0.0	6.8	0.1	0.0	4.9	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.6	1.1	0.0	0.0	0.2	2.6	0.0	0.2	7.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.5	0.0	32.3	32.9	0.0	0.0	46.7	6.4	0.0	44.5	11.2	4.2
LnGrp LOS	C	A	C	C	A	A	D	A	A	D	B	A
Approach Vol, veh/h		116			59			1600			2018	
Approach Delay, s/veh		33.1			32.9			6.5			11.3	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	60.7		14.5	5.3	61.1		14.5				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.0	68.5		* 31	5.0	68.5		* 31				
Max Q Clear Time (g_c+I1), s	2.5	14.0		5.8	2.3	35.2		4.7				
Green Ext Time (p_c), s	0.0	15.0		0.5	0.0	19.6		0.3				

Intersection Summary

HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↕	↖	↕	↗
Traffic Volume (vph)	1	10	8	12	4	2866	50	4132	4
Future Volume (vph)	1	10	8	12	4	2866	50	4132	4
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	9.6	16.5	16.5
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	70.1	5.0	68.2	68.2
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.71	0.05	0.69	0.69
v/c Ratio	0.01	0.06	0.06	0.07	0.04	1.22	0.60	1.80	0.00
Control Delay	40.0	41.2	41.5	41.3	46.0	120.0	73.5	382.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	41.2	41.5	41.3	46.0	120.0	73.5	382.9	0.0
LOS	D	D	D	D	D	F	E	F	A
Approach Delay		41.1		41.4		120.0		378.9	
Approach LOS		D		D		F		F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.80
 Intersection Signal Delay: 272.5
 Intersection LOS: F
 Intersection Capacity Utilization 131.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
 22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	10	0	8	12	0	4	2866	0	50	4132	4
Future Volume (veh/h)	1	10	0	8	12	0	4	2866	0	50	4132	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	11	0	9	13	0	4	3049	0	53	4396	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	189	0	207	189	0	90	2490	1111	69	2448	1092
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.00	0.05	0.70	0.00	0.04	0.69	0.69
Sat Flow, veh/h	1401	1870	0	1404	1870	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	1	11	0	9	13	0	4	3049	0	53	4396	4
Grp Sat Flow(s),veh/h/ln	1401	1870	0	1404	1870	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.1	0.5	0.0	0.6	0.6	0.0	0.2	69.4	0.0	2.9	68.2	0.1
Cycle Q Clear(g_c), s	0.7	0.5	0.0	1.1	0.6	0.0	0.2	69.4	0.0	2.9	68.2	0.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	205	189	0	207	189	0	90	2490	1111	69	2448	1092
V/C Ratio(X)	0.00	0.06	0.00	0.04	0.07	0.00	0.04	1.22	0.00	0.77	1.80	0.00
Avail Cap(c_a), veh/h	503	586	0	505	586	0	90	2490	1111	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	40.2	0.0	40.7	40.3	0.0	44.7	14.8	0.0	47.1	15.4	4.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.1	0.2	0.0	0.9	104.9	0.0	18.0	359.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.2	0.3	0.0	0.1	53.9	0.0	1.6	140.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	40.4	0.0	40.8	40.4	0.0	45.7	119.7	0.0	65.1	375.1	4.8
LnGrp LOS	D	D	A	D	D	A	D	F	A	E	F	A
Approach Vol, veh/h		12			22			3053			4453	
Approach Delay, s/veh		40.4			40.6			119.6			371.1	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	75.9		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+1), s	4.9	71.4		2.7	2.2	70.2		3.1				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	267.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	194	133	85	2676	3965	175
Future Volume (vph)	194	133	85	2676	3965	175
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	24.5	24.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	18.1	18.1	5.0	87.0	77.4	77.4
Actuated g/C Ratio	0.16	0.16	0.04	0.75	0.67	0.67
v/c Ratio	0.76	0.48	1.21	1.10	1.83	0.17
Control Delay	65.3	29.7	220.0	68.2	395.8	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	29.7	220.0	68.2	395.8	3.3
LOS	E	C	F	E	F	A
Approach Delay	50.8			72.9	379.2	
Approach LOS	D			E	F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.2
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.83
 Intersection Signal Delay: 247.3
 Intersection Capacity Utilization 129.6%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
 23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
 06/22/2021



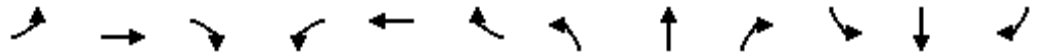
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	194	133	85	2676	3965	175
Future Volume (veh/h)	194	133	85	2676	3965	175
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	137	92	2909	4310	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	247	220	78	2714	2414	1077
Arrive On Green	0.14	0.14	0.04	0.76	0.68	0.68
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	211	137	92	2909	4310	190
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	13.2	9.3	5.0	86.9	77.3	5.0
Cycle Q Clear(g_c), s	13.2	9.3	5.0	86.9	77.3	5.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	247	220	78	2714	2414	1077
V/C Ratio(X)	0.85	0.62	1.18	1.07	1.79	0.18
Avail Cap(c_a), veh/h	344	306	78	2714	2414	1077
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	46.2	54.4	13.5	18.3	6.7
Incr Delay (d2), s/veh	13.7	2.9	156.7	40.3	355.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.2	5.6	35.2	142.2	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	61.6	49.1	211.1	53.8	373.5	6.7
LnGrp LOS	E	D	F	F	F	A
Approach Vol, veh/h	348			3001	4500	
Approach Delay, s/veh	56.7			58.6	358.0	
Approach LOS	E			E	F	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		20.4	9.6	83.8
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+11), s		88.9		15.2	7.0	79.3
Green Ext Time (p_c), s		0.0		0.6	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			230.2			
HCM 6th LOS			F			

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

06/22/2021

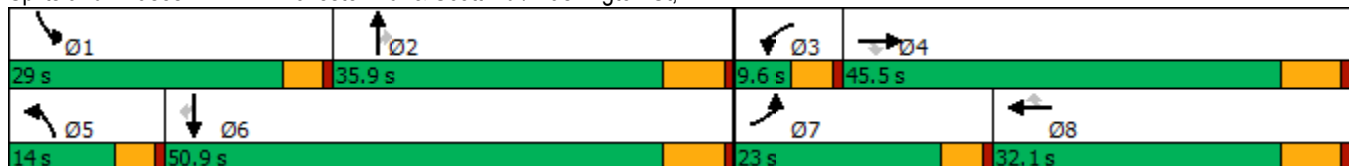


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (vph)	518	282	267	50	336	502	270	1691	50	350	2736	962
Future Volume (vph)	518	282	267	50	336	502	270	1691	50	350	2736	962
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.5	45.5	9.6	16.5	16.5	9.6	35.5	35.5	9.6	44.5	44.5
Total Split (s)	23.0	45.5	45.5	9.6	32.1	32.1	14.0	35.9	35.9	29.0	50.9	50.9
Total Split (%)	19.2%	37.9%	37.9%	8.0%	26.8%	26.8%	11.7%	29.9%	29.9%	24.2%	42.4%	42.4%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	18.4	40.3	40.3	5.0	24.9	24.9	9.4	29.4	29.4	24.4	44.4	44.4
Actuated g/C Ratio	0.15	0.34	0.34	0.04	0.21	0.21	0.08	0.25	0.25	0.20	0.37	0.37
v/c Ratio	2.02	0.48	0.42	0.73	0.92	0.89	2.06	1.44	0.10	1.03	1.54	1.24
Control Delay	499.6	35.0	11.0	103.9	75.9	33.7	532.2	235.6	0.4	102.2	274.7	142.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	499.6	35.0	11.0	103.9	75.9	33.7	532.2	235.6	0.4	102.2	274.7	142.7
LOS	F	D	B	F	E	C	F	F	A	F	F	F
Approach Delay		254.6			53.6			269.6			228.4	
Approach LOS		F			D			F			F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.3
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.06
 Intersection Signal Delay: 222.8
 Intersection LOS: F
 Intersection Capacity Utilization 132.7%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	518	282	267	50	336	502	270	1691	50	350	2736	962
Future Volume (veh/h)	518	282	267	50	336	502	270	1691	50	350	2736	962
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	551	300	240	53	357	431	287	1799	53	372	2911	991
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	608	515	74	399	338	140	1251	388	362	1889	586
Arrive On Green	0.15	0.32	0.32	0.04	0.21	0.21	0.08	0.25	0.25	0.20	0.37	0.37
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	551	300	240	53	357	431	287	1799	53	372	2911	991
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	18.4	15.5	14.5	3.5	22.3	25.6	9.4	29.4	3.1	24.4	44.4	44.4
Cycle Q Clear(g_c), s	18.4	15.5	14.5	3.5	22.3	25.6	9.4	29.4	3.1	24.4	44.4	44.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	608	515	74	399	338	140	1251	388	362	1889	586
V/C Ratio(X)	2.02	0.49	0.47	0.71	0.89	1.27	2.06	1.44	0.14	1.03	1.54	1.69
Avail Cap(c_a), veh/h	273	608	515	74	399	338	140	1251	388	362	1889	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	32.6	32.2	56.8	45.9	47.2	55.3	45.3	35.4	47.8	37.8	37.8
Incr Delay (d2), s/veh	470.5	0.6	0.7	24.2	21.9	144.7	499.5	201.7	0.2	54.4	246.1	317.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	43.5	6.7	5.3	2.0	12.2	23.1	23.4	35.1	1.2	15.7	60.0	67.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	521.3	33.2	32.9	81.0	67.8	191.9	554.8	247.0	35.5	102.2	283.9	355.5
LnGrp LOS	F	C	C	F	E	F	F	F	D	F	F	F
Approach Vol, veh/h		1091			841			2139			4274	
Approach Delay, s/veh		279.6			132.2			283.1			284.7	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.0	35.9	9.6	45.5	14.0	50.9	23.0	32.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	24.4	29.4	5.0	39.0	9.4	44.4	18.4	25.6				
Max Q Clear Time (g_c+I1), s	26.4	31.4	5.5	17.5	11.4	46.4	20.4	27.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			268.2									
HCM 6th LOS			F									

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/22/2021

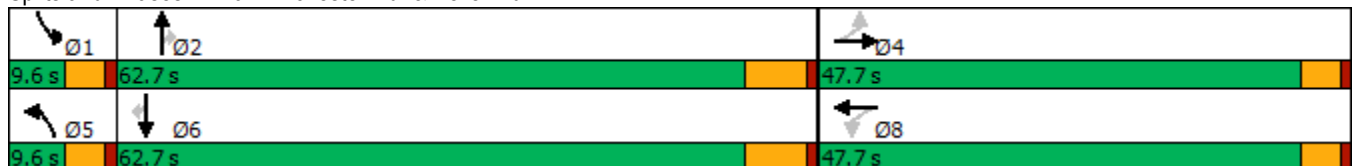


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations		↕		↕	↙	↕	↗	↕	↗	
Traffic Volume (vph)	204	41	17	2	32	1807	12	2962	91	
Future Volume (vph)	204	41	17	2	32	1807	12	2962	91	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4		8	5	2		6		1
Permitted Phases	4		8				2		6	
Detector Phase	4	4	8	8	5	2	2	6	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	47.7	9.6	62.7	62.7	62.7	62.7	9.6
Total Split (%)	39.8%	39.8%	39.8%	39.8%	8.0%	52.3%	52.3%	52.3%	52.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)		27.9		27.9	5.1	62.5	62.5	57.2	57.2	
Actuated g/C Ratio		0.27		0.27	0.05	0.61	0.61	0.56	0.56	
v/c Ratio		0.83		0.05	0.39	0.89	0.01	1.58	0.11	
Control Delay		51.4		27.0	64.9	24.6	0.0	288.1	7.6	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		51.4		27.0	64.9	24.6	0.0	288.1	7.6	
LOS		D		C	E	C	A	F	A	
Approach Delay		51.4		27.0		25.1		279.7		
Approach LOS		D		C		C		F		

Intersection Summary





















Cycle Length: 120
 Actuated Cycle Length: 101.8
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.58
 Intersection Signal Delay: 175.1
 Intersection Capacity Utilization 108.2%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service G

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	41	69	17	2	0	32	1807	12	0	2962	91
Future Volume (veh/h)	204	41	69	17	2	0	32	1807	12	0	2962	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	217	44	69	18	2	0	34	1922	13	0	3151	97
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	307	50	79	353	36	0	54	2271	1013	2	1999	891
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.00	0.03	0.64	0.64	0.00	0.56	0.56
Sat Flow, veh/h	994	201	316	1145	144	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	330	0	0	20	0	0	34	1922	13	0	3151	97
Grp Sat Flow(s),veh/h/ln	1511	0	0	1289	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	19.8	0.0	0.0	0.0	0.0	0.0	1.9	42.5	0.3	0.0	56.2	2.9
Cycle Q Clear(g_c), s	20.9	0.0	0.0	1.1	0.0	0.0	1.9	42.5	0.3	0.0	56.2	2.9
Prop In Lane	0.66		0.21	0.90		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	436	0	0	389	0	0	54	2271	1013	2	1999	891
V/C Ratio(X)	0.76	0.00	0.00	0.05	0.00	0.00	0.62	0.85	0.01	0.00	1.58	0.11
Avail Cap(c_a), veh/h	707	0	0	629	0	0	89	2271	1013	89	1999	891
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.9	0.0	0.0	28.6	0.0	0.0	47.9	14.2	6.6	0.0	21.9	10.2
Incr Delay (d2), s/veh	2.7	0.0	0.0	0.1	0.0	0.0	4.3	3.2	0.0	0.0	261.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	0.0	0.4	0.0	0.0	0.9	13.6	0.1	0.0	91.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	0.0	0.0	28.6	0.0	0.0	52.2	17.3	6.6	0.0	283.7	10.2
LnGrp LOS	D	A	A	C	A	A	D	B	A	A	F	B
Approach Vol, veh/h		330			20			1969			3248	
Approach Delay, s/veh		38.7			28.6			17.9			275.6	
Approach LOS		D			C			B			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	70.4		29.6	7.7	62.7		29.6				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	5.0	56.2		* 43				
Max Q Clear Time (g_c+I1), s	0.0	44.5		22.9	3.9	58.2		3.1				
Green Ext Time (p_c), s	0.0	8.9		1.9	0.0	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	169.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/22/2021

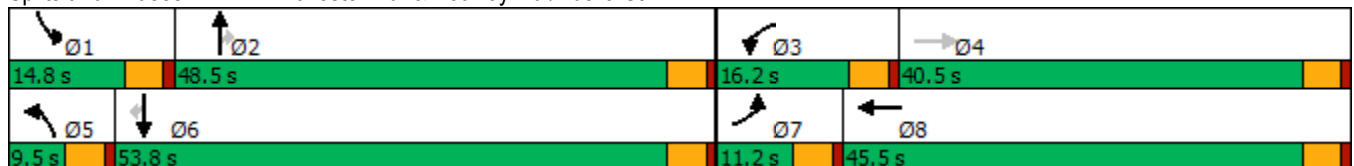


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↖	↕	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	89	33	458	25	114	1630	161	88	2781	179
Future Volume (vph)	89	33	458	25	114	1630	161	88	2781	179
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	11.2	40.5	16.2	45.5	9.5	48.5	48.5	14.8	53.8	53.8
Total Split (%)	9.3%	33.8%	13.5%	37.9%	7.9%	40.4%	40.4%	12.3%	44.8%	44.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	6.7	10.9	11.7	15.9	5.0	45.4	45.4	8.9	49.3	49.3
Actuated g/C Ratio	0.07	0.11	0.12	0.17	0.05	0.48	0.48	0.09	0.52	0.52
v/c Ratio	0.78	0.54	2.28	0.27	1.33	1.05	0.21	0.58	1.64	0.22
Control Delay	82.4	27.9	615.0	12.1	242.8	61.1	3.0	55.5	314.8	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.4	27.9	615.0	12.1	242.8	61.1	3.0	55.5	314.8	5.0
LOS	F	C	F	B	F	E	A	E	F	A
Approach Delay		43.9		461.6		67.0			289.1	
Approach LOS		D		F		E			F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 94.9
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.28
 Intersection Signal Delay: 222.4
 Intersection LOS: F
 Intersection Capacity Utilization 131.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	33	183	458	25	132	114	1630	161	88	2781	179
Future Volume (veh/h)	89	33	183	458	25	132	114	1630	161	88	2781	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	36	176	498	27	97	124	1772	175	96	3023	185
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	250	223	213	341	304	91	1731	772	122	1792	799
Arrive On Green	0.07	0.14	0.14	0.12	0.19	0.19	0.05	0.49	0.49	0.07	0.50	0.50
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	97	36	176	498	27	97	124	1772	175	96	3023	185
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.2	1.7	10.5	11.7	1.2	5.1	5.0	47.6	6.2	5.2	49.3	6.4
Cycle Q Clear(g_c), s	5.2	1.7	10.5	11.7	1.2	5.1	5.0	47.6	6.2	5.2	49.3	6.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	250	223	213	341	304	91	1731	772	122	1792	799
V/C Ratio(X)	0.79	0.14	0.79	2.34	0.08	0.32	1.36	1.02	0.23	0.79	1.69	0.23
Avail Cap(c_a), veh/h	122	654	584	213	745	665	91	1731	772	188	1792	799
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	36.8	40.6	43.0	32.4	34.0	46.4	25.1	14.5	44.8	24.2	13.6
Incr Delay (d2), s/veh	27.4	0.3	6.1	615.7	0.1	0.6	218.0	27.9	0.7	5.3	311.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.8	4.4	41.5	0.5	2.0	7.6	23.4	2.3	2.3	94.6	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.2	37.1	46.7	658.7	32.5	34.6	264.4	53.0	15.1	50.2	335.8	14.3
LnGrp LOS	E	D	D	F	C	C	F	F	B	D	F	B
Approach Vol, veh/h		309			622			2071			3304	
Approach Delay, s/veh		53.6			534.2			62.4			309.5	
Approach LOS		D			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	52.1	16.2	18.3	9.5	53.8	11.2	23.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.3	44.0	11.7	36.0	5.0	49.3	6.7	41.0				
Max Q Clear Time (g_c+I1), s	7.2	49.6	13.7	12.5	7.0	51.3	7.2	7.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay	238.0											
HCM 6th LOS	F											

Timings

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/22/2021

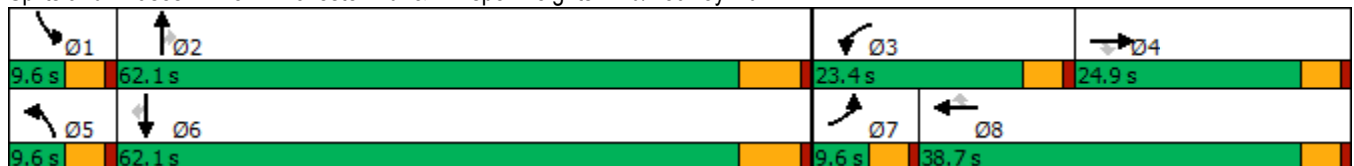


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↖↗	↑↑	↗
Traffic Volume (vph)	36	20	49	188	20	184	21	1685	122	3271	29
Future Volume (vph)	36	20	49	188	20	184	21	1685	122	3271	29
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	9.6	25.5	25.5
Total Split (s)	9.6	24.9	24.9	23.4	38.7	38.7	9.6	62.1	9.6	62.1	62.1
Total Split (%)	8.0%	20.8%	20.8%	19.5%	32.3%	32.3%	8.0%	51.8%	8.0%	51.8%	51.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	5.0	10.1	10.1	15.5	21.2	21.2	5.0	56.1	5.0	62.1	62.1
Actuated g/C Ratio	0.05	0.10	0.10	0.15	0.20	0.20	0.05	0.54	0.05	0.60	0.60
v/c Ratio	0.44	0.12	0.18	0.75	0.06	0.47	0.26	0.93	0.77	1.62	0.03
Control Delay	67.2	47.3	1.3	61.0	34.5	19.7	58.0	33.7	79.9	305.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	47.3	1.3	61.0	34.5	19.7	58.0	33.7	79.9	305.2	0.1
LOS	E	D	A	E	C	B	E	C	E	F	A
Approach Delay		32.6			40.3			34.0		294.5	
Approach LOS		C			D			C		F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 103.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.62	
Intersection Signal Delay: 192.9	Intersection LOS: F
Intersection Capacity Utilization 122.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	36	20	49	188	20	184	21	1685	0	122	3271	29
Future Volume (veh/h)	36	20	49	188	20	184	21	1685	0	122	3271	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	21	33	198	21	137	22	1774	0	128	3443	28
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	181	153	230	362	307	40	1878	838	167	1969	878
Arrive On Green	0.03	0.10	0.10	0.13	0.19	0.19	0.02	0.53	0.00	0.05	0.55	0.55
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	38	21	33	198	21	137	22	1774	0	128	3443	28
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.2	1.1	2.0	11.3	0.9	7.9	1.3	48.6	0.0	3.8	57.3	0.8
Cycle Q Clear(g_c), s	2.2	1.1	2.0	11.3	0.9	7.9	1.3	48.6	0.0	3.8	57.3	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	57	181	153	230	362	307	40	1878	838	167	1969	878
V/C Ratio(X)	0.66	0.12	0.22	0.86	0.06	0.45	0.55	0.94	0.00	0.77	1.75	0.03
Avail Cap(c_a), veh/h	86	366	310	324	615	521	86	1912	853	167	1969	878
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	42.6	43.1	44.1	34.0	36.8	50.0	22.9	0.0	48.6	23.0	10.5
Incr Delay (d2), s/veh	4.8	0.3	0.7	11.6	0.1	1.0	4.2	10.3	0.0	17.2	338.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.5	0.8	5.7	0.4	3.1	0.6	19.6	0.0	1.9	112.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	42.9	43.8	55.7	34.0	37.8	54.2	33.2	0.0	65.8	361.9	10.5
LnGrp LOS	D	D	D	E	C	D	D	C	A	E	F	B
Approach Vol, veh/h		92			356			1796			3599	
Approach Delay, s/veh		47.9			47.5			33.5			348.6	
Approach LOS		D			D			C			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	61.1	17.9	14.7	6.9	63.8	7.9	24.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.6	18.8	* 20	5.0	55.6	5.0	* 34				
Max Q Clear Time (g_c+I1), s	5.8	50.6	13.3	4.0	3.3	59.3	4.2	9.9				
Green Ext Time (p_c), s	0.0	4.0	0.1	0.1	0.0	0.0	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	228.7
HCM 6th LOS	F

Notes

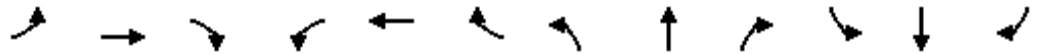
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/22/2021

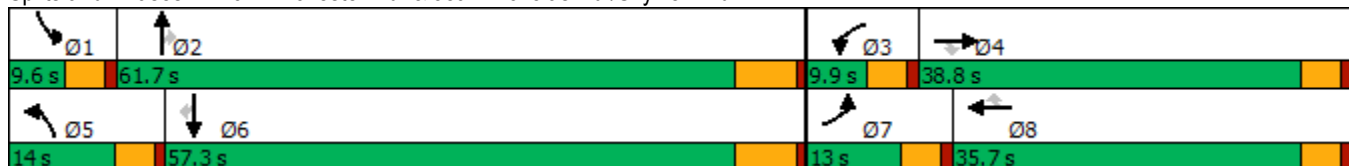


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	142	137	367	16	30	56	207	1440	4	15	2454	142
Future Volume (vph)	142	137	367	16	30	56	207	1440	4	15	2454	142
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.0	38.8	38.8	9.9	35.7	35.7	14.0	61.7	61.7	9.6	57.3	57.3
Total Split (%)	10.8%	32.3%	32.3%	8.3%	29.8%	29.8%	11.7%	51.4%	51.4%	8.0%	47.8%	47.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.4	24.3	24.3	5.2	17.2	17.2	9.5	62.3	62.3	5.1	51.5	51.5
Actuated g/C Ratio	0.09	0.23	0.23	0.05	0.16	0.16	0.09	0.59	0.59	0.05	0.49	0.49
v/c Ratio	0.97	0.35	0.83	0.19	0.11	0.17	1.41	0.74	0.00	0.19	1.53	0.19
Control Delay	115.5	35.8	39.6	58.1	36.9	1.2	251.3	22.4	0.0	58.4	267.9	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	115.5	35.8	39.6	58.1	36.9	1.2	251.3	22.4	0.0	58.4	267.9	8.3
LOS	F	D	D	E	D	A	F	C	A	E	F	A
Approach Delay		55.4			20.5			51.1			252.7	
Approach LOS		E			C			D			F	

Intersection Summary

























Cycle Length: 120
 Actuated Cycle Length: 104.8
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.53
 Intersection Signal Delay: 156.1
 Intersection LOS: F
 Intersection Capacity Utilization 107.9%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	137	367	16	30	56	207	1440	4	15	2454	142
Future Volume (veh/h)	142	137	367	16	30	56	207	1440	4	15	2454	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	154	149	328	17	33	51	225	1565	4	16	2667	129
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	436	369	33	324	275	156	1924	858	31	1677	748
Arrive On Green	0.08	0.23	0.23	0.02	0.17	0.17	0.09	0.54	0.54	0.02	0.47	0.47
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	154	149	328	17	33	51	225	1565	4	16	2667	129
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.4	7.1	21.6	1.0	1.6	3.0	9.4	38.9	0.1	1.0	50.8	5.0
Cycle Q Clear(g_c), s	8.4	7.1	21.6	1.0	1.6	3.0	9.4	38.9	0.1	1.0	50.8	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	436	369	33	324	275	156	1924	858	31	1677	748
V/C Ratio(X)	1.11	0.34	0.89	0.52	0.10	0.19	1.45	0.81	0.00	0.51	1.59	0.17
Avail Cap(c_a), veh/h	139	592	502	88	539	456	156	1924	858	83	1677	748
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	34.4	39.9	52.4	37.4	38.0	49.1	20.2	11.3	52.4	28.4	16.4
Incr Delay (d2), s/veh	108.3	0.5	13.9	4.6	0.1	0.3	233.4	3.9	0.0	4.7	268.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	3.3	9.7	0.5	0.7	1.2	14.0	14.6	0.0	0.4	81.3	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	157.9	34.9	53.8	56.9	37.6	38.3	282.5	24.1	11.4	57.1	297.1	16.9
LnGrp LOS	F	C	D	E	D	D	F	C	B	E	F	B
Approach Vol, veh/h		631			101			1794			2812	
Approach Delay, s/veh		74.8			41.2			56.5			282.9	
Approach LOS		E			D			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	64.8	6.6	29.8	14.0	57.3	13.0	23.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.2	5.3	* 34	9.4	50.8	8.4	* 31				
Max Q Clear Time (g_c+I1), s	3.0	40.9	3.0	23.6	11.4	52.8	10.4	5.0				
Green Ext Time (p_c), s	0.0	8.6	0.0	1.5	0.0	0.0	0.0	0.3				

Intersection Summary

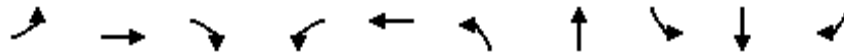
HCM 6th Ctrl Delay	177.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

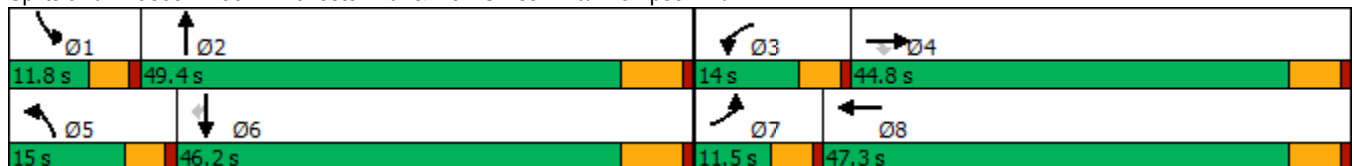


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↗	↘	↗	↘	↗↗	↘	↗↗	↘
Traffic Volume (vph)	293	297	797	538	552	330	1786	139	3139	382
Future Volume (vph)	293	297	797	538	552	330	1786	139	3139	382
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	11.5	44.8	44.8	14.0	47.3	15.0	49.4	11.8	46.2	46.2
Total Split (%)	9.6%	37.3%	37.3%	11.7%	39.4%	12.5%	41.2%	9.8%	38.5%	38.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	6.9	39.0	39.0	9.4	41.5	10.4	42.9	7.2	39.7	39.7
Actuated g/C Ratio	0.06	0.32	0.32	0.08	0.35	0.09	0.36	0.06	0.33	0.33
v/c Ratio	3.12	0.53	0.81	4.19	1.27	2.32	1.72	1.41	2.88	0.69
Control Delay	997.9	36.8	32.5	1465.8	166.1	639.0	354.7	270.3	868.8	32.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	997.9	36.8	32.5	1465.8	166.1	639.0	354.7	270.3	868.8	32.1
LOS	F	D	C	F	F	F	F	F	F	C
Approach Delay		237.4			713.6		395.0		758.8	
Approach LOS		F			F		F		F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 4.19
 Intersection Signal Delay: 570.5
 Intersection LOS: F
 Intersection Capacity Utilization 179.6%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	293	297	797	538	552	186	330	1786	217	139	3139	382
Future Volume (veh/h)	293	297	797	538	552	186	330	1786	217	139	3139	382
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	315	319	706	578	594	197	355	1920	207	149	3375	389
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	608	887	140	463	154	154	1159	123	107	1176	524
Arrive On Green	0.06	0.32	0.32	0.08	0.35	0.35	0.09	0.36	0.36	0.06	0.33	0.33
Sat Flow, veh/h	1781	1870	2731	1781	1339	444	1781	3242	343	1781	3554	1585
Grp Volume(v), veh/h	315	319	706	578	0	791	355	1036	1091	149	3375	389
Grp Sat Flow(s),veh/h/ln	1781	1870	1365	1781	0	1784	1781	1777	1809	1781	1777	1585
Q Serve(g_s), s	6.9	16.7	28.2	9.4	0.0	41.5	10.4	42.9	42.9	7.2	39.7	26.1
Cycle Q Clear(g_c), s	6.9	16.7	28.2	9.4	0.0	41.5	10.4	42.9	42.9	7.2	39.7	26.1
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	102	608	887	140	0	617	154	635	647	107	1176	524
V/C Ratio(X)	3.08	0.52	0.80	4.14	0.00	1.28	2.30	1.63	1.69	1.39	2.87	0.74
Avail Cap(c_a), veh/h	102	608	887	140	0	617	154	635	647	107	1176	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	33.0	36.9	55.3	0.0	39.3	54.8	38.5	38.6	56.4	40.2	35.6
Incr Delay (d2), s/veh	959.3	0.8	5.1	1430.9	0.0	139.1	604.7	291.2	315.8	224.4	844.2	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	30.3	7.4	10.0	59.7	0.0	41.7	30.4	68.6	74.2	9.8	153.9	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1015.8	33.8	41.9	1486.2	0.0	178.4	659.5	329.8	354.4	280.8	884.3	41.2
LnGrp LOS	F	C	D	F	A	F	F	F	F	F	F	D
Approach Vol, veh/h		1340			1369			2482			3913	
Approach Delay, s/veh		268.9			730.5			387.8			777.5	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	49.4	14.0	44.8	15.0	46.2	11.5	47.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	7.2	42.9	9.4	39.0	10.4	39.7	6.9	41.5				
Max Q Clear Time (g_c+1), s	9.2	44.9	11.4	30.2	12.4	41.7	8.9	43.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			589.3									
HCM 6th LOS			F									

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)

06/24/2021

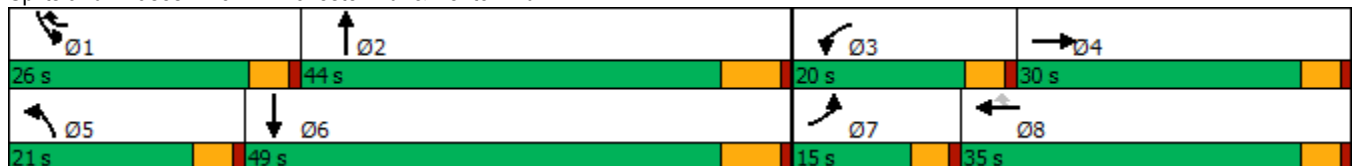


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖↗	↖	↗	↖	↖↗↘	↖	↖↗
Traffic Volume (vph)	147	257	481	357	631	614	1554	984	3272
Future Volume (vph)	147	257	481	357	631	614	1554	984	3272
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	1	5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.5	14.6	14.6	30.6	9.6	9.6	38.5	9.6	16.5
Total Split (s)	15.0	30.0	20.0	35.0	26.0	21.0	44.0	26.0	49.0
Total Split (%)	12.5%	25.0%	16.7%	29.2%	21.7%	17.5%	36.7%	21.7%	40.8%
Yellow Time (s)	3.5	3.6	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.6	4.6	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	10.5	25.4	15.4	30.4	56.4	16.4	37.5	21.4	42.5
Actuated g/C Ratio	0.09	0.21	0.13	0.25	0.47	0.14	0.31	0.18	0.35
v/c Ratio	1.04	2.27	1.15	0.82	0.85	2.77	1.23	3.29	2.96
Control Delay	136.4	600.1	137.2	58.0	36.9	827.6	144.3	1055.4	900.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	136.4	600.1	137.2	58.0	36.9	827.6	144.3	1055.4	900.9
LOS	F	F	F	E	D	F	F	F	F
Approach Delay		534.1		74.7			319.6		934.8
Approach LOS		F		E			F		F

Intersection Summary
























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.29
 Intersection Signal Delay: 595.8
 Intersection LOS: F
 Intersection Capacity Utilization 214.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	257	630	481	357	631	614	1554	282	984	3272	219
Future Volume (veh/h)	147	257	630	481	357	631	614	1554	282	984	3272	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	279	685	506	388	497	667	1636	245	1036	3444	238
Peak Hour Factor	0.92	0.92	0.92	0.95	0.92	0.95	0.92	0.95	0.95	0.95	0.95	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	102	249	443	474	684	243	1402	209	318	1195	82
Arrive On Green	0.09	0.21	0.21	0.13	0.25	0.25	0.14	0.31	0.31	0.18	0.35	0.35
Sat Flow, veh/h	1781	480	1178	3456	1870	1585	1781	4485	669	1781	3375	231
Grp Volume(v), veh/h	160	0	964	506	388	497	667	1240	641	1036	1794	1888
Grp Sat Flow(s),veh/h/ln	1781	0	1658	1728	1870	1585	1781	1702	1750	1781	1777	1829
Q Serve(g_s), s	10.5	0.0	25.4	15.4	23.5	30.4	16.4	37.5	37.5	21.4	42.5	42.5
Cycle Q Clear(g_c), s	10.5	0.0	25.4	15.4	23.5	30.4	16.4	37.5	37.5	21.4	42.5	42.5
Prop In Lane	1.00		0.71	1.00		1.00	1.00		0.38	1.00		0.13
Lane Grp Cap(c), veh/h	156	0	351	443	474	684	243	1064	547	318	629	648
V/C Ratio(X)	1.03	0.00	2.75	1.14	0.82	0.73	2.74	1.17	1.17	3.26	2.85	2.92
Avail Cap(c_a), veh/h	156	0	351	443	474	684	243	1064	547	318	629	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	0.0	47.3	52.3	42.2	28.2	51.8	41.3	41.3	49.3	38.8	38.8
Incr Delay (d2), s/veh	79.3	0.0	793.9	87.3	10.9	3.9	794.4	85.0	95.6	1025.7	837.1	866.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	0.0	87.8	12.0	12.2	12.4	60.7	27.2	29.5	99.5	163.4	173.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	134.0	0.0	841.2	139.6	53.1	32.1	846.2	126.3	136.8	1075.0	875.8	904.8
LnGrp LOS	F	A	F	F	D	C	F	F	F	F	F	F
Approach Vol, veh/h		1124			1391			2548			4718	
Approach Delay, s/veh		740.5			77.1			317.4			931.2	
Approach LOS		F			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.0	44.0	20.0	30.0	21.0	49.0	15.0	35.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	4.6	4.6	6.5	4.5	4.6				
Max Green Setting (Gmax), s	21.4	37.5	15.4	25.4	16.4	42.5	10.5	30.4				
Max Q Clear Time (g_c+I1), s	23.4	39.5	17.4	27.4	18.4	44.5	12.5	32.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			627.9									
HCM 6th LOS			F									

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/22/2021

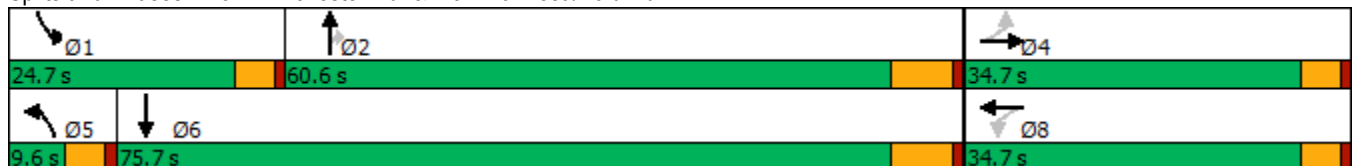


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↑↑	↗	↖	↑↑
Traffic Volume (vph)	383	81	393	56	47	1964	390	393	3682
Future Volume (vph)	383	81	393	56	47	1964	390	393	3682
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	9.6	60.6	60.6	24.7	75.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	8.0%	50.5%	50.5%	20.6%	63.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	30.0	30.0	30.0	30.0	5.0	54.1	54.1	20.1	69.2
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.04	0.45	0.45	0.17	0.58
v/c Ratio	1.53	0.41	1.69	0.35	0.66	1.27	0.49	1.37	2.04
Control Delay	287.9	30.3	357.1	22.3	95.3	156.9	14.2	224.3	489.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	287.9	30.3	357.1	22.3	95.3	156.9	14.2	224.3	489.8
LOS	F	C	F	C	F	F	B	F	F
Approach Delay		204.8		260.2		132.5			466.0
Approach LOS		F		F		F			F

Intersection Summary

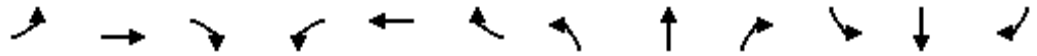
Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.04
 Intersection Signal Delay: 331.5
 Intersection LOS: F
 Intersection Capacity Utilization 165.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘		↗	↑↑	↗	↗	↑↘	
Traffic Volume (veh/h)	383	81	101	393	56	104	47	1964	390	393	3682	307
Future Volume (veh/h)	383	81	101	393	56	104	47	1964	390	393	3682	307
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	84	93	405	58	102	48	2025	328	405	3796	284
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	201	223	256	152	267	74	1602	715	298	1932	142
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.45	0.45	0.17	0.58	0.58
Sat Flow, veh/h	1226	805	891	1207	608	1070	1781	3554	1585	1781	3350	247
Grp Volume(v), veh/h	395	0	177	405	0	160	48	2025	328	405	1988	2092
Grp Sat Flow(s),veh/h/ln	1226	0	1696	1207	0	1678	1781	1777	1585	1781	1777	1820
Q Serve(g_s), s	20.5	0.0	10.5	19.5	0.0	9.5	3.2	54.1	17.2	20.1	69.2	69.2
Cycle Q Clear(g_c), s	30.0	0.0	10.5	30.0	0.0	9.5	3.2	54.1	17.2	20.1	69.2	69.2
Prop In Lane	1.00		0.53	1.00		0.64	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	270	0	424	256	0	419	74	1602	715	298	1025	1049
V/C Ratio(X)	1.47	0.00	0.42	1.58	0.00	0.38	0.65	1.26	0.46	1.36	1.94	1.99
Avail Cap(c_a), veh/h	270	0	424	256	0	419	74	1602	715	298	1025	1049
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	0.0	37.7	52.5	0.0	37.3	56.6	33.0	22.8	50.0	25.4	25.4
Incr Delay (d2), s/veh	228.5	0.0	0.2	278.8	0.0	0.6	36.2	123.9	0.5	181.2	426.5	450.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.3	0.0	4.4	27.7	0.0	4.0	2.1	48.4	6.0	23.5	145.9	156.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	280.6	0.0	37.9	331.4	0.0	37.9	92.8	156.9	23.3	231.1	451.9	476.0
LnGrp LOS	F	A	D	F	A	D	F	F	C	F	F	F
Approach Vol, veh/h		572			565			2401			4485	
Approach Delay, s/veh		205.5			248.3			137.4			443.2	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.7	60.6		34.7	9.6	75.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	20.1	54.1		* 30	5.0	69.2		* 30				
Max Q Clear Time (g_c+I1), s	22.1	56.1		32.0	5.2	71.2		32.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	321.0
HCM 6th LOS	F

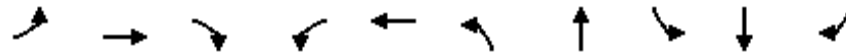
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	155	9	248	77	6	174	1836	20	3637	106
Future Volume (vph)	155	9	248	77	6	174	1836	20	3637	106
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	10.0	73.7	9.6	73.3	73.3
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	8.3%	61.4%	8.0%	61.1%	61.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	18.8	18.8	18.8		18.8	5.4	73.5	5.0	67.1	67.1
Actuated g/C Ratio	0.18	0.18	0.18		0.18	0.05	0.69	0.05	0.63	0.63
v/c Ratio	0.67	0.03	0.76		0.38	2.03	0.88	0.25	1.71	0.11
Control Delay	55.0	34.8	43.7		41.1	529.4	21.5	59.8	343.0	5.4
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	34.8	43.7		41.1	529.4	21.5	59.8	343.0	5.4
LOS	E	C	D		D	F	C	E	F	A
Approach Delay		47.8			41.1		61.6		332.0	
Approach LOS		D			D		E		F	

Intersection Summary






















Cycle Length: 120
 Actuated Cycle Length: 107.1
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.03
 Intersection Signal Delay: 217.8
 Intersection Capacity Utilization 137.5%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way

Ø1	Ø2	Ø4
9.6 s	73.7 s	36.7 s
Ø5	Ø6	Ø8
10 s	73.3 s	36.7 s

HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	9	248	77	6	8	174	1836	191	20	3637	106
Future Volume (veh/h)	155	9	248	77	6	8	174	1836	191	20	3637	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	161	9	191	80	6	6	181	1912	192	21	3789	101
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	274	232	218	16	12	93	2215	219	39	2302	1027
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.68	0.68	0.02	0.65	0.65
Sat Flow, veh/h	1402	1870	1585	1042	112	81	1781	3267	322	1781	3554	1585
Grp Volume(v), veh/h	161	9	191	92	0	0	181	1025	1079	21	3789	101
Grp Sat Flow(s),veh/h/ln	1402	1870	1585	1234	0	0	1781	1777	1812	1781	1777	1585
Q Serve(g_s), s	2.9	0.4	12.1	6.6	0.0	0.0	5.4	45.2	48.8	1.2	66.8	2.5
Cycle Q Clear(g_c), s	10.0	0.4	12.1	7.1	0.0	0.0	5.4	45.2	48.8	1.2	66.8	2.5
Prop In Lane	1.00		1.00	0.87		0.07	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	293	274	232	246	0	0	93	1205	1229	39	2302	1027
V/C Ratio(X)	0.55	0.03	0.82	0.37	0.00	0.00	1.94	0.85	0.88	0.54	1.65	0.10
Avail Cap(c_a), veh/h	522	580	492	448	0	0	93	1205	1229	86	2302	1027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	37.7	42.7	40.6	0.0	0.0	48.9	12.6	13.2	49.9	18.2	6.8
Incr Delay (d2), s/veh	1.6	0.0	7.1	0.9	0.0	0.0	459.9	6.0	7.5	4.2	292.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.2	5.1	2.2	0.0	0.0	14.2	14.6	16.4	0.6	113.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	37.8	49.8	41.5	0.0	0.0	508.7	18.6	20.7	54.1	310.8	6.9
LnGrp LOS	D	D	D	D	A	A	F	B	C	D	F	A
Approach Vol, veh/h		361			92			2285			3911	
Approach Delay, s/veh		46.6			41.5			58.4			301.6	
Approach LOS		D			D			E			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.9	76.4		19.8	10.0	73.3		19.8				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	5.4	66.8		* 32				
Max Q Clear Time (g_c+I1), s	3.2	50.8		14.1	7.4	68.8		9.1				
Green Ext Time (p_c), s	0.0	12.5		1.1	0.0	0.0		0.5				

Intersection Summary

HCM 6th Ctrl Delay	200.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
1: I-215 SB Ramps & Scott Rd.

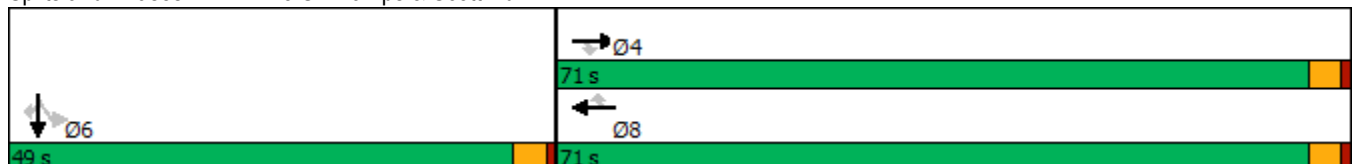


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	1498	548	1946	709	1455	0	334
Future Volume (vph)	1498	548	1946	709	1455	0	334
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	71.0	71.0	71.0	71.0	49.0	49.0	49.0
Total Split (%)	59.2%	59.2%	59.2%	59.2%	40.8%	40.8%	40.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	67.0	67.0	67.0	67.0	45.0	45.0	45.0
Actuated g/C Ratio	0.56	0.56	0.56	0.56	0.38	0.38	0.38
v/c Ratio	0.79	0.51	1.03	0.61	1.18	0.31	0.31
Control Delay	24.7	3.6	54.2	3.4	123.2	26.9	26.9
Queue Delay	0.0	0.0	29.9	0.7	0.0	0.0	0.0
Total Delay	24.7	3.6	84.0	4.1	123.2	26.9	26.9
LOS	C	A	F	A	F	C	C
Approach Delay	19.0		62.7			105.2	
Approach LOS	B		E			F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.18
 Intersection Signal Delay: 60.6
 Intersection LOS: E
 Intersection Capacity Utilization 102.0%
 ICU Level of Service G
 Analysis Period (min) 15













Splits and Phases: 1: I-215 SB Ramps & Scott Rd.



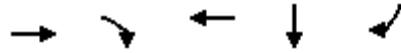
HCM 6th Signalized Intersection Summary
 1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↗	↗
Traffic Volume (veh/h)	0	1498	548	0	1946	709	0	0	0	1455	0	334
Future Volume (veh/h)	0	1498	548	0	1946	709	0	0	0	1455	0	334
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1560	568	0	2027	583				1516	0	301
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	1984	885	0	1984	885				1336	0	1189
Arrive On Green	0.00	0.56	0.56	0.00	0.56	0.56				0.38	0.00	0.38
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	1560	568	0	2027	583				1516	0	301
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	41.5	29.6	0.0	67.0	30.8				45.0	0.0	7.9
Cycle Q Clear(g_c), s	0.0	41.5	29.6	0.0	67.0	30.8				45.0	0.0	7.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1984	885	0	1984	885				1336	0	1189
V/C Ratio(X)	0.00	0.79	0.64	0.00	1.02	0.66				1.13	0.00	0.25
Avail Cap(c_a), veh/h	0	1984	885	0	1984	885				1336	0	1189
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.9	18.2	0.0	26.5	18.5				37.5	0.0	25.9
Incr Delay (d2), s/veh	0.0	2.2	1.6	0.0	25.9	1.8				70.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	16.1	10.3	0.0	32.2	10.7				31.5	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.0	19.8	0.0	52.4	20.3				107.9	0.0	26.0
LnGrp LOS	A	C	B	A	F	C				F	A	C
Approach Vol, veh/h		2128			2610						1817	
Approach Delay, s/veh		22.2			45.2						94.3	
Approach LOS		C			D						F	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				71.0		49.0		71.0				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				67.0		45.0		67.0				
Max Q Clear Time (g_c+I1), s				43.5		47.0		69.0				
Green Ext Time (p_c), s				14.8		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			51.3									
HCM 6th LOS			D									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

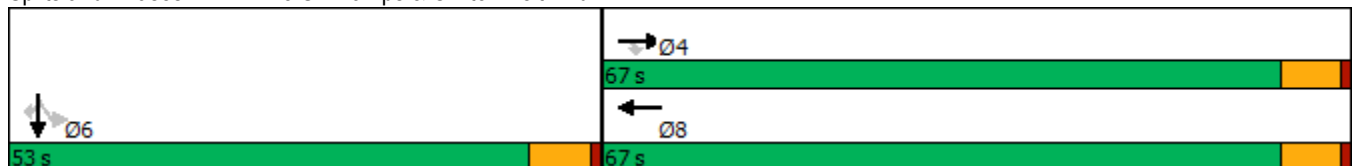


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑↑
Traffic Volume (vph)	2380	530	1821	0	844
Future Volume (vph)	2380	530	1821	0	844
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	67.0	67.0	67.0	53.0	53.0
Total Split (%)	55.8%	55.8%	55.8%	44.2%	44.2%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	60.5	60.5	60.5	45.3	45.3
Actuated g/C Ratio	0.51	0.51	0.51	0.38	0.38
v/c Ratio	0.96	0.53	0.73	0.92	0.81
Control Delay	38.6	3.4	25.1	55.6	38.8
Queue Delay	0.0	0.0	0.3	0.0	0.0
Total Delay	38.6	3.4	25.4	55.6	38.8
LOS	D	A	C	E	D
Approach Delay	32.2		25.4	45.7	
Approach LOS	C		C	D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.8
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 33.4
 Intersection LOS: C
 Intersection Capacity Utilization 89.8%
 ICU Level of Service E
 Analysis Period (min) 15

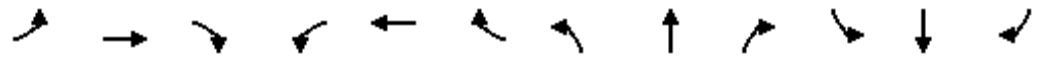
Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)

06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	2380	530	0	1821	0	0	0	0	595	0	844
Future Volume (veh/h)	0	2380	530	0	1821	0	0	0	0	595	0	844
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	2479	500	0	1897	0				620	0	503
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	2
Cap, veh/h	0	2623	791	0	2623	0				669	0	1048
Arrive On Green	0.00	0.51	0.51	0.00	0.51	0.00				0.38	0.00	0.38
Sat Flow, veh/h	0	5274	1540	0	5443	0				1781	0	2790
Grp Volume(v), veh/h	0	2479	500	0	1897	0				620	0	503
Grp Sat Flow(s),veh/h/ln	0	1702	1540	0	1702	0				1781	0	1395
Q Serve(g_s), s	0.0	53.8	27.4	0.0	33.7	0.0				39.1	0.0	16.1
Cycle Q Clear(g_c), s	0.0	53.8	27.4	0.0	33.7	0.0				39.1	0.0	16.1
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2623	791	0	2623	0				669	0	1048
V/C Ratio(X)	0.00	0.95	0.63	0.00	0.72	0.00				0.93	0.00	0.48
Avail Cap(c_a), veh/h	0	2634	794	0	2634	0				706	0	1106
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	27.0	20.5	0.0	22.1	0.0				35.1	0.0	27.9
Incr Delay (d2), s/veh	0.0	8.1	1.6	0.0	1.0	0.0				17.9	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	21.0	9.1	0.0	12.2	0.0				19.9	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	35.0	22.2	0.0	23.1	0.0				53.0	0.0	28.2
LnGrp LOS	A	D	C	A	C	A				D	A	C
Approach Vol, veh/h		2979			1897						1123	
Approach Delay, s/veh		32.9			23.1						41.9	
Approach LOS		C			C						D	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				66.8		50.5		66.8				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				60.5		46.5		60.5				
Max Q Clear Time (g_c+I1), s				55.8		41.1		35.7				
Green Ext Time (p_c), s				4.4		2.9		14.4				
Intersection Summary												
HCM 6th Ctrl Delay			31.5									
HCM 6th LOS			C									

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↖	↖	↖	↖
Traffic Volume (vph)	302	2651	1807	1176	0	1268	0	849
Future Volume (vph)	302	2651	1807	1176	0	1268	0	849
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	83.0	83.0	83.0	83.0	37.0	37.0	37.0	37.0
Total Split (%)	69.2%	69.2%	69.2%	69.2%	30.8%	30.8%	30.8%	30.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	79.0	79.0	79.0	79.0	33.0	33.0	33.0	33.0
Actuated g/C Ratio	0.66	0.66	0.66	0.66	0.28	0.28	0.28	0.28
v/c Ratio	5.02	1.17	0.80	0.86	1.56	1.55	1.02	1.02
Control Delay	1853.2	105.4	18.2	9.1	293.5	292.5	89.4	88.9
Queue Delay	0.0	0.3	47.7	4.3	0.0	0.0	0.0	0.0
Total Delay	1853.2	105.7	65.9	13.3	293.5	292.5	89.4	88.9
LOS	F	F	E	B	F	F	F	F
Approach Delay		284.2	45.2		293.0		89.1	
Approach LOS		F	D		F		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 5.02
 Intersection Signal Delay: 176.5
 Intersection Capacity Utilization 132.3%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷			↷	↶		↷	↶		↷	↶
Traffic Volume (veh/h)	302	2651	0	0	1807	1176	0	0	1268	0	0	849
Future Volume (veh/h)	302	2651	0	0	1807	1176	0	0	1268	0	0	849
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	311	2733	0	0	1863	800	0	0	895	0	0	634
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	91	2340	0	0	2340	1043	0	514	872	0	514	872
Arrive On Green	0.66	0.66	0.00	0.00	0.66	0.66	0.00	0.00	0.28	0.00	0.00	0.28
Sat Flow, veh/h	111	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	311	2733	0	0	1863	800	0	0	895	0	0	634
Grp Sat Flow(s),veh/h/ln	111	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	33.8	79.0	0.0	0.0	45.2	41.8	0.0	0.0	33.0	0.0	0.0	21.7
Cycle Q Clear(g_c), s	79.0	79.0	0.0	0.0	45.2	41.8	0.0	0.0	33.0	0.0	0.0	21.7
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	91	2340	0	0	2340	1043	0	514	872	0	514	872
V/C Ratio(X)	3.40	1.17	0.00	0.00	0.80	0.77	0.00	0.00	1.03	0.00	0.00	0.73
Avail Cap(c_a), veh/h	91	2340	0	0	2340	1043	0	514	872	0	514	872
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	54.2	20.5	0.0	0.0	14.7	14.1	0.0	0.0	43.5	0.0	0.0	39.4
Incr Delay (d2), s/veh	1108.0	80.7	0.0	0.0	2.0	3.5	0.0	0.0	37.5	0.0	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	30.9	53.0	0.0	0.0	16.0	13.7	0.0	0.0	16.9	0.0	0.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1162.2	101.2	0.0	0.0	16.7	17.6	0.0	0.0	81.0	0.0	0.0	42.5
LnGrp LOS	F	F	A	A	B	B	A	A	F	A	A	D
Approach Vol, veh/h		3044			2663			895				634
Approach Delay, s/veh		209.6			17.0			81.0				42.5
Approach LOS		F			B			F				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.0		83.0		37.0		83.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		33.0		79.0		33.0		79.0				
Max Q Clear Time (g_c+I1), s		35.0		81.0		23.7		47.2				
Green Ext Time (p_c), s		0.0		0.0		1.9		23.1				

Intersection Summary

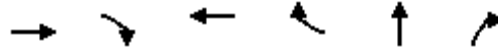
HCM 6th Ctrl Delay	108.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

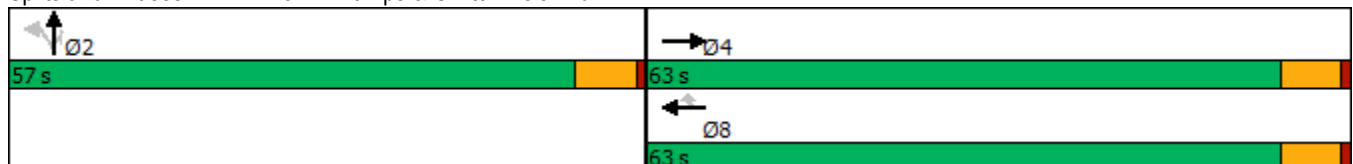


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↔	↑
Traffic Volume (vph)	2111	864	2315	433	0	1277
Future Volume (vph)	2111	864	2315	433	0	1277
Turn Type	NA	Free	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		Free		8		2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	23.5		16.5	16.5	16.5	16.5
Total Split (s)	63.0		63.0	63.0	57.0	57.0
Total Split (%)	52.5%		52.5%	52.5%	47.5%	47.5%
Yellow Time (s)	5.5		5.5	5.5	5.5	5.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min		Min	Min	None	None
Act Effct Green (s)	56.5	120.0	56.5	56.5	50.5	50.5
Actuated g/C Ratio	0.47	1.00	0.47	0.47	0.42	0.42
v/c Ratio	0.89	0.56	0.98	0.49	1.39	1.39
Control Delay	34.8	1.5	45.0	7.6	213.4	212.8
Queue Delay	0.8	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	1.5	45.0	7.6	213.4	212.8
LOS	D	A	D	A	F	F
Approach Delay	25.7		39.1		213.1	
Approach LOS	C		D		F	

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.39
 Intersection Signal Delay: 76.4
 Intersection LOS: E
 Intersection Capacity Utilization 113.6%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	2111	864	0	2315	433	577	0	1277	0	0	0
Future Volume (veh/h)	0	2111	864	0	2315	433	577	0	1277	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	2132	0	0	2338	437	583	227	734			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2403		0	2403	730	547	213	667			
Arrive On Green	0.00	0.47	0.00	0.00	0.47	0.47	0.42	0.42	0.42			
Sat Flow, veh/h	0	5274	1585	0	5274	1551	1299	506	1585			
Grp Volume(v), veh/h	0	2132	0	0	2338	437	810	0	734			
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1702	1551	1805	0	1585			
Q Serve(g_s), s	0.0	45.5	0.0	0.0	53.6	24.9	50.5	0.0	50.5			
Cycle Q Clear(g_c), s	0.0	45.5	0.0	0.0	53.6	24.9	50.5	0.0	50.5			
Prop In Lane	0.00		1.00	0.00		1.00	0.72		1.00			
Lane Grp Cap(c), veh/h	0	2403		0	2403	730	760	0	667			
V/C Ratio(X)	0.00	0.89		0.00	0.97	0.60	1.07	0.00	1.10			
Avail Cap(c_a), veh/h	0	2405		0	2405	730	760	0	667			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	28.9	0.0	0.0	31.0	23.4	34.7	0.0	34.7			
Incr Delay (d2), s/veh	0.0	4.4	0.0	0.0	12.6	1.4	51.6	0.0	65.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	17.6	0.0	0.0	22.4	8.6	32.4	0.0	31.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	33.3	0.0	0.0	43.6	24.8	86.4	0.0	100.2			
LnGrp LOS	A	C		A	D	C	F	A	F			
Approach Vol, veh/h		2132	A		2775			1544				
Approach Delay, s/veh		33.3			40.6			92.9				
Approach LOS		C			D			F				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		57.0		63.0				63.0				
Change Period (Y+Rc), s		6.5		6.5				6.5				
Max Green Setting (Gmax), s		50.5		56.5				56.5				
Max Q Clear Time (g_c+I1), s		52.5		47.5				55.6				
Green Ext Time (p_c), s		0.0		7.3				0.8				

Intersection Summary

HCM 6th Ctrl Delay	50.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

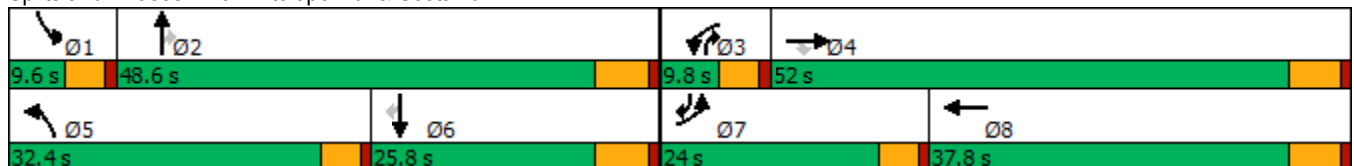


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↗	↖↗	↑↑↑	↖↗	↑↑	↗	↖	↑	↗
Traffic Volume (vph)	625	2737	557	120	1954	673	260	231	161	151	355
Future Volume (vph)	625	2737	557	120	1954	673	260	231	161	151	355
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	24.0	52.0	52.0	9.8	37.8	32.4	48.6	9.8	9.6	25.8	24.0
Total Split (%)	20.0%	43.3%	43.3%	8.2%	31.5%	27.0%	40.5%	8.2%	8.0%	21.5%	20.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	19.5	46.4	46.4	5.2	32.1	25.7	35.4	46.5	5.0	14.8	35.5
Actuated g/C Ratio	0.17	0.41	0.41	0.05	0.28	0.23	0.31	0.41	0.04	0.13	0.31
v/c Ratio	1.10	1.96	0.78	0.79	1.52	0.90	0.24	0.34	2.15	0.64	0.65
Control Delay	111.7	459.5	29.9	87.2	267.1	58.3	28.9	12.9	583.4	59.5	27.0
Queue Delay	0.1	0.4	44.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	111.8	459.9	73.9	87.2	267.1	58.3	28.9	12.9	583.4	59.5	27.0
LOS	F	F	E	F	F	E	C	B	F	E	C
Approach Delay		349.5			257.4		42.7			168.8	
Approach LOS		F			F		D			F	

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 112.9
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.15
 Intersection Signal Delay: 263.9
 Intersection LOS: F
 Intersection Capacity Utilization 124.7%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 			 	
Traffic Volume (veh/h)	625	2737	557	120	1954	140	673	260	231	161	151	355
Future Volume (veh/h)	625	2737	557	120	1954	140	673	260	231	161	151	355
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	651	2851	371	125	2035	138	701	271	149	168	157	251
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	583	1427	637	156	1359	92	762	1169	593	77	284	505
Arrive On Green	0.17	0.40	0.40	0.05	0.28	0.28	0.22	0.33	0.33	0.04	0.15	0.15
Sat Flow, veh/h	3456	3554	1585	3456	4886	330	3456	3554	1585	1781	1870	1564
Grp Volume(v), veh/h	651	2851	371	125	1415	758	701	271	149	168	157	251
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1811	1728	1777	1585	1781	1870	1564
Q Serve(g_s), s	19.4	46.2	21.0	4.1	32.0	32.0	22.8	6.4	7.5	5.0	8.9	14.9
Cycle Q Clear(g_c), s	19.4	46.2	21.0	4.1	32.0	32.0	22.8	6.4	7.5	5.0	8.9	14.9
Prop In Lane	1.00		1.00	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	583	1427	637	156	947	504	762	1169	593	77	284	505
V/C Ratio(X)	1.12	2.00	0.58	0.80	1.49	1.51	0.92	0.23	0.25	2.17	0.55	0.50
Avail Cap(c_a), veh/h	583	1427	637	156	947	504	835	1322	661	77	325	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	34.4	26.9	54.4	41.5	41.5	43.8	28.0	24.9	55.0	45.2	31.6
Incr Delay (d2), s/veh	73.7	451.4	1.4	23.2	227.8	237.5	13.8	0.1	0.2	566.4	1.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.0	108.0	7.8	2.2	42.7	46.8	10.8	2.6	2.7	14.4	4.2	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.5	485.8	28.2	77.6	269.3	279.1	57.6	28.1	25.1	621.5	46.8	32.4
LnGrp LOS	F	F	C	E	F	F	E	C	C	F	D	C
Approach Vol, veh/h		3873			2298			1121			576	
Approach Delay, s/veh		380.7			262.1			46.2			208.1	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	43.6	9.8	52.0	30.0	23.3	24.0	37.8				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	42.8	5.2	46.2	27.8	20.0	19.4	32.0				
Max Q Clear Time (g_c+I1), s	7.0	9.5	6.1	48.2	24.8	16.9	21.4	34.0				
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.5	0.5	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			285.8									
HCM 6th LOS			F									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

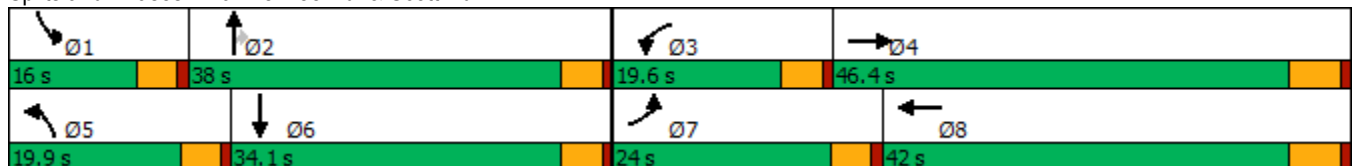


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↗	↖	↕
Traffic Volume (vph)	216	2327	323	1913	137	680	511	404	340
Future Volume (vph)	216	2327	323	1913	137	680	511	404	340
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	24.0	46.4	19.6	42.0	19.9	38.0	38.0	16.0	34.1
Total Split (%)	20.0%	38.7%	16.3%	35.0%	16.6%	31.7%	31.7%	13.3%	28.4%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	17.8	40.6	15.0	37.8	13.0	33.3	33.3	11.4	31.7
Actuated g/C Ratio	0.15	0.34	0.12	0.32	0.11	0.28	0.28	0.10	0.26
v/c Ratio	0.87	2.21	1.54	2.22	0.75	1.39	0.87	2.53	0.99
Control Delay	79.6	571.2	299.5	573.3	75.4	220.7	36.4	728.5	82.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	571.2	299.5	573.3	75.4	220.7	36.4	728.5	82.6
LOS	E	F	F	F	E	F	D	F	F
Approach Delay		532.1		539.7		134.8			386.9
Approach LOS		F		F		F			F

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.53
 Intersection Signal Delay: 448.1
 Intersection LOS: F
 Intersection Capacity Utilization 162.2%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	2327	168	323	1913	393	137	680	511	404	340	113
Future Volume (veh/h)	216	2327	168	323	1913	393	137	680	511	404	340	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	227	2449	163	340	2014	400	144	716	421	425	358	91
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	1143	75	223	951	182	171	519	432	169	397	101
Arrive On Green	0.14	0.34	0.34	0.13	0.32	0.32	0.10	0.28	0.28	0.09	0.28	0.28
Sat Flow, veh/h	1781	3379	222	1781	2964	567	1781	1870	1558	1781	1434	365
Grp Volume(v), veh/h	227	1273	1339	340	1176	1238	144	716	421	425	0	449
Grp Sat Flow(s),veh/h/ln	1781	1777	1824	1781	1777	1754	1781	1870	1558	1781	0	1799
Q Serve(g_s), s	15.0	40.6	40.6	15.0	38.5	38.5	9.5	33.3	32.1	11.4	0.0	28.9
Cycle Q Clear(g_c), s	15.0	40.6	40.6	15.0	38.5	38.5	9.5	33.3	32.1	11.4	0.0	28.9
Prop In Lane	1.00		0.12	1.00		0.32	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	254	601	617	223	570	563	171	519	432	169	0	498
V/C Ratio(X)	0.89	2.12	2.17	1.53	2.06	2.20	0.84	1.38	0.97	2.51	0.00	0.90
Avail Cap(c_a), veh/h	288	601	617	223	570	563	227	519	432	169	0	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.6	39.7	39.7	52.5	40.7	40.7	53.4	43.3	42.9	54.3	0.0	41.8
Incr Delay (d2), s/veh	24.3	508.1	532.3	258.6	484.3	545.7	15.2	182.6	36.3	697.4	0.0	19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	101.6	108.5	22.5	92.7	101.1	5.0	41.5	16.2	37.9	0.0	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	547.8	572.0	311.1	525.1	586.5	68.6	225.9	79.2	751.7	0.0	61.4
LnGrp LOS	E	F	F	F	F	F	E	F	E	F	A	E
Approach Vol, veh/h		2839			2754			1281			874	
Approach Delay, s/veh		521.4			526.3			160.0			397.1	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	38.0	19.6	46.4	16.1	37.9	21.7	44.3				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	11.4	* 33	15.0	40.6	15.3	* 29	19.4	36.2				
Max Q Clear Time (g_c+I1), s	13.4	35.3	17.0	42.6	11.5	30.9	17.0	40.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0				

Intersection Summary

HCM 6th Ctrl Delay	449.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
7: Whitewood Rd. & Clinton Keith Rd.

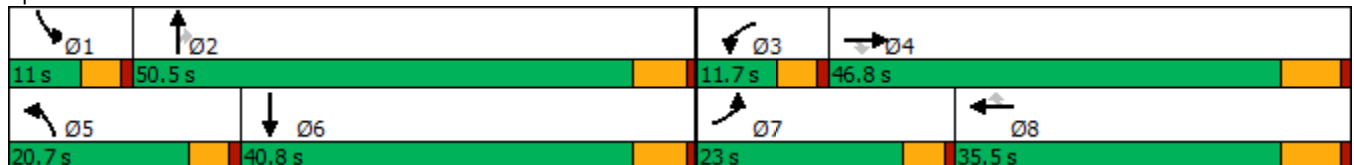
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	852	2074	238	230	1683	372	320	965	248	302	331
Future Volume (vph)	852	2074	238	230	1683	372	320	965	248	302	331
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	23.0	46.8	46.8	11.7	35.5	35.5	20.7	50.5	50.5	11.0	40.8
Total Split (%)	19.2%	39.0%	39.0%	9.8%	29.6%	29.6%	17.3%	42.1%	42.1%	9.2%	34.0%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	18.4	40.3	40.3	7.1	29.0	29.0	16.1	44.7	44.7	6.4	35.0
Actuated g/C Ratio	0.15	0.34	0.34	0.06	0.24	0.24	0.13	0.37	0.37	0.05	0.29
v/c Ratio	1.65	1.78	0.39	1.16	1.40	0.72	1.38	1.42	0.37	3.28	1.10dr
Control Delay	334.8	382.3	13.4	161.4	219.7	28.7	234.3	229.1	11.9	1069.3	47.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	334.8	382.3	13.4	161.4	219.7	28.7	234.3	229.1	11.9	1069.3	47.8
LOS	F	F	B	F	F	C	F	F	B	F	D
Approach Delay		341.7			182.7			195.1			276.0
Approach LOS		F			F			F			F

Intersection Summary






























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.28
 Intersection Signal Delay: 260.5
 Intersection LOS: F
 Intersection Capacity Utilization 149.3%
 ICU Level of Service H
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  						 	
Traffic Volume (veh/h)	852	2074	238	230	1683	372	320	965	248	302	331	718
Future Volume (veh/h)	852	2074	238	230	1683	372	320	965	248	302	331	718
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	869	2116	217	235	1717	354	327	985	217	308	338	677
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	530	1193	532	204	1234	383	239	697	590	95	518	462
Arrive On Green	0.15	0.34	0.34	0.06	0.24	0.24	0.13	0.37	0.37	0.05	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	869	2116	217	235	1717	354	327	985	217	308	338	677
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	18.4	40.3	12.6	7.1	29.0	26.2	16.1	44.7	11.9	6.4	20.0	35.0
Cycle Q Clear(g_c), s	18.4	40.3	12.6	7.1	29.0	26.2	16.1	44.7	11.9	6.4	20.0	35.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	530	1193	532	204	1234	383	239	697	590	95	518	462
V/C Ratio(X)	1.64	1.77	0.41	1.15	1.39	0.92	1.37	1.41	0.37	3.24	0.65	1.46
Avail Cap(c_a), veh/h	530	1193	532	204	1234	383	239	697	590	95	518	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	39.8	30.7	56.4	45.5	44.4	52.0	37.6	27.4	56.8	37.2	42.5
Incr Delay (d2), s/veh	296.5	351.3	0.5	109.0	181.2	27.8	190.1	194.6	0.4	1035.6	2.9	220.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.4	74.5	4.6	6.1	32.2	12.7	19.6	56.9	4.3	30.1	8.8	41.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	347.3	391.1	31.2	165.4	226.7	72.2	242.1	232.3	27.8	1092.4	40.1	263.1
LnGrp LOS	F	F	C	F	F	E	F	F	C	F	D	F
Approach Vol, veh/h		3202			2306			1529			1323	
Approach Delay, s/veh		354.8			196.7			205.4			399.2	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	50.5	11.7	46.8	20.7	40.8	23.0	35.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	6.4	44.7	7.1	40.3	16.1	35.0	18.4	29.0				
Max Q Clear Time (g_c+I1), s	8.4	46.7	9.1	42.3	18.1	37.0	20.4	31.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay					290.9							
HCM 6th LOS					F							

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

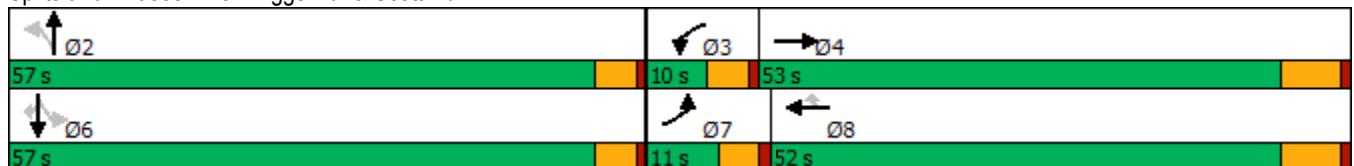


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	26	2588	91	2103	167	543	18	221	8	31
Future Volume (vph)	26	2588	91	2103	167	543	18	221	8	31
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	11.0	53.0	10.0	52.0	52.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	9.2%	44.2%	8.3%	43.3%	43.3%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	5.9	46.5	5.4	49.9	49.9		52.3		52.3	52.3
Actuated g/C Ratio	0.05	0.39	0.04	0.42	0.42		0.44		0.44	0.44
v/c Ratio	0.31	2.52	1.20	1.49	0.23		1.54		0.49	0.04
Control Delay	64.5	706.4	213.8	252.5	4.4		280.8		28.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	64.5	706.4	213.8	252.5	4.4		280.8		28.5	0.1
LOS	E	F	F	F	A		F		C	A
Approach Delay		701.3		233.5			280.8		25.1	
Approach LOS		F		F			F		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.52
 Intersection Signal Delay: 464.7
 Intersection LOS: F
 Intersection Capacity Utilization 144.6%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	2588	671	91	2103	167	543	18	76	221	8	31
Future Volume (veh/h)	26	2588	671	91	2103	167	543	18	76	221	8	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	2696	642	95	2191	174	566	19	76	230	8	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	1113	255	80	1449	646	466	14	55	737	24	682
Arrive On Green	0.02	0.39	0.39	0.05	0.41	0.41	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	1781	2872	657	1781	3554	1585	941	32	126	1555	54	1564
Grp Volume(v), veh/h	27	1626	1712	95	2191	174	661	0	0	238	0	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1752	1781	1777	1585	1099	0	0	1609	0	1564
Q Serve(g_s), s	1.8	46.5	46.5	5.4	48.9	8.8	40.6	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s	1.8	46.5	46.5	5.4	48.9	8.8	52.3	0.0	0.0	11.7	0.0	0.7
Prop In Lane	1.00		0.38	1.00		1.00	0.86		0.11	0.97		1.00
Lane Grp Cap(c), veh/h	44	689	679	80	1449	646	535	0	0	760	0	682
V/C Ratio(X)	0.61	2.36	2.52	1.19	1.51	0.27	1.24	0.00	0.00	0.31	0.00	0.02
Avail Cap(c_a), veh/h	95	689	679	80	1449	646	535	0	0	760	0	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.9	36.8	36.8	57.3	35.5	23.6	41.8	0.0	0.0	22.4	0.0	19.3
Incr Delay (d2), s/veh	5.0	617.3	689.0	158.8	234.0	0.2	121.7	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	136.5	148.1	5.9	66.3	3.1	34.3	0.0	0.0	4.5	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.0	654.1	725.7	216.1	269.5	23.9	163.5	0.0	0.0	22.6	0.0	19.3
LnGrp LOS	E	F	F	F	F	C	F	A	A	C	A	B
Approach Vol, veh/h		3365			2460			661				254
Approach Delay, s/veh		685.8			250.1			163.5				22.4
Approach LOS		F			F			F				C
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		57.0	10.0	53.0		57.0	7.6	55.4				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 52	5.4	46.5		* 52	6.4	45.5				
Max Q Clear Time (g_c+I1), s		54.3	7.4	48.5		13.7	3.8	50.9				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.7	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			450.5									
HCM 6th LOS			F									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Intersection Delay, s/v ~~4099.1~~ 99.1
Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	228	1698	904	19	1382	81	761	107	20	57	88	129
Future Vol, veh/h	228	1698	904	19	1382	81	761	107	20	57	88	129
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	243	1806	962	20	1470	86	810	114	21	61	94	137
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	2895.8	1391.7	706.9	211.7
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	86%	8%	1%	21%
Vol Thru, %	12%	60%	93%	32%
Vol Right, %	2%	32%	5%	47%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	888	2830	1482	274
LT Vol	761	228	19	57
Through Vol	107	1698	1382	88
RT Vol	20	904	81	129
Lane Flow Rate	945	3011	1577	291
Geometry Grp	1	1	1	1
Degree of Util (X)	2.383	7.314	3.894	0.76
Departure Headway (Hd)	31.413	23.976	37.594	84.428
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	132	181	126	47
Service Time	29.413	21.976	35.594	82.428
HCM Lane V/C Ratio	7.159	16.635	12.516	6.191
HCM Control Delay	706.9	2895.8	1391.7	211.7
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	24.1	121.9	38.3	2.9

Intersection												
Int Delay, s/veh	241.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	5	18	31	3	165	0	855	43	251	740	0
Future Vol, veh/h	7	5	18	31	3	165	0	855	43	251	740	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	5	20	34	3	179	0	929	47	273	804	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2394	2326	804	2316	2303	953	804	0	0	976	0	0
Stage 1	1350	1350	-	953	953	-	-	-	-	-	-	-
Stage 2	1044	976	-	1363	1350	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	23	37	383	~26	38	314	820	-	-	707	-	-
Stage 1	186	219	-	311	338	-	-	-	-	-	-	-
Stage 2	277	329	-	183	219	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~3	11	383	~7	11	314	820	-	-	707	-	-
Mov Cap-2 Maneuver	~3	11	-	~7	11	-	-	-	-	-	-	-
Stage 1	186	66	-	311	338	-	-	-	-	-	-	-
Stage 2	118	329	-	48	66	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, \$	1569.2	2320.5	0	3.4
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	820	-	-	11	38	707	-	-
HCM Lane V/C Ratio	-	-	-	2.964	5.692	0.386	-	-
HCM Control Delay (s)	0	-	-	\$ 1569.2	\$ 2320.5	13.3	0	-
HCM Lane LOS	A	-	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0	-	-	5.1	25.5	1.8	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	33.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Vol, veh/h	16	29	6	191	22	51	7	833	291	107	722	31
Future Vol, veh/h	16	29	6	191	22	51	7	833	291	107	722	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	32	7	212	24	57	8	926	323	119	802	34

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2201	2322	418	1759	2178	1088	836	0	0	1249	0	0
Stage 1	1057	1057	-	1104	1104	-	-	-	-	-	-	-
Stage 2	1144	1265	-	655	1074	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	28	37	585	~ 60	46	261	796	-	-	555	-	-
Stage 1	241	301	-	255	286	-	-	-	-	-	-	-
Stage 2	242	240	-	422	295	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 16	~ 29	585	~ 35	36	261	796	-	-	555	-	-
Mov Cap-2 Maneuver	43	84	-	~ 136	130	-	-	-	-	-	-	-
Stage 1	239	237	-	252	283	-	-	-	-	-	-	-
Stage 2	171	238	-	283	232	-	-	-	-	-	-	-

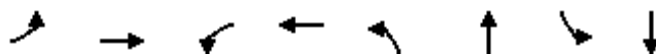
Approach	EB	WB	NB	SB
HCM Control Delay, s	157	258	0.1	1.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	796	-	-	70	136	200	555	-	-
HCM Lane V/C Ratio	0.01	-	-	0.81	1.56	0.406	0.214	-	-
HCM Control Delay (s)	9.6	-	-	157	343.3	34.8	13.2	-	-
HCM Lane LOS	A	-	-	F	F	D	B	-	-
HCM 95th %tile Q(veh)	0	-	-	3.9	14.9	1.8	0.8	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↕	↘	↕	↘	↕	↘	↕
Traffic Volume (vph)	99	193	161	305	68	1012	196	807
Future Volume (vph)	99	193	161	305	68	1012	196	807
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	15.6	29.7	17.4	31.5	15.2	52.9	20.0	57.7
Total Split (%)	13.0%	24.8%	14.5%	26.3%	12.7%	44.1%	16.7%	48.1%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	11.0	19.7	12.8	21.5	8.6	46.8	15.2	55.6
Actuated g/C Ratio	0.10	0.17	0.11	0.19	0.07	0.41	0.13	0.48
v/c Ratio	0.64	0.45	0.89	0.80	0.56	0.95	0.91	0.53
Control Delay	68.7	40.0	91.8	41.7	68.4	48.1	89.4	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.7	40.0	91.8	41.7	68.4	48.1	89.4	23.5
LOS	E	D	F	D	E	D	F	C
Approach Delay		48.1		53.2		49.2		36.1
Approach LOS		D		D		D		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.7
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 46.0
 Intersection LOS: D
 Intersection Capacity Utilization 92.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	
Traffic Volume (veh/h)	99	193	58	161	305	231	68	1012	227	196	807	19
Future Volume (veh/h)	99	193	58	161	305	231	68	1012	227	196	807	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	210	31	175	332	194	74	1100	208	213	877	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	540	79	202	412	235	95	1189	224	241	1707	41
Arrive On Green	0.10	0.17	0.17	0.11	0.19	0.19	0.05	0.40	0.40	0.14	0.48	0.48
Sat Flow, veh/h	1781	3110	452	1781	2169	1239	1781	2977	561	1781	3547	85
Grp Volume(v), veh/h	108	119	122	175	271	255	74	655	653	213	439	459
Grp Sat Flow(s),veh/h/ln	1781	1777	1786	1781	1777	1632	1781	1777	1761	1781	1777	1855
Q Serve(g_s), s	6.6	6.7	6.8	10.9	16.4	16.9	4.6	39.5	39.9	13.2	19.2	19.2
Cycle Q Clear(g_c), s	6.6	6.7	6.8	10.9	16.4	16.9	4.6	39.5	39.9	13.2	19.2	19.2
Prop In Lane	1.00		0.25	1.00		0.76	1.00		0.32	1.00		0.05
Lane Grp Cap(c), veh/h	174	309	310	202	337	310	95	709	703	241	855	893
V/C Ratio(X)	0.62	0.38	0.39	0.86	0.80	0.82	0.78	0.92	0.93	0.89	0.51	0.51
Avail Cap(c_a), veh/h	174	394	396	202	423	388	168	736	730	243	855	893
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	41.2	41.3	49.1	43.6	43.9	52.7	32.2	32.3	47.9	20.2	20.2
Incr Delay (d2), s/veh	15.6	0.8	0.8	35.8	8.6	11.1	5.2	16.9	18.0	28.6	2.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	3.0	3.1	6.8	8.0	7.8	2.1	18.9	19.1	7.5	7.8	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.4	42.0	42.1	84.9	52.3	55.0	57.9	49.1	50.3	76.5	22.4	22.3
LnGrp LOS	E	D	D	F	D	D	E	D	D	E	C	C
Approach Vol, veh/h		349			701			1382			1111	
Approach Delay, s/veh		49.0			61.4			50.1			32.7	
Approach LOS		D			E			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.8	51.2	17.4	24.3	10.6	60.4	15.6	26.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	15.4	46.7	12.8	* 25	10.6	51.5	11.0	* 27				
Max Q Clear Time (g_c+I1), s	15.2	41.9	12.9	8.8	6.6	21.2	8.6	18.9				
Green Ext Time (p_c), s	0.0	3.1	0.0	1.2	0.0	5.4	0.0	2.0				

Intersection Summary

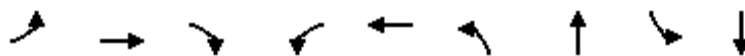
HCM 6th Ctrl Delay	46.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
06/23/2021

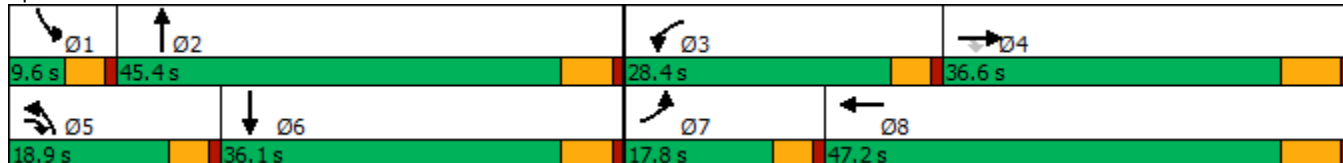


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↔↔	↑↑	↔↔	↑↑
Traffic Volume (vph)	212	944	607	712	632	393	551	27	639
Future Volume (vph)	212	944	607	712	632	393	551	27	639
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	17.8	36.6	18.9	28.4	47.2	18.9	45.4	9.6	36.1
Total Split (%)	14.8%	30.5%	15.8%	23.7%	39.3%	15.8%	37.8%	8.0%	30.1%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.6	5.5	4.6	3.6	5.5	3.6	4.8	3.6	4.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	12.5	31.1	50.9	24.8	43.4	15.3	43.9	6.0	30.7
Actuated g/C Ratio	0.10	0.26	0.43	0.21	0.36	0.13	0.37	0.05	0.26
v/c Ratio	0.61	1.04	0.88	1.03	0.52	0.92	1.01dr	0.16	0.91
Control Delay	58.5	81.8	40.7	87.8	31.7	78.6	43.2	56.9	56.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	81.8	40.7	87.8	31.7	78.6	43.2	56.9	56.2
LOS	E	F	D	F	C	E	D	E	E
Approach Delay		64.8			60.8		51.5		56.2
Approach LOS		E			E		D		E

Intersection Summary






























Cycle Length: 120
 Actuated Cycle Length: 119.4
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 58.6
 Intersection LOS: E
 Intersection Capacity Utilization 104.5%
 ICU Level of Service G
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (veh/h)	212	944	607	712	632	27	393	551	730	27	639	174
Future Volume (veh/h)	212	944	607	712	632	27	393	551	730	27	639	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	1004	407	757	672	28	418	586	245	29	680	79
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	996	603	756	1390	58	467	844	352	123	792	92
Arrive On Green	0.09	0.40	0.26	0.32	0.58	0.38	0.20	0.34	0.33	0.03	0.24	0.23
Sat Flow, veh/h	3563	3741	1585	3563	3566	148	3563	2506	1046	3563	3290	382
Grp Volume(v), veh/h	226	1004	407	757	352	348	418	437	394	29	386	373
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1844	1781	1870	1682	1781	1870	1802
Q Serve(g_s), s	7.2	31.1	25.0	24.8	12.7	13.1	13.4	23.6	23.8	0.9	23.1	23.1
Cycle Q Clear(g_c), s	7.2	31.1	25.0	24.8	12.7	13.1	13.4	23.6	23.8	0.9	23.1	23.1
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.62	1.00		0.21
Lane Grp Cap(c), veh/h	316	996	603	756	729	719	467	630	567	123	450	433
V/C Ratio(X)	0.72	1.01	0.68	1.00	0.48	0.48	0.90	0.69	0.70	0.23	0.86	0.86
Avail Cap(c_a), veh/h	433	996	603	756	729	719	467	650	585	183	501	483
HCM Platoon Ratio	1.00	1.50	1.00	1.50	1.50	1.00	1.50	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	35.1	30.2	39.8	17.4	18.2	46.1	33.5	33.8	54.9	42.4	42.6
Incr Delay (d2), s/veh	1.7	30.5	3.0	32.9	0.5	0.5	19.0	3.1	3.4	0.4	12.9	13.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	15.4	9.4	12.6	4.5	4.6	6.6	10.8	9.8	0.4	11.9	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.5	65.6	33.2	72.7	17.9	18.7	65.2	36.6	37.3	55.2	55.4	56.1
LnGrp LOS	D	F	C	F	B	B	E	D	D	E	E	E
Approach Vol, veh/h		1637			1457			1249			788	
Approach Delay, s/veh		55.9			46.6			46.4			55.7	
Approach LOS		E			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	44.2	28.4	36.6	18.9	32.9	13.9	51.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	39.6	23.8	30.1	14.3	30.3	13.2	40.7				
Max Q Clear Time (g_c+I1), s	2.9	25.8	26.8	33.1	15.4	25.1	9.2	15.1				
Green Ext Time (p_c), s	0.0	4.1	0.0	0.0	0.0	2.0	0.1	3.9				
Intersection Summary												
HCM 6th Ctrl Delay				50.9								
HCM 6th LOS				D								

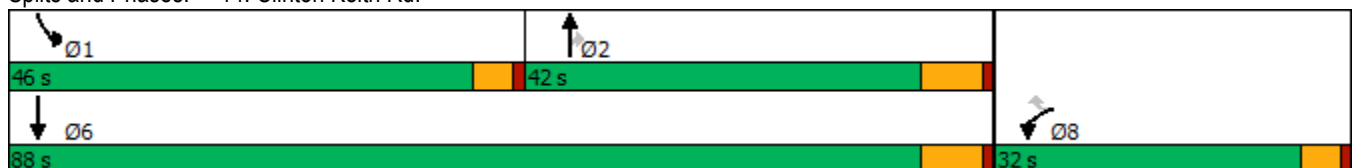
Timings
14: Clinton Keith Rd.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	236	556	588	224	759	847
Future Volume (vph)	236	556	588	224	759	847
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	28.5	28.5	9.6	16.5
Total Split (s)	32.0	32.0	42.0	42.0	46.0	88.0
Total Split (%)	26.7%	26.7%	35.0%	35.0%	38.3%	73.3%
Yellow Time (s)	3.6	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	14.9	14.9	21.8	21.8	22.9	49.6
Actuated g/C Ratio	0.20	0.20	0.29	0.29	0.30	0.65
v/c Ratio	0.64	0.56	0.59	0.37	0.75	0.38
Control Delay	20.8	9.0	27.3	5.6	30.4	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	9.0	27.3	5.6	30.4	6.7
LOS	C	A	C	A	C	A
Approach Delay	16.6		21.3			17.9
Approach LOS	B		C			B

Intersection Summary

















Cycle Length: 120	
Actuated Cycle Length: 76.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 18.5	Intersection LOS: B
Intersection Capacity Utilization 63.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 14: Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
14: Clinton Keith Rd.

Keller Crossing (JN:13649)
06/23/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (veh/h)	236	556	588	224	759	847
Future Volume (veh/h)	236	556	588	224	759	847
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	241	567	600	229	774	864
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	422	751	921	411	913	2110
Arrive On Green	0.24	0.24	0.26	0.26	0.26	0.59
Sat Flow, veh/h	1781	3170	3647	1585	3456	3647
Grp Volume(v), veh/h	241	567	600	229	774	864
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1728	1777
Q Serve(g_s), s	7.8	10.9	9.9	8.2	13.9	8.5
Cycle Q Clear(g_c), s	7.8	10.9	9.9	8.2	13.9	8.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	422	751	921	411	913	2110
V/C Ratio(X)	0.57	0.76	0.65	0.56	0.85	0.41
Avail Cap(c_a), veh/h	745	1326	1926	859	2185	4423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	23.2	21.6	21.0	22.8	7.1
Incr Delay (d2), s/veh	1.2	1.6	0.8	1.2	0.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.6	3.9	3.0	4.8	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.3	24.8	22.4	22.2	23.7	7.3
LnGrp LOS	C	C	C	C	C	A
Approach Vol, veh/h	808		829			1638
Approach Delay, s/veh	24.4		22.3			15.0
Approach LOS	C		C			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	21.9	23.5			45.4	20.1
Change Period (Y+Rc), s	4.6	6.5			6.5	4.6
Max Green Setting (Gmax), s	41.4	35.5			81.5	27.4
Max Q Clear Time (g_c+I1), s	15.9	11.9			10.5	12.9
Green Ext Time (p_c), s	1.4	5.1			6.1	2.6

Intersection Summary

HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection												
Intersection Delay, s/veh	9.4											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	189	20	2	299	0	24	0	7	0	0	0
Future Vol, veh/h	0	189	20	2	299	0	24	0	7	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	205	22	2	325	0	26	0	8	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	9.8	8.4	0
HCM LOS	A	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	77%	0%	1%	0%
Vol Thru, %	0%	90%	99%	100%
Vol Right, %	23%	10%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	209	301	0
LT Vol	24	0	2	0
Through Vol	0	189	299	0
RT Vol	7	20	0	0
Lane Flow Rate	34	227	327	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.048	0.271	0.379	0
Departure Headway (Hd)	5.141	4.29	4.165	5.181
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	699	843	851	0
Service Time	3.153	2.294	2.261	3.196
HCM Lane V/C Ratio	0.049	0.269	0.384	0
HCM Control Delay	8.4	8.9	9.8	8.2
HCM Lane LOS	A	A	A	N
HCM 95th-tile Q	0.2	1.1	1.8	0

Intersection						
Int Delay, s/veh	5.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑↑	↑	
Traffic Vol, veh/h	5	113	194	106	83	3
Future Vol, veh/h	5	113	194	106	83	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	123	211	115	90	3

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	572	92	93	0	0
Stage 1	92	-	-	-	-
Stage 2	480	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-
Pot Cap-1 Maneuver	466	965	1500	-	-
Stage 1	931	-	-	-	-
Stage 2	589	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	400	965	1500	-	-
Mov Cap-2 Maneuver	482	-	-	-	-
Stage 1	800	-	-	-	-
Stage 2	589	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1500	-	926	-	-
HCM Lane V/C Ratio	0.141	-	0.139	-	-
HCM Control Delay (s)	7.8	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.5	-	0.5	-	-

Timings
20: Winchester Rd. & Domenigoni Pkwy

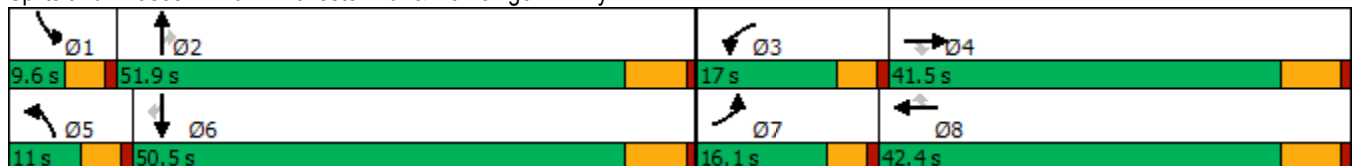
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	902	90	649	785	19	123	1031	870	18	493	163
Future Volume (vph)	180	902	90	649	785	19	123	1031	870	18	493	163
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	16.1	41.5	41.5	17.0	42.4	42.4	11.0	51.9	51.9	9.6	50.5	50.5
Total Split (%)	13.4%	34.6%	34.6%	14.2%	35.3%	35.3%	9.2%	43.3%	43.3%	8.0%	42.1%	42.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	9.8	32.9	32.9	12.5	35.5	35.5	6.4	45.6	45.6	5.0	38.1	38.1
Actuated g/C Ratio	0.09	0.29	0.29	0.11	0.32	0.32	0.06	0.41	0.41	0.04	0.34	0.34
v/c Ratio	0.62	0.89	0.17	1.74	0.50	0.03	1.25	0.73	1.07	0.23	0.42	0.26
Control Delay	59.5	49.7	4.0	374.9	33.0	0.1	215.5	32.8	74.5	61.7	29.8	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	49.7	4.0	374.9	33.0	0.1	215.5	32.8	74.5	61.7	29.8	4.9
LOS	E	D	A	F	C	A	F	C	E	E	C	A
Approach Delay		47.7			185.3			61.9			24.6	
Approach LOS		D			F			E			C	

Intersection Summary
































Cycle Length: 120
 Actuated Cycle Length: 112.2
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.74
 Intersection Signal Delay: 87.7
 Intersection LOS: F
 Intersection Capacity Utilization 97.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  			 			 	
Traffic Volume (veh/h)	180	902	90	649	785	19	123	1031	870	18	493	163
Future Volume (veh/h)	180	902	90	649	785	19	123	1031	870	18	493	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	920	34	662	801	11	126	1052	580	18	503	64
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	1019	455	376	1660	515	100	1387	619	34	1256	560
Arrive On Green	0.07	0.29	0.29	0.11	0.33	0.33	0.06	0.39	0.39	0.02	0.35	0.35
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	184	920	34	662	801	11	126	1052	580	18	503	64
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.0	28.4	1.8	12.4	14.3	0.5	6.4	29.2	40.1	1.1	12.1	3.1
Cycle Q Clear(g_c), s	6.0	28.4	1.8	12.4	14.3	0.5	6.4	29.2	40.1	1.1	12.1	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	244	1019	455	376	1660	515	100	1387	619	34	1256	560
V/C Ratio(X)	0.76	0.90	0.07	1.76	0.48	0.02	1.26	0.76	0.94	0.53	0.40	0.11
Avail Cap(c_a), veh/h	349	1092	487	376	1660	515	100	1416	632	78	1373	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	39.1	29.6	50.8	30.8	26.1	53.8	30.1	33.4	55.4	27.7	24.8
Incr Delay (d2), s/veh	2.9	10.0	0.1	352.6	0.2	0.0	174.8	2.4	21.5	4.7	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	12.9	0.7	23.5	5.5	0.2	7.6	11.9	17.7	0.5	4.8	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	49.1	29.7	403.4	31.0	26.1	228.6	32.4	54.9	60.1	28.0	24.9
LnGrp LOS	D	D	C	F	C	C	F	C	D	E	C	C
Approach Vol, veh/h		1138			1474			1758			585	
Approach Delay, s/veh		49.5			198.2			53.9			28.6	
Approach LOS		D			F			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	51.0	17.0	39.2	11.0	46.7	12.6	43.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	45.4	12.4	35.0	6.4	44.0	11.5	35.9				
Max Q Clear Time (g_c+I1), s	3.1	42.1	14.4	30.4	8.4	14.1	8.0	16.3				
Green Ext Time (p_c), s	0.0	2.4	0.0	2.3	0.0	3.2	0.1	4.7				
Intersection Summary												
HCM 6th Ctrl Delay				92.8								
HCM 6th LOS				F								

Timings
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	38	0	11	18	9	23	1968	7	3	1190	39
Future Volume (vph)	38	0	11	18	9	23	1968	7	3	1190	39
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	10.0	74.3	74.3	10.0	74.3	74.3
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.3%	61.9%	61.9%	8.3%	61.9%	61.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		10.9	10.9		10.9	5.6	50.6	50.6	5.4	48.6	48.6
Actuated g/C Ratio		0.17	0.17		0.17	0.09	0.80	0.80	0.09	0.77	0.77
v/c Ratio		0.18	0.04		0.18	0.16	0.52	0.01	0.02	0.47	0.03
Control Delay		31.4	0.2		22.7	36.7	5.6	0.0	35.7	7.0	1.4
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		31.4	0.2		22.7	36.7	5.6	0.0	35.7	7.0	1.4
LOS		C	A		C	D	A	A	D	A	A
Approach Delay		24.3			22.7		6.0			6.9	
Approach LOS		C			C		A			A	

Intersection Summary






















Cycle Length: 120
 Actuated Cycle Length: 63.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.52
 Intersection Signal Delay: 6.8
 Intersection Capacity Utilization 62.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
 21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	0	11	18	9	18	23	1968	7	3	1190	39
Future Volume (veh/h)	38	0	11	18	9	18	23	1968	7	3	1190	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	0	12	19	10	6	25	2116	8	3	1280	42
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	0	191	164	79	33	49	3286	1020	7	2203	983
Arrive On Green	0.12	0.00	0.12	0.12	0.12	0.12	0.03	0.64	0.64	0.00	0.62	0.62
Sat Flow, veh/h	1452	0	1585	670	654	274	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	41	0	12	35	0	0	25	2116	8	3	1280	42
Grp Sat Flow(s),veh/h/ln	1452	0	1585	1597	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	0.3	0.0	0.4	0.0	0.0	0.0	0.9	16.9	0.1	0.1	14.3	0.7
Cycle Q Clear(g_c), s	1.4	0.0	0.4	1.2	0.0	0.0	0.9	16.9	0.1	0.1	14.3	0.7
Prop In Lane	1.00		1.00	0.54		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	283	0	191	275	0	0	49	3286	1020	7	2203	983
V/C Ratio(X)	0.15	0.00	0.06	0.13	0.00	0.00	0.51	0.64	0.01	0.42	0.58	0.04
Avail Cap(c_a), veh/h	762	0	735	805	0	0	144	5203	1615	144	3621	1615
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	0.0	26.0	26.4	0.0	0.0	32.0	7.2	4.3	33.2	7.5	5.0
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.2	0.0	0.0	2.9	0.2	0.0	13.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	0.5	0.0	0.0	0.4	3.2	0.0	0.1	3.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	0.0	26.2	26.6	0.0	0.0	35.0	7.5	4.3	46.7	7.8	5.0
LnGrp LOS	C	A	C	C	A	A	C	A	A	D	A	A
Approach Vol, veh/h		53			35			2149			1325	
Approach Delay, s/veh		26.6			26.6			7.8			7.8	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	49.2		12.7	6.5	47.6		12.7				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.4	68.1		* 31	5.4	68.1		* 31				
Max Q Clear Time (g_c+I1), s	2.1	18.9		3.4	2.9	16.3		3.2				
Green Ext Time (p_c), s	0.0	24.2		0.2	0.0	11.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			8.2									
HCM 6th LOS			A									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations										
Traffic Volume (vph)	7	18	30	18	10	4198	42	3652	12	
Future Volume (vph)	7	18	30	18	10	4198	42	3652	12	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4		8	5	2		6		1
Permitted Phases	4		8				2		6	
Detector Phase	4	4	8	8	5	2	2	6	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	26.5	16.5	16.5	9.6
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	74.7	74.7	74.7	9.6
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	62.3%	62.3%	62.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max	None
Act Effct Green (s)	10.1	10.1	10.1	10.1	5.0	77.8	77.8	68.2	68.2	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.69	0.69	
v/c Ratio	0.06	0.15	0.23	0.37	0.12	1.62	0.04	1.61	0.01	
Control Delay	41.4	32.9	45.3	20.1	48.3	301.2	0.6	298.0	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.4	32.9	45.3	20.1	48.3	301.2	0.6	298.0	0.0	
LOS	D	C	D	C	D	F	A	F	A	
Approach Delay		34.8		27.0		297.7		297.0		
Approach LOS		C		C		F		F		

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 99.1	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.62	
Intersection Signal Delay: 292.6	Intersection LOS: F
Intersection Capacity Utilization 133.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 22: Winchester Rd. & Holland Rd.

9.6 s	74.7 s	35.7 s
9.6 s	74.7 s	35.7 s

HCM 6th Signalized Intersection Summary
 22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	7	18	8	30	18	61	10	4198	42	0	3652	12
Future Volume (veh/h)	7	18	8	30	18	61	10	4198	42	0	3652	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	19	5	32	19	61	11	4514	44	0	3927	13
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	144	38	196	39	127	90	2793	1246	2	2448	1092
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.00	0.69	0.69
Sat Flow, veh/h	1319	1427	376	1387	391	1254	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	8	0	24	32	0	80	11	4514	44	0	3927	13
Grp Sat Flow(s),veh/h/ln	1319	0	1803	1387	0	1645	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.6	0.0	1.2	2.1	0.0	4.6	0.6	77.8	0.6	0.0	68.2	0.3
Cycle Q Clear(g_c), s	5.1	0.0	1.2	3.3	0.0	4.6	0.6	77.8	0.6	0.0	68.2	0.3
Prop In Lane	1.00		0.21	1.00		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	0	182	196	0	166	90	2793	1246	2	2448	1092
V/C Ratio(X)	0.06	0.00	0.13	0.16	0.00	0.48	0.12	1.62	0.04	0.00	1.60	0.01
Avail Cap(c_a), veh/h	425	0	564	490	0	515	90	2793	1246	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	0.0	40.5	42.1	0.0	42.1	44.9	10.6	2.3	0.0	15.4	4.8
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.4	0.0	2.2	2.8	279.0	0.0	0.0	273.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.7	0.0	1.9	0.3	120.7	0.1	0.0	111.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	0.0	40.9	42.4	0.0	44.2	47.7	289.6	2.3	0.0	289.2	4.9
LnGrp LOS	D	A	D	D	A	D	D	F	A	A	F	A
Approach Vol, veh/h		32			112			4569			3940	
Approach Delay, s/veh		41.8			43.7			286.3			288.2	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	84.3		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	0.0	79.8		7.1	2.6	70.2		6.6				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.5				

Intersection Summary

HCM 6th Ctrl Delay	283.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	165	18	47	4085	3588	253
Future Volume (vph)	165	18	47	4085	3588	253
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	28.5	28.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effect Green (s)	16.5	16.5	5.0	87.0	79.4	79.4
Actuated g/C Ratio	0.14	0.14	0.04	0.76	0.69	0.69
v/c Ratio	0.70	0.08	0.66	1.65	1.59	0.24
Control Delay	62.0	25.9	93.2	314.7	288.4	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	25.9	93.2	314.7	288.4	2.8
LOS	E	C	F	F	F	A
Approach Delay	58.3			312.2	269.6	
Approach LOS	E			F	F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 114.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.65	
Intersection Signal Delay: 286.4	Intersection LOS: F
Intersection Capacity Utilization 131.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	165	18	47	4085	3588	253
Future Volume (veh/h)	165	18	47	4085	3588	253
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	19	51	4440	3900	275
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	212	189	66	2775	2498	1114
Arrive On Green	0.12	0.12	0.04	0.78	0.70	0.70
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	179	19	51	4440	3900	275
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	10.9	1.2	3.2	86.9	78.2	6.9
Cycle Q Clear(g_c), s	10.9	1.2	3.2	86.9	78.2	6.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	212	189	66	2775	2498	1114
V/C Ratio(X)	0.84	0.10	0.78	1.60	1.56	0.25
Avail Cap(c_a), veh/h	352	313	80	2775	2498	1114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	43.7	53.1	12.2	16.5	5.9
Incr Delay (d2), s/veh	9.2	0.2	25.6	271.7	254.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	1.1	1.8	122.2	110.1	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	57.2	43.9	78.7	283.8	271.2	6.5
LnGrp LOS	E	D	E	F	F	A
Approach Vol, veh/h	198			4491	4175	
Approach Delay, s/veh	55.9			281.5	253.7	
Approach LOS	E			F	F	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		17.9	8.7	84.7
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+1), s		88.9		12.9	5.2	80.2
Green Ext Time (p_c), s		0.0		0.4	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			263.4			
HCM 6th LOS			F			

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

06/22/2021

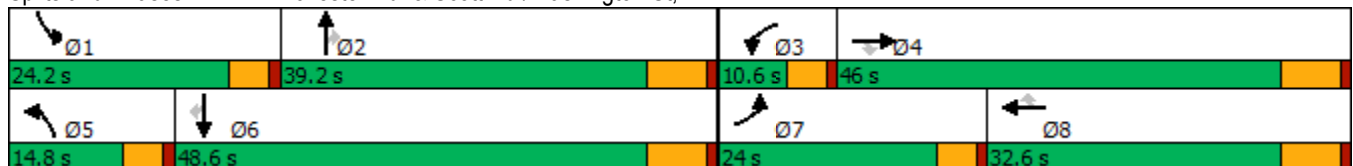


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↖	↗	↖	↖	↑↑↑	↖	↖	↑↑↑	↖
Traffic Volume (vph)	763	431	292	104	368	653	340	2666	50	437	2326	843
Future Volume (vph)	763	431	292	104	368	653	340	2666	50	437	2326	843
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.5	45.5	9.6	16.5	16.5	9.6	35.5	35.5	9.6	44.5	44.5
Total Split (s)	24.0	46.0	46.0	10.6	32.6	32.6	14.8	39.2	39.2	24.2	48.6	48.6
Total Split (%)	20.0%	38.3%	38.3%	8.8%	27.2%	27.2%	12.3%	32.7%	32.7%	20.2%	40.5%	40.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	19.4	39.5	39.5	6.0	26.1	26.1	10.2	32.7	32.7	19.6	42.1	42.1
Actuated g/C Ratio	0.16	0.33	0.33	0.05	0.22	0.22	0.08	0.27	0.27	0.16	0.35	0.35
v/c Ratio	2.81	0.74	0.46	1.24	0.96	1.25	2.39	2.03	0.09	1.59	1.37	1.12
Control Delay	843.3	44.3	12.3	219.8	81.8	152.9	668.2	489.9	0.3	315.9	204.0	91.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	843.3	44.3	12.3	219.8	81.8	152.9	668.2	489.9	0.3	315.9	204.0	91.7
LOS	F	D	B	F	F	F	F	F	A	F	F	F
Approach Delay		448.2			135.8			501.7			191.3	
Approach LOS		F			F			F			F	

Intersection Summary

























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.81
 Intersection Signal Delay: 328.1
 Intersection LOS: F
 Intersection Capacity Utilization 155.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	763	431	292	104	368	653	340	2666	50	437	2326	843
Future Volume (veh/h)	763	431	292	104	368	653	340	2666	50	437	2326	843
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	803	454	296	109	387	628	358	2806	53	460	2448	867
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	616	522	89	407	345	151	1391	432	291	1791	556
Arrive On Green	0.16	0.33	0.33	0.05	0.22	0.22	0.08	0.27	0.27	0.16	0.35	0.35
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	803	454	296	109	387	628	358	2806	53	460	2448	867
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	19.4	25.8	18.5	6.0	24.5	26.1	10.2	32.7	3.0	19.6	42.1	42.1
Cycle Q Clear(g_c), s	19.4	25.8	18.5	6.0	24.5	26.1	10.2	32.7	3.0	19.6	42.1	42.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	616	522	89	407	345	151	1391	432	291	1791	556
V/C Ratio(X)	2.79	0.74	0.57	1.22	0.95	1.82	2.36	2.02	0.12	1.58	1.37	1.56
Avail Cap(c_a), veh/h	288	616	522	89	407	345	151	1391	432	291	1791	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	35.7	33.2	57.0	46.3	47.0	54.9	43.6	32.9	50.2	38.9	39.0
Incr Delay (d2), s/veh	814.4	4.6	1.4	167.3	32.3	381.0	633.9	460.1	0.1	277.3	168.6	260.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	73.4	11.8	6.9	6.7	14.4	46.2	31.0	72.2	1.1	30.7	44.2	55.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	864.7	40.3	34.6	224.3	78.6	427.9	688.8	503.7	33.0	327.5	207.6	299.3
LnGrp LOS	F	D	C	F	E	F	F	F	C	F	F	F
Approach Vol, veh/h		1553			1124			3217			3775	
Approach Delay, s/veh		465.5			287.9			516.5			243.2	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	39.2	10.6	46.0	14.8	48.6	24.0	32.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	19.6	32.7	6.0	39.5	10.2	42.1	19.4	26.1				
Max Q Clear Time (g_c+I1), s	21.6	34.7	8.0	27.8	12.2	44.1	21.4	28.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			375.1									
HCM 6th LOS			F									

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/22/2021

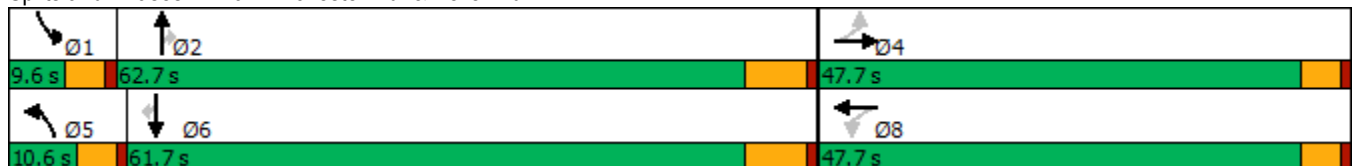


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	145	16	25	25	31	2891	107	8	2470	245
Future Volume (vph)	145	16	25	25	31	2891	107	8	2470	245
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8	5	2		1	6	
Permitted Phases	4		8				2			6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5
Total Split (s)	47.7	47.7	47.7	47.7	10.6	62.7	62.7	9.6	61.7	61.7
Total Split (%)	39.8%	39.8%	39.8%	39.8%	8.8%	52.3%	52.3%	8.0%	51.4%	51.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		18.7		18.7	5.7	61.2	61.2	5.1	57.0	57.0
Actuated g/C Ratio		0.20		0.20	0.06	0.66	0.66	0.05	0.61	0.61
v/c Ratio		0.73		0.23	0.31	1.32	0.11	0.09	1.21	0.26
Control Delay		48.4		26.3	53.0	166.7	3.4	48.6	120.5	6.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		48.4		26.3	53.0	166.7	3.4	48.6	120.5	6.8
LOS		D		C	D	F	A	D	F	A
Approach Delay		48.4		26.3		159.7			110.0	
Approach LOS		D		C		F			F	

Intersection Summary





















Cycle Length: 120	
Actuated Cycle Length: 92.9	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.32	
Intersection Signal Delay: 132.0	Intersection LOS: F
Intersection Capacity Utilization 106.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	16	35	25	25	20	31	2891	107	8	2470	245
Future Volume (veh/h)	145	16	35	25	25	20	31	2891	107	8	2470	245
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	154	17	31	27	27	18	33	3076	113	9	2628	259
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	21	38	136	129	69	56	2295	1001	20	2223	992
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.03	0.65	0.65	0.01	0.63	0.63
Sat Flow, veh/h	1148	127	231	486	785	424	1781	3554	1551	1781	3554	1585
Grp Volume(v), veh/h	202	0	0	72	0	0	33	3076	113	9	2628	259
Grp Sat Flow(s),veh/h/ln	1505	0	0	1695	0	0	1781	1777	1551	1781	1777	1585
Q Serve(g_s), s	8.1	0.0	0.0	0.0	0.0	0.0	1.6	57.0	2.5	0.4	55.2	6.5
Cycle Q Clear(g_c), s	11.2	0.0	0.0	3.1	0.0	0.0	1.6	57.0	2.5	0.4	55.2	6.5
Prop In Lane	0.76		0.15	0.37		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	319	0	0	334	0	0	56	2295	1001	20	2223	992
V/C Ratio(X)	0.63	0.00	0.00	0.22	0.00	0.00	0.59	1.34	0.11	0.45	1.18	0.26
Avail Cap(c_a), veh/h	779	0	0	844	0	0	121	2295	1001	101	2223	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	0.0	32.1	0.0	0.0	42.2	15.6	6.0	43.3	16.5	7.4
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.3	0.0	0.0	3.6	156.1	0.0	5.8	86.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	1.3	0.0	0.0	0.7	64.9	0.6	0.2	42.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	0.0	0.0	32.5	0.0	0.0	45.8	171.8	6.0	49.1	103.4	7.5
LnGrp LOS	D	A	A	C	A	A	D	F	A	D	F	A
Approach Vol, veh/h		202			72			3222				2896
Approach Delay, s/veh		37.4			32.5			164.7				94.6
Approach LOS		D			C			F				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	63.5		19.2	7.4	61.7		19.2				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	6.0	55.2		* 43				
Max Q Clear Time (g_c+I1), s	2.4	59.0		13.2	3.6	57.2		5.1				
Green Ext Time (p_c), s	0.0	0.0		1.2	0.0	0.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay	127.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
06/22/2021

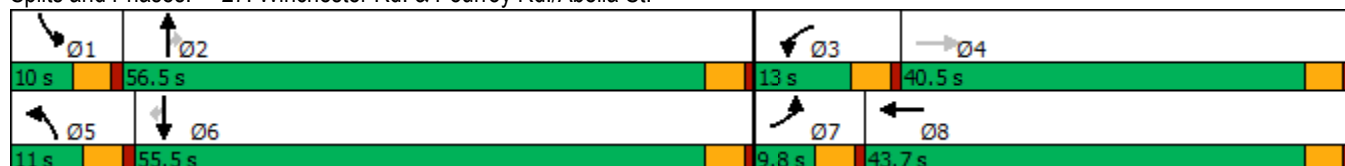


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↘	↗	↗	↘	↗	↗
Traffic Volume (vph)	119	43	342	45	225	2792	326	92	2342	96
Future Volume (vph)	119	43	342	45	225	2792	326	92	2342	96
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	9.8	40.5	13.0	43.7	11.0	56.5	56.5	10.0	55.5	55.5
Total Split (%)	8.2%	33.8%	10.8%	36.4%	9.2%	47.1%	47.1%	8.3%	46.3%	46.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	5.3	10.7	8.5	13.9	6.5	52.0	52.0	5.5	51.0	51.0
Actuated g/C Ratio	0.06	0.11	0.09	0.15	0.07	0.55	0.55	0.06	0.54	0.54
v/c Ratio	1.28	0.53	2.26	0.31	1.96	1.51	0.37	0.95	1.29	0.11
Control Delay	219.8	27.2	614.2	17.7	486.4	256.4	8.6	123.7	159.9	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	219.8	27.2	614.2	17.7	486.4	256.4	8.6	123.7	159.9	3.1
LOS	F	C	F	B	F	F	A	F	F	A
Approach Delay		95.1		422.9		247.8			152.6	
Approach LOS		F		F		F			F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 94.7
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.26
 Intersection Signal Delay: 217.4
 Intersection LOS: F
 Intersection Capacity Utilization 124.6%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/22/2021

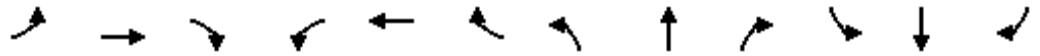
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	43	176	342	45	117	225	2792	326	92	2342	96
Future Volume (veh/h)	119	43	176	342	45	117	225	2792	326	92	2342	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	125	45	168	360	47	89	237	2939	343	97	2465	97
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	242	216	156	300	268	119	1900	848	101	1864	831
Arrive On Green	0.05	0.14	0.14	0.09	0.17	0.17	0.07	0.53	0.53	0.06	0.52	0.52
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	125	45	168	360	47	89	237	2939	343	97	2465	97
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.3	2.2	10.0	8.5	2.2	4.8	6.5	52.0	12.5	5.3	51.0	3.0
Cycle Q Clear(g_c), s	5.3	2.2	10.0	8.5	2.2	4.8	6.5	52.0	12.5	5.3	51.0	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	97	242	216	156	300	268	119	1900	848	101	1864	831
V/C Ratio(X)	1.29	0.19	0.78	2.31	0.16	0.33	1.99	1.55	0.40	0.96	1.32	0.12
Avail Cap(c_a), veh/h	97	658	587	156	716	639	119	1900	848	101	1864	831
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	37.2	40.6	44.4	34.5	35.6	45.4	22.6	13.4	45.8	23.1	11.7
Incr Delay (d2), s/veh	186.9	0.4	6.0	610.1	0.2	0.7	474.2	248.6	1.4	76.9	149.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	1.0	4.2	30.1	1.0	1.9	18.4	83.1	4.6	4.4	55.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	232.8	37.6	46.6	654.5	34.7	36.3	519.6	271.2	14.9	122.7	172.1	12.0
LnGrp LOS	F	D	D	F	C	D	F	F	B	F	F	B
Approach Vol, veh/h		338			496			3519			2659	
Approach Delay, s/veh		114.2			484.8			263.0			164.5	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	56.5	13.0	17.7	11.0	55.5	9.8	20.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	52.0	8.5	36.0	6.5	51.0	5.3	39.2				
Max Q Clear Time (g_c+I1), s	7.3	54.0	10.5	12.0	8.5	53.0	7.3	6.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay	234.1											
HCM 6th LOS	F											

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/22/2021

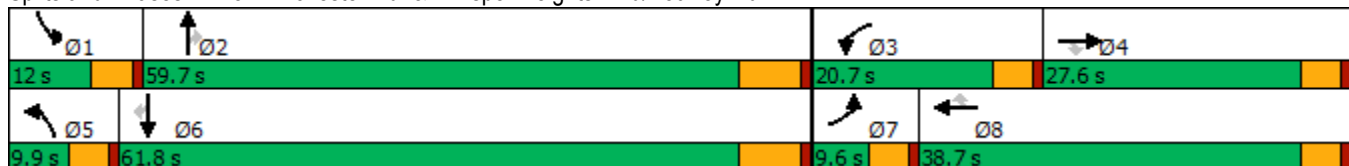


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	123	21	24	153	24	268	46	2953	2	253	2479	128
Future Volume (vph)	123	21	24	153	24	268	46	2953	2	253	2479	128
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	28.5	9.6	25.5	25.5
Total Split (s)	9.6	27.6	27.6	20.7	38.7	38.7	9.9	59.7	59.7	12.0	61.8	61.8
Total Split (%)	8.0%	23.0%	23.0%	17.3%	32.3%	32.3%	8.3%	49.8%	49.8%	10.0%	51.5%	51.5%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	5.0	11.1	11.1	17.9	17.7	17.7	5.3	53.4	53.4	7.4	57.6	57.6
Actuated g/C Ratio	0.05	0.11	0.11	0.17	0.17	0.17	0.05	0.51	0.51	0.07	0.55	0.55
v/c Ratio	1.51	0.11	0.08	0.52	0.08	0.77	0.54	1.69	0.00	1.08	1.32	0.14
Control Delay	314.9	44.7	0.5	48.5	35.3	38.5	72.6	338.1	0.0	126.8	170.8	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	314.9	44.7	0.5	48.5	35.3	38.5	72.6	338.1	0.0	126.8	170.8	2.6
LOS	F	D	A	D	D	D	E	F	A	F	F	A
Approach Delay		236.0			41.7			333.8			159.4	
Approach LOS		F			D			F			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 104	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.69	
Intersection Signal Delay: 234.1	Intersection LOS: F
Intersection Capacity Utilization 118.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (veh/h)	123	21	24	153	24	268	46	2953	2	253	2479	128
Future Volume (veh/h)	123	21	24	153	24	268	46	2953	2	253	2479	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	22	18	159	25	224	48	3076	2	264	2582	132
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	206	175	190	315	263	64	1828	815	247	1953	871
Arrive On Green	0.05	0.11	0.11	0.11	0.17	0.17	0.04	0.51	0.51	0.07	0.55	0.55
Sat Flow, veh/h	1781	1870	1585	1781	1870	1561	1781	3554	1584	3456	3554	1585
Grp Volume(v), veh/h	128	22	18	159	25	224	48	3076	2	264	2582	132
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1561	1781	1777	1584	1728	1777	1585
Q Serve(g_s), s	5.0	1.1	1.1	9.1	1.2	14.4	2.8	53.2	0.1	7.4	56.9	4.2
Cycle Q Clear(g_c), s	5.0	1.1	1.1	9.1	1.2	14.4	2.8	53.2	0.1	7.4	56.9	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	206	175	190	315	263	64	1828	815	247	1953	871
V/C Ratio(X)	1.49	0.11	0.10	0.84	0.08	0.85	0.75	1.68	0.00	1.07	1.32	0.15
Avail Cap(c_a), veh/h	86	414	351	277	615	513	91	1828	815	247	1953	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	41.4	41.4	45.3	36.2	41.7	49.4	25.1	12.2	48.0	23.3	11.4
Incr Delay (d2), s/veh	270.7	0.2	0.3	9.3	0.1	7.6	9.6	309.8	0.0	76.4	148.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	0.5	0.4	4.5	0.5	6.0	1.3	97.4	0.0	5.6	59.6	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	319.9	41.7	41.7	54.6	36.3	49.3	59.0	335.0	12.2	124.4	171.9	11.5
LnGrp LOS	F	D	D	D	D	D	E	F	B	F	F	B
Approach Vol, veh/h		168			408			3126			2978	
Approach Delay, s/veh		253.7			50.6			330.5			160.5	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	59.7	15.6	16.1	8.3	63.4	9.6	22.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	7.4	53.2	16.1	* 23	5.3	55.3	5.0	* 34				
Max Q Clear Time (g_c+I1), s	9.4	55.2	11.1	3.1	4.8	58.9	7.0	16.4				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay	235.7
HCM 6th LOS	F

Notes

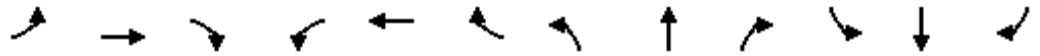
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/22/2021

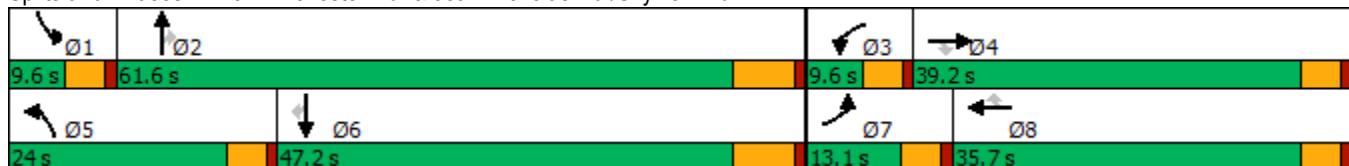


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	184	58	262	10	57	27	469	2913	15	16	2026	172
Future Volume (vph)	184	58	262	10	57	27	469	2913	15	16	2026	172
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.1	39.2	39.2	9.6	35.7	35.7	24.0	61.6	61.6	9.6	47.2	47.2
Total Split (%)	10.9%	32.7%	32.7%	8.0%	29.8%	29.8%	20.0%	51.3%	51.3%	8.0%	39.3%	39.3%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	8.9	18.7	18.7	5.0	10.4	10.4	19.5	61.2	61.2	5.0	40.8	40.8
Actuated g/C Ratio	0.09	0.19	0.19	0.05	0.11	0.11	0.20	0.63	0.63	0.05	0.42	0.42
v/c Ratio	1.19	0.17	0.52	0.11	0.30	0.09	1.38	1.36	0.02	0.19	1.41	0.24
Control Delay	170.4	34.6	8.7	48.1	45.4	0.6	218.7	184.0	0.0	50.4	216.0	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	170.4	34.6	8.7	48.1	45.4	0.6	218.7	184.0	0.0	50.4	216.0	6.3
LOS	F	C	A	D	D	A	F	F	A	D	F	A
Approach Delay		70.8			32.8			187.9			198.5	
Approach LOS		E			C			F			F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96.7
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.41
 Intersection Signal Delay: 179.9
 Intersection LOS: F
 Intersection Capacity Utilization 115.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	184	58	262	10	57	27	469	2913	15	16	2026	172
Future Volume (veh/h)	184	58	262	10	57	27	469	2913	15	16	2026	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	60	223	10	59	14	489	3034	13	17	2110	161
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	344	290	22	208	177	345	2066	902	34	1444	636
Arrive On Green	0.08	0.18	0.18	0.01	0.11	0.11	0.19	0.58	0.58	0.02	0.41	0.41
Sat Flow, veh/h	1781	1870	1575	1781	1870	1585	1781	3554	1552	1781	3554	1565
Grp Volume(v), veh/h	192	60	223	10	59	14	489	3034	13	17	2110	161
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1870	1585	1781	1777	1552	1781	1777	1565
Q Serve(g_s), s	8.5	2.7	13.5	0.6	2.9	0.8	19.4	58.2	0.4	0.9	40.7	6.8
Cycle Q Clear(g_c), s	8.5	2.7	13.5	0.6	2.9	0.8	19.4	58.2	0.4	0.9	40.7	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	344	290	22	208	177	345	2066	902	34	1444	636
V/C Ratio(X)	1.27	0.17	0.77	0.46	0.28	0.08	1.42	1.47	0.01	0.51	1.46	0.25
Avail Cap(c_a), veh/h	151	644	542	89	579	491	345	2066	902	89	1444	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	34.4	38.8	49.1	40.8	39.9	40.4	21.0	8.9	48.7	29.7	19.7
Incr Delay (d2), s/veh	163.2	0.2	4.3	5.6	0.7	0.2	204.1	213.7	0.0	4.4	211.4	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	1.3	5.5	0.3	1.4	0.3	27.4	80.2	0.1	0.4	57.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	209.1	34.7	43.1	54.8	41.6	40.1	244.5	234.7	8.9	53.0	241.1	20.6
LnGrp LOS	F	C	D	D	D	D	F	F	A	D	F	C
Approach Vol, veh/h		475			83			3536			2288	
Approach Delay, s/veh		109.1			42.9			235.2			224.2	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	64.7	5.8	23.1	24.0	47.2	13.1	15.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.1	5.0	* 35	19.4	40.7	8.5	* 31				
Max Q Clear Time (g_c+I1), s	2.9	60.2	2.6	15.5	21.4	42.7	10.5	4.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	219.4
HCM 6th LOS	F

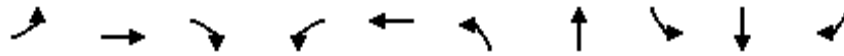
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

06/24/2021

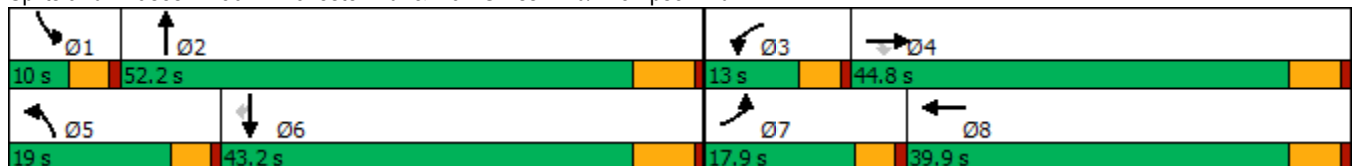


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↗	↘	↗	↘	↗↗	↘	↗↗	↘
Traffic Volume (vph)	394	473	492	496	468	462	3912	278	2374	295
Future Volume (vph)	394	473	492	496	468	462	3912	278	2374	295
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	17.9	44.8	44.8	13.0	39.9	19.0	52.2	10.0	43.2	43.2
Total Split (%)	14.9%	37.3%	37.3%	10.8%	33.3%	15.8%	43.5%	8.3%	36.0%	36.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	13.3	39.0	39.0	8.4	34.1	14.4	45.7	5.4	36.7	36.7
Actuated g/C Ratio	0.11	0.32	0.32	0.07	0.28	0.12	0.38	0.04	0.31	0.31
v/c Ratio	2.07	0.81	0.45	4.15	1.20	2.25	3.47	3.63	2.26	0.50
Control Delay	526.7	48.9	11.2	1452.7	143.8	600.6	1130.0	1231.8	593.6	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	526.7	48.9	11.2	1452.7	143.8	600.6	1130.0	1231.8	593.6	15.2
LOS	F	D	B	F	F	F	F	F	F	B
Approach Delay		173.7			735.2		1080.4		596.0	
Approach LOS		F			F		F		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 4.15
 Intersection Signal Delay: 786.3
 Intersection LOS: F
 Intersection Capacity Utilization 213.8%
 ICU Level of Service H
 Analysis Period (min) 15























Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	394	473	492	496	468	134	462	3912	555	278	2374	295
Future Volume (veh/h)	394	473	492	496	468	134	462	3912	555	278	2374	295
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	406	488	348	511	482	136	476	4033	507	287	2447	284
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	608	886	125	397	112	214	1212	149	80	1087	478
Arrive On Green	0.11	0.32	0.32	0.07	0.28	0.28	0.12	0.38	0.38	0.05	0.31	0.31
Sat Flow, veh/h	1781	1870	2728	1781	1399	395	1781	3182	391	1781	3554	1564
Grp Volume(v), veh/h	406	488	348	511	0	618	476	2212	2328	287	2447	284
Grp Sat Flow(s),veh/h/ln	1781	1870	1364	1781	0	1793	1781	1777	1796	1781	1777	1564
Q Serve(g_s), s	13.3	28.6	11.8	8.4	0.0	34.1	14.4	45.7	45.7	5.4	36.7	18.5
Cycle Q Clear(g_c), s	13.3	28.6	11.8	8.4	0.0	34.1	14.4	45.7	45.7	5.4	36.7	18.5
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	197	608	886	125	0	510	214	677	684	80	1087	478
V/C Ratio(X)	2.06	0.80	0.39	4.10	0.00	1.21	2.23	3.27	3.40	3.58	2.25	0.59
Avail Cap(c_a), veh/h	197	608	886	125	0	510	214	677	684	80	1087	478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	37.0	31.3	55.8	0.0	43.0	52.8	37.1	37.2	57.3	41.7	35.3
Incr Delay (d2), s/veh	492.5	7.7	0.3	1413.0	0.0	112.8	567.0	1024.7	1085.2	1191.5	566.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.8	13.8	3.9	52.7	0.0	30.9	39.8	210.8	224.6	28.9	100.4	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	545.9	44.7	31.6	1468.8	0.0	155.8	619.8	1061.8	1122.4	1248.8	607.8	37.3
LnGrp LOS	F	D	C	F	A	F	F	F	F	F	F	D
Approach Vol, veh/h		1242			1129			5016			3018	
Approach Delay, s/veh		204.9			750.1			1048.0			615.1	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	52.2	13.0	44.8	19.0	43.2	17.9	39.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.4	45.7	8.4	39.0	14.4	36.7	13.3	34.1				
Max Q Clear Time (g_c+I1), s	7.4	47.7	10.4	30.6	16.4	38.7	15.3	36.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			789.4									
HCM 6th LOS			F									

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)

06/24/2021

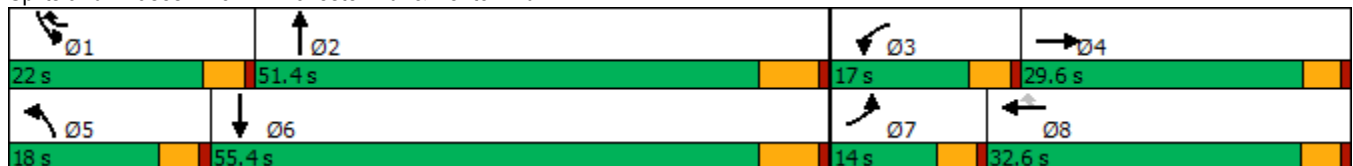


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	220	379	411	257	1352	566	3357	873	2301
Future Volume (vph)	220	379	411	257	1352	566	3357	873	2301
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	1	5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	14.5	14.6	30.6	9.6	9.6	38.5	9.6	16.5
Total Split (s)	14.0	29.6	17.0	32.6	22.0	18.0	51.4	22.0	55.4
Total Split (%)	11.7%	24.7%	14.2%	27.2%	18.3%	15.0%	42.8%	18.3%	46.2%
Yellow Time (s)	3.6	3.5	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	4.6	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.4	25.1	12.4	28.0	45.4	13.4	44.9	17.4	48.9
Actuated g/C Ratio	0.08	0.21	0.10	0.23	0.38	0.11	0.37	0.14	0.41
v/c Ratio	1.73	2.96	1.25	0.64	2.27	3.12	2.25	3.67	1.87
Control Delay	390.8	906.8	177.4	49.3	598.0	986.6	588.3	1225.9	419.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	390.8	906.8	177.4	49.3	598.0	986.6	588.3	1225.9	419.8
LOS	F	F	F	D	F	F	F	F	F
Approach Delay		821.8		442.2			638.9		629.1
Approach LOS		F		F			F		F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.67
 Intersection Signal Delay: 622.5
 Intersection LOS: F
 Intersection Capacity Utilization 219.6%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	379	735	411	257	1352	566	3357	574	873	2301	188
Future Volume (veh/h)	220	379	735	411	257	1352	566	3357	574	873	2301	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	239	412	799	442	279	1250	615	3610	479	939	2474	204
Peak Hour Factor	0.92	0.92	0.92	0.93	0.92	0.93	0.92	0.93	0.93	0.93	0.93	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	119	231	357	438	596	199	1711	216	258	1355	110
Arrive On Green	0.08	0.21	0.21	0.10	0.23	0.23	0.11	0.37	0.37	0.14	0.41	0.41
Sat Flow, veh/h	1781	569	1103	3456	1870	1565	1781	4577	579	1781	3328	271
Grp Volume(v), veh/h	239	0	1211	442	279	1250	615	2639	1450	939	1305	1373
Grp Sat Flow(s),veh/h/ln	1781	0	1672	1728	1870	1565	1781	1702	1752	1781	1777	1822
Q Serve(g_s), s	9.4	0.0	25.1	12.4	16.1	28.1	13.4	44.9	44.9	17.4	48.9	48.9
Cycle Q Clear(g_c), s	9.4	0.0	25.1	12.4	16.1	28.1	13.4	44.9	44.9	17.4	48.9	48.9
Prop In Lane	1.00		0.66	1.00		1.00	1.00		0.33	1.00		0.15
Lane Grp Cap(c), veh/h	139	0	349	357	438	596	199	1273	655	258	723	742
V/C Ratio(X)	1.71	0.00	3.47	1.24	0.64	2.10	3.09	2.07	2.21	3.64	1.80	1.85
Avail Cap(c_a), veh/h	139	0	349	357	438	596	199	1273	655	258	723	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	0.0	47.5	53.9	41.4	37.4	53.4	37.6	37.6	51.4	35.6	35.6
Incr Delay (d2), s/veh	349.9	0.0	1116.9	129.2	3.1	500.0	955.7	485.9	551.4	1196.9	367.0	388.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.8	0.0	118.8	11.8	7.8	99.8	58.5	103.1	118.0	93.2	93.0	99.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	405.2	0.0	1164.4	183.1	44.5	537.4	1009.0	523.5	589.0	1248.2	402.6	424.0
LnGrp LOS	F	A	F	F	D	F	F	F	F	F	F	F
Approach Vol, veh/h		1450			1971			4704			3617	
Approach Delay, s/veh		1039.3			388.1			607.2			630.3	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	51.4	17.0	29.7	18.0	55.4	14.0	32.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6	4.6	6.5	4.6	4.6				
Max Green Setting (Gmax), s	17.4	44.9	12.4	* 25	13.4	48.9	9.4	28.0				
Max Q Clear Time (g_c+I1), s	19.4	46.9	14.4	27.1	15.4	50.9	11.4	30.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	630.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↑↑	↗	↖	↑↑
Traffic Volume (vph)	236	53	397	89	136	3942	357	261	2833
Future Volume (vph)	236	53	397	89	136	3942	357	261	2833
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	11.6	75.7	75.7	9.6	73.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	9.7%	63.1%	63.1%	8.0%	61.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	30.0	30.0	30.0	30.0	7.0	69.2	69.2	5.0	67.2
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.06	0.58	0.58	0.04	0.56
v/c Ratio	4.00	0.36	1.66	0.92	1.39	2.03	0.39	3.77	1.72
Control Delay	1401.7	22.9	344.1	61.9	265.0	488.1	10.8	1293.7	349.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1401.7	22.9	344.1	61.9	265.0	488.1	10.8	1293.7	349.2
LOS	F	C	F	E	F	F	B	F	F
Approach Delay		835.1		201.2		442.8			420.8
Approach LOS		F		F		F			F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 4.00
 Intersection Signal Delay: 430.3
 Intersection LOS: F
 Intersection Capacity Utilization 177.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘		↗	↑↑	↗	↗	↑↘	
Traffic Volume (veh/h)	236	53	111	397	89	318	136	3942	357	261	2833	353
Future Volume (veh/h)	236	53	111	397	89	318	136	3942	357	261	2833	353
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	248	56	100	418	94	330	143	4149	290	275	2982	345
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	150	269	273	91	319	104	2049	914	74	1797	203
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.06	0.58	0.58	0.04	0.56	0.56
Sat Flow, veh/h	963	602	1075	1231	364	1277	1781	3554	1585	1781	3209	363
Grp Volume(v), veh/h	248	0	156	418	0	424	143	4149	290	275	1621	1706
Grp Sat Flow(s),veh/h/ln	963	0	1677	1231	0	1641	1781	1777	1585	1781	1777	1796
Q Serve(g_s), s	0.0	0.0	9.2	20.8	0.0	30.0	7.0	69.2	11.4	5.0	67.2	67.2
Cycle Q Clear(g_c), s	30.0	0.0	9.2	30.0	0.0	30.0	7.0	69.2	11.4	5.0	67.2	67.2
Prop In Lane	1.00		0.64	1.00		0.78	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	60	0	419	273	0	410	104	2049	914	74	995	1006
V/C Ratio(X)	4.13	0.00	0.37	1.53	0.00	1.03	1.38	2.02	0.32	3.71	1.63	1.70
Avail Cap(c_a), veh/h	60	0	419	273	0	410	104	2049	914	74	995	1006
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.0	0.0	37.2	51.9	0.0	45.0	56.5	25.4	13.2	57.5	26.4	26.4
Incr Delay (d2), s/veh	1448.5	0.0	0.2	256.7	0.0	53.4	218.4	462.8	0.2	1249.7	287.6	317.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.0	0.0	3.8	27.8	0.0	18.2	9.3	156.2	3.6	27.9	103.6	113.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1508.5	0.0	37.4	308.6	0.0	98.4	274.9	488.2	13.4	1307.2	314.0	344.2
LnGrp LOS	F	A	D	F	A	F	F	F	B	F	F	F
Approach Vol, veh/h		404			842			4582			3602	
Approach Delay, s/veh		940.5			202.8			451.5			404.2	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	75.7		34.7	11.6	73.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	69.2		* 30	7.0	67.2		* 30				
Max Q Clear Time (g_c+I1), s	7.0	71.2		32.0	9.0	69.2		32.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	432.1
HCM 6th LOS	F

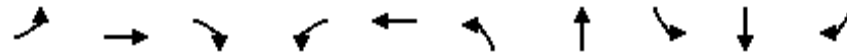
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/22/2021

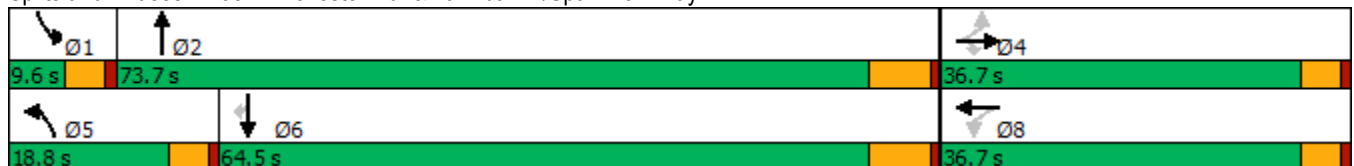


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	193	12	188	160	9	297	4056	19	3161	162
Future Volume (vph)	193	12	188	160	9	297	4056	19	3161	162
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	18.8	73.7	9.6	64.5	64.5
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	15.7%	61.4%	8.0%	53.8%	53.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	29.1	29.1	29.1		29.1	14.2	73.1	5.0	58.1	58.1
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.12	0.62	0.04	0.50	0.50
v/c Ratio	0.90	0.03	0.38		0.92	1.43	1.98	0.27	1.86	0.20
Control Delay	82.4	32.8	11.4		66.5	255.6	464.5	64.7	412.3	8.1
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.4	32.8	11.4		66.5	255.6	464.5	64.7	412.3	8.1
LOS	F	C	B		E	F	F	E	F	A
Approach Delay		46.9			66.5		450.7		390.7	
Approach LOS		D			E		F		F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 117.2	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.98	
Intersection Signal Delay: 393.2	Intersection LOS: F
Intersection Capacity Utilization 162.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	12	188	160	9	186	297	4056	166	19	3161	162
Future Volume (veh/h)	193	12	188	160	9	186	297	4056	166	19	3161	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	12	122	165	9	181	306	4181	157	20	3259	145
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	296	492	417	214	13	191	212	2039	76	36	1726	752
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.12	0.58	0.58	0.02	0.49	0.49
Sat Flow, veh/h	1193	1870	1585	647	50	725	1781	3490	130	1781	3554	1549
Grp Volume(v), veh/h	199	12	122	355	0	0	306	2113	2225	20	3259	145
Grp Sat Flow(s),veh/h/ln	1193	1870	1585	1423	0	0	1781	1777	1844	1781	1777	1549
Q Serve(g_s), s	0.0	0.6	7.3	28.7	0.0	0.0	14.2	69.8	69.8	1.3	58.0	6.3
Cycle Q Clear(g_c), s	25.9	0.6	7.3	29.2	0.0	0.0	14.2	69.8	69.8	1.3	58.0	6.3
Prop In Lane	1.00		1.00	0.46		0.51	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	296	492	417	419	0	0	212	1038	1077	36	1726	752
V/C Ratio(X)	0.67	0.02	0.29	0.85	0.00	0.00	1.44	2.04	2.07	0.55	1.89	0.19
Avail Cap(c_a), veh/h	302	501	425	425	0	0	212	1038	1077	75	1726	752
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	32.6	35.1	43.1	0.0	0.0	52.6	24.8	24.8	58.0	30.7	17.4
Incr Delay (d2), s/veh	5.6	0.0	0.4	14.6	0.0	0.0	224.7	469.5	482.6	4.8	402.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.3	2.9	11.9	0.0	0.0	19.3	159.8	169.8	0.6	118.3	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	32.7	35.5	57.8	0.0	0.0	277.3	494.3	507.4	62.8	432.7	17.6
LnGrp LOS	D	C	D	E	A	A	F	F	F	E	F	B
Approach Vol, veh/h		333			355			4644			3424	
Approach Delay, s/veh		42.6			57.8			486.3			412.9	
Approach LOS		D			E			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	76.3		36.1	18.8	64.5		36.1				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	14.2	58.0		* 32				
Max Q Clear Time (g_c+I1), s	3.3	71.8		27.9	16.2	60.0		31.2				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	0.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	423.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 9.2:

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS
ANALYSIS WORKSHEETS**

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Timings
1: I-215 SB Ramps & Scott Rd.

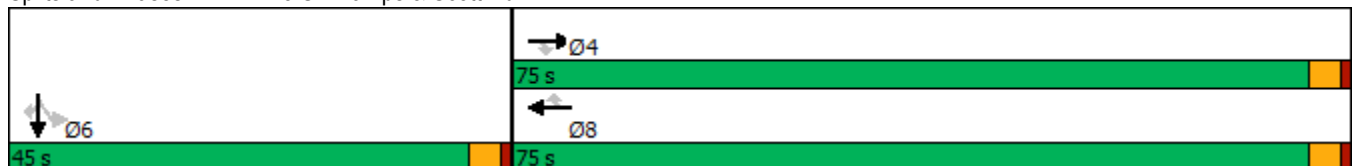


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	925	767	1156	987	1006	0	287
Future Volume (vph)	925	767	1156	987	1006	0	287
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	75.0	75.0	75.0	75.0	45.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	62.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	57.5	57.5	57.5	57.5	38.0	38.0	38.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55	0.37	0.37	0.37
v/c Ratio	0.51	0.67	0.64	0.79	0.87	0.26	0.26
Control Delay	15.4	3.8	17.6	5.8	41.0	17.1	17.1
Queue Delay	0.0	0.0	0.3	0.5	0.0	0.0	0.0
Total Delay	15.4	3.8	18.0	6.3	41.0	17.1	17.1
LOS	B	A	B	A	D	B	B
Approach Delay	10.1		12.6			35.7	
Approach LOS	B		B			D	

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 103.8
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 17.6
 Intersection Capacity Utilization 67.3%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 1: I-215 SB Ramps & Scott Rd.

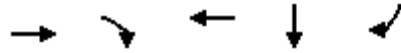


HCM 6th Signalized Intersection Summary
 1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↗	↗
Traffic Volume (veh/h)	0	925	767	0	1156	987	0	0	0	1006	0	287
Future Volume (veh/h)	0	925	767	0	1156	987	0	0	0	1006	0	287
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1005	826	0	1257	985				1093	0	220
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2137	953	0	2137	953				1179	0	1049
Arrive On Green	0.00	0.60	0.60	0.00	0.60	0.60				0.33	0.00	0.33
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	1005	826	0	1257	985				1093	0	220
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	18.6	51.2	0.0	25.8	71.0				35.0	0.0	5.9
Cycle Q Clear(g_c), s	0.0	18.6	51.2	0.0	25.8	71.0				35.0	0.0	5.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2137	953	0	2137	953				1179	0	1049
V/C Ratio(X)	0.00	0.47	0.87	0.00	0.59	1.03				0.93	0.00	0.21
Avail Cap(c_a), veh/h	0	2137	953	0	2137	953				1237	0	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.1	19.6	0.0	14.5	23.5				38.1	0.0	28.4
Incr Delay (d2), s/veh	0.0	0.2	8.5	0.0	0.4	38.1				11.7	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.7	18.7	0.0	9.4	32.8				16.4	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.2	28.1	0.0	14.9	61.6				49.8	0.0	28.5
LnGrp LOS	A	B	C	A	B	F				D	A	C
Approach Vol, veh/h		1831			2242						1313	
Approach Delay, s/veh		19.9			35.4						46.3	
Approach LOS		B			D						D	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				75.0		43.1		75.0				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				71.0		41.0		71.0				
Max Q Clear Time (g_c+I1), s				53.2		37.0		73.0				
Green Ext Time (p_c), s				9.8		2.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			32.8									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

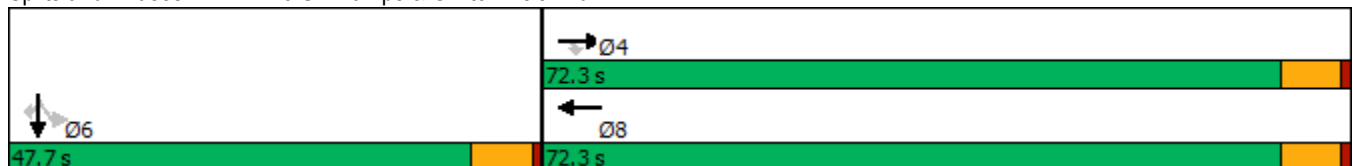


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↑↑
Traffic Volume (vph)	1919	612	1824	0	1007
Future Volume (vph)	1919	612	1824	0	1007
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	72.3	72.3	72.3	47.7	47.7
Total Split (%)	60.3%	60.3%	60.3%	39.8%	39.8%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	62.6	62.6	62.6	41.3	41.3
Actuated g/C Ratio	0.54	0.54	0.54	0.35	0.35
v/c Ratio	0.75	0.58	0.71	0.83	1.07
Control Delay	23.1	3.3	22.1	48.2	84.0
Queue Delay	0.0	0.0	0.3	0.0	0.0
Total Delay	23.1	3.3	22.3	48.2	84.0
LOS	C	A	C	D	F
Approach Delay	18.3		22.3	72.3	
Approach LOS	B		C	E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.9
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 33.4
 Intersection LOS: C
 Intersection Capacity Utilization 81.3%
 ICU Level of Service D
 Analysis Period (min) 15

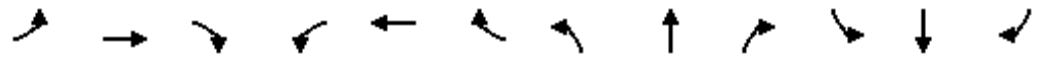
Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)

06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1919	612	0	1824	0	0	0	0	486	0	1007
Future Volume (veh/h)	0	1919	612	0	1824	0	0	0	0	486	0	1007
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	2041	568	0	1940	0				517	0	737
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	2
Cap, veh/h	0	2735	831	0	2735	0				604	0	946
Arrive On Green	0.00	0.54	0.54	0.00	0.54	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	5274	1551	0	5443	0				1781	0	2790
Grp Volume(v), veh/h	0	2041	568	0	1940	0				517	0	737
Grp Sat Flow(s),veh/h/ln	0	1702	1551	0	1702	0				1781	0	1395
Q Serve(g_s), s	0.0	32.1	27.9	0.0	29.5	0.0				28.1	0.0	24.6
Cycle Q Clear(g_c), s	0.0	32.1	27.9	0.0	29.5	0.0				28.1	0.0	24.6
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2735	831	0	2735	0				604	0	946
V/C Ratio(X)	0.00	0.75	0.68	0.00	0.71	0.00				0.86	0.00	0.78
Avail Cap(c_a), veh/h	0	3236	983	0	3236	0				707	0	1107
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.6	17.7	0.0	18.0	0.0				31.9	0.0	30.8
Incr Delay (d2), s/veh	0.0	0.8	1.6	0.0	0.6	0.0				9.0	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.8	8.8	0.0	9.9	0.0				13.3	0.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.4	19.2	0.0	18.6	0.0				41.0	0.0	33.9
LnGrp LOS	A	B	B	A	B	A				D	A	C
Approach Vol, veh/h		2609			1940						1254	
Approach Delay, s/veh		19.4			18.6						36.8	
Approach LOS		B			B						D	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				62.1		41.7		62.1				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				65.8		41.2		65.8				
Max Q Clear Time (g_c+I1), s				34.1		30.1		31.5				
Green Ext Time (p_c), s				21.5		5.1		17.7				
Intersection Summary												
HCM 6th Ctrl Delay			22.9									
HCM 6th LOS			C									

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↖	↖	↖	↖
Traffic Volume (vph)	240	1692	1811	1180	0	428	0	331
Future Volume (vph)	240	1692	1811	1180	0	428	0	331
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	103.0	103.0	103.0	103.0	17.0	17.0	17.0	17.0
Total Split (%)	85.8%	85.8%	85.8%	85.8%	14.2%	14.2%	14.2%	14.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	99.0	99.0	99.0	99.0	13.0	13.0	13.0	13.0
Actuated g/C Ratio	0.82	0.82	0.82	0.82	0.11	0.11	0.11	0.11
v/c Ratio	2.10	0.63	0.67	0.86	1.10	1.10	0.89	0.89
Control Delay	540.7	5.0	5.5	7.9	130.5	129.0	80.5	80.5
Queue Delay	0.0	2.1	15.7	3.6	0.0	0.0	0.0	0.0
Total Delay	540.7	7.0	21.3	11.5	130.5	129.0	80.5	80.5
LOS	F	A	C	B	F	F	F	F
Approach Delay		73.4	17.4		129.8		80.5	
Approach LOS		E	B		F		F	

Intersection Summary

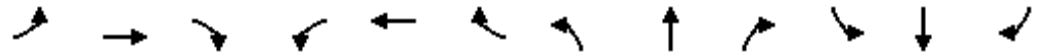
Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.10
 Intersection Signal Delay: 48.6
 Intersection LOS: D
 Intersection Capacity Utilization 105.2%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗		↗	↗		↗	↗
Traffic Volume (veh/h)	240	1692	0	0	1811	1180	0	0	428	0	0	331
Future Volume (veh/h)	240	1692	0	0	1811	1180	0	0	428	0	0	331
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	261	1839	0	0	1968	1161	0	0	444	0	0	210
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	102	2932	0	0	2932	1308	0	203	343	0	203	343
Arrive On Green	0.82	0.82	0.00	0.00	0.82	0.82	0.00	0.00	0.11	0.00	0.00	0.11
Sat Flow, veh/h	70	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	261	1839	0	0	1968	1161	0	0	444	0	0	210
Grp Sat Flow(s),veh/h/ln	70	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	72.9	22.5	0.0	0.0	26.1	57.5	0.0	0.0	13.0	0.0	0.0	7.6
Cycle Q Clear(g_c), s	99.0	22.5	0.0	0.0	26.1	57.5	0.0	0.0	13.0	0.0	0.0	7.6
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	102	2932	0	0	2932	1308	0	203	343	0	203	343
V/C Ratio(X)	2.55	0.63	0.00	0.00	0.67	0.89	0.00	0.00	1.29	0.00	0.00	0.61
Avail Cap(c_a), veh/h	102	2932	0	0	2932	1308	0	203	343	0	203	343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	3.8	0.0	0.0	4.1	6.9	0.0	0.0	53.5	0.0	0.0	51.1
Incr Delay (d2), s/veh	726.1	0.4	0.0	0.0	0.6	7.8	0.0	0.0	151.9	0.0	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.7	4.5	0.0	0.0	5.2	12.7	0.0	0.0	12.3	0.0	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	771.0	4.2	0.0	0.0	4.7	14.6	0.0	0.0	205.4	0.0	0.0	54.3
LnGrp LOS	F	A	A	A	A	B	A	A	F	A	A	D
Approach Vol, veh/h		2100			3129			444				210
Approach Delay, s/veh		99.5			8.4			205.4				54.3
Approach LOS		F			A			F				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.0		103.0		17.0		103.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		13.0		99.0		13.0		99.0				
Max Q Clear Time (g_c+I1), s		15.0		101.0		9.6		59.5				
Green Ext Time (p_c), s		0.0		0.0		0.2		32.0				

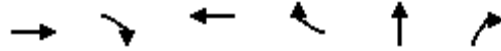
Intersection Summary

HCM 6th Ctrl Delay	57.4
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

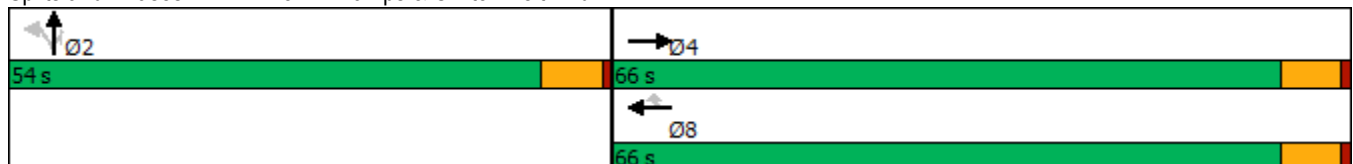


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↔	↑
Traffic Volume (vph)	1564	842	2714	423	0	882
Future Volume (vph)	1564	842	2714	423	0	882
Turn Type	NA	Free	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		Free		8		2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	23.5		16.5	16.5	16.5	16.5
Total Split (s)	66.0		66.0	66.0	54.0	54.0
Total Split (%)	55.0%		55.0%	55.0%	45.0%	45.0%
Yellow Time (s)	5.5		5.5	5.5	5.5	5.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min		Min	Min	None	None
Act Effct Green (s)	59.5	120.0	59.5	59.5	47.5	47.5
Actuated g/C Ratio	0.50	1.00	0.50	0.50	0.40	0.40
v/c Ratio	0.64	0.56	1.11	0.47	0.98	0.99
Control Delay	23.8	1.5	85.7	8.4	64.6	69.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	1.5	85.7	8.4	64.6	69.2
LOS	C	A	F	A	E	E
Approach Delay	16.0		75.3		66.9	
Approach LOS	B		E		E	

Intersection Summary













Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 52.7
 Intersection LOS: D
 Intersection Capacity Utilization 99.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	1564	842	0	2714	423	328	0	882	0	0	0
Future Volume (veh/h)	0	1564	842	0	2714	423	328	0	882	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	1612	0	0	2798	436	338	288	530			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2614		0	2614	811	370	315	596			
Arrive On Green	0.00	0.51	0.00	0.00	0.51	0.51	0.38	0.38	0.38			
Sat Flow, veh/h	0	5274	1585	0	5274	1585	983	838	1585			
Grp Volume(v), veh/h	0	1612	0	0	2798	436	626	0	530			
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1702	1585	1821	0	1585			
Q Serve(g_s), s	0.0	26.2	0.0	0.0	59.5	21.5	38.0	0.0	36.4			
Cycle Q Clear(g_c), s	0.0	26.2	0.0	0.0	59.5	21.5	38.0	0.0	36.4			
Prop In Lane	0.00		1.00	0.00		1.00	0.54		1.00			
Lane Grp Cap(c), veh/h	0	2614		0	2614	811	685	0	596			
V/C Ratio(X)	0.00	0.62		0.00	1.07	0.54	0.91	0.00	0.89			
Avail Cap(c_a), veh/h	0	2614		0	2614	811	744	0	648			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	20.2	0.0	0.0	28.4	19.1	34.4	0.0	34.0			
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	40.1	0.7	15.0	0.0	13.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	9.3	0.0	0.0	30.7	7.2	19.3	0.0	16.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.7	0.0	0.0	68.4	19.8	49.5	0.0	47.5			
LnGrp LOS	A	C		A	F	B	D	A	D			
Approach Vol, veh/h		1612	A		3234			1156				
Approach Delay, s/veh		20.7			61.9			48.6				
Approach LOS		C			E			D				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		50.2		66.0				66.0				
Change Period (Y+Rc), s		6.5		6.5				6.5				
Max Green Setting (Gmax), s		47.5		59.5				59.5				
Max Q Clear Time (g_c+I1), s		40.0		28.2				61.5				
Green Ext Time (p_c), s		3.8		13.1				0.0				

Intersection Summary

HCM 6th Ctrl Delay	48.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings
5: Antelope Rd. & Scott Rd.

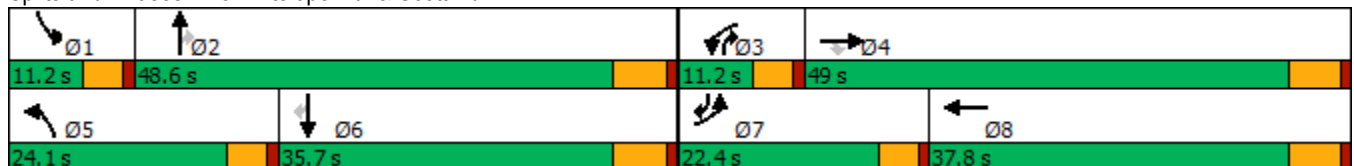
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	155	1411	554	108	2103	420	51	101	109	179	468	
Future Volume (vph)	155	1411	554	108	2103	420	51	101	109	179	468	
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	
Protected Phases	7	4		3	8	5	2	3	1	6	7	
Permitted Phases			4					2			6	
Detector Phase	7	4	4	3	8	5	2	3	1	6	7	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6	
Total Split (s)	22.4	49.0	49.0	11.2	37.8	24.1	48.6	11.2	11.2	35.7	22.4	
Total Split (%)	18.7%	40.8%	40.8%	9.3%	31.5%	20.1%	40.5%	9.3%	9.3%	29.8%	18.7%	
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	14.3	43.4	43.4	6.4	35.5	17.3	25.4	34.0	11.7	16.2	36.3	
Actuated g/C Ratio	0.14	0.42	0.42	0.06	0.34	0.17	0.24	0.33	0.11	0.16	0.35	
v/c Ratio	0.36	1.04	0.72	0.55	1.39	0.80	0.06	0.19	0.60	0.67	0.82	
Control Delay	43.2	66.3	18.8	59.6	210.2	53.8	28.2	4.7	63.6	53.9	35.2	
Queue Delay	0.0	24.8	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.2	91.1	26.9	59.6	210.2	53.8	28.2	4.7	63.6	53.9	35.2	
LOS	D	F	C	E	F	D	C	A	E	D	D	
Approach Delay		70.8			203.2		42.9			43.8		
Approach LOS		E			F		D			D		

Intersection Summary
































Cycle Length: 120	
Actuated Cycle Length: 104.2	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.39	
Intersection Signal Delay: 117.7	Intersection LOS: F
Intersection Capacity Utilization 96.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 			 	
Traffic Volume (veh/h)	155	1411	554	108	2103	109	420	51	101	109	179	468
Future Volume (veh/h)	155	1411	554	108	2103	109	420	51	101	109	179	468
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	1534	460	117	2286	113	457	55	80	118	195	335
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	1388	619	173	1863	91	520	1107	573	106	412	456
Arrive On Green	0.07	0.39	0.39	0.05	0.37	0.37	0.15	0.31	0.31	0.06	0.22	0.22
Sat Flow, veh/h	3456	3554	1585	3456	4986	245	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	168	1534	460	117	1556	843	457	55	80	118	195	335
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1826	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	5.3	43.2	27.5	3.7	41.3	41.3	14.3	1.2	3.8	6.6	10.0	21.1
Cycle Q Clear(g_c), s	5.3	43.2	27.5	3.7	41.3	41.3	14.3	1.2	3.8	6.6	10.0	21.1
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	1388	619	173	1272	683	520	1107	573	106	412	456
V/C Ratio(X)	0.72	1.10	0.74	0.68	1.22	1.24	0.88	0.05	0.14	1.11	0.47	0.73
Avail Cap(c_a), veh/h	556	1388	619	206	1272	683	609	1376	693	106	506	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.6	33.7	28.9	51.6	34.6	34.6	46.0	26.6	23.7	52.0	37.5	35.6
Incr Delay (d2), s/veh	1.6	58.2	4.8	4.3	107.6	118.2	11.2	0.0	0.1	119.9	0.8	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	28.5	10.6	1.7	34.9	39.5	6.7	0.5	1.4	6.4	4.5	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.2	91.9	33.7	55.9	142.2	152.8	57.2	26.6	23.8	171.9	38.3	39.9
LnGrp LOS	D	F	C	E	F	F	E	C	C	F	D	D
Approach Vol, veh/h		2162			2516			592			648	
Approach Delay, s/veh		76.4			141.8			49.8			63.5	
Approach LOS		E			F			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	40.2	10.1	49.0	21.2	30.2	12.0	47.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.6	42.8	6.6	43.2	19.5	29.9	17.8	32.0				
Max Q Clear Time (g_c+1), s	8.6	5.8	5.7	45.2	16.3	23.1	7.3	43.3				
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.3	1.3	0.2	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			100.1									
HCM 6th LOS			F									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

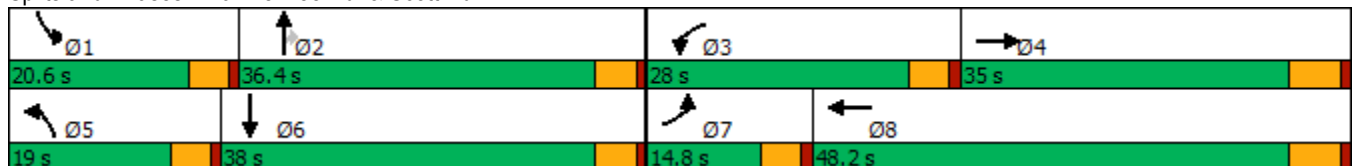


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	82	1390	420	2162	166	247	499	324	421
Future Volume (vph)	82	1390	420	2162	166	247	499	324	421
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	14.8	35.0	28.0	48.2	19.0	36.4	36.4	20.6	38.0
Total Split (%)	12.3%	29.2%	23.3%	40.2%	15.8%	30.3%	30.3%	17.2%	31.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	8.9	29.2	23.4	45.8	13.7	31.0	31.0	16.0	33.3
Actuated g/C Ratio	0.07	0.24	0.20	0.38	0.11	0.26	0.26	0.13	0.28
v/c Ratio	0.65	1.81	1.27	1.97	0.86	0.54	0.79	1.44	1.05
Control Delay	76.2	395.7	183.9	462.3	87.5	42.7	24.2	257.0	95.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.2	395.7	183.9	462.3	87.5	42.7	24.2	257.0	95.9
LOS	E	F	F	F	F	D	C	F	F
Approach Delay		378.9		422.3		40.8			158.3
Approach LOS		F		F		D			F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.3
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.97
 Intersection Signal Delay: 320.2
 Intersection LOS: F
 Intersection Capacity Utilization 128.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	1390	88	420	2162	342	166	247	499	324	421	91
Future Volume (veh/h)	82	1390	88	420	2162	342	166	247	499	324	421	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	1463	82	442	2276	347	175	260	418	341	443	81
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	833	47	347	1172	174	202	494	419	238	437	80
Arrive On Green	0.06	0.24	0.24	0.20	0.38	0.38	0.11	0.26	0.26	0.13	0.28	0.28
Sat Flow, veh/h	1781	3422	191	1781	3103	461	1781	1870	1585	1781	1538	281
Grp Volume(v), veh/h	86	757	788	442	1278	1345	175	260	418	341	0	524
Grp Sat Flow(s),veh/h/ln	1781	1777	1836	1781	1777	1787	1781	1870	1585	1781	0	1820
Q Serve(g_s), s	5.7	29.2	29.2	23.4	45.3	45.3	11.6	14.3	31.6	16.0	0.0	34.1
Cycle Q Clear(g_c), s	5.7	29.2	29.2	23.4	45.3	45.3	11.6	14.3	31.6	16.0	0.0	34.1
Prop In Lane	1.00		0.10	1.00		0.26	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	108	432	447	347	671	675	202	494	419	238	0	517
V/C Ratio(X)	0.79	1.75	1.76	1.27	1.90	1.99	0.87	0.53	1.00	1.44	0.00	1.01
Avail Cap(c_a), veh/h	151	432	447	347	671	675	214	494	419	238	0	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.6	45.4	45.4	48.3	37.3	37.3	52.3	37.7	44.1	52.0	0.0	42.9
Incr Delay (d2), s/veh	11.7	347.7	352.4	143.3	412.8	452.3	27.0	1.0	43.5	218.5	0.0	42.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	54.1	56.5	23.9	95.4	103.4	6.7	6.7	17.0	21.5	0.0	21.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.3	393.1	397.8	191.6	450.1	489.6	79.3	38.8	87.6	270.5	0.0	85.7
LnGrp LOS	E	F	F	F	F	F	E	D	F	F	A	F
Approach Vol, veh/h		1631			3065			853				865
Approach Delay, s/veh		378.2			430.2			71.0				158.5
Approach LOS		F			F			E				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.6	36.4	28.0	35.0	18.2	38.8	11.9	51.1				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	16.0	* 32	23.4	29.2	14.4	* 33	10.2	42.4				
Max Q Clear Time (g_c+I1), s	18.0	33.6	25.4	31.2	13.6	36.1	7.7	47.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay											332.6	
HCM 6th LOS											F	
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
7: Whitewood Rd. & Clinton Keith Rd.

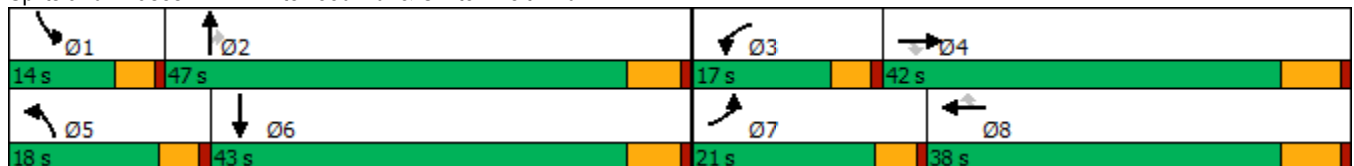
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	645	1525	210	327	2052	242	237	189	157	240	454
Future Volume (vph)	645	1525	210	327	2052	242	237	189	157	240	454
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	21.0	42.0	42.0	17.0	38.0	38.0	18.0	47.0	47.0	14.0	43.0
Total Split (%)	17.5%	35.0%	35.0%	14.2%	31.7%	31.7%	15.0%	39.2%	39.2%	11.7%	35.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	16.4	35.5	35.5	12.4	31.5	31.5	13.4	40.5	40.5	9.4	36.5
Actuated g/C Ratio	0.14	0.30	0.30	0.10	0.26	0.26	0.11	0.34	0.34	0.08	0.31
v/c Ratio	1.49	1.58	0.41	1.00	1.66	0.47	1.30	0.32	0.26	1.88	0.96
Control Delay	266.5	294.5	17.8	100.6	331.5	13.9	209.6	31.0	5.1	452.6	49.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	266.5	294.5	17.8	100.6	331.5	13.9	209.6	31.0	5.1	452.6	49.2
LOS	F	F	B	F	F	B	F	C	A	F	D
Approach Delay		262.5			273.4			96.7			125.3
Approach LOS		F			F			F			F

Intersection Summary































Cycle Length: 120	
Actuated Cycle Length: 119.3	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.88	
Intersection Signal Delay: 227.1	Intersection LOS: F
Intersection Capacity Utilization 120.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  						 	
Traffic Volume (veh/h)	645	1525	210	327	2052	242	237	189	157	240	454	580
Future Volume (veh/h)	645	1525	210	327	2052	242	237	189	157	240	454	580
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	701	1658	168	355	2230	236	258	205	144	261	493	494
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	472	1051	469	357	1340	416	199	642	544	140	551	491
Arrive On Green	0.14	0.30	0.30	0.10	0.26	0.26	0.11	0.34	0.34	0.08	0.31	0.31
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	701	1658	168	355	2230	236	258	205	144	261	493	494
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	16.4	35.5	10.0	12.3	31.5	15.5	13.4	9.7	7.9	9.4	31.8	37.2
Cycle Q Clear(g_c), s	16.4	35.5	10.0	12.3	31.5	15.5	13.4	9.7	7.9	9.4	31.8	37.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	472	1051	469	357	1340	416	199	642	544	140	551	491
V/C Ratio(X)	1.48	1.58	0.36	0.99	1.66	0.57	1.30	0.32	0.26	1.87	0.90	1.01
Avail Cap(c_a), veh/h	472	1051	469	357	1340	416	199	642	544	140	551	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	42.3	33.3	53.8	44.3	38.3	53.3	29.1	28.5	55.3	39.5	41.4
Incr Delay (d2), s/veh	229.0	264.3	0.5	45.9	302.0	1.8	165.6	0.3	0.3	417.7	17.1	41.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.8	53.1	3.7	7.4	49.9	5.9	15.0	4.3	2.9	20.3	15.9	19.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	280.8	306.5	33.7	99.7	346.3	40.1	218.9	29.3	28.7	473.0	56.6	83.3
LnGrp LOS	F	F	C	F	F	D	F	C	C	F	E	F
Approach Vol, veh/h		2527			2821			607			1248	
Approach Delay, s/veh		281.3			289.6			109.8			154.3	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	47.0	17.0	42.0	18.0	43.0	21.0	38.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	9.4	41.2	12.4	35.5	13.4	37.2	16.4	31.5				
Max Q Clear Time (g_c+I1), s	11.4	11.7	14.3	37.5	15.4	39.2	18.4	33.5				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			248.1									
HCM 6th LOS			F									

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/21/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	22	1735	66	2535	202	482	14	141	25	62
Future Volume (vph)	22	1735	66	2535	202	482	14	141	25	62
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	25.6	45.4	25.6	45.4	45.4	49.0	49.0	49.0	49.0	49.0
Total Split (%)	21.3%	37.8%	21.3%	37.8%	37.8%	40.8%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	6.1	39.0	8.6	45.5	45.5		44.5		44.5	44.5
Actuated g/C Ratio	0.06	0.37	0.08	0.43	0.43		0.42		0.42	0.42
v/c Ratio	0.24	2.17	0.49	1.79	0.27		1.34		0.37	0.09
Control Delay	54.6	550.8	58.9	382.8	3.9		195.0		25.0	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	54.6	550.8	58.9	382.8	3.9		195.0		25.0	4.7
LOS	D	F	E	F	A		F		C	A
Approach Delay		546.6		347.9			195.0		19.5	
Approach LOS		F		F			F		B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 105.8

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 2.17

Intersection Signal Delay: 404.7

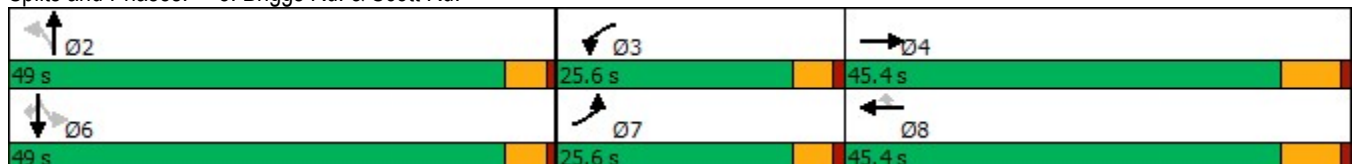
Intersection LOS: F

Intersection Capacity Utilization 125.0%

ICU Level of Service H

Analysis Period (min) 15

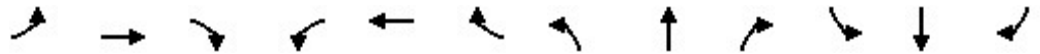
Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/21/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1735	864	66	2535	202	482	14	98	141	25	62
Future Volume (veh/h)	22	1735	864	66	2535	202	482	14	98	141	25	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	1866	854	71	2726	208	518	15	105	152	27	41
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	906	384	92	1422	634	455	11	80	623	106	673
Arrive On Green	0.02	0.37	0.37	0.05	0.40	0.40	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1781	2430	1031	1781	3554	1585	925	27	187	1317	249	1585
Grp Volume(v), veh/h	24	1325	1395	71	2726	208	638	0	0	179	0	41
Grp Sat Flow(s),veh/h/ln	1781	1777	1685	1781	1777	1585	1139	0	0	1565	0	1585
Q Serve(g_s), s	1.4	38.9	38.9	4.1	41.8	9.5	36.6	0.0	0.0	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.4	38.9	38.9	4.1	41.8	9.5	44.3	0.0	0.0	7.7	0.0	1.6
Prop In Lane	1.00		0.61	1.00		1.00	0.81		0.16	0.85		1.00
Lane Grp Cap(c), veh/h	43	662	628	92	1422	634	546	0	0	728	0	673
V/C Ratio(X)	0.56	2.00	2.22	0.77	1.92	0.33	1.17	0.00	0.00	0.25	0.00	0.06
Avail Cap(c_a), veh/h	358	662	628	358	1422	634	546	0	0	728	0	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.4	32.7	32.7	48.9	31.3	21.6	36.0	0.0	0.0	19.5	0.0	17.7
Incr Delay (d2), s/veh	4.2	455.8	554.9	5.1	415.2	0.3	94.3	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	98.8	111.0	1.9	97.9	3.3	28.5	0.0	0.0	2.8	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	488.6	587.6	54.0	446.5	21.9	130.2	0.0	0.0	19.7	0.0	17.8
LnGrp LOS	D	F	F	D	F	C	F	A	A	B	A	B
Approach Vol, veh/h		2744			3005			638			220	
Approach Delay, s/veh		535.1			407.9			130.2			19.3	
Approach LOS		F			F			F			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		49.0	10.0	45.4		49.0	7.1	48.3				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 44	21.0	38.9		* 44	21.0	38.9				
Max Q Clear Time (g_c+I1), s		46.3	6.1	40.9		9.7	3.4	43.8				
Green Ext Time (p_c), s		0.0	0.1	0.0		1.3	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	421.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Intersection Delay, s/v	1874.2											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	201	930	666	27	1376	36	897	176	11	99	168	200
Future Vol, veh/h	201	930	666	27	1376	36	897	176	11	99	168	200
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	207	959	687	28	1419	37	925	181	11	102	173	206
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	1814.2	1429.5	1009.8	356.1
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	83%	11%	2%	21%
Vol Thru, %	16%	52%	96%	36%
Vol Right, %	1%	37%	3%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1084	1797	1439	467
LT Vol	897	201	27	99
Through Vol	176	930	1376	168
RT Vol	11	666	36	200
Lane Flow Rate	1118	1853	1484	481
Geometry Grp	1	1	1	1
Degree of Util (X)	3.039	4.853	3.964	1.257
Departure Headway (Hd)	37.05	34.692	40.547	77.744
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	112	130	104	53
Service Time	35.05	32.692	38.547	75.744
HCM Lane V/C Ratio	9.982	14.254	14.269	9.075
HCM Control Delay	1009.8	1814.2	1429.5	356.1
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	28.6	53.5	36.5	5.5

Intersection												
Int Delay, s/veh	371.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	4	21	107	0	356	14	590	60	175	695	29
Future Vol, veh/h	6	4	21	107	0	356	14	590	60	175	695	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	4	23	116	0	387	15	641	65	190	755	32

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2048	1887	771	1869	1871	674	787	0	0	706	0	0
Stage 1	1151	1151	-	704	704	-	-	-	-	-	-	-
Stage 2	897	736	-	1165	1167	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	41	70	400	~55	72	455	832	-	-	892	-	-
Stage 1	241	272	-	428	440	-	-	-	-	-	-	-
Stage 2	334	425	-	237	268	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~4	42	400	~33	43	455	832	-	-	892	-	-
Mov Cap-2 Maneuver	~4	42	-	~33	43	-	-	-	-	-	-	-
Stage 1	234	168	-	415	427	-	-	-	-	-	-	-
Stage 2	48	412	-	135	166	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	\$ 794.5	\$ 1595.1	0.2	2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	832	-	-	19	115	892	-	-
HCM Lane V/C Ratio	0.018	-	-	1.773	4.376	0.213	-	-
HCM Control Delay (s)	9.4	0	-	\$ 794.5	\$ 1595.1	10.1	0	-
HCM Lane LOS	A	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	4.6	52.2	0.8	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	14.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Vol, veh/h	24	18	8	249	19	98	2	587	97	39	676	10
Future Vol, veh/h	24	18	8	249	19	98	2	587	97	39	676	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	20	9	271	21	107	2	638	105	42	735	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1584	1572	373	1157	1525	691	746	0	0	743	0	0
Stage 1	825	825	-	695	695	-	-	-	-	-	-	-
Stage 2	759	747	-	462	830	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	80	110	625	~ 162	117	444	860	-	-	862	-	-
Stage 1	334	386	-	432	443	-	-	-	-	-	-	-
Stage 2	398	419	-	550	384	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	54	104	625	~ 143	111	444	860	-	-	862	-	-
Mov Cap-2 Maneuver	153	217	-	273	232	-	-	-	-	-	-	-
Stage 1	333	367	-	431	442	-	-	-	-	-	-	-
Stage 2	288	418	-	488	365	-	-	-	-	-	-	-

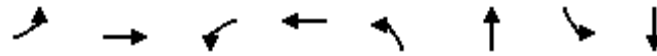
Approach	EB	WB	NB	SB
HCM Control Delay, s	29.9	69.3	0	0.5
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	860	-	-	198	273	387	862	-	-
HCM Lane V/C Ratio	0.003	-	-	0.274	0.991	0.329	0.049	-	-
HCM Control Delay (s)	9.2	-	-	29.9	93	18.8	9.4	-	-
HCM Lane LOS	A	-	-	D	F	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.1	9.9	1.4	0.2	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/22/2021

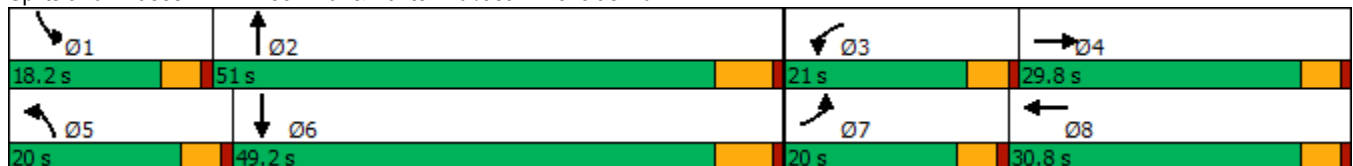


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↗	↘	↗	↘	↗	↘	↗
Traffic Volume (vph)	143	264	150	304	135	447	94	889
Future Volume (vph)	143	264	150	304	135	447	94	889
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	20.0	29.8	21.0	30.8	20.0	51.0	18.2	49.2
Total Split (%)	16.7%	24.8%	17.5%	25.7%	16.7%	42.5%	15.2%	41.0%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	15.5	19.6	16.5	20.6	12.6	45.4	10.4	43.2
Actuated g/C Ratio	0.14	0.17	0.15	0.18	0.11	0.40	0.09	0.39
v/c Ratio	0.64	0.69	0.63	0.78	0.74	0.42	0.62	0.75
Control Delay	60.1	40.9	58.3	43.0	70.8	24.9	66.7	35.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	40.9	58.3	43.0	70.8	24.9	66.7	35.0
LOS	E	D	E	D	E	C	E	D
Approach Delay		45.8		46.6		34.1		37.9
Approach LOS		D		D		C		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.1
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 40.5
 Intersection LOS: D
 Intersection Capacity Utilization 79.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↗↘		↗	↗↘	
Traffic Volume (veh/h)	143	264	152	150	304	196	135	447	94	94	889	49
Future Volume (veh/h)	143	264	152	150	304	196	135	447	94	94	889	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	287	122	163	330	189	147	486	79	102	966	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	249	441	183	265	410	228	176	1275	206	128	1346	64
Arrive On Green	0.14	0.18	0.18	0.15	0.19	0.19	0.10	0.42	0.42	0.07	0.39	0.39
Sat Flow, veh/h	1781	2447	1015	1781	2164	1207	1781	3056	494	1781	3451	164
Grp Volume(v), veh/h	155	206	203	163	269	250	147	281	284	102	497	515
Grp Sat Flow(s),veh/h/ln	1781	1777	1686	1781	1777	1594	1781	1777	1773	1781	1777	1838
Q Serve(g_s), s	9.0	11.9	12.3	9.5	16.0	16.6	8.9	12.1	12.2	6.2	26.1	26.1
Cycle Q Clear(g_c), s	9.0	11.9	12.3	9.5	16.0	16.6	8.9	12.1	12.2	6.2	26.1	26.1
Prop In Lane	1.00		0.60	1.00		0.76	1.00		0.28	1.00		0.09
Lane Grp Cap(c), veh/h	249	320	304	265	336	302	176	741	740	128	693	717
V/C Ratio(X)	0.62	0.64	0.67	0.62	0.80	0.83	0.84	0.38	0.38	0.80	0.72	0.72
Avail Cap(c_a), veh/h	249	405	384	265	421	377	249	741	740	220	693	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	41.9	42.1	44.0	42.7	43.0	48.8	22.3	22.3	50.4	28.5	28.5
Incr Delay (d2), s/veh	11.2	2.3	3.0	10.3	8.6	11.7	11.2	0.3	0.3	4.3	6.3	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	5.4	5.4	4.9	7.8	7.5	4.4	4.8	4.8	2.8	11.5	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	44.3	45.1	54.2	51.3	54.6	60.0	22.6	22.6	54.7	34.8	34.6
LnGrp LOS	E	D	D	D	D	D	E	C	C	D	C	C
Approach Vol, veh/h		564			682			712			1114	
Approach Delay, s/veh		47.8			53.2			30.3			36.5	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	52.2	21.0	24.6	15.5	49.2	20.0	25.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	13.6	44.8	16.4	* 25	15.4	43.0	15.4	* 26				
Max Q Clear Time (g_c+I1), s	8.2	14.2	11.5	14.3	10.9	28.1	11.0	18.6				
Green Ext Time (p_c), s	0.0	3.1	0.1	1.8	0.1	5.1	0.1	1.9				

Intersection Summary

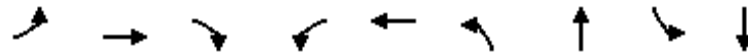
HCM 6th Ctrl Delay	40.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
06/23/2021

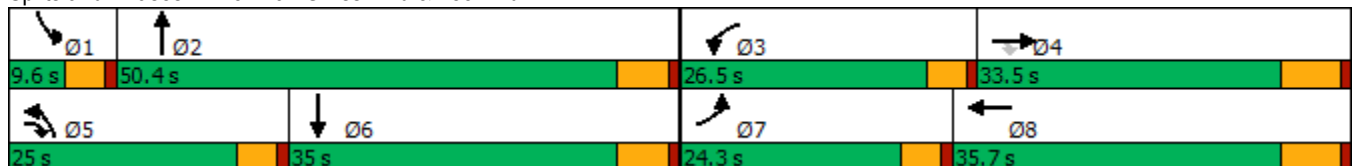


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘↘	↑↑	↗	↘↘	↑↑	↘↘	↑↑	↘↘	↑↑
Traffic Volume (vph)	391	435	819	555	806	698	504	39	766
Future Volume (vph)	391	435	819	555	806	698	504	39	766
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	24.3	33.5	25.0	26.5	35.7	25.0	50.4	9.6	35.0
Total Split (%)	20.3%	27.9%	20.8%	22.1%	29.8%	20.8%	42.0%	8.0%	29.2%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.6	5.5	4.6	3.6	5.5	3.6	4.8	3.6	4.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	18.1	25.9	51.8	21.9	29.8	21.4	47.6	6.0	30.2
Actuated g/C Ratio	0.15	0.22	0.44	0.19	0.25	0.18	0.41	0.05	0.26
v/c Ratio	0.75	0.55	1.16	0.87	0.92	1.12	0.56	0.23	1.17
Control Delay	56.4	43.3	114.5	61.3	58.0	118.3	24.1	57.6	124.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	43.3	114.5	61.3	58.0	118.3	24.1	57.6	124.2
LOS	E	D	F	E	E	F	C	E	F
Approach Delay		81.9			59.3		67.7		121.9
Approach LOS		F			E		E		F

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 117
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.17
 Intersection Signal Delay: 80.4
 Intersection LOS: F
 Intersection Capacity Utilization 108.8%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	391	435	819	555	806	28	698	504	306	39	766	311
Future Volume (veh/h)	391	435	819	555	806	28	698	504	306	39	766	311
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	407	453	332	578	840	14	727	525	260	41	798	116
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	495	781	601	657	932	16	670	975	481	145	847	123
Arrive On Green	0.21	0.31	0.20	0.28	0.38	0.25	0.28	0.41	0.40	0.04	0.27	0.26
Sat Flow, veh/h	3563	3741	1585	3563	3669	61	3563	2364	1167	3563	3193	464
Grp Volume(v), veh/h	407	453	332	578	428	426	727	415	370	41	467	447
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1859	1781	1870	1660	1781	1870	1787
Q Serve(g_s), s	12.4	11.6	18.7	17.7	24.6	24.6	21.4	19.1	19.3	1.3	27.9	27.9
Cycle Q Clear(g_c), s	12.4	11.6	18.7	17.7	24.6	24.6	21.4	19.1	19.3	1.3	27.9	27.9
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.70	1.00		0.26
Lane Grp Cap(c), veh/h	495	781	601	657	475	473	670	772	685	145	496	474
V/C Ratio(X)	0.82	0.58	0.55	0.88	0.90	0.90	1.09	0.54	0.54	0.28	0.94	0.94
Avail Cap(c_a), veh/h	648	920	660	717	496	493	670	772	685	188	496	474
HCM Platoon Ratio	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	34.9	27.8	40.0	33.9	34.1	40.9	25.3	25.6	53.0	41.0	41.1
Incr Delay (d2), s/veh	5.0	0.7	0.8	10.8	19.0	19.1	60.3	0.7	0.9	0.4	26.6	27.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	4.7	6.8	7.6	11.6	11.6	13.7	8.2	7.4	0.6	15.9	15.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.7	35.6	28.6	50.7	52.8	53.2	101.2	26.0	26.4	53.4	67.6	68.5
LnGrp LOS	D	D	C	D	D	D	F	C	C	D	E	E
Approach Vol, veh/h		1192			1432			1512			955	
Approach Delay, s/veh		38.1			52.1			62.3			67.4	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	51.8	24.6	29.3	25.0	35.0	19.4	34.4				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	44.6	21.9	27.0	20.4	29.2	19.7	29.2				
Max Q Clear Time (g_c+I1), s	3.3	21.3	19.7	20.7	23.4	29.9	14.4	26.6				
Green Ext Time (p_c), s	0.0	4.7	0.3	2.0	0.0	0.0	0.4	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			54.7									
HCM 6th LOS			D									

Timings
14: Clinton Keith Rd.

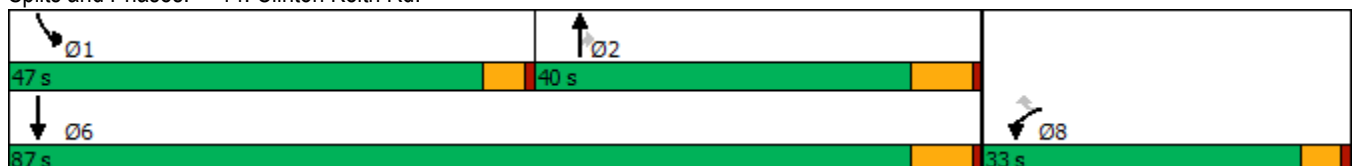
Keller Crossing (JN:13649)
06/23/2021

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	218	891	707	273	926	602
Future Volume (vph)	218	891	707	273	926	602
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	28.5	28.5	9.6	16.5
Total Split (s)	33.0	33.0	40.0	40.0	47.0	87.0
Total Split (%)	27.5%	27.5%	33.3%	33.3%	39.2%	72.5%
Yellow Time (s)	3.6	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	18.0	18.0	28.2	28.2	32.1	65.2
Actuated g/C Ratio	0.19	0.19	0.30	0.30	0.34	0.69
v/c Ratio	0.76	0.72	0.72	0.43	0.86	0.27
Control Delay	21.6	10.6	36.0	5.9	38.8	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	10.6	36.0	5.9	38.8	6.3
LOS	C	B	D	A	D	A
Approach Delay	17.2		27.6			26.0
Approach LOS	B		C			C

Intersection Summary

















Cycle Length: 120	
Actuated Cycle Length: 94.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 23.8	Intersection LOS: C
Intersection Capacity Utilization 74.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 14: Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
14: Clinton Keith Rd.

Keller Crossing (JN:13649)
06/23/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (veh/h)	218	891	707	273	926	602
Future Volume (veh/h)	218	891	707	273	926	602
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	234	958	760	294	996	647
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	485	863	938	418	1083	2208
Arrive On Green	0.27	0.27	0.26	0.26	0.31	0.62
Sat Flow, veh/h	1781	3170	3647	1585	3456	3647
Grp Volume(v), veh/h	234	958	760	294	996	647
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1728	1777
Q Serve(g_s), s	11.5	28.4	20.9	17.5	29.0	8.8
Cycle Q Clear(g_c), s	11.5	28.4	20.9	17.5	29.0	8.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	485	863	938	418	1083	2208
V/C Ratio(X)	0.48	1.11	0.81	0.70	0.92	0.29
Avail Cap(c_a), veh/h	485	863	1141	509	1405	2742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	38.0	36.0	34.7	34.5	9.1
Incr Delay (d2), s/veh	0.7	65.4	3.7	3.4	7.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	18.0	9.4	7.0	12.2	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.5	103.4	39.7	38.1	41.9	9.2
LnGrp LOS	C	F	D	D	D	A
Approach Vol, veh/h	1192		1054			1643
Approach Delay, s/veh	89.5		39.2			29.0
Approach LOS	F		D			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	37.3	34.0			71.3	33.0
Change Period (Y+Rc), s	4.6	6.5			6.5	4.6
Max Green Setting (Gmax), s	42.4	33.5			80.5	28.4
Max Q Clear Time (g_c+I1), s	31.0	22.9			10.8	30.4
Green Ext Time (p_c), s	1.7	4.6			4.2	0.0

Intersection Summary

HCM 6th Ctrl Delay	50.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection												
Intersection Delay, s/veh	12.2											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕		↕			↕	
Traffic Vol, veh/h	0	358	19	19	294	0	12	0	10	2	0	0
Future Vol, veh/h	0	358	19	19	294	0	12	0	10	2	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	389	21	21	320	0	13	0	11	2	0	0
Number of Lanes	0	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	1
HCM Control Delay	13.3	11.2	9.3	9.6
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	55%	0%	100%	0%	0%	100%
Vol Thru, %	0%	95%	0%	100%	100%	0%
Vol Right, %	45%	5%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	377	19	294	0	2
LT Vol	12	0	19	0	0	2
Through Vol	0	358	0	294	0	0
RT Vol	10	19	0	0	0	0
Lane Flow Rate	24	410	21	320	0	2
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.041	0.551	0.031	0.437	0	0.004
Departure Headway (Hd)	6.246	4.841	5.425	4.922	4.922	6.844
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	572	746	662	735	0	522
Service Time	3.992	2.556	3.14	2.637	2.637	4.595
HCM Lane V/C Ratio	0.042	0.55	0.032	0.435	0	0.004
HCM Control Delay	9.3	13.3	8.3	11.4	7.6	9.6
HCM Lane LOS	A	B	A	B	N	A
HCM 95th-tile Q	0.1	3.4	0.1	2.2	0	0

Intersection						
Int Delay, s/veh	6.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑↑	↑	
Traffic Vol, veh/h	6	215	100	29	108	12
Future Vol, veh/h	6	215	100	29	108	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	234	109	32	117	13

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	358	124	130	0	-	0
Stage 1	124	-	-	-	-	-
Stage 2	234	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	627	926	1454	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	580	926	1454	-	-	-
Mov Cap-2 Maneuver	632	-	-	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	783	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1454	-	914	-	-
HCM Lane V/C Ratio	0.075	-	0.263	-	-
HCM Control Delay (s)	7.7	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.1	-	-

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕		↵	↕			↕			↕	
Traffic Vol, veh/h	27	343	0	12	251	3	0	0	43	7	0	62
Future Vol, veh/h	27	343	0	12	251	3	0	0	43	7	0	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	373	0	13	273	3	0	0	47	8	0	67

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	276	0	0	373	0	0	594	733	187	546	732	138
Stage 1	-	-	-	-	-	-	431	431	-	301	301	-
Stage 2	-	-	-	-	-	-	163	302	-	245	431	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1284	-	-	1182	-	-	389	346	823	421	347	885
Stage 1	-	-	-	-	-	-	573	581	-	683	664	-
Stage 2	-	-	-	-	-	-	823	663	-	737	581	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1284	-	-	1182	-	-	350	334	823	387	335	885
Mov Cap-2 Maneuver	-	-	-	-	-	-	350	334	-	481	425	-
Stage 1	-	-	-	-	-	-	560	568	-	667	657	-
Stage 2	-	-	-	-	-	-	752	656	-	679	568	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0.4			9.6			9.9		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	823	1284	-	-	1182	-	-	816
HCM Lane V/C Ratio	0.057	0.023	-	-	0.011	-	-	0.092
HCM Control Delay (s)	9.6	7.9	-	-	8.1	-	-	9.9
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.3

Intersection						
Int Delay, s/veh	8.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	117	233	161	80	231	93
Future Vol, veh/h	117	233	161	80	231	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	127	253	175	87	251	101

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	262	0	-	0	600
Stage 1	-	-	-	-	219
Stage 2	-	-	-	-	381
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	1299	-	-	-	432
Stage 1	-	-	-	-	796
Stage 2	-	-	-	-	660
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1299	-	-	-	390
Mov Cap-2 Maneuver	-	-	-	-	491
Stage 1	-	-	-	-	718
Stage 2	-	-	-	-	660

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1299	-	-	-	564
HCM Lane V/C Ratio	0.098	-	-	-	0.624
HCM Control Delay (s)	8.1	-	-	-	21.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	4.3

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	464	192	125	0	49
Future Vol, veh/h	0	464	192	125	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	504	209	136	0	53

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	- 173
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	- 3.32
Pot Cap-1 Maneuver	0	-	-	-	0 840
Stage 1	0	-	-	-	0 -
Stage 2	0	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	- 840
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	840
HCM Lane V/C Ratio	-	-	-	0.063
HCM Control Delay (s)	-	-	-	9.6
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.2

Timings
20: Winchester Rd. & Domenigoni Pkwy

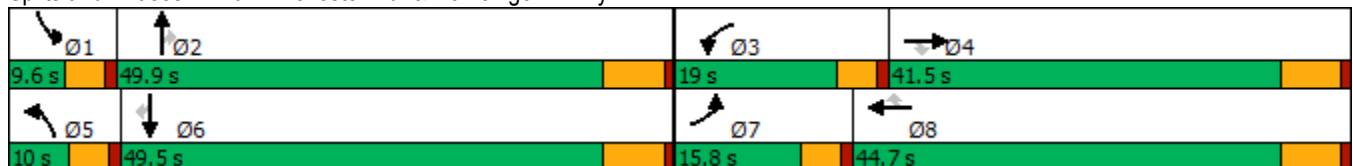
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	604	179	845	476	293	250	636	799	642	907	40
Future Volume (vph)	77	604	179	845	476	293	250	636	799	642	907	40
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	15.8	41.5	41.5	19.0	44.7	44.7	10.0	49.9	49.9	9.6	49.5	49.5
Total Split (%)	13.2%	34.6%	34.6%	15.8%	37.3%	37.3%	8.3%	41.6%	41.6%	8.0%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	7.1	26.5	26.5	14.4	35.9	35.9	5.4	43.5	43.5	5.0	43.1	43.1
Actuated g/C Ratio	0.06	0.24	0.24	0.13	0.32	0.32	0.05	0.39	0.39	0.04	0.39	0.39
v/c Ratio	0.38	0.77	0.41	2.03	0.31	0.47	3.13	0.49	1.08	8.65	0.71	0.06
Control Delay	56.1	46.2	17.0	497.4	29.7	11.7	1000.3	28.0	80.0	3472.9	33.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	46.2	17.0	497.4	29.7	11.7	1000.3	28.0	80.0	3472.9	33.2	0.2
LOS	E	D	B	F	C	B	F	C	E	F	C	A
Approach Delay		41.0			271.3			196.9			1421.7	
Approach LOS		D			F			F			F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 111.7
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 8.65
 Intersection Signal Delay: 533.1
 Intersection LOS: F
 Intersection Capacity Utilization 116.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

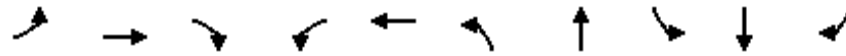
Keller Crossing (JN:13649)
 06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	604	179	845	476	293	250	636	799	642	907	40
Future Volume (veh/h)	77	604	179	845	476	293	250	636	799	642	907	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	643	134	899	506	306	266	677	654	683	965	-91
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	791	353	455	1595	495	88	1410	629	81	1397	623
Arrive On Green	0.04	0.22	0.22	0.13	0.31	0.31	0.05	0.40	0.40	0.05	0.39	0.00
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	82	643	134	899	506	306	266	677	654	683	965	-91
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.5	18.8	7.8	14.4	8.3	18.0	5.4	15.5	43.4	5.0	24.7	0.0
Cycle Q Clear(g_c), s	2.5	18.8	7.8	14.4	8.3	18.0	5.4	15.5	43.4	5.0	24.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	791	353	455	1595	495	88	1410	629	81	1397	623
V/C Ratio(X)	0.57	0.81	0.38	1.98	0.32	0.62	3.02	0.48	1.04	8.39	0.69	-0.15
Avail Cap(c_a), veh/h	354	1137	507	455	1784	554	88	1410	629	81	1397	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	51.4	40.3	36.1	47.5	28.7	32.0	52.0	24.6	33.0	52.2	27.6	0.0
Incr Delay (d2), s/veh	1.3	3.0	0.7	446.9	0.1	1.7	940.4	0.3	46.6	3348.5	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.0	2.9	34.1	3.2	6.6	25.3	6.0	23.1	77.9	9.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	43.4	36.8	494.3	28.8	33.8	992.4	24.8	79.5	3400.7	29.1	0.0
LnGrp LOS	D	D	D	F	C	C	F	C	F	F	C	A
Approach Vol, veh/h		859			1711			1597			1557	
Approach Delay, s/veh		43.2			274.3			208.4			1509.8	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	49.9	19.0	30.9	10.0	49.5	9.2	40.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	43.4	14.4	35.0	5.4	43.0	11.2	38.2				
Max Q Clear Time (g_c+I1), s	7.0	45.4	16.4	20.8	7.4	26.7	4.5	20.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	3.6	0.0	5.4	0.0	3.8				
Intersection Summary												
HCM 6th Ctrl Delay				557.3								
HCM 6th LOS				F								

Timings
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↖	↑↑	↗
Traffic Volume (vph)	79	0	31	5	0	7	1551	10	1908	13
Future Volume (vph)	79	0	31	5	0	7	1551	10	1908	13
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)		11.9	11.9		11.9	5.1	68.7	5.1	68.7	68.7
Actuated g/C Ratio		0.14	0.14		0.14	0.06	0.78	0.06	0.78	0.78
v/c Ratio		0.42	0.12		0.23	0.07	0.42	0.11	0.73	0.01
Control Delay		44.7	2.0		10.6	46.3	5.3	47.0	10.4	0.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		44.7	2.0		10.6	46.3	5.3	47.0	10.4	0.0
LOS		D	A		B	D	A	D	B	A
Approach Delay		32.7			10.6		5.5		10.5	
Approach LOS		C			B		A		B	

Intersection Summary


























Cycle Length: 120
 Actuated Cycle Length: 88
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 9.0
 Intersection LOS: A
 Intersection Capacity Utilization 82.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
 21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (veh/h)	79	0	31	5	0	55	7	1551	0	10	1908	13
Future Volume (veh/h)	79	0	31	5	0	55	7	1551	0	10	1908	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	0	32	5	0	54	7	1650	0	11	2030	14
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	0	189	54	10	173	16	3467	1076	24	2429	1084
Arrive On Green	0.12	0.00	0.12	0.12	0.00	0.12	0.01	0.68	0.00	0.01	0.68	0.68
Sat Flow, veh/h	1472	0	1585	53	82	1455	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	84	0	32	59	0	0	7	1650	0	11	2030	14
Grp Sat Flow(s),veh/h/ln	1472	0	1585	1589	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	1.1	0.0	1.5	0.0	0.0	0.0	0.3	12.6	0.0	0.5	34.7	0.2
Cycle Q Clear(g_c), s	3.9	0.0	1.5	2.8	0.0	0.0	0.3	12.6	0.0	0.5	34.7	0.2
Prop In Lane	1.00		1.00	0.08		0.92	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	263	0	189	237	0	0	16	3467	1076	24	2429	1084
V/C Ratio(X)	0.32	0.00	0.17	0.25	0.00	0.00	0.44	0.48	0.00	0.46	0.84	0.01
Avail Cap(c_a), veh/h	610	0	597	639	0	0	108	4247	1318	108	2956	1318
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	0.0	32.6	33.2	0.0	0.0	40.6	6.3	0.0	40.3	9.6	4.2
Incr Delay (d2), s/veh	0.7	0.0	0.4	0.5	0.0	0.0	6.8	0.1	0.0	5.0	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.6	1.1	0.0	0.0	0.2	2.7	0.0	0.2	8.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.2	0.0	33.0	33.7	0.0	0.0	47.4	6.4	0.0	45.3	11.5	4.2
LnGrp LOS	C	A	C	C	A	A	D	A	A	D	B	A
Approach Vol, veh/h		116			59			1657			2055	
Approach Delay, s/veh		33.9			33.7			6.5			11.6	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	62.1		14.5	5.3	62.5		14.5				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.0	68.5		* 31	5.0	68.5		* 31				
Max Q Clear Time (g_c+11), s	2.5	14.6		5.9	2.3	36.7		4.8				
Green Ext Time (p_c), s	0.0	15.9		0.5	0.0	19.6		0.3				

Intersection Summary

HCM 6th Ctrl Delay	10.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	1	10	8	12	4	2920	50	4167	4
Future Volume (vph)	1	10	8	12	4	2920	50	4167	4
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	9.6	16.5	16.5
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	70.1	5.0	68.2	68.2
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.71	0.05	0.69	0.69
v/c Ratio	0.01	0.06	0.06	0.07	0.04	1.24	0.60	1.82	0.00
Control Delay	40.0	41.2	41.5	41.3	46.0	130.1	73.5	389.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	41.2	41.5	41.3	46.0	130.1	73.5	389.7	0.0
LOS	D	D	D	D	D	F	E	F	A
Approach Delay		41.1		41.4		130.0		385.6	
Approach LOS		D		D		F		F	

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 99	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.82	
Intersection Signal Delay: 280.0	Intersection LOS: F
Intersection Capacity Utilization 132.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	10	0	8	12	0	4	2920	0	50	4167	4
Future Volume (veh/h)	1	10	0	8	12	0	4	2920	0	50	4167	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	11	0	9	13	0	4	3106	0	53	4433	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	189	0	207	189	0	90	2490	1111	69	2448	1092
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.00	0.05	0.70	0.00	0.04	0.69	0.69
Sat Flow, veh/h	1401	1870	0	1404	1870	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	1	11	0	9	13	0	4	3106	0	53	4433	4
Grp Sat Flow(s),veh/h/ln	1401	1870	0	1404	1870	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.1	0.5	0.0	0.6	0.6	0.0	0.2	69.4	0.0	2.9	68.2	0.1
Cycle Q Clear(g_c), s	0.7	0.5	0.0	1.1	0.6	0.0	0.2	69.4	0.0	2.9	68.2	0.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	205	189	0	207	189	0	90	2490	1111	69	2448	1092
V/C Ratio(X)	0.00	0.06	0.00	0.04	0.07	0.00	0.04	1.25	0.00	0.77	1.81	0.00
Avail Cap(c_a), veh/h	503	586	0	505	586	0	90	2490	1111	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	40.2	0.0	40.7	40.3	0.0	44.7	14.8	0.0	47.1	15.4	4.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.1	0.2	0.0	0.9	114.9	0.0	18.0	366.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.2	0.3	0.0	0.1	57.4	0.0	1.6	142.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	40.4	0.0	40.8	40.4	0.0	45.7	129.7	0.0	65.1	381.9	4.8
LnGrp LOS	D	D	A	D	D	A	D	F	A	E	F	A
Approach Vol, veh/h		12			22			3110			4490	
Approach Delay, s/veh		40.4			40.6			129.6			377.8	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	75.9		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+1), s	4.9	71.4		2.7	2.2	70.2		3.1				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	275.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	194	133	85	2730	4000	175
Future Volume (vph)	194	133	85	2730	4000	175
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	24.5	24.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	18.1	18.1	5.0	87.0	77.4	77.4
Actuated g/C Ratio	0.16	0.16	0.04	0.75	0.67	0.67
v/c Ratio	0.76	0.48	1.21	1.12	1.85	0.17
Control Delay	65.3	29.7	220.0	77.5	402.9	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	29.7	220.0	77.5	402.9	3.3
LOS	E	C	F	E	F	A
Approach Delay	50.8			81.8	386.2	
Approach LOS	D			F	F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.2
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.85
 Intersection Signal Delay: 254.1
 Intersection LOS: F
 Intersection Capacity Utilization 130.6%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
 23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
 06/22/2021



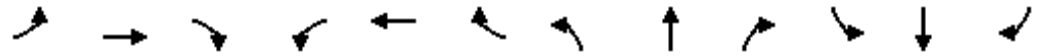
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↶	↷	↷	↶
Traffic Volume (veh/h)	194	133	85	2730	4000	175
Future Volume (veh/h)	194	133	85	2730	4000	175
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	137	92	2967	4348	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	247	220	78	2714	2414	1077
Arrive On Green	0.14	0.14	0.04	0.76	0.68	0.68
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	211	137	92	2967	4348	190
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	13.2	9.3	5.0	86.9	77.3	5.0
Cycle Q Clear(g_c), s	13.2	9.3	5.0	86.9	77.3	5.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	247	220	78	2714	2414	1077
V/C Ratio(X)	0.85	0.62	1.18	1.09	1.80	0.18
Avail Cap(c_a), veh/h	344	306	78	2714	2414	1077
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	46.2	54.4	13.5	18.3	6.7
Incr Delay (d2), s/veh	13.7	2.9	156.7	48.7	362.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.2	5.6	38.4	144.6	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	61.6	49.1	211.1	62.2	380.5	6.7
LnGrp LOS	E	D	F	F	F	A
Approach Vol, veh/h	348			3059	4538	
Approach Delay, s/veh	56.7			66.7	364.9	
Approach LOS	E			E	F	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		20.4	9.6	83.8
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+I1), s		88.9		15.2	7.0	79.3
Green Ext Time (p_c), s		0.0		0.6	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			236.6			
HCM 6th LOS			F			

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

06/22/2021

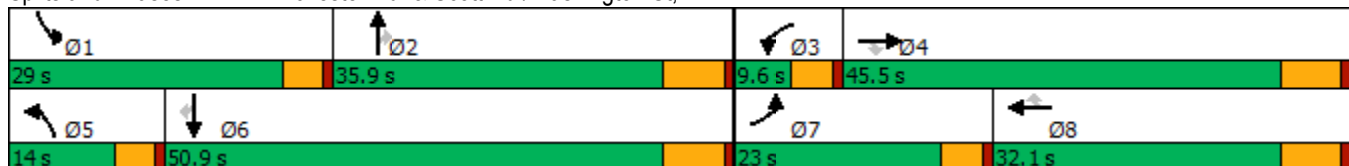


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↑↑↑	↗	↘	↑↑↑	↘
Traffic Volume (vph)	518	282	267	50	336	502	270	1745	50	350	2771	962
Future Volume (vph)	518	282	267	50	336	502	270	1745	50	350	2771	962
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.5	45.5	9.6	16.5	16.5	9.6	35.5	35.5	9.6	44.5	44.5
Total Split (s)	23.0	45.5	45.5	9.6	32.1	32.1	14.0	35.9	35.9	29.0	50.9	50.9
Total Split (%)	19.2%	37.9%	37.9%	8.0%	26.8%	26.8%	11.7%	29.9%	29.9%	24.2%	42.4%	42.4%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	18.4	40.3	40.3	5.0	24.9	24.9	9.4	29.4	29.4	24.4	44.4	44.4
Actuated g/C Ratio	0.15	0.34	0.34	0.04	0.21	0.21	0.08	0.25	0.25	0.20	0.37	0.37
v/c Ratio	2.02	0.48	0.42	0.73	0.92	0.89	2.06	1.48	0.10	1.03	1.56	1.24
Control Delay	499.6	35.0	11.0	103.9	75.9	33.7	532.2	254.9	0.4	102.2	283.1	142.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	499.6	35.0	11.0	103.9	75.9	33.7	532.2	254.9	0.4	102.2	283.1	142.7
LOS	F	D	B	F	E	C	F	F	A	F	F	F
Approach Delay		254.6			53.6			285.0			234.6	
Approach LOS		F			D			F			F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.3
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.06
 Intersection Signal Delay: 230.2
 Intersection LOS: F
 Intersection Capacity Utilization 133.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

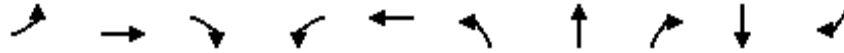
Keller Crossing (JN:13649)

06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	518	282	267	50	336	502	270	1745	50	350	2771	962
Future Volume (veh/h)	518	282	267	50	336	502	270	1745	50	350	2771	962
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	551	300	240	53	357	431	287	1856	53	372	2948	991
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	608	515	74	399	338	140	1251	388	362	1889	586
Arrive On Green	0.15	0.32	0.32	0.04	0.21	0.21	0.08	0.25	0.25	0.20	0.37	0.37
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	551	300	240	53	357	431	287	1856	53	372	2948	991
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	18.4	15.5	14.5	3.5	22.3	25.6	9.4	29.4	3.1	24.4	44.4	44.4
Cycle Q Clear(g_c), s	18.4	15.5	14.5	3.5	22.3	25.6	9.4	29.4	3.1	24.4	44.4	44.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	608	515	74	399	338	140	1251	388	362	1889	586
V/C Ratio(X)	2.02	0.49	0.47	0.71	0.89	1.27	2.06	1.48	0.14	1.03	1.56	1.69
Avail Cap(c_a), veh/h	273	608	515	74	399	338	140	1251	388	362	1889	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	32.6	32.2	56.8	45.9	47.2	55.3	45.3	35.4	47.8	37.8	37.8
Incr Delay (d2), s/veh	470.5	0.6	0.7	24.2	21.9	144.7	499.5	222.0	0.2	54.4	254.8	317.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	43.5	6.7	5.3	2.0	12.2	23.1	23.4	37.4	1.2	15.7	61.5	67.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	521.3	33.2	32.9	81.0	67.8	191.9	554.8	267.3	35.5	102.2	292.6	355.5
LnGrp LOS	F	C	C	F	E	F	F	F	D	F	F	F
Approach Vol, veh/h		1091			841			2196			4311	
Approach Delay, s/veh		279.6			132.2			299.2			290.6	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.0	35.9	9.6	45.5	14.0	50.9	23.0	32.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	24.4	29.4	5.0	39.0	9.4	44.4	18.4	25.6				
Max Q Clear Time (g_c+1), s	26.4	31.4	5.5	17.5	11.4	46.4	20.4	27.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay											275.7	
HCM 6th LOS											F	

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

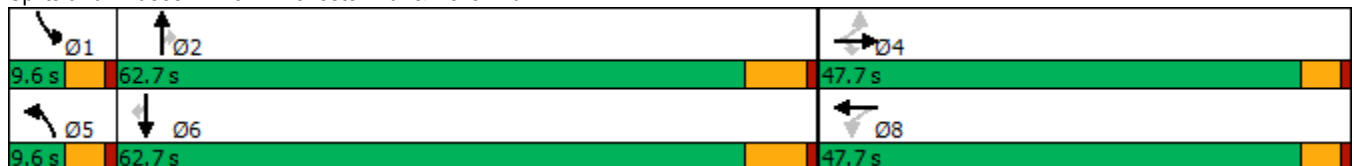


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations											
Traffic Volume (vph)	288	41	223	17	2	161	1777	12	2918	170	
Future Volume (vph)	288	41	223	17	2	161	1777	12	2918	170	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4			8	5	2		6		1
Permitted Phases	4		4	8				2		6	
Detector Phase	4	4	4	8	8	5	2	2	6	6	
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	47.7	47.7	9.6	62.7	62.7	62.7	62.7	9.6
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.0%	52.3%	52.3%	52.3%	52.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)	29.3	29.3	29.3		29.3	5.0	66.3	66.3	56.6	56.6	
Actuated g/C Ratio	0.27	0.27	0.27		0.27	0.05	0.62	0.62	0.53	0.53	
v/c Ratio	0.81	0.09	0.48		0.05	2.06	0.86	0.01	1.66	0.21	
Control Delay	52.4	27.6	22.1		26.9	543.1	23.6	0.0	320.9	10.2	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.4	27.6	22.1		26.9	543.1	23.6	0.0	320.9	10.2	
LOS	D	C	C		C	F	C	A	F	B	
Approach Delay		38.3			26.9		66.2		303.8		
Approach LOS		D			C		E		F		

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 106.8
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.06
 Intersection Signal Delay: 194.2
 Intersection Capacity Utilization 119.3%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	288	41	223	17	2	0	161	1777	12	0	2918	170
Future Volume (veh/h)	288	41	223	17	2	0	161	1777	12	0	2918	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	306	44	233	18	2	0	171	1890	13	0	3104	181
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	420	448	379	296	30	0	88	2310	1030	2	1973	880
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.00	0.05	0.65	0.65	0.00	0.56	0.56
Sat Flow, veh/h	1415	1870	1585	955	123	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	306	44	233	20	0	0	171	1890	13	0	3104	181
Grp Sat Flow(s),veh/h/ln	1415	1870	1585	1079	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	17.4	1.9	13.3	1.0	0.0	0.0	5.0	40.2	0.3	0.0	56.2	5.8
Cycle Q Clear(g_c), s	20.3	1.9	13.3	2.9	0.0	0.0	5.0	40.2	0.3	0.0	56.2	5.8
Prop In Lane	1.00		1.00	0.90		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	420	448	379	326	0	0	88	2310	1030	2	1973	880
V/C Ratio(X)	0.73	0.10	0.61	0.06	0.00	0.00	1.94	0.82	0.01	0.00	1.57	0.21
Avail Cap(c_a), veh/h	683	795	673	539	0	0	88	2310	1030	88	1973	880
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	30.0	34.3	30.7	0.0	0.0	48.1	13.2	6.2	0.0	22.5	11.3
Incr Delay (d2), s/veh	2.4	0.1	1.6	0.1	0.0	0.0	463.1	2.4	0.0	0.0	260.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.8	5.2	0.4	0.0	0.0	13.4	12.6	0.1	0.0	90.2	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.1	30.1	36.0	30.7	0.0	0.0	511.2	15.7	6.3	0.0	282.9	11.4
LnGrp LOS	D	C	D	C	A	A	F	B	A	A	F	B
Approach Vol, veh/h		583			20			2074			3285	
Approach Delay, s/veh		37.2			30.7			56.5			267.9	
Approach LOS		D			C			E			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	72.3		28.9	9.6	62.7		28.9				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	5.0	56.2		* 43				
Max Q Clear Time (g_c+I1), s	0.0	42.2		22.3	7.0	58.2		4.9				
Green Ext Time (p_c), s	0.0	10.1		1.9	0.0	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	171.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/22/2021

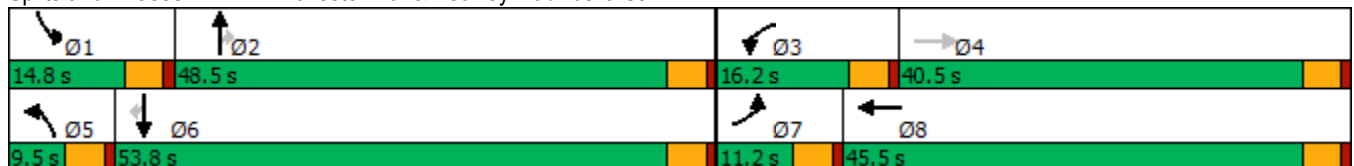


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕	↘	↕	↘	↕	↗	↘	↕	↗
Traffic Volume (vph)	95	33	458	25	118	1719	161	92	2882	185
Future Volume (vph)	95	33	458	25	118	1719	161	92	2882	185
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	11.2	40.5	16.2	45.5	9.5	48.5	48.5	14.8	53.8	53.8
Total Split (%)	9.3%	33.8%	13.5%	37.9%	7.9%	40.4%	40.4%	12.3%	44.8%	44.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	6.7	11.0	11.7	16.0	5.0	45.2	45.2	9.0	49.3	49.3
Actuated g/C Ratio	0.07	0.12	0.12	0.17	0.05	0.48	0.48	0.09	0.52	0.52
v/c Ratio	0.82	0.55	2.29	0.28	1.38	1.11	0.21	0.60	1.71	0.23
Control Delay	90.2	28.9	617.8	13.0	260.9	84.1	3.1	56.2	342.7	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.2	28.9	617.8	13.0	260.9	84.1	3.1	56.2	342.7	5.2
LOS	F	C	F	B	F	F	A	E	F	A
Approach Delay		47.0		460.6		88.0			314.6	
Approach LOS		D		F		F			F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 95
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.29
 Intersection Signal Delay: 241.1
 Intersection LOS: F
 Intersection Capacity Utilization 134.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	33	192	458	25	136	118	1719	161	92	2882	185
Future Volume (veh/h)	95	33	192	458	25	136	118	1719	161	92	2882	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	36	186	498	27	102	128	1868	175	100	3133	191
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	262	233	212	352	314	90	1707	761	126	1779	793
Arrive On Green	0.07	0.15	0.15	0.12	0.20	0.20	0.05	0.48	0.48	0.07	0.50	0.50
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	103	36	186	498	27	102	128	1868	175	100	3133	191
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.6	1.7	11.2	11.7	1.2	5.4	5.0	47.3	6.4	5.4	49.3	6.7
Cycle Q Clear(g_c), s	5.6	1.7	11.2	11.7	1.2	5.4	5.0	47.3	6.4	5.4	49.3	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	121	262	233	212	352	314	90	1707	761	126	1779	793
V/C Ratio(X)	0.85	0.14	0.80	2.35	0.08	0.32	1.42	1.09	0.23	0.79	1.76	0.24
Avail Cap(c_a), veh/h	121	649	579	212	740	660	90	1707	761	186	1779	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	36.6	40.6	43.4	32.2	33.9	46.8	25.6	15.0	45.0	24.6	14.0
Incr Delay (d2), s/veh	38.8	0.2	6.1	623.6	0.1	0.6	239.9	52.4	0.7	7.4	345.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.8	4.7	41.8	0.5	2.1	8.1	29.2	2.4	2.5	102.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.2	36.8	46.7	667.0	32.3	34.5	286.7	78.0	15.7	52.5	369.6	14.7
LnGrp LOS	F	D	D	F	C	C	F	F	B	D	F	B
Approach Vol, veh/h		325			627			2171			3424	
Approach Delay, s/veh		57.5			536.8			85.2			340.6	
Approach LOS		E			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	51.8	16.2	19.0	9.5	53.8	11.2	24.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.3	44.0	11.7	36.0	5.0	49.3	6.7	41.0				
Max Q Clear Time (g_c+I1), s	7.4	49.3	13.7	13.2	7.0	51.3	7.6	7.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			260.6									
HCM 6th LOS			F									

Timings

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↖↗	↑↑	↗
Traffic Volume (vph)	42	20	49	188	20	196	21	1759	137	3359	35
Future Volume (vph)	42	20	49	188	20	196	21	1759	137	3359	35
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	9.6	25.5	25.5
Total Split (s)	9.6	24.9	24.9	23.4	38.7	38.7	9.6	62.1	9.6	62.1	62.1
Total Split (%)	8.0%	20.8%	20.8%	19.5%	32.3%	32.3%	8.0%	51.8%	8.0%	51.8%	51.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	5.0	10.1	10.1	15.5	19.3	19.3	5.0	56.1	5.0	62.1	62.1
Actuated g/C Ratio	0.05	0.10	0.10	0.15	0.19	0.19	0.05	0.54	0.05	0.60	0.60
v/c Ratio	0.51	0.12	0.18	0.75	0.06	0.53	0.26	0.97	0.87	1.67	0.04
Control Delay	72.1	47.3	1.3	61.0	35.0	22.5	58.0	39.6	93.2	324.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.1	47.3	1.3	61.0	35.0	22.5	58.0	39.6	93.2	324.7	0.1
LOS	E	D	A	E	C	C	E	D	F	F	A
Approach Delay		36.2			41.0			39.8		312.5	
Approach LOS		D			D			D		F	

Intersection Summary

























Cycle Length: 120
 Actuated Cycle Length: 103.7
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.67
 Intersection Signal Delay: 205.1
 Intersection LOS: F
 Intersection Capacity Utilization 124.8%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	20	49	188	20	196	21	1759	0	137	3359	35
Future Volume (veh/h)	42	20	49	188	20	196	21	1759	0	137	3359	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	21	33	198	21	149	22	1852	0	144	3536	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	179	152	230	356	301	40	1891	843	165	1981	883
Arrive On Green	0.03	0.10	0.10	0.13	0.19	0.19	0.02	0.53	0.00	0.05	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	44	21	33	198	21	149	22	1852	0	144	3536	34
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.6	1.1	2.0	11.4	1.0	8.8	1.3	53.2	0.0	4.3	58.2	1.0
Cycle Q Clear(g_c), s	2.6	1.1	2.0	11.4	1.0	8.8	1.3	53.2	0.0	4.3	58.2	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	61	179	152	230	356	301	40	1891	843	165	1981	883
V/C Ratio(X)	0.72	0.12	0.22	0.86	0.06	0.49	0.55	0.98	0.00	0.87	1.79	0.04
Avail Cap(c_a), veh/h	85	362	307	321	609	516	85	1892	844	165	1981	883
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	43.2	43.6	44.6	34.6	37.8	50.5	23.9	0.0	49.4	23.1	10.5
Incr Delay (d2), s/veh	7.6	0.3	0.7	12.1	0.1	1.3	4.2	16.0	0.0	34.8	355.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.5	0.8	5.8	0.4	3.5	0.6	22.7	0.0	2.6	117.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	43.5	44.3	56.7	34.7	39.0	54.7	39.9	0.0	84.2	378.5	10.5
LnGrp LOS	E	D	D	E	C	D	D	D	A	F	F	B
Approach Vol, veh/h		98			368			1874			3714	
Approach Delay, s/veh		50.0			48.3			40.1			363.7	
Approach LOS		D			D			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	62.1	18.1	14.7	7.0	64.7	8.2	24.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.6	18.8	* 20	5.0	55.6	5.0	* 34				
Max Q Clear Time (g_c+I1), s	6.3	55.2	13.4	4.0	3.3	60.2	4.6	10.8				
Green Ext Time (p_c), s	0.0	0.4	0.1	0.1	0.0	0.0	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay	239.3
HCM 6th LOS	F

Notes

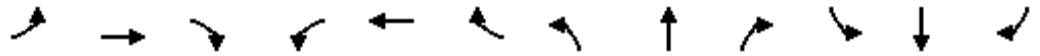
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/22/2021

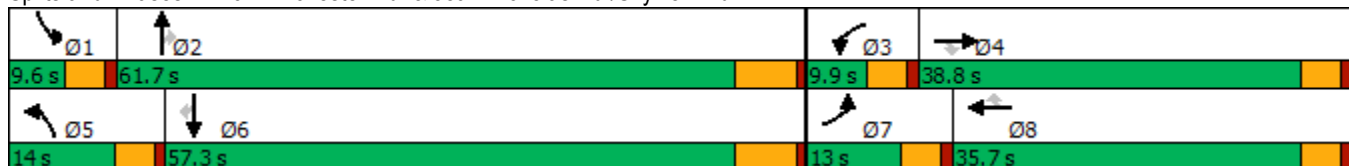


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	148	137	367	16	30	60	207	1504	4	19	2532	148
Future Volume (vph)	148	137	367	16	30	60	207	1504	4	19	2532	148
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.0	38.8	38.8	9.9	35.7	35.7	14.0	61.7	61.7	9.6	57.3	57.3
Total Split (%)	10.8%	32.3%	32.3%	8.3%	29.8%	29.8%	11.7%	51.4%	51.4%	8.0%	47.8%	47.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.4	24.3	24.3	5.2	17.2	17.2	9.5	62.3	62.3	5.1	51.5	51.5
Actuated g/C Ratio	0.09	0.23	0.23	0.05	0.16	0.16	0.09	0.59	0.59	0.05	0.49	0.49
v/c Ratio	1.01	0.35	0.83	0.19	0.11	0.18	1.41	0.78	0.00	0.25	1.58	0.19
Control Delay	126.1	35.8	39.6	58.1	36.9	1.9	251.3	23.5	0.0	60.3	289.4	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.1	35.8	39.6	58.1	36.9	1.9	251.3	23.5	0.0	60.3	289.4	8.6
LOS	F	D	D	E	D	A	F	C	A	E	F	A
Approach Delay		58.4			20.2			51.0			272.4	
Approach LOS		E			C			D			F	

Intersection Summary

























Cycle Length: 120
 Actuated Cycle Length: 104.8
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.58
 Intersection Signal Delay: 166.8
 Intersection LOS: F
 Intersection Capacity Utilization 110.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	137	367	16	30	60	207	1504	4	19	2532	148
Future Volume (veh/h)	148	137	367	16	30	60	207	1504	4	19	2532	148
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	161	149	328	17	33	55	225	1635	4	21	2752	136
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	436	369	33	324	275	156	1910	852	39	1677	748
Arrive On Green	0.08	0.23	0.23	0.02	0.17	0.17	0.09	0.54	0.54	0.02	0.47	0.47
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	161	149	328	17	33	55	225	1635	4	21	2752	136
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.4	7.1	21.6	1.0	1.6	3.2	9.4	42.4	0.1	1.3	50.8	5.3
Cycle Q Clear(g_c), s	8.4	7.1	21.6	1.0	1.6	3.2	9.4	42.4	0.1	1.3	50.8	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	436	369	33	324	275	156	1910	852	39	1677	748
V/C Ratio(X)	1.16	0.34	0.89	0.52	0.10	0.20	1.45	0.86	0.00	0.54	1.64	0.18
Avail Cap(c_a), veh/h	139	592	502	88	539	456	156	1910	852	83	1677	748
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	34.4	39.9	52.4	37.4	38.1	49.1	21.3	11.5	52.1	28.4	16.4
Incr Delay (d2), s/veh	125.3	0.5	13.9	4.6	0.1	0.4	233.4	5.2	0.0	4.4	291.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	3.3	9.7	0.5	0.7	1.3	14.0	16.3	0.0	0.6	86.5	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	174.9	34.9	53.8	56.9	37.6	38.5	282.5	26.5	11.6	56.5	319.8	17.0
LnGrp LOS	F	C	D	E	D	D	F	C	B	E	F	B
Approach Vol, veh/h		638			105			1864			2909	
Approach Delay, s/veh		80.0			41.2			57.4			303.7	
Approach LOS		E			D			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	64.4	6.6	29.8	14.0	57.3	13.0	23.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.2	5.3	* 34	9.4	50.8	8.4	* 31				
Max Q Clear Time (g_c+I1), s	3.3	44.4	3.0	23.6	11.4	52.8	10.4	5.2				
Green Ext Time (p_c), s	0.0	7.3	0.0	1.5	0.0	0.0	0.0	0.3				

Intersection Summary

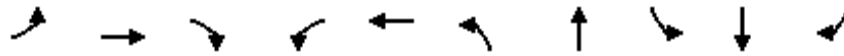
HCM 6th Ctrl Delay	189.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

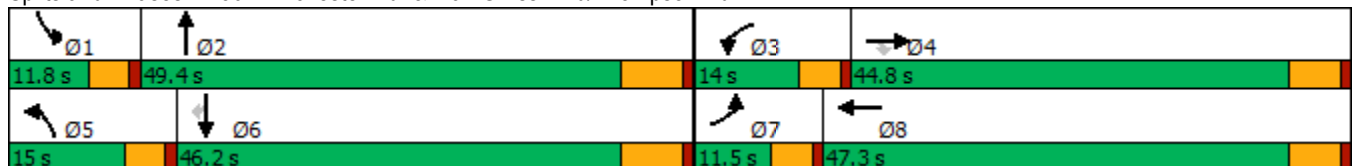


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↗	↘	↗	↘	↗↗	↘	↗↗	↘
Traffic Volume (vph)	297	297	797	538	552	330	1839	145	3207	386
Future Volume (vph)	297	297	797	538	552	330	1839	145	3207	386
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	11.5	44.8	44.8	14.0	47.3	15.0	49.4	11.8	46.2	46.2
Total Split (%)	9.6%	37.3%	37.3%	11.7%	39.4%	12.5%	41.2%	9.8%	38.5%	38.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	6.9	39.0	39.0	9.4	41.5	10.4	42.9	7.2	39.7	39.7
Actuated g/C Ratio	0.06	0.32	0.32	0.08	0.35	0.09	0.36	0.06	0.33	0.33
v/c Ratio	3.16	0.53	0.81	4.19	1.28	2.32	1.77	1.47	2.95	0.70
Control Delay	1015.3	36.8	32.5	1465.8	169.9	639.0	374.6	295.3	896.5	32.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1015.3	36.8	32.5	1465.8	169.9	639.0	374.6	295.3	896.5	32.4
LOS	F	D	C	F	F	F	F	F	F	C
Approach Delay		243.1			713.5		411.2		784.0	
Approach LOS		F			F		F		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 4.19
 Intersection Signal Delay: 587.1
 Intersection LOS: F
 Intersection Capacity Utilization 182.0%
 ICU Level of Service H
 Analysis Period (min) 15























Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	297	297	797	538	552	192	330	1839	217	145	3207	386
Future Volume (veh/h)	297	297	797	538	552	192	330	1839	217	145	3207	386
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	319	319	706	578	594	203	355	1977	207	156	3448	393
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	608	887	140	459	157	154	1163	120	107	1176	524
Arrive On Green	0.06	0.32	0.32	0.08	0.35	0.35	0.09	0.36	0.36	0.06	0.33	0.33
Sat Flow, veh/h	1781	1870	2731	1781	1328	454	1781	3252	335	1781	3554	1585
Grp Volume(v), veh/h	319	319	706	578	0	797	355	1064	1120	156	3448	393
Grp Sat Flow(s),veh/h/ln	1781	1870	1365	1781	0	1782	1781	1777	1810	1781	1777	1585
Q Serve(g_s), s	6.9	16.7	28.2	9.4	0.0	41.5	10.4	42.9	42.9	7.2	39.7	26.5
Cycle Q Clear(g_c), s	6.9	16.7	28.2	9.4	0.0	41.5	10.4	42.9	42.9	7.2	39.7	26.5
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	102	608	887	140	0	616	154	635	647	107	1176	524
V/C Ratio(X)	3.11	0.52	0.80	4.14	0.00	1.29	2.30	1.68	1.73	1.46	2.93	0.75
Avail Cap(c_a), veh/h	102	608	887	140	0	616	154	635	647	107	1176	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	33.0	36.9	55.3	0.0	39.3	54.8	38.5	38.6	56.4	40.2	35.7
Incr Delay (d2), s/veh	976.7	0.8	5.1	1430.9	0.0	143.8	604.7	310.6	335.3	250.9	872.1	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	30.8	7.4	10.0	59.7	0.0	42.4	30.4	72.0	77.8	10.6	158.4	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1033.3	33.8	41.9	1486.2	0.0	183.1	659.5	349.2	373.8	307.3	912.2	41.6
LnGrp LOS	F	C	D	F	A	F	F	F	F	F	F	D
Approach Vol, veh/h		1344			1375			2539			3997	
Approach Delay, s/veh		275.3			730.9			403.5			803.0	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	49.4	14.0	44.8	15.0	46.2	11.5	47.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	7.2	42.9	9.4	39.0	10.4	39.7	6.9	41.5				
Max Q Clear Time (g_c+I1), s	9.2	44.9	11.4	30.2	12.4	41.7	8.9	43.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			606.0									
HCM 6th LOS			F									

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/24/2021

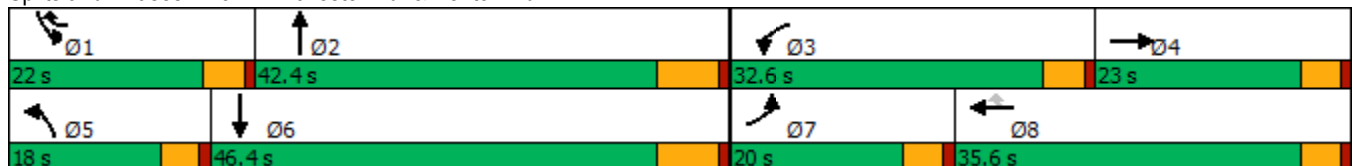


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖↗	↑	↖	↖	↑↑↗	↖	↑↑
Traffic Volume (vph)	147	257	481	357	639	614	1600	993	3331
Future Volume (vph)	147	257	481	357	639	614	1600	993	3331
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	1	5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.5	14.6	30.6	30.6	9.6	9.5	38.5	9.6	16.5
Total Split (s)	20.0	23.0	32.6	35.6	22.0	18.0	42.4	22.0	46.4
Total Split (%)	16.7%	19.2%	27.2%	29.7%	18.3%	15.0%	35.3%	18.3%	38.7%
Yellow Time (s)	3.5	3.6	3.6	3.6	3.6	3.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.6	4.6	4.6	4.6	4.5	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	13.9	20.1	22.2	28.5	50.6	13.5	36.0	17.4	40.0
Actuated g/C Ratio	0.12	0.17	0.19	0.25	0.44	0.12	0.31	0.15	0.34
v/c Ratio	0.75	2.68	0.77	0.85	0.92	3.24	1.27	3.94	3.09
Control Delay	72.2	782.0	53.0	60.1	47.5	1037.2	160.6	1346.8	961.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.2	782.0	53.0	60.1	47.5	1037.2	160.6	1346.8	961.2
LOS	E	F	D	E	D	F	F	F	F
Approach Delay		681.0		52.4			381.4		1045.3
Approach LOS		F		D			F		F

Intersection Summary

























Cycle Length: 120
 Actuated Cycle Length: 116.1
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.94
 Intersection Signal Delay: 677.7
 Intersection LOS: F
 Intersection Capacity Utilization 215.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (veh/h)	147	257	630	481	357	639	614	1600	282	993	3331	219
Future Volume (veh/h)	147	257	630	481	357	639	614	1600	282	993	3331	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	279	685	506	388	506	667	1684	245	1045	3506	238
Peak Hour Factor	0.92	0.92	0.92	0.95	0.92	0.95	0.92	0.95	0.95	0.95	0.95	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	96	235	591	496	656	206	1384	200	265	1154	77
Arrive On Green	0.11	0.20	0.20	0.17	0.27	0.27	0.12	0.31	0.31	0.15	0.34	0.34
Sat Flow, veh/h	1781	480	1178	3456	1870	1585	1781	4505	652	1781	3380	227
Grp Volume(v), veh/h	160	0	964	506	388	506	667	1270	659	1045	1824	1920
Grp Sat Flow(s),veh/h/ln	1781	0	1658	1728	1870	1585	1781	1702	1753	1781	1777	1830
Q Serve(g_s), s	10.3	0.0	23.3	16.6	22.5	31.0	13.5	35.9	35.9	17.4	39.9	39.9
Cycle Q Clear(g_c), s	10.3	0.0	23.3	16.6	22.5	31.0	13.5	35.9	35.9	17.4	39.9	39.9
Prop In Lane	1.00		0.71	1.00		1.00	1.00		0.37	1.00		0.12
Lane Grp Cap(c), veh/h	188	0	330	591	496	656	206	1046	539	265	607	625
V/C Ratio(X)	0.85	0.00	2.92	0.86	0.78	0.77	3.24	1.21	1.22	3.94	3.01	3.07
Avail Cap(c_a), veh/h	236	0	330	828	496	656	206	1046	539	265	607	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	0.0	46.8	47.0	39.8	29.5	51.7	40.5	40.5	49.7	38.5	38.5
Incr Delay (d2), s/veh	20.4	0.0	871.3	6.4	7.9	5.6	1021.1	105.6	116.1	1332.1	907.4	937.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	89.5	7.6	11.4	13.0	64.1	29.3	31.7	105.5	168.9	179.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.8	0.0	918.1	53.5	47.7	35.1	1072.8	146.1	156.6	1381.8	945.9	975.9
LnGrp LOS	E	A	F	D	D	D	F	F	F	F	F	F
Approach Vol, veh/h		1124			1400			2596			4789	
Approach Delay, s/veh		797.6			45.2			386.9			1053.0	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	42.4	24.6	27.9	18.0	46.4	16.9	35.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	4.6	4.5	6.5	4.5	4.6				
Max Green Setting (Gmax), s	17.4	35.9	28.0	18.4	13.5	39.9	15.5	31.0				
Max Q Clear Time (g_c+I1), s	19.4	37.9	18.6	25.3	15.5	41.9	12.3	33.0				
Green Ext Time (p_c), s	0.0	0.0	1.4	0.0	0.0	0.0	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			707.1									
HCM 6th LOS			F									

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/22/2021

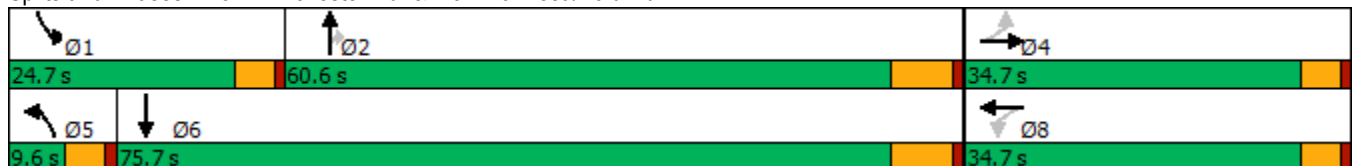


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↑↑	↗	↖	↑↑
Traffic Volume (vph)	387	81	393	56	47	1996	390	407	3723
Future Volume (vph)	387	81	393	56	47	1996	390	407	3723
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	9.6	60.6	60.6	24.7	75.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	8.0%	50.5%	50.5%	20.6%	63.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	30.0	30.0	30.0	30.0	5.0	54.1	54.1	20.1	69.2
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.04	0.45	0.45	0.17	0.58
v/c Ratio	1.60	0.41	1.69	0.37	0.66	1.29	0.49	1.42	2.06
Control Delay	318.0	30.3	357.1	22.1	95.3	165.7	14.4	244.5	500.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	318.0	30.3	357.1	22.1	95.3	165.7	14.4	244.5	500.1
LOS	F	C	F	C	F	F	B	F	F
Approach Delay		225.8		255.6		140.1			476.6
Approach LOS		F		F		F			F

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.06
 Intersection Signal Delay: 341.0
 Intersection LOS: F
 Intersection Capacity Utilization 166.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	387	81	101	393	56	114	47	1996	390	407	3723	311
Future Volume (veh/h)	387	81	101	393	56	114	47	1996	390	407	3723	311
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	399	84	93	405	58	113	48	2058	328	420	3838	289
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	201	223	256	142	276	74	1602	715	298	1931	143
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.45	0.45	0.17	0.58	0.58
Sat Flow, veh/h	1214	805	891	1207	567	1105	1781	3554	1585	1781	3348	248
Grp Volume(v), veh/h	399	0	177	405	0	171	48	2058	328	420	2011	2116
Grp Sat Flow(s),veh/h/ln	1214	0	1696	1207	0	1672	1781	1777	1585	1781	1777	1819
Q Serve(g_s), s	19.7	0.0	10.5	19.5	0.0	10.3	3.2	54.1	17.2	20.1	69.2	69.2
Cycle Q Clear(g_c), s	30.0	0.0	10.5	30.0	0.0	10.3	3.2	54.1	17.2	20.1	69.2	69.2
Prop In Lane	1.00		0.53	1.00		0.66	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	260	0	424	256	0	418	74	1602	715	298	1025	1049
V/C Ratio(X)	1.54	0.00	0.42	1.58	0.00	0.41	0.65	1.28	0.46	1.41	1.96	2.02
Avail Cap(c_a), veh/h	260	0	424	256	0	418	74	1602	715	298	1025	1049
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	0.0	37.7	52.5	0.0	37.6	56.6	33.0	22.8	50.0	25.4	25.4
Incr Delay (d2), s/veh	259.7	0.0	0.2	278.8	0.0	0.6	36.2	132.9	0.5	202.3	436.6	461.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.6	0.0	4.4	27.7	0.0	4.3	2.1	50.4	6.0	25.3	148.8	159.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	312.1	0.0	37.9	331.4	0.0	38.2	92.8	165.9	23.3	252.3	462.0	486.5
LnGrp LOS	F	A	D	F	A	D	F	F	C	F	F	F
Approach Vol, veh/h		576			576			2434			4547	
Approach Delay, s/veh		227.9			244.3			145.2			454.0	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.7	60.6		34.7	9.6	75.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	20.1	54.1		* 30	5.0	69.2		* 30				
Max Q Clear Time (g_c+I1), s	22.1	56.1		32.0	5.2	71.2		32.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	330.7
HCM 6th LOS	F

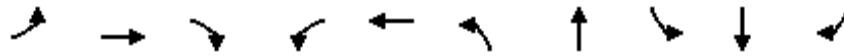
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	161	9	248	77	6	174	1858	24	3668	112
Future Volume (vph)	161	9	248	77	6	174	1858	24	3668	112
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	10.0	73.7	9.6	73.3	73.3
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	8.3%	61.4%	8.0%	61.1%	61.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	19.2	19.2	19.2		19.2	5.4	71.5	5.0	67.0	67.0
Actuated g/C Ratio	0.18	0.18	0.18		0.18	0.05	0.67	0.05	0.62	0.62
v/c Ratio	0.70	0.03	0.75		0.39	2.03	0.92	0.30	1.73	0.12
Control Delay	56.7	34.7	42.7		40.4	531.4	25.7	62.0	352.7	5.7
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	34.7	42.7		40.4	531.4	25.7	62.0	352.7	5.7
LOS	E	C	D		D	F	C	E	F	A
Approach Delay		47.9			40.4		65.2		340.6	
Approach LOS		D			D		E		F	

Intersection Summary

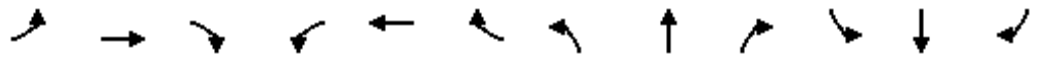
Cycle Length: 120	
Actuated Cycle Length: 107.5	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.03	
Intersection Signal Delay: 224.0	Intersection LOS: F
Intersection Capacity Utilization 138.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way

Ø1	Ø2	Ø4
9.6 s	73.7 s	36.7 s
Ø5	Ø6	Ø8
10 s	73.3 s	36.7 s

HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	9	248	77	6	12	174	1858	191	24	3668	112
Future Volume (veh/h)	161	9	248	77	6	12	174	1858	191	24	3668	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	9	191	80	6	10	181	1935	192	25	3821	108
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	275	233	212	17	19	93	2208	215	44	2301	1026
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.68	0.68	0.02	0.65	0.65
Sat Flow, veh/h	1397	1870	1585	1007	119	131	1781	3271	319	1781	3554	1585
Grp Volume(v), veh/h	168	9	191	96	0	0	181	1036	1091	25	3821	108
Grp Sat Flow(s),veh/h/ln	1397	1870	1585	1257	0	0	1781	1777	1813	1781	1777	1585
Q Serve(g_s), s	3.6	0.4	12.1	6.8	0.0	0.0	5.4	46.9	50.6	1.4	66.8	2.7
Cycle Q Clear(g_c), s	10.8	0.4	12.1	7.2	0.0	0.0	5.4	46.9	50.6	1.4	66.8	2.7
Prop In Lane	1.00		1.00	0.83		0.10	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	289	275	233	249	0	0	93	1200	1224	44	2301	1026
V/C Ratio(X)	0.58	0.03	0.82	0.39	0.00	0.00	1.94	0.86	0.89	0.57	1.66	0.11
Avail Cap(c_a), veh/h	518	580	492	452	0	0	93	1200	1224	86	2301	1026
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	37.7	42.7	40.5	0.0	0.0	48.9	13.1	13.7	49.7	18.2	6.9
Incr Delay (d2), s/veh	1.8	0.0	7.0	1.0	0.0	0.0	460.1	6.7	8.5	4.2	299.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.2	5.1	2.3	0.0	0.0	14.2	15.5	17.5	0.7	115.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	37.8	49.7	41.5	0.0	0.0	508.9	19.8	22.2	53.9	317.3	6.9
LnGrp LOS	D	D	D	D	A	A	F	B	C	D	F	A
Approach Vol, veh/h		368			96			2308			3954	
Approach Delay, s/veh		46.7			41.5			59.3			307.1	
Approach LOS		D			D			E			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	76.1		19.8	10.0	73.3		19.8				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	5.4	66.8		* 32				
Max Q Clear Time (g_c+I1), s	3.4	52.6		14.1	7.4	68.8		9.2				
Green Ext Time (p_c), s	0.0	11.5		1.1	0.0	0.0		0.5				

Intersection Summary

HCM 6th Ctrl Delay	204.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
1: I-215 SB Ramps & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

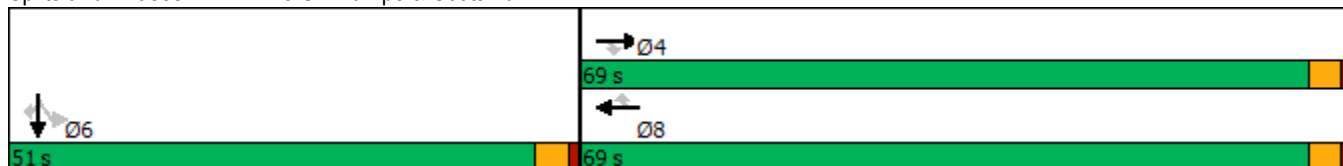


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	1508	548	1953	709	1504	0	334
Future Volume (vph)	1508	548	1953	709	1504	0	334
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	4		8			6	
Permitted Phases		4		8	6		6
Detector Phase	4	4	8	8	6	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	69.0	69.0	69.0	69.0	51.0	51.0	51.0
Total Split (%)	57.5%	57.5%	57.5%	57.5%	42.5%	42.5%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	65.0	65.0	65.0	65.0	47.0	47.0	47.0
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.39	0.39	0.39
v/c Ratio	0.82	0.53	1.06	0.62	1.13	0.29	0.29
Control Delay	27.2	4.3	67.0	3.5	103.1	25.4	25.4
Queue Delay	0.0	0.0	16.6	0.7	0.0	0.0	0.0
Total Delay	27.2	4.3	83.6	4.2	103.1	25.4	25.4
LOS	C	A	F	A	F	C	C
Approach Delay	21.1		62.4			89.0	
Approach LOS	C		E			F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 56.9
 Intersection LOS: E
 Intersection Capacity Utilization 103.6%
 ICU Level of Service G
 Analysis Period (min) 15













Splits and Phases: 1: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
1: I-215 SB Ramps & Scott Rd.

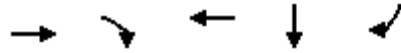
Keller Crossing (JN:13649)

06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖	↗	↗
Traffic Volume (veh/h)	0	1508	548	0	1953	709	0	0	0	1504	0	334
Future Volume (veh/h)	0	1508	548	0	1953	709	0	0	0	1504	0	334
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1571	568	0	2034	664				1567	0	332
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	1925	859	0	1925	859				1395	0	1242
Arrive On Green	0.00	0.54	0.54	0.00	0.54	0.54				0.39	0.00	0.39
Sat Flow, veh/h	0	3647	1585	0	3647	1585				3563	0	3170
Grp Volume(v), veh/h	0	1571	568	0	2034	664				1567	0	332
Grp Sat Flow(s),veh/h/ln	0	1777	1585	0	1777	1585				1781	0	1585
Q Serve(g_s), s	0.0	43.6	30.7	0.0	65.0	39.7				47.0	0.0	8.5
Cycle Q Clear(g_c), s	0.0	43.6	30.7	0.0	65.0	39.7				47.0	0.0	8.5
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1925	859	0	1925	859				1395	0	1242
V/C Ratio(X)	0.00	0.82	0.66	0.00	1.06	0.77				1.12	0.00	0.27
Avail Cap(c_a), veh/h	0	1925	859	0	1925	859				1395	0	1242
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	22.6	19.6	0.0	27.5	21.7				36.5	0.0	24.8
Incr Delay (d2), s/veh	0.0	2.9	1.9	0.0	37.4	4.4				65.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.3	10.8	0.0	34.6	14.4				31.8	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.4	21.5	0.0	64.9	26.1				101.8	0.0	24.9
LnGrp LOS	A	C	C	A	F	C				F	A	C
Approach Vol, veh/h		2139			2698						1899	
Approach Delay, s/veh		24.4			55.3						88.4	
Approach LOS		C			E						F	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				69.0		51.0		69.0				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				65.0		47.0		65.0				
Max Q Clear Time (g_c+I1), s				45.6		49.0		67.0				
Green Ext Time (p_c), s				13.1		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			54.8									
HCM 6th LOS			D									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

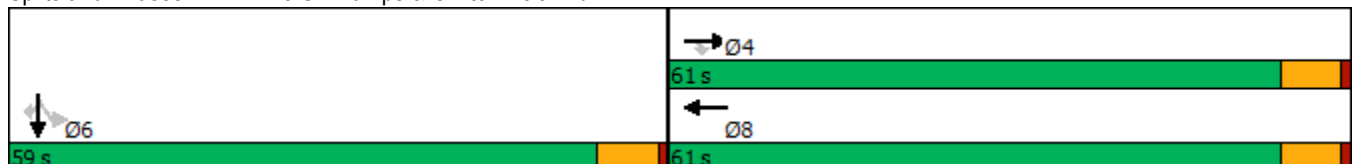


Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑↑
Traffic Volume (vph)	2380	530	1821	0	844
Future Volume (vph)	2380	530	1821	0	844
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	4		8	6	
Permitted Phases		4			6
Detector Phase	4	4	8	6	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.5	23.5	16.5	16.5	16.5
Total Split (s)	61.0	61.0	61.0	59.0	59.0
Total Split (%)	50.8%	50.8%	50.8%	49.2%	49.2%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	Min	Min	Min	None	None
Act Effct Green (s)	54.7	54.7	54.7	47.6	47.6
Actuated g/C Ratio	0.47	0.47	0.47	0.41	0.41
v/c Ratio	1.03	0.55	0.79	0.85	0.75
Control Delay	57.1	3.9	29.2	42.8	32.2
Queue Delay	0.0	0.0	0.1	0.0	0.0
Total Delay	57.1	3.9	29.3	42.8	32.2
LOS	E	A	C	D	C
Approach Delay	47.4		29.3	36.5	
Approach LOS	D		C	D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.4
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 39.5
 Intersection LOS: D
 Intersection Capacity Utilization 89.8%
 ICU Level of Service E
 Analysis Period (min) 15













Splits and Phases: 2: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)

06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	2380	530	0	1821	0	0	0	0	595	0	844
Future Volume (veh/h)	0	2380	530	0	1821	0	0	0	0	595	0	844
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	2479	500	0	1897	0				620	0	503
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	2
Cap, veh/h	0	2501	754	0	2501	0				701	0	1097
Arrive On Green	0.00	0.49	0.49	0.00	0.49	0.00				0.39	0.00	0.39
Sat Flow, veh/h	0	5274	1539	0	5443	0				1781	0	2790
Grp Volume(v), veh/h	0	2479	500	0	1897	0				620	0	503
Grp Sat Flow(s),veh/h/ln	0	1702	1539	0	1702	0				1781	0	1395
Q Serve(g_s), s	0.0	53.6	27.3	0.0	33.5	0.0				36.0	0.0	14.8
Cycle Q Clear(g_c), s	0.0	53.6	27.3	0.0	33.5	0.0				36.0	0.0	14.8
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2501	754	0	2501	0				701	0	1097
V/C Ratio(X)	0.00	0.99	0.66	0.00	0.76	0.00				0.89	0.00	0.46
Avail Cap(c_a), veh/h	0	2501	754	0	2501	0				841	0	1316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.1	21.4	0.0	23.0	0.0				31.4	0.0	25.0
Incr Delay (d2), s/veh	0.0	15.9	2.2	0.0	1.4	0.0				9.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	22.6	9.2	0.0	12.1	0.0				17.0	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	44.0	23.6	0.0	24.4	0.0				41.2	0.0	25.3
LnGrp LOS	A	D	C	A	C	A				D	A	C
Approach Vol, veh/h		2979			1897						1123	
Approach Delay, s/veh		40.6			24.4						34.1	
Approach LOS		D			C						C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				61.0		50.3		61.0				
Change Period (Y+Rc), s				6.5		6.5		6.5				
Max Green Setting (Gmax), s				54.5		52.5		54.5				
Max Q Clear Time (g_c+I1), s				55.6		38.0		35.5				
Green Ext Time (p_c), s				0.0		5.7		12.1				
Intersection Summary												
HCM 6th Ctrl Delay			34.3									
HCM 6th LOS			C									

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

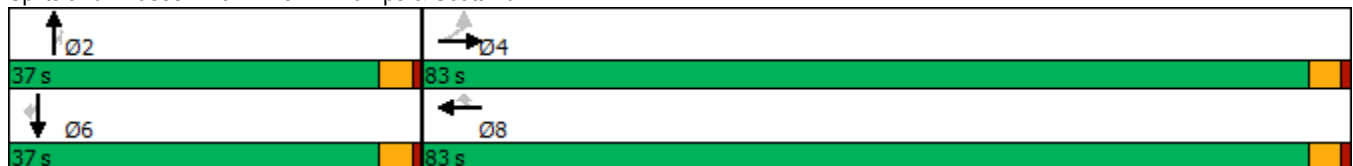


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗↗	↗↗	↖	↖	↖	↖	↖
Traffic Volume (vph)	302	2705	1814	1207	0	1268	0	849
Future Volume (vph)	302	2705	1814	1207	0	1268	0	849
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4	8		2		6	
Permitted Phases	4			8		2		6
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0	9.0
Total Split (s)	83.0	83.0	83.0	83.0	37.0	37.0	37.0	37.0
Total Split (%)	69.2%	69.2%	69.2%	69.2%	30.8%	30.8%	30.8%	30.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	79.0	79.0	79.0	79.0	33.0	33.0	33.0	33.0
Actuated g/C Ratio	0.66	0.66	0.66	0.66	0.28	0.28	0.28	0.28
v/c Ratio	5.02	1.20	0.80	0.88	1.56	1.55	1.02	1.02
Control Delay	1853.2	115.9	18.3	10.8	293.5	292.5	89.4	88.9
Queue Delay	0.0	0.3	47.6	5.0	0.0	0.0	0.0	0.0
Total Delay	1853.2	116.2	66.0	15.8	293.5	292.5	89.4	88.9
LOS	F	F	E	B	F	F	F	F
Approach Delay		290.4	45.9		293.0		89.1	
Approach LOS		F	D		F		F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 5.02	
Intersection Signal Delay: 179.2	Intersection LOS: F
Intersection Capacity Utilization 133.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗		↗	↗		↗	↗
Traffic Volume (veh/h)	302	2705	0	0	1814	1207	0	0	1268	0	0	849
Future Volume (veh/h)	302	2705	0	0	1814	1207	0	0	1268	0	0	849
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	311	2789	0	0	1870	832	0	0	895	0	0	634
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	90	2340	0	0	2340	1043	0	514	872	0	514	872
Arrive On Green	0.66	0.66	0.00	0.00	0.66	0.66	0.00	0.00	0.28	0.00	0.00	0.28
Sat Flow, veh/h	107	3647	0	0	3647	1585	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	311	2789	0	0	1870	832	0	0	895	0	0	634
Grp Sat Flow(s),veh/h/ln	107	1777	0	0	1777	1585	0	1870	1585	0	1870	1585
Q Serve(g_s), s	33.5	79.0	0.0	0.0	45.5	45.3	0.0	0.0	33.0	0.0	0.0	21.7
Cycle Q Clear(g_c), s	79.0	79.0	0.0	0.0	45.5	45.3	0.0	0.0	33.0	0.0	0.0	21.7
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	90	2340	0	0	2340	1043	0	514	872	0	514	872
V/C Ratio(X)	3.46	1.19	0.00	0.00	0.80	0.80	0.00	0.00	1.03	0.00	0.00	0.73
Avail Cap(c_a), veh/h	90	2340	0	0	2340	1043	0	514	872	0	514	872
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	54.4	20.5	0.0	0.0	14.8	14.7	0.0	0.0	43.5	0.0	0.0	39.4
Incr Delay (d2), s/veh	1134.3	91.0	0.0	0.0	2.1	4.4	0.0	0.0	37.5	0.0	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.0	56.4	0.0	0.0	16.1	15.0	0.0	0.0	16.9	0.0	0.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1188.7	111.5	0.0	0.0	16.8	19.2	0.0	0.0	81.0	0.0	0.0	42.5
LnGrp LOS	F	F	A	A	B	B	A	A	F	A	A	D
Approach Vol, veh/h		3100			2702			895				634
Approach Delay, s/veh		219.6			17.6			81.0				42.5
Approach LOS		F			B			F				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.0		83.0		37.0		83.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		33.0		79.0		33.0		79.0				
Max Q Clear Time (g_c+I1), s		35.0		81.0		23.7		47.5				
Green Ext Time (p_c), s		0.0		0.0		1.9		23.3				

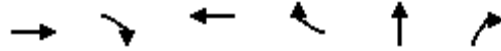
Intersection Summary

HCM 6th Ctrl Delay	112.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

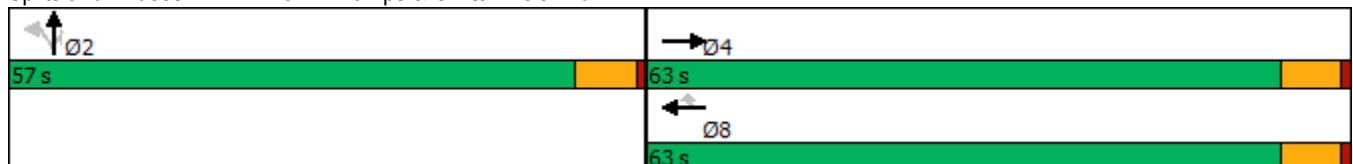


Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑↑↑↑	↑	↑↑↑↑	↑	↔	↑
Traffic Volume (vph)	2111	864	2346	433	0	1321
Future Volume (vph)	2111	864	2346	433	0	1321
Turn Type	NA	Free	NA	Perm	NA	Perm
Protected Phases	4		8		2	
Permitted Phases		Free		8		2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	23.5		16.5	16.5	16.5	16.5
Total Split (s)	63.0		63.0	63.0	57.0	57.0
Total Split (%)	52.5%		52.5%	52.5%	47.5%	47.5%
Yellow Time (s)	5.5		5.5	5.5	5.5	5.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	6.5	6.5	6.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Min		Min	Min	None	None
Act Effct Green (s)	56.5	120.0	56.5	56.5	50.5	50.5
Actuated g/C Ratio	0.47	1.00	0.47	0.47	0.42	0.42
v/c Ratio	0.89	0.56	0.99	0.49	1.41	1.43
Control Delay	34.8	1.5	47.9	7.8	222.2	233.1
Queue Delay	0.8	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	1.5	47.9	7.8	222.2	233.1
LOS	D	A	D	A	F	F
Approach Delay	25.7		41.7		227.5	
Approach LOS	C		D		F	

Intersection Summary













Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.43	
Intersection Signal Delay: 81.5	Intersection LOS: F
Intersection Capacity Utilization 115.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 4: I-215 NB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗		↕	↗			
Traffic Volume (veh/h)	0	2111	864	0	2346	433	577	0	1321	0	0	0
Future Volume (veh/h)	0	2111	864	0	2346	433	577	0	1321	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	0	2132	0	0	2370	437	583	241	744			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2			
Cap, veh/h	0	2404		0	2404	730	538	222	667			
Arrive On Green	0.00	0.47	0.00	0.00	0.47	0.47	0.42	0.42	0.42			
Sat Flow, veh/h	0	5274	1585	0	5274	1551	1278	528	1585			
Grp Volume(v), veh/h	0	2132	0	0	2370	437	824	0	744			
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1702	1551	1806	0	1585			
Q Serve(g_s), s	0.0	45.5	0.0	0.0	55.0	24.9	50.5	0.0	50.5			
Cycle Q Clear(g_c), s	0.0	45.5	0.0	0.0	55.0	24.9	50.5	0.0	50.5			
Prop In Lane	0.00		1.00	0.00		1.00	0.71		1.00			
Lane Grp Cap(c), veh/h	0	2404		0	2404	730	760	0	667			
V/C Ratio(X)	0.00	0.89		0.00	0.99	0.60	1.08	0.00	1.12			
Avail Cap(c_a), veh/h	0	2404		0	2404	730	760	0	667			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	28.8	0.0	0.0	31.4	23.4	34.8	0.0	34.8			
Incr Delay (d2), s/veh	0.0	4.4	0.0	0.0	15.1	1.4	57.8	0.0	71.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	17.6	0.0	0.0	23.4	8.6	33.7	0.0	32.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	33.3	0.0	0.0	46.5	24.7	92.5	0.0	105.7			
LnGrp LOS	A	C		A	D	C	F	A	F			
Approach Vol, veh/h		2132	A		2807			1568				
Approach Delay, s/veh		33.3			43.1			98.8				
Approach LOS		C			D			F				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		57.0		63.0				63.0				
Change Period (Y+Rc), s		6.5		6.5				6.5				
Max Green Setting (Gmax), s		50.5		56.5				56.5				
Max Q Clear Time (g_c+I1), s		52.5		47.5				57.0				
Green Ext Time (p_c), s		0.0		7.3				0.0				
Intersection Summary												
HCM 6th Ctrl Delay			53.3									
HCM 6th LOS			D									
Notes												
User approved volume balancing among the lanes for turning movement.												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

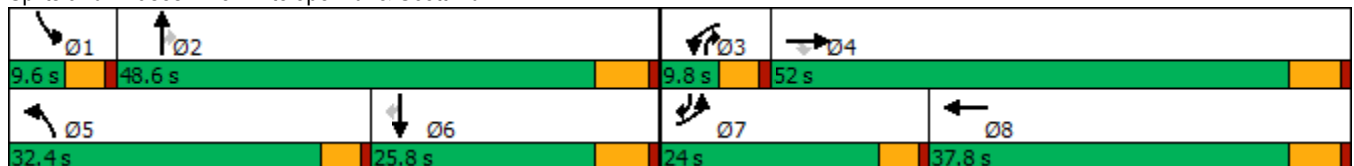


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↗	↖↗	↑↑↗	↖↗	↑↑	↗	↖	↑	↗
Traffic Volume (vph)	625	2791	557	120	1992	673	260	231	168	151	355
Future Volume (vph)	625	2791	557	120	1992	673	260	231	168	151	355
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	24.0	52.0	52.0	9.8	37.8	32.4	48.6	9.8	9.6	25.8	24.0
Total Split (%)	20.0%	43.3%	43.3%	8.2%	31.5%	27.0%	40.5%	8.2%	8.0%	21.5%	20.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	19.5	46.4	46.4	5.2	32.1	25.7	35.4	46.5	5.0	14.8	35.5
Actuated g/C Ratio	0.17	0.41	0.41	0.05	0.28	0.23	0.31	0.41	0.04	0.13	0.31
v/c Ratio	1.10	2.00	0.78	0.79	1.55	0.90	0.24	0.34	2.24	0.64	0.65
Control Delay	111.7	476.5	30.2	87.2	280.6	58.3	28.9	12.9	621.5	59.5	27.0
Queue Delay	0.1	0.3	46.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	111.8	476.8	76.5	87.2	280.6	58.3	28.9	12.9	621.5	59.5	27.0
LOS	F	F	E	F	F	E	C	B	F	E	C
Approach Delay		363.3			270.4		42.7			182.5	
Approach LOS		F			F		D			F	

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 112.9
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.24
 Intersection Signal Delay: 275.9
 Intersection LOS: F
 Intersection Capacity Utilization 126.2%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  		 	 		 		
Traffic Volume (veh/h)	625	2791	557	120	1992	145	673	260	231	168	151	355
Future Volume (veh/h)	625	2791	557	120	1992	145	673	260	231	168	151	355
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	651	2907	371	125	2075	143	701	271	149	175	157	251
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	583	1427	637	156	1358	93	762	1169	593	77	284	505
Arrive On Green	0.17	0.40	0.40	0.05	0.28	0.28	0.22	0.33	0.33	0.04	0.15	0.15
Sat Flow, veh/h	3456	3554	1585	3456	4880	334	3456	3554	1585	1781	1870	1564
Grp Volume(v), veh/h	651	2907	371	125	1444	774	701	271	149	175	157	251
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1810	1728	1777	1585	1781	1870	1564
Q Serve(g_s), s	19.4	46.2	21.0	4.1	32.0	32.0	22.8	6.4	7.5	5.0	8.9	14.9
Cycle Q Clear(g_c), s	19.4	46.2	21.0	4.1	32.0	32.0	22.8	6.4	7.5	5.0	8.9	14.9
Prop In Lane	1.00		1.00	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	583	1427	637	156	947	504	762	1169	593	77	284	505
V/C Ratio(X)	1.12	2.04	0.58	0.80	1.52	1.54	0.92	0.23	0.25	2.26	0.55	0.50
Avail Cap(c_a), veh/h	583	1427	637	156	947	504	835	1322	661	77	325	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	34.4	26.9	54.4	41.5	41.5	43.8	28.0	24.9	55.0	45.2	31.6
Incr Delay (d2), s/veh	73.7	469.0	1.4	23.2	241.4	251.8	13.8	0.1	0.2	606.1	1.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.0	111.5	7.8	2.2	44.5	48.8	10.8	2.6	2.7	15.2	4.2	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.5	503.4	28.2	77.6	282.9	293.3	57.6	28.1	25.1	661.1	46.8	32.4
LnGrp LOS	F	F	C	E	F	F	E	C	C	F	D	C
Approach Vol, veh/h		3929			2343			1121				583
Approach Delay, s/veh		395.2			275.4			46.2				225.0
Approach LOS		F			F			D				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	43.6	9.8	52.0	30.0	23.3	24.0	37.8				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.0	42.8	5.2	46.2	27.8	20.0	19.4	32.0				
Max Q Clear Time (g_c+I1), s	7.0	9.5	6.1	48.2	24.8	16.9	21.4	34.0				
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.5	0.5	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			298.5									
HCM 6th LOS			F									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

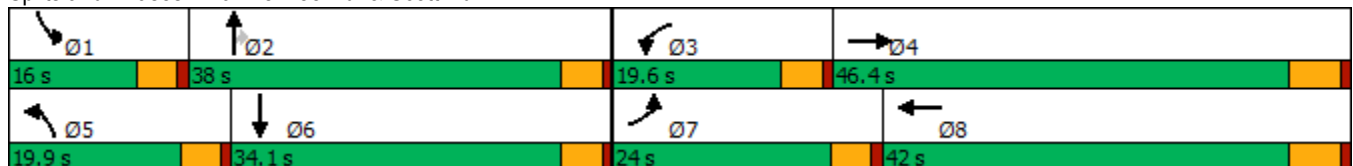


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	216	2388	332	1956	137	680	522	421	340
Future Volume (vph)	216	2388	332	1956	137	680	522	421	340
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	9.6	14.7	14.7	9.6	28.7
Total Split (s)	24.0	46.4	19.6	42.0	19.9	38.0	38.0	16.0	34.1
Total Split (%)	20.0%	38.7%	16.3%	35.0%	16.6%	31.7%	31.7%	13.3%	28.4%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.7	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effct Green (s)	17.8	40.6	15.0	37.8	13.0	33.3	33.3	11.4	31.7
Actuated g/C Ratio	0.15	0.34	0.12	0.32	0.11	0.28	0.28	0.10	0.26
v/c Ratio	0.87	2.27	1.58	2.27	0.75	1.39	0.88	2.64	0.99
Control Delay	79.6	595.3	316.2	596.2	75.4	220.7	38.8	775.4	82.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	595.3	316.2	596.2	75.4	220.7	38.8	775.4	82.6
LOS	E	F	F	F	E	F	D	F	F
Approach Delay		555.2		561.7		135.0			416.2
Approach LOS		F		F		F			F

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.64
 Intersection Signal Delay: 468.4
 Intersection LOS: F
 Intersection Capacity Utilization 165.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	2388	168	332	1956	405	137	680	522	421	340	113
Future Volume (veh/h)	216	2388	168	332	1956	405	137	680	522	421	340	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	227	2514	163	349	2059	412	144	716	432	443	358	91
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	1145	73	223	950	183	171	519	432	169	397	101
Arrive On Green	0.14	0.34	0.34	0.13	0.32	0.32	0.10	0.28	0.28	0.09	0.28	0.28
Sat Flow, veh/h	1781	3385	217	1781	2960	570	1781	1870	1558	1781	1434	365
Grp Volume(v), veh/h	227	1304	1373	349	1204	1267	144	716	432	443	0	449
Grp Sat Flow(s),veh/h/ln	1781	1777	1825	1781	1777	1753	1781	1870	1558	1781	0	1799
Q Serve(g_s), s	15.0	40.6	40.6	15.0	38.5	38.5	9.5	33.3	33.3	11.4	0.0	28.9
Cycle Q Clear(g_c), s	15.0	40.6	40.6	15.0	38.5	38.5	9.5	33.3	33.3	11.4	0.0	28.9
Prop In Lane	1.00		0.12	1.00		0.33	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	254	601	617	223	570	563	171	519	432	169	0	498
V/C Ratio(X)	0.89	2.17	2.22	1.57	2.11	2.25	0.84	1.38	1.00	2.62	0.00	0.90
Avail Cap(c_a), veh/h	288	601	617	223	570	563	227	519	432	169	0	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.6	39.7	39.7	52.5	40.7	40.7	53.4	43.3	43.3	54.3	0.0	41.8
Incr Delay (d2), s/veh	24.3	531.7	555.9	276.0	506.1	569.4	15.2	182.6	43.0	744.9	0.0	19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	105.6	112.6	23.6	96.2	104.8	5.0	41.5	17.4	40.1	0.0	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	571.4	595.6	328.5	546.9	610.1	68.6	225.9	86.3	799.2	0.0	61.4
LnGrp LOS	E	F	F	F	F	F	E	F	F	F	A	E
Approach Vol, veh/h		2904			2820			1292				892
Approach Delay, s/veh		544.1			548.3			161.7				427.8
Approach LOS		F			F			F				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	38.0	19.6	46.4	16.1	37.9	21.7	44.3				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	11.4	* 33	15.0	40.6	15.3	* 29	19.4	36.2				
Max Q Clear Time (g_c+I1), s	13.4	35.3	17.0	42.6	11.5	30.9	17.0	40.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			470.0									
HCM 6th LOS			F									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
7: Whitewood Rd. & Clinton Keith Rd.

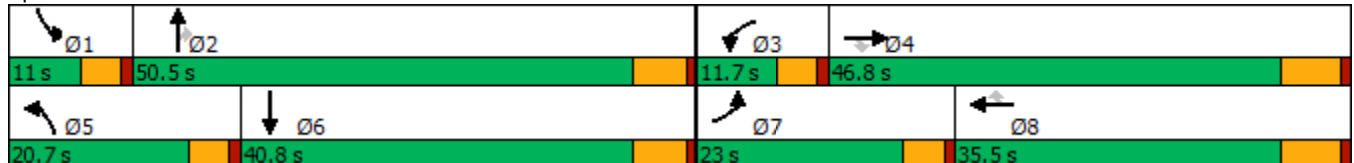
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	852	2118	238	233	1714	381	320	965	252	313	331
Future Volume (vph)	852	2118	238	233	1714	381	320	965	252	313	331
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	8	5	2	2	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	44.8	44.8	9.6	38.8
Total Split (s)	23.0	46.8	46.8	11.7	35.5	35.5	20.7	50.5	50.5	11.0	40.8
Total Split (%)	19.2%	39.0%	39.0%	9.8%	29.6%	29.6%	17.3%	42.1%	42.1%	9.2%	34.0%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	18.4	40.3	40.3	7.1	29.0	29.0	16.1	44.7	44.7	6.4	35.0
Actuated g/C Ratio	0.15	0.34	0.34	0.06	0.24	0.24	0.13	0.37	0.37	0.05	0.29
v/c Ratio	1.65	1.82	0.39	1.17	1.42	0.74	1.38	1.42	0.37	3.39	1.10dr
Control Delay	334.8	398.8	13.4	166.1	230.7	30.0	234.3	229.1	12.1	1121.0	47.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	334.8	398.8	13.4	166.1	230.7	30.0	234.3	229.1	12.1	1121.0	47.8
LOS	F	F	B	F	F	C	F	F	B	F	D
Approach Delay		353.2			191.4			194.7			294.1
Approach LOS		F			F			F			F

Intersection Summary






























Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.39
 Intersection Signal Delay: 270.1
 Intersection LOS: F
 Intersection Capacity Utilization 151.2%
 ICU Level of Service H
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  						 	
Traffic Volume (veh/h)	852	2118	238	233	1714	381	320	965	252	313	331	718
Future Volume (veh/h)	852	2118	238	233	1714	381	320	965	252	313	331	718
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	869	2161	217	238	1749	363	327	985	221	319	338	677
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	530	1193	532	204	1234	383	239	697	590	95	518	462
Arrive On Green	0.15	0.34	0.34	0.06	0.24	0.24	0.13	0.37	0.37	0.05	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	1870	1585	1781	1777	1585
Grp Volume(v), veh/h	869	2161	217	238	1749	363	327	985	221	319	338	677
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1870	1585	1781	1777	1585
Q Serve(g_s), s	18.4	40.3	12.6	7.1	29.0	27.0	16.1	44.7	12.2	6.4	20.0	35.0
Cycle Q Clear(g_c), s	18.4	40.3	12.6	7.1	29.0	27.0	16.1	44.7	12.2	6.4	20.0	35.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	530	1193	532	204	1234	383	239	697	590	95	518	462
V/C Ratio(X)	1.64	1.81	0.41	1.16	1.42	0.95	1.37	1.41	0.37	3.36	0.65	1.46
Avail Cap(c_a), veh/h	530	1193	532	204	1234	383	239	697	590	95	518	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	39.8	30.7	56.4	45.5	44.8	52.0	37.6	27.5	56.8	37.2	42.5
Incr Delay (d2), s/veh	296.5	368.2	0.5	114.2	192.6	32.7	190.1	194.6	0.4	1087.3	2.9	220.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.4	77.3	4.6	6.2	33.6	13.5	19.6	56.9	4.4	31.5	8.8	41.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	347.3	408.0	31.2	170.6	238.1	77.5	242.1	232.3	27.8	1144.1	40.1	263.1
LnGrp LOS	F	F	C	F	F	E	F	F	C	F	D	F
Approach Vol, veh/h		3247			2350			1533			1334	
Approach Delay, s/veh		366.6			206.5			204.9			417.3	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	50.5	11.7	46.8	20.7	40.8	23.0	35.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	6.4	44.7	7.1	40.3	16.1	35.0	18.4	29.0				
Max Q Clear Time (g_c+I1), s	8.4	46.7	9.1	42.3	18.1	37.0	20.4	31.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			300.8									
HCM 6th LOS			F									

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/22/2021

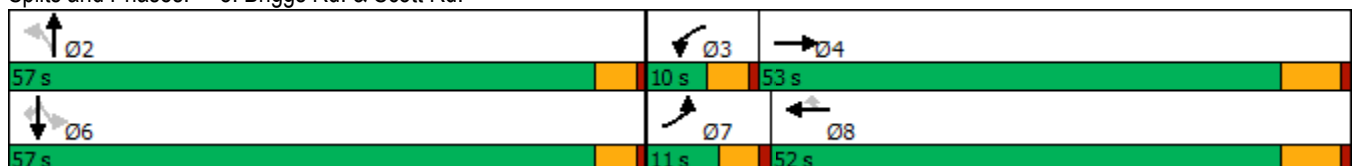


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↕	↖	↕	↖		↕		↕	↖
Traffic Volume (vph)	26	2676	94	2167	174	543	18	231	8	31
Future Volume (vph)	26	2676	94	2167	174	543	18	231	8	31
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	7	4	3	8			2		6	
Permitted Phases					8	2		6		6
Detector Phase	7	4	3	8	8	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.5	9.6	29.5	29.5	35.7	35.7	28.7	28.7	28.7
Total Split (s)	11.0	53.0	10.0	52.0	52.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	9.2%	44.2%	8.3%	43.3%	43.3%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5		4.7		4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	5.9	46.5	5.4	49.9	49.9		52.3		52.3	52.3
Actuated g/C Ratio	0.05	0.39	0.04	0.42	0.42		0.44		0.44	0.44
v/c Ratio	0.31	2.59	1.24	1.53	0.24		1.58		0.51	0.04
Control Delay	64.5	735.8	225.9	272.0	4.3		297.4		29.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	64.5	735.8	225.9	272.0	4.3		297.4		29.2	0.1
LOS	E	F	F	F	A		F		C	A
Approach Delay		730.7		251.1			297.4		25.9	
Approach LOS		F		F			F		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.59
 Intersection Signal Delay: 487.3
 Intersection Capacity Utilization 147.3%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	2676	671	94	2167	174	543	18	80	231	8	31
Future Volume (veh/h)	26	2676	671	94	2167	174	543	18	80	231	8	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	2788	642	98	2257	181	566	19	80	241	8	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	1120	248	80	1449	646	456	13	57	734	22	682
Arrive On Green	0.02	0.39	0.39	0.05	0.41	0.41	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	1781	2891	641	1781	3554	1585	919	31	130	1548	51	1564
Grp Volume(v), veh/h	27	1671	1759	98	2257	181	665	0	0	249	0	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1755	1781	1777	1585	1080	0	0	1600	0	1564
Q Serve(g_s), s	1.8	46.5	46.5	5.4	48.9	9.2	39.8	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s	1.8	46.5	46.5	5.4	48.9	9.2	52.3	0.0	0.0	12.5	0.0	0.7
Prop In Lane	1.00		0.36	1.00		1.00	0.85		0.12	0.97		1.00
Lane Grp Cap(c), veh/h	44	689	680	80	1449	646	526	0	0	756	0	682
V/C Ratio(X)	0.61	2.43	2.59	1.22	1.56	0.28	1.26	0.00	0.00	0.33	0.00	0.02
Avail Cap(c_a), veh/h	95	689	680	80	1449	646	526	0	0	756	0	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.9	36.8	36.8	57.3	35.5	23.8	42.2	0.0	0.0	22.6	0.0	19.3
Incr Delay (d2), s/veh	5.0	646.5	718.2	172.0	254.3	0.2	133.3	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	142.1	153.9	6.2	70.4	3.3	35.5	0.0	0.0	4.7	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.0	683.3	754.9	229.3	289.8	24.0	175.5	0.0	0.0	22.9	0.0	19.3
LnGrp LOS	E	F	F	F	F	C	F	A	A	C	A	B
Approach Vol, veh/h		3457			2536			665				265
Approach Delay, s/veh		714.9			268.5			175.5				22.7
Approach LOS		F			F			F				C
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		57.0	10.0	53.0		57.0	7.6	55.4				
Change Period (Y+Rc), s		* 4.7	4.6	6.5		* 4.7	4.6	6.5				
Max Green Setting (Gmax), s		* 52	5.4	46.5		* 52	6.4	45.5				
Max Q Clear Time (g_c+I1), s		54.3	7.4	48.5		14.5	3.8	50.9				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			473.1									
HCM 6th LOS			F									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Intersection Delay, s/v	2091.2											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	228	1698	1007	19	1382	81	835	109	20	57	90	129
Future Vol, veh/h	228	1698	1007	19	1382	81	835	109	20	57	90	129
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	243	1806	1071	20	1470	86	888	116	21	61	96	137
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	3032.8	1409.9	805.6	233.9
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	87%	8%	1%	21%
Vol Thru, %	11%	58%	93%	33%
Vol Right, %	2%	34%	5%	47%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	964	2933	1482	276
LT Vol	835	228	19	57
Through Vol	109	1698	1382	90
RT Vol	20	1007	81	129
Lane Flow Rate	1026	3120	1577	294
Geometry Grp	1	1	1	1
Degree of Util (X)	2.602	7.612	3.917	0.766
Departure Headway (Hd)	32.403	25.434	1.153	95.028
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	123	187	110	41
Service Time	30.403	23.433	39.153	93.028
HCM Lane V/C Ratio	8.341	16.684	14.336	7.171
HCM Control Delay	805.6	3032.8	1409.9	233.9
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	26.4	120.4	35.5	2.8

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	5	18	74	3	241	0	855	103	356	740	0
Future Vol, veh/h	7	5	18	74	3	241	0	855	103	356	740	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	5	20	80	3	262	0	929	112	387	804	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2696	2619	804	2576	2563	985	804	0	0	1041	0	0
Stage 1	1578	1578	-	985	985	-	-	-	-	-	-	-
Stage 2	1118	1041	-	1591	1578	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	14	24	383	~ 17	26	301	820	-	-	668	-	-
Stage 1	137	170	-	299	326	-	-	-	-	-	-	-
Stage 2	251	307	-	135	170	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	0	383	-	0	301	820	-	-	668	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	137	0	-	299	326	-	-	-	-	-	-	-
Stage 2	32	307	-	-	0	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s					0		5.7	
HCM LOS	-		-					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	820	-	-	-	-	668	-	-
HCM Lane V/C Ratio	-	-	-	-	-	0.579	-	-
HCM Control Delay (s)	0	-	-	-	-	17.5	0	-
HCM Lane LOS	A	-	-	-	-	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	-	3.7	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	40.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Vol, veh/h	16	29	6	191	22	51	7	893	291	107	765	31
Future Vol, veh/h	16	29	6	191	22	51	7	893	291	107	765	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	160	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	32	7	212	24	57	8	992	323	119	850	34

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2315	2436	442	1849	2292	1154	884	0	0	1315	0	0
Stage 1	1105	1105	-	1170	1170	-	-	-	-	-	-	-
Stage 2	1210	1331	-	679	1122	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	23	~ 31	564	~ 51	39	239	763	-	-	524	-	-
Stage 1	225	286	-	234	266	-	-	-	-	-	-	-
Stage 2	222	223	-	408	280	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 12	~ 24	564	~ 27	30	239	763	-	-	524	-	-
Mov Cap-2 Maneuver	28	73	-	~ 124	119	-	-	-	-	-	-	-
Stage 1	223	221	-	232	263	-	-	-	-	-	-	-
Stage 2	152	221	-	266	216	-	-	-	-	-	-	-

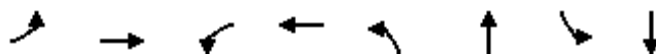
Approach	EB	WB	NB	SB
HCM Control Delay, s	279.8	\$ 309.9	0.1	1.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	763	-	-	52	124	183	524	-	-
HCM Lane V/C Ratio	0.01	-	-	1.09	1.711	0.443	0.227	-	-
HCM Control Delay (s)	9.8	-	-	279.8	413.2	39.5	13.9	-	-
HCM Lane LOS	A	-	-	F	F	E	B	-	-
HCM 95th %tile Q(veh)	0	-	-	4.9	16	2.1	0.9	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings
12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	99	193	161	305	68	1072	196	850
Future Volume (vph)	99	193	161	305	68	1072	196	850
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	29.7	9.6	29.7	9.6	29.2	9.6	27.2
Total Split (s)	15.6	29.7	17.4	31.5	15.2	53.1	19.8	57.7
Total Split (%)	13.0%	24.8%	14.5%	26.3%	12.7%	44.3%	16.5%	48.1%
Yellow Time (s)	3.6	3.7	3.6	3.7	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.6	4.7	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Min	None	None	None	Max
Act Effct Green (s)	11.0	19.7	12.8	21.5	8.6	47.0	15.2	55.7
Actuated g/C Ratio	0.10	0.17	0.11	0.19	0.07	0.41	0.13	0.49
v/c Ratio	0.64	0.45	0.89	0.80	0.56	0.99	0.91	0.55
Control Delay	68.8	40.1	92.1	41.7	68.4	56.3	90.4	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.8	40.1	92.1	41.7	68.4	56.3	90.4	24.0
LOS	E	D	F	D	E	E	F	C
Approach Delay		48.2		53.4		56.9		36.2
Approach LOS		D		D		E		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.8
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 49.0
 Intersection LOS: D
 Intersection Capacity Utilization 94.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.



HCM 6th Signalized Intersection Summary
 12: Leon Rd. & Baxter Rd./Jean Nicholas Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	
Traffic Volume (veh/h)	99	193	58	161	305	231	68	1072	227	196	850	19
Future Volume (veh/h)	99	193	58	161	305	231	68	1072	227	196	850	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	210	31	175	332	194	74	1165	208	213	924	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	538	78	199	409	234	95	1223	217	237	1727	39
Arrive On Green	0.10	0.17	0.17	0.11	0.19	0.19	0.05	0.41	0.41	0.13	0.49	0.49
Sat Flow, veh/h	1781	3110	452	1781	2169	1239	1781	3009	534	1781	3552	81
Grp Volume(v), veh/h	108	119	122	175	271	255	74	685	688	213	462	483
Grp Sat Flow(s),veh/h/ln	1781	1777	1786	1781	1777	1632	1781	1777	1766	1781	1777	1856
Q Serve(g_s), s	6.7	6.8	7.0	11.1	16.7	17.2	4.7	42.6	43.3	13.5	20.7	20.7
Cycle Q Clear(g_c), s	6.7	6.8	7.0	11.1	16.7	17.2	4.7	42.6	43.3	13.5	20.7	20.7
Prop In Lane	1.00		0.25	1.00		0.76	1.00		0.30	1.00		0.04
Lane Grp Cap(c), veh/h	171	307	309	199	335	308	95	722	718	237	864	902
V/C Ratio(X)	0.63	0.39	0.40	0.88	0.81	0.83	0.78	0.95	0.96	0.90	0.54	0.54
Avail Cap(c_a), veh/h	171	388	390	199	416	382	165	729	724	237	864	902
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	41.9	42.0	50.0	44.4	44.6	53.5	32.8	33.0	48.8	20.4	20.4
Incr Delay (d2), s/veh	16.3	0.8	0.8	38.2	9.2	11.8	5.2	21.7	23.5	32.4	2.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	3.0	3.1	7.0	8.2	7.9	2.2	21.1	21.6	7.9	8.4	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.0	42.7	42.8	88.2	53.5	56.4	58.7	54.5	56.5	81.2	22.8	22.7
LnGrp LOS	E	D	D	F	D	E	E	D	E	F	C	C
Approach Vol, veh/h		349			701			1447			1158	
Approach Delay, s/veh		50.0			63.2			55.6			33.5	
Approach LOS		D			E			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.8	52.7	17.4	24.5	10.7	61.8	15.6	26.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 4.7	4.6	6.2	4.6	* 4.7				
Max Green Setting (Gmax), s	15.2	46.9	12.8	* 25	10.6	51.5	11.0	* 27				
Max Q Clear Time (g_c+I1), s	15.5	45.3	13.1	9.0	6.7	22.7	8.7	19.2				
Green Ext Time (p_c), s	0.0	1.2	0.0	1.2	0.0	5.8	0.0	2.0				

Intersection Summary

HCM 6th Ctrl Delay	49.5
HCM 6th LOS	D

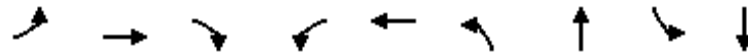
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)

06/23/2021

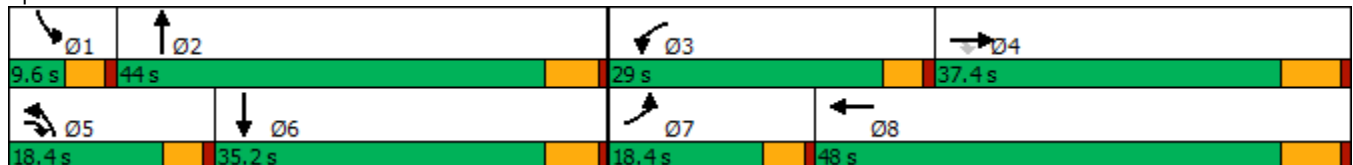


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↔↔	↑↑	↔↔	↑↑
Traffic Volume (vph)	212	1004	607	712	675	393	551	27	639
Future Volume (vph)	212	1004	607	712	675	393	551	27	639
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	33.5	9.6	9.6	33.5	9.6	34.8	9.6	34.8
Total Split (s)	18.4	37.4	18.4	29.0	48.0	18.4	44.0	9.6	35.2
Total Split (%)	15.3%	31.2%	15.3%	24.2%	40.0%	15.3%	36.7%	8.0%	29.3%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.6	5.5	4.6	3.6	5.5	3.6	4.8	3.6	4.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	12.6	31.9	51.2	25.4	44.7	14.8	42.8	6.0	30.2
Actuated g/C Ratio	0.11	0.27	0.43	0.21	0.37	0.12	0.36	0.05	0.25
v/c Ratio	0.61	1.08	0.88	1.01	0.54	0.96	1.03dr	0.16	0.93
Control Delay	58.1	93.6	40.5	82.1	31.5	86.0	47.9	56.9	59.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.1	93.6	40.5	82.1	31.5	86.0	47.9	56.9	59.3
LOS	E	F	D	F	C	F	D	E	E
Approach Delay		71.8			57.0		56.9		59.2
Approach LOS		E			E		E		E

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 119.8
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 62.0
 Intersection LOS: E
 Intersection Capacity Utilization 106.2%
 ICU Level of Service G
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 13: Max Gilliss Blvd & Leon Rd.



HCM 6th Signalized Intersection Summary
 13: Max Gilliss Blvd & Leon Rd.

Keller Crossing (JN:13649)
 06/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	1004	607	712	675	27	393	551	730	27	639	174
Future Volume (veh/h)	212	1004	607	712	675	27	393	551	730	27	639	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	1068	380	757	718	14	418	586	351	29	680	116
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	1007	598	764	1448	28	445	733	439	123	759	129
Arrive On Green	0.13	0.40	0.26	0.32	0.59	0.39	0.19	0.50	0.33	0.03	0.37	0.24
Sat Flow, veh/h	3563	3741	1585	3563	3657	71	3563	2192	1313	3563	3114	531
Grp Volume(v), veh/h	226	1068	380	757	367	365	418	500	437	29	408	388
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1858	1781	1870	1634	1781	1870	1775
Q Serve(g_s), s	7.2	31.9	23.3	25.1	13.4	13.6	13.7	26.4	28.5	0.9	24.4	24.7
Cycle Q Clear(g_c), s	7.2	31.9	23.3	25.1	13.4	13.6	13.7	26.4	28.5	0.9	24.4	24.7
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.80	1.00		0.30
Lane Grp Cap(c), veh/h	312	1007	598	764	741	736	445	625	546	123	456	433
V/C Ratio(X)	0.72	1.06	0.64	0.99	0.50	0.50	0.94	0.80	0.80	0.24	0.90	0.90
Avail Cap(c_a), veh/h	445	1007	598	764	741	736	445	625	546	180	480	455
HCM Platoon Ratio	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	35.3	30.2	40.1	17.2	17.6	47.7	26.2	34.3	55.7	36.1	38.5
Incr Delay (d2), s/veh	1.4	45.8	2.2	30.2	0.5	0.5	27.6	7.3	8.3	0.4	18.5	19.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	17.9	8.7	12.5	4.7	4.8	7.2	10.5	11.8	0.4	11.8	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.5	81.1	32.4	70.3	17.8	18.1	75.3	33.5	42.6	56.1	54.7	58.0
LnGrp LOS	D	F	C	E	B	B	E	C	D	E	D	E
Approach Vol, veh/h		1674			1489			1355			825	
Approach Delay, s/veh		66.1			44.6			49.4			56.3	
Approach LOS		E			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	44.4	29.0	37.4	18.4	33.7	14.0	52.4				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.0	38.2	24.4	30.9	13.8	29.4	13.8	41.5				
Max Q Clear Time (g_c+I1), s	2.9	30.5	27.1	33.9	15.7	26.7	9.2	15.6				
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	0.0	1.2	0.2	4.1				
Intersection Summary												
HCM 6th Ctrl Delay			54.3									
HCM 6th LOS			D									

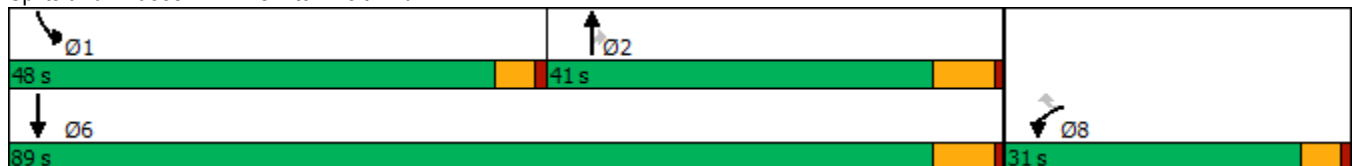
Timings
14: Clinton Keith Rd.

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↖	↗↗	↖	↖↖	↗↗
Traffic Volume (vph)	236	599	588	224	819	847
Future Volume (vph)	236	599	588	224	819	847
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	28.5	28.5	9.6	16.5
Total Split (s)	31.0	31.0	41.0	41.0	48.0	89.0
Total Split (%)	25.8%	25.8%	34.2%	34.2%	40.0%	74.2%
Yellow Time (s)	3.6	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	15.4	15.4	22.3	22.3	25.0	52.2
Actuated g/C Ratio	0.19	0.19	0.28	0.28	0.31	0.66
v/c Ratio	0.66	0.58	0.60	0.38	0.77	0.37
Control Delay	21.7	9.3	28.8	5.8	31.3	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	9.3	28.8	5.8	31.3	6.7
LOS	C	A	C	A	C	A
Approach Delay	17.2		22.4			18.8
Approach LOS	B		C			B

Intersection Summary

















Cycle Length: 120	
Actuated Cycle Length: 79.4	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 19.3	Intersection LOS: B
Intersection Capacity Utilization 65.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
 14: Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/23/2021

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 		 	 
Traffic Volume (veh/h)	236	599	588	224	819	847
Future Volume (veh/h)	236	599	588	224	819	847
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	241	611	600	229	836	864
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	437	778	894	399	967	2121
Arrive On Green	0.25	0.25	0.25	0.25	0.28	0.60
Sat Flow, veh/h	1781	3170	3647	1585	3456	3647
Grp Volume(v), veh/h	241	611	600	229	836	864
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1728	1777
Q Serve(g_s), s	8.3	12.7	10.7	8.9	16.2	9.1
Cycle Q Clear(g_c), s	8.3	12.7	10.7	8.9	16.2	9.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	437	778	894	399	967	2121
V/C Ratio(X)	0.55	0.79	0.67	0.57	0.86	0.41
Avail Cap(c_a), veh/h	668	1190	1743	777	2132	4167
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	24.8	23.7	23.0	24.1	7.6
Incr Delay (d2), s/veh	1.1	2.0	0.9	1.3	0.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	4.3	4.3	3.3	5.7	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.3	26.8	24.6	24.3	25.0	7.7
LnGrp LOS	C	C	C	C	C	A
Approach Vol, veh/h	852		829			1700
Approach Delay, s/veh	26.1		24.5			16.2
Approach LOS	C		C			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	24.3	24.2			48.5	21.9
Change Period (Y+Rc), s	4.6	6.5			6.5	4.6
Max Green Setting (Gmax), s	43.4	34.5			82.5	26.4
Max Q Clear Time (g_c+I1), s	18.2	12.7			11.1	14.7
Green Ext Time (p_c), s	1.5	5.0			6.1	2.6

Intersection Summary

HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection												
Intersection Delay, s/veh	14.8											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕		↕			↕	
Traffic Vol, veh/h	0	354	20	9	418	0	24	0	18	0	0	0
Future Vol, veh/h	0	354	20	9	418	0	24	0	18	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	385	22	10	454	0	26	0	20	0	0	0
Number of Lanes	0	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	1
HCM Control Delay	14.1	15.8	9.9	0
HCM LOS	B	C	A	-

Lane	NBLn1	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	57%	0%	100%	0%	0%	0%
Vol Thru, %	0%	95%	0%	100%	100%	100%
Vol Right, %	43%	5%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	374	9	418	0	0
LT Vol	24	0	9	0	0	0
Through Vol	0	354	0	418	0	0
RT Vol	18	20	0	0	0	0
Lane Flow Rate	46	407	10	454	0	0
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.083	0.566	0.015	0.632	0	0
Departure Headway (Hd)	6.553	5.011	5.508	5.005	5.005	6.681
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	544	720	650	722	0	0
Service Time	4.327	2.746	3.241	2.738	2.738	4.47
HCM Lane V/C Ratio	0.085	0.565	0.015	0.629	0	0
HCM Control Delay	9.9	14.1	8.3	16	7.7	9.5
HCM Lane LOS	A	B	A	C	N	N
HCM 95th-tile Q	0.3	3.6	0	4.5	0	0

Intersection						
Int Delay, s/veh	5.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑↑	↑	
Traffic Vol, veh/h	10	113	194	111	87	7
Future Vol, veh/h	10	113	194	111	87	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	65	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	123	211	121	95	8

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	582	99	103	0	0
Stage 1	99	-	-	-	-
Stage 2	483	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-
Pot Cap-1 Maneuver	459	956	1488	-	-
Stage 1	924	-	-	-	-
Stage 2	587	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	394	956	1488	-	-
Mov Cap-2 Maneuver	478	-	-	-	-
Stage 1	793	-	-	-	-
Stage 2	587	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1488	-	884	-	-
HCM Lane V/C Ratio	0.142	-	0.151	-	-
HCM Control Delay (s)	7.8	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.5	-	0.5	-	-

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Traffic Vol, veh/h	39	332	1	10	402	4	1	0	12	3	0	25
Future Vol, veh/h	39	332	1	10	402	4	1	0	12	3	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	361	1	11	437	4	1	0	13	3	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	441	0	0	362	0	0	687	909	181	726	907	221
Stage 1	-	-	-	-	-	-	446	446	-	461	461	-
Stage 2	-	-	-	-	-	-	241	463	-	265	446	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1115	-	-	1193	-	-	333	273	831	312	274	783
Stage 1	-	-	-	-	-	-	561	572	-	550	564	-
Stage 2	-	-	-	-	-	-	741	562	-	717	572	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1115	-	-	1193	-	-	310	260	831	296	261	783
Mov Cap-2 Maneuver	-	-	-	-	-	-	310	260	-	401	370	-
Stage 1	-	-	-	-	-	-	540	550	-	529	559	-
Stage 2	-	-	-	-	-	-	709	557	-	679	550	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.2	10	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	736	1115	-	-	1193	-	-	710
HCM Lane V/C Ratio	0.019	0.038	-	-	0.009	-	-	0.043
HCM Control Delay (s)	10	8.4	-	-	8	-	-	10.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	12					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	136	199	348	96	299	58
Future Vol, veh/h	136	199	348	96	299	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	148	216	378	104	325	63

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	482	0	-	0	834 241
Stage 1	-	-	-	-	430 -
Stage 2	-	-	-	-	404 -
Critical Hdwy	4.14	-	-	-	6.4 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	1077	-	-	-	340 760
Stage 1	-	-	-	-	624 -
Stage 2	-	-	-	-	643 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1077	-	-	-	~ 293 760
Mov Cap-2 Maneuver	-	-	-	-	459 -
Stage 1	-	-	-	-	539 -
Stage 2	-	-	-	-	643 -

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	34.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1077	-	-	-	491
HCM Lane V/C Ratio	0.137	-	-	-	0.79
HCM Control Delay (s)	8.9	-	-	-	34.7
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.5	-	-	-	7.2

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	498	402	243	0	43
Future Vol, veh/h	0	498	402	243	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	541	437	264	0	47

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	351
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	645
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	645
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	645
HCM Lane V/C Ratio	-	-	-	0.072
HCM Control Delay (s)	-	-	-	11
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Timings
20: Winchester Rd. & Domenigoni Pkwy

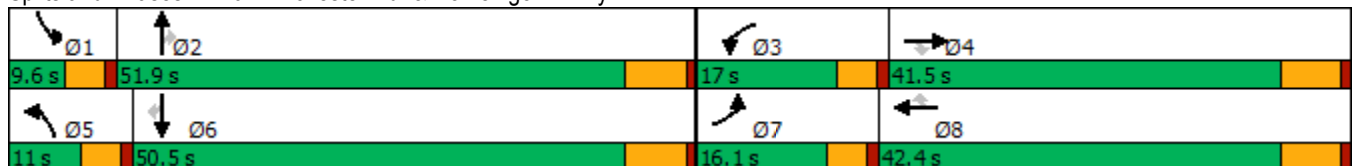
Keller Crossing (JN:13649)
06/22/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	902	90	666	785	19	123	1050	882	18	521	163
Future Volume (vph)	180	902	90	666	785	19	123	1050	882	18	521	163
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	41.5	41.5	9.6	41.5	41.5	9.6	49.5	49.5	9.6	47.5	47.5
Total Split (s)	16.1	41.5	41.5	17.0	42.4	42.4	11.0	51.9	51.9	9.6	50.5	50.5
Total Split (%)	13.4%	34.6%	34.6%	14.2%	35.3%	35.3%	9.2%	43.3%	43.3%	8.0%	42.1%	42.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	9.8	32.9	32.9	12.5	35.5	35.5	6.4	45.6	45.6	5.0	38.1	38.1
Actuated g/C Ratio	0.09	0.29	0.29	0.11	0.32	0.32	0.06	0.41	0.41	0.04	0.34	0.34
v/c Ratio	0.62	0.89	0.17	1.79	0.50	0.03	1.25	0.75	1.09	0.23	0.44	0.26
Control Delay	59.5	49.7	4.0	395.1	33.0	0.1	215.5	33.3	79.6	61.7	30.2	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	49.7	4.0	395.1	33.0	0.1	215.5	33.3	79.6	61.7	30.2	4.9
LOS	E	D	A	F	C	A	F	C	E	E	C	A
Approach Delay		47.7			196.7			64.1			25.1	
Approach LOS		D			F			E			C	

Intersection Summary
































Cycle Length: 120	
Actuated Cycle Length: 112.2	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.79	
Intersection Signal Delay: 91.6	Intersection LOS: F
Intersection Capacity Utilization 98.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	  			 			 	
Traffic Volume (veh/h)	180	902	90	666	785	19	123	1050	882	18	521	163
Future Volume (veh/h)	180	902	90	666	785	19	123	1050	882	18	521	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	920	34	680	801	11	126	1071	592	18	532	64
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	1017	454	374	1655	514	100	1395	622	34	1264	564
Arrive On Green	0.07	0.29	0.29	0.11	0.32	0.32	0.06	0.39	0.39	0.02	0.36	0.36
Sat Flow, veh/h	3456	3554	1585	3456	5106	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	184	920	34	680	801	11	126	1071	592	18	532	64
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.0	28.5	1.8	12.4	14.4	0.5	6.4	30.0	41.5	1.1	13.0	3.1
Cycle Q Clear(g_c), s	6.0	28.5	1.8	12.4	14.4	0.5	6.4	30.0	41.5	1.1	13.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	243	1017	454	374	1655	514	100	1395	622	34	1264	564
V/C Ratio(X)	0.76	0.90	0.07	1.82	0.48	0.02	1.27	0.77	0.95	0.53	0.42	0.11
Avail Cap(c_a), veh/h	347	1086	485	374	1655	514	100	1409	629	78	1366	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	39.4	29.8	51.0	31.0	26.3	54.0	30.2	33.7	55.6	27.9	24.8
Incr Delay (d2), s/veh	3.0	10.3	0.1	377.9	0.2	0.0	177.4	2.6	24.4	4.7	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	13.1	0.7	24.8	5.6	0.2	7.6	12.2	18.7	0.5	5.2	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.3	49.6	29.9	429.0	31.2	26.3	231.4	32.8	58.1	60.4	28.2	24.9
LnGrp LOS	E	D	C	F	C	C	F	C	E	E	C	C
Approach Vol, veh/h		1138			1492			1789			614	
Approach Delay, s/veh		50.0			212.5			55.2			28.8	
Approach LOS		D			F			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	51.4	17.0	39.3	11.0	47.2	12.7	43.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	45.4	12.4	35.0	6.4	44.0	11.5	35.9				
Max Q Clear Time (g_c+I1), s	3.1	43.5	14.4	30.5	8.4	15.0	8.0	16.4				
Green Ext Time (p_c), s	0.0	1.5	0.0	2.2	0.0	3.4	0.1	4.7				
Intersection Summary												
HCM 6th Ctrl Delay				97.4								
HCM 6th LOS				F								

Timings
21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)

06/22/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↔	↖	↑↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	38	0	11	18	9	23	1999	7	3	1234	39
Future Volume (vph)	38	0	11	18	9	23	1999	7	3	1234	39
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	35.7	35.7	9.6	27.2	27.2	9.6	27.2	27.2
Total Split (s)	35.7	35.7	35.7	35.7	35.7	10.0	74.3	74.3	10.0	74.3	74.3
Total Split (%)	29.8%	29.8%	29.8%	29.8%	29.8%	8.3%	61.9%	61.9%	8.3%	61.9%	61.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7		4.7	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)		10.9	10.9		10.9	5.6	51.8	51.8	5.4	49.8	49.8
Actuated g/C Ratio		0.17	0.17		0.17	0.09	0.80	0.80	0.08	0.77	0.77
v/c Ratio		0.18	0.04		0.18	0.16	0.53	0.01	0.02	0.49	0.03
Control Delay		32.2	0.2		23.2	37.5	5.6	0.0	36.7	7.1	1.3
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		32.2	0.2		23.2	37.5	5.6	0.0	36.7	7.1	1.3
LOS		C	A		C	D	A	A	D	A	A
Approach Delay		24.9			23.2		5.9			6.9	
Approach LOS		C			C		A			A	

Intersection Summary






















Cycle Length: 120	
Actuated Cycle Length: 64.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 6.8	Intersection LOS: A
Intersection Capacity Utilization 63.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 21: Winchester Rd. & Newport Rd.



HCM 6th Signalized Intersection Summary
 21: Winchester Rd. & Newport Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	0	11	18	9	18	23	1999	7	3	1234	39
Future Volume (veh/h)	38	0	11	18	9	18	23	1999	7	3	1234	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	0	12	19	10	6	25	2149	8	3	1327	42
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	279	0	189	162	78	33	49	3311	1028	7	2220	990
Arrive On Green	0.12	0.00	0.12	0.12	0.12	0.12	0.03	0.65	0.65	0.00	0.62	0.62
Sat Flow, veh/h	1453	0	1585	671	653	274	1781	5106	1585	1781	3554	1585
Grp Volume(v), veh/h	41	0	12	35	0	0	25	2149	8	3	1327	42
Grp Sat Flow(s),veh/h/ln	1453	0	1585	1597	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	0.3	0.0	0.5	0.0	0.0	0.0	0.9	17.3	0.1	0.1	15.2	0.7
Cycle Q Clear(g_c), s	1.5	0.0	0.5	1.2	0.0	0.0	0.9	17.3	0.1	0.1	15.2	0.7
Prop In Lane	1.00		1.00	0.54		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	279	0	189	272	0	0	49	3311	1028	7	2220	990
V/C Ratio(X)	0.15	0.00	0.06	0.13	0.00	0.00	0.51	0.65	0.01	0.42	0.60	0.04
Avail Cap(c_a), veh/h	750	0	724	793	0	0	142	5120	1589	142	3563	1589
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	0.0	26.5	26.9	0.0	0.0	32.6	7.2	4.2	33.7	7.6	4.9
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.2	0.0	0.0	3.0	0.2	0.0	13.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	0.5	0.0	0.0	0.4	3.3	0.0	0.1	3.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	0.0	26.7	27.1	0.0	0.0	35.5	7.5	4.2	47.3	7.9	4.9
LnGrp LOS	C	A	C	C	A	A	D	A	A	D	A	A
Approach Vol, veh/h		53			35			2182			1372	
Approach Delay, s/veh		27.1			27.1			7.8			7.9	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	50.2		12.8	6.5	48.6		12.8				
Change Period (Y+Rc), s	4.6	6.2		* 4.7	4.6	6.2		* 4.7				
Max Green Setting (Gmax), s	5.4	68.1		* 31	5.4	68.1		* 31				
Max Q Clear Time (g_c+I1), s	2.1	19.3		3.5	2.9	17.2		3.2				
Green Ext Time (p_c), s	0.0	24.7		0.2	0.0	11.8		0.1				

Intersection Summary

HCM 6th Ctrl Delay	8.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations										
Traffic Volume (vph)	7	18	30	18	10	4229	42	3696	12	
Future Volume (vph)	7	18	30	18	10	4229	42	3696	12	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4		8	5	2		6		1
Permitted Phases	4		8				2		6	
Detector Phase	4	4	8	8	5	2	2	6	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	26.5	16.5	16.5	9.6
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	74.7	74.7	74.7	9.6
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	62.3%	62.3%	62.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max	None
Act Effct Green (s)	10.1	10.1	10.1	10.1	5.0	77.8	77.8	68.2	68.2	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.69	0.69	
v/c Ratio	0.06	0.15	0.23	0.37	0.12	1.64	0.04	1.63	0.01	
Control Delay	41.4	32.9	45.3	20.1	48.3	306.6	0.6	306.6	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.4	32.9	45.3	20.1	48.3	306.6	0.6	306.6	0.0	
LOS	D	C	D	C	D	F	A	F	A	
Approach Delay		34.8		27.0		302.9		305.6		
Approach LOS		C		C		F		F		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99.1
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.64
 Intersection Signal Delay: 299.4
 Intersection Capacity Utilization 134.6%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 22: Winchester Rd. & Holland Rd.

9.6 s	74.7 s	35.7 s
9.6 s	74.7 s	35.7 s

HCM 6th Signalized Intersection Summary
 22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	7	18	8	30	18	61	10	4229	42	0	3696	12
Future Volume (veh/h)	7	18	8	30	18	61	10	4229	42	0	3696	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	19	5	32	19	61	11	4547	44	0	3974	13
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	144	38	196	39	127	90	2793	1246	2	2448	1092
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.00	0.69	0.69
Sat Flow, veh/h	1319	1427	376	1387	391	1254	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	8	0	24	32	0	80	11	4547	44	0	3974	13
Grp Sat Flow(s),veh/h/ln	1319	0	1803	1387	0	1645	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.6	0.0	1.2	2.1	0.0	4.6	0.6	77.8	0.6	0.0	68.2	0.3
Cycle Q Clear(g_c), s	5.1	0.0	1.2	3.3	0.0	4.6	0.6	77.8	0.6	0.0	68.2	0.3
Prop In Lane	1.00		0.21	1.00		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	0	182	196	0	166	90	2793	1246	2	2448	1092
V/C Ratio(X)	0.06	0.00	0.13	0.16	0.00	0.48	0.12	1.63	0.04	0.00	1.62	0.01
Avail Cap(c_a), veh/h	425	0	564	490	0	515	90	2793	1246	90	2448	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	0.0	40.5	42.1	0.0	42.1	44.9	10.6	2.3	0.0	15.4	4.8
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.4	0.0	2.2	2.8	284.3	0.0	0.0	282.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.7	0.0	1.9	0.3	122.8	0.1	0.0	114.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	0.0	40.9	42.4	0.0	44.2	47.7	294.9	2.3	0.0	297.8	4.9
LnGrp LOS	D	A	D	D	A	D	D	F	A	A	F	A
Approach Vol, veh/h		32			112			4602			3987	
Approach Delay, s/veh		41.8			43.7			291.6			296.8	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	84.3		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	0.0	79.8		7.1	2.6	70.2		6.6				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.5				

Intersection Summary

HCM 6th Ctrl Delay	289.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	165	18	47	4116	3632	253
Future Volume (vph)	165	18	47	4116	3632	253
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	28.5	28.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effect Green (s)	16.5	16.5	5.0	87.0	79.4	79.4
Actuated g/C Ratio	0.14	0.14	0.04	0.76	0.69	0.69
v/c Ratio	0.70	0.08	0.66	1.67	1.61	0.24
Control Delay	62.0	25.9	93.2	320.3	297.1	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	25.9	93.2	320.3	297.1	2.8
LOS	E	C	F	F	F	A
Approach Delay	58.3			317.8	277.9	
Approach LOS	E			F	F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 114.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.67	
Intersection Signal Delay: 293.2	Intersection LOS: F
Intersection Capacity Utilization 132.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
 23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
 06/22/2021



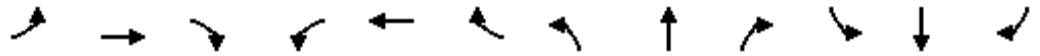
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	165	18	47	4116	3632	253
Future Volume (veh/h)	165	18	47	4116	3632	253
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	19	51	4474	3948	275
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	212	189	66	2775	2498	1114
Arrive On Green	0.12	0.12	0.04	0.78	0.70	0.70
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	179	19	51	4474	3948	275
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	10.9	1.2	3.2	86.9	78.2	6.9
Cycle Q Clear(g_c), s	10.9	1.2	3.2	86.9	78.2	6.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	212	189	66	2775	2498	1114
V/C Ratio(X)	0.84	0.10	0.78	1.61	1.58	0.25
Avail Cap(c_a), veh/h	352	313	80	2775	2498	1114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	43.7	53.1	12.2	16.5	5.9
Incr Delay (d2), s/veh	9.2	0.2	25.6	277.1	263.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	1.1	1.8	124.4	113.1	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	57.2	43.9	78.7	289.3	279.8	6.5
LnGrp LOS	E	D	E	F	F	A
Approach Vol, veh/h	198			4525	4223	
Approach Delay, s/veh	55.9			287.0	262.0	
Approach LOS	E			F	F	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		17.9	8.7	84.7
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+I1), s		88.9		12.9	5.2	80.2
Green Ext Time (p_c), s		0.0		0.4	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			270.1			
HCM 6th LOS			F			

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

06/22/2021

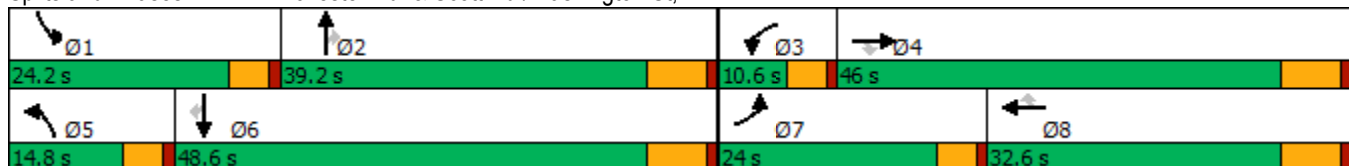


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (vph)	763	431	292	104	368	653	340	2697	50	437	2370	843
Future Volume (vph)	763	431	292	104	368	653	340	2697	50	437	2370	843
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.5	45.5	9.6	16.5	16.5	9.6	35.5	35.5	9.6	44.5	44.5
Total Split (s)	24.0	46.0	46.0	10.6	32.6	32.6	14.8	39.2	39.2	24.2	48.6	48.6
Total Split (%)	20.0%	38.3%	38.3%	8.8%	27.2%	27.2%	12.3%	32.7%	32.7%	20.2%	40.5%	40.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	19.4	39.5	39.5	6.0	26.1	26.1	10.2	32.7	32.7	19.6	42.1	42.1
Actuated g/C Ratio	0.16	0.33	0.33	0.05	0.22	0.22	0.08	0.27	0.27	0.16	0.35	0.35
v/c Ratio	2.81	0.74	0.46	1.24	0.96	1.25	2.39	2.05	0.09	1.59	1.40	1.12
Control Delay	843.3	44.3	12.3	219.8	81.8	152.9	668.2	500.3	0.3	315.9	215.3	91.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	843.3	44.3	12.3	219.8	81.8	152.9	668.2	500.3	0.3	315.9	215.3	91.7
LOS	F	D	B	F	F	F	F	F	A	F	F	F
Approach Delay		448.2			135.8			510.7			198.8	
Approach LOS		F			F			F			F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.81
 Intersection Signal Delay: 333.9
 Intersection LOS: F
 Intersection Capacity Utilization 156.5%
 ICU Level of Service H
 Analysis Period (min) 15

























Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	763	431	292	104	368	653	340	2697	50	437	2370	843
Future Volume (veh/h)	763	431	292	104	368	653	340	2697	50	437	2370	843
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	803	454	296	109	387	628	358	2839	53	460	2495	867
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	616	522	89	407	345	151	1391	432	291	1791	556
Arrive On Green	0.16	0.33	0.33	0.05	0.22	0.22	0.08	0.27	0.27	0.16	0.35	0.35
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	803	454	296	109	387	628	358	2839	53	460	2495	867
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	19.4	25.8	18.5	6.0	24.5	26.1	10.2	32.7	3.0	19.6	42.1	42.1
Cycle Q Clear(g_c), s	19.4	25.8	18.5	6.0	24.5	26.1	10.2	32.7	3.0	19.6	42.1	42.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	616	522	89	407	345	151	1391	432	291	1791	556
V/C Ratio(X)	2.79	0.74	0.57	1.22	0.95	1.82	2.36	2.04	0.12	1.58	1.39	1.56
Avail Cap(c_a), veh/h	288	616	522	89	407	345	151	1391	432	291	1791	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	35.7	33.2	57.0	46.3	47.0	54.9	43.6	32.9	50.2	38.9	39.0
Incr Delay (d2), s/veh	814.4	4.6	1.4	167.3	32.3	381.0	633.9	470.7	0.1	277.3	180.2	260.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	73.4	11.8	6.9	6.7	14.4	46.2	31.0	73.5	1.1	30.7	46.1	55.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	864.7	40.3	34.6	224.3	78.6	427.9	688.8	514.3	33.0	327.5	219.2	299.3
LnGrp LOS	F	D	C	F	E	F	F	F	C	F	F	F
Approach Vol, veh/h		1553			1124			3250			3822	
Approach Delay, s/veh		465.5			287.9			525.7			250.4	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	39.2	10.6	46.0	14.8	48.6	24.0	32.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	19.6	32.7	6.0	39.5	10.2	42.1	19.4	26.1				
Max Q Clear Time (g_c+I1), s	21.6	34.7	8.0	27.8	12.2	44.1	21.4	28.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			380.8									
HCM 6th LOS			F									

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/22/2021

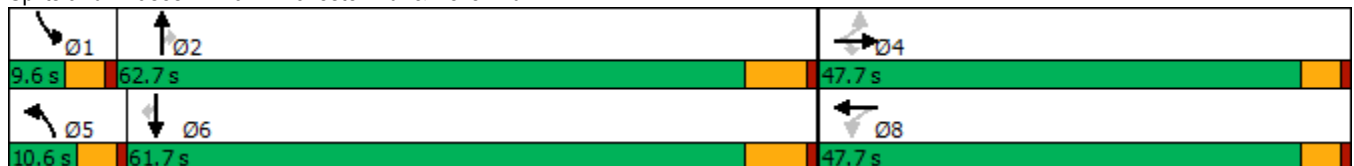


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	251	16	231	25	25	218	2816	107	8	2358	401
Future Volume (vph)	251	16	231	25	25	218	2816	107	8	2358	401
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5
Total Split (s)	47.7	47.7	47.7	47.7	47.7	10.6	62.7	62.7	9.6	61.7	61.7
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.8%	52.3%	52.3%	8.0%	51.4%	51.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	26.1	26.1	26.1		26.1	6.0	64.5	64.5	5.0	55.5	55.5
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.06	0.62	0.62	0.05	0.54	0.54
v/c Ratio	0.78	0.04	0.53		0.18	2.25	1.36	0.11	0.11	1.32	0.45
Control Delay	51.8	27.4	24.0		23.5	621.7	187.0	4.3	54.1	173.7	10.3
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	27.4	24.0		23.5	621.7	187.0	4.3	54.1	173.7	10.3
LOS	D	C	C		C	F	F	A	D	F	B
Approach Delay		38.1			23.5		211.0			149.7	
Approach LOS		D			C		F			F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 103.6
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.25
 Intersection Signal Delay: 169.4
 Intersection Capacity Utilization 115.7%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	16	231	25	25	20	218	2816	107	8	2358	401
Future Volume (veh/h)	251	16	231	25	25	20	218	2816	107	8	2358	401
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	267	17	240	27	27	18	232	2996	113	9	2509	425
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	382	405	344	150	144	81	109	2173	948	20	1995	890
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.06	0.61	0.61	0.01	0.56	0.56
Sat Flow, veh/h	1361	1870	1585	457	666	375	1781	3554	1550	1781	3554	1585
Grp Volume(v), veh/h	267	17	240	72	0	0	232	2996	113	9	2509	425
Grp Sat Flow(s),veh/h/ln	1361	1870	1585	1498	0	0	1781	1777	1550	1781	1777	1585
Q Serve(g_s), s	14.3	0.7	13.7	0.0	0.0	0.0	6.0	60.1	3.0	0.5	55.2	15.8
Cycle Q Clear(g_c), s	17.6	0.7	13.7	3.2	0.0	0.0	6.0	60.1	3.0	0.5	55.2	15.8
Prop In Lane	1.00		1.00	0.37		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	382	405	344	375	0	0	109	2173	948	20	1995	890
V/C Ratio(X)	0.70	0.04	0.70	0.19	0.00	0.00	2.13	1.38	0.12	0.46	1.26	0.48
Avail Cap(c_a), veh/h	682	818	693	694	0	0	109	2173	948	91	1995	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	30.4	35.5	31.4	0.0	0.0	46.2	19.1	8.0	48.3	21.6	12.9
Incr Delay (d2), s/veh	2.3	0.0	2.6	0.2	0.0	0.0	539.7	173.4	0.1	6.0	120.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.3	5.5	1.4	0.0	0.0	18.8	70.8	0.8	0.2	51.4	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	30.5	38.1	31.7	0.0	0.0	585.9	192.5	8.1	54.3	141.6	13.3
LnGrp LOS	D	C	D	C	A	A	F	F	A	D	F	B
Approach Vol, veh/h		524			72			3341			2943	
Approach Delay, s/veh		38.3			31.7			213.6			122.8	
Approach LOS		D			C			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	66.6		26.0	10.6	61.7		26.0				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	6.0	55.2		* 43				
Max Q Clear Time (g_c+I1), s	2.5	62.1		19.6	8.0	57.2		5.2				
Green Ext Time (p_c), s	0.0	0.0		1.8	0.0	0.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay	159.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/22/2021

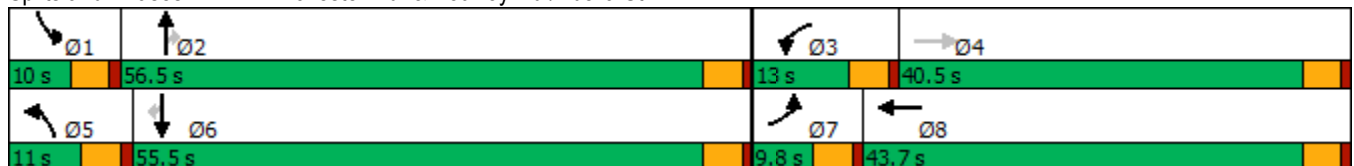


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕	↘	↕	↘	↕	↘	↘	↕	↘
Traffic Volume (vph)	126	43	342	45	230	2893	326	95	2417	101
Future Volume (vph)	126	43	342	45	230	2893	326	95	2417	101
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	9.8	40.5	13.0	43.7	11.0	56.5	56.5	10.0	55.5	55.5
Total Split (%)	8.2%	33.8%	10.8%	36.4%	9.2%	47.1%	47.1%	8.3%	46.3%	46.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	5.3	10.8	8.5	14.0	6.5	52.0	52.0	5.5	51.0	51.0
Actuated g/C Ratio	0.06	0.11	0.09	0.15	0.07	0.55	0.55	0.06	0.54	0.54
v/c Ratio	1.36	0.53	2.28	0.32	2.00	1.57	0.37	0.98	1.34	0.12
Control Delay	249.1	27.6	615.5	18.1	504.0	281.2	8.8	131.2	178.7	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	249.1	27.6	615.5	18.1	504.0	281.2	8.8	131.2	178.7	3.4
LOS	F	C	F	B	F	F	A	F	F	A
Approach Delay		107.8		420.8		270.3			170.2	
Approach LOS		F		F		F			F	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 94.8
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.28
 Intersection Signal Delay: 235.3
 Intersection LOS: F
 Intersection Capacity Utilization 127.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/22/2021

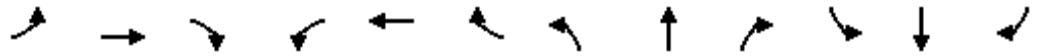
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	43	180	342	45	121	230	2893	326	95	2417	101
Future Volume (veh/h)	126	43	180	342	45	121	230	2893	326	95	2417	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	45	172	360	47	93	242	3045	343	100	2544	102
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	247	220	155	305	272	119	1895	845	100	1858	829
Arrive On Green	0.05	0.14	0.14	0.09	0.17	0.17	0.07	0.53	0.53	0.06	0.52	0.52
Sat Flow, veh/h	1781	1777	1585	1781	1777	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	133	45	172	360	47	93	242	3045	343	100	2544	102
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.3	2.2	10.2	8.5	2.2	5.0	6.5	52.0	12.6	5.5	51.0	3.2
Cycle Q Clear(g_c), s	5.3	2.2	10.2	8.5	2.2	5.0	6.5	52.0	12.6	5.5	51.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	97	247	220	155	305	272	119	1895	845	100	1858	829
V/C Ratio(X)	1.37	0.18	0.78	2.32	0.15	0.34	2.04	1.61	0.41	1.00	1.37	0.12
Avail Cap(c_a), veh/h	97	656	585	155	714	637	119	1895	845	100	1858	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	37.1	40.6	44.5	34.4	35.6	45.5	22.8	13.6	46.0	23.3	11.9
Incr Delay (d2), s/veh	220.5	0.4	6.0	613.3	0.2	0.7	495.4	275.7	1.4	88.2	169.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	1.0	4.3	30.2	1.0	2.0	19.0	90.1	4.6	4.7	61.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	266.6	37.5	46.6	657.8	34.6	36.3	540.9	298.5	15.0	134.2	192.9	12.2
LnGrp LOS	F	D	D	F	C	D	F	F	B	F	F	B
Approach Vol, veh/h		350			500			3630			2746	
Approach Delay, s/veh		129.0			483.6			287.8			184.0	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	56.5	13.0	18.0	11.0	55.5	9.8	21.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	52.0	8.5	36.0	6.5	51.0	5.3	39.2				
Max Q Clear Time (g_c+I1), s	7.5	54.0	10.5	12.2	8.5	53.0	7.3	7.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay	254.2											
HCM 6th LOS	F											

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/22/2021

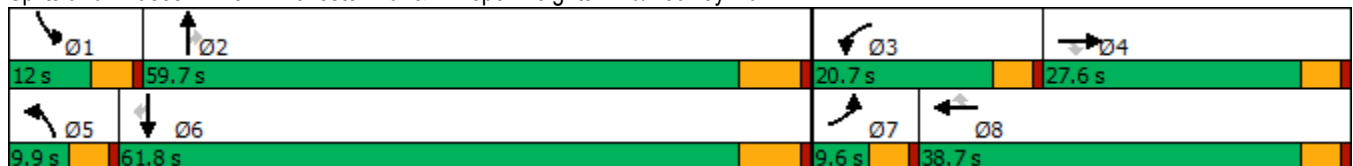


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	130	21	24	153	24	282	46	3038	2	264	2542	133
Future Volume (vph)	130	21	24	153	24	282	46	3038	2	264	2542	133
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	28.5	9.6	25.5	25.5
Total Split (s)	9.6	27.6	27.6	20.7	38.7	38.7	9.9	59.7	59.7	12.0	61.8	61.8
Total Split (%)	8.0%	23.0%	23.0%	17.3%	32.3%	32.3%	8.3%	49.8%	49.8%	10.0%	51.5%	51.5%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	5.0	11.7	11.7	18.1	18.6	18.6	5.3	53.4	53.4	7.4	57.7	57.7
Actuated g/C Ratio	0.05	0.11	0.11	0.17	0.18	0.18	0.05	0.51	0.51	0.07	0.55	0.55
v/c Ratio	1.61	0.11	0.08	0.52	0.08	0.79	0.55	1.76	0.00	1.13	1.36	0.15
Control Delay	353.7	44.0	0.5	49.0	34.8	40.4	73.9	366.0	0.0	143.7	190.2	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	353.7	44.0	0.5	49.0	34.8	40.4	73.9	366.0	0.0	143.7	190.2	3.0
LOS	F	D	A	D	C	D	E	F	A	F	F	A
Approach Delay		267.7			43.0			361.4			177.6	
Approach LOS		F			D			F			F	

Intersection Summary

























Cycle Length: 120
 Actuated Cycle Length: 104.9
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.76
 Intersection Signal Delay: 255.9
 Intersection LOS: F
 Intersection Capacity Utilization 122.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/22/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	21	24	153	24	282	46	3038	2	264	2542	133
Future Volume (veh/h)	130	21	24	153	24	282	46	3038	2	264	2542	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	22	18	159	25	239	48	3165	2	275	2648	138
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	223	189	190	333	278	64	1807	806	244	1931	861
Arrive On Green	0.05	0.12	0.12	0.11	0.18	0.18	0.04	0.51	0.51	0.07	0.54	0.54
Sat Flow, veh/h	1781	1870	1585	1781	1870	1561	1781	3554	1584	3456	3554	1585
Grp Volume(v), veh/h	135	22	18	159	25	239	48	3165	2	275	2648	138
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1561	1781	1777	1584	1728	1777	1585
Q Serve(g_s), s	5.0	1.1	1.1	9.2	1.2	15.5	2.8	53.2	0.1	7.4	56.8	4.6
Cycle Q Clear(g_c), s	5.0	1.1	1.1	9.2	1.2	15.5	2.8	53.2	0.1	7.4	56.8	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	85	223	189	190	333	278	64	1807	806	244	1931	861
V/C Ratio(X)	1.59	0.10	0.10	0.84	0.08	0.86	0.75	1.75	0.00	1.12	1.37	0.16
Avail Cap(c_a), veh/h	85	409	347	274	608	508	90	1807	806	244	1931	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	41.1	41.0	45.8	35.8	41.7	50.0	25.7	12.6	48.6	23.9	11.9
Incr Delay (d2), s/veh	311.9	0.2	0.2	9.8	0.1	7.7	10.7	340.4	0.0	95.3	170.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	0.5	0.4	4.5	0.5	6.5	1.4	104.3	0.0	6.3	65.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	361.7	41.3	41.3	55.7	35.9	49.4	60.6	366.1	12.6	143.9	194.4	12.0
LnGrp LOS	F	D	D	E	D	D	E	F	B	F	F	B
Approach Vol, veh/h		175			423			3215			3061	
Approach Delay, s/veh		288.4			51.0			361.3			181.6	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	59.7	15.7	17.2	8.4	63.3	9.6	23.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	7.4	53.2	16.1	* 23	5.3	55.3	5.0	* 34				
Max Q Clear Time (g_c+I1), s	9.4	55.2	11.2	3.1	4.8	58.8	7.0	17.5				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.8				

Intersection Summary												
HCM 6th Ctrl Delay	260.3											
HCM 6th LOS	F											

Notes

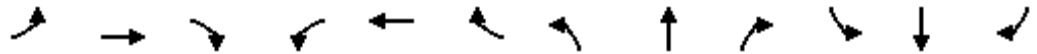
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/22/2021

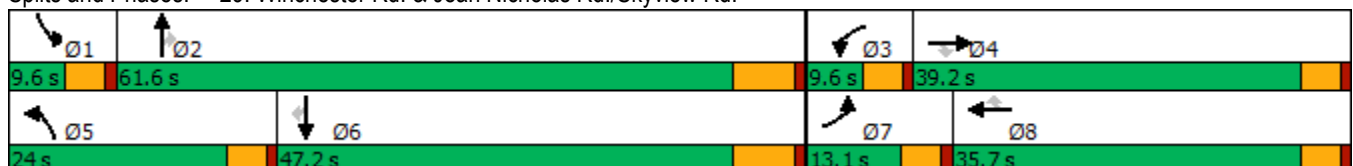


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	191	58	262	10	57	31	469	2987	15	19	2081	177
Future Volume (vph)	191	58	262	10	57	31	469	2987	15	19	2081	177
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	13.1	39.2	39.2	9.6	35.7	35.7	24.0	61.6	61.6	9.6	47.2	47.2
Total Split (%)	10.9%	32.7%	32.7%	8.0%	29.8%	29.8%	20.0%	51.3%	51.3%	8.0%	39.3%	39.3%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	8.9	18.7	18.7	5.0	10.4	10.4	19.5	61.2	61.2	5.0	40.8	40.8
Actuated g/C Ratio	0.09	0.19	0.19	0.05	0.11	0.11	0.20	0.63	0.63	0.05	0.42	0.42
v/c Ratio	1.23	0.17	0.52	0.11	0.30	0.10	1.38	1.39	0.02	0.22	1.45	0.25
Control Delay	185.0	34.6	8.7	48.1	45.4	0.7	218.7	199.2	0.0	51.5	233.0	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	185.0	34.6	8.7	48.1	45.4	0.7	218.7	199.2	0.0	51.5	233.0	6.6
LOS	F	C	A	D	D	A	F	F	A	D	F	A
Approach Delay		77.6			31.5			201.0			213.9	
Approach LOS		E			C			F			F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 96.7
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.45
 Intersection Signal Delay: 193.1
 Intersection LOS: F
 Intersection Capacity Utilization 118.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	191	58	262	10	57	31	469	2987	15	19	2081	177
Future Volume (veh/h)	191	58	262	10	57	31	469	2987	15	19	2081	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	60	223	10	59	18	489	3111	13	20	2168	166
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	344	290	22	208	177	345	2057	898	38	1444	636
Arrive On Green	0.08	0.18	0.18	0.01	0.11	0.11	0.19	0.58	0.58	0.02	0.41	0.41
Sat Flow, veh/h	1781	1870	1575	1781	1870	1585	1781	3554	1552	1781	3554	1565
Grp Volume(v), veh/h	199	60	223	10	59	18	489	3111	13	20	2168	166
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1870	1585	1781	1777	1552	1781	1777	1565
Q Serve(g_s), s	8.5	2.7	13.5	0.6	2.9	1.0	19.4	58.0	0.4	1.1	40.7	7.1
Cycle Q Clear(g_c), s	8.5	2.7	13.5	0.6	2.9	1.0	19.4	58.0	0.4	1.1	40.7	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	344	290	22	208	177	345	2057	898	38	1444	636
V/C Ratio(X)	1.32	0.17	0.77	0.46	0.28	0.10	1.42	1.51	0.01	0.53	1.50	0.26
Avail Cap(c_a), veh/h	151	644	542	89	579	491	345	2057	898	89	1444	636
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	34.4	38.8	49.1	40.8	40.0	40.4	21.1	9.0	48.5	29.7	19.7
Incr Delay (d2), s/veh	181.3	0.2	4.3	5.6	0.7	0.2	204.1	233.2	0.0	4.2	229.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	1.3	5.5	0.3	1.4	0.4	27.4	85.4	0.1	0.5	61.2	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	227.1	34.7	43.1	54.8	41.6	40.2	244.5	254.3	9.0	52.7	259.0	20.7
LnGrp LOS	F	C	D	D	D	D	F	F	A	D	F	C
Approach Vol, veh/h		482			87			3613			2354	
Approach Delay, s/veh		118.0			42.8			252.1			240.4	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	64.5	5.8	23.1	24.0	47.2	13.1	15.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	55.1	5.0	* 35	19.4	40.7	8.5	* 31				
Max Q Clear Time (g_c+I1), s	3.1	60.0	2.6	15.5	21.4	42.7	10.5	4.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	235.2
HCM 6th LOS	F

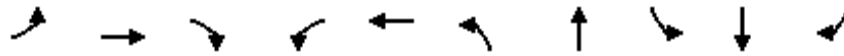
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

06/24/2021

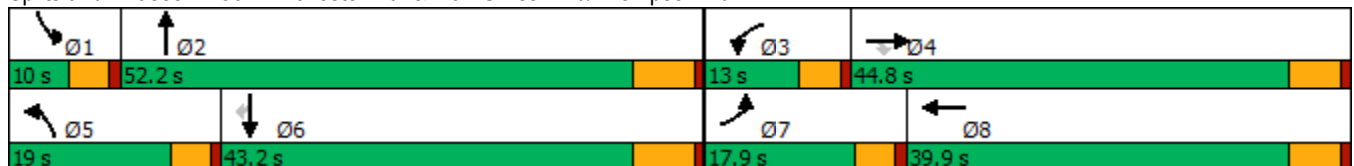


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↑	↗↗	↘	↗	↘	↗↗	↘	↗↗	↘
Traffic Volume (vph)	398	473	492	496	468	462	3975	283	2420	298
Future Volume (vph)	398	473	492	496	468	462	3975	283	2420	298
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2	1	6	
Permitted Phases			4							6
Detector Phase	7	4	4	3	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	44.8	44.8	9.6	15.8	9.6	36.5	9.6	38.5	38.5
Total Split (s)	17.9	44.8	44.8	13.0	39.9	19.0	52.2	10.0	43.2	43.2
Total Split (%)	14.9%	37.3%	37.3%	10.8%	33.3%	15.8%	43.5%	8.3%	36.0%	36.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	13.3	39.0	39.0	8.4	34.1	14.4	45.7	5.4	36.7	36.7
Actuated g/C Ratio	0.11	0.32	0.32	0.07	0.28	0.12	0.38	0.04	0.31	0.31
v/c Ratio	2.09	0.81	0.45	4.15	1.21	2.25	3.52	3.70	2.31	0.50
Control Delay	535.5	48.9	11.2	1452.7	148.9	600.6	1150.7	1259.8	613.1	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	535.5	48.9	11.2	1452.7	148.9	600.6	1150.7	1259.8	613.1	15.4
LOS	F	D	B	F	F	F	F	F	F	B
Approach Delay		177.3			734.3		1099.8		614.9	
Approach LOS		F			F		F		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 4.15
 Intersection Signal Delay: 801.9
 Intersection LOS: F
 Intersection Capacity Utilization 216.5%
 ICU Level of Service H
 Analysis Period (min) 15























Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	473	492	496	468	141	462	3975	555	283	2420	298
Future Volume (veh/h)	398	473	492	496	468	141	462	3975	555	283	2420	298
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	410	488	348	511	482	143	476	4098	507	292	2495	287
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	608	886	125	392	116	214	1214	147	80	1087	478
Arrive On Green	0.11	0.32	0.32	0.07	0.28	0.28	0.12	0.38	0.38	0.05	0.31	0.31
Sat Flow, veh/h	1781	1870	2728	1781	1381	410	1781	3188	386	1781	3554	1564
Grp Volume(v), veh/h	410	488	348	511	0	625	476	2243	2362	292	2495	287
Grp Sat Flow(s),veh/h/ln	1781	1870	1364	1781	0	1790	1781	1777	1797	1781	1777	1564
Q Serve(g_s), s	13.3	28.6	11.8	8.4	0.0	34.1	14.4	45.7	45.7	5.4	36.7	18.7
Cycle Q Clear(g_c), s	13.3	28.6	11.8	8.4	0.0	34.1	14.4	45.7	45.7	5.4	36.7	18.7
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	197	608	886	125	0	509	214	677	684	80	1087	478
V/C Ratio(X)	2.08	0.80	0.39	4.10	0.00	1.23	2.23	3.32	3.45	3.64	2.30	0.60
Avail Cap(c_a), veh/h	197	608	886	125	0	509	214	677	684	80	1087	478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	37.0	31.3	55.8	0.0	43.0	52.8	37.1	37.2	57.3	41.7	35.4
Incr Delay (d2), s/veh	501.5	7.7	0.3	1413.0	0.0	119.2	567.0	1045.7	1106.3	1219.4	586.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	33.3	13.8	3.9	52.7	0.0	31.8	39.8	214.7	228.7	29.5	103.4	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	554.9	44.7	31.6	1468.8	0.0	162.2	619.8	1082.9	1143.4	1276.7	627.6	37.5
LnGrp LOS	F	D	C	F	A	F	F	F	F	F	F	D
Approach Vol, veh/h		1246			1136			5081			3074	
Approach Delay, s/veh		208.9			749.9			1067.6			634.2	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	52.2	13.0	44.8	19.0	43.2	17.9	39.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.4	45.7	8.4	39.0	14.4	36.7	13.3	34.1				
Max Q Clear Time (g_c+I1), s	7.4	47.7	10.4	30.6	16.4	38.7	15.3	36.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			805.4									
HCM 6th LOS			F									

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖↗	↕	↖↗	↖	↕↖↗	↖	↕↖↗
Traffic Volume (vph)	220	379	411	257	1361	566	3411	880	2341
Future Volume (vph)	220	379	411	257	1361	566	3411	880	2341
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	1	5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.5	9.6	30.6	30.6	9.6	9.5	38.5	9.6	16.5
Total Split (s)	12.0	20.0	30.6	38.6	19.0	15.0	50.4	19.0	54.4
Total Split (%)	10.0%	16.7%	25.5%	32.2%	15.8%	12.5%	42.0%	15.8%	45.3%
Yellow Time (s)	3.5	3.6	3.6	3.6	3.6	3.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.6	4.6	4.6	4.6	4.5	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	7.5	15.4	19.7	27.7	42.1	10.5	43.9	14.4	47.9
Actuated g/C Ratio	0.07	0.14	0.17	0.24	0.37	0.09	0.39	0.13	0.42
v/c Ratio	2.06	4.25	0.74	0.61	2.33	3.77	2.22	4.22	1.84
Control Delay	530.0	1485.9	52.8	44.6	625.3	1278.0	571.3	1477.9	405.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	530.0	1485.9	52.8	44.6	625.3	1278.0	571.3	1477.9	405.4
LOS	F	F	D	D	F	F	F	F	F
Approach Delay		1328.3		435.3			660.0		682.1
Approach LOS		F		F			F		F

Intersection Summary


























Cycle Length: 120
 Actuated Cycle Length: 113.8
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 4.25
 Intersection Signal Delay: 705.8
 Intersection LOS: F
 Intersection Capacity Utilization 221.2%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  			 	
Traffic Volume (veh/h)	220	379	735	411	257	1361	566	3411	574	880	2341	188
Future Volume (veh/h)	220	379	735	411	257	1361	566	3411	574	880	2341	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	239	412	799	442	279	1259	615	3668	479	946	2517	204
Peak Hour Factor	0.92	0.92	0.92	0.93	0.92	0.93	0.92	0.93	0.93	0.93	0.93	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	111	214	521	530	634	156	1678	209	214	1330	106
Arrive On Green	0.06	0.19	0.19	0.15	0.28	0.28	0.09	0.37	0.37	0.12	0.40	0.40
Sat Flow, veh/h	1781	569	1103	3456	1870	1565	1781	4586	571	1781	3333	266
Grp Volume(v), veh/h	239	0	1211	442	279	1259	615	2676	1471	946	1326	1395
Grp Sat Flow(s),veh/h/ln	1781	0	1672	1728	1870	1565	1781	1702	1753	1781	1777	1822
Q Serve(g_s), s	7.5	0.0	23.3	14.9	15.1	34.0	10.5	43.9	43.9	14.4	47.9	47.9
Cycle Q Clear(g_c), s	7.5	0.0	23.3	14.9	15.1	34.0	10.5	43.9	43.9	14.4	47.9	47.9
Prop In Lane	1.00		0.66	1.00		1.00	1.00		0.33	1.00		0.15
Lane Grp Cap(c), veh/h	111	0	325	521	530	634	156	1245	641	214	709	727
V/C Ratio(X)	2.15	0.00	3.73	0.85	0.53	1.99	3.95	2.15	2.29	4.43	1.87	1.92
Avail Cap(c_a), veh/h	111	0	325	749	530	634	156	1245	641	214	709	727
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	0.0	48.3	49.6	36.2	35.9	54.8	38.0	38.1	52.8	36.0	36.1
Incr Delay (d2), s/veh	544.7	0.0	1235.1	6.3	1.0	449.9	1340.9	519.8	586.8	1552.3	396.4	418.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.2	0.0	121.1	6.9	7.0	97.2	62.6	106.7	121.8	98.3	97.0	103.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	601.0	0.0	1283.5	56.0	37.2	485.7	1395.6	557.9	624.8	1605.1	432.5	454.3
LnGrp LOS	F	A	F	E	D	F	F	F	F	F	F	F
Approach Vol, veh/h		1450			1980			4762			3667	
Approach Delay, s/veh		1171.0			326.6			686.7			743.3	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	50.4	22.7	27.9	15.0	54.4	12.0	38.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	4.6	4.5	6.5	4.5	4.6				
Max Green Setting (Gmax), s	14.4	43.9	26.0	15.4	10.5	47.9	7.5	34.0				
Max Q Clear Time (g_c+11), s	16.4	45.9	16.9	25.3	12.5	49.9	9.5	36.0				
Green Ext Time (p_c), s	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			703.3									
HCM 6th LOS			F									

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/22/2021

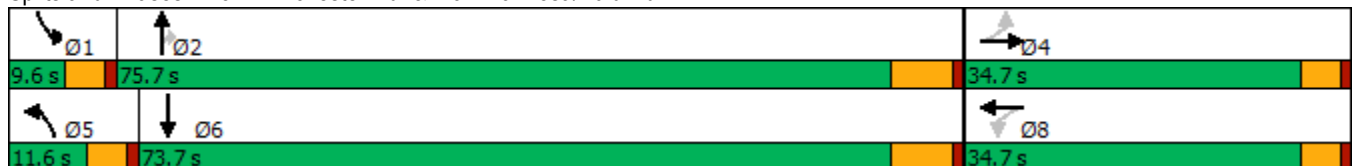


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↑↑	↗	↖	↑↑
Traffic Volume (vph)	240	53	397	89	136	3980	357	270	2861
Future Volume (vph)	240	53	397	89	136	3980	357	270	2861
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	11.6	75.7	75.7	9.6	73.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	9.7%	63.1%	63.1%	8.0%	61.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	30.0	30.0	30.0	30.0	7.0	69.2	69.2	5.0	67.2
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.06	0.58	0.58	0.04	0.56
v/c Ratio	4.08	0.36	1.66	0.94	1.39	2.05	0.39	3.89	1.74
Control Delay	1437.5	22.9	344.1	67.0	265.0	496.8	10.8	1348.3	356.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1437.5	22.9	344.1	67.0	265.0	496.8	10.8	1348.3	356.7
LOS	F	C	F	E	F	F	B	F	F
Approach Delay		863.0		201.8		450.9			433.4
Approach LOS		F		F		F			F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 4.08
 Intersection Signal Delay: 440.3
 Intersection Capacity Utilization 180.4%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↗	
Traffic Volume (veh/h)	240	53	111	397	89	330	136	3980	357	270	2861	356
Future Volume (veh/h)	240	53	111	397	89	330	136	3980	357	270	2861	356
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	56	100	418	94	342	143	4189	290	284	3012	348
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	150	269	273	88	321	104	2049	914	74	1798	203
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.06	0.58	0.58	0.04	0.56	0.56
Sat Flow, veh/h	953	602	1075	1231	353	1286	1781	3554	1585	1781	3210	363
Grp Volume(v), veh/h	253	0	156	418	0	436	143	4189	290	284	1637	1723
Grp Sat Flow(s),veh/h/ln	953	0	1677	1231	0	1639	1781	1777	1585	1781	1777	1796
Q Serve(g_s), s	0.0	0.0	9.2	20.8	0.0	30.0	7.0	69.2	11.4	5.0	67.2	67.2
Cycle Q Clear(g_c), s	30.0	0.0	9.2	30.0	0.0	30.0	7.0	69.2	11.4	5.0	67.2	67.2
Prop In Lane	1.00		0.64	1.00		0.78	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	60	0	419	273	0	410	104	2049	914	74	995	1006
V/C Ratio(X)	4.22	0.00	0.37	1.53	0.00	1.06	1.38	2.04	0.32	3.83	1.65	1.71
Avail Cap(c_a), veh/h	60	0	419	273	0	410	104	2049	914	74	995	1006
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.0	0.0	37.2	51.9	0.0	45.0	56.5	25.4	13.2	57.5	26.4	26.4
Incr Delay (d2), s/veh	1485.8	0.0	0.2	256.7	0.0	62.5	218.4	471.6	0.2	1303.9	294.8	325.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.6	0.0	3.8	27.8	0.0	19.2	9.3	158.7	3.6	29.0	105.6	115.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1545.8	0.0	37.4	308.6	0.0	107.5	274.9	497.0	13.4	1361.4	321.2	351.7
LnGrp LOS	F	A	D	F	A	F	F	F	B	F	F	F
Approach Vol, veh/h		409			854			4622			3644	
Approach Delay, s/veh		970.5			205.9			459.8			416.7	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	75.7		34.7	11.6	73.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	69.2		* 30	7.0	67.2		* 30				
Max Q Clear Time (g_c+I1), s	7.0	71.2		32.0	9.0	69.2		32.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	442.5
HCM 6th LOS	F

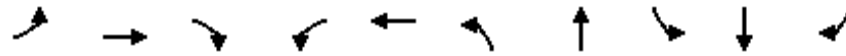
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/22/2021

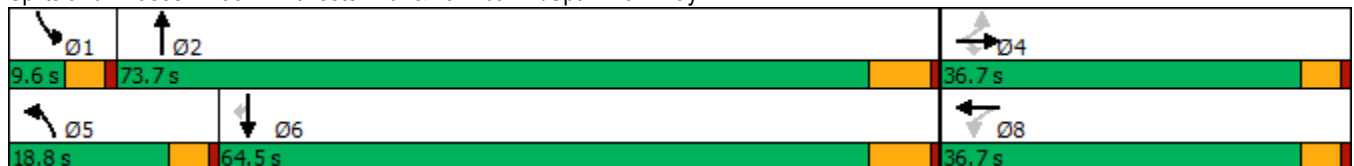


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	200	12	188	160	9	297	4083	22	3180	167
Future Volume (vph)	200	12	188	160	9	297	4083	22	3180	167
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	18.8	73.7	9.6	64.5	64.5
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	15.7%	61.4%	8.0%	53.8%	53.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	29.4	29.4	29.4		29.4	14.2	71.3	5.0	58.1	58.1
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.12	0.61	0.04	0.49	0.49
v/c Ratio	0.93	0.03	0.38		0.92	1.43	2.05	0.31	1.88	0.21
Control Delay	87.8	32.8	11.3		66.6	257.3	496.1	66.7	419.2	8.4
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.8	32.8	11.3		66.6	257.3	496.1	66.7	419.2	8.4
LOS	F	C	B		E	F	F	E	F	A
Approach Delay		50.2			66.6		480.5		396.6	
Approach LOS		D			E		F		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 117.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.05
 Intersection Signal Delay: 410.9
 Intersection Capacity Utilization 163.1%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/22/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	12	188	160	9	190	297	4083	166	22	3180	167
Future Volume (veh/h)	200	12	188	160	9	190	297	4083	166	22	3180	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	206	12	122	165	9	185	306	4209	157	23	3278	150
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	496	420	214	13	195	211	2028	75	40	1722	751
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.12	0.58	0.58	0.02	0.48	0.48
Sat Flow, veh/h	1189	1870	1585	640	50	734	1781	3491	129	1781	3554	1549
Grp Volume(v), veh/h	206	12	122	359	0	0	306	2127	2239	23	3278	150
Grp Sat Flow(s),veh/h/ln	1189	1870	1585	1425	0	0	1781	1777	1844	1781	1777	1549
Q Serve(g_s), s	0.0	0.6	7.3	29.1	0.0	0.0	14.2	69.5	69.5	1.5	58.0	6.6
Cycle Q Clear(g_c), s	27.5	0.6	7.3	29.6	0.0	0.0	14.2	69.5	69.5	1.5	58.0	6.6
Prop In Lane	1.00		1.00	0.46		0.52	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	295	496	420	421	0	0	211	1032	1071	40	1722	751
V/C Ratio(X)	0.70	0.02	0.29	0.85	0.00	0.00	1.45	2.06	2.09	0.58	1.90	0.20
Avail Cap(c_a), veh/h	298	500	424	425	0	0	211	1032	1071	74	1722	751
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	32.5	35.0	43.2	0.0	0.0	52.8	25.1	25.1	58.0	30.9	17.6
Incr Delay (d2), s/veh	6.9	0.0	0.4	15.2	0.0	0.0	226.3	481.0	494.2	4.9	409.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.3	2.9	12.1	0.0	0.0	19.3	162.3	172.3	0.7	119.8	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	32.6	35.4	58.3	0.0	0.0	279.1	506.1	519.3	62.8	439.9	17.7
LnGrp LOS	D	C	D	E	A	A	F	F	F	E	F	B
Approach Vol, veh/h		340			359			4672			3451	
Approach Delay, s/veh		43.8			58.3			497.5			419.0	
Approach LOS		D			E			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	76.0		36.4	18.8	64.5		36.4				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	14.2	58.0		* 32				
Max Q Clear Time (g_c+I1), s	3.5	71.5		29.5	16.2	60.0		31.6				
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	431.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 9.3:

**HORIZON YEAR (2040) WITH PROJECT ALTERNATIVE ACCESS CONDITIONS
INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**

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Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕		↵	↕			↕			↕	
Traffic Vol, veh/h	23	347	0	12	260	7	0	0	43	15	0	53
Future Vol, veh/h	23	347	0	12	260	7	0	0	43	15	0	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	377	0	13	283	8	0	0	47	16	0	58

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	291	0	0	377	0	0	595	744	189	552	740	146
Stage 1	-	-	-	-	-	-	427	427	-	313	313	-
Stage 2	-	-	-	-	-	-	168	317	-	239	427	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1268	-	-	1178	-	-	388	341	821	416	343	875
Stage 1	-	-	-	-	-	-	576	584	-	672	656	-
Stage 2	-	-	-	-	-	-	817	653	-	743	584	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1268	-	-	1178	-	-	354	330	821	383	332	875
Mov Cap-2 Maneuver	-	-	-	-	-	-	354	330	-	479	424	-
Stage 1	-	-	-	-	-	-	564	572	-	659	649	-
Stage 2	-	-	-	-	-	-	755	646	-	687	572	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.3			9.6			10.4		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	821	1268	-	-	1178	-	-	740
HCM Lane V/C Ratio	0.057	0.02	-	-	0.011	-	-	0.1
HCM Control Delay (s)	9.6	7.9	-	-	8.1	-	-	10.4
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.3

Intersection						
Int Delay, s/veh	5.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	121	241	165	69	147	101
Future Vol, veh/h	121	241	165	69	147	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	262	179	75	160	110

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	254	0	-	0	612 127
Stage 1	-	-	-	-	217 -
Stage 2	-	-	-	-	395 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	1308	-	-	-	425 900
Stage 1	-	-	-	-	798 -
Stage 2	-	-	-	-	650 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1308	-	-	-	382 900
Mov Cap-2 Maneuver	-	-	-	-	485 -
Stage 1	-	-	-	-	717 -
Stage 2	-	-	-	-	650 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1308	-	-	-	597
HCM Lane V/C Ratio	0.101	-	-	-	0.452
HCM Control Delay (s)	8.1	-	-	-	15.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.3

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	388	185	109	0	49
Future Vol, veh/h	0	388	185	109	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	422	201	118	0	53

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	- 160
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	- 6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	- 3.32
Pot Cap-1 Maneuver	0	-	-	-	0 857
Stage 1	0	-	-	-	0 -
Stage 2	0	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	- 857
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	857
HCM Lane V/C Ratio	-	-	-	0.062
HCM Control Delay (s)	-	-	-	9.5
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection						
Int Delay, s/veh	7.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	↗
Traffic Vol, veh/h	0	120	0	2065	3020	68
Future Vol, veh/h	0	120	0	2065	3020	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	130	0	2245	3283	74

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 1642	-	0 - 0
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	- 6.94	-	- - -
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	- 3.32	-	- - -
Pot Cap-1 Maneuver	0 ~ 89	0	- - -
Stage 1	0	0	- - -
Stage 2	0	0	- - -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	- ~ 89	-	- - -
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

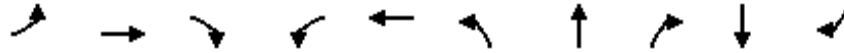
Approach	EB	NB	SB
HCM Control Delay, s	344.2	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 89	-	-
HCM Lane V/C Ratio	- 1.466	-	-
HCM Control Delay (s)	- \$ 344.2	-	-
HCM Lane LOS	- F	-	-
HCM 95th %tile Q(veh)	- 10	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/23/2021

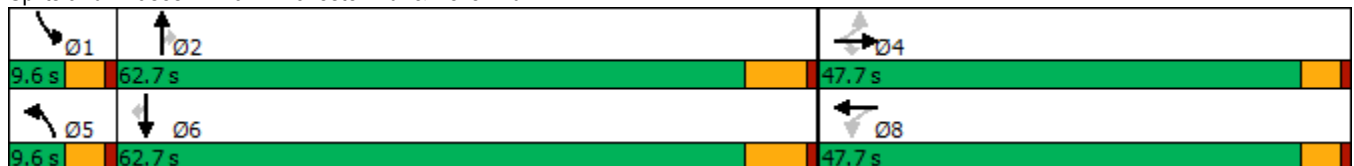


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations											
Traffic Volume (vph)	258	41	147	17	2	161	1777	12	3038	102	
Future Volume (vph)	258	41	147	17	2	161	1777	12	3038	102	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4			8	5	2		6		1
Permitted Phases	4		4	8				2		6	
Detector Phase	4	4	4	8	8	5	2	2	6	6	
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	47.7	47.7	9.6	62.7	62.7	62.7	62.7	9.6
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.0%	52.3%	52.3%	52.3%	52.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)	25.9	25.9	25.9		25.9	5.0	66.2	66.2	56.5	56.5	
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.05	0.64	0.64	0.55	0.55	
v/c Ratio	0.79	0.09	0.34		0.05	1.99	0.83	0.01	1.67	0.12	
Control Delay	52.5	28.7	15.6		27.9	515.1	20.3	0.0	326.6	7.6	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.5	28.7	15.6		27.9	515.1	20.3	0.0	326.6	7.6	
LOS	D	C	B		C	F	C	A	F	A	
Approach Delay		38.1			27.9		61.0		316.2		
Approach LOS		D			C		E		F		

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 103.3
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.99
 Intersection Signal Delay: 203.3
 Intersection Capacity Utilization 120.9%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	258	41	147	17	2	0	161	1777	12	0	3038	102
Future Volume (veh/h)	258	41	147	17	2	0	161	1777	12	0	3038	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	274	44	152	18	2	0	171	1890	13	0	3232	109
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	389	403	341	287	28	0	91	2383	1063	2	2035	908
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.00	0.05	0.67	0.67	0.00	0.57	0.57
Sat Flow, veh/h	1415	1870	1585	1011	132	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	274	44	152	20	0	0	171	1890	13	0	3232	109
Grp Sat Flow(s),veh/h/ln	1415	1870	1585	1143	0	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	14.8	1.9	8.2	1.0	0.0	0.0	5.0	36.7	0.3	0.0	56.2	3.1
Cycle Q Clear(g_c), s	17.6	1.9	8.2	2.8	0.0	0.0	5.0	36.7	0.3	0.0	56.2	3.1
Prop In Lane	1.00		1.00	0.90		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	389	403	341	316	0	0	91	2383	1063	2	2035	908
V/C Ratio(X)	0.71	0.11	0.45	0.06	0.00	0.00	1.88	0.79	0.01	0.00	1.59	0.12
Avail Cap(c_a), veh/h	704	820	695	590	0	0	91	2383	1063	91	2035	908
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	30.9	33.4	31.6	0.0	0.0	46.6	11.4	5.4	0.0	21.0	9.6
Incr Delay (d2), s/veh	2.4	0.1	0.9	0.1	0.0	0.0	436.4	1.9	0.0	0.0	267.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.8	3.2	0.4	0.0	0.0	13.1	10.7	0.1	0.0	93.7	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.2	31.1	34.3	31.7	0.0	0.0	482.9	13.3	5.4	0.0	288.0	9.7
LnGrp LOS	D	C	C	C	A	A	F	B	A	A	F	A
Approach Vol, veh/h		470			20			2074			3341	
Approach Delay, s/veh		36.8			31.7			52.0			278.9	
Approach LOS		D			C			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	72.3		25.8	9.6	62.7		25.8				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	5.0	56.2		* 43				
Max Q Clear Time (g_c+I1), s	0.0	38.7		19.6	7.0	58.2		4.8				
Green Ext Time (p_c), s	0.0	12.0		1.5	0.0	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	179.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Traffic Vol, veh/h	34	338	1	10	405	10	1	0	12	6	0	22
Future Vol, veh/h	34	338	1	10	405	10	1	0	12	6	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	367	1	11	440	11	1	0	13	7	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	451	0	0	368	0	0	684	915	184	726	910	226
Stage 1	-	-	-	-	-	-	442	442	-	468	468	-
Stage 2	-	-	-	-	-	-	242	473	-	258	442	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1106	-	-	1187	-	-	335	271	827	312	273	777
Stage 1	-	-	-	-	-	-	564	575	-	545	560	-
Stage 2	-	-	-	-	-	-	740	557	-	724	575	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1106	-	-	1187	-	-	314	260	827	297	262	777
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	260	-	402	371	-
Stage 1	-	-	-	-	-	-	545	556	-	527	555	-
Stage 2	-	-	-	-	-	-	711	552	-	689	556	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0.2			10			10.8		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	735	1106	-	-	1187	-	-	648
HCM Lane V/C Ratio	0.019	0.033	-	-	0.009	-	-	0.047
HCM Control Delay (s)	10	8.4	-	-	8.1	-	-	10.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	8.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	142	202	354	80	238	61
Future Vol, veh/h	142	202	354	80	238	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	154	220	385	87	259	66

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	472	0	-	0	847 236
Stage 1	-	-	-	-	429 -
Stage 2	-	-	-	-	418 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	1086	-	-	-	301 766
Stage 1	-	-	-	-	624 -
Stage 2	-	-	-	-	632 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1086	-	-	-	~ 258 766
Mov Cap-2 Maneuver	-	-	-	-	445 -
Stage 1	-	-	-	-	535 -
Stage 2	-	-	-	-	632 -

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	26
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1086	-	-	-	487
HCM Lane V/C Ratio	0.142	-	-	-	0.667
HCM Control Delay (s)	8.9	-	-	-	26
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.5	-	-	-	4.9

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	440	391	225	0	43
Future Vol, veh/h	0	440	391	225	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	478	425	245	0	47

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	335
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	661
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	661
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	661
HCM Lane V/C Ratio	-	-	-	0.071
HCM Control Delay (s)	-	-	-	10.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

Intersection						
Int Delay, s/veh	8.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	↗
Traffic Vol, veh/h	0	170	0	3087	2626	141
Future Vol, veh/h	0	170	0	3087	2626	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	185	0	3355	2854	153

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	1427	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0 ~ 125	0	-	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	- ~ 125	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
























Approach	EB	NB	SB
HCM Control Delay, s	316.7	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 125	-	-
HCM Lane V/C Ratio	- 1.478	-	-
HCM Control Delay (s)	- 316.7	-	-
HCM Lane LOS	- F	-	-
HCM 95th %tile Q(veh)	- 12.9	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings
26: Winchester Rd. & Keller Rd.

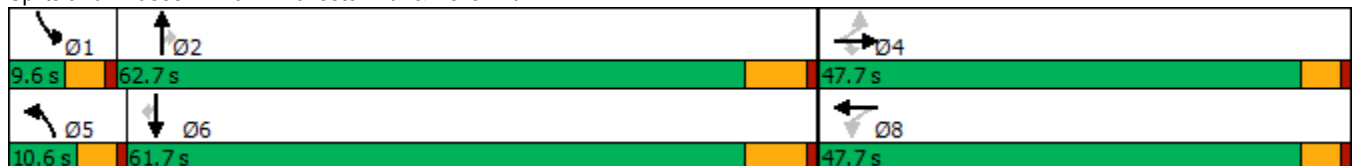
Keller Crossing (JN:13649)
06/23/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	251	16	61	25	25	218	2816	107	8	2528	260	
Future Volume (vph)	251	16	61	25	25	218	2816	107	8	2528	260	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases		4			8	5	2		1	6		
Permitted Phases	4		4	8				2			6	
Detector Phase	4	4	4	8	8	5	2	2	1	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5	
Total Split (s)	47.7	47.7	47.7	47.7	47.7	10.6	62.7	62.7	9.6	61.7	61.7	
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.8%	52.3%	52.3%	8.0%	51.4%	51.4%	
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min	
Act Effct Green (s)	25.2	25.2	25.2		25.2	6.0	64.4	64.4	5.0	55.5	55.5	
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.06	0.63	0.63	0.05	0.54	0.54	
v/c Ratio	0.80	0.04	0.15		0.18	2.25	1.35	0.11	0.10	1.41	0.30	
Control Delay	54.2	27.9	6.2		23.8	613.8	181.8	4.1	53.2	209.9	9.1	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.2	27.9	6.2		23.8	613.8	181.8	4.1	53.2	209.9	9.1	
LOS	D	C	A		C	F	F	A	D	F	A	
Approach Delay		44.0			23.8		205.7			190.7		
Approach LOS		D			C		F			F		

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 102.6	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.25	
Intersection Signal Delay: 188.7	Intersection LOS: F
Intersection Capacity Utilization 115.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	16	61	25	25	20	218	2816	107	8	2528	260
Future Volume (veh/h)	251	16	61	25	25	20	218	2816	107	8	2528	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	267	17	59	27	27	18	232	2996	113	9	2689	275
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	395	335	154	149	84	109	2188	955	20	2009	896
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.06	0.62	0.62	0.01	0.57	0.57
Sat Flow, veh/h	1361	1870	1585	491	706	399	1781	3554	1550	1781	3554	1585
Grp Volume(v), veh/h	267	17	59	72	0	0	232	2996	113	9	2689	275
Grp Sat Flow(s),veh/h/ln	1361	1870	1585	1596	0	0	1781	1777	1550	1781	1777	1585
Q Serve(g_s), s	14.3	0.7	3.0	0.0	0.0	0.0	6.0	60.1	2.9	0.5	55.2	8.9
Cycle Q Clear(g_c), s	17.6	0.7	3.0	3.2	0.0	0.0	6.0	60.1	2.9	0.5	55.2	8.9
Prop In Lane	1.00		1.00	0.37		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	375	395	335	388	0	0	109	2188	955	20	2009	896
V/C Ratio(X)	0.71	0.04	0.18	0.19	0.00	0.00	2.12	1.37	0.12	0.46	1.34	0.31
Avail Cap(c_a), veh/h	687	824	698	745	0	0	109	2188	955	91	2009	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	30.6	31.5	31.6	0.0	0.0	45.8	18.8	7.8	48.0	21.2	11.2
Incr Delay (d2), s/veh	2.5	0.0	0.2	0.2	0.0	0.0	533.1	169.2	0.1	6.0	155.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.3	1.2	1.4	0.0	0.0	18.7	69.7	0.8	0.2	61.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	30.7	31.8	31.9	0.0	0.0	579.0	187.9	7.8	54.0	177.0	11.4
LnGrp LOS	D	C	C	C	A	A	F	F	A	D	F	B
Approach Vol, veh/h		343			72			3341			2973	
Approach Delay, s/veh		37.7			31.9			209.0			161.3	
Approach LOS		D			C			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	66.6		25.3	10.6	61.7		25.3				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	6.0	55.2		* 43				
Max Q Clear Time (g_c+I1), s	2.5	62.1		19.6	8.0	57.2		5.2				
Green Ext Time (p_c), s	0.0	0.0		1.1	0.0	0.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay	177.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 9.4:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT
ANALYSIS WORKSHEETS**

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Horizon Year (2040) Without Project Conditions - Weekday PM Peak Hour**

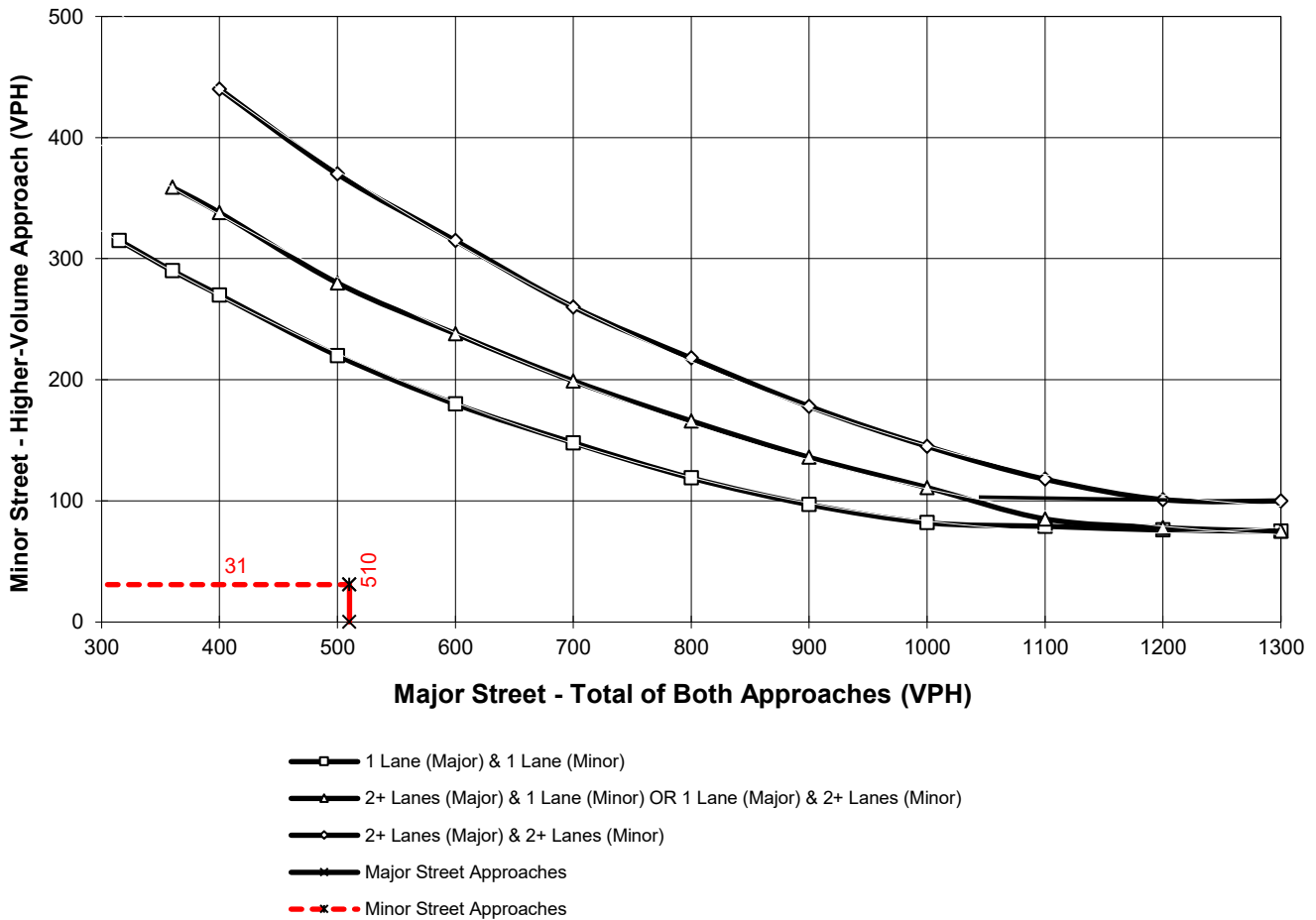
Major Street Name = **Keller Rd.**

Total of Both Approaches (VPH) = **510**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pourroy Rd.**

High Volume Approach (VPH) = **31**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Horizon Year (2040) Without Project Conditions - Weekday AM Peak Hour**

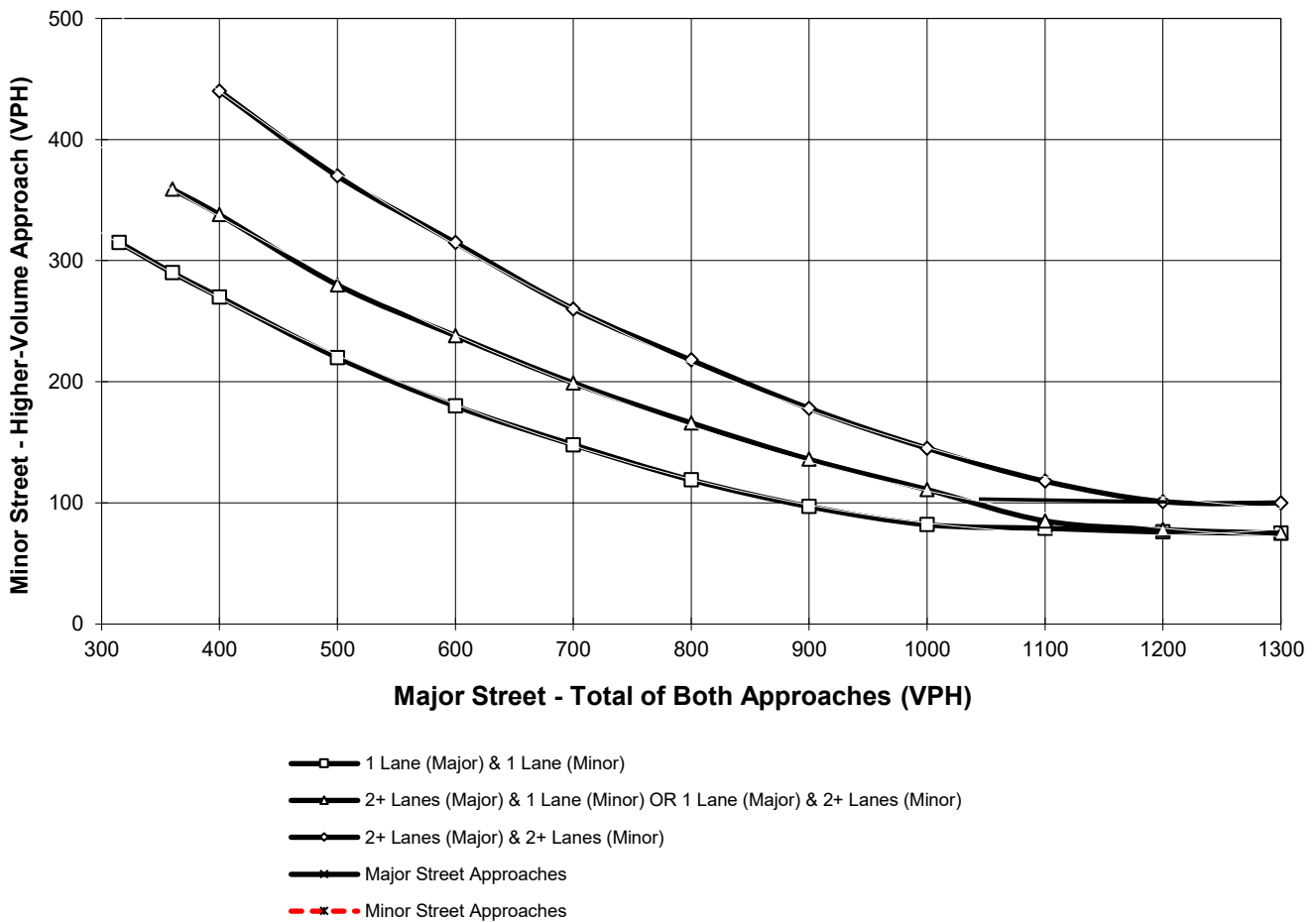
Major Street Name = **Pourroy Rd.**

Total of Both Approaches (VPH) = **227**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pat Rd.**

High Volume Approach (VPH) = **217**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 9.5:

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT
ANALYSIS WORKSHEETS**

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Horizon Year (2040) Without Project Conditions - Weekday PM Peak Hour**

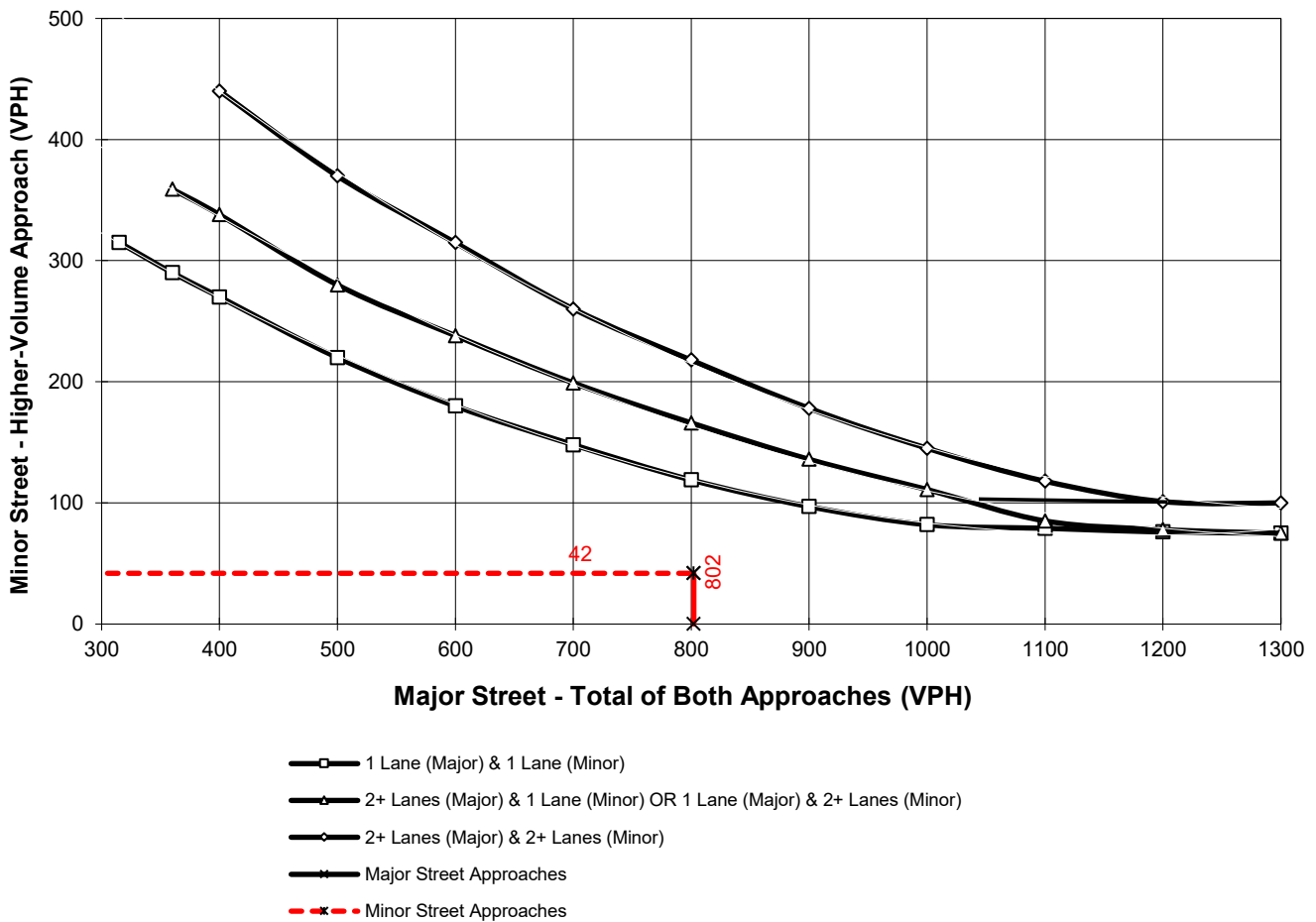
Major Street Name = **Keller Rd.**

Total of Both Approaches (VPH) = **802**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pourroy Rd.**

High Volume Approach (VPH) = **42**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Horizon Year (2040) Without Project Conditions - Weekday AM Peak Hour**

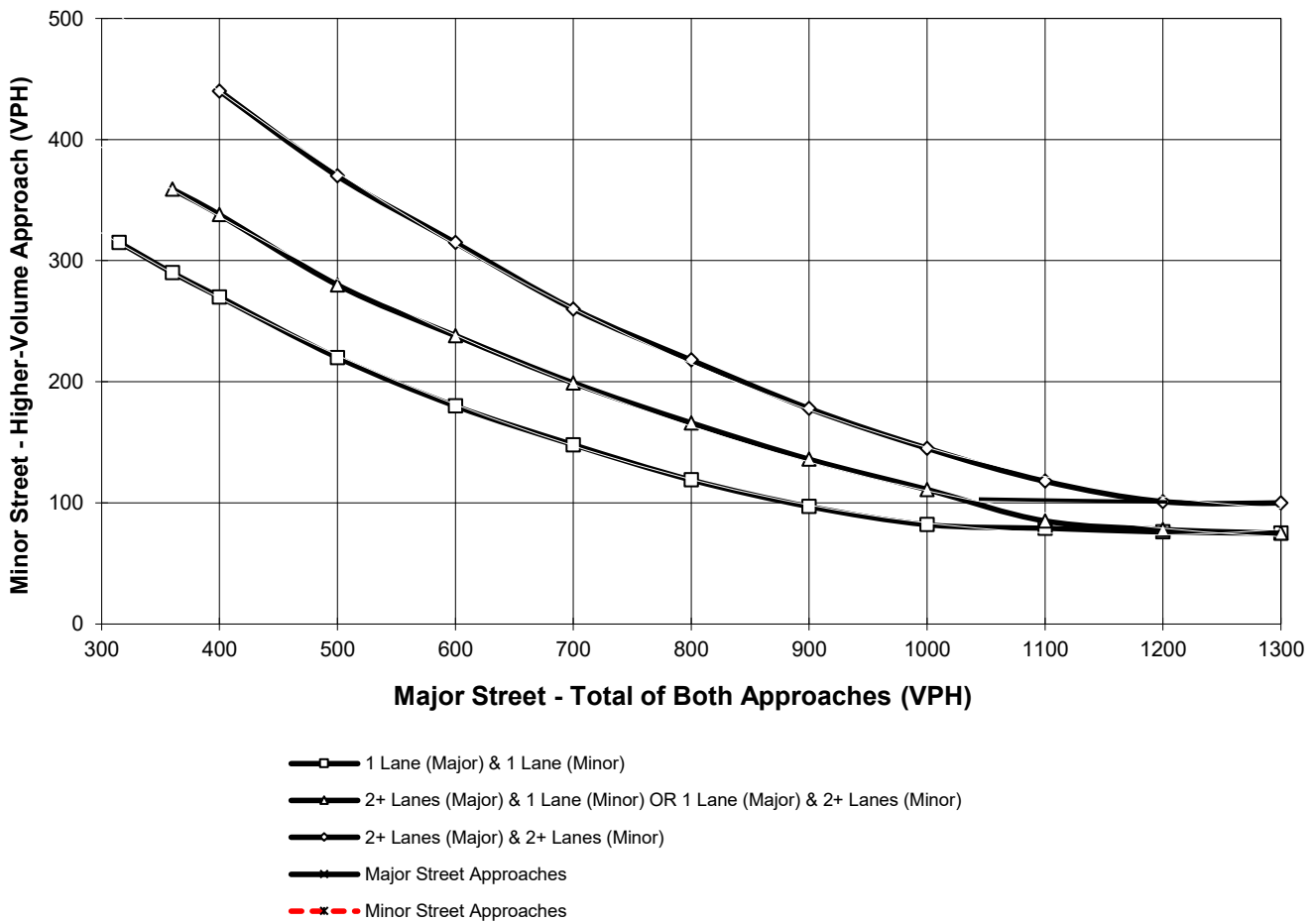
Major Street Name = **Pourroy Rd.**

Total of Both Approaches (VPH) = **249**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Pat Rd.**

High Volume Approach (VPH) = **221**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	040 Without Proj
Jurisdiction: <u>County of Riverside</u>				CALC <u>CP</u>	DATE <u>12/14/11</u>
Major Street: <u>Keller Rd.</u>				CHK <u>CP</u>	DATE <u>12/14/11</u>
Minor Street: <u>Street A</u>				Critical Approach Speed (Major) <u>45</u> mph	
				Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes =	<u>1</u>	lane	Minor Street Approach Lanes =	<u>1</u>	lane
Major Street Future ADT =	<u>8,011</u>	vpd	Minor Street Future ADT =	<u>379</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);	<input checked="" type="checkbox"/>		or	<input type="checkbox"/>	
In built up area of isolated community of < 10,000 population	<input type="checkbox"/>			RURAL (R)	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 8,011	1 379	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 8,011	1 379	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
No one condition satisfied, but following conditions fulfilled 80% of more	XX				
	A	B			
	23%	45%			

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	040 Without Proj
Jurisdiction: <u>County of Riverside</u>				CALC <u>CP</u>	DATE <u>12/14/11</u>
Major Street: <u>Keller Rd.</u>				CHK <u>CP</u>	DATE <u>12/14/11</u>
Minor Street: <u>Street B</u>				Critical Approach Speed (Major) <u>45</u> mph	Critical Approach Speed (Minor) <u>25</u> mph
Major Street Approach Lanes = <u>1</u> lane				Minor Street Approach Lanes: <u>1</u> lane	
Major Street Future ADT = <u>7,859</u> vpd				Minor Street Future ADT = <u>2,220</u> vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);				<input checked="" type="checkbox"/>	
				or	RURAL (R)
In built up area of isolated community of < 10,000 population				<input type="checkbox"/>	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 7,859	1 2,220	8,000	5,600 *	2,400	1,680 *
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 7,859	1 2,220	12,000	8,400	1,200	850 *
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	100%				
	<u>B</u>				
	94%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



APPENDIX 9.6:

**HORIZON YEAR (2040) WITH PROJECT ALTERNATIVE ACCESS CONDITIONS TRAFFIC
SIGNAL WARRANT ANALYSIS WORKSHEETS**

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	40 With Project -
Jurisdiction: <u>County of Riverside</u>				CALC <u>CP</u>	DATE <u>12/14/11</u>
Major Street: <u>Keller Rd.</u>				CHK <u>CP</u>	DATE <u>12/14/11</u>
Minor Street: <u>Street A</u>				Critical Approach Speed (Major) <u>45</u> mph	
				Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes =	<u>1</u> lane
Major Street Future ADT =		<u>8,104</u>	vpd	Minor Street Future ADT =	<u>379</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input checked="" type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume	XX	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach	Number of lanes for moving traffic on each approach				
<u>Major Street</u>	<u>Minor Street</u>				
1 8,104	1 379	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic	XX	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach	Number of lanes for moving traffic on each approach				
<u>Major Street</u>	<u>Minor Street</u>				
1 8,104	1 379	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B	XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
No one condition satisfied, but following conditions fulfilled 80% of more	XX				
	A				
	23%				
	B				
	45%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	40 With Project -
Jurisdiction: <u>County of Riverside</u>				CALC <u>CP</u>	DATE <u>12/14/11</u>
Major Street: <u>Keller Rd.</u>				CHK <u>CP</u>	DATE <u>12/14/11</u>
Minor Street: <u>Street B</u>				Critical Approach Speed (Major) <u>45</u> mph	
				Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes =	<u>1</u>	lane	Minor Street Approach Lanes =	<u>1</u>	lane
Major Street Future ADT =	<u>7,528</u>	vpd	Minor Street Future ADT =	<u>1,795</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);	<input checked="" type="checkbox"/>		or	<input type="checkbox"/>	
In built up area of isolated community of < 10,000 population	<input type="checkbox"/>			RURAL (R)	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume	XX	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 7,528	1 1,795	8,000	5,600 *	2,400	1,680 *
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 7,528	1 1,795	12,000	8,400	1,200	850 *
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	100%				
	<u>B</u>				
	90%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



APPENDIX 9.7:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS QUEUING ANALYSIS
WORKSHEETS**

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Queues

1: I-215 SB Ramps & Scott Rd.



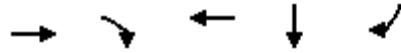
Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	997	834	1245	1073	1055	156	156
v/c Ratio	0.51	0.67	0.63	0.79	0.85	0.27	0.27
Control Delay	15.0	3.7	17.2	5.8	39.1	16.7	16.7
Queue Delay	0.0	0.0	0.3	0.5	0.0	0.0	0.0
Total Delay	15.0	3.7	17.4	6.3	39.1	16.7	16.7
Queue Length 50th (ft)	218	0	302	0	329	42	42
Queue Length 95th (ft)	268	50	367	53	#520	108	108
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	2562	1376	2562	1442	1441	669	669
Starvation Cap Reductn	0	0	585	96	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.61	0.63	0.80	0.73	0.23	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

2: I-215 SB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	2041	651	1940	517	1071
v/c Ratio	0.88	0.62	0.84	0.67	0.87
Control Delay	35.3	4.4	32.8	31.7	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	4.4	32.9	31.7	38.4
Queue Length 50th (ft)	524	0	482	307	401
Queue Length 95th (ft)	598	68	551	432	509
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	2321	1058	2321	808	1289
Starvation Cap Reductn	0	0	9	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.88	0.62	0.84	0.64	0.83

Intersection Summary

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	261	1791	1957	1224	233	232	180	180
v/c Ratio	2.07	0.61	0.67	0.82	1.08	1.07	0.89	0.89
Control Delay	525.7	4.8	5.5	5.8	121.3	119.9	79.4	79.4
Queue Delay	0.0	1.8	15.1	3.2	0.0	0.0	0.0	0.0
Total Delay	525.7	6.6	20.6	9.0	121.3	119.9	79.4	79.4
Queue Length 50th (ft)	~222	199	240	15	~165	~163	111	111
Queue Length 95th (ft)	#394	240	290	38	#340	#335	#254	#254
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	126	2919	2919	1496	216	216	203	203
Starvation Cap Reductn	0	912	993	181	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.07	0.89	1.02	0.93	1.08	1.07	0.89	0.89

Intersection Summary

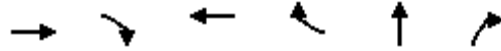
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
4: I-215 NB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	1612	868	2742	436	626	585
v/c Ratio	0.64	0.56	1.08	0.47	0.97	0.96
Control Delay	23.5	1.5	74.2	8.1	62.1	62.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	1.5	74.2	8.1	62.1	62.2
Queue Length 50th (ft)	327	0	~874	64	471	437
Queue Length 95th (ft)	378	0	#963	145	#730	#691
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	2536	1548	2536	932	658	617
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.56	1.08	0.47	0.95	0.95

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

1: I-215 SB Ramps & Scott Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1560	571	2027	739	1516	174	174
v/c Ratio	0.79	0.51	1.03	0.61	1.18	0.31	0.31
Control Delay	24.7	3.6	54.2	3.4	123.2	26.9	26.9
Queue Delay	0.0	0.0	29.9	0.7	0.0	0.0	0.0
Total Delay	24.7	3.6	84.0	4.1	123.2	26.9	26.9
Queue Length 50th (ft)	479	17	~881	0	~724	93	93
Queue Length 95th (ft)	577	72	#1019	53	#860	155	155
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	1975	1113	1975	1210	1287	569	569
Starvation Cap Reductn	0	0	403	199	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.51	1.29	0.73	1.18	0.31	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

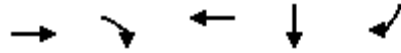
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

2: I-215 SB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	2479	552	1897	620	879
v/c Ratio	0.96	0.53	0.73	0.92	0.81
Control Delay	38.6	3.4	25.1	55.6	38.8
Queue Delay	0.0	0.0	0.3	0.0	0.0
Total Delay	38.6	3.4	25.4	55.6	38.8
Queue Length 50th (ft)	658	0	412	448	328
Queue Length 95th (ft)	#798	56	471	#672	421
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	2590	1042	2590	692	1110
Starvation Cap Reductn	0	0	190	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.96	0.53	0.79	0.90	0.79

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)
06/22/2021

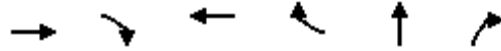


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	311	2733	1863	1212	654	653	438	437
v/c Ratio	5.02	1.17	0.80	0.86	1.56	1.55	1.02	1.02
Control Delay	1853.2	105.4	18.2	9.1	293.5	292.5	89.4	88.9
Queue Delay	0.0	0.3	47.7	4.3	0.0	0.0	0.0	0.0
Total Delay	1853.2	105.7	65.9	13.3	293.5	292.5	89.4	88.9
Queue Length 50th (ft)	~408	~1330	503	32	~754	~752	~364	~352
Queue Length 95th (ft)	#592	#1458	607	178	#998	#997	#581	#578
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	62	2329	2329	1414	420	420	430	430
Starvation Cap Reductn	0	264	797	141	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	5.02	1.32	1.22	0.95	1.56	1.55	1.02	1.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	2132	873	2338	437	970	903
v/c Ratio	0.89	0.56	0.98	0.49	1.39	1.39
Control Delay	34.8	1.5	45.0	7.6	213.4	212.8
Queue Delay	0.8	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	1.5	45.0	7.6	213.4	212.8
Queue Length 50th (ft)	537	0	632	51	~1045	~970
Queue Length 95th (ft)	610	0	#767	133	#1314	#1235
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	2394	1548	2394	897	698	651
Starvation Cap Reductn	81	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.56	0.98	0.49	1.39	1.39

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

APPENDIX 9.8:

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS QUEUING ANALYSIS
WORKSHEETS**

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Queues

1: I-215 SB Ramps & Scott Rd.



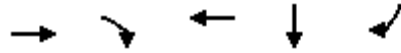
Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1005	834	1257	1073	1093	156	156
v/c Ratio	0.51	0.67	0.64	0.79	0.87	0.26	0.26
Control Delay	15.4	3.8	17.6	5.8	41.0	17.1	17.1
Queue Delay	0.0	0.0	0.3	0.5	0.0	0.0	0.0
Total Delay	15.4	3.8	18.0	6.3	41.0	17.1	17.1
Queue Length 50th (ft)	221	0	306	0	354	44	44
Queue Length 95th (ft)	272	50	372	53	#553	109	109
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	2503	1363	2503	1433	1402	652	652
Starvation Cap Reductn	0	0	597	99	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.61	0.66	0.80	0.78	0.24	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	2041	651	3237	517	1071
v/c Ratio	0.73	0.57	1.32dr	0.85	1.10
Control Delay	22.4	3.2	114.9	51.5	95.4
Queue Delay	0.0	0.0	0.1	0.0	0.0
Total Delay	22.4	3.2	115.0	51.5	95.4
Queue Length 50th (ft)	418	0	~1082	369	~524
Queue Length 95th (ft)	476	52	#1165	#558	#671
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	2788	1141	2721	607	977
Starvation Cap Reductn	0	0	108	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.57	1.24	0.85	1.10

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	261	1839	1968	1283	233	232	180	180
v/c Ratio	2.10	0.63	0.67	0.86	1.10	1.10	0.89	0.89
Control Delay	540.7	5.0	5.5	7.9	130.5	129.0	80.5	80.5
Queue Delay	0.0	2.1	15.7	3.6	0.0	0.0	0.0	0.0
Total Delay	540.7	7.0	21.3	11.5	130.5	129.0	80.5	80.5
Queue Length 50th (ft)	~224	210	243	23	~172	~171	111	111
Queue Length 95th (ft)	#397	253	294	48	#347	#344	#255	#255
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	124	2919	2919	1496	211	211	202	202
Starvation Cap Reductn	0	885	986	141	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.10	0.90	1.02	0.95	1.10	1.10	0.89	0.89

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

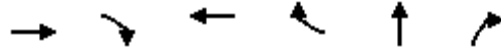
Queue shown is maximum after two cycles.

Queues

Keller Crossing (JN:13649)

4: I-215 NB Ramps & Clinton Keith Rd.

06/22/2021



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	1612	868	2798	436	638	609
v/c Ratio	0.64	0.56	1.11	0.47	0.98	0.99
Control Delay	23.8	1.5	85.7	8.4	64.6	69.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	1.5	85.7	8.4	64.6	69.2
Queue Length 50th (ft)	327	0	~907	67	488	469
Queue Length 95th (ft)	378	0	#996	149	#754	#734
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	2521	1548	2521	925	653	614
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.56	1.11	0.47	0.98	0.99

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	306	44	237	20	171	1890	13	3104	181
v/c Ratio	0.81	0.09	0.48	0.05	2.06	0.86	0.01	1.65	0.21
Control Delay	52.8	27.7	22.2	26.9	543.1	23.4	0.0	319.6	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	27.7	22.2	26.9	543.1	23.4	0.0	319.6	10.1
Queue Length 50th (ft)	194	22	82	10	~182	503	0	~1608	36
Queue Length 95th (ft)	295	49	152	28	#360	#919	0	#2050	95
Internal Link Dist (ft)		125		754		1334		662	
Turn Bay Length (ft)	100				530		530		540
Base Capacity (vph)	562	756	695	627	83	2199	1005	1878	872
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.06	0.34	0.03	2.06	0.86	0.01	1.65	0.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

1: I-215 SB Ramps & Scott Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1571	571	2034	739	1567	174	174
v/c Ratio	0.82	0.53	1.06	0.62	1.13	0.29	0.29
Control Delay	27.2	4.3	67.0	3.5	103.1	25.4	25.4
Queue Delay	0.0	0.0	16.6	0.7	0.0	0.0	0.0
Total Delay	27.2	4.3	83.6	4.2	103.1	25.4	25.4
Queue Length 50th (ft)	506	26	~912	0	~704	90	90
Queue Length 95th (ft)	609	92	#1050	55	#837	151	151
Internal Link Dist (ft)	965		400			1876	
Turn Bay Length (ft)				420	450		250
Base Capacity (vph)	1916	1085	1916	1196	1386	594	594
Starvation Cap Reductn	0	0	377	185	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.53	1.32	0.73	1.13	0.29	0.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

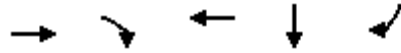
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
2: I-215 SB Ramps & Clinton Keith Rd.

Keller Crossing (JN:13649)
06/22/2021



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	2479	552	1897	620	879
v/c Ratio	1.03	0.55	0.79	0.85	0.75
Control Delay	57.1	3.9	29.2	42.8	32.2
Queue Delay	0.0	0.0	0.1	0.0	0.0
Total Delay	57.1	3.9	29.3	42.8	32.2
Queue Length 50th (ft)	~781	0	458	408	299
Queue Length 95th (ft)	#873	62	524	569	384
Internal Link Dist (ft)	1488		626	2478	
Turn Bay Length (ft)		430			220
Base Capacity (vph)	2411	1007	2411	808	1290
Starvation Cap Reductn	0	0	36	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.03	0.55	0.80	0.77	0.68

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
3: I-215 NB Ramps & Scott Rd.



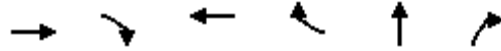
Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	311	2789	1870	1244	654	653	438	437
v/c Ratio	5.02	1.20	0.80	0.88	1.56	1.55	1.02	1.02
Control Delay	1853.2	115.9	18.3	10.8	293.5	292.5	89.4	88.9
Queue Delay	0.0	0.3	47.6	5.0	0.0	0.0	0.0	0.0
Total Delay	1853.2	116.2	66.0	15.8	293.5	292.5	89.4	88.9
Queue Length 50th (ft)	~408	~1377	507	41	~754	~752	~364	~352
Queue Length 95th (ft)	#592	#1505	613	285	#998	#997	#581	#578
Internal Link Dist (ft)		400	225		1532		1912	
Turn Bay Length (ft)	420							
Base Capacity (vph)	62	2329	2329	1414	420	420	430	430
Starvation Cap Reductn	0	242	793	124	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	5.02	1.34	1.22	0.96	1.56	1.55	1.02	1.02

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

4: I-215 NB Ramps & Clinton Keith Rd.



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	2132	873	2370	437	983	934
v/c Ratio	0.89	0.56	0.99	0.49	1.41	1.43
Control Delay	34.8	1.5	47.9	7.8	222.2	233.1
Queue Delay	0.8	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	1.5	47.9	7.8	222.2	233.1
Queue Length 50th (ft)	537	0	649	53	~1068	~1024
Queue Length 95th (ft)	610	0	#785	136	#1337	#1289
Internal Link Dist (ft)	626		2384		1511	
Turn Bay Length (ft)		160				240
Base Capacity (vph)	2394	1548	2394	895	697	651
Starvation Cap Reductn	81	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.56	0.99	0.49	1.41	1.43

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	267	17	246	75	232	2996	114	9	2509	427
v/c Ratio	0.78	0.04	0.53	0.18	2.25	1.36	0.11	0.11	1.32	0.45
Control Delay	51.8	27.4	24.0	23.5	621.7	187.0	4.3	54.1	173.7	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	27.4	24.0	23.5	621.7	187.0	4.3	54.1	173.7	10.3
Queue Length 50th (ft)	164	8	86	29	~248	~1348	5	6	~1128	80
Queue Length 95th (ft)	255	25	159	64	#451	#1888	40	24	#1508	198
Internal Link Dist (ft)		125		754		1334			662	
Turn Bay Length (ft)	100				530		530	540		540
Base Capacity (vph)	567	778	713	692	103	2203	998	85	1897	940
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.02	0.35	0.11	2.25	1.36	0.11	0.11	1.32	0.45

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

APPENDIX 9.9:

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	274	44	156	20	171	1890	13	3232	109
v/c Ratio	0.79	0.09	0.34	0.05	1.99	0.83	0.01	1.67	0.12
Control Delay	52.5	28.7	15.6	27.9	515.1	20.3	0.0	326.6	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	28.7	15.6	27.9	515.1	20.3	0.0	326.6	7.6
Queue Length 50th (ft)	168	22	35	10	~176	463	0	~1641	15
Queue Length 95th (ft)	261	49	86	28	#347	#859	0	#2055	52
Internal Link Dist (ft)		125		754		1334		662	
Turn Bay Length (ft)	100				530		530		540
Base Capacity (vph)	579	779	714	643	86	2266	1034	1935	891
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.06	0.22	0.03	1.99	0.83	0.01	1.67	0.12

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	267	17	65	75	232	2996	114	9	2689	277
v/c Ratio	0.80	0.04	0.15	0.18	2.25	1.35	0.11	0.10	1.41	0.30
Control Delay	54.2	27.9	6.2	23.8	613.8	181.8	4.1	53.2	209.9	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	27.9	6.2	23.8	613.8	181.8	4.1	53.2	209.9	9.1
Queue Length 50th (ft)	164	8	0	29	~245	~1326	5	6	~1238	49
Queue Length 95th (ft)	256	25	26	65	#444	#1846	39	24	#1615	125
Internal Link Dist (ft)		125		754		1334			662	
Turn Bay Length (ft)	100				530		530	540		540
Base Capacity (vph)	572	784	709	697	103	2221	1005	86	1913	911
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.02	0.09	0.11	2.25	1.35	0.11	0.10	1.41	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

APPENDIX 9.10:

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	WBT	WBR	NBR	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	240	1648	1800	1126	428	0	331
Future Volume (vph)	240	1648	1800	1126	428	0	331
Turn Type	Perm	NA	NA	Perm	Perm	NA	Perm
Protected Phases		4	8			6	
Permitted Phases	4			8	2		6
Detector Phase	4	4	8	8	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	101.0	101.0	101.0	101.0	19.0	19.0	19.0
Total Split (%)	84.2%	84.2%	84.2%	84.2%	15.8%	15.8%	15.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	97.0	97.0	97.0	97.0	15.0	15.0	15.0
Actuated g/C Ratio	0.81	0.81	0.81	0.81	0.12	0.12	0.12
v/c Ratio	2.19	0.35	0.54	0.53	1.07	0.80	0.80
Control Delay	580.7	3.3	3.9	2.0	102.0	65.2	65.2
Queue Delay	0.0	0.3	1.9	1.8	0.0	0.0	0.0
Total Delay	580.7	3.5	5.8	3.8	102.0	65.2	65.2
LOS	F	A	A	A	F	E	E
Approach Delay		76.9	5.4			65.2	
Approach LOS		E	A			E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.19
 Intersection Signal Delay: 40.6
 Intersection Capacity Utilization 60.0%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service B





















Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	1648	0	0	1800	1126	0	0	428	0	0	331
Future Volume (veh/h)	240	1648	0	0	1800	1126	0	0	428	0	0	331
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	261	1791	0	0	1957	1102	0	0	444	0	0	210
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	222	5201	0	0	4536	2562	0	234	349	0	234	396
Arrive On Green	0.81	0.81	0.00	0.00	0.81	0.81	0.00	0.00	0.13	0.00	0.00	0.13
Sat Flow, veh/h	145	6696	0	0	5611	3170	0	1870	2790	0	1870	3170
Grp Volume(v), veh/h	261	1791	0	0	1957	1102	0	0	444	0	0	210
Grp Sat Flow(s),veh/h/ln	72	1609	0	0	1870	1585	0	1870	1395	0	1870	1585
Q Serve(g_s), s	84.7	8.9	0.0	0.0	12.3	12.3	0.0	0.0	15.0	0.0	0.0	7.4
Cycle Q Clear(g_c), s	97.0	8.9	0.0	0.0	12.3	12.3	0.0	0.0	15.0	0.0	0.0	7.4
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	222	5201	0	0	4536	2562	0	234	349	0	234	396
V/C Ratio(X)	1.17	0.34	0.00	0.00	0.43	0.43	0.00	0.00	1.27	0.00	0.00	0.53
Avail Cap(c_a), veh/h	222	5201	0	0	4536	2562	0	234	349	0	234	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	40.5	3.1	0.0	0.0	3.4	3.4	0.0	0.0	52.5	0.0	0.0	49.2
Incr Delay (d2), s/veh	115.4	0.0	0.0	0.0	0.1	0.1	0.0	0.0	143.6	0.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	1.8	0.0	0.0	2.8	2.4	0.0	0.0	12.1	0.0	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	156.0	3.1	0.0	0.0	3.4	3.5	0.0	0.0	196.1	0.0	0.0	50.5
LnGrp LOS	F	A	A	A	A	A	A	A	F	A	A	D
Approach Vol, veh/h		2052			3059			444			210	
Approach Delay, s/veh		22.5			3.5			196.1			50.5	
Approach LOS		C			A			F			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.0		101.0		19.0		101.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		15.0		97.0		15.0		97.0				
Max Q Clear Time (g_c+I1), s		17.0		99.0		9.4		14.3				
Green Ext Time (p_c), s		0.0		0.0		0.3		47.3				
Intersection Summary												
HCM 6th Ctrl Delay				26.8								
HCM 6th LOS				C								
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

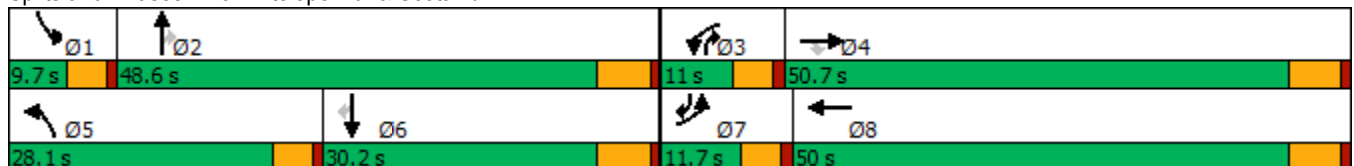


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘↘	↑↑↑	↗↗	↘↘	↑↑↑	↘↘	↑↑	↗	↘↘	↑↑	↗↗
Traffic Volume (vph)	155	1367	554	108	2038	420	51	101	103	179	468
Future Volume (vph)	155	1367	554	108	2038	420	51	101	103	179	468
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	11.7	50.7	50.7	11.0	50.0	28.1	48.6	11.0	9.7	30.2	11.7
Total Split (%)	9.8%	42.3%	42.3%	9.2%	41.7%	23.4%	40.5%	9.2%	8.1%	25.2%	9.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	7.1	45.2	45.2	6.3	44.3	17.7	22.4	31.1	10.1	11.5	24.4
Actuated g/C Ratio	0.07	0.45	0.45	0.06	0.44	0.17	0.22	0.31	0.10	0.11	0.24
v/c Ratio	0.70	0.66	0.40	0.55	0.84	0.76	0.07	0.21	0.33	0.49	0.68
Control Delay	63.5	24.5	5.8	57.9	29.3	48.9	29.2	10.5	50.8	47.3	32.7
Queue Delay	0.0	36.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.5	60.6	6.2	57.9	29.3	48.9	29.2	10.5	50.8	47.3	32.7
LOS	E	E	A	E	C	D	C	B	D	D	C
Approach Delay		46.3			30.7		40.4			38.7	
Approach LOS		D			C		D			D	

Intersection Summary




































Cycle Length: 120	
Actuated Cycle Length: 101.5	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 38.5	Intersection LOS: D
Intersection Capacity Utilization 73.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  	 	 	  		 	 		 	 	 
Traffic Volume (veh/h)	155	1367	554	108	2038	102	420	51	101	103	179	468
Future Volume (veh/h)	155	1367	554	108	2038	102	420	51	101	103	179	468
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	1486	460	117	2215	106	457	55	80	112	195	335
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	2241	1224	177	2681	128	536	895	481	171	521	596
Arrive On Green	0.07	0.44	0.44	0.05	0.42	0.42	0.16	0.25	0.25	0.05	0.15	0.15
Sat Flow, veh/h	3456	5106	2790	3456	6338	303	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	168	1486	460	117	1686	635	457	55	80	112	195	335
Grp Sat Flow(s),veh/h/ln	1728	1702	1395	1728	1609	1816	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	4.8	23.0	11.1	3.3	30.9	31.0	12.9	1.2	3.7	3.2	4.9	10.7
Cycle Q Clear(g_c), s	4.8	23.0	11.1	3.3	30.9	31.0	12.9	1.2	3.7	3.2	4.9	10.7
Prop In Lane	1.00		1.00	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	2241	1224	177	2041	768	536	895	481	171	521	596
V/C Ratio(X)	0.72	0.66	0.38	0.66	0.83	0.83	0.85	0.06	0.17	0.65	0.37	0.56
Avail Cap(c_a), veh/h	246	2296	1254	221	2136	804	813	1523	761	176	868	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	22.2	18.8	46.5	25.5	25.6	41.1	28.4	25.5	46.6	38.5	35.1
Incr Delay (d2), s/veh	8.0	0.7	0.2	2.6	2.7	6.9	3.6	0.0	0.2	6.3	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	8.5	3.3	1.4	11.3	13.6	5.5	0.5	1.3	1.5	2.1	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	22.9	19.0	49.1	28.3	32.5	44.7	28.4	25.7	52.9	38.9	35.9
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		2114			2438			592			642	
Approach Delay, s/veh		24.5			30.3			40.6			39.8	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	31.0	9.7	49.6	20.1	20.4	11.3	48.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.1	42.8	6.4	44.9	23.5	24.4	7.1	44.2				
Max Q Clear Time (g_c+I1), s	5.2	5.7	5.3	25.0	14.9	12.7	6.8	33.0				
Green Ext Time (p_c), s	0.0	0.5	0.0	12.0	0.6	1.9	0.0	9.3				
Intersection Summary												
HCM 6th Ctrl Delay			30.3									
HCM 6th LOS			C									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

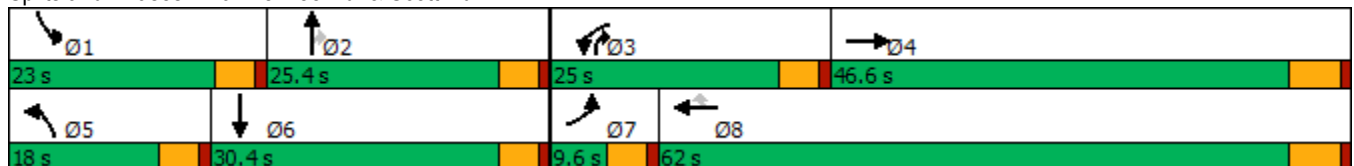


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↕↗	↖↗	↕↕↕	↖	↖	↕↕	↖	↖↗	↕↗
Traffic Volume (vph)	82	1341	410	2090	324	166	247	489	310	421
Future Volume (vph)	82	1341	410	2090	324	166	247	489	310	421
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8		5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	26.8	9.6	14.7	9.6	9.6	28.7
Total Split (s)	9.6	46.6	25.0	62.0	62.0	18.0	25.4	25.0	23.0	30.4
Total Split (%)	8.0%	38.8%	20.8%	51.7%	51.7%	15.0%	21.2%	20.8%	19.2%	25.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.7	3.6	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.7	4.6	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	5.0	41.4	17.9	56.5	56.5	13.1	20.5	43.1	15.0	22.5
Actuated g/C Ratio	0.04	0.36	0.16	0.49	0.49	0.11	0.18	0.38	0.13	0.20
v/c Ratio	0.57	0.82	0.81	0.88	0.37	0.87	0.41	0.78	0.73	0.78
Control Delay	71.0	38.6	59.6	32.2	6.1	88.7	44.8	34.0	58.2	51.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.0	38.6	59.6	32.2	6.1	88.7	44.8	34.0	58.2	51.1
LOS	E	D	E	C	A	F	D	C	E	D
Approach Delay		40.3		33.2			47.0			53.8
Approach LOS		D		C			D			D

Intersection Summary


































Cycle Length: 120
 Actuated Cycle Length: 114.6
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 39.8
 Intersection LOS: D
 Intersection Capacity Utilization 84.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	 
Traffic Volume (veh/h)	82	1341	88	410	2090	324	166	247	489	310	421	91
Future Volume (veh/h)	82	1341	88	410	2090	324	166	247	489	310	421	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	1412	82	432	2200	328	175	260	408	326	443	81
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	1897	110	497	2485	771	203	653	519	391	550	100
Arrive On Green	0.04	0.38	0.38	0.14	0.49	0.49	0.11	0.18	0.18	0.11	0.18	0.18
Sat Flow, veh/h	3456	4936	287	3456	5106	1585	1781	3554	1585	3456	3003	546
Grp Volume(v), veh/h	86	974	520	432	2200	328	175	260	408	326	261	263
Grp Sat Flow(s),veh/h/ln	1728	1702	1819	1728	1702	1585	1781	1777	1585	1728	1777	1772
Q Serve(g_s), s	2.8	27.8	27.8	13.8	43.8	15.1	10.9	7.3	20.7	10.4	15.8	16.0
Cycle Q Clear(g_c), s	2.8	27.8	27.8	13.8	43.8	15.1	10.9	7.3	20.7	10.4	15.8	16.0
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	143	1309	699	497	2485	771	203	653	519	391	325	324
V/C Ratio(X)	0.60	0.74	0.74	0.87	0.89	0.43	0.86	0.40	0.79	0.83	0.80	0.81
Avail Cap(c_a), veh/h	153	1309	699	626	2548	791	212	653	519	564	405	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	29.9	29.9	47.2	26.1	18.7	49.0	40.5	34.3	48.9	44.1	44.1
Incr Delay (d2), s/veh	3.6	2.3	4.3	9.0	4.1	0.4	26.5	0.4	7.8	4.8	9.0	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	11.1	12.3	6.4	17.1	5.2	6.3	3.2	10.7	4.7	7.7	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.7	32.2	34.2	56.2	30.1	19.1	75.5	40.9	42.1	53.7	53.0	53.8
LnGrp LOS	E	C	C	E	C	B	E	D	D	D	D	D
Approach Vol, veh/h		1580			2960			843			850	
Approach Delay, s/veh		34.2			32.7			48.7			53.5	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	25.4	20.8	49.1	17.4	25.3	9.3	60.6				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	18.4	* 21	20.4	40.8	13.4	* 26	5.0	56.2				
Max Q Clear Time (g_c+I1), s	12.4	22.7	15.8	29.8	12.9	18.0	4.8	45.8				
Green Ext Time (p_c), s	0.4	0.0	0.4	6.6	0.0	1.9	0.0	9.1				

Intersection Summary

























HCM 6th Ctrl Delay	38.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

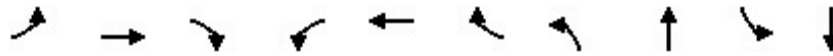
Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	645	1490	210	323	1998	232	237	189	153	230	454	580
Future Volume (veh/h)	645	1490	210	323	1998	232	237	189	153	230	454	580
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	701	1620	168	351	2172	225	258	205	161	250	493	277
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	666	2608	737	417	2128	601	213	382	171	419	630	577
Arrive On Green	0.19	0.46	0.46	0.12	0.38	0.38	0.06	0.11	0.11	0.12	0.18	0.18
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	701	1620	168	351	2172	225	258	205	161	250	493	277
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	22.4	26.1	7.6	11.6	45.5	12.3	7.4	6.6	9.3	8.2	15.9	2.5
Cycle Q Clear(g_c), s	22.4	26.1	7.6	11.6	45.5	12.3	7.4	6.6	9.3	8.2	15.9	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	666	2608	737	417	2128	601	213	382	171	419	630	577
V/C Ratio(X)	1.05	0.62	0.23	0.84	1.02	0.37	1.21	0.54	0.94	0.60	0.78	0.48
Avail Cap(c_a), veh/h	666	2608	737	724	2128	601	213	924	412	419	948	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	0.62	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	24.2	19.2	51.9	37.3	27.0	56.3	50.7	31.7	49.9	47.2	14.4
Incr Delay (d2), s/veh	42.5	0.7	0.4	1.1	20.8	1.1	130.2	1.2	21.0	1.6	2.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	10.7	2.7	5.0	23.1	4.6	7.0	2.9	4.4	3.6	7.1	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.3	24.9	19.7	53.0	58.1	28.0	186.5	51.9	52.7	51.5	49.6	15.0
LnGrp LOS	F	C	B	D	F	C	F	D	D	D	D	B
Approach Vol, veh/h		2489			2748			624			1020	
Approach Delay, s/veh		43.2			54.9			107.7			40.7	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.4	18.7	18.7	62.3	12.0	27.1	28.9	52.0				
Change Period (Y+Rc), s	5.8	* 5.8	4.6	6.5	4.6	5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	8.2	* 31	24.4	34.7	7.4	32.0	13.6	* 46				
Max Q Clear Time (g_c+I1), s	10.2	11.3	13.6	28.1	9.4	17.9	24.4	47.5				
Green Ext Time (p_c), s	0.0	1.6	0.5	4.9	0.0	3.4	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			53.4									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/23/2021

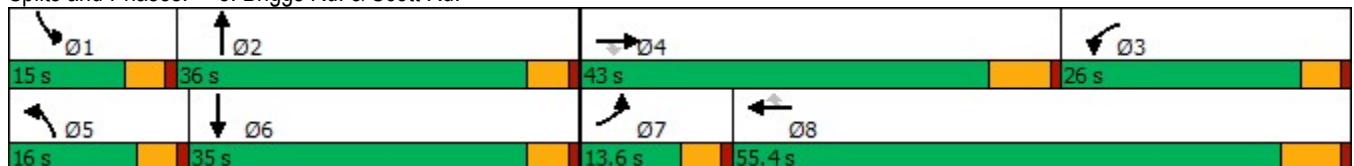


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘↗	↗	↘	↗
Traffic Volume (vph)	22	1662	864	62	2434	190	482	14	133	25
Future Volume (vph)	22	1662	864	62	2434	190	482	14	133	25
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	23.5	9.6	29.5	29.5	9.6	35.7	9.6	28.7
Total Split (s)	13.6	43.0	43.0	26.0	55.4	55.4	16.0	36.0	15.0	35.0
Total Split (%)	11.3%	35.8%	35.8%	21.7%	46.2%	46.2%	13.3%	30.0%	12.5%	29.2%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	4.7	4.6	4.7
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None
Act Effct Green (s)	5.9	39.3	39.3	11.6	49.1	49.1	14.4	11.1	10.4	10.3
Actuated g/C Ratio	0.06	0.43	0.43	0.13	0.54	0.54	0.16	0.12	0.11	0.11
v/c Ratio	0.21	0.74	0.84	0.30	0.87	0.21	0.93	0.41	0.70	0.38
Control Delay	46.4	25.6	14.3	38.1	23.1	2.6	65.4	15.6	60.1	20.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	25.6	14.3	38.1	23.1	2.6	65.4	15.6	60.1	20.7
LOS	D	C	B	D	C	A	E	B	E	C
Approach Delay		22.0			22.0			56.3		44.5
Approach LOS		C			C			E		D

Intersection Summary

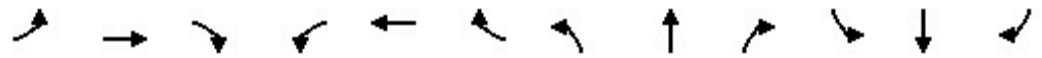
Cycle Length: 120
 Actuated Cycle Length: 90.8
 Natural Cycle: 125
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 26.2
 Intersection LOS: C
 Intersection Capacity Utilization 81.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘↗	↑		↘	↗	
Traffic Volume (veh/h)	22	1662	864	62	2434	190	482	14	94	133	25	62
Future Volume (veh/h)	22	1662	864	62	2434	190	482	14	94	133	25	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	1787	714	67	2617	161	518	15	101	143	27	51
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	2144	606	258	2931	828	440	28	188	175	63	118
Arrive On Green	0.02	0.38	0.38	0.14	0.52	0.52	0.12	0.13	0.13	0.10	0.11	0.11
Sat Flow, veh/h	1781	5611	1585	1781	5611	1585	3563	209	1408	1781	579	1094
Grp Volume(v), veh/h	24	1787	714	67	2617	161	518	0	116	143	0	78
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1617	1781	0	1673
Q Serve(g_s), s	1.2	26.7	21.4	3.1	38.5	5.0	11.4	0.0	6.2	7.3	0.0	4.0
Cycle Q Clear(g_c), s	1.2	26.7	21.4	3.1	38.5	5.0	11.4	0.0	6.2	7.3	0.0	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.87	1.00		0.65
Lane Grp Cap(c), veh/h	44	2144	606	258	2931	828	440	0	216	175	0	181
V/C Ratio(X)	0.54	0.83	1.18	0.26	0.89	0.19	1.18	0.00	0.54	0.82	0.00	0.43
Avail Cap(c_a), veh/h	174	2218	627	413	2972	839	440	0	548	201	0	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.5	25.9	10.5	35.1	19.7	11.7	40.5	0.0	37.3	40.8	0.0	38.5
Incr Delay (d2), s/veh	3.8	2.8	96.7	0.2	3.8	0.1	101.4	0.0	2.1	20.3	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	10.9	21.7	1.3	14.5	1.5	11.1	0.0	2.5	4.1	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	28.7	107.2	35.3	23.6	11.8	141.8	0.0	39.4	61.1	0.0	40.1
LnGrp LOS	D	C	F	D	C	B	F	A	D	E	A	D
Approach Vol, veh/h		2525			2845			634				221
Approach Delay, s/veh		51.1			23.2			123.1				53.7
Approach LOS		D			C			F				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	17.0	19.9	41.8	16.0	14.7	6.9	54.7				
Change Period (Y+Rc), s	4.6	* 4.7	6.5	* 6.5	4.6	* 4.7	4.6	6.5				
Max Green Setting (Gmax), s	10.4	* 31	21.4	* 37	11.4	* 30	9.0	48.9				
Max Q Clear Time (g_c+I1), s	9.3	8.2	5.1	28.7	13.4	6.0	3.2	40.5				
Green Ext Time (p_c), s	0.0	0.6	0.0	6.6	0.0	0.4	0.0	7.7				

Intersection Summary

HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

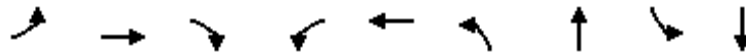
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

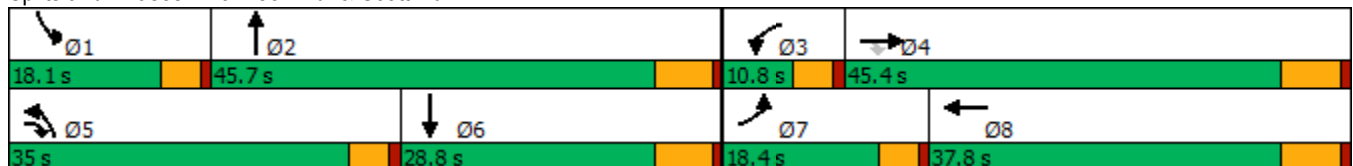


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↘↗	↑↗	↘	↑↑
Traffic Volume (vph)	201	930	581	27	1376	780	174	99	166
Future Volume (vph)	201	930	581	27	1376	780	174	99	166
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	28.5	9.6	9.6	28.5	9.6	28.2	9.6	28.2
Total Split (s)	18.4	45.4	35.0	10.8	37.8	35.0	45.7	18.1	28.8
Total Split (%)	15.3%	37.8%	29.2%	9.0%	31.5%	29.2%	38.1%	15.1%	24.0%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	13.8	43.5	78.8	5.7	31.4	28.7	31.9	10.3	13.4
Actuated g/C Ratio	0.13	0.40	0.72	0.05	0.29	0.26	0.29	0.09	0.12
v/c Ratio	0.93	0.47	0.48	0.30	1.00	0.89	0.18	0.61	0.70
Control Delay	92.9	27.1	4.1	60.3	63.5	52.4	28.8	64.3	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.9	27.1	4.1	60.3	63.5	52.4	28.8	64.3	34.1
LOS	F	C	A	E	E	D	C	E	C
Approach Delay		27.0			63.4		47.9		40.6
Approach LOS		C			E		D		D

Intersection Summary





























Cycle Length: 120
 Actuated Cycle Length: 109.3
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 44.2
 Intersection LOS: D
 Intersection Capacity Utilization 90.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 9: Leon Rd. & Scott Rd.



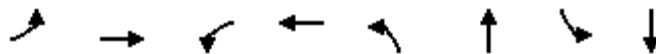
HCM 6th Signalized Intersection Summary
 9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	201	930	581	27	1376	36	780	174	11	99	166	200
Future Volume (veh/h)	201	930	581	27	1376	36	780	174	11	99	166	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	959	444	28	1419	37	804	179	11	102	171	149
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	2006	1023	47	1488	39	873	1039	63	128	232	189
Arrive On Green	0.13	0.39	0.39	0.03	0.29	0.29	0.25	0.31	0.31	0.07	0.12	0.12
Sat Flow, veh/h	1781	5106	1585	1781	5117	133	3456	3402	208	1781	1857	1517
Grp Volume(v), veh/h	207	959	444	28	944	512	804	93	97	102	163	157
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1846	1728	1777	1833	1781	1777	1597
Q Serve(g_s), s	12.3	15.1	14.8	1.7	29.3	29.3	24.4	4.1	4.2	6.1	9.5	10.3
Cycle Q Clear(g_c), s	12.3	15.1	14.8	1.7	29.3	29.3	24.4	4.1	4.2	6.1	9.5	10.3
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.11	1.00		0.95
Lane Grp Cap(c), veh/h	229	2006	1023	47	990	537	873	543	560	128	222	199
V/C Ratio(X)	0.91	0.48	0.43	0.60	0.95	0.95	0.92	0.17	0.17	0.80	0.74	0.79
Avail Cap(c_a), veh/h	229	2006	1023	103	990	537	977	652	673	224	373	336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	24.4	9.4	51.8	37.4	37.4	39.2	27.4	27.4	49.2	45.4	45.7
Incr Delay (d2), s/veh	34.5	0.2	0.3	4.4	18.4	27.5	12.1	0.1	0.1	4.2	4.7	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	5.6	4.1	0.8	13.7	16.3	11.2	1.7	1.8	2.7	4.3	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.8	24.6	9.7	56.2	55.8	64.9	51.3	27.5	27.5	53.4	50.1	52.5
LnGrp LOS	F	C	A	E	E	E	D	C	C	D	D	D
Approach Vol, veh/h		1610			1484			994			422	
Approach Delay, s/veh		27.7			58.9			46.7			51.8	
Approach LOS		C			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	39.1	7.4	48.8	31.8	19.6	18.4	37.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5				
Max Green Setting (Gmax), s	13.5	39.5	6.2	38.9	30.4	22.6	13.8	31.3				
Max Q Clear Time (g_c+I1), s	8.1	6.2	3.7	17.1	26.4	12.3	14.3	31.3				
Green Ext Time (p_c), s	0.0	0.9	0.0	7.8	0.8	1.2	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			44.4									
HCM 6th LOS			D									

Timings
10: Leon Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

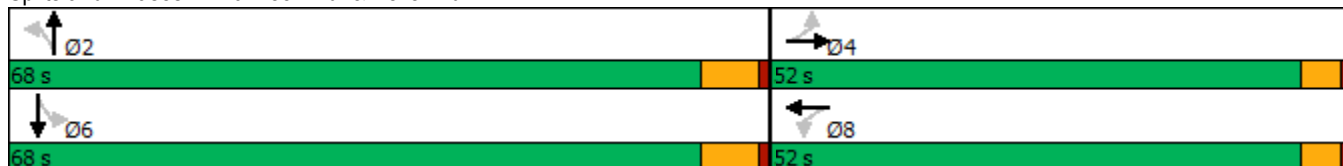


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	6	4	39	0	14	590	88	695
Future Volume (vph)	6	4	39	0	14	590	88	695
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	26.7	26.7	26.7	26.7	28.2	28.2	28.2	28.2
Total Split (s)	52.0	52.0	52.0	52.0	68.0	68.0	68.0	68.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7		4.7	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		10.8		10.8	15.4	15.4	15.4	15.4
Actuated g/C Ratio		0.29		0.29	0.41	0.41	0.41	0.41
v/c Ratio		0.07		0.50	0.06	0.45	0.31	0.54
Control Delay		7.5		7.6	7.1	8.9	10.4	9.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		7.5		7.6	7.1	8.9	10.4	9.7
LOS		A		A	A	A	B	A
Approach Delay		7.5		7.6		8.8		9.8
Approach LOS		A		A		A		A

Intersection Summary




















Cycle Length: 120
 Actuated Cycle Length: 37.3
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 9.1
 Intersection Capacity Utilization 63.4%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 10: Leon Rd. & Keller Rd.



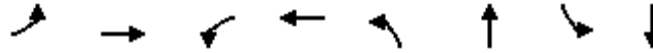
HCM 6th Signalized Intersection Summary
10: Leon Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	4	21	39	0	237	14	590	11	88	695	29
Future Volume (veh/h)	6	4	21	39	0	237	14	590	11	88	695	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	4	23	42	0	258	15	641	12	96	755	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	101	298	147	25	371	383	1536	29	434	1496	63
Arrive On Green	0.27	0.27	0.27	0.27	0.00	0.27	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	151	371	1092	130	92	1359	688	3568	67	779	3474	147
Grp Volume(v), veh/h	34	0	0	300	0	0	15	319	334	96	386	401
Grp Sat Flow(s),veh/h/ln	1614	0	0	1580	0	0	688	1777	1858	779	1777	1844
Q Serve(g_s), s	0.0	0.0	0.0	2.1	0.0	0.0	0.6	4.6	4.6	3.6	5.8	5.8
Cycle Q Clear(g_c), s	0.6	0.0	0.0	6.2	0.0	0.0	6.4	4.6	4.6	8.2	5.8	5.8
Prop In Lane	0.21		0.68	0.14		0.86	1.00		0.04	1.00		0.08
Lane Grp Cap(c), veh/h	559	0	0	543	0	0	383	765	800	434	765	794
V/C Ratio(X)	0.06	0.00	0.00	0.55	0.00	0.00	0.04	0.42	0.42	0.22	0.50	0.50
Avail Cap(c_a), veh/h	2063	0	0	2117	0	0	1243	2986	3123	1408	2986	3098
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.9	0.0	0.0	11.9	0.0	0.0	10.0	7.3	7.3	10.1	7.6	7.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.4	0.3	0.3	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	1.8	0.0	0.0	0.1	0.9	0.9	0.4	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.0	0.0	0.0	12.8	0.0	0.0	10.0	7.6	7.6	10.4	8.1	8.1
LnGrp LOS	A	A	A	B	A	A	A	A	A	B	A	A
Approach Vol, veh/h		34			300			668			883	
Approach Delay, s/veh		10.0			12.8			7.7			8.4	
Approach LOS		A			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.0		14.7		22.0		14.7				
Change Period (Y+Rc), s		6.2		* 4.7		6.2		* 4.7				
Max Green Setting (Gmax), s		61.8		* 47		61.8		* 47				
Max Q Clear Time (g_c+I1), s		8.4		2.6		10.2		8.2				
Green Ext Time (p_c), s		3.9		0.2		5.7		2.2				
Intersection Summary												
HCM 6th Ctrl Delay				8.9								
HCM 6th LOS				A								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
11: Leon Rd. & Whisper Heights Blvd

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↗	↖	↗	↖	↗	↕
Traffic Volume (vph)	24	18	249	19	2	538	39	608
Future Volume (vph)	24	18	249	19	2	538	39	608
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.7	21.7	21.7	21.7	23.2	23.2	23.2	23.2
Total Split (s)	43.0	43.0	43.0	43.0	77.0	77.0	77.0	77.0
Total Split (%)	35.8%	35.8%	35.8%	35.8%	64.2%	64.2%	64.2%	64.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7	4.7	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		19.1	19.1	19.1	31.9	31.9	31.9	31.9
Actuated g/C Ratio		0.30	0.30	0.30	0.50	0.50	0.50	0.50
v/c Ratio		0.11	0.67	0.23	0.01	0.75	0.18	0.38
Control Delay		17.3	30.8	7.7	9.0	18.3	11.7	10.3
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		17.3	30.8	7.7	9.0	18.3	11.7	10.3
LOS		B	C	A	A	B	B	B
Approach Delay		17.3		23.3		18.3		10.3
Approach LOS		B		C		B		B

Intersection Summary




















Cycle Length: 120	
Actuated Cycle Length: 63.2	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 16.3	Intersection LOS: B
Intersection Capacity Utilization 63.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 11: Leon Rd. & Whisper Heights Blvd



HCM 6th Signalized Intersection Summary
 11: Leon Rd. & Whisper Heights Blvd

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	18	8	249	19	98	2	538	97	39	608	10
Future Volume (veh/h)	24	18	8	249	19	98	2	538	97	39	608	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	20	9	271	21	107	2	585	105	42	661	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	174	59	533	65	333	464	771	138	315	1787	30
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	518	711	241	1381	267	1359	766	1543	277	753	3577	60
Grp Volume(v), veh/h	55	0	0	271	0	128	2	0	690	42	328	344
Grp Sat Flow(s),veh/h/ln	1470	0	0	1381	0	1626	766	0	1820	753	1777	1860
Q Serve(g_s), s	0.0	0.0	0.0	4.1	0.0	2.8	0.1	0.0	13.0	2.0	4.8	4.8
Cycle Q Clear(g_c), s	2.8	0.0	0.0	6.9	0.0	2.8	4.9	0.0	13.0	15.1	4.8	4.8
Prop In Lane	0.47		0.16	1.00		0.84	1.00		0.15	1.00		0.03
Lane Grp Cap(c), veh/h	484	0	0	533	0	398	464	0	910	315	888	929
V/C Ratio(X)	0.11	0.00	0.00	0.51	0.00	0.32	0.00	0.00	0.76	0.13	0.37	0.37
Avail Cap(c_a), veh/h	1454	0	0	1433	0	1458	1351	0	3018	1187	2946	3083
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	0.0	0.0	14.6	0.0	13.2	8.1	0.0	8.6	14.7	6.6	6.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.8	0.0	0.5	0.0	0.0	1.3	0.2	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	2.1	0.0	0.9	0.0	0.0	2.7	0.3	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.7	0.0	0.0	15.3	0.0	13.7	8.1	0.0	9.9	14.9	6.8	6.8
LnGrp LOS	B	A	A	B	A	B	A	A	A	B	A	A
Approach Vol, veh/h		55			399			692			714	
Approach Delay, s/veh		12.7			14.8			9.9			7.3	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.5		15.2		27.5		15.2				
Change Period (Y+Rc), s		6.2		* 4.7		6.2		* 4.7				
Max Green Setting (Gmax), s		70.8		* 38		70.8		* 38				
Max Q Clear Time (g_c+I1), s		15.0		4.8		17.1		8.9				
Green Ext Time (p_c), s		4.9		0.3		4.3		1.6				

Intersection Summary

HCM 6th Ctrl Delay	10.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
20: Winchester Rd. & Domenigoni Pkwy

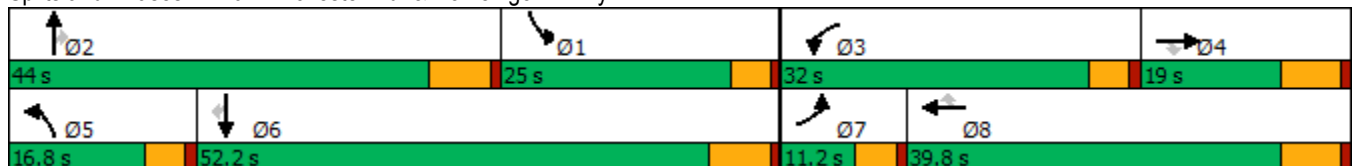
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	604	179	831	476	293	250	600	781	642	886	40
Future Volume (vph)	77	604	179	831	476	293	250	600	781	642	886	40
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.5	16.5	9.6	38.5	38.5	9.6	38.5	38.5	9.6	38.5	38.5
Total Split (s)	11.2	19.0	19.0	32.0	39.8	39.8	16.8	44.0	44.0	25.0	52.2	52.2
Total Split (%)	9.3%	15.8%	15.8%	26.7%	33.2%	33.2%	14.0%	36.7%	36.7%	20.8%	43.5%	43.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	6.2	12.5	12.5	27.4	35.6	35.6	11.7	37.5	37.5	20.4	46.2	46.2
Actuated g/C Ratio	0.05	0.10	0.10	0.23	0.30	0.30	0.10	0.31	0.31	0.17	0.38	0.38
v/c Ratio	0.45	1.10	0.53	1.09	0.31	0.45	0.79	0.55	1.02	1.14	0.66	0.06
Control Delay	63.0	118.5	10.1	103.9	33.9	6.0	70.4	36.4	56.1	125.4	33.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.0	118.5	10.1	103.9	33.9	6.0	70.4	36.4	56.1	125.4	33.2	0.2
LOS	E	F	B	F	C	A	E	D	E	F	C	A
Approach Delay		91.0			65.2			51.0			70.1	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 66.4
 Intersection LOS: E
 Intersection Capacity Utilization 93.0%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	604	179	831	476	293	250	600	781	642	886	40
Future Volume (veh/h)	77	604	179	831	476	293	250	600	781	642	886	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	643	134	884	506	306	266	638	272	683	943	-91
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	649	183	903	1833	518	328	821	348	672	1238	524
Arrive On Green	0.04	0.12	0.12	0.38	0.33	0.33	0.09	0.22	0.22	0.19	0.33	0.00
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	3456	3741	1585	3563	3741	1585
Grp Volume(v), veh/h	82	643	134	884	506	306	266	638	272	683	943	-91
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.4	12.4	8.8	26.5	7.2	9.4	8.2	17.4	9.5	20.4	24.4	0.0
Cycle Q Clear(g_c), s	2.4	12.4	8.8	26.5	7.2	9.4	8.2	17.4	9.5	20.4	24.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	649	183	903	1833	518	328	821	348	672	1238	524
V/C Ratio(X)	0.54	0.99	0.73	0.98	0.28	0.59	0.81	0.78	0.78	1.02	0.76	-0.17
Avail Cap(c_a), veh/h	217	649	183	903	1833	518	390	1297	550	672	1581	670
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.8	47.8	46.2	33.2	26.9	8.9	48.0	39.7	11.8	43.9	32.4	0.0
Incr Delay (d2), s/veh	1.1	33.1	13.9	24.8	0.1	1.8	8.9	1.6	3.8	38.9	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.4	4.0	12.0	3.0	5.7	3.7	7.6	6.1	12.1	10.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	80.8	60.1	58.0	27.0	10.7	56.8	41.3	15.6	82.7	34.1	0.0
LnGrp LOS	D	F	E	E	C	B	E	D	B	F	C	A
Approach Vol, veh/h		859			1696			1176			1535	
Approach Delay, s/veh		74.8			40.2			38.9			57.7	
Approach LOS		E			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.9	30.2	32.0	19.0	14.9	42.3	9.2	41.8				
Change Period (Y+Rc), s	6.5	* 6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	20.4	* 38	27.4	12.5	12.2	45.7	6.6	33.3				
Max Q Clear Time (g_c+I1), s	22.4	19.4	28.5	14.4	10.2	26.4	4.4	11.4				
Green Ext Time (p_c), s	0.0	4.4	0.0	0.0	0.1	5.6	0.0	3.9				

Intersection Summary

HCM 6th Ctrl Delay	50.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↶	↷	↶	↷	↶	↑↑↑	↶	↑↑↑	↷
Traffic Volume (vph)	1	10	8	12	4	2866	50	4132	4
Future Volume (vph)	1	10	8	12	4	2866	50	4132	4
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	9.6	16.5	16.5
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	70.1	5.0	68.2	68.2
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.71	0.05	0.69	0.69
v/c Ratio	0.01	0.06	0.06	0.07	0.04	0.85	0.60	1.00	0.00
Control Delay	40.0	41.2	41.5	41.3	46.0	14.1	73.5	28.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	41.2	41.5	41.3	46.0	14.1	73.5	28.5	0.0
LOS	D	D	D	D	D	B	E	C	A
Approach Delay		41.1		41.4		14.2		29.0	
Approach LOS		D		D		B		C	

Intersection Summary

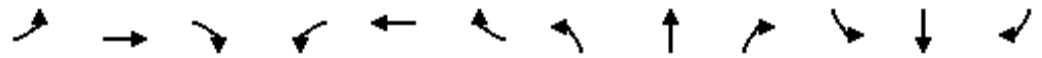
Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 23.1
 Intersection LOS: C
 Intersection Capacity Utilization 77.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
 22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (veh/h)	1	10	0	8	12	0	4	2866	0	50	4132	4
Future Volume (veh/h)	1	10	0	8	12	0	4	2866	0	50	4132	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	11	0	9	13	0	4	3049	0	53	4396	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	189	0	207	189	0	90	3578	1111	69	4432	1092
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.00	0.05	0.70	0.00	0.04	0.69	0.69
Sat Flow, veh/h	1401	1870	0	1404	1870	0	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	1	11	0	9	13	0	4	3049	0	53	4396	4
Grp Sat Flow(s),veh/h/ln	1401	1870	0	1404	1870	0	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	0.1	0.5	0.0	0.6	0.6	0.0	0.2	43.9	0.0	2.9	66.4	0.1
Cycle Q Clear(g_c), s	0.7	0.5	0.0	1.1	0.6	0.0	0.2	43.9	0.0	2.9	66.4	0.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	205	189	0	207	189	0	90	3578	1111	69	4432	1092
V/C Ratio(X)	0.00	0.06	0.00	0.04	0.07	0.00	0.04	0.85	0.00	0.77	0.99	0.00
Avail Cap(c_a), veh/h	503	586	0	505	586	0	90	3578	1111	90	4432	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	40.2	0.0	40.7	40.3	0.0	44.7	11.0	0.0	47.1	15.1	4.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.1	0.2	0.0	0.9	2.2	0.0	18.0	11.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.2	0.3	0.0	0.1	11.4	0.0	1.6	19.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	40.4	0.0	40.8	40.4	0.0	45.7	13.2	0.0	65.1	26.9	4.8
LnGrp LOS	D	D	A	D	D	A	D	B	A	E	C	A
Approach Vol, veh/h		12			22			3053			4453	
Approach Delay, s/veh		40.4			40.6			13.2			27.3	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	75.9		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+1), s	4.9	45.9		2.7	2.2	68.4		3.1				
Green Ext Time (p_c), s	0.0	20.3		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑↑	↑↑↑	↗
Traffic Volume (vph)	194	133	85	2676	3965	175
Future Volume (vph)	194	133	85	2676	3965	175
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	24.5	24.5
Total Split (s)	26.6	26.6	11.2	93.4	82.2	82.2
Total Split (%)	22.2%	22.2%	9.3%	77.8%	68.5%	68.5%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effect Green (s)	18.1	18.1	6.6	87.0	75.8	75.8
Actuated g/C Ratio	0.16	0.16	0.06	0.75	0.65	0.65
v/c Ratio	0.76	0.47	0.92	0.76	1.03	0.17
Control Delay	65.3	26.8	125.7	10.8	44.2	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	26.8	125.7	10.8	44.2	1.6
LOS	E	C	F	B	D	A
Approach Delay	49.6			14.4	42.4	
Approach LOS	D			B	D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.2
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 32.0
 Intersection LOS: C
 Intersection Capacity Utilization 86.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
 23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	194	133	85	2676	3965	175
Future Volume (veh/h)	194	133	85	2676	3965	175
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	137	92	2909	4310	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	247	220	103	3899	4280	1054
Arrive On Green	0.14	0.14	0.06	0.76	0.67	0.67
Sat Flow, veh/h	1781	1585	1781	5274	6696	1585
Grp Volume(v), veh/h	211	137	92	2909	4310	190
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1702	1609	1585
Q Serve(g_s), s	13.2	9.3	5.8	35.6	75.7	5.2
Cycle Q Clear(g_c), s	13.2	9.3	5.8	35.6	75.7	5.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	247	220	103	3899	4280	1054
V/C Ratio(X)	0.85	0.62	0.89	0.75	1.01	0.18
Avail Cap(c_a), veh/h	344	306	103	3899	4280	1054
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	46.2	53.2	7.4	19.1	7.2
Incr Delay (d2), s/veh	13.7	2.9	54.0	0.8	15.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.2	4.0	8.1	25.7	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	61.6	49.1	107.3	8.2	34.5	7.3
LnGrp LOS	E	D	F	A	F	A
Approach Vol, veh/h	348			3001	4500	
Approach Delay, s/veh	56.7			11.2	33.4	
Approach LOS	E			B	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		20.4	11.2	82.2
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	6.6	75.7
Max Q Clear Time (g_c+1), s		37.6		15.2	7.8	77.7
Green Ext Time (p_c), s		38.9		0.6	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			26.0			
HCM 6th LOS			C			

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

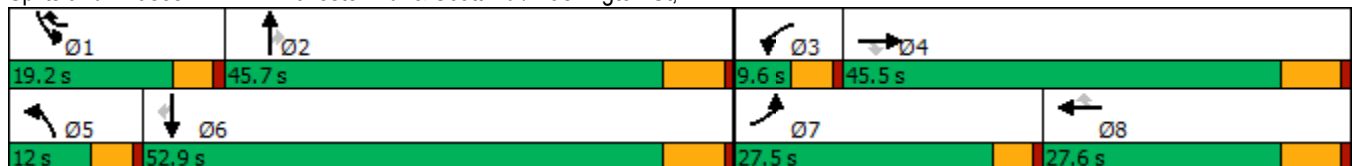
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	518	282	267	50	336	502	270	1691	50	350	2736	962
Future Volume (vph)	518	282	267	50	336	502	270	1691	50	350	2736	962
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.5	45.5	9.6	16.5	9.6	9.6	35.5	35.5	9.6	44.5	44.5
Total Split (s)	27.5	45.5	45.5	9.6	27.6	19.2	12.0	45.7	45.7	19.2	52.9	52.9
Total Split (%)	22.9%	37.9%	37.9%	8.0%	23.0%	16.0%	10.0%	38.1%	38.1%	16.0%	44.1%	44.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.6	33.8	33.8	5.0	16.0	36.7	7.4	39.9	39.9	14.1	46.5	46.5
Actuated g/C Ratio	0.18	0.30	0.30	0.04	0.14	0.33	0.07	0.35	0.35	0.12	0.41	0.41
v/c Ratio	0.85	0.27	0.48	0.34	0.67	0.90	1.24	0.68	0.08	0.84	0.95	1.11
Control Delay	58.5	31.2	16.0	60.4	52.9	48.7	181.7	33.5	0.2	66.9	40.8	83.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	31.2	16.0	60.4	52.9	48.7	181.7	33.5	0.2	66.9	40.8	83.5
LOS	E	C	B	E	D	D	F	C	A	E	D	F
Approach Delay		40.6			51.0			52.6			53.2	
Approach LOS		D			D			D			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.9
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.24
 Intersection Signal Delay: 51.1
 Intersection LOS: D
 Intersection Capacity Utilization 91.2%
 ICU Level of Service F
 Analysis Period (min) 15

























Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

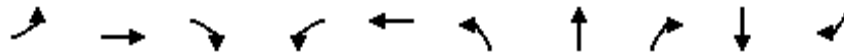
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	518	282	267	50	336	502	270	1691	50	350	2736	962
Future Volume (veh/h)	518	282	267	50	336	502	270	1691	50	350	2736	962
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	551	300	240	53	357	295	287	1799	53	372	2911	571
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	613	1152	488	152	668	473	225	2541	538	428	2966	628
Arrive On Green	0.17	0.31	0.31	0.04	0.18	0.18	0.06	0.34	0.34	0.12	0.40	0.40
Sat Flow, veh/h	3563	3741	1585	3563	3741	1585	3563	7481	1585	3563	7481	1585
Grp Volume(v), veh/h	551	300	240	53	357	295	287	1799	53	372	2911	571
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	17.7	7.1	14.5	1.7	10.1	18.8	7.4	24.5	2.7	12.0	45.0	39.8
Cycle Q Clear(g_c), s	17.7	7.1	14.5	1.7	10.1	18.8	7.4	24.5	2.7	12.0	45.0	39.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	613	1152	488	152	668	473	225	2541	538	428	2966	628
V/C Ratio(X)	0.90	0.26	0.49	0.35	0.53	0.62	1.27	0.71	0.10	0.87	0.98	0.91
Avail Cap(c_a), veh/h	697	1247	528	152	674	476	225	2541	538	444	2966	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	30.5	33.0	54.4	43.7	35.4	54.8	33.6	26.4	50.6	34.9	33.3
Incr Delay (d2), s/veh	12.6	0.1	0.8	0.5	0.8	2.5	153.2	0.9	0.1	15.5	12.5	17.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	3.0	5.3	0.7	4.6	7.1	8.0	10.5	1.0	6.0	21.2	16.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	30.6	33.8	54.9	44.5	37.9	208.0	34.5	26.5	66.1	47.4	50.5
LnGrp LOS	E	C	C	D	D	D	F	C	C	E	D	D
Approach Vol, veh/h		1091			705			2139			3854	
Approach Delay, s/veh		46.2			42.5			57.6			49.6	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.7	46.2	9.6	42.5	12.0	52.9	24.7	27.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	14.6	39.2	5.0	39.0	7.4	46.4	22.9	21.1				
Max Q Clear Time (g_c+I1), s	14.0	26.5	3.7	16.5	9.4	47.0	19.7	20.8				
Green Ext Time (p_c), s	0.1	8.8	0.0	2.4	0.0	0.0	0.4	0.1				
Intersection Summary												
HCM 6th Ctrl Delay				50.7								
HCM 6th LOS				D								

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/24/2021

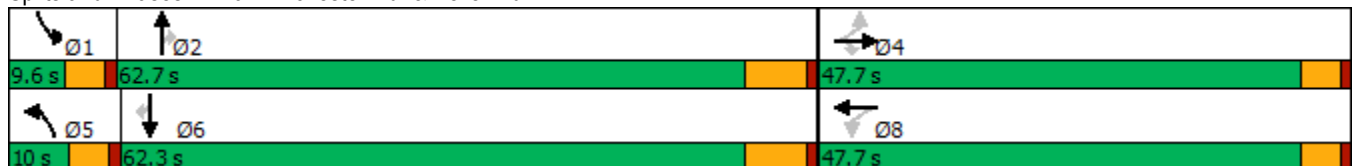


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations											
Traffic Volume (vph)	204	41	69	17	2	32	1807	12	2962	91	
Future Volume (vph)	204	41	69	17	2	32	1807	12	2962	91	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4			8	5	2		6		1
Permitted Phases	4		4	8				2		6	
Detector Phase	4	4	4	8	8	5	2	2	6	6	
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	47.7	47.7	10.0	62.7	62.7	62.3	62.3	9.6
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.3%	52.3%	52.3%	51.9%	51.9%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)	19.9	19.9	19.9		19.9	5.3	62.9	62.9	57.4	57.4	
Actuated g/C Ratio	0.21	0.21	0.21		0.21	0.06	0.67	0.67	0.61	0.61	
v/c Ratio	0.74	0.11	0.19		0.06	0.34	0.57	0.01	0.97	0.10	
Control Delay	50.5	30.3	8.3		29.8	56.1	9.9	0.0	31.6	5.8	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	50.5	30.3	8.3		29.8	56.1	9.9	0.0	31.6	5.8	
LOS	D	C	A		C	E	A	A	C	A	
Approach Delay		38.6			29.8		10.6		30.9		
Approach LOS		D			C		B		C		

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 94.2
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 24.2
 Intersection LOS: C
 Intersection Capacity Utilization 87.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	41	69	17	2	0	32	1807	12	0	2962	91
Future Volume (veh/h)	204	41	69	17	2	0	32	1807	12	0	2962	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	217	44	-17	18	2	0	34	1922	13	0	3151	97
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	335	323	273	271	26	0	57	3589	1114	2	3304	982
Arrive On Green	0.17	0.17	0.00	0.17	0.17	0.00	0.03	0.70	0.70	0.00	0.62	0.62
Sat Flow, veh/h	1415	1870	1585	1131	152	0	1781	5106	1585	1781	5331	1585
Grp Volume(v), veh/h	217	44	-17	20	0	0	34	1922	13	0	3151	97
Grp Sat Flow(s),veh/h/ln	1415	1870	1585	1283	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	10.1	1.8	0.0	0.8	0.0	0.0	1.7	16.1	0.2	0.0	49.4	2.2
Cycle Q Clear(g_c), s	12.7	1.8	0.0	2.6	0.0	0.0	1.7	16.1	0.2	0.0	49.4	2.2
Prop In Lane	1.00		1.00	0.90		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	335	323	273	297	0	0	57	3589	1114	2	3304	982
V/C Ratio(X)	0.65	0.14	-0.06	0.07	0.00	0.00	0.60	0.54	0.01	0.00	0.95	0.10
Avail Cap(c_a), veh/h	768	895	758	732	0	0	107	3589	1114	99	3310	984
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	31.5	0.0	32.1	0.0	0.0	42.9	6.4	4.0	0.0	15.9	6.9
Incr Delay (d2), s/veh	2.1	0.2	0.0	0.1	0.0	0.0	3.7	0.2	0.0	0.0	7.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.8	0.0	0.4	0.0	0.0	0.8	3.6	0.0	0.0	16.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	31.7	0.0	32.2	0.0	0.0	46.7	6.5	4.0	0.0	23.5	7.0
LnGrp LOS	D	C	A	C	A	A	D	A	A	A	C	A
Approach Vol, veh/h		244			20			1969			3248	
Approach Delay, s/veh		39.4			32.2			7.2			23.0	
Approach LOS		D			C			A			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	69.7		20.2	7.5	62.2		20.2				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	5.4	55.8		* 43				
Max Q Clear Time (g_c+I1), s	0.0	18.1		14.7	3.7	51.4		4.6				
Green Ext Time (p_c), s	0.0	18.4		0.8	0.0	4.3		0.1				

Intersection Summary

HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/24/2021

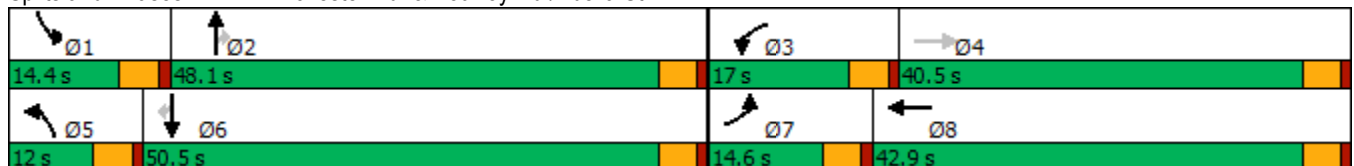


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	89	33	458	25	114	1630	161	88	2781	179
Future Volume (vph)	89	33	458	25	114	1630	161	88	2781	179
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	14.6	40.5	17.0	42.9	12.0	48.1	48.1	14.4	50.5	50.5
Total Split (%)	12.2%	33.8%	14.2%	35.8%	10.0%	40.1%	40.1%	12.0%	42.1%	42.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	8.9	10.4	12.5	14.0	7.5	44.7	44.7	8.8	46.0	46.0
Actuated g/C Ratio	0.09	0.11	0.13	0.15	0.08	0.47	0.47	0.09	0.49	0.49
v/c Ratio	0.58	0.51	1.10	0.47	0.89	0.58	0.21	0.58	0.97	0.23
Control Delay	55.2	21.6	110.7	14.2	95.3	19.3	3.1	55.4	34.4	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	21.6	110.7	14.2	95.3	19.3	3.1	55.4	34.4	5.0
LOS	E	C	F	B	F	B	A	E	C	A
Approach Delay		31.4		86.1		22.5			33.3	
Approach LOS		C		F		C			C	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 94.4
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.10
 Intersection Signal Delay: 35.2
 Intersection LOS: D
 Intersection Capacity Utilization 83.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	33	183	458	25	132	114	1630	161	88	2781	179
Future Volume (veh/h)	89	33	183	458	25	132	114	1630	161	88	2781	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	36	176	498	27	97	124	1772	175	96	3023	185
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	250	223	442	71	256	137	3081	759	122	3027	746
Arrive On Green	0.07	0.14	0.14	0.13	0.20	0.20	0.08	0.48	0.48	0.07	0.47	0.47
Sat Flow, veh/h	1781	1777	1585	3456	357	1283	1781	6434	1585	1781	6434	1585
Grp Volume(v), veh/h	97	36	176	498	0	124	124	1772	175	96	3023	185
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	0	1640	1781	1609	1585	1781	1609	1585
Q Serve(g_s), s	5.2	1.7	10.5	12.5	0.0	6.4	6.8	19.4	6.3	5.2	45.9	6.8
Cycle Q Clear(g_c), s	5.2	1.7	10.5	12.5	0.0	6.4	6.8	19.4	6.3	5.2	45.9	6.8
Prop In Lane	1.00		1.00	1.00		0.78	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	250	223	442	0	327	137	3081	759	122	3027	746
V/C Ratio(X)	0.79	0.14	0.79	1.13	0.00	0.38	0.91	0.58	0.23	0.79	1.00	0.25
Avail Cap(c_a), veh/h	184	654	584	442	0	644	137	3081	759	180	3027	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	36.8	40.6	42.6	0.0	33.9	44.8	18.3	14.9	44.9	25.9	15.5
Incr Delay (d2), s/veh	6.7	0.3	6.1	82.3	0.0	0.7	49.2	0.8	0.7	7.2	16.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.8	4.4	10.3	0.0	2.6	4.7	6.4	2.4	2.4	18.2	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.5	37.1	46.7	125.0	0.0	34.6	93.9	19.1	15.6	52.0	41.9	16.3
LnGrp LOS	D	D	D	F	A	C	F	B	B	D	D	B
Approach Vol, veh/h		309			622			2071			3304	
Approach Delay, s/veh		47.1			106.9			23.3			40.8	
Approach LOS		D			F			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	51.3	17.0	18.3	12.0	50.5	11.2	24.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.9	43.6	12.5	36.0	7.5	46.0	10.1	38.4				
Max Q Clear Time (g_c+1), s	7.2	21.4	14.5	12.5	8.8	47.9	7.2	8.4				
Green Ext Time (p_c), s	0.0	13.1	0.0	1.3	0.0	0.0	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay				41.9								
HCM 6th LOS				D								

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/24/2021

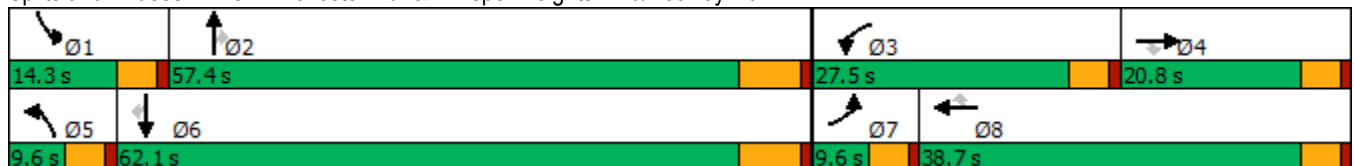


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	36	20	49	188	20	184	21	1685	122	3271	29
Future Volume (vph)	36	20	49	188	20	184	21	1685	122	3271	29
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	9.6	25.5	25.5
Total Split (s)	9.6	20.8	20.8	27.5	38.7	38.7	9.6	57.4	14.3	62.1	62.1
Total Split (%)	8.0%	17.3%	17.3%	22.9%	32.3%	32.3%	8.0%	47.8%	11.9%	51.8%	51.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	5.1	10.2	10.2	15.9	21.7	21.7	5.1	47.4	8.0	56.7	56.7
Actuated g/C Ratio	0.05	0.10	0.10	0.16	0.22	0.22	0.05	0.48	0.08	0.58	0.58
v/c Ratio	0.42	0.11	0.15	0.69	0.05	0.41	0.24	0.58	0.46	0.93	0.03
Control Delay	64.2	47.0	0.9	53.9	32.9	12.0	56.8	20.7	51.6	28.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	47.0	0.9	53.9	32.9	12.0	56.8	20.7	51.6	28.0	0.1
LOS	E	D	A	D	C	B	E	C	D	C	A
Approach Delay		31.3			33.1			21.1		28.6	
Approach LOS		C			C			C		C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 98.5	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 26.7	Intersection LOS: C
Intersection Capacity Utilization 79.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘↗	↑↑↑	↗
Traffic Volume (veh/h)	36	20	49	188	20	184	21	1685	0	122	3271	29
Future Volume (veh/h)	36	20	49	188	20	184	21	1685	0	122	3271	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	21	33	198	21	137	22	1774	0	128	3443	28
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	184	156	231	367	311	41	3317	817	191	3525	868
Arrive On Green	0.03	0.10	0.10	0.13	0.20	0.20	0.02	0.52	0.00	0.06	0.55	0.55
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	6434	1585	3456	6434	1585
Grp Volume(v), veh/h	38	21	33	198	21	137	22	1774	0	128	3443	28
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1609	1585	1728	1609	1585
Q Serve(g_s), s	2.1	1.0	1.9	11.0	0.9	7.7	1.2	18.7	0.0	3.7	52.8	0.8
Cycle Q Clear(g_c), s	2.1	1.0	1.9	11.0	0.9	7.7	1.2	18.7	0.0	3.7	52.8	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	58	184	156	231	367	311	41	3317	817	191	3525	868
V/C Ratio(X)	0.66	0.11	0.21	0.86	0.06	0.44	0.54	0.53	0.00	0.67	0.98	0.03
Avail Cap(c_a), veh/h	88	297	251	402	627	531	88	3317	817	330	3525	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	41.7	42.1	43.2	33.2	35.9	49.1	16.4	0.0	47.0	22.3	10.6
Incr Delay (d2), s/veh	4.7	0.3	0.7	3.5	0.1	1.0	4.1	0.2	0.0	1.5	10.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.5	0.8	5.0	0.4	3.0	0.6	5.9	0.0	1.5	18.7	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	42.0	42.8	46.7	33.2	36.9	53.2	16.6	0.0	48.6	32.7	10.6
LnGrp LOS	D	D	D	D	C	D	D	B	A	D	C	B
Approach Vol, veh/h		92			356			1796			3599	
Approach Delay, s/veh		46.9			42.1			17.1			33.1	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	58.8	17.8	14.7	6.9	62.1	7.9	24.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	9.7	50.9	22.9	* 16	5.0	55.6	5.0	* 34				
Max Q Clear Time (g_c+I1), s	5.7	20.7	13.0	3.9	3.2	54.8	4.1	9.7				
Green Ext Time (p_c), s	0.1	14.7	0.2	0.1	0.0	0.8	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	28.9
HCM 6th LOS	C

Notes

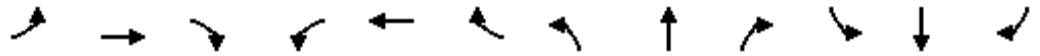
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/24/2021

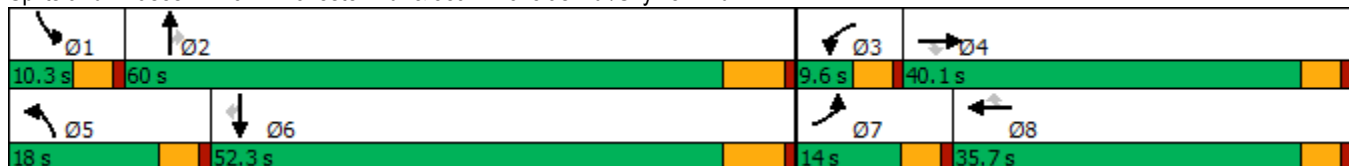


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (vph)	142	137	367	16	30	56	207	1440	4	15	2454	142
Future Volume (vph)	142	137	367	16	30	56	207	1440	4	15	2454	142
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	14.0	40.1	40.1	9.6	35.7	35.7	18.0	60.0	60.0	10.3	52.3	52.3
Total Split (%)	11.7%	33.4%	33.4%	8.0%	29.8%	29.8%	15.0%	50.0%	50.0%	8.6%	43.6%	43.6%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.7	23.3	23.3	5.1	15.9	15.9	13.6	61.0	61.0	5.4	46.4	46.4
Actuated g/C Ratio	0.09	0.23	0.23	0.05	0.15	0.15	0.13	0.59	0.59	0.05	0.45	0.45
v/c Ratio	0.92	0.35	0.76	0.20	0.11	0.16	0.96	0.41	0.00	0.17	0.92	0.19
Control Delay	101.6	35.6	26.6	57.4	37.6	0.9	97.5	14.5	0.0	55.9	34.6	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.6	35.6	26.6	57.4	37.6	0.9	97.5	14.5	0.0	55.9	34.6	5.4
LOS	F	D	C	E	D	A	F	B	A	E	C	A
Approach Delay		45.0			20.5			24.9			33.2	
Approach LOS		D			C			C			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.7
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 31.7
 Intersection LOS: C
 Intersection Capacity Utilization 75.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	137	367	16	30	56	207	1440	4	15	2454	142
Future Volume (veh/h)	142	137	367	16	30	56	207	1440	4	15	2454	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	154	149	328	17	33	51	225	1565	4	16	2667	129
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	438	371	33	307	260	224	3463	853	32	2767	682
Arrive On Green	0.09	0.23	0.23	0.02	0.16	0.16	0.13	0.54	0.54	0.02	0.43	0.43
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	6434	1585	1781	6434	1585
Grp Volume(v), veh/h	154	149	328	17	33	51	225	1565	4	16	2667	129
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1609	1585	1781	1609	1585
Q Serve(g_s), s	9.2	7.1	21.3	1.0	1.6	3.0	13.4	15.8	0.1	0.9	43.0	5.4
Cycle Q Clear(g_c), s	9.2	7.1	21.3	1.0	1.6	3.0	13.4	15.8	0.1	0.9	43.0	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	157	438	371	33	307	260	224	3463	853	32	2767	682
V/C Ratio(X)	0.98	0.34	0.88	0.51	0.11	0.20	1.00	0.45	0.00	0.51	0.96	0.19
Avail Cap(c_a), veh/h	157	622	527	84	544	461	224	3463	853	95	2767	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	33.9	39.4	51.8	37.9	38.4	46.5	15.0	11.4	51.8	29.5	18.8
Incr Delay (d2), s/veh	65.2	0.5	12.3	4.5	0.2	0.4	61.1	0.4	0.0	4.6	10.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	3.3	9.4	0.5	0.7	1.2	9.4	5.1	0.0	0.4	16.7	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.7	34.4	51.7	56.3	38.0	38.8	107.6	15.4	11.4	56.5	40.1	19.4
LnGrp LOS	F	C	D	E	D	D	F	B	B	E	D	B
Approach Vol, veh/h		631			101			1794			2812	
Approach Delay, s/veh		62.7			41.5			27.0			39.2	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	63.8	6.6	29.6	18.0	52.3	14.0	22.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.7	53.5	5.0	* 35	13.4	45.8	9.4	* 31				
Max Q Clear Time (g_c+I1), s	2.9	17.8	3.0	23.3	15.4	45.0	11.2	5.0				
Green Ext Time (p_c), s	0.0	13.2	0.0	1.6	0.0	0.8	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

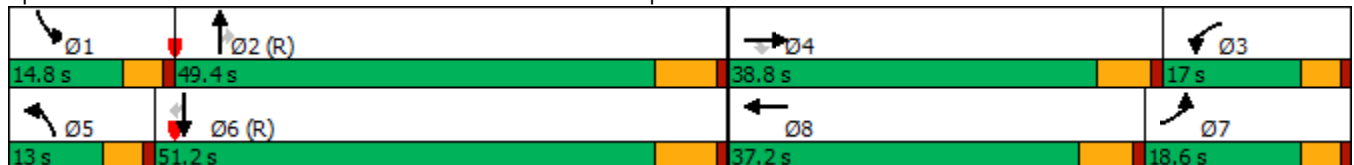


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑	↔↔	↔↔	↔↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	293	297	797	538	552	330	1786	217	139	3139	382
Future Volume (vph)	293	297	797	538	552	330	1786	217	139	3139	382
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.8	38.8	9.6	15.8	9.6	36.5	36.5	9.6	38.5	38.5
Total Split (s)	18.6	38.8	38.8	17.0	37.2	13.0	49.4	49.4	14.8	51.2	51.2
Total Split (%)	15.5%	32.3%	32.3%	14.2%	31.0%	10.8%	41.2%	41.2%	12.3%	42.7%	42.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	0.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	6.5	3.6	5.5	6.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	16.7	30.8	29.8	16.6	30.7	9.4	45.2	44.2	9.9	45.7	44.7
Actuated g/C Ratio	0.14	0.26	0.25	0.14	0.26	0.08	0.38	0.37	0.08	0.38	0.37
v/c Ratio	0.64	0.67	0.86	1.18	0.84	1.28	0.68	0.32	0.51	1.19	0.62
Control Delay	56.1	47.0	38.0	145.1	48.9	184.4	38.6	11.4	58.7	123.4	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	47.0	38.0	145.1	48.9	184.4	38.6	11.4	58.7	123.4	26.3
LOS	E	D	D	F	D	F	D	B	E	F	C
Approach Delay		43.8			89.5		56.7			110.8	
Approach LOS		D			F		E			F	

Intersection Summary


































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 13 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.28
 Intersection Signal Delay: 82.3
 Intersection Capacity Utilization 101.5%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service G

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

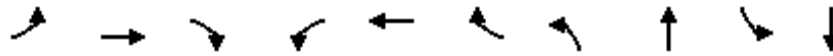
Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 	 	 		 	  		 	  	
Traffic Volume (veh/h)	293	297	797	538	552	186	330	1786	217	139	3139	382
Future Volume (veh/h)	293	297	797	538	552	186	330	1786	217	139	3139	382
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	315	319	400	578	594	109	355	1920	142	149	3375	389
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	399	392	630	477	710	130	279	3327	692	235	3235	672
Arrive On Green	0.11	0.21	0.20	0.20	0.23	0.22	0.16	0.67	0.87	0.07	0.65	0.42
Sat Flow, veh/h	3563	1870	3129	3563	3069	562	3563	7481	1585	3563	7481	1585
Grp Volume(v), veh/h	315	319	400	578	361	342	355	1920	142	149	3375	389
Grp Sat Flow(s),veh/h/ln	1781	1870	1564	1781	1870	1761	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	10.3	19.5	11.3	16.1	22.1	22.2	9.4	16.7	1.0	4.9	51.9	14.8
Cycle Q Clear(g_c), s	10.3	19.5	11.3	16.1	22.1	22.2	9.4	16.7	1.0	4.9	51.9	14.8
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	399	392	630	477	433	407	279	3327	692	235	3235	672
V/C Ratio(X)	0.79	0.81	0.64	1.21	0.83	0.84	1.27	0.58	0.21	0.63	1.04	0.58
Avail Cap(c_a), veh/h	445	530	860	477	505	475	279	3327	692	333	3235	672
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	2.00	1.50	2.00	1.00	1.50	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.32	0.32	0.32	0.32	0.32	0.32
Uniform Delay (d), s/veh	51.9	45.2	28.4	48.0	43.9	44.1	50.6	13.9	1.7	54.6	21.1	11.5
Incr Delay (d2), s/veh	0.7	0.7	0.1	113.6	10.2	11.1	131.4	0.2	0.2	0.3	23.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	8.8	4.2	14.2	11.4	10.9	8.8	5.0	0.6	2.1	18.3	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	45.9	28.5	161.5	54.2	55.3	182.0	14.1	1.9	55.0	44.2	12.6
LnGrp LOS	D	D	C	F	D	E	F	B	A	D	F	B
Approach Vol, veh/h		1034			1281			2417			3913	
Approach Delay, s/veh		41.2			102.9			38.0			41.5	
Approach LOS		D			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	58.9	19.7	30.0	13.0	57.4	17.1	32.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	10.2	42.9	12.4	33.0	8.4	44.7	14.0	31.4				
Max Q Clear Time (g_c+I1), s	6.9	18.7	18.1	21.5	11.4	53.9	12.3	24.2				
Green Ext Time (p_c), s	0.1	14.9	0.0	2.7	0.0	0.0	0.1	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			49.6									
HCM 6th LOS			D									

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)

06/24/2021

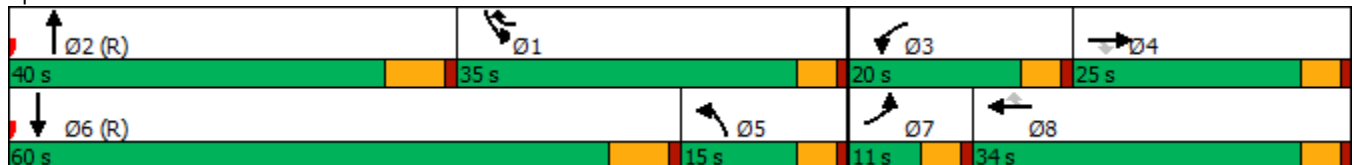


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↑	↔↔	↑↑↑
Traffic Volume (vph)	147	257	630	481	357	631	614	1554	984	3272
Future Volume (vph)	147	257	630	481	357	631	614	1554	984	3272
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.5	14.6	14.6	14.6	30.6	9.6	9.6	38.5	9.6	16.5
Total Split (s)	11.0	25.0	25.0	20.0	34.0	35.0	15.0	40.0	35.0	60.0
Total Split (%)	9.2%	20.8%	20.8%	16.7%	28.3%	29.2%	12.5%	33.3%	29.2%	50.0%
Yellow Time (s)	3.5	3.6	3.6	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.6	4.6	4.6	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	6.5	20.4	20.4	15.4	29.4	59.8	10.4	33.5	30.4	53.5
Actuated g/C Ratio	0.05	0.17	0.17	0.13	0.24	0.50	0.09	0.28	0.25	0.45
v/c Ratio	0.81	0.43	1.48	1.11	0.41	0.80	2.11	0.94	1.16	1.11
Control Delay	86.4	47.0	254.1	125.0	39.7	23.7	538.2	51.4	105.0	69.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.4	47.0	254.1	125.0	39.7	23.7	538.2	51.4	105.0	69.8
LOS	F	D	F	F	D	C	F	D	F	E
Approach Delay		178.7			60.7			173.4		77.5
Approach LOS		F			E			F		E

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 25 (21%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.11
 Intersection Signal Delay: 110.9
 Intersection Capacity Utilization 116.9%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 		
Traffic Volume (veh/h)	147	257	630	481	357	631	614	1554	282	984	3272	219
Future Volume (veh/h)	147	257	630	481	357	631	614	1554	282	984	3272	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	271	110	506	376	638	646	1636	134	1036	3444	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	193	371	157	457	652	803	561	1847	151	1185	3295	34
Arrive On Green	0.05	0.10	0.10	0.13	0.17	0.17	0.16	0.41	0.27	0.67	0.67	0.89
Sat Flow, veh/h	3563	3741	1585	3563	3741	1585	3563	6822	559	3563	7391	77
Grp Volume(v), veh/h	155	271	110	506	376	638	646	1345	425	1036	2612	868
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1770	1781	1870	1857
Q Serve(g_s), s	5.2	8.4	6.0	15.4	11.1	7.4	18.9	26.7	27.0	27.9	53.5	53.5
Cycle Q Clear(g_c), s	5.2	8.4	6.0	15.4	11.1	7.4	18.9	26.7	27.0	27.9	53.5	53.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		0.04
Lane Grp Cap(c), veh/h	193	371	157	457	652	803	561	1519	479	1185	2502	828
V/C Ratio(X)	0.80	0.73	0.70	1.11	0.58	0.79	1.15	0.89	0.89	0.87	1.04	1.05
Avail Cap(c_a), veh/h	193	636	269	457	916	915	561	1566	494	1185	2502	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	2.00	1.50	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.43	0.43	0.43	0.09	0.09	0.09
Uniform Delay (d), s/veh	56.1	52.5	28.7	52.3	45.5	11.4	50.6	33.9	36.5	18.1	19.9	19.3
Incr Delay (d2), s/veh	19.8	2.8	5.5	74.4	0.8	4.3	77.4	3.7	10.4	0.7	21.3	25.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	4.1	3.4	11.6	5.2	9.4	14.1	10.2	11.3	5.7	17.6	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.0	55.3	34.2	126.7	46.3	15.8	128.0	37.6	46.9	18.8	41.1	44.9
LnGrp LOS	E	E	C	F	D	B	F	D	D	B	F	F
Approach Vol, veh/h		536			1520			2416			4516	
Approach Delay, s/veh		56.9			60.3			63.4			36.7	
Approach LOS		E			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	44.5	39.0	20.0	16.5	23.5	60.0	11.0	25.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	4.6	4.6	6.5	4.5	4.6				
Max Green Setting (Gmax), s	30.4	33.5	15.4	20.4	10.4	53.5	6.5	29.4				
Max Q Clear Time (g_c+1), s	29.9	29.0	17.4	10.4	20.9	55.5	7.2	13.1				
Green Ext Time (p_c), s	0.2	3.5	0.0	1.5	0.0	0.0	0.0	4.8				
Intersection Summary												
HCM 6th Ctrl Delay			49.1									
HCM 6th LOS			D									

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021

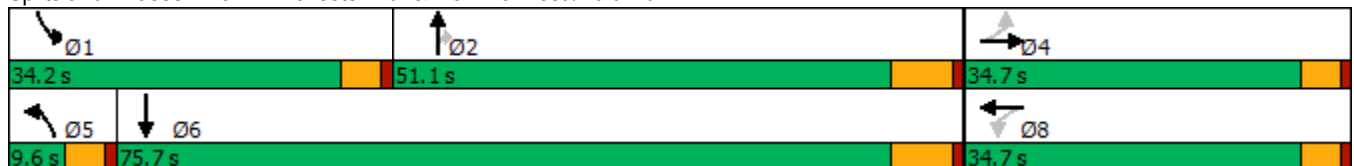


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖↗	↖	↖	↑↑↑↑	↖	↖↗	↑↑↑↑
Traffic Volume (vph)	383	81	393	56	47	1964	390	393	3682
Future Volume (vph)	383	81	393	56	47	1964	390	393	3682
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	9.6	51.1	51.1	34.2	75.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	8.0%	42.6%	42.6%	28.5%	63.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	28.4	28.4	28.4	28.4	5.0	44.6	44.6	29.6	69.2
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.04	0.38	0.38	0.25	0.58
v/c Ratio	0.83	0.42	0.92	0.36	0.65	0.84	0.52	0.47	1.11
Control Delay	58.3	30.7	71.3	22.5	93.8	37.8	10.4	40.3	79.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	30.7	71.3	22.5	93.8	37.8	10.4	40.3	79.1
LOS	E	C	E	C	F	D	B	D	E
Approach Delay		49.4		57.2		34.4			75.7
Approach LOS		D		E		C			E

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.4
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 60.0
 Intersection LOS: E
 Intersection Capacity Utilization 101.4%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔↔	↔		↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	383	81	101	393	56	104	47	1964	390	393	3682	307
Future Volume (veh/h)	383	81	101	393	56	104	47	1964	390	393	3682	307
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	84	93	405	58	102	48	2025	328	405	3796	161
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	527	201	223	501	152	267	74	2391	589	852	3677	153
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.37	0.37	0.25	0.58	0.58
Sat Flow, veh/h	2379	805	891	2342	608	1070	1781	6434	1585	3456	6377	265
Grp Volume(v), veh/h	395	0	177	405	0	160	48	2025	328	405	2852	1105
Grp Sat Flow(s),veh/h/ln	1189	0	1696	1171	0	1678	1781	1609	1585	1728	1609	1816
Q Serve(g_s), s	19.8	0.0	10.5	19.5	0.0	9.5	3.2	34.6	19.7	12.0	69.2	69.2
Cycle Q Clear(g_c), s	29.3	0.0	10.5	30.0	0.0	9.5	3.2	34.6	19.7	12.0	69.2	69.2
Prop In Lane	1.00		0.53	1.00		0.64	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	527	0	424	501	0	419	74	2391	589	852	2783	1047
V/C Ratio(X)	0.75	0.00	0.42	0.81	0.00	0.38	0.65	0.85	0.56	0.48	1.02	1.06
Avail Cap(c_a), veh/h	527	0	424	501	0	419	74	2391	589	852	2783	1047
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	37.7	50.8	0.0	37.3	56.6	34.6	29.9	38.6	25.4	25.4
Incr Delay (d2), s/veh	5.3	0.0	0.2	9.6	0.0	0.6	36.2	3.0	1.2	1.9	23.7	43.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.0	4.4	6.8	0.0	4.0	2.1	13.0	7.2	5.1	28.3	37.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	0.0	37.9	60.4	0.0	37.9	92.8	37.6	31.0	40.5	49.1	69.0
LnGrp LOS	D	A	D	E	A	D	F	D	C	D	F	F
Approach Vol, veh/h		572			565			2401			4362	
Approach Delay, s/veh		49.5			54.0			37.8			53.4	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.2	51.1		34.7	9.6	75.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	29.6	44.6		* 30	5.0	69.2		* 30				
Max Q Clear Time (g_c+I1), s	14.0	36.6		31.3	5.2	71.2		32.0				
Green Ext Time (p_c), s	0.6	6.7		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D

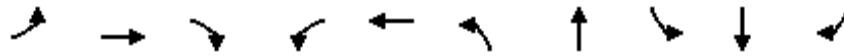
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	155	9	248	77	6	174	1836	20	3637	106
Future Volume (vph)	155	9	248	77	6	174	1836	20	3637	106
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	15.0	72.8	10.5	68.3	68.3
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	12.5%	60.7%	8.8%	56.9%	56.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	18.6	18.6	18.6		18.6	10.4	73.1	5.5	62.0	62.0
Actuated g/C Ratio	0.17	0.17	0.17		0.17	0.10	0.68	0.05	0.58	0.58
v/c Ratio	0.68	0.03	0.73		0.39	1.05	0.49	0.23	1.02	0.12
Control Delay	55.4	34.9	38.1		41.3	130.9	9.9	57.4	43.4	4.4
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	34.9	38.1		41.3	130.9	9.9	57.4	43.4	4.4
LOS	E	C	D		D	F	A	E	D	A
Approach Delay		44.6			41.3		19.4		42.4	
Approach LOS		D			D		B		D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 106.9	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 34.7	Intersection LOS: C
Intersection Capacity Utilization 89.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	9	248	77	6	8	174	1836	191	20	3637	106
Future Volume (veh/h)	155	9	248	77	6	8	174	1836	191	20	3637	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	161	9	191	80	6	6	181	1912	192	21	3789	101
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	274	232	218	16	12	180	4060	408	39	3856	950
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.10	0.68	0.68	0.02	0.60	0.60
Sat Flow, veh/h	1402	1870	1585	1042	112	81	1781	5987	601	1781	6434	1585
Grp Volume(v), veh/h	161	9	191	92	0	0	181	1541	563	21	3789	101
Grp Sat Flow(s),veh/h/ln	1402	1870	1585	1234	0	0	1781	1609	1762	1781	1609	1585
Q Serve(g_s), s	2.9	0.4	12.1	6.6	0.0	0.0	10.4	15.6	15.6	1.2	59.2	2.8
Cycle Q Clear(g_c), s	10.0	0.4	12.1	7.1	0.0	0.0	10.4	15.6	15.6	1.2	59.2	2.8
Prop In Lane	1.00		1.00	0.87		0.07	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	293	274	232	246	0	0	180	3273	1195	39	3856	950
V/C Ratio(X)	0.55	0.03	0.82	0.37	0.00	0.00	1.01	0.47	0.47	0.54	0.98	0.11
Avail Cap(c_a), veh/h	522	580	492	448	0	0	180	3273	1195	102	3856	950
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	37.7	42.7	40.5	0.0	0.0	46.4	7.8	7.8	49.9	20.1	8.8
Incr Delay (d2), s/veh	1.6	0.0	7.1	0.9	0.0	0.0	69.1	0.1	0.3	4.2	10.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.2	5.1	2.2	0.0	0.0	7.8	4.0	4.4	0.6	20.1	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	37.8	49.8	41.5	0.0	0.0	115.5	8.0	8.1	54.1	30.9	8.9
LnGrp LOS	D	D	D	D	A	A	F	A	A	D	C	A
Approach Vol, veh/h		361			92			2285			3911	
Approach Delay, s/veh		46.6			41.5			16.5			30.5	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.9	76.4		19.8	15.0	68.3		19.8				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.9	66.3		* 32	10.4	61.8		* 32				
Max Q Clear Time (g_c+I1), s	3.2	17.6		14.1	12.4	61.2		9.1				
Green Ext Time (p_c), s	0.0	21.4		1.1	0.0	0.6		0.5				

Intersection Summary

HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBR	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	302	2651	1807	1176	1268	0	849
Future Volume (vph)	302	2651	1807	1176	1268	0	849
Turn Type	Perm	NA	NA	Perm	Perm	NA	Perm
Protected Phases		4	8			6	
Permitted Phases	4			8	2		6
Detector Phase	4	4	8	8	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	81.0	81.0	81.0	81.0	39.0	39.0	39.0
Total Split (%)	67.5%	67.5%	67.5%	67.5%	32.5%	32.5%	32.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	77.0	77.0	77.0	77.0	35.0	35.0	35.0
Actuated g/C Ratio	0.64	0.64	0.64	0.64	0.29	0.29	0.29
v/c Ratio	2.59	0.66	0.65	0.58	1.60	0.97	0.96
Control Delay	757.3	14.4	13.4	3.2	304.4	75.4	74.9
Queue Delay	0.0	2.5	34.6	1.7	0.0	0.0	0.0
Total Delay	757.3	17.0	48.0	4.9	304.4	75.4	74.9
LOS	F	B	D	A	F	E	E
Approach Delay		92.6	39.5			75.1	
Approach LOS		F	D			E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.59
 Intersection Signal Delay: 104.4
 Intersection Capacity Utilization 89.4%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service E





















Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	302	2651	0	0	1807	1176	0	0	1268	0	0	849
Future Volume (veh/h)	302	2651	0	0	1807	1176	0	0	1268	0	0	849
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	311	2733	0	0	2264	533	0	0	895	0	0	634
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	212	4129	0	0	4801	1017	0	546	814	0	546	925
Arrive On Green	0.64	0.64	0.00	0.00	0.64	0.64	0.00	0.00	0.29	0.00	0.00	0.29
Sat Flow, veh/h	189	6696	0	0	7481	1585	0	1870	2790	0	1870	3170
Grp Volume(v), veh/h	311	2733	0	0	2264	533	0	0	895	0	0	634
Grp Sat Flow(s),veh/h/ln	95	1609	0	0	1870	1585	0	1870	1395	0	1870	1585
Q Serve(g_s), s	58.3	31.8	0.0	0.0	18.7	21.8	0.0	0.0	35.0	0.0	0.0	21.2
Cycle Q Clear(g_c), s	77.0	31.8	0.0	0.0	18.7	21.8	0.0	0.0	35.0	0.0	0.0	21.2
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	212	4129	0	0	4801	1017	0	546	814	0	546	925
V/C Ratio(X)	1.47	0.66	0.00	0.00	0.47	0.52	0.00	0.00	1.10	0.00	0.00	0.69
Avail Cap(c_a), veh/h	212	4129	0	0	4801	1017	0	546	814	0	546	925
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	47.3	13.4	0.0	0.0	11.0	11.6	0.0	0.0	42.5	0.0	0.0	37.6
Incr Delay (d2), s/veh	234.4	0.4	0.0	0.0	0.1	0.5	0.0	0.0	62.5	0.0	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	10.1	0.0	0.0	6.8	6.9	0.0	0.0	18.6	0.0	0.0	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	281.8	13.8	0.0	0.0	11.1	12.1	0.0	0.0	105.0	0.0	0.0	39.8
LnGrp LOS	F	B	A	A	B	B	A	A	F	A	A	D
Approach Vol, veh/h		3044			2797			895				634
Approach Delay, s/veh		41.2			11.3			105.0				39.8
Approach LOS		D			B			F				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.0		81.0		39.0		81.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		35.0		77.0		35.0		77.0				
Max Q Clear Time (g_c+I1), s		37.0		79.0		23.2		23.8				
Green Ext Time (p_c), s		0.0		0.0		2.1		35.3				

Intersection Summary

HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

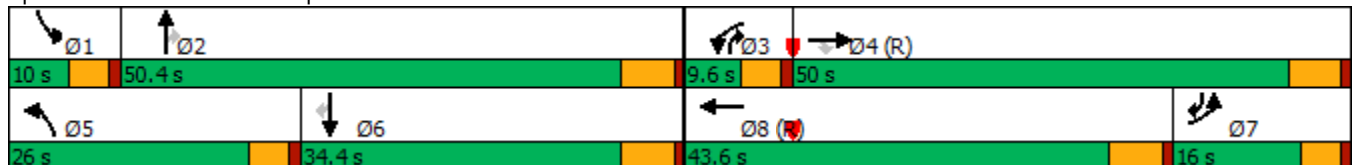
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	625	2737	557	120	1954	673	260	231	161	151	355	
Future Volume (vph)	625	2737	557	120	1954	673	260	231	161	151	355	
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	
Protected Phases	7	4		3	8	5	2	3	1	6	7	
Permitted Phases			4					2			6	
Detector Phase	7	4	4	3	8	5	2	3	1	6	7	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6	
Total Split (s)	16.0	50.0	50.0	9.6	43.6	26.0	50.4	9.6	10.0	34.4	16.0	
Total Split (%)	13.3%	41.7%	41.7%	8.0%	36.3%	21.7%	42.0%	8.0%	8.3%	28.7%	13.3%	
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None	None	None	
Act Effct Green (s)	11.4	57.2	57.2	9.4	55.2	21.4	27.2	42.4	5.4	11.2	23.8	
Actuated g/C Ratio	0.10	0.48	0.48	0.08	0.46	0.18	0.23	0.35	0.04	0.09	0.20	
v/c Ratio	1.94	1.07	0.40	0.46	0.75	1.11	0.34	0.38	1.09	0.47	0.55	
Control Delay	462.1	71.4	12.2	53.6	47.7	115.6	39.9	15.3	151.7	56.3	17.4	
Queue Delay	0.0	13.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	462.1	84.5	13.2	53.6	47.7	115.6	39.9	15.3	151.7	56.3	17.4	
LOS	F	F	B	D	D	F	D	B	F	E	B	
Approach Delay		134.6			48.1		78.8			58.6		
Approach LOS		F			D		E			E		

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 70 (58%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.94
 Intersection Signal Delay: 96.0
 Intersection LOS: F
 Intersection Capacity Utilization 101.9%
 ICU Level of Service G
 Analysis Period (min) 15
























Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	625	2737	557	120	1954	140	673	260	231	161	151	355
Future Volume (veh/h)	625	2737	557	120	1954	140	673	260	231	161	151	355
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	651	2851	371	125	2035	138	701	271	149	168	157	251
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	855	2936	1460	144	1953	132	635	770	409	156	296	899
Arrive On Green	0.24	0.52	0.52	0.08	0.63	0.63	0.18	0.22	0.22	0.05	0.08	0.08
Sat Flow, veh/h	3563	5611	2790	3456	6200	420	3563	3554	1585	3456	3554	2749
Grp Volume(v), veh/h	651	2851	371	125	1584	589	701	271	149	168	157	251
Grp Sat Flow(s),veh/h/ln	1781	1870	1395	1728	1609	1795	1781	1777	1585	1728	1777	1374
Q Serve(g_s), s	20.4	59.1	8.8	4.3	37.8	37.8	21.4	7.8	9.2	5.4	5.1	2.6
Cycle Q Clear(g_c), s	20.4	59.1	8.8	4.3	37.8	37.8	21.4	7.8	9.2	5.4	5.1	2.6
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	855	2936	1460	144	1520	565	635	770	409	156	296	899
V/C Ratio(X)	0.76	0.97	0.25	0.87	1.04	1.04	1.10	0.35	0.36	1.08	0.53	0.28
Avail Cap(c_a), veh/h	855	2936	1460	144	1520	565	635	1321	655	156	847	1325
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.17	0.17	0.17	0.48	0.48	0.48	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	27.7	15.7	54.7	22.2	22.2	49.3	39.9	36.4	57.3	52.7	11.8
Incr Delay (d2), s/veh	0.6	2.9	0.1	21.9	28.3	38.0	67.4	0.3	0.5	95.2	1.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	24.6	2.7	2.2	11.1	13.9	15.2	3.3	3.5	4.4	2.3	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	30.6	15.8	76.5	50.5	60.2	116.7	40.1	37.0	152.5	54.2	12.0
LnGrp LOS	D	C	B	E	F	F	F	D	D	F	D	B
Approach Vol, veh/h		3873			2298			1121			576	
Approach Delay, s/veh		31.2			54.4			87.6			64.5	
Approach LOS		C			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	31.8	9.6	68.6	26.0	15.8	34.6	43.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	5.8	* 5.8				
Max Green Setting (Gmax), s	5.4	44.6	5.0	44.2	21.4	28.6	11.4	* 38				
Max Q Clear Time (g_c+I1), s	7.4	11.2	6.3	61.1	23.4	7.1	22.4	39.8				
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	1.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	48.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

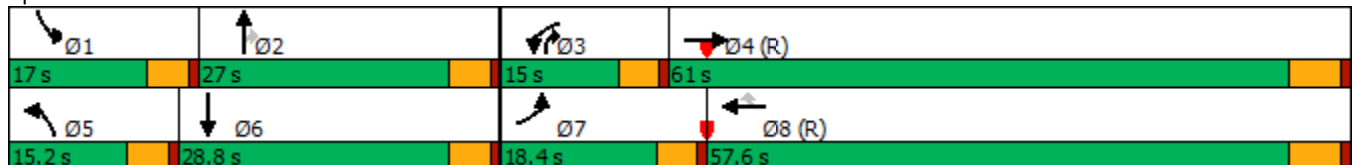
06/24/2021

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	216	2327	323	1913	393	137	680	511	404	340
Future Volume (vph)	216	2327	323	1913	393	137	680	511	404	340
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8		5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	26.8	9.6	14.7	9.6	9.6	28.7
Total Split (s)	18.4	61.0	15.0	57.6	57.6	15.2	27.0	15.0	17.0	28.8
Total Split (%)	15.3%	50.8%	12.5%	48.0%	48.0%	12.7%	22.5%	12.5%	14.2%	24.0%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.7	3.6	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.7	4.6	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	11.8	55.2	10.4	53.8	53.8	10.6	22.3	32.8	12.4	24.1
Actuated g/C Ratio	0.10	0.46	0.09	0.45	0.45	0.09	0.19	0.27	0.10	0.20
v/c Ratio	0.67	1.03	1.11	0.80	0.48	0.92	1.03	1.13	1.16	0.67
Control Delay	51.7	48.9	134.6	32.0	8.9	108.8	91.2	115.6	146.8	46.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	48.9	134.6	32.0	8.9	108.8	91.2	115.6	146.8	46.4
LOS	D	D	F	C	A	F	F	F	F	D
Approach Delay		49.1		41.2			102.4			93.7
Approach LOS		D		D			F			F

Intersection Summary

































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 62.4 (52%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 60.8
 Intersection LOS: E
 Intersection Capacity Utilization 104.7%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	
Traffic Volume (veh/h)	216	2327	168	323	1913	393	137	680	511	404	340	113
Future Volume (veh/h)	216	2327	168	323	1913	393	137	680	511	404	340	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	227	2449	88	340	2014	282	144	716	380	425	358	77
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	2475	88	309	2607	727	157	695	426	368	584	124
Arrive On Green	0.11	0.61	0.61	0.09	0.46	0.46	0.09	0.19	0.19	0.10	0.20	0.20
Sat Flow, veh/h	3456	5381	192	3563	5611	1565	1781	3741	1555	3563	2908	618
Grp Volume(v), veh/h	227	1697	840	340	2014	282	144	716	380	425	217	218
Grp Sat Flow(s),veh/h/ln	1728	1870	1833	1781	1870	1565	1781	1870	1555	1781	1777	1749
Q Serve(g_s), s	7.7	53.2	54.8	10.4	36.0	14.1	9.6	22.3	22.3	12.4	13.3	13.7
Cycle Q Clear(g_c), s	7.7	53.2	54.8	10.4	36.0	14.1	9.6	22.3	22.3	12.4	13.3	13.7
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	283	1721	843	309	2607	727	157	695	426	368	357	351
V/C Ratio(X)	0.80	0.99	1.00	1.10	0.77	0.39	0.92	1.03	0.89	1.15	0.61	0.62
Avail Cap(c_a), veh/h	397	1721	843	309	2607	727	157	695	426	368	357	351
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.60	0.60	0.60	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	22.9	23.2	54.8	26.8	21.0	54.3	48.8	42.0	53.8	43.7	43.8
Incr Delay (d2), s/veh	0.5	4.0	8.6	70.2	1.4	0.9	46.8	42.0	20.3	96.0	3.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	18.5	19.7	7.5	15.3	5.1	6.4	14.4	12.8	10.4	6.2	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.0	26.9	31.8	125.0	28.2	21.9	101.0	90.9	62.3	149.8	46.6	47.1
LnGrp LOS	D	C	C	F	C	C	F	F	E	F	D	D
Approach Vol, veh/h		2764			2636			1240				860
Approach Delay, s/veh		30.6			40.0			83.3				97.7
Approach LOS		C			D			F				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	27.0	15.0	61.0	15.2	28.8	14.4	61.6				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	12.4	* 22	10.4	55.2	10.6	* 24	13.8	51.8				
Max Q Clear Time (g_c+I1), s	14.4	24.3	12.4	56.8	11.6	15.7	9.7	38.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.7	0.2	11.0				
Intersection Summary												
HCM 6th Ctrl Delay				50.3								
HCM 6th LOS				D								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
7: Whitewood Rd. & Clinton Keith Rd.

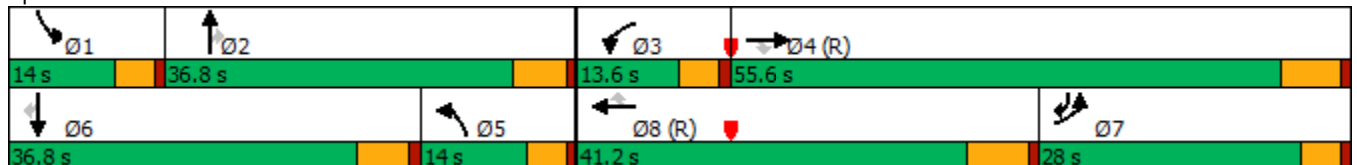
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	852	2074	238	230	1683	372	320	965	248	302	331	718
Future Volume (vph)	852	2074	238	230	1683	372	320	965	248	302	331	718
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	36.8	36.8	9.6	36.8	9.6
Total Split (s)	28.0	55.6	55.6	13.6	41.2	41.2	14.0	36.8	36.8	14.0	36.8	28.0
Total Split (%)	23.3%	46.3%	46.3%	11.3%	34.3%	34.3%	11.7%	30.7%	30.7%	11.7%	30.7%	23.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	4.6
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	23.4	49.1	49.1	9.0	34.7	34.7	23.6	31.0	31.0	9.4	16.8	46.0
Actuated g/C Ratio	0.20	0.41	0.41	0.08	0.29	0.29	0.20	0.26	0.26	0.08	0.14	0.38
v/c Ratio	1.26	0.97	0.32	0.91	1.12	0.65	0.48	1.08	0.47	1.15	0.68	1.07
Control Delay	168.5	49.2	7.7	93.2	102.5	24.1	46.4	95.4	15.2	150.1	56.1	85.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	168.5	49.2	7.7	93.2	102.5	24.1	46.4	95.4	15.2	150.1	56.1	85.4
LOS	F	D	A	F	F	C	D	F	B	F	E	F
Approach Delay		78.2			88.8			72.2			92.7	
Approach LOS		E			F			E			F	

Intersection Summary

























Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 80.8 (67%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.26
 Intersection Signal Delay: 82.3
 Intersection LOS: F
 Intersection Capacity Utilization 110.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



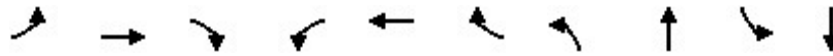
HCM 6th Signalized Intersection Summary
 7: Whitewood Rd. & Clinton Keith Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	852	2074	238	230	1683	372	320	965	248	302	331	718
Future Volume (veh/h)	852	2074	238	230	1683	372	320	965	248	302	331	718
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	869	2116	228	235	1717	365	327	985	238	308	338	503
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1823	3953	1175	259	1541	458	653	918	409	271	490	1029
Arrive On Green	0.51	0.74	0.74	0.08	0.29	0.29	0.19	0.26	0.26	0.08	0.14	0.14
Sat Flow, veh/h	3563	5331	1585	3456	5331	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	869	2116	228	235	1717	365	327	985	238	308	338	503
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	18.9	20.4	6.0	8.1	34.7	31.3	10.2	31.0	15.7	9.4	10.9	0.0
Cycle Q Clear(g_c), s	18.9	20.4	6.0	8.1	34.7	31.3	10.2	31.0	15.7	9.4	10.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1823	3953	1175	259	1541	458	653	918	409	271	490	1029
V/C Ratio(X)	0.48	0.54	0.19	0.91	1.11	0.80	0.50	1.07	0.58	1.14	0.69	0.49
Avail Cap(c_a), veh/h	1823	3953	1175	259	1541	458	653	918	409	271	918	1220
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.78	0.78	0.78	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	6.6	6.3	55.1	42.7	59.3	43.6	44.5	38.8	55.3	49.3	10.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	26.7	59.0	10.7	0.2	51.3	2.1	97.1	1.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	5.4	1.3	4.3	22.7	13.3	4.3	19.6	6.0	7.6	4.8	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	6.7	6.3	81.8	101.7	70.1	43.8	95.8	40.9	152.4	51.0	11.2
LnGrp LOS	B	A	A	F	F	E	D	F	D	F	D	B
Approach Vol, veh/h		3213			2317			1550			1149	
Approach Delay, s/veh		10.0			94.7			76.4			60.7	
Approach LOS		A			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	36.8	13.6	95.5	28.5	22.3	67.9	41.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	5.8	* 5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	9.4	31.0	9.0	49.1	9.4	* 31	23.4	* 35				
Max Q Clear Time (g_c+I1), s	11.4	33.0	10.1	22.4	12.2	12.9	20.9	36.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	18.1	0.0	3.7	0.6	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			53.4									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/23/2021

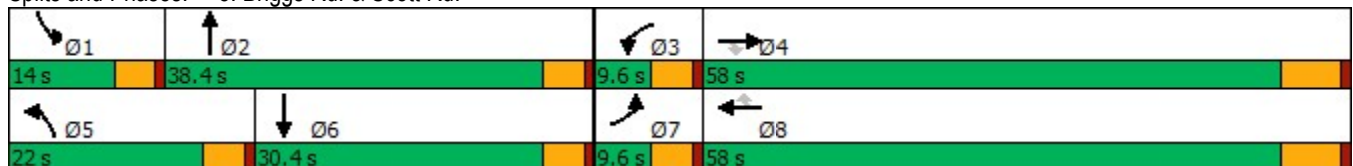


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘↗	↑	↘	↗
Traffic Volume (vph)	26	2588	671	91	2103	167	543	18	221	8
Future Volume (vph)	26	2588	671	91	2103	167	543	18	221	8
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	23.5	9.6	29.5	29.5	9.6	35.7	9.6	28.7
Total Split (s)	9.6	58.0	58.0	9.6	58.0	58.0	22.0	38.4	14.0	30.4
Total Split (%)	8.0%	48.3%	48.3%	8.0%	48.3%	48.3%	18.3%	32.0%	11.7%	25.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None
Act Effct Green (s)	5.0	51.7	51.7	5.0	55.8	55.8	18.9	14.6	11.2	10.0
Actuated g/C Ratio	0.05	0.52	0.52	0.05	0.56	0.56	0.19	0.15	0.11	0.10
v/c Ratio	0.31	0.93	0.67	1.08	0.70	0.18	0.87	0.32	1.16	0.21
Control Delay	57.1	30.7	10.1	166.3	19.4	2.7	56.4	15.3	156.1	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	30.7	10.1	166.3	19.4	2.7	56.4	15.3	156.1	21.8
LOS	E	C	B	F	B	A	E	B	F	C
Approach Delay		26.7			23.9			50.4		136.2
Approach LOS		C			C			D		F

Intersection Summary

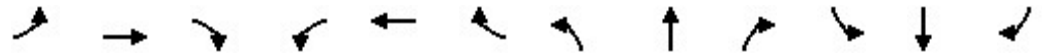
Cycle Length: 120
 Actuated Cycle Length: 99.8
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 32.3
 Intersection LOS: C
 Intersection Capacity Utilization 90.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘↗	↑		↘	↗	
Traffic Volume (veh/h)	26	2588	671	91	2103	167	543	18	76	221	8	31
Future Volume (veh/h)	26	2588	671	91	2103	167	543	18	76	221	8	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	2696	402	95	2191	174	566	19	74	230	8	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	2765	781	85	2887	816	575	58	227	160	54	107
Arrive On Green	0.03	0.49	0.49	0.05	0.51	0.51	0.17	0.17	0.17	0.09	0.10	0.10
Sat Flow, veh/h	1781	5611	1585	1781	5611	1585	3456	334	1302	1781	550	1100
Grp Volume(v), veh/h	27	2696	402	95	2191	174	566	0	93	230	0	24
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	0	1636	1781	0	1650
Q Serve(g_s), s	1.6	49.0	18.0	5.0	32.5	6.3	17.1	0.0	5.2	9.4	0.0	1.4
Cycle Q Clear(g_c), s	1.6	49.0	18.0	5.0	32.5	6.3	17.1	0.0	5.2	9.4	0.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		0.67
Lane Grp Cap(c), veh/h	46	2765	781	85	2887	816	575	0	285	160	0	161
V/C Ratio(X)	0.58	0.98	0.51	1.11	0.76	0.21	0.98	0.00	0.33	1.44	0.00	0.15
Avail Cap(c_a), veh/h	85	2765	781	85	2887	816	575	0	528	160	0	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.3	25.9	18.0	49.7	20.2	13.8	43.4	0.0	37.8	47.5	0.0	43.2
Incr Delay (d2), s/veh	4.3	11.9	0.6	131.9	1.2	0.1	33.2	0.0	0.7	227.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	21.6	5.9	5.2	12.4	2.0	9.9	0.0	2.1	14.3	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	37.8	18.6	181.6	21.4	14.0	76.6	0.0	38.4	275.3	0.0	43.6
LnGrp LOS	D	D	B	F	C	B	E	A	D	F	A	D
Approach Vol, veh/h		3125			2460			659			254	
Approach Delay, s/veh		35.4			27.1			71.2			253.4	
Approach LOS		D			C			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	22.9	9.6	58.0	22.0	14.9	7.3	60.3				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	6.5	4.6	* 4.7	4.6	6.5				
Max Green Setting (Gmax), s	9.4	* 34	5.0	51.5	17.4	* 26	5.0	51.5				
Max Q Clear Time (g_c+I1), s	11.4	7.2	7.0	51.0	19.1	3.4	3.6	34.5				
Green Ext Time (p_c), s	0.0	0.5	0.0	0.5	0.0	0.1	0.0	13.1				

Intersection Summary

HCM 6th Ctrl Delay	44.4
HCM 6th LOS	D

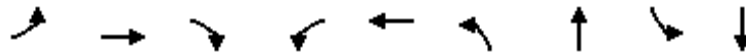
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

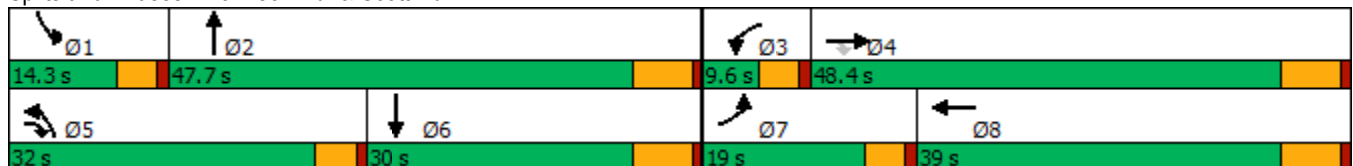


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↘↗	↑↗	↘	↑↗
Traffic Volume (vph)	228	1698	904	19	1382	761	107	57	88
Future Volume (vph)	228	1698	904	19	1382	761	107	57	88
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases	4								
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	28.5	9.6	9.6	28.5	9.6	28.2	9.6	28.2
Total Split (s)	19.0	48.4	32.0	9.6	39.0	32.0	47.7	14.3	30.0
Total Split (%)	15.8%	40.3%	26.7%	8.0%	32.5%	26.7%	39.8%	11.9%	25.0%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	14.4	47.7	81.6	5.0	32.5	27.4	32.1	7.7	10.5
Actuated g/C Ratio	0.13	0.45	0.76	0.05	0.30	0.26	0.30	0.07	0.10
v/c Ratio	1.02	0.79	0.71	0.24	1.01	0.92	0.13	0.48	0.53
Control Delay	109.9	29.5	6.0	56.7	62.5	55.4	25.1	59.6	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.9	29.5	6.0	56.7	62.5	55.4	25.1	59.6	23.6
LOS	F	C	A	E	E	E	C	E	C
Approach Delay	28.5		62.5			51.0		31.1	
Approach LOS	C		E			D		C	

Intersection Summary





























Cycle Length: 120
 Actuated Cycle Length: 106.7
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 41.5
 Intersection LOS: D
 Intersection Capacity Utilization 89.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 9: Leon Rd. & Scott Rd.



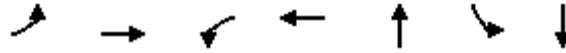
HCM 6th Signalized Intersection Summary
 9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	228	1698	904	19	1382	81	761	107	20	57	88	129
Future Volume (veh/h)	228	1698	904	19	1382	81	761	107	20	57	88	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	243	1806	696	20	1470	65	810	114	16	61	94	89
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	2167	1071	37	1546	68	868	948	131	79	173	148
Arrive On Green	0.14	0.42	0.42	0.02	0.31	0.31	0.25	0.30	0.30	0.04	0.10	0.10
Sat Flow, veh/h	1781	5106	1585	1781	5013	222	3456	3137	432	1781	1815	1553
Grp Volume(v), veh/h	243	1806	696	20	998	537	810	64	66	61	92	91
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1830	1728	1777	1793	1781	1777	1591
Q Serve(g_s), s	14.3	33.1	26.7	1.2	30.2	30.2	24.1	2.7	2.8	3.6	5.2	5.8
Cycle Q Clear(g_c), s	14.3	33.1	26.7	1.2	30.2	30.2	24.1	2.7	2.8	3.6	5.2	5.8
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.24	1.00		0.98
Lane Grp Cap(c), veh/h	244	2167	1071	37	1050	565	868	537	542	79	169	151
V/C Ratio(X)	1.00	0.83	0.65	0.53	0.95	0.95	0.93	0.12	0.12	0.78	0.54	0.60
Avail Cap(c_a), veh/h	244	2167	1071	85	1052	566	900	701	707	164	402	360
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	27.0	9.9	51.0	35.6	35.6	38.5	26.5	26.6	49.7	45.4	45.7
Incr Delay (d2), s/veh	56.5	3.0	1.4	4.3	17.2	26.0	15.5	0.1	0.1	6.0	2.7	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	12.5	7.2	0.5	13.9	16.4	11.4	1.1	1.2	1.7	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.8	29.9	11.3	55.3	52.7	61.6	54.0	26.6	26.7	55.8	48.1	49.5
LnGrp LOS	F	C	B	E	D	E	D	C	C	E	D	D
Approach Vol, veh/h		2745			1555			940			244	
Approach Delay, s/veh		31.6			55.8			50.2			50.5	
Approach LOS		C			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	38.0	6.8	51.1	31.0	16.2	19.0	38.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5				
Max Green Setting (Gmax), s	9.7	41.5	5.0	41.9	27.4	23.8	14.4	32.5				
Max Q Clear Time (g_c+I1), s	5.6	4.8	3.2	35.1	26.1	7.8	16.3	32.2				
Green Ext Time (p_c), s	0.0	0.6	0.0	5.8	0.3	0.7	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			42.5									
HCM 6th LOS			D									

Timings
10: Leon Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations		↕		↕	↕↔	↕	↕↔
Traffic Volume (vph)	7	5	31	3	855	251	740
Future Volume (vph)	7	5	31	3	855	251	740
Turn Type	Perm	NA	Perm	NA	NA	Perm	NA
Protected Phases		4		8	2		6
Permitted Phases	4		8			6	
Detector Phase	4	4	8	8	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	26.7	26.7	26.7	26.7	28.2	28.2	28.2
Total Split (s)	26.7	26.7	26.7	26.7	93.3	93.3	93.3
Total Split (%)	22.3%	22.3%	22.3%	22.3%	77.8%	77.8%	77.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7		4.7	6.2	6.2	6.2
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min
Act Effct Green (s)		12.2		12.2	45.7	45.7	45.7
Actuated g/C Ratio		0.17		0.17	0.65	0.65	0.65
v/c Ratio		0.11		0.52	0.43	0.82	0.35
Control Delay		22.2		14.8	5.6	29.8	5.2
Queue Delay		0.0		0.0	0.0	0.0	0.0
Total Delay		22.2		14.8	5.6	29.8	5.2
LOS		C		B	A	C	A
Approach Delay		22.2		14.8	5.6		11.4
Approach LOS		C		B	A		B

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 70
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 9.4
 Intersection Capacity Utilization 67.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 10: Leon Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
10: Leon Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	7	5	18	31	3	165	0	855	43	251	740	0
Future Volume (veh/h)	7	5	18	31	3	165	0	855	43	251	740	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	5	20	34	3	179	0	929	47	273	804	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	72	173	84	19	222	99	2343	119	423	2419	0
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.00	0.68	0.68	0.68	0.68	0.00
Sat Flow, veh/h	237	424	1018	160	110	1308	677	3442	174	576	3647	0
Grp Volume(v), veh/h	33	0	0	216	0	0	0	480	496	273	804	0
Grp Sat Flow(s),veh/h/ln	1679	0	0	1579	0	0	677	1777	1839	576	1777	0
Q Serve(g_s), s	0.0	0.0	0.0	5.3	0.0	0.0	0.0	8.6	8.6	28.7	6.8	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.0	9.5	0.0	0.0	0.0	8.6	8.6	37.3	6.8	0.0
Prop In Lane	0.24		0.61	0.16		0.83	1.00		0.09	1.00		0.00
Lane Grp Cap(c), veh/h	346	0	0	325	0	0	99	1210	1252	423	2419	0
V/C Ratio(X)	0.10	0.00	0.00	0.66	0.00	0.00	0.00	0.40	0.40	0.65	0.33	0.00
Avail Cap(c_a), veh/h	545	0	0	531	0	0	448	2125	2199	720	4250	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.6	0.0	0.0	29.0	0.0	0.0	0.0	5.1	5.1	13.2	4.8	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	2.3	0.0	0.0	0.0	0.2	0.2	1.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	3.7	0.0	0.0	0.0	1.8	1.9	2.8	1.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	0.0	0.0	31.4	0.0	0.0	0.0	5.3	5.3	14.9	4.9	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	B	A	A
Approach Vol, veh/h		33			216			976			1077	
Approach Delay, s/veh		25.7			31.4			5.3			7.4	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.8		17.0		55.8		17.0				
Change Period (Y+Rc), s		6.2		* 4.7		6.2		* 4.7				
Max Green Setting (Gmax), s		87.1		* 22		87.1		* 22				
Max Q Clear Time (g_c+I1), s		10.6		3.2		39.3		11.5				
Green Ext Time (p_c), s		6.5		0.1		10.3		0.9				

Intersection Summary

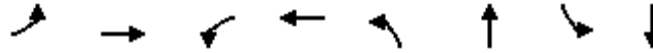
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
11: Leon Rd. & Whisper Heights Blvd

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	16	29	191	22	7	833	107	722
Future Volume (vph)	16	29	191	22	7	833	107	722
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.7	21.7	21.7	21.7	23.2	23.2	23.2	23.2
Total Split (s)	21.7	21.7	21.7	21.7	98.3	98.3	98.3	98.3
Total Split (%)	18.1%	18.1%	18.1%	18.1%	81.9%	81.9%	81.9%	81.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7	4.7	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		17.4	17.4	17.4	84.1	84.1	84.1	84.1
Actuated g/C Ratio		0.15	0.15	0.15	0.75	0.75	0.75	0.75
v/c Ratio		0.22	0.97	0.27	0.02	0.93	1.17	0.32
Control Delay		45.0	104.7	21.1	3.4	24.2	161.0	4.8
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		45.0	104.7	21.1	3.4	24.2	161.0	4.8
LOS		D	F	C	A	C	F	A
Approach Delay		45.0		81.6		24.0		24.2
Approach LOS		D		F		C		C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.6
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.17
 Intersection Signal Delay: 31.2
 Intersection Capacity Utilization 101.4%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service G

Splits and Phases: 11: Leon Rd. & Whisper Heights Blvd



HCM 6th Signalized Intersection Summary
 11: Leon Rd. & Whisper Heights Blvd

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	16	29	6	191	22	51	7	833	291	107	722	31
Future Volume (veh/h)	16	29	6	191	22	51	7	833	291	107	722	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	32	7	212	24	57	8	926	240	119	802	34
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	158	30	277	75	178	508	1075	279	206	2607	111
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	365	1042	197	1368	492	1168	657	1432	371	481	3473	147
Grp Volume(v), veh/h	57	0	0	212	0	81	8	0	1166	119	410	426
Grp Sat Flow(s),veh/h/ln	1604	0	0	1368	0	1660	657	0	1804	481	1777	1844
Q Serve(g_s), s	0.0	0.0	0.0	12.1	0.0	4.9	0.4	0.0	51.0	25.9	8.4	8.4
Cycle Q Clear(g_c), s	4.9	0.0	0.0	17.0	0.0	4.9	8.8	0.0	51.0	76.9	8.4	8.4
Prop In Lane	0.32		0.12	1.00		0.70	1.00		0.21	1.00		0.08
Lane Grp Cap(c), veh/h	286	0	0	277	0	252	508	0	1354	206	1334	1384
V/C Ratio(X)	0.20	0.00	0.00	0.77	0.00	0.32	0.02	0.00	0.86	0.58	0.31	0.31
Avail Cap(c_a), veh/h	286	0	0	277	0	252	556	0	1485	241	1463	1518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	0.0	0.0	47.3	0.0	42.3	6.0	0.0	9.8	37.0	4.5	4.5
Incr Delay (d2), s/veh	0.3	0.0	0.0	12.1	0.0	0.7	0.0	0.0	5.1	2.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	6.8	0.0	2.0	0.1	0.0	15.0	3.0	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.9	0.0	0.0	59.4	0.0	43.0	6.0	0.0	14.9	39.5	4.7	4.6
LnGrp LOS	D	A	A	E	A	D	A	A	B	D	A	A
Approach Vol, veh/h		57			293			1174				955
Approach Delay, s/veh		41.9			54.9			14.8				9.0
Approach LOS		D			D			B				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		90.2		21.7		90.2		21.7				
Change Period (Y+Rc), s		6.2		* 4.7		6.2		* 4.7				
Max Green Setting (Gmax), s		92.1		* 17		92.1		* 17				
Max Q Clear Time (g_c+I1), s		53.0		6.9		78.9		19.0				
Green Ext Time (p_c), s		12.9		0.1		5.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)

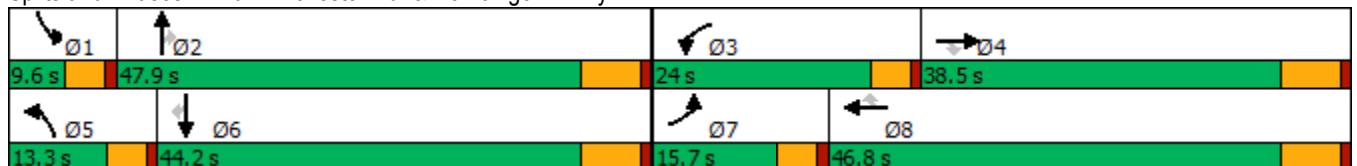
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	902	90	649	785	19	123	1031	870	18	493	163
Future Volume (vph)	180	902	90	649	785	19	123	1031	870	18	493	163
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.5	38.5	9.6	38.5	38.5	9.6	38.5	38.5	9.6	38.5	38.5
Total Split (s)	15.7	38.5	38.5	24.0	46.8	46.8	13.3	47.9	47.9	9.6	44.2	44.2
Total Split (%)	13.1%	32.1%	32.1%	20.0%	39.0%	39.0%	11.1%	39.9%	39.9%	8.0%	36.8%	36.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	9.4	24.7	24.7	19.5	34.8	34.8	7.7	41.7	41.7	5.0	32.8	32.8
Actuated g/C Ratio	0.09	0.23	0.23	0.18	0.32	0.32	0.07	0.39	0.39	0.05	0.31	0.31
v/c Ratio	0.59	0.71	0.19	1.03	0.44	0.03	0.51	0.73	1.05	0.11	0.44	0.28
Control Delay	56.7	41.5	1.0	86.5	29.8	0.1	57.3	32.8	64.9	54.4	31.8	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	41.5	1.0	86.5	29.8	0.1	57.3	32.8	64.9	54.4	31.8	5.7
LOS	E	D	A	F	C	A	E	C	E	D	C	A
Approach Delay		40.7			54.7			48.1			26.1	
Approach LOS		D			D			D			C	

Intersection Summary



































Cycle Length: 120
 Actuated Cycle Length: 107.1
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 45.5
 Intersection LOS: D
 Intersection Capacity Utilization 90.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	
Traffic Volume (veh/h)	180	902	90	649	785	19	123	1031	870	18	493	163
Future Volume (veh/h)	180	902	90	649	785	19	123	1031	870	18	493	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	920	34	662	801	11	126	1052	480	18	503	64
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	1232	348	672	1894	535	192	1333	565	70	1198	507
Arrive On Green	0.07	0.22	0.22	0.19	0.34	0.34	0.06	0.36	0.36	0.02	0.32	0.32
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	3456	3741	1585	3563	3741	1585
Grp Volume(v), veh/h	184	920	34	662	801	11	126	1052	480	18	503	64
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.2	15.7	1.8	19.0	11.3	0.5	3.7	25.9	28.8	0.5	10.9	2.9
Cycle Q Clear(g_c), s	5.2	15.7	1.8	19.0	11.3	0.5	3.7	25.9	28.8	0.5	10.9	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	252	1232	348	672	1894	535	192	1333	565	70	1198	507
V/C Ratio(X)	0.73	0.75	0.10	0.98	0.42	0.02	0.66	0.79	0.85	0.26	0.42	0.13
Avail Cap(c_a), veh/h	385	1746	493	672	2199	621	292	1506	638	173	1372	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	37.4	32.0	41.6	26.3	22.7	47.6	29.6	30.6	49.7	27.5	24.8
Incr Delay (d2), s/veh	1.5	1.1	0.1	30.7	0.2	0.0	1.4	2.6	9.7	0.7	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	6.8	0.6	10.7	4.7	0.2	1.5	11.0	11.4	0.2	4.5	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	38.5	32.1	72.3	26.5	22.7	49.0	32.2	40.2	50.4	27.7	24.9
LnGrp LOS	D	D	C	E	C	C	D	C	D	D	C	C
Approach Vol, veh/h		1138			1474			1658			585	
Approach Delay, s/veh		39.9			47.0			35.8			28.1	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	43.1	24.0	29.1	10.3	39.4	11.9	41.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	41.4	19.4	32.0	8.7	37.7	11.1	40.3				
Max Q Clear Time (g_c+I1), s	2.5	30.8	21.0	17.7	5.7	12.9	7.2	13.3				
Green Ext Time (p_c), s	0.0	5.9	0.0	4.8	0.0	3.1	0.1	5.1				
Intersection Summary												
HCM 6th Ctrl Delay			39.3									
HCM 6th LOS			D									

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations	↘	↗	↘	↗	↘	↑↑↑	↗	↑↑↑	↗	
Traffic Volume (vph)	7	18	30	18	10	4198	42	3652	12	
Future Volume (vph)	7	18	30	18	10	4198	42	3652	12	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4		8	5	2		6		1
Permitted Phases	4		8				2		6	
Detector Phase	4	4	8	8	5	2	2	6	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	26.5	16.5	16.5	9.6
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	74.7	74.7	74.7	9.6
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	62.3%	62.3%	62.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max	None
Act Effct Green (s)	10.1	10.1	10.1	10.1	5.0	77.8	77.8	68.2	68.2	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.69	0.69	
v/c Ratio	0.06	0.15	0.23	0.37	0.12	1.13	0.04	0.89	0.01	
Control Delay	41.4	32.9	45.3	20.1	48.3	77.1	0.6	16.0	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.4	32.9	45.3	20.1	48.3	77.1	0.6	16.0	0.0	
LOS	D	C	D	C	D	E	A	B	A	
Approach Delay		34.8		27.0		76.3		15.9		
Approach LOS		C		C		E		B		

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 99.1	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 48.0	Intersection LOS: D
Intersection Capacity Utilization 98.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
 22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (veh/h)	7	18	8	30	18	61	10	4198	42	0	3652	12
Future Volume (veh/h)	7	18	8	30	18	61	10	4198	42	0	3652	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	19	5	32	19	61	11	4514	44	0	3927	13
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	144	38	196	39	127	90	4013	1246	2	4432	1092
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.00	0.69	0.69
Sat Flow, veh/h	1319	1427	376	1387	391	1254	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	8	0	24	32	0	80	11	4514	44	0	3927	13
Grp Sat Flow(s),veh/h/ln	1319	0	1803	1387	0	1645	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	0.6	0.0	1.2	2.1	0.0	4.6	0.6	77.8	0.6	0.0	48.2	0.3
Cycle Q Clear(g_c), s	5.1	0.0	1.2	3.3	0.0	4.6	0.6	77.8	0.6	0.0	48.2	0.3
Prop In Lane	1.00		0.21	1.00		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	0	182	196	0	166	90	4013	1246	2	4432	1092
V/C Ratio(X)	0.06	0.00	0.13	0.16	0.00	0.48	0.12	1.12	0.04	0.00	0.89	0.01
Avail Cap(c_a), veh/h	425	0	564	490	0	515	90	4013	1246	90	4432	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	0.0	40.5	42.1	0.0	42.1	44.9	10.6	2.3	0.0	12.3	4.8
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.4	0.0	2.2	2.8	60.0	0.0	0.0	3.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.7	0.0	1.9	0.3	34.3	0.1	0.0	12.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	0.0	40.9	42.4	0.0	44.2	47.7	70.6	2.3	0.0	15.3	4.9
LnGrp LOS	D	A	D	D	A	D	D	F	A	A	B	A
Approach Vol, veh/h		32			112			4569			3940	
Approach Delay, s/veh		41.8			43.7			69.9			15.2	
Approach LOS		D			D			E			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	84.3		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	0.0	79.8		7.1	2.6	50.2		6.6				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	17.8		0.5				

Intersection Summary

HCM 6th Ctrl Delay	44.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑↑	↑↑↑	↗
Traffic Volume (vph)	165	18	47	4085	3588	253
Future Volume (vph)	165	18	47	4085	3588	253
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	28.5	28.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	16.7	16.7	5.0	89.1	81.4	81.4
Actuated g/C Ratio	0.14	0.14	0.04	0.76	0.70	0.70
v/c Ratio	0.71	0.08	0.68	1.15	0.87	0.23
Control Delay	62.9	26.0	95.6	86.3	18.2	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	26.0	95.6	86.3	18.2	1.4
LOS	E	C	F	F	B	A
Approach Delay	59.2			86.4	17.1	
Approach LOS	E			F	B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.9
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 53.1
 Intersection LOS: D
 Intersection Capacity Utilization 97.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/24/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	165	18	47	4085	3588	253
Future Volume (veh/h)	165	18	47	4085	3588	253
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	19	51	4440	3900	275
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	212	189	66	3988	4522	1114
Arrive On Green	0.12	0.12	0.04	0.78	0.70	0.70
Sat Flow, veh/h	1781	1585	1781	5274	6696	1585
Grp Volume(v), veh/h	179	19	51	4440	3900	275
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1702	1609	1585
Q Serve(g_s), s	10.9	1.2	3.2	86.9	50.9	6.9
Cycle Q Clear(g_c), s	10.9	1.2	3.2	86.9	50.9	6.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	212	189	66	3988	4522	1114
V/C Ratio(X)	0.84	0.10	0.78	1.11	0.86	0.25
Avail Cap(c_a), veh/h	352	313	80	3988	4522	1114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	43.7	53.1	12.2	12.5	5.9
Incr Delay (d2), s/veh	9.2	0.2	25.6	55.2	1.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	1.1	1.8	37.2	13.4	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	57.2	43.9	78.7	67.3	14.4	6.1
LnGrp LOS	E	D	E	F	B	A
Approach Vol, veh/h	198			4491	4175	
Approach Delay, s/veh	55.9			67.5	13.8	
Approach LOS	E			E	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		17.9	8.7	84.7
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+I1), s		88.9		12.9	5.2	52.9
Green Ext Time (p_c), s		0.0		0.4	0.0	24.1
Intersection Summary						
HCM 6th Ctrl Delay			41.9			
HCM 6th LOS			D			

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗
Traffic Volume (vph)	763	431	292	104	368	653	340	2666	50	437	2326	843
Future Volume (vph)	763	431	292	104	368	653	340	2666	50	437	2326	843
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.5	39.5	9.6	16.5	9.6	9.6	35.5	35.5	9.6	39.5	39.5
Total Split (s)	31.0	40.0	40.0	10.0	19.0	18.0	20.0	52.0	52.0	18.0	50.0	50.0
Total Split (%)	25.8%	33.3%	33.3%	8.3%	15.8%	15.0%	16.7%	43.3%	43.3%	15.0%	41.7%	41.7%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	26.4	33.5	33.5	5.4	12.5	32.4	14.7	45.5	45.5	13.4	44.2	44.2
Actuated g/C Ratio	0.22	0.28	0.28	0.04	0.10	0.27	0.12	0.38	0.38	0.11	0.37	0.37
v/c Ratio	1.03	0.44	0.50	0.69	1.00	0.73	0.83	0.99	0.08	1.16	0.89	0.98
Control Delay	86.7	37.1	12.0	78.2	99.0	38.2	68.0	52.7	0.2	144.9	40.9	42.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.7	37.1	12.0	78.2	99.0	38.2	68.0	52.7	0.2	144.9	40.9	42.8
LOS	F	D	B	E	F	D	E	D	A	F	D	D
Approach Delay		57.6			61.8			53.5			54.0	
Approach LOS		E			E			D			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 55.3
 Intersection LOS: E
 Intersection Capacity Utilization 101.5%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	763	431	292	104	368	653	340	2666	50	437	2326	843
Future Volume (veh/h)	763	431	292	104	368	653	340	2666	50	437	2326	843
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	803	454	149	109	387	450	358	2806	53	460	2448	413
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	784	1044	442	160	390	684	415	2837	601	398	2801	593
Arrive On Green	0.22	0.28	0.28	0.05	0.10	0.10	0.12	0.49	0.38	0.11	0.49	0.37
Sat Flow, veh/h	3563	3741	1585	3563	3741	3170	3563	7481	1585	3563	7481	1585
Grp Volume(v), veh/h	803	454	149	109	387	450	358	2806	53	460	2448	413
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	26.4	11.9	9.0	3.6	12.4	12.5	11.8	44.5	2.6	13.4	35.1	26.5
Cycle Q Clear(g_c), s	26.4	11.9	9.0	3.6	12.4	12.5	11.8	44.5	2.6	13.4	35.1	26.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	784	1044	442	160	390	684	415	2837	601	398	2801	593
V/C Ratio(X)	1.02	0.43	0.34	0.68	0.99	0.66	0.86	0.99	0.09	1.16	0.87	0.70
Avail Cap(c_a), veh/h	784	1044	442	160	390	684	457	2837	601	398	2801	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.30	1.00	1.00	1.30	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	35.5	34.4	56.4	53.7	43.0	52.1	30.2	23.9	53.3	28.3	31.8
Incr Delay (d2), s/veh	38.5	0.3	0.4	9.2	43.7	2.3	13.5	14.4	0.1	95.1	3.4	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.2	5.2	3.3	1.8	7.9	6.0	5.8	18.8	0.9	11.0	13.3	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.3	35.8	34.9	65.7	97.4	45.3	65.6	44.6	24.0	148.4	31.6	35.3
LnGrp LOS	F	D	C	E	F	D	E	D	C	F	C	D
Approach Vol, veh/h		1406			946			3217			3321	
Approach Delay, s/veh		64.0			69.0			46.6			48.3	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	52.0	10.0	40.0	18.6	51.4	31.0	19.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	13.4	45.5	5.4	33.5	15.4	43.5	26.4	12.5				
Max Q Clear Time (g_c+I1), s	15.4	46.5	5.6	13.9	13.8	37.1	28.4	14.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.9	0.1	6.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				52.3								
HCM 6th LOS				D								

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/24/2021

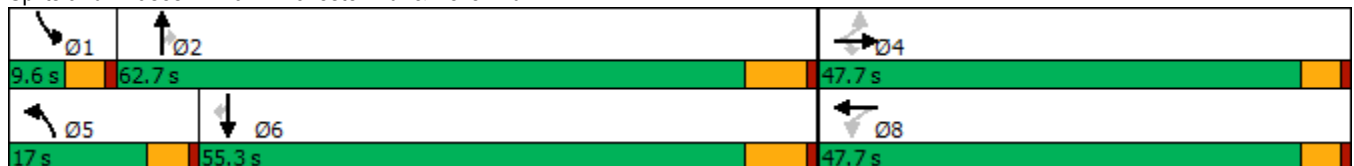


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	145	16	35	25	25	31	2891	107	8	2470	245
Future Volume (vph)	145	16	35	25	25	31	2891	107	8	2470	245
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5
Total Split (s)	47.7	47.7	47.7	47.7	47.7	17.0	62.7	62.7	9.6	55.3	55.3
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	14.2%	52.3%	52.3%	8.0%	46.1%	46.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	15.3	15.3	15.3		15.3	6.3	60.9	60.9	5.0	55.8	55.8
Actuated g/C Ratio	0.17	0.17	0.17		0.17	0.07	0.68	0.68	0.06	0.63	0.63
v/c Ratio	0.65	0.05	0.10		0.26	0.27	0.89	0.10	0.09	0.83	0.25
Control Delay	47.0	30.2	0.5		26.6	45.7	17.4	2.0	44.6	18.5	5.1
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	30.2	0.5		26.6	45.7	17.4	2.0	44.6	18.5	5.1
LOS	D	C	A		C	D	B	A	D	B	A
Approach Delay		37.4			26.6		17.1			17.4	
Approach LOS		D			C		B			B	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 89.2
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 18.0
 Intersection Capacity Utilization 79.9%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	16	35	25	25	20	31	2891	107	8	2470	245
Future Volume (veh/h)	145	16	35	25	25	20	31	2891	107	8	2470	245
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	154	17	31	27	27	18	33	3076	113	9	2628	259
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	279	243	206	115	105	53	57	3415	1037	20	3308	1027
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.03	0.67	0.67	0.01	0.65	0.65
Sat Flow, veh/h	1361	1870	1585	423	805	409	1781	5106	1551	1781	5106	1585
Grp Volume(v), veh/h	154	17	31	72	0	0	33	3076	113	9	2628	259
Grp Sat Flow(s),veh/h/ln	1361	1870	1585	1637	0	0	1781	1702	1551	1781	1702	1585
Q Serve(g_s), s	5.1	0.7	1.4	0.0	0.0	0.0	1.5	41.7	2.2	0.4	31.0	5.7
Cycle Q Clear(g_c), s	8.2	0.7	1.4	3.0	0.0	0.0	1.5	41.7	2.2	0.4	31.0	5.7
Prop In Lane	1.00		1.00	0.37		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	279	243	206	272	0	0	57	3415	1037	20	3308	1027
V/C Ratio(X)	0.55	0.07	0.15	0.26	0.00	0.00	0.58	0.90	0.11	0.45	0.79	0.25
Avail Cap(c_a), veh/h	806	968	820	883	0	0	266	3452	1048	107	3308	1027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	31.8	32.1	32.8	0.0	0.0	39.7	11.5	4.9	40.8	10.6	6.2
Incr Delay (d2), s/veh	1.7	0.1	0.3	0.5	0.0	0.0	3.4	3.7	0.0	5.7	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.3	0.6	1.3	0.0	0.0	0.7	10.6	0.5	0.2	7.9	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	31.9	32.4	33.3	0.0	0.0	43.1	15.1	5.0	46.5	12.0	6.3
LnGrp LOS	D	C	C	C	A	A	D	B	A	D	B	A
Approach Vol, veh/h		202			72			3222			2896	
Approach Delay, s/veh		35.5			33.3			15.1			11.6	
Approach LOS		D			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	62.1		15.5	7.3	60.4		15.5				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	12.4	48.8		* 43				
Max Q Clear Time (g_c+I1), s	2.4	43.7		10.2	3.5	33.0		5.0				
Green Ext Time (p_c), s	0.0	11.9		0.6	0.0	14.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/24/2021

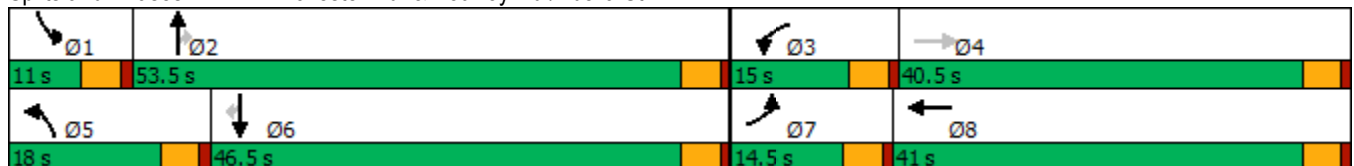


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (vph)	119	43	342	45	225	2792	326	92	2342	96
Future Volume (vph)	119	43	342	45	225	2792	326	92	2342	96
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	14.5	40.5	15.0	41.0	18.0	53.5	53.5	11.0	46.5	46.5
Total Split (%)	12.1%	33.8%	12.5%	34.2%	15.0%	44.6%	44.6%	9.2%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.7	10.9	10.5	11.7	13.5	49.0	49.0	6.5	42.0	42.0
Actuated g/C Ratio	0.10	0.11	0.11	0.12	0.14	0.52	0.52	0.07	0.44	0.44
v/c Ratio	0.69	0.46	0.95	0.56	0.94	0.89	0.37	0.80	0.87	0.13
Control Delay	62.3	16.1	78.5	22.5	86.2	25.1	6.0	87.4	28.4	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.3	16.1	78.5	22.5	86.2	25.1	6.0	87.4	28.4	1.8
LOS	E	B	E	C	F	C	A	F	C	A
Approach Delay		32.4		60.5		27.3			29.6	
Approach LOS		C		E		C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 94.9	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 30.9	Intersection LOS: C
Intersection Capacity Utilization 79.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/24/2021



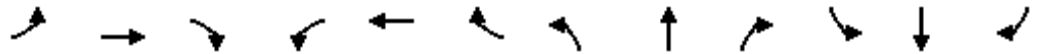
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	43	176	342	45	117	225	2792	326	92	2342	96
Future Volume (veh/h)	119	43	176	342	45	117	225	2792	326	92	2342	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	125	45	90	360	47	89	237	2939	343	97	2465	97
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	189	169	386	76	144	256	3355	827	123	2875	708
Arrive On Green	0.09	0.11	0.11	0.11	0.13	0.13	0.14	0.52	0.52	0.07	0.45	0.45
Sat Flow, veh/h	1781	1777	1585	3456	578	1095	1781	6434	1585	1781	6434	1585
Grp Volume(v), veh/h	125	45	90	360	0	136	237	2939	343	97	2465	97
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	0	1673	1781	1609	1585	1781	1609	1585
Q Serve(g_s), s	6.5	2.2	5.1	9.7	0.0	7.2	12.4	37.8	12.4	5.0	32.3	3.4
Cycle Q Clear(g_c), s	6.5	2.2	5.1	9.7	0.0	7.2	12.4	37.8	12.4	5.0	32.3	3.4
Prop In Lane	1.00		1.00	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	189	169	386	0	219	256	3355	827	123	2875	708
V/C Ratio(X)	0.81	0.24	0.53	0.93	0.00	0.62	0.93	0.88	0.41	0.79	0.86	0.14
Avail Cap(c_a), veh/h	190	680	607	386	0	650	256	3355	827	123	2875	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.1	38.5	39.8	41.4	0.0	38.6	39.8	19.8	13.7	43.1	23.3	15.3
Incr Delay (d2), s/veh	15.4	0.6	2.6	28.9	0.0	2.8	36.5	3.6	1.5	26.3	3.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	1.0	2.1	5.6	0.0	3.1	7.6	12.3	4.6	3.0	11.1	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	39.1	42.4	70.3	0.0	41.5	76.2	23.4	15.3	69.3	26.9	15.7
LnGrp LOS	E	D	D	E	A	D	E	C	B	E	C	B
Approach Vol, veh/h		260			496			3519			2659	
Approach Delay, s/veh		49.1			62.4			26.1			28.0	
Approach LOS		D			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	53.5	15.0	14.5	18.0	46.5	12.7	16.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	49.0	10.5	36.0	13.5	42.0	10.0	36.5				
Max Q Clear Time (g_c+I1), s	7.0	39.8	11.7	7.1	14.4	34.3	8.5	9.2				
Green Ext Time (p_c), s	0.0	8.8	0.0	0.8	0.0	6.9	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			30.3									
HCM 6th LOS			C									

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/24/2021

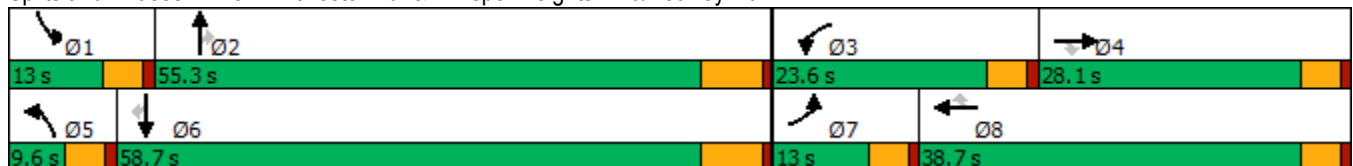


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑↑	↗	↖↗	↑↑↑	↗
Traffic Volume (vph)	123	21	24	153	24	268	46	2953	2	253	2479	128
Future Volume (vph)	123	21	24	153	24	268	46	2953	2	253	2479	128
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	28.5	9.6	25.5	25.5
Total Split (s)	13.0	28.1	28.1	23.6	38.7	38.7	9.6	55.3	55.3	13.0	58.7	58.7
Total Split (%)	10.8%	23.4%	23.4%	19.7%	32.3%	32.3%	8.0%	46.1%	46.1%	10.8%	48.9%	48.9%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	8.4	12.2	12.2	19.7	17.2	17.2	5.0	49.0	49.0	8.4	54.4	54.4
Actuated g/C Ratio	0.08	0.12	0.12	0.19	0.17	0.17	0.05	0.47	0.47	0.08	0.53	0.53
v/c Ratio	0.90	0.10	0.08	0.47	0.08	0.79	0.56	1.02	0.00	0.95	0.77	0.15
Control Delay	100.6	42.8	0.5	45.3	35.5	39.7	75.4	48.4	0.0	90.8	22.9	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.6	42.8	0.5	45.3	35.5	39.7	75.4	48.4	0.0	90.8	22.9	2.9
LOS	F	D	A	D	D	D	E	D	A	F	C	A
Approach Delay		79.0			41.4			48.8			28.0	
Approach LOS		E			D			D			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 39.9
 Intersection LOS: D
 Intersection Capacity Utilization 79.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)

06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘↗	↑↑↑	↗
Traffic Volume (veh/h)	123	21	24	153	24	268	46	2953	2	253	2479	128
Future Volume (veh/h)	123	21	24	153	24	268	46	2953	2	253	2479	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	22	18	159	25	224	48	3076	2	264	2582	132
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	267	227	191	315	263	64	3035	747	281	3325	819
Arrive On Green	0.08	0.14	0.14	0.11	0.17	0.17	0.04	0.47	0.47	0.08	0.52	0.52
Sat Flow, veh/h	1781	1870	1585	1781	1870	1561	1781	6434	1584	3456	6434	1585
Grp Volume(v), veh/h	128	22	18	159	25	224	48	3076	2	264	2582	132
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1561	1781	1609	1584	1728	1609	1585
Q Serve(g_s), s	7.4	1.1	1.0	9.1	1.2	14.4	2.8	48.8	0.1	7.9	33.5	4.5
Cycle Q Clear(g_c), s	7.4	1.1	1.0	9.1	1.2	14.4	2.8	48.8	0.1	7.9	33.5	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	267	227	191	315	263	64	3035	747	281	3325	819
V/C Ratio(X)	0.88	0.08	0.08	0.83	0.08	0.85	0.75	1.01	0.00	0.94	0.78	0.16
Avail Cap(c_a), veh/h	145	423	359	327	615	513	86	3035	747	281	3325	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	38.4	38.4	45.3	36.2	41.7	49.4	27.3	14.5	47.3	20.2	13.2
Incr Delay (d2), s/veh	41.8	0.1	0.1	3.6	0.1	7.6	13.6	19.8	0.0	37.7	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.5	0.4	4.2	0.5	6.0	1.4	20.2	0.0	4.7	10.9	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.8	38.6	38.6	48.9	36.3	49.3	63.0	47.1	14.5	84.9	21.4	13.3
LnGrp LOS	F	D	D	D	D	D	E	F	B	F	C	B
Approach Vol, veh/h		168			408			3126			2978	
Approach Delay, s/veh		76.9			48.4			47.3			26.7	
Approach LOS		E			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	55.3	15.7	19.5	8.3	60.0	13.0	22.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	8.4	48.8	19.0	* 23	5.0	52.2	8.4	* 34				
Max Q Clear Time (g_c+I1), s	9.9	50.8	11.1	3.1	4.8	35.5	9.4	16.4				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.1	0.0	14.4	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay	38.9
HCM 6th LOS	D

Notes

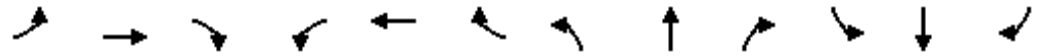
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/24/2021

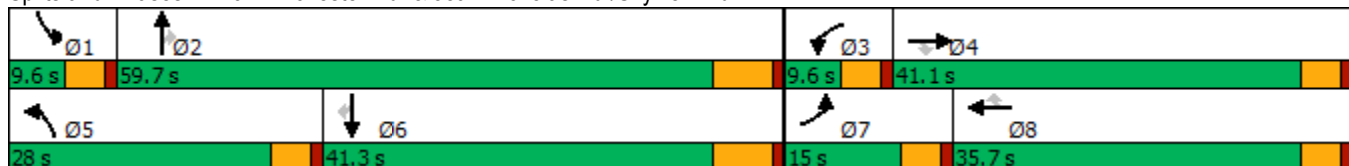


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↘	↙	↑	↘	↙	↑↑↑	↘	↙	↑↑↑	↘
Traffic Volume (vph)	184	58	262	10	57	27	469	2913	15	16	2026	172
Future Volume (vph)	184	58	262	10	57	27	469	2913	15	16	2026	172
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	15.0	41.1	41.1	9.6	35.7	35.7	28.0	59.7	59.7	9.6	41.3	41.3
Total Split (%)	12.5%	34.3%	34.3%	8.0%	29.8%	29.8%	23.3%	49.8%	49.8%	8.0%	34.4%	34.4%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	10.4	20.2	20.2	5.0	10.3	10.3	23.5	59.3	59.3	5.0	34.9	34.9
Actuated g/C Ratio	0.11	0.21	0.21	0.05	0.11	0.11	0.24	0.62	0.62	0.05	0.36	0.36
v/c Ratio	1.01	0.15	0.50	0.11	0.30	0.08	1.13	0.77	0.02	0.18	0.91	0.26
Control Delay	112.2	32.9	8.1	48.0	45.5	0.4	121.0	17.1	0.0	50.3	36.8	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.2	32.9	8.1	48.0	45.5	0.4	121.0	17.1	0.0	50.3	36.8	4.4
LOS	F	C	A	D	D	A	F	B	A	D	D	A
Approach Delay		49.0			32.7			31.4			34.4	
Approach LOS		D			C			C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 96.3	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 33.9	Intersection LOS: C
Intersection Capacity Utilization 86.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (veh/h)	184	58	262	10	57	27	469	2913	15	16	2026	172
Future Volume (veh/h)	184	58	262	10	57	27	469	2913	15	16	2026	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	60	223	10	59	14	489	3034	13	17	2110	161
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	380	320	22	208	177	416	3618	873	34	2236	544
Arrive On Green	0.10	0.20	0.20	0.01	0.11	0.11	0.23	0.56	0.56	0.02	0.35	0.35
Sat Flow, veh/h	1781	1870	1576	1781	1870	1585	1781	6434	1552	1781	6434	1565
Grp Volume(v), veh/h	192	60	223	10	59	14	489	3034	13	17	2110	161
Grp Sat Flow(s),veh/h/ln	1781	1870	1576	1781	1870	1585	1781	1609	1552	1781	1609	1565
Q Serve(g_s), s	10.4	2.6	13.2	0.6	2.9	0.8	23.4	39.1	0.4	0.9	31.9	7.5
Cycle Q Clear(g_c), s	10.4	2.6	13.2	0.6	2.9	0.8	23.4	39.1	0.4	0.9	31.9	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	380	320	22	208	177	416	3618	873	34	2236	544
V/C Ratio(X)	1.04	0.16	0.70	0.46	0.28	0.08	1.18	0.84	0.01	0.51	0.94	0.30
Avail Cap(c_a), veh/h	185	680	573	89	579	491	416	3618	873	89	2236	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	32.9	37.0	49.1	40.8	39.9	38.4	18.2	9.7	48.7	31.7	23.8
Incr Delay (d2), s/veh	76.5	0.2	2.7	5.6	0.7	0.2	101.3	2.5	0.0	4.4	9.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	1.2	5.2	0.3	1.4	0.3	21.1	12.4	0.1	0.4	12.6	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.4	33.0	39.8	54.8	41.6	40.1	139.7	20.7	9.7	53.0	41.5	25.2
LnGrp LOS	F	C	D	D	D	D	F	C	A	D	D	C
Approach Vol, veh/h		475			83			3536			2288	
Approach Delay, s/veh		71.9			42.9			37.1			40.4	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	62.8	5.8	25.0	28.0	41.3	15.0	15.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	53.2	5.0	* 36	23.4	34.8	10.4	* 31				
Max Q Clear Time (g_c+I1), s	2.9	41.1	2.6	15.2	25.4	33.9	12.4	4.9				
Green Ext Time (p_c), s	0.0	11.4	0.0	1.0	0.0	0.8	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	41.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

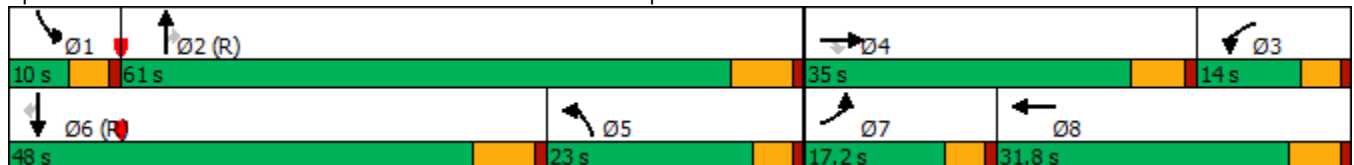


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔↔	↔↔	↑↑	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	394	473	492	496	468	462	3912	555	278	2374	295
Future Volume (vph)	394	473	492	496	468	462	3912	555	278	2374	295
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	15.8	9.6	36.5	36.5	9.6	38.5	38.5
Total Split (s)	17.2	35.0	35.0	14.0	31.8	23.0	61.0	61.0	10.0	48.0	48.0
Total Split (%)	14.3%	29.2%	29.2%	11.7%	26.5%	19.2%	50.8%	50.8%	8.3%	40.0%	40.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	0.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	6.5	3.6	5.5	6.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	13.6	24.3	23.3	16.3	27.0	19.4	55.5	54.5	6.4	42.5	41.5
Actuated g/C Ratio	0.11	0.20	0.19	0.14	0.22	0.16	0.46	0.45	0.05	0.35	0.35
v/c Ratio	1.01	0.65	0.50	1.06	0.75	0.83	1.17	0.66	1.53	0.93	0.46
Control Delay	100.9	47.6	5.0	109.0	47.4	62.5	117.6	23.8	300.0	44.6	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.9	47.6	5.0	109.0	47.4	62.5	117.6	23.8	300.0	44.6	14.5
LOS	F	D	A	F	D	E	F	C	F	D	B
Approach Delay		47.6			75.3		101.9			65.7	
Approach LOS		D			E		F			E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 86 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.53
 Intersection Signal Delay: 81.6
 Intersection Capacity Utilization 108.3%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service G

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔↔	↔↔	↑↑		↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	394	473	492	496	468	134	462	3912	555	278	2374	295
Future Volume (veh/h)	394	473	492	496	468	134	462	3912	555	278	2374	295
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	406	488	172	511	482	14	476	4033	567	287	2447	299
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	637	506	355	603	17	732	3896	809	190	2639	539
Arrive On Green	0.17	0.26	0.16	0.15	0.25	0.16	0.31	0.78	0.51	0.08	0.53	0.34
Sat Flow, veh/h	3563	3741	3123	3563	3615	105	3563	7481	1579	3563	7481	1564
Grp Volume(v), veh/h	406	488	172	511	249	247	476	4033	567	287	2447	299
Grp Sat Flow(s),veh/h/ln	1781	1870	1562	1781	1870	1850	1781	1870	1579	1781	1870	1564
Q Serve(g_s), s	13.6	14.5	5.9	12.0	15.0	15.0	13.9	62.5	19.7	6.4	36.3	13.0
Cycle Q Clear(g_c), s	13.6	14.5	5.9	12.0	15.0	15.0	13.9	62.5	19.7	6.4	36.3	13.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	404	637	506	355	312	309	732	3896	809	190	2639	539
V/C Ratio(X)	1.01	0.77	0.34	1.44	0.80	0.80	0.65	1.04	0.70	1.51	0.93	0.56
Avail Cap(c_a), veh/h	404	941	760	355	421	416	732	3896	809	190	2650	541
HCM Platoon Ratio	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.09	0.09	0.09	0.40	0.40	0.40
Uniform Delay (d), s/veh	49.8	42.5	44.6	51.0	43.1	43.4	37.8	13.1	8.1	55.2	26.8	15.6
Incr Delay (d2), s/veh	14.8	0.2	0.0	212.3	7.6	7.8	0.1	17.0	0.5	240.4	3.2	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	6.0	0.0	15.5	7.1	7.1	5.3	11.6	6.2	9.0	12.2	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.6	42.7	44.6	263.3	50.7	51.2	37.9	30.1	8.5	295.6	30.0	17.2
LnGrp LOS	F	D	D	F	D	D	D	F	A	F	C	B
Approach Vol, veh/h		1066			1007			5076			3033	
Approach Delay, s/veh		51.3			158.7			28.4			53.9	
Approach LOS		D			F			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	68.0	16.8	25.2	30.2	47.8	17.2	24.8				
Change Period (Y+Rc), s	4.6	6.5	5.8	* 5.8	6.5	* 6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.4	54.5	9.4	* 29	18.4	* 42	12.6	26.0				
Max Q Clear Time (g_c+I1), s	8.4	64.5	14.0	16.5	15.9	38.3	15.6	17.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.9	0.3	3.0	0.0	2.0				

Intersection Summary

HCM 6th Ctrl Delay	51.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
31: Winchester Rd. & Benton Rd.

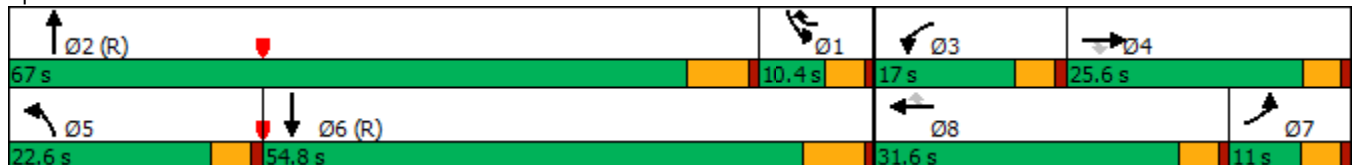
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	220	379	735	411	257	1352	566	3357	873	2301
Future Volume (vph)	220	379	735	411	257	1352	566	3357	873	2301
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	14.5	14.5	14.6	30.6	9.6	9.6	38.5	9.6	16.5
Total Split (s)	11.0	25.6	25.6	17.0	31.6	10.4	22.6	67.0	10.4	54.8
Total Split (%)	9.2%	21.3%	21.3%	14.2%	26.3%	8.7%	18.8%	55.8%	8.7%	45.7%
Yellow Time (s)	3.6	3.5	3.5	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	4.5	4.6	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	19.2	21.1	21.1	12.4	14.2	20.0	18.0	60.5	5.8	48.3
Actuated g/C Ratio	0.16	0.18	0.18	0.10	0.12	0.17	0.15	0.50	0.05	0.40
v/c Ratio	0.42	0.62	1.57	1.21	0.63	4.07	1.15	1.14	5.49	0.90
Control Delay	48.8	50.6	289.3	163.1	56.6	1403.5	132.6	97.7	2039.1	53.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	50.6	289.3	163.1	56.6	1403.5	132.6	97.7	2039.1	53.0
LOS	D	D	F	F	E	F	F	F	F	D
Approach Delay		181.7			979.9			102.1		568.9
Approach LOS		F			F			F		F

Intersection Summary
























Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 22.6 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 5.49
 Intersection Signal Delay: 409.6
 Intersection Capacity Utilization 161.3%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	379	735	411	257	1352	566	3357	574	873	2301	188
Future Volume (veh/h)	220	379	735	411	257	1352	566	3357	574	873	2301	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	237	408	333	442	276	648	609	3610	321	939	2474	143
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	560	658	279	368	456	1139	534	3426	290	2132	6784	391
Arrive On Green	0.16	0.18	0.18	0.10	0.12	0.12	0.15	0.50	0.50	0.20	0.32	0.32
Sat Flow, veh/h	3563	3741	1585	3563	3741	1563	3563	6795	574	3563	7005	403
Grp Volume(v), veh/h	237	408	333	442	276	648	609	2948	983	939	1980	637
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1563	1781	1870	1758	1781	1870	1798
Q Serve(g_s), s	7.2	12.1	21.1	12.4	8.4	0.0	18.0	60.5	60.5	27.8	32.6	32.8
Cycle Q Clear(g_c), s	7.2	12.1	21.1	12.4	8.4	0.0	18.0	60.5	60.5	27.8	32.6	32.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.22
Lane Grp Cap(c), veh/h	560	658	279	368	456	1139	534	2829	887	2132	5433	1741
V/C Ratio(X)	0.42	0.62	1.19	1.20	0.60	0.57	1.14	1.04	1.11	0.44	0.36	0.37
Avail Cap(c_a), veh/h	560	658	279	368	842	1300	534	2829	887	2132	5433	1741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.34	0.34	0.34
Uniform Delay (d), s/veh	45.7	45.7	49.5	53.8	49.9	7.9	51.0	29.7	29.8	30.5	12.4	12.4
Incr Delay (d2), s/veh	0.2	1.8	117.3	113.6	1.3	0.4	65.2	20.3	50.6	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	5.8	17.4	11.3	4.0	7.2	12.5	29.1	34.8	13.1	9.3	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	47.5	166.7	167.4	51.2	8.4	116.2	50.1	80.4	30.5	12.5	12.6
LnGrp LOS	D	D	F	F	D	A	F	F	F	C	B	B
Approach Vol, veh/h		978			1366			4540			3556	
Approach Delay, s/veh		87.7			68.5			65.5			17.3	
Approach LOS		F			E			E			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	80.3	67.0	17.0	25.7	22.6	124.7	23.5	19.2				
Change Period (Y+Rc), s	6.5	* 6.5	4.6	* 4.6	4.6	6.5	4.6	4.6				
Max Green Setting (Gmax), s	5.8	* 61	12.4	* 21	18.0	48.3	6.4	27.0				
Max Q Clear Time (g_c+1), s	29.8	62.5	14.4	23.1	20.0	34.8	9.2	10.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	11.4	0.0	4.2				

Intersection Summary

HCM 6th Ctrl Delay	51.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

32: Winchester Rd. & Via Mira Mosa/Auld Rd.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔	↔↔	↔	↔	↑↑↑↑	↔	↔↔	↑↑↑↑
Traffic Volume (vph)	236	53	397	89	136	3942	357	261	2833
Future Volume (vph)	236	53	397	89	136	3942	357	261	2833
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	37.0	37.0	37.0	37.0	14.0	69.0	69.0	14.0	69.0
Total Split (%)	30.8%	30.8%	30.8%	30.8%	11.7%	57.5%	57.5%	11.7%	57.5%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	32.3	32.3	32.3	32.3	9.4	62.5	62.5	9.4	62.5
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.08	0.52	0.52	0.08	0.52
v/c Ratio	1.69	0.34	0.78	0.78	1.04	1.07	0.41	1.03	0.88
Control Delay	366.6	19.5	51.7	38.1	140.4	66.0	8.9	116.0	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	366.6	19.5	51.7	38.1	140.4	66.0	8.9	116.0	28.5
LOS	F	B	D	D	F	E	A	F	C
Approach Delay		224.0		44.8		63.7			35.1
Approach LOS		F		D		E			D

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.69	
Intersection Signal Delay: 58.2	Intersection LOS: E
Intersection Capacity Utilization 114.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔↔	↔		↔	↑↑↑↑	↔	↔↔	↑↑↑↑	
Traffic Volume (veh/h)	236	53	111	397	89	318	136	3942	357	261	2833	353
Future Volume (veh/h)	236	53	111	397	89	318	136	3942	357	261	2833	353
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	248	56	100	418	94	172	143	4149	290	275	2982	188
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	401	161	288	581	159	290	140	3903	827	271	3631	225
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.08	0.52	0.52	0.08	0.52	0.52
Sat Flow, veh/h	2160	602	1075	2388	592	1083	1781	7481	1585	3456	6960	432
Grp Volume(v), veh/h	248	0	156	418	0	266	143	4149	290	275	2395	775
Grp Sat Flow(s),veh/h/ln	1080	0	1677	1194	0	1675	1781	1870	1585	1728	1870	1781
Q Serve(g_s), s	13.5	0.0	9.0	20.5	0.0	16.6	9.4	62.5	12.8	9.4	42.7	44.1
Cycle Q Clear(g_c), s	30.1	0.0	9.0	29.5	0.0	16.6	9.4	62.5	12.8	9.4	42.7	44.1
Prop In Lane	1.00		0.64	1.00		0.65	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	401	0	449	581	0	449	140	3903	827	271	2927	929
V/C Ratio(X)	0.62	0.00	0.35	0.72	0.00	0.59	1.02	1.06	0.35	1.01	0.82	0.83
Avail Cap(c_a), veh/h	404	0	452	585	0	452	140	3903	827	271	2927	929
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	0.0	35.4	47.3	0.0	38.2	55.2	28.7	16.8	55.2	23.9	24.3
Incr Delay (d2), s/veh	2.1	0.0	0.2	4.3	0.0	2.0	82.4	34.8	0.3	58.4	1.8	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	3.7	6.4	0.0	7.0	7.2	33.7	4.3	6.1	17.1	18.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.3	0.0	35.6	51.6	0.0	40.2	137.6	63.4	17.0	113.6	25.7	30.5
LnGrp LOS	D	A	D	D	A	D	F	F	B	F	C	C
Approach Vol, veh/h		404			684			4582			3445	
Approach Delay, s/veh		46.5			47.1			62.8			33.8	
Approach LOS		D			D			E			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	69.0		36.8	14.0	69.0		36.8				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	9.4	62.5		* 32	9.4	62.5		* 32				
Max Q Clear Time (g_c+I1), s	11.4	64.5		32.1	11.4	46.1		31.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	12.7		0.3				

Intersection Summary

HCM 6th Ctrl Delay	49.9
HCM 6th LOS	D

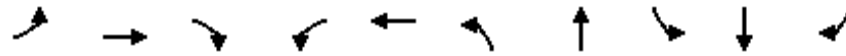
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	193	12	188	160	9	297	4056	19	3161	162
Future Volume (vph)	193	12	188	160	9	297	4056	19	3161	162
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	25.0	73.7	9.6	58.3	58.3
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	20.8%	61.4%	8.0%	48.6%	48.6%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	29.1	29.1	29.1		29.1	20.4	73.1	5.0	51.9	51.9
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.17	0.62	0.04	0.44	0.44
v/c Ratio	0.90	0.03	0.36		0.92	0.99	0.94	0.27	0.99	0.22
Control Delay	82.4	32.8	6.8		66.5	99.2	26.7	64.7	46.1	5.2
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.4	32.8	6.8		66.5	99.2	26.7	64.7	46.1	5.2
LOS	F	C	A		E	F	C	E	D	A
Approach Delay		44.7			66.5		31.5		44.3	
Approach LOS		D			E		C		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 117.2
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 38.5
 Intersection LOS: D
 Intersection Capacity Utilization 106.3%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	12	188	160	9	186	297	4056	166	19	3161	162
Future Volume (veh/h)	193	12	188	160	9	186	297	4056	166	19	3161	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	12	122	165	9	181	306	4181	99	20	3259	145
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	296	492	417	214	13	191	304	4251	99	36	3245	672
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.17	0.58	0.58	0.02	0.43	0.43
Sat Flow, veh/h	1193	1870	1585	647	50	725	1781	7277	170	1781	7481	1549
Grp Volume(v), veh/h	199	12	122	355	0	0	306	3210	1070	20	3259	145
Grp Sat Flow(s),veh/h/ln	1193	1870	1585	1423	0	0	1781	1870	1836	1781	1870	1549
Q Serve(g_s), s	0.0	0.6	7.3	28.7	0.0	0.0	20.4	66.4	69.4	1.3	51.8	7.0
Cycle Q Clear(g_c), s	25.9	0.6	7.3	29.2	0.0	0.0	20.4	66.4	69.4	1.3	51.8	7.0
Prop In Lane	1.00		1.00	0.46		0.51	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	296	492	417	419	0	0	304	3278	1072	36	3245	672
V/C Ratio(X)	0.67	0.02	0.29	0.85	0.00	0.00	1.01	0.98	1.00	0.55	1.00	0.22
Avail Cap(c_a), veh/h	302	501	425	425	0	0	304	3278	1072	75	3245	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	32.6	35.1	43.1	0.0	0.0	49.5	24.1	24.7	58.0	33.8	21.1
Incr Delay (d2), s/veh	5.6	0.0	0.4	14.6	0.0	0.0	53.0	11.3	26.9	4.8	16.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.3	2.9	11.9	0.0	0.0	13.1	27.9	33.1	0.6	25.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	32.7	35.5	57.8	0.0	0.0	102.5	35.4	51.6	62.8	50.6	21.3
LnGrp LOS	D	C	D	E	A	A	F	D	D	E	F	C
Approach Vol, veh/h		333			355			4586			3424	
Approach Delay, s/veh		42.6			57.8			43.7			49.5	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	76.3		36.1	25.0	58.3		36.1				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	20.4	51.8		* 32				
Max Q Clear Time (g_c+I1), s	3.3	71.4		27.9	22.4	53.8		31.2				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	0.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 9.11:

**HORIZON YEAR (2040) WITH PROJECT ALTERNATIVE ACCESS CONDITIONS
INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	WBT	WBR	NBR	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	240	1692	1811	1180	428	0	331
Future Volume (vph)	240	1692	1811	1180	428	0	331
Turn Type	Perm	NA	NA	Perm	Perm	NA	Perm
Protected Phases		4	8			6	
Permitted Phases	4			8	2		6
Detector Phase	4	4	8	8	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	101.0	101.0	101.0	101.0	19.0	19.0	19.0
Total Split (%)	84.2%	84.2%	84.2%	84.2%	15.8%	15.8%	15.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	97.0	97.0	97.0	97.0	15.0	15.0	15.0
Actuated g/C Ratio	0.81	0.81	0.81	0.81	0.12	0.12	0.12
v/c Ratio	2.19	0.36	0.55	0.55	1.09	0.81	0.81
Control Delay	580.7	3.3	4.0	2.1	108.3	66.0	66.0
Queue Delay	0.0	0.3	2.0	1.9	0.0	0.0	0.0
Total Delay	580.7	3.6	6.0	4.0	108.3	66.0	66.0
LOS	F	A	A	A	F	E	E
Approach Delay		75.3	5.6			66.0	
Approach LOS		E	A			E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 40
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.19
 Intersection Signal Delay: 40.5
 Intersection LOS: D
 Intersection Capacity Utilization 62.2%
 ICU Level of Service B
 Analysis Period (min) 15





















Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	1692	0	0	1811	1180	0	0	428	0	0	331
Future Volume (veh/h)	240	1692	0	0	1811	1180	0	0	428	0	0	331
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	261	1839	0	0	1968	1161	0	0	444	0	0	210
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	215	5201	0	0	4536	2562	0	234	349	0	234	396
Arrive On Green	0.81	0.81	0.00	0.00	0.81	0.81	0.00	0.00	0.13	0.00	0.00	0.13
Sat Flow, veh/h	135	6696	0	0	5611	3170	0	1870	2790	0	1870	3170
Grp Volume(v), veh/h	261	1839	0	0	1968	1161	0	0	444	0	0	210
Grp Sat Flow(s),veh/h/ln	67	1609	0	0	1870	1585	0	1870	1395	0	1870	1585
Q Serve(g_s), s	84.6	9.2	0.0	0.0	12.4	13.3	0.0	0.0	15.0	0.0	0.0	7.4
Cycle Q Clear(g_c), s	97.0	9.2	0.0	0.0	12.4	13.3	0.0	0.0	15.0	0.0	0.0	7.4
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	215	5201	0	0	4536	2562	0	234	349	0	234	396
V/C Ratio(X)	1.21	0.35	0.00	0.00	0.43	0.45	0.00	0.00	1.27	0.00	0.00	0.53
Avail Cap(c_a), veh/h	215	5201	0	0	4536	2562	0	234	349	0	234	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	41.3	3.1	0.0	0.0	3.4	3.5	0.0	0.0	52.5	0.0	0.0	49.2
Incr Delay (d2), s/veh	130.9	0.0	0.0	0.0	0.1	0.1	0.0	0.0	143.6	0.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	1.8	0.0	0.0	2.9	2.6	0.0	0.0	12.1	0.0	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	172.2	3.1	0.0	0.0	3.5	3.6	0.0	0.0	196.1	0.0	0.0	50.5
LnGrp LOS	F	A	A	A	A	A	A	A	F	A	A	D
Approach Vol, veh/h		2100			3129			444				210
Approach Delay, s/veh		24.1			3.5			196.1				50.5
Approach LOS		C			A			F				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.0		101.0		19.0		101.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		15.0		97.0		15.0		97.0				
Max Q Clear Time (g_c+I1), s		17.0		99.0		9.4		15.3				
Green Ext Time (p_c), s		0.0		0.0		0.3		48.6				

Intersection Summary

HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

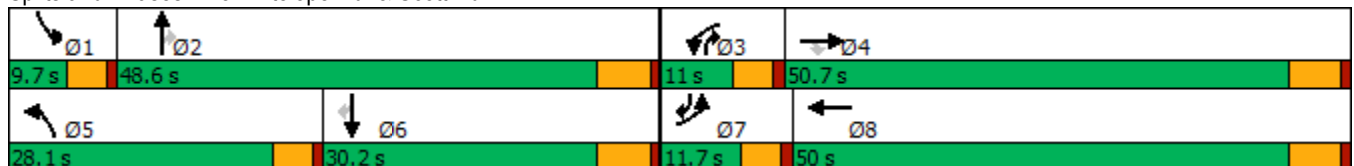


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔↔	↔↔	↑↑↑	↔↔	↑↑	↔	↔↔	↑↑	↔↔
Traffic Volume (vph)	155	1411	554	108	2103	420	51	101	109	179	468
Future Volume (vph)	155	1411	554	108	2103	420	51	101	109	179	468
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	5	2	3	1	6	7
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	3	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6
Total Split (s)	11.7	50.7	50.7	11.0	50.0	28.1	48.6	11.0	9.7	30.2	11.7
Total Split (%)	9.8%	42.3%	42.3%	9.2%	41.7%	23.4%	40.5%	9.2%	8.1%	25.2%	9.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None	None
Act Effct Green (s)	7.1	45.2	45.2	6.3	44.3	17.7	22.4	31.1	10.1	11.5	24.4
Actuated g/C Ratio	0.07	0.45	0.45	0.06	0.44	0.17	0.22	0.31	0.10	0.11	0.24
v/c Ratio	0.70	0.68	0.41	0.55	0.86	0.76	0.07	0.21	0.34	0.49	0.68
Control Delay	63.5	25.0	6.1	57.9	30.6	48.9	29.2	10.5	51.0	47.3	32.7
Queue Delay	0.0	46.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.5	71.2	6.6	57.9	30.6	48.9	29.2	10.5	51.0	47.3	32.7
LOS	E	E	A	E	C	D	C	B	D	D	C
Approach Delay		53.8			31.8		40.4			38.8	
Approach LOS		D			C		D			D	

Intersection Summary




































Cycle Length: 120
 Actuated Cycle Length: 101.5
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 41.7
 Intersection LOS: D
 Intersection Capacity Utilization 74.4%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  	 	 	  		 	 		 	 	 
Traffic Volume (veh/h)	155	1411	554	108	2103	109	420	51	101	109	179	468
Future Volume (veh/h)	155	1411	554	108	2103	109	420	51	101	109	179	468
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	1534	460	117	2286	113	457	55	80	118	195	335
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	2253	1231	177	2692	133	535	890	478	175	519	595
Arrive On Green	0.07	0.44	0.44	0.05	0.43	0.43	0.15	0.25	0.25	0.05	0.15	0.15
Sat Flow, veh/h	3456	5106	2790	3456	6327	312	3456	3554	1585	3456	3554	2790
Grp Volume(v), veh/h	168	1534	460	117	1743	656	457	55	80	118	195	335
Grp Sat Flow(s),veh/h/ln	1728	1702	1395	1728	1609	1814	1728	1777	1585	1728	1777	1395
Q Serve(g_s), s	4.8	24.2	11.1	3.3	32.7	32.8	13.0	1.2	3.7	3.4	5.0	10.8
Cycle Q Clear(g_c), s	4.8	24.2	11.1	3.3	32.7	32.8	13.0	1.2	3.7	3.4	5.0	10.8
Prop In Lane	1.00		1.00	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	2253	1231	177	2053	772	535	890	478	175	519	595
V/C Ratio(X)	0.73	0.68	0.37	0.66	0.85	0.85	0.85	0.06	0.17	0.67	0.38	0.56
Avail Cap(c_a), veh/h	244	2276	1244	220	2118	796	806	1510	755	175	861	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	22.5	18.8	46.9	26.0	26.0	41.5	28.7	25.9	47.0	38.8	35.4
Incr Delay (d2), s/veh	8.3	0.8	0.2	2.7	3.4	8.5	3.8	0.0	0.2	8.1	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	9.0	3.4	1.5	12.0	14.7	5.6	0.5	1.4	1.6	2.1	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	23.3	19.0	49.7	29.4	34.5	45.3	28.8	26.0	55.1	39.3	36.3
LnGrp LOS	D	C	B	D	C	C	D	C	C	E	D	D
Approach Vol, veh/h		2162			2516			592			648	
Approach Delay, s/veh		24.8			31.7			41.1			40.6	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	31.0	9.8	50.2	20.2	20.5	11.3	48.7				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	5.1	42.8	6.4	44.9	23.5	24.4	7.1	44.2				
Max Q Clear Time (g_c+1), s	5.4	5.7	5.3	26.2	15.0	12.8	6.8	34.8				
Green Ext Time (p_c), s	0.0	0.5	0.0	11.9	0.6	1.9	0.0	8.1				
Intersection Summary												
HCM 6th Ctrl Delay			31.1									
HCM 6th LOS			C									

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

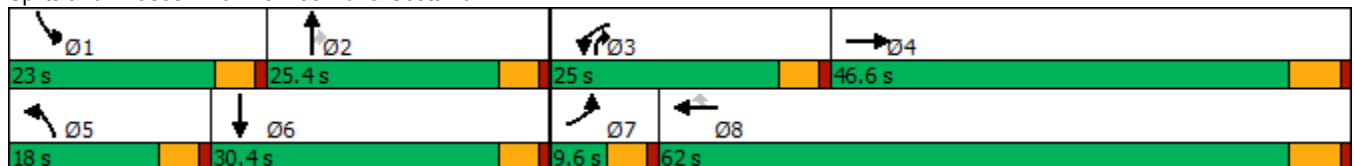


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↕↗	↖↗	↕↕↕	↖	↖	↕↕	↖	↖↗	↕↗
Traffic Volume (vph)	82	1390	420	2162	342	166	247	499	324	421
Future Volume (vph)	82	1390	420	2162	342	166	247	499	324	421
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8		5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	26.8	9.6	14.7	9.6	9.6	28.7
Total Split (s)	9.6	46.6	25.0	62.0	62.0	18.0	25.4	25.0	23.0	30.4
Total Split (%)	8.0%	38.8%	20.8%	51.7%	51.7%	15.0%	21.2%	20.8%	19.2%	25.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.7	3.6	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.7	4.6	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None
Act Effct Green (s)	5.0	41.2	18.1	56.5	56.5	13.1	20.1	43.0	15.4	22.5
Actuated g/C Ratio	0.04	0.36	0.16	0.49	0.49	0.11	0.18	0.38	0.13	0.20
v/c Ratio	0.57	0.86	0.82	0.91	0.39	0.87	0.42	0.79	0.74	0.78
Control Delay	71.0	40.3	60.1	34.3	6.6	88.7	45.2	35.4	58.5	51.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.0	40.3	60.1	34.3	6.6	88.7	45.2	35.4	58.5	51.1
LOS	E	D	E	C	A	F	D	D	E	D
Approach Delay		41.9		34.8			47.8			54.0
Approach LOS		D		C			D			D

Intersection Summary


































Cycle Length: 120
 Actuated Cycle Length: 114.6
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 41.0
 Intersection LOS: D
 Intersection Capacity Utilization 86.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



























HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	 
Traffic Volume (veh/h)	82	1390	88	420	2162	342	166	247	499	324	421	91
Future Volume (veh/h)	82	1390	88	420	2162	342	166	247	499	324	421	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	1463	82	442	2276	347	175	260	418	341	443	81
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1890	106	505	2488	772	203	645	520	405	556	101
Arrive On Green	0.04	0.38	0.38	0.15	0.49	0.49	0.11	0.18	0.18	0.12	0.19	0.19
Sat Flow, veh/h	3456	4947	277	3456	5106	1585	1781	3554	1585	3456	3003	546
Grp Volume(v), veh/h	86	1007	538	442	2276	347	175	260	418	341	261	263
Grp Sat Flow(s),veh/h/ln	1728	1702	1820	1728	1702	1585	1781	1777	1585	1728	1777	1772
Q Serve(g_s), s	2.8	29.6	29.6	14.3	47.0	16.4	11.0	7.4	20.7	11.0	16.0	16.2
Cycle Q Clear(g_c), s	2.8	29.6	29.6	14.3	47.0	16.4	11.0	7.4	20.7	11.0	16.0	16.2
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.31
Lane Grp Cap(c), veh/h	142	1301	696	505	2488	772	203	645	520	405	329	328
V/C Ratio(X)	0.61	0.77	0.77	0.88	0.91	0.45	0.86	0.40	0.80	0.84	0.79	0.80
Avail Cap(c_a), veh/h	152	1301	696	619	2518	782	209	645	520	558	401	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	30.9	30.9	47.6	27.0	19.2	49.6	41.2	35.0	49.3	44.3	44.4
Incr Delay (d2), s/veh	3.9	3.0	5.4	10.1	5.7	0.4	27.2	0.4	9.0	6.2	8.7	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	12.0	13.3	6.7	18.7	5.7	6.4	3.3	11.4	5.1	7.8	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	33.9	36.3	57.7	32.8	19.6	76.8	41.6	43.9	55.4	53.0	53.8
LnGrp LOS	E	C	D	E	C	B	E	D	D	E	D	D
Approach Vol, veh/h		1631			3065			853			865	
Approach Delay, s/veh		35.9			34.9			50.0			54.2	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	25.4	21.3	49.3	17.6	25.8	9.3	61.3				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	18.4	* 21	20.4	40.8	13.4	* 26	5.0	56.2				
Max Q Clear Time (g_c+I1), s	13.0	22.7	16.3	31.6	13.0	18.2	4.8	49.0				
Green Ext Time (p_c), s	0.4	0.0	0.4	6.0	0.0	1.9	0.0	6.5				
Intersection Summary												
HCM 6th Ctrl Delay				39.8								
HCM 6th LOS				D								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

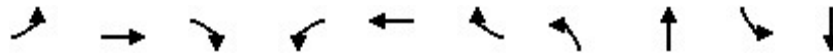
Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	645	1525	210	327	2052	242	237	189	157	240	454	580
Future Volume (veh/h)	645	1525	210	327	2052	242	237	189	157	240	454	580
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	701	1658	168	355	2230	236	258	205	89	261	493	494
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	619	2589	731	412	2174	614	213	299	133	518	648	564
Arrive On Green	0.17	0.46	0.46	0.12	0.39	0.39	0.06	0.08	0.08	0.15	0.18	0.18
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	701	1658	168	355	2230	236	258	205	89	261	493	494
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	20.8	27.1	7.7	11.7	46.5	12.9	7.4	6.7	5.1	8.3	15.8	8.6
Cycle Q Clear(g_c), s	20.8	27.1	7.7	11.7	46.5	12.9	7.4	6.7	5.1	8.3	15.8	8.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	619	2589	731	412	2174	614	213	299	133	518	648	564
V/C Ratio(X)	1.13	0.64	0.23	0.86	1.03	0.38	1.21	0.69	0.67	0.50	0.76	0.88
Avail Cap(c_a), veh/h	619	2589	731	451	2174	614	213	918	409	518	918	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.60	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	24.7	19.5	52.1	36.8	26.4	56.3	53.4	32.4	46.9	46.6	18.9
Incr Delay (d2), s/veh	72.3	0.7	0.4	1.5	14.0	0.2	130.2	2.8	5.6	0.3	2.4	10.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.0	11.1	2.7	5.1	22.2	4.6	7.0	3.0	2.7	3.5	7.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.9	25.4	19.9	53.6	50.7	26.6	186.5	56.2	38.0	47.2	49.0	29.5
LnGrp LOS	F	C	B	D	F	C	F	E	D	D	D	C
Approach Vol, veh/h		2527			2821			552			1248	
Approach Delay, s/veh		51.8			49.1			114.1			40.9	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.8	15.9	18.5	61.9	12.0	27.7	27.3	53.0				
Change Period (Y+Rc), s	5.8	* 5.8	4.6	6.5	4.6	5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	7.4	* 31	15.2	44.9	7.4	31.0	13.6	* 47				
Max Q Clear Time (g_c+I1), s	10.3	8.7	13.7	29.1	9.4	17.8	22.8	48.5				
Green Ext Time (p_c), s	0.0	1.4	0.1	9.8	0.0	4.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				53.7								
HCM 6th LOS				D								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/23/2021

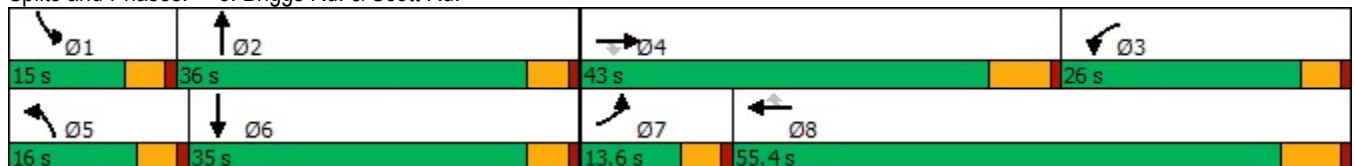


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘↗	↗	↘	↗
Traffic Volume (vph)	22	1735	864	66	2535	202	482	14	141	25
Future Volume (vph)	22	1735	864	66	2535	202	482	14	141	25
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	23.5	9.6	29.5	29.5	9.6	35.7	9.6	28.7
Total Split (s)	13.6	43.0	43.0	26.0	55.4	55.4	16.0	36.0	15.0	35.0
Total Split (%)	11.3%	35.8%	35.8%	21.7%	46.2%	46.2%	13.3%	30.0%	12.5%	29.2%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	4.7	4.6	4.7
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None
Act Effct Green (s)	5.9	39.3	39.3	11.6	49.1	49.1	14.4	11.1	10.4	10.3
Actuated g/C Ratio	0.06	0.43	0.43	0.13	0.54	0.54	0.16	0.12	0.11	0.11
v/c Ratio	0.21	0.77	0.86	0.32	0.90	0.23	0.93	0.42	0.75	0.38
Control Delay	46.4	26.6	16.0	38.5	25.2	2.6	65.4	15.4	64.0	20.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	26.6	16.0	38.5	25.2	2.6	65.4	15.4	64.0	20.7
LOS	D	C	B	D	C	A	E	B	E	C
Approach Delay		23.3			23.9			56.0		47.5
Approach LOS		C			C			E		D

Intersection Summary

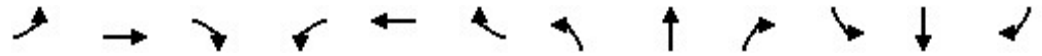
Cycle Length: 120
 Actuated Cycle Length: 90.8
 Natural Cycle: 135
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 27.5
 Intersection LOS: C
 Intersection Capacity Utilization 84.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘↗	↗		↘	↗	
Traffic Volume (veh/h)	22	1735	864	66	2535	202	482	14	98	141	25	62
Future Volume (veh/h)	22	1735	864	66	2535	202	482	14	98	141	25	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	1866	714	71	2726	163	518	15	83	152	27	51
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	2163	611	255	2943	831	438	32	175	184	62	118
Arrive On Green	0.02	0.39	0.39	0.14	0.52	0.52	0.12	0.13	0.13	0.10	0.11	0.11
Sat Flow, veh/h	1781	5611	1585	1781	5611	1585	3563	248	1375	1781	579	1094
Grp Volume(v), veh/h	24	1866	714	71	2726	163	518	0	98	152	0	78
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	0	1623	1781	0	1673
Q Serve(g_s), s	1.2	28.4	21.6	3.3	41.7	5.1	11.4	0.0	5.2	7.8	0.0	4.0
Cycle Q Clear(g_c), s	1.2	28.4	21.6	3.3	41.7	5.1	11.4	0.0	5.2	7.8	0.0	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.85	1.00		0.65
Lane Grp Cap(c), veh/h	44	2163	611	255	2943	831	438	0	207	184	0	180
V/C Ratio(X)	0.54	0.86	1.17	0.28	0.93	0.20	1.18	0.00	0.47	0.83	0.00	0.43
Avail Cap(c_a), veh/h	173	2208	624	411	2958	836	438	0	548	200	0	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.7	26.2	10.4	35.4	20.4	11.7	40.7	0.0	37.6	40.8	0.0	38.7
Incr Delay (d2), s/veh	3.8	3.7	92.5	0.2	5.7	0.1	103.5	0.0	1.7	22.5	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	11.8	21.2	1.4	16.2	1.5	11.2	0.0	2.1	4.5	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.5	30.0	103.0	35.7	26.1	11.8	144.1	0.0	39.3	63.2	0.0	40.3
LnGrp LOS	D	C	F	D	C	B	F	A	D	E	A	D
Approach Vol, veh/h		2604			2960			616			230	
Approach Delay, s/veh		50.1			25.6			127.4			55.5	
Approach LOS		D			C			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	16.5	19.8	42.3	16.0	14.7	6.9	55.1				
Change Period (Y+Rc), s	4.6	* 4.7	6.5	* 6.5	4.6	* 4.7	4.6	6.5				
Max Green Setting (Gmax), s	10.4	* 31	21.4	* 37	11.4	* 30	9.0	48.9				
Max Q Clear Time (g_c+I1), s	9.8	7.2	5.3	30.4	13.4	6.0	3.2	43.7				
Green Ext Time (p_c), s	0.0	0.5	0.1	5.4	0.0	0.4	0.0	5.0				

Intersection Summary

HCM 6th Ctrl Delay	46.4
HCM 6th LOS	D

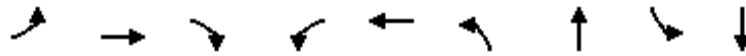
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

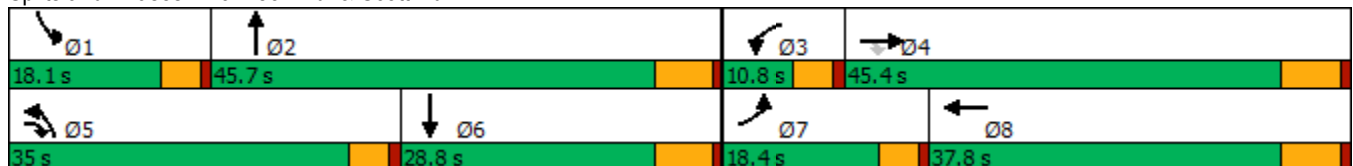


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↘↗	↑↗	↘	↑↑
Traffic Volume (vph)	201	930	666	27	1376	897	176	99	168
Future Volume (vph)	201	930	666	27	1376	897	176	99	168
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	28.5	9.6	9.6	28.5	9.6	28.2	9.6	28.2
Total Split (s)	18.4	45.4	35.0	10.8	37.8	35.0	45.7	18.1	28.8
Total Split (%)	15.3%	37.8%	29.2%	9.0%	31.5%	29.2%	38.1%	15.1%	24.0%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	13.8	43.4	80.3	5.8	31.3	30.4	33.7	10.3	13.6
Actuated g/C Ratio	0.12	0.39	0.72	0.05	0.28	0.27	0.30	0.09	0.12
v/c Ratio	0.95	0.48	0.55	0.31	1.02	0.99	0.18	0.62	0.71
Control Delay	97.3	27.8	5.4	60.7	68.5	66.8	28.7	65.3	35.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.3	27.8	5.4	60.7	68.5	66.8	28.7	65.3	35.2
LOS	F	C	A	E	E	E	C	E	D
Approach Delay		27.2			68.3		60.3		41.5
Approach LOS		C			E		E		D

Intersection Summary





























Cycle Length: 120
 Actuated Cycle Length: 111.1
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 48.5
 Intersection LOS: D
 Intersection Capacity Utilization 93.4%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 9: Leon Rd. & Scott Rd.



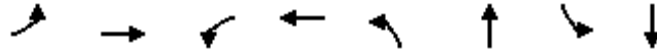
HCM 6th Signalized Intersection Summary
 9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	201	930	666	27	1376	36	897	176	11	99	168	200
Future Volume (veh/h)	201	930	666	27	1376	36	897	176	11	99	168	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	959	532	28	1419	37	925	181	11	102	173	149
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	1938	1035	46	1440	38	945	1110	67	127	232	187
Arrive On Green	0.12	0.38	0.38	0.03	0.28	0.28	0.27	0.33	0.33	0.07	0.12	0.12
Sat Flow, veh/h	1781	5106	1585	1781	5117	133	3456	3405	206	1781	1867	1509
Grp Volume(v), veh/h	207	959	532	28	944	512	925	94	98	102	164	158
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1846	1728	1777	1833	1781	1777	1599
Q Serve(g_s), s	12.8	16.0	19.5	1.7	30.7	30.7	29.5	4.2	4.2	6.3	9.9	10.7
Cycle Q Clear(g_c), s	12.8	16.0	19.5	1.7	30.7	30.7	29.5	4.2	4.2	6.3	9.9	10.7
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.11	1.00		0.94
Lane Grp Cap(c), veh/h	221	1938	1035	46	958	520	945	579	598	127	221	199
V/C Ratio(X)	0.94	0.49	0.51	0.60	0.99	0.99	0.98	0.16	0.16	0.80	0.74	0.80
Avail Cap(c_a), veh/h	221	1938	1035	99	958	520	945	631	651	216	361	325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	26.4	10.1	53.6	39.7	39.7	40.1	26.7	26.7	50.8	47.0	47.3
Incr Delay (d2), s/veh	42.6	0.2	0.4	4.6	25.4	35.6	24.1	0.1	0.1	4.3	4.9	7.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	6.0	5.5	0.8	15.3	18.0	14.9	1.7	1.8	2.8	4.5	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.9	26.6	10.5	58.2	65.1	75.3	64.2	26.8	26.8	55.2	51.9	54.4
LnGrp LOS	F	C	B	E	E	E	E	C	C	E	D	D
Approach Vol, veh/h		1698			1484			1117			424	
Approach Delay, s/veh		29.4			68.5			57.8			53.6	
Approach LOS		C			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	42.5	7.5	48.7	35.0	20.0	18.4	37.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5				
Max Green Setting (Gmax), s	13.5	39.5	6.2	38.9	30.4	22.6	13.8	31.3				
Max Q Clear Time (g_c+I1), s	8.3	6.2	3.7	21.5	31.5	12.7	14.8	32.7				
Green Ext Time (p_c), s	0.0	0.9	0.0	7.4	0.0	1.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			50.6									
HCM 6th LOS			D									

Timings
10: Leon Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

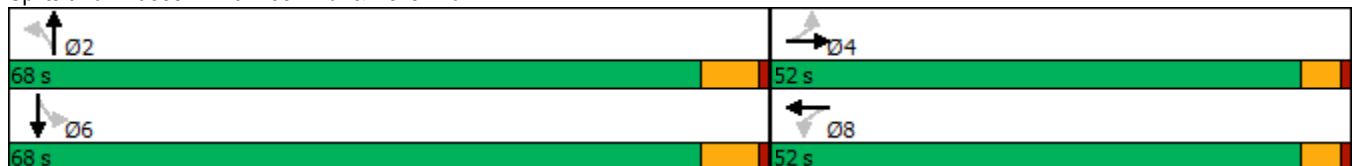


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↕	↗	↕
Traffic Volume (vph)	6	4	107	0	14	590	175	695
Future Volume (vph)	6	4	107	0	14	590	175	695
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	26.7	26.7	26.7	26.7	28.2	28.2	28.2	28.2
Total Split (s)	52.0	52.0	52.0	52.0	68.0	68.0	68.0	68.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7		4.7	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		24.6		24.6	31.2	31.2	31.2	31.2
Actuated g/C Ratio		0.36		0.36	0.45	0.45	0.45	0.45
v/c Ratio		0.06		0.77	0.06	0.45	0.65	0.49
Control Delay		11.0		23.7	13.4	13.8	28.4	14.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		11.0		23.7	13.4	13.8	28.4	14.5
LOS		B		C	B	B	C	B
Approach Delay		11.0		23.7		13.8		17.2
Approach LOS		B		C		B		B

Intersection Summary




















Cycle Length: 120
 Actuated Cycle Length: 69
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 17.5
 Intersection Capacity Utilization 77.3%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 10: Leon Rd. & Keller Rd.



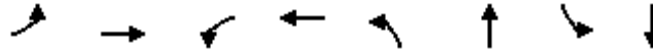
HCM 6th Signalized Intersection Summary
10: Leon Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	4	21	107	0	356	14	590	60	175	695	29
Future Volume (veh/h)	6	4	21	107	0	356	14	590	60	175	695	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	4	23	116	0	387	15	641	65	190	755	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	100	373	173	22	450	324	1540	156	354	1642	70
Arrive On Green	0.38	0.38	0.38	0.38	0.00	0.38	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	208	265	989	298	60	1193	688	3258	330	742	3474	147
Grp Volume(v), veh/h	34	0	0	503	0	0	15	349	357	190	386	401
Grp Sat Flow(s),veh/h/ln	1462	0	0	1551	0	0	688	1777	1811	742	1777	1844
Q Serve(g_s), s	0.0	0.0	0.0	17.3	0.0	0.0	1.1	9.3	9.4	16.4	10.6	10.6
Cycle Q Clear(g_c), s	0.9	0.0	0.0	21.6	0.0	0.0	11.7	9.3	9.4	25.8	10.6	10.6
Prop In Lane	0.21		0.68	0.23		0.77	1.00		0.18	1.00		0.08
Lane Grp Cap(c), veh/h	611	0	0	646	0	0	324	840	856	354	840	872
V/C Ratio(X)	0.06	0.00	0.00	0.78	0.00	0.00	0.05	0.42	0.42	0.54	0.46	0.46
Avail Cap(c_a), veh/h	1007	0	0	1068	0	0	585	1515	1544	636	1515	1572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	0.0	0.0	20.7	0.0	0.0	16.8	12.5	12.5	21.0	12.9	12.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.1	0.0	0.0	0.1	0.3	0.3	1.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	7.5	0.0	0.0	0.2	3.1	3.1	2.5	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	0.0	0.0	22.8	0.0	0.0	16.9	12.9	12.9	22.3	13.3	13.3
LnGrp LOS	B	A	A	C	A	A	B	B	B	C	B	B
Approach Vol, veh/h		34			503			721			977	
Approach Delay, s/veh		14.4			22.8			13.0			15.0	
Approach LOS		B			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.5		32.0		40.5		32.0				
Change Period (Y+Rc), s		6.2		* 4.7		6.2		* 4.7				
Max Green Setting (Gmax), s		61.8		* 47		61.8		* 47				
Max Q Clear Time (g_c+I1), s		13.7		2.9		27.8		23.6				
Green Ext Time (p_c), s		4.3		0.2		6.5		3.7				
Intersection Summary												
HCM 6th Ctrl Delay				16.1								
HCM 6th LOS				B								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
11: Leon Rd. & Whisper Heights Blvd

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	24	18	249	19	2	587	39	676
Future Volume (vph)	24	18	249	19	2	587	39	676
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.7	21.7	21.7	21.7	23.2	23.2	23.2	23.2
Total Split (s)	43.0	43.0	43.0	43.0	77.0	77.0	77.0	77.0
Total Split (%)	35.8%	35.8%	35.8%	35.8%	64.2%	64.2%	64.2%	64.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7	4.7	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		20.3	20.3	20.3	35.5	35.5	35.5	35.5
Actuated g/C Ratio		0.30	0.30	0.30	0.52	0.52	0.52	0.52
v/c Ratio		0.12	0.68	0.23	0.01	0.78	0.20	0.40
Control Delay		19.0	33.3	8.2	9.0	19.8	12.6	10.6
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		19.0	33.3	8.2	9.0	19.8	12.6	10.6
LOS		B	C	A	A	B	B	B
Approach Delay		19.0		25.3		19.8		10.7
Approach LOS		B		C		B		B

Intersection Summary





















Cycle Length: 120	
Actuated Cycle Length: 68.1	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 17.3	Intersection LOS: B
Intersection Capacity Utilization 66.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 11: Leon Rd. & Whisper Heights Blvd



HCM 6th Signalized Intersection Summary
 11: Leon Rd. & Whisper Heights Blvd

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	18	8	249	19	98	2	587	97	39	676	10
Future Volume (veh/h)	24	18	8	249	19	98	2	587	97	39	676	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	20	9	271	21	107	2	638	105	42	735	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	166	57	513	64	326	443	822	135	297	1881	28
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	513	691	236	1381	267	1359	715	1566	258	717	3584	54
Grp Volume(v), veh/h	55	0	0	271	0	128	2	0	743	42	364	382
Grp Sat Flow(s),veh/h/ln	1440	0	0	1381	0	1626	715	0	1824	717	1777	1861
Q Serve(g_s), s	0.0	0.0	0.0	4.5	0.0	3.0	0.1	0.0	15.1	2.3	5.7	5.7
Cycle Q Clear(g_c), s	3.0	0.0	0.0	7.5	0.0	3.0	5.8	0.0	15.1	17.4	5.7	5.7
Prop In Lane	0.47		0.16	1.00		0.84	1.00		0.14	1.00		0.03
Lane Grp Cap(c), veh/h	460	0	0	513	0	390	443	0	957	297	932	976
V/C Ratio(X)	0.12	0.00	0.00	0.53	0.00	0.33	0.00	0.00	0.78	0.14	0.39	0.39
Avail Cap(c_a), veh/h	1334	0	0	1324	0	1345	1161	0	2789	1018	2717	2845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	0.0	0.0	16.0	0.0	14.5	8.3	0.0	8.8	15.8	6.6	6.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.8	0.0	0.5	0.0	0.0	1.4	0.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	2.4	0.0	1.0	0.0	0.0	3.3	0.3	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.9	0.0	0.0	16.9	0.0	15.0	8.3	0.0	10.2	16.0	6.8	6.8
LnGrp LOS	B	A	A	B	A	B	A	A	B	B	A	A
Approach Vol, veh/h		55			399			745			788	
Approach Delay, s/veh		13.9			16.3			10.2			7.3	
Approach LOS		B			B			B			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		30.5		15.8		30.5		15.8				
Change Period (Y+Rc), s		6.2		* 4.7		6.2		* 4.7				
Max Green Setting (Gmax), s		70.8		* 38		70.8		* 38				
Max Q Clear Time (g_c+I1), s		17.1		5.0		19.4		9.5				
Green Ext Time (p_c), s		5.5		0.3		4.9		1.6				

Intersection Summary

HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
20: Winchester Rd. & Domenigoni Pkwy

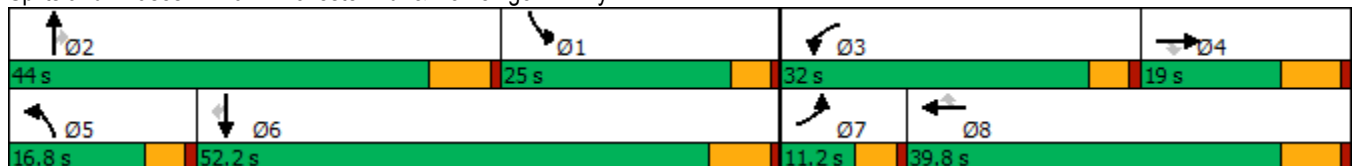
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	604	179	845	476	293	250	636	799	642	907	40
Future Volume (vph)	77	604	179	845	476	293	250	636	799	642	907	40
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.5	16.5	9.6	38.5	38.5	9.6	38.5	38.5	9.6	38.5	38.5
Total Split (s)	11.2	19.0	19.0	32.0	39.8	39.8	16.8	44.0	44.0	25.0	52.2	52.2
Total Split (%)	9.3%	15.8%	15.8%	26.7%	33.2%	33.2%	14.0%	36.7%	36.7%	20.8%	43.5%	43.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	6.2	12.5	12.5	27.4	35.6	35.6	11.7	37.5	37.5	20.4	46.2	46.2
Actuated g/C Ratio	0.05	0.10	0.10	0.23	0.30	0.30	0.10	0.31	0.31	0.17	0.38	0.38
v/c Ratio	0.45	1.10	0.53	1.11	0.31	0.45	0.79	0.58	1.05	1.14	0.67	0.06
Control Delay	63.0	118.5	10.1	110.2	33.9	6.0	70.4	37.1	63.2	125.4	33.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.0	118.5	10.1	110.2	33.9	6.0	70.4	37.1	63.2	125.4	33.7	0.2
LOS	E	F	B	F	C	A	E	D	E	F	C	A
Approach Delay		91.0			68.8			54.4			69.8	
Approach LOS		F			E			D			E	

Intersection Summary




































Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 68.2
 Intersection LOS: E
 Intersection Capacity Utilization 94.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	 		 	 	
Traffic Volume (veh/h)	77	604	179	845	476	293	250	636	799	642	907	40
Future Volume (veh/h)	77	604	179	845	476	293	250	636	799	642	907	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	643	134	899	506	306	266	677	291	683	965	-91
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	640	181	890	1807	511	327	861	365	663	1268	537
Arrive On Green	0.04	0.11	0.11	0.37	0.32	0.32	0.09	0.23	0.23	0.19	0.34	0.00
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	3456	3741	1585	3563	3741	1585
Grp Volume(v), veh/h	82	643	134	899	506	306	266	677	291	683	965	-91
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.5	12.5	9.0	27.4	7.4	9.8	8.3	18.7	10.3	20.4	25.2	0.0
Cycle Q Clear(g_c), s	2.5	12.5	9.0	27.4	7.4	9.8	8.3	18.7	10.3	20.4	25.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	149	640	181	890	1807	511	327	861	365	663	1268	537
V/C Ratio(X)	0.55	1.01	0.74	1.01	0.28	0.60	0.81	0.79	0.80	1.03	0.76	-0.17
Avail Cap(c_a), veh/h	214	640	181	890	1807	511	385	1279	542	663	1559	661
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	51.5	48.6	47.0	34.3	27.7	9.5	48.7	39.7	11.8	44.6	32.3	0.0
Incr Delay (d2), s/veh	1.2	36.8	15.0	32.6	0.1	1.9	9.3	2.0	5.0	43.0	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.7	4.1	13.3	3.1	5.9	3.8	8.3	6.7	12.4	10.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	85.4	62.0	66.8	27.8	11.4	58.0	41.6	16.8	87.6	34.1	0.0
LnGrp LOS	D	F	E	F	C	B	E	D	B	F	C	A
Approach Vol, veh/h		859			1711			1234			1557	
Approach Delay, s/veh		78.6			45.4			39.3			59.5	
Approach LOS		E			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.9	31.7	32.0	19.0	15.0	43.7	9.2	41.8				
Change Period (Y+Rc), s	6.5	* 6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	20.4	* 38	27.4	12.5	12.2	45.7	6.6	33.3				
Max Q Clear Time (g_c+I1), s	22.4	20.7	29.4	14.5	10.3	27.2	4.5	11.8				
Green Ext Time (p_c), s	0.0	4.6	0.0	0.0	0.1	5.7	0.0	3.9				
Intersection Summary												
HCM 6th Ctrl Delay			53.4									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↘	↑↑↑	↘	↑↑↑	↗
Traffic Volume (vph)	1	10	8	12	4	2920	50	4167	4
Future Volume (vph)	1	10	8	12	4	2920	50	4167	4
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8						6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	9.6	16.5	16.5
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	9.6	74.7	74.7
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	8.0%	62.3%	62.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max
Act Effct Green (s)	10.0	10.0	10.0	10.0	5.0	70.1	5.0	68.2	68.2
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.71	0.05	0.69	0.69
v/c Ratio	0.01	0.06	0.06	0.07	0.04	0.86	0.60	1.00	0.00
Control Delay	40.0	41.2	41.5	41.3	46.0	14.9	73.5	30.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	41.2	41.5	41.3	46.0	14.9	73.5	30.7	0.0
LOS	D	D	D	D	D	B	E	C	A
Approach Delay		41.1		41.4		14.9		31.1	
Approach LOS		D		D		B		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 24.6
 Intersection LOS: C
 Intersection Capacity Utilization 78.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
 22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (veh/h)	1	10	0	8	12	0	4	2920	0	50	4167	4
Future Volume (veh/h)	1	10	0	8	12	0	4	2920	0	50	4167	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	11	0	9	13	0	4	3106	0	53	4433	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	189	0	207	189	0	90	3578	1111	69	4432	1092
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.00	0.05	0.70	0.00	0.04	0.69	0.69
Sat Flow, veh/h	1401	1870	0	1404	1870	0	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	1	11	0	9	13	0	4	3106	0	53	4433	4
Grp Sat Flow(s),veh/h/ln	1401	1870	0	1404	1870	0	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	0.1	0.5	0.0	0.6	0.6	0.0	0.2	46.0	0.0	2.9	68.2	0.1
Cycle Q Clear(g_c), s	0.7	0.5	0.0	1.1	0.6	0.0	0.2	46.0	0.0	2.9	68.2	0.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	205	189	0	207	189	0	90	3578	1111	69	4432	1092
V/C Ratio(X)	0.00	0.06	0.00	0.04	0.07	0.00	0.04	0.87	0.00	0.77	1.00	0.00
Avail Cap(c_a), veh/h	503	586	0	505	586	0	90	3578	1111	90	4432	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	40.2	0.0	40.7	40.3	0.0	44.7	11.3	0.0	47.1	15.4	4.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.1	0.2	0.0	0.9	2.5	0.0	18.0	13.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.2	0.3	0.0	0.1	12.0	0.0	1.6	20.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	40.4	0.0	40.8	40.4	0.0	45.7	13.8	0.0	65.1	29.0	4.8
LnGrp LOS	D	D	A	D	D	A	D	B	A	E	F	A
Approach Vol, veh/h		12			22			3110			4490	
Approach Delay, s/veh		40.4			40.6			13.9			29.4	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	75.9		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	4.9	48.0		2.7	2.2	70.2		3.1				
Green Ext Time (p_c), s	0.0	18.7		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑↑	↑↑↑	↗
Traffic Volume (vph)	194	133	85	2730	4000	175
Future Volume (vph)	194	133	85	2730	4000	175
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	24.5	24.5
Total Split (s)	26.6	26.6	11.2	93.4	82.2	82.2
Total Split (%)	22.2%	22.2%	9.3%	77.8%	68.5%	68.5%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effect Green (s)	18.1	18.1	6.6	87.0	75.8	75.8
Actuated g/C Ratio	0.16	0.16	0.06	0.75	0.65	0.65
v/c Ratio	0.76	0.47	0.92	0.78	1.04	0.17
Control Delay	65.3	26.8	125.7	11.3	47.4	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	26.8	125.7	11.3	47.4	1.6
LOS	E	C	F	B	D	A
Approach Delay	49.6			14.7	45.5	
Approach LOS	D			B	D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.2
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 33.8
 Intersection LOS: C
 Intersection Capacity Utilization 86.5%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/24/2021



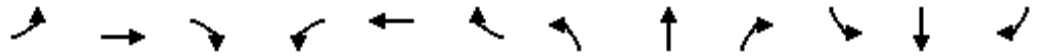
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	194	133	85	2730	4000	175
Future Volume (veh/h)	194	133	85	2730	4000	175
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	137	92	2967	4348	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	247	220	103	3899	4280	1054
Arrive On Green	0.14	0.14	0.06	0.76	0.67	0.67
Sat Flow, veh/h	1781	1585	1781	5274	6696	1585
Grp Volume(v), veh/h	211	137	92	2967	4348	190
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1702	1609	1585
Q Serve(g_s), s	13.2	9.3	5.8	37.3	75.7	5.2
Cycle Q Clear(g_c), s	13.2	9.3	5.8	37.3	75.7	5.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	247	220	103	3899	4280	1054
V/C Ratio(X)	0.85	0.62	0.89	0.76	1.02	0.18
Avail Cap(c_a), veh/h	344	306	103	3899	4280	1054
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	46.2	53.2	7.6	19.1	7.2
Incr Delay (d2), s/veh	13.7	2.9	54.0	0.9	17.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.2	4.0	8.5	26.4	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	61.6	49.1	107.3	8.5	37.0	7.3
LnGrp LOS	E	D	F	A	F	A
Approach Vol, veh/h	348			3059	4538	
Approach Delay, s/veh	56.7			11.5	35.7	
Approach LOS	E			B	D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		20.4	11.2	82.2
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	6.6	75.7
Max Q Clear Time (g_c+1), s		39.3		15.2	7.8	77.7
Green Ext Time (p_c), s		38.6		0.6	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			27.3			
HCM 6th LOS			C			

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

06/24/2021

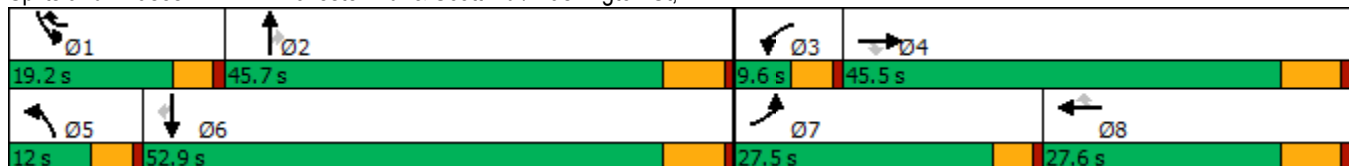


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗
Traffic Volume (vph)	518	282	267	50	336	502	270	1745	50	350	2771	962
Future Volume (vph)	518	282	267	50	336	502	270	1745	50	350	2771	962
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.5	45.5	9.6	16.5	9.6	9.6	35.5	35.5	9.6	44.5	44.5
Total Split (s)	27.5	45.5	45.5	9.6	27.6	19.2	12.0	45.7	45.7	19.2	52.9	52.9
Total Split (%)	22.9%	37.9%	37.9%	8.0%	23.0%	16.0%	10.0%	38.1%	38.1%	16.0%	44.1%	44.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.6	33.8	33.8	5.0	16.0	36.7	7.4	39.9	39.9	14.1	46.5	46.5
Actuated g/C Ratio	0.18	0.30	0.30	0.04	0.14	0.33	0.07	0.35	0.35	0.12	0.41	0.41
v/c Ratio	0.85	0.27	0.48	0.34	0.67	0.90	1.24	0.71	0.08	0.84	0.96	1.11
Control Delay	58.5	31.2	16.0	60.4	52.9	48.7	181.7	34.0	0.2	66.9	42.3	83.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	31.2	16.0	60.4	52.9	48.7	181.7	34.0	0.2	66.9	42.3	83.5
LOS	E	C	B	E	D	D	F	C	A	E	D	F
Approach Delay		40.6			51.0			52.5			54.1	
Approach LOS		D			D			D			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.9
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.24
 Intersection Signal Delay: 51.6
 Intersection LOS: D
 Intersection Capacity Utilization 91.2%
 ICU Level of Service F
 Analysis Period (min) 15

























Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	518	282	267	50	336	502	270	1745	50	350	2771	962
Future Volume (veh/h)	518	282	267	50	336	502	270	1745	50	350	2771	962
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	551	300	240	53	357	295	287	1856	53	372	2948	571
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	613	1152	488	152	668	473	225	2541	538	428	2966	628
Arrive On Green	0.17	0.31	0.31	0.04	0.18	0.18	0.06	0.34	0.34	0.12	0.40	0.40
Sat Flow, veh/h	3563	3741	1585	3563	3741	1585	3563	7481	1585	3563	7481	1585
Grp Volume(v), veh/h	551	300	240	53	357	295	287	1856	53	372	2948	571
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	17.7	7.1	14.5	1.7	10.1	18.8	7.4	25.5	2.7	12.0	45.9	39.8
Cycle Q Clear(g_c), s	17.7	7.1	14.5	1.7	10.1	18.8	7.4	25.5	2.7	12.0	45.9	39.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	613	1152	488	152	668	473	225	2541	538	428	2966	628
V/C Ratio(X)	0.90	0.26	0.49	0.35	0.53	0.62	1.27	0.73	0.10	0.87	0.99	0.91
Avail Cap(c_a), veh/h	697	1247	528	152	674	476	225	2541	538	444	2966	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	30.5	33.0	54.4	43.7	35.4	54.8	33.9	26.4	50.6	35.2	33.3
Incr Delay (d2), s/veh	12.6	0.1	0.8	0.5	0.8	2.5	153.2	1.1	0.1	15.5	15.1	17.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	3.0	5.3	0.7	4.6	7.1	8.0	11.0	1.0	6.0	22.1	16.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	30.6	33.8	54.9	44.5	37.9	208.0	35.0	26.5	66.1	50.2	50.5
LnGrp LOS	E	C	C	D	D	D	F	D	C	E	D	D
Approach Vol, veh/h		1091			705			2196			3891	
Approach Delay, s/veh		46.2			42.5			57.4			51.8	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.7	46.2	9.6	42.5	12.0	52.9	24.7	27.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	14.6	39.2	5.0	39.0	7.4	46.4	22.9	21.1				
Max Q Clear Time (g_c+1), s	14.0	27.5	3.7	16.5	9.4	47.9	19.7	20.8				
Green Ext Time (p_c), s	0.1	8.4	0.0	2.4	0.0	0.0	0.4	0.1				
Intersection Summary												
HCM 6th Ctrl Delay				51.7								
HCM 6th LOS				D								

HCM Unsignalized Intersection Capacity Analysis
 25: Winchester Rd. & Driveway 2

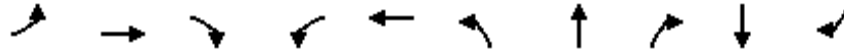
Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR					
Lane Configurations											
Traffic Volume (veh/h)	0	120	0	2065	3020	68					
Future Volume (Veh/h)	0	120	0	2065	3020	68					
Sign Control	Stop			Free		Free					
Grade	0%			0%		0%					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92					
Hourly flow rate (vph)	0	130	0	2245	3283	74					
Pedestrians											
Lane Width (ft)											
Walking Speed (ft/s)											
Percent Blockage											
Right turn flare (veh)											
Median type				None	None						
Median storage (veh)											
Upstream signal (ft)				742							
pX, platoon unblocked											
vC, conflicting volume	3881	858	3357								
vC1, stage 1 conf vol											
vC2, stage 2 conf vol											
vCu, unblocked vol	3881	858	3357								
tC, single (s)	6.8	6.9	4.1								
tC, 2 stage (s)											
tF (s)	3.5	3.3	2.2								
p0 queue free %	100	57	100								
cM capacity (veh/h)	2	300	81								
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	130	561	561	561	561	938	938	938	543		
Volume Left	0	0	0	0	0	0	0	0	0		
Volume Right	130	0	0	0	0	0	0	0	74		
cSH	300	1700	1700	1700	1700	1700	1700	1700	1700		
Volume to Capacity	0.43	0.33	0.33	0.33	0.33	0.55	0.55	0.55	0.32		
Queue Length 95th (ft)	52	0	0	0	0	0	0	0	0		
Control Delay (s)	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Lane LOS	D										
Approach Delay (s)	25.8	0.0					0.0				
Approach LOS	D										
Intersection Summary											
Average Delay	0.6										
Intersection Capacity Utilization	59.0%			ICU Level of Service				B			
Analysis Period (min)	15										

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

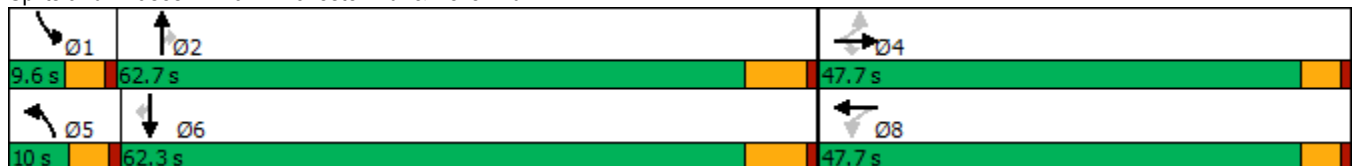


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations											
Traffic Volume (vph)	288	41	223	17	2	161	1777	12	2918	170	
Future Volume (vph)	288	41	223	17	2	161	1777	12	2918	170	
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4			8	5	2		6		1
Permitted Phases	4		4	8				2		6	
Detector Phase	4	4	4	8	8	5	2	2	6	6	
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	31.5	31.5	9.6
Total Split (s)	47.7	47.7	47.7	47.7	47.7	10.0	62.7	62.7	62.3	62.3	9.6
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	8.3%	52.3%	52.3%	51.9%	51.9%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag						Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	None
Act Effct Green (s)	29.3	29.3	29.3		29.3	5.4	66.3	66.3	56.2	56.2	
Actuated g/C Ratio	0.27	0.27	0.27		0.27	0.05	0.62	0.62	0.53	0.53	
v/c Ratio	0.81	0.09	0.47		0.05	1.90	0.60	0.01	1.11	0.21	
Control Delay	52.4	27.6	22.0		26.9	474.5	14.5	0.0	82.2	7.8	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.4	27.6	22.0		26.9	474.5	14.5	0.0	82.2	7.8	
LOS	D	C	C		C	F	B	A	F	A	
Approach Delay		38.2			26.9		52.3		78.1		
Approach LOS		D			C		D		E		

Intersection Summary























Cycle Length: 120	
Actuated Cycle Length: 106.8	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.90	
Intersection Signal Delay: 65.1	Intersection LOS: E
Intersection Capacity Utilization 95.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	288	41	223	17	2	0	161	1777	12	0	2918	170
Future Volume (veh/h)	288	41	223	17	2	0	161	1777	12	0	2918	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	306	44	147	18	2	0	171	1890	13	0	3104	181
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	443	376	311	31	0	95	3329	1033	2	2947	876
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.00	0.05	0.65	0.65	0.00	0.55	0.55
Sat Flow, veh/h	1415	1870	1585	1027	131	0	1781	5106	1585	1781	5331	1585
Grp Volume(v), veh/h	306	44	147	20	0	0	171	1890	13	0	3104	181
Grp Sat Flow(s),veh/h/ln	1415	1870	1585	1158	0	0	1781	1702	1585	1781	1777	1585
Q Serve(g_s), s	17.5	1.9	7.9	1.0	0.0	0.0	5.4	20.6	0.3	0.0	55.8	5.8
Cycle Q Clear(g_c), s	20.3	1.9	7.9	2.8	0.0	0.0	5.4	20.6	0.3	0.0	55.8	5.8
Prop In Lane	1.00		1.00	0.90		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	417	443	376	342	0	0	95	3329	1033	2	2947	876
V/C Ratio(X)	0.73	0.10	0.39	0.06	0.00	0.00	1.79	0.57	0.01	0.00	1.05	0.21
Avail Cap(c_a), veh/h	684	797	675	576	0	0	95	3329	1033	88	2947	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	30.1	32.4	30.7	0.0	0.0	47.8	9.7	6.2	0.0	22.6	11.4
Incr Delay (d2), s/veh	2.5	0.1	0.7	0.1	0.0	0.0	395.8	0.2	0.0	0.0	32.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.8	3.1	0.4	0.0	0.0	12.7	5.8	0.1	0.0	27.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	30.2	33.0	30.8	0.0	0.0	443.6	9.9	6.2	0.0	55.3	11.5
LnGrp LOS	D	C	C	C	A	A	F	A	A	A	F	B
Approach Vol, veh/h		497			20			2074			3285	
Approach Delay, s/veh		36.7			30.8			45.7			52.9	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	72.3		28.6	10.0	62.3		28.6				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	5.4	55.8		* 43				
Max Q Clear Time (g_c+I1), s	0.0	22.6		22.3	7.4	57.8		4.8				
Green Ext Time (p_c), s	0.0	17.0		1.6	0.0	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	48.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/24/2021

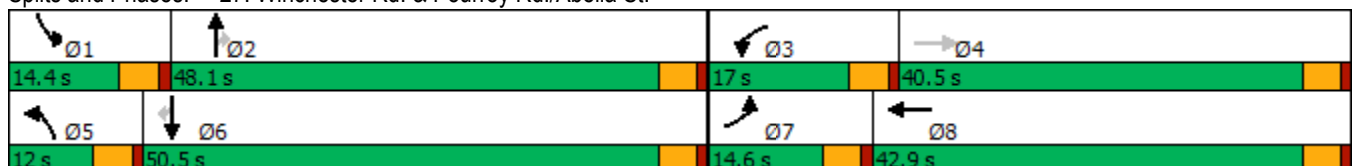


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙↘	↘	↙	↑↑↑	↗	↙	↑↑↑	↗
Traffic Volume (vph)	95	33	458	25	118	1719	161	92	2882	185
Future Volume (vph)	95	33	458	25	118	1719	161	92	2882	185
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	14.6	40.5	17.0	42.9	12.0	48.1	48.1	14.4	50.5	50.5
Total Split (%)	12.2%	33.8%	14.2%	35.8%	10.0%	40.1%	40.1%	12.0%	42.1%	42.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.1	10.5	12.5	13.9	7.5	44.6	44.6	8.9	46.0	46.0
Actuated g/C Ratio	0.10	0.11	0.13	0.15	0.08	0.47	0.47	0.09	0.49	0.49
v/c Ratio	0.61	0.53	1.10	0.48	0.91	0.62	0.21	0.60	1.01	0.24
Control Delay	56.4	22.5	111.2	14.2	101.8	20.0	3.5	56.4	42.3	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	22.5	111.2	14.2	101.8	20.0	3.5	56.4	42.3	5.4
LOS	E	C	F	B	F	B	A	E	D	A
Approach Delay		32.6		86.0		23.5			40.6	
Approach LOS		C		F		C			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.10
 Intersection Signal Delay: 39.2
 Intersection LOS: D
 Intersection Capacity Utilization 84.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	33	192	458	25	136	118	1719	161	92	2882	185
Future Volume (veh/h)	95	33	192	458	25	136	118	1719	161	92	2882	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	36	186	498	27	102	128	1868	175	100	3133	191
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	262	233	439	69	261	136	3038	749	126	3005	740
Arrive On Green	0.07	0.15	0.15	0.13	0.20	0.20	0.08	0.47	0.47	0.07	0.47	0.47
Sat Flow, veh/h	1781	1777	1585	3456	343	1295	1781	6434	1585	1781	6434	1585
Grp Volume(v), veh/h	103	36	186	498	0	129	128	1868	175	100	3133	191
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	0	1637	1781	1609	1585	1781	1609	1585
Q Serve(g_s), s	5.6	1.7	11.2	12.5	0.0	6.7	7.0	21.3	6.5	5.4	46.0	7.2
Cycle Q Clear(g_c), s	5.6	1.7	11.2	12.5	0.0	6.7	7.0	21.3	6.5	5.4	46.0	7.2
Prop In Lane	1.00		1.00	1.00		0.79	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	262	233	439	0	330	136	3038	749	126	3005	740
V/C Ratio(X)	0.79	0.14	0.80	1.14	0.00	0.39	0.94	0.61	0.23	0.79	1.04	0.26
Avail Cap(c_a), veh/h	183	649	579	439	0	638	136	3038	749	179	3005	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	36.6	40.6	43.0	0.0	34.1	45.3	19.3	15.4	45.0	26.3	15.9
Incr Delay (d2), s/veh	9.6	0.2	6.1	85.6	0.0	0.8	59.6	0.9	0.7	9.3	28.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.8	4.7	10.5	0.0	2.7	5.2	7.0	2.4	2.6	21.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.5	36.8	46.7	128.6	0.0	34.9	104.8	20.3	16.2	54.3	55.2	16.8
LnGrp LOS	D	D	D	F	A	C	F	C	B	D	F	B
Approach Vol, veh/h		325			627			2171			3424	
Approach Delay, s/veh		48.1			109.3			24.9			53.0	
Approach LOS		D			F			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	51.0	17.0	19.0	12.0	50.5	11.7	24.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.9	43.6	12.5	36.0	7.5	46.0	10.1	38.4				
Max Q Clear Time (g_c+I1), s	7.4	23.3	14.5	13.2	9.0	48.0	7.6	8.7				
Green Ext Time (p_c), s	0.0	13.0	0.0	1.3	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			48.8									
HCM 6th LOS			D									

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/24/2021

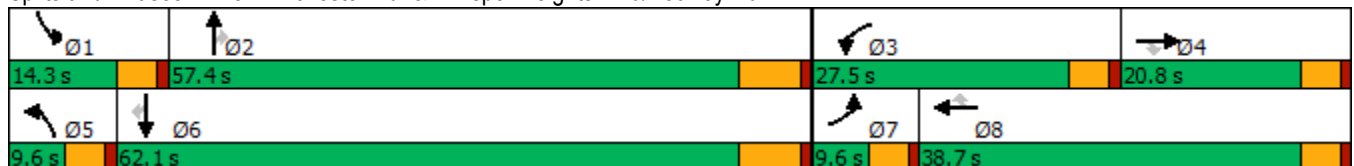


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑↑	↖↗	↑↑↑	↗
Traffic Volume (vph)	42	20	49	188	20	196	21	1759	137	3359	35
Future Volume (vph)	42	20	49	188	20	196	21	1759	137	3359	35
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			4			8					6
Detector Phase	7	4	4	3	8	8	5	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	9.6	25.5	25.5
Total Split (s)	9.6	20.8	20.8	27.5	38.7	38.7	9.6	57.4	14.3	62.1	62.1
Total Split (%)	8.0%	17.3%	17.3%	22.9%	32.3%	32.3%	8.0%	47.8%	11.9%	51.8%	51.8%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	5.1	10.2	10.2	15.9	19.7	19.7	5.1	47.1	8.2	56.7	56.7
Actuated g/C Ratio	0.05	0.10	0.10	0.16	0.20	0.20	0.05	0.48	0.08	0.58	0.58
v/c Ratio	0.48	0.11	0.15	0.69	0.06	0.47	0.24	0.60	0.50	0.96	0.04
Control Delay	68.2	47.0	0.9	53.9	33.2	13.9	56.8	21.3	52.1	30.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	47.0	0.9	53.9	33.2	13.9	56.8	21.3	52.1	30.8	0.1
LOS	E	D	A	D	C	B	E	C	D	C	A
Approach Delay		34.5			33.5			21.7		31.3	
Approach LOS		C			C			C		C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 98.5
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 28.6
 Intersection LOS: C
 Intersection Capacity Utilization 83.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑↑	↗	↖↗	↑↑↑	↗
Traffic Volume (veh/h)	42	20	49	188	20	196	21	1759	0	137	3359	35
Future Volume (veh/h)	42	20	49	188	20	196	21	1759	0	137	3359	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	21	33	198	21	149	22	1852	0	144	3536	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	184	156	231	362	307	41	3284	809	208	3525	868
Arrive On Green	0.04	0.10	0.10	0.13	0.19	0.19	0.02	0.51	0.00	0.06	0.55	0.55
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	6434	1585	3456	6434	1585
Grp Volume(v), veh/h	44	21	33	198	21	149	22	1852	0	144	3536	34
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1609	1585	1728	1609	1585
Q Serve(g_s), s	2.5	1.0	1.9	11.0	0.9	8.5	1.2	20.1	0.0	4.1	55.6	1.0
Cycle Q Clear(g_c), s	2.5	1.0	1.9	11.0	0.9	8.5	1.2	20.1	0.0	4.1	55.6	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	62	184	156	231	362	307	41	3284	809	208	3525	868
V/C Ratio(X)	0.71	0.11	0.21	0.86	0.06	0.49	0.54	0.56	0.00	0.69	1.00	0.04
Avail Cap(c_a), veh/h	88	297	251	402	627	531	88	3284	809	330	3525	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	41.7	42.1	43.2	33.4	36.4	49.1	17.1	0.0	46.8	22.9	10.6
Incr Delay (d2), s/veh	5.5	0.3	0.7	3.5	0.1	1.2	4.1	0.2	0.0	1.5	15.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.5	0.8	5.0	0.4	3.4	0.6	6.4	0.0	1.7	20.9	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	42.0	42.8	46.7	33.5	37.6	53.2	17.3	0.0	48.3	38.9	10.6
LnGrp LOS	D	D	D	D	C	D	D	B	A	D	F	B
Approach Vol, veh/h		98			368			1874			3714	
Approach Delay, s/veh		47.6			42.3			17.7			39.0	
Approach LOS		D			D			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	58.3	17.8	14.7	6.9	62.1	8.2	24.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	9.7	50.9	22.9	* 16	5.0	55.6	5.0	* 34				
Max Q Clear Time (g_c+I1), s	6.1	22.1	13.0	3.9	3.2	57.6	4.5	10.5				
Green Ext Time (p_c), s	0.1	15.2	0.2	0.1	0.0	0.0	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)

06/24/2021

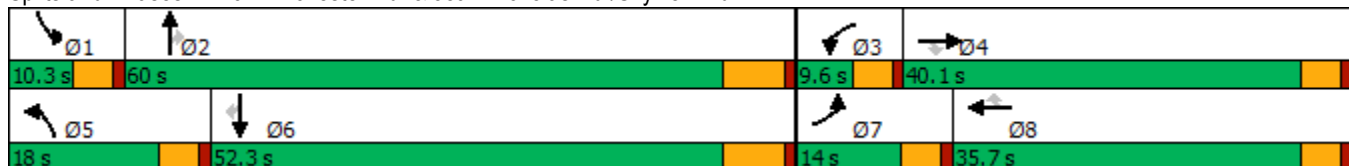


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (vph)	148	137	367	16	30	60	207	1504	4	19	2532	148
Future Volume (vph)	148	137	367	16	30	60	207	1504	4	19	2532	148
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	14.0	40.1	40.1	9.6	35.7	35.7	18.0	60.0	60.0	10.3	52.3	52.3
Total Split (%)	11.7%	33.4%	33.4%	8.0%	29.8%	29.8%	15.0%	50.0%	50.0%	8.6%	43.6%	43.6%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.7	23.3	23.3	5.1	15.9	15.9	13.6	61.0	61.0	5.4	46.4	46.4
Actuated g/C Ratio	0.09	0.23	0.23	0.05	0.15	0.15	0.13	0.59	0.59	0.05	0.45	0.45
v/c Ratio	0.96	0.35	0.76	0.20	0.11	0.17	0.96	0.43	0.00	0.22	0.95	0.20
Control Delay	110.9	35.6	26.6	57.4	37.6	1.0	97.5	14.7	0.0	57.3	37.6	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.9	35.6	26.6	57.4	37.6	1.0	97.5	14.7	0.0	57.3	37.6	5.9
LOS	F	D	C	E	D	A	F	B	A	E	D	A
Approach Delay		47.6			19.8			24.7			36.0	
Approach LOS		D			B			C			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.7
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 33.4
 Intersection LOS: C
 Intersection Capacity Utilization 76.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (veh/h)	148	137	367	16	30	60	207	1504	4	19	2532	148
Future Volume (veh/h)	148	137	367	16	30	60	207	1504	4	19	2532	148
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	161	149	328	17	33	55	225	1635	4	21	2752	136
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	438	371	33	307	260	224	3437	847	39	2767	682
Arrive On Green	0.09	0.23	0.23	0.02	0.16	0.16	0.13	0.53	0.53	0.02	0.43	0.43
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	6434	1585	1781	6434	1585
Grp Volume(v), veh/h	161	149	328	17	33	55	225	1635	4	21	2752	136
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1609	1585	1781	1609	1585
Q Serve(g_s), s	9.4	7.1	21.3	1.0	1.6	3.2	13.4	16.9	0.1	1.2	45.4	5.7
Cycle Q Clear(g_c), s	9.4	7.1	21.3	1.0	1.6	3.2	13.4	16.9	0.1	1.2	45.4	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	157	438	371	33	307	260	224	3437	847	39	2767	682
V/C Ratio(X)	1.02	0.34	0.88	0.51	0.11	0.21	1.00	0.48	0.00	0.54	0.99	0.20
Avail Cap(c_a), veh/h	157	622	527	84	544	461	224	3437	847	95	2767	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	33.9	39.4	51.8	37.9	38.5	46.5	15.5	11.6	51.6	30.2	18.9
Incr Delay (d2), s/veh	78.2	0.5	12.3	4.5	0.2	0.4	61.1	0.5	0.0	4.3	15.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	3.3	9.4	0.5	0.7	1.3	9.4	5.5	0.0	0.6	18.5	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	126.8	34.4	51.7	56.3	38.0	38.9	107.6	16.0	11.6	55.9	46.1	19.6
LnGrp LOS	F	C	D	E	D	D	F	B	B	E	D	B
Approach Vol, veh/h		638			105			1864			2909	
Approach Delay, s/veh		66.6			41.5			27.0			44.9	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	63.4	6.6	29.6	18.0	52.3	14.0	22.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.7	53.5	5.0	* 35	13.4	45.8	9.4	* 31				
Max Q Clear Time (g_c+I1), s	3.2	18.9	3.0	23.3	15.4	47.4	11.4	5.2				
Green Ext Time (p_c), s	0.0	13.9	0.0	1.6	0.0	0.0	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	41.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

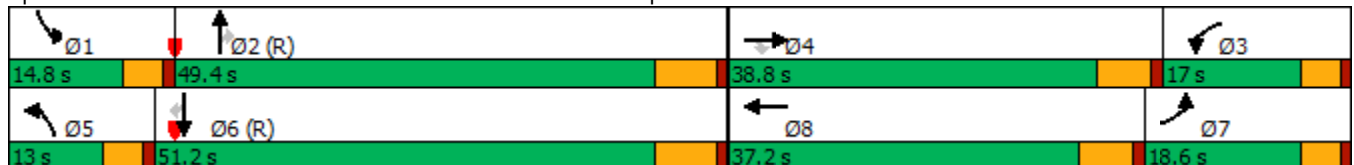


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑	↔↔	↔↔	↔↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	297	297	797	538	552	330	1839	217	145	3207	386
Future Volume (vph)	297	297	797	538	552	330	1839	217	145	3207	386
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.8	38.8	9.6	15.8	9.6	36.5	36.5	9.6	38.5	38.5
Total Split (s)	18.6	38.8	38.8	17.0	37.2	13.0	49.4	49.4	14.8	51.2	51.2
Total Split (%)	15.5%	32.3%	32.3%	14.2%	31.0%	10.8%	41.2%	41.2%	12.3%	42.7%	42.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	0.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	6.5	3.6	5.5	6.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	16.6	30.8	29.8	16.6	30.8	9.4	45.0	44.0	10.1	45.7	44.7
Actuated g/C Ratio	0.14	0.26	0.25	0.14	0.26	0.08	0.38	0.37	0.08	0.38	0.37
v/c Ratio	0.65	0.67	0.86	1.18	0.84	1.28	0.71	0.32	0.53	1.22	0.63
Control Delay	56.5	47.0	38.0	145.1	49.1	183.5	39.2	11.5	59.1	134.3	26.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	47.0	38.0	145.1	49.1	183.5	39.2	11.5	59.1	134.3	26.7
LOS	E	D	D	F	D	F	D	B	E	F	C
Approach Delay		43.9			89.3		56.7			120.2	
Approach LOS		D			F		E			F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 13 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.28
 Intersection Signal Delay: 86.4
 Intersection LOS: F
 Intersection Capacity Utilization 102.5%
 ICU Level of Service G
 Analysis Period (min) 15































Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)

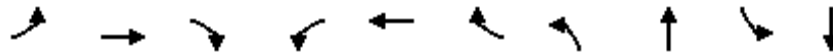
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 	 	 		 	  		 		
Traffic Volume (veh/h)	297	297	797	538	552	192	330	1839	217	145	3207	386
Future Volume (veh/h)	297	297	797	538	552	192	330	1839	217	145	3207	386
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	319	319	400	578	594	115	355	1977	142	156	3448	393
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	392	630	486	708	137	279	3293	684	242	3215	668
Arrive On Green	0.11	0.21	0.20	0.20	0.23	0.22	0.16	0.66	0.86	0.07	0.64	0.42
Sat Flow, veh/h	3563	1870	3129	3563	3039	587	3563	7481	1585	3563	7481	1585
Grp Volume(v), veh/h	319	319	400	578	365	344	355	1977	142	156	3448	393
Grp Sat Flow(s),veh/h/ln	1781	1870	1564	1781	1870	1756	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	10.5	19.5	11.3	16.4	22.3	22.5	9.4	17.9	1.1	5.1	51.6	15.1
Cycle Q Clear(g_c), s	10.5	19.5	11.3	16.4	22.3	22.5	9.4	17.9	1.1	5.1	51.6	15.1
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	403	392	630	486	436	409	279	3293	684	242	3215	668
V/C Ratio(X)	0.79	0.81	0.64	1.19	0.84	0.84	1.27	0.60	0.21	0.64	1.07	0.59
Avail Cap(c_a), veh/h	445	530	860	486	505	474	279	3293	684	333	3215	668
HCM Platoon Ratio	1.00	1.00	1.00	1.50	1.00	1.00	2.00	1.50	2.00	1.00	1.50	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.28	0.28	0.28	0.27	0.27	0.27
Uniform Delay (d), s/veh	51.8	45.2	28.4	47.7	43.9	44.1	50.6	14.4	1.8	54.5	21.3	11.6
Incr Delay (d2), s/veh	0.7	0.7	0.1	103.9	10.5	11.4	130.4	0.2	0.2	0.3	34.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	8.8	4.2	13.8	11.6	11.0	8.7	5.3	0.6	2.2	21.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	45.9	28.5	151.6	54.4	55.5	181.0	14.7	2.0	54.8	56.1	12.6
LnGrp LOS	D	D	C	F	D	E	F	B	A	D	F	B
Approach Vol, veh/h		1038			1287			2474			3997	
Approach Delay, s/veh		41.2			98.3			37.8			51.8	
Approach LOS		D			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	58.3	20.0	30.0	13.0	57.1	17.2	32.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	10.2	42.9	12.4	33.0	8.4	44.7	14.0	31.4				
Max Q Clear Time (g_c+I1), s	7.1	19.9	18.4	21.5	11.4	53.6	12.5	24.5				
Green Ext Time (p_c), s	0.1	14.9	0.0	2.7	0.0	0.0	0.1	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			53.4									
HCM 6th LOS			D									

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)

06/24/2021

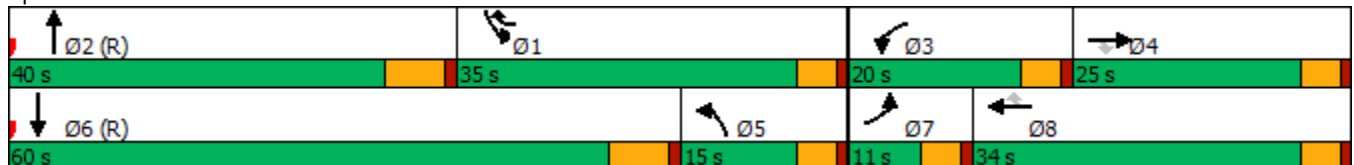


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↔	↔↔	↑↑↔
Traffic Volume (vph)	147	257	630	481	357	639	614	1600	993	3331
Future Volume (vph)	147	257	630	481	357	639	614	1600	993	3331
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.5	14.6	14.6	14.6	30.6	9.6	9.6	38.5	9.6	16.5
Total Split (s)	11.0	25.0	25.0	20.0	34.0	35.0	15.0	40.0	35.0	60.0
Total Split (%)	9.2%	20.8%	20.8%	16.7%	28.3%	29.2%	12.5%	33.3%	29.2%	50.0%
Yellow Time (s)	3.5	3.6	3.6	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.6	4.6	4.6	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	6.5	20.4	20.4	15.4	29.4	59.8	10.4	33.5	30.4	53.5
Actuated g/C Ratio	0.05	0.17	0.17	0.13	0.24	0.50	0.09	0.28	0.25	0.45
v/c Ratio	0.81	0.43	1.48	1.11	0.41	0.82	2.11	0.96	1.17	1.13
Control Delay	86.4	47.0	254.1	125.0	39.7	24.5	538.2	54.6	109.2	78.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.4	47.0	254.1	125.0	39.7	24.5	538.2	54.6	109.2	78.2
LOS	F	D	F	F	D	C	F	D	F	E
Approach Delay		178.7			60.9			173.5		85.0
Approach LOS		F			E			F		F

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 25 (21%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.11
 Intersection Signal Delay: 114.5
 Intersection Capacity Utilization 117.7%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 		
Traffic Volume (veh/h)	147	257	630	481	357	639	614	1600	282	993	3331	219
Future Volume (veh/h)	147	257	630	481	357	639	614	1600	282	993	3331	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	271	110	506	376	647	646	1684	134	1045	3506	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	193	371	157	457	652	799	561	1869	149	1176	3296	34
Arrive On Green	0.05	0.10	0.10	0.13	0.17	0.17	0.16	0.41	0.27	0.66	0.67	0.89
Sat Flow, veh/h	3563	3741	1585	3563	3741	1585	3563	6839	544	3563	7392	76
Grp Volume(v), veh/h	155	271	110	506	376	647	646	1382	436	1045	2658	884
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1772	1781	1870	1857
Q Serve(g_s), s	5.2	8.4	6.0	15.4	11.1	7.6	18.9	27.6	27.9	29.0	53.5	53.5
Cycle Q Clear(g_c), s	5.2	8.4	6.0	15.4	11.1	7.6	18.9	27.6	27.9	29.0	53.5	53.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.31	1.00		0.04
Lane Grp Cap(c), veh/h	193	371	157	457	652	799	561	1533	484	1176	2502	828
V/C Ratio(X)	0.80	0.73	0.70	1.11	0.58	0.81	1.15	0.90	0.90	0.89	1.06	1.07
Avail Cap(c_a), veh/h	193	636	269	457	916	911	561	1566	495	1176	2502	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	2.00	1.50	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.40	0.40	0.40	0.09	0.09	0.09
Uniform Delay (d), s/veh	56.1	52.5	28.7	52.3	45.5	11.7	50.6	33.9	36.4	18.6	19.9	19.3
Incr Delay (d2), s/veh	19.8	2.8	5.5	74.4	0.8	4.9	76.9	3.9	10.9	0.9	29.2	33.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	4.1	3.4	11.6	5.2	9.8	14.0	10.5	11.7	5.8	19.4	19.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.0	55.3	34.2	126.7	46.3	16.7	127.4	37.8	47.3	19.5	49.1	52.7
LnGrp LOS	E	E	C	F	D	B	F	D	D	B	F	F
Approach Vol, veh/h		536			1529			2464			4587	
Approach Delay, s/veh		56.9			60.4			63.0			43.0	
Approach LOS		E			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	44.2	39.3	20.0	16.5	23.5	60.0	11.0	25.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	4.6	4.6	6.5	4.5	4.6				
Max Green Setting (Gmax), s	30.4	33.5	15.4	20.4	10.4	53.5	6.5	29.4				
Max Q Clear Time (g_c+1), s	31.0	29.9	17.4	10.4	20.9	55.5	7.2	13.1				
Green Ext Time (p_c), s	0.0	2.9	0.0	1.5	0.0	0.0	0.0	4.8				
Intersection Summary												
HCM 6th Ctrl Delay			52.1									
HCM 6th LOS			D									

Timings
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021

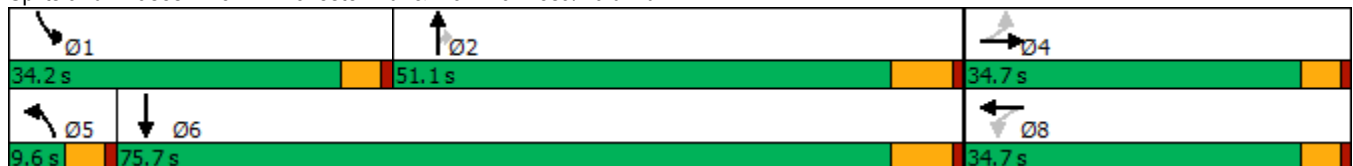


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖↗	↖	↖	↑↑↑↑	↖	↖↗	↑↑↑↑
Traffic Volume (vph)	387	81	393	56	47	1996	390	407	3723
Future Volume (vph)	387	81	393	56	47	1996	390	407	3723
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	34.7	34.7	34.7	34.7	9.6	51.1	51.1	34.2	75.7
Total Split (%)	28.9%	28.9%	28.9%	28.9%	8.0%	42.6%	42.6%	28.5%	63.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	28.4	28.4	28.4	28.4	5.0	44.6	44.6	29.6	69.2
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.04	0.38	0.38	0.25	0.58
v/c Ratio	0.87	0.42	0.92	0.38	0.65	0.85	0.52	0.49	1.12
Control Delay	63.2	30.7	71.3	22.3	93.8	38.4	10.7	40.6	84.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	30.7	71.3	22.3	93.8	38.4	10.7	40.6	84.4
LOS	E	C	E	C	F	D	B	D	F
Approach Delay		52.8		56.4		35.0			80.4
Approach LOS		D		E		D			F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.4
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.12
 Intersection Signal Delay: 63.0
 Intersection LOS: E
 Intersection Capacity Utilization 102.1%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)

06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔↔	↔		↔	↑↑↑↑	↔	↔↔	↑↑↑↑	
Traffic Volume (veh/h)	387	81	101	393	56	114	47	1996	390	407	3723	311
Future Volume (veh/h)	387	81	101	393	56	114	47	1996	390	407	3723	311
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	399	84	93	405	58	113	48	2058	328	420	3838	166
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	508	201	223	501	142	276	74	2391	589	852	3674	155
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.37	0.37	0.25	0.58	0.58
Sat Flow, veh/h	2355	805	891	2342	567	1105	1781	6434	1585	3456	6371	269
Grp Volume(v), veh/h	399	0	177	405	0	171	48	2058	328	420	2886	1118
Grp Sat Flow(s),veh/h/ln	1178	0	1696	1171	0	1672	1781	1609	1585	1728	1609	1815
Q Serve(g_s), s	19.7	0.0	10.5	19.5	0.0	10.3	3.2	35.5	19.7	12.5	69.2	69.2
Cycle Q Clear(g_c), s	30.0	0.0	10.5	30.0	0.0	10.3	3.2	35.5	19.7	12.5	69.2	69.2
Prop In Lane	1.00		0.53	1.00		0.66	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	508	0	424	501	0	418	74	2391	589	852	2783	1047
V/C Ratio(X)	0.79	0.00	0.42	0.81	0.00	0.41	0.65	0.86	0.56	0.49	1.04	1.07
Avail Cap(c_a), veh/h	508	0	424	501	0	418	74	2391	589	852	2783	1047
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	0.0	37.7	50.8	0.0	37.6	56.6	34.8	29.9	38.8	25.4	25.4
Incr Delay (d2), s/veh	7.4	0.0	0.2	9.6	0.0	0.6	36.2	3.4	1.2	2.0	27.6	48.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.0	4.4	6.8	0.0	4.3	2.1	13.4	7.2	5.3	29.3	39.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	0.0	37.9	60.4	0.0	38.2	92.8	38.3	31.0	40.8	53.0	73.4
LnGrp LOS	E	A	D	E	A	D	F	D	C	D	F	F
Approach Vol, veh/h		576			576			2434			4424	
Approach Delay, s/veh		51.7			53.8			38.4			57.0	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.2	51.1		34.7	9.6	75.7		34.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	29.6	44.6		* 30	5.0	69.2		* 30				
Max Q Clear Time (g_c+I1), s	14.5	37.5		32.0	5.2	71.2		32.0				
Green Ext Time (p_c), s	0.7	6.1		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	50.7
HCM 6th LOS	D

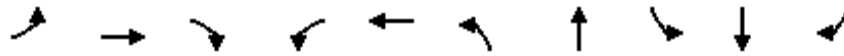
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	161	9	248	77	6	174	1858	24	3668	112
Future Volume (vph)	161	9	248	77	6	174	1858	24	3668	112
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	15.0	72.8	10.5	68.3	68.3
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	12.5%	60.7%	8.8%	56.9%	56.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	19.2	19.2	19.2		19.2	10.4	71.0	5.6	62.0	62.0
Actuated g/C Ratio	0.18	0.18	0.18		0.18	0.10	0.66	0.05	0.58	0.58
v/c Ratio	0.70	0.03	0.72		0.39	1.06	0.51	0.27	1.03	0.12
Control Delay	56.7	34.7	37.1		40.4	132.9	11.3	59.2	48.3	4.4
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	34.7	37.1		40.4	132.9	11.3	59.2	48.3	4.4
LOS	E	C	D		D	F	B	E	D	A
Approach Delay		44.6			40.4		20.8		47.1	
Approach LOS		D			D		C		D	

Intersection Summary

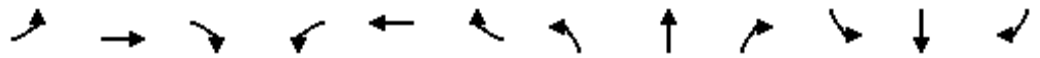
Cycle Length: 120
 Actuated Cycle Length: 107.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 37.9
 Intersection LOS: D
 Intersection Capacity Utilization 90.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	9	248	77	6	12	174	1858	191	24	3668	112
Future Volume (veh/h)	161	9	248	77	6	12	174	1858	191	24	3668	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	9	191	80	6	10	181	1935	192	25	3821	108
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	275	233	212	17	19	180	4047	401	44	3855	950
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.10	0.68	0.68	0.02	0.60	0.60
Sat Flow, veh/h	1397	1870	1585	1007	119	131	1781	5994	595	1781	6434	1585
Grp Volume(v), veh/h	168	9	191	96	0	0	181	1558	569	25	3821	108
Grp Sat Flow(s),veh/h/ln	1397	1870	1585	1257	0	0	1781	1609	1763	1781	1609	1585
Q Serve(g_s), s	3.6	0.4	12.1	6.8	0.0	0.0	10.4	16.0	16.0	1.4	60.5	3.0
Cycle Q Clear(g_c), s	10.8	0.4	12.1	7.2	0.0	0.0	10.4	16.0	16.0	1.4	60.5	3.0
Prop In Lane	1.00		1.00	0.83		0.10	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	289	275	233	249	0	0	180	3258	1191	44	3855	950
V/C Ratio(X)	0.58	0.03	0.82	0.39	0.00	0.00	1.01	0.48	0.48	0.57	0.99	0.11
Avail Cap(c_a), veh/h	518	580	492	452	0	0	180	3258	1191	102	3855	950
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	37.7	42.7	40.5	0.0	0.0	46.4	8.0	8.0	49.7	20.4	8.9
Incr Delay (d2), s/veh	1.8	0.0	7.0	1.0	0.0	0.0	69.2	0.1	0.3	4.2	12.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.2	5.1	2.3	0.0	0.0	7.8	4.1	4.6	0.7	20.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	37.8	49.7	41.5	0.0	0.0	115.6	8.1	8.3	53.9	32.9	8.9
LnGrp LOS	D	D	D	D	A	A	F	A	A	D	C	A
Approach Vol, veh/h		368			96			2308			3954	
Approach Delay, s/veh		46.7			41.5			16.6			32.4	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	76.1		19.8	15.0	68.3		19.8				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.9	66.3		* 32	10.4	61.8		* 32				
Max Q Clear Time (g_c+I1), s	3.4	18.0		14.1	12.4	62.5		9.2				
Green Ext Time (p_c), s	0.0	21.7		1.1	0.0	0.0		0.5				

Intersection Summary

HCM 6th Ctrl Delay	27.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

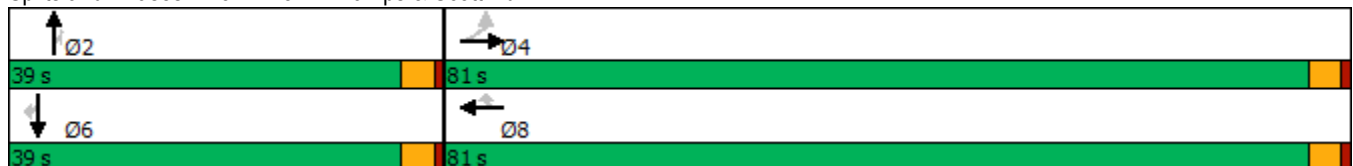


Lane Group	EBL	EBT	WBT	WBR	NBR	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	302	2705	1814	1207	1268	0	849
Future Volume (vph)	302	2705	1814	1207	1268	0	849
Turn Type	Perm	NA	NA	Perm	Perm	NA	Perm
Protected Phases		4	8			6	
Permitted Phases	4			8	2		6
Detector Phase	4	4	8	8	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	9.0	26.0	26.0	9.0	9.0	9.0
Total Split (s)	81.0	81.0	81.0	81.0	39.0	39.0	39.0
Total Split (%)	67.5%	67.5%	67.5%	67.5%	32.5%	32.5%	32.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None
Act Effct Green (s)	77.0	77.0	77.0	77.0	35.0	35.0	35.0
Actuated g/C Ratio	0.64	0.64	0.64	0.64	0.29	0.29	0.29
v/c Ratio	2.59	0.68	0.66	0.59	1.60	0.97	0.96
Control Delay	757.3	14.7	13.5	3.3	304.4	75.4	74.9
Queue Delay	0.0	3.2	36.4	1.8	0.0	0.0	0.0
Total Delay	757.3	17.9	49.9	5.0	304.4	75.4	74.9
LOS	F	B	D	A	F	E	E
Approach Delay		92.0	40.9			75.1	
Approach LOS		F	D			E	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.59	
Intersection Signal Delay: 104.4	Intersection LOS: F
Intersection Capacity Utilization 90.2%	ICU Level of Service E
Analysis Period (min) 15	



























Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  				 			
Traffic Volume (veh/h)	302	2705	0	0	1814	1207	0	0	1268	0	0	849
Future Volume (veh/h)	302	2705	0	0	1814	1207	0	0	1268	0	0	849
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	311	2789	0	0	2307	540	0	0	895	0	0	634
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	2	0	2	2
Cap, veh/h	207	4129	0	0	4801	1017	0	546	814	0	546	925
Arrive On Green	0.64	0.64	0.00	0.00	0.64	0.64	0.00	0.00	0.29	0.00	0.00	0.29
Sat Flow, veh/h	180	6696	0	0	7481	1585	0	1870	2790	0	1870	3170
Grp Volume(v), veh/h	311	2789	0	0	2307	540	0	0	895	0	0	634
Grp Sat Flow(s),veh/h/ln	90	1609	0	0	1870	1585	0	1870	1395	0	1870	1585
Q Serve(g_s), s	57.8	32.9	0.0	0.0	19.2	22.2	0.0	0.0	35.0	0.0	0.0	21.2
Cycle Q Clear(g_c), s	77.0	32.9	0.0	0.0	19.2	22.2	0.0	0.0	35.0	0.0	0.0	21.2
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	207	4129	0	0	4801	1017	0	546	814	0	546	925
V/C Ratio(X)	1.51	0.68	0.00	0.00	0.48	0.53	0.00	0.00	1.10	0.00	0.00	0.69
Avail Cap(c_a), veh/h	207	4129	0	0	4801	1017	0	546	814	0	546	925
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	47.9	13.6	0.0	0.0	11.1	11.7	0.0	0.0	42.5	0.0	0.0	37.6
Incr Delay (d2), s/veh	250.9	0.4	0.0	0.0	0.1	0.5	0.0	0.0	62.5	0.0	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	10.4	0.0	0.0	7.0	7.0	0.0	0.0	18.6	0.0	0.0	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	298.8	14.0	0.0	0.0	11.2	12.2	0.0	0.0	105.0	0.0	0.0	39.8
LnGrp LOS	F	B	A	A	B	B	A	A	F	A	A	D
Approach Vol, veh/h		3100			2847			895				634
Approach Delay, s/veh		42.6			11.4			105.0				39.8
Approach LOS		D			B			F				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.0		81.0		39.0		81.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		35.0		77.0		35.0		77.0				
Max Q Clear Time (g_c+I1), s		37.0		79.0		23.2		24.2				
Green Ext Time (p_c), s		0.0		0.0		2.1		36.0				

Intersection Summary

HCM 6th Ctrl Delay	38.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)

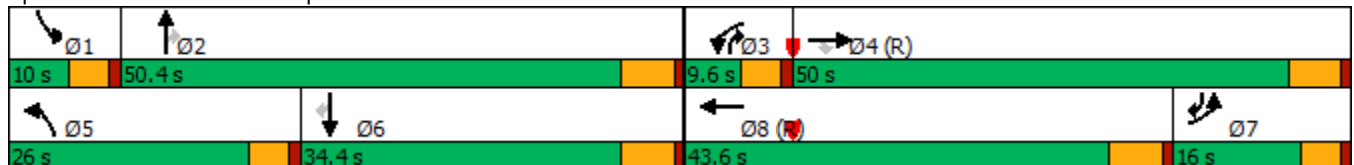
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	625	2791	557	120	1992	673	260	231	168	151	355	
Future Volume (vph)	625	2791	557	120	1992	673	260	231	168	151	355	
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	
Protected Phases	7	4		3	8	5	2	3	1	6	7	
Permitted Phases			4					2			6	
Detector Phase	7	4	4	3	8	5	2	3	1	6	7	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	9.6	34.8	34.8	9.6	37.8	9.6	47.8	9.6	9.6	15.8	9.6	
Total Split (s)	16.0	50.0	50.0	9.6	43.6	26.0	50.4	9.6	10.0	34.4	16.0	
Total Split (%)	13.3%	41.7%	41.7%	8.0%	36.3%	21.7%	42.0%	8.0%	8.3%	28.7%	13.3%	
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	4.6	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None	None	None	
Act Effct Green (s)	11.4	57.2	57.2	9.4	55.2	21.4	27.2	42.4	5.4	11.2	23.8	
Actuated g/C Ratio	0.10	0.48	0.48	0.08	0.46	0.18	0.23	0.35	0.04	0.09	0.20	
v/c Ratio	1.94	1.09	0.40	0.46	0.76	1.11	0.34	0.38	1.14	0.47	0.55	
Control Delay	462.1	79.4	12.4	53.1	48.2	115.6	39.9	15.3	164.6	56.3	17.4	
Queue Delay	0.0	4.2	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	462.1	83.6	13.4	53.1	48.2	115.6	39.9	15.3	164.6	56.3	17.4	
LOS	F	F	B	D	D	F	D	B	F	E	B	
Approach Delay		133.3			48.5		78.8			62.8		
Approach LOS		F			D		E			E		

Intersection Summary




































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 70 (58%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.94
 Intersection Signal Delay: 95.8
 Intersection LOS: F
 Intersection Capacity Utilization 103.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 5: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
5: Antelope Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  	 	 	  		 	 		 	 	 
Traffic Volume (veh/h)	625	2791	557	120	1992	145	673	260	231	168	151	355
Future Volume (veh/h)	625	2791	557	120	1992	145	673	260	231	168	151	355
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	651	2907	371	125	2075	143	701	271	149	175	157	251
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	855	2936	1460	144	1951	134	635	770	409	156	296	899
Arrive On Green	0.24	0.52	0.52	0.08	0.63	0.63	0.18	0.22	0.22	0.05	0.08	0.08
Sat Flow, veh/h	3563	5611	2790	3456	6193	427	3563	3554	1585	3456	3554	2749
Grp Volume(v), veh/h	651	2907	371	125	1617	601	701	271	149	175	157	251
Grp Sat Flow(s),veh/h/ln	1781	1870	1395	1728	1609	1794	1781	1777	1585	1728	1777	1374
Q Serve(g_s), s	20.4	61.5	8.8	4.3	37.8	37.8	21.4	7.8	9.2	5.4	5.1	2.6
Cycle Q Clear(g_c), s	20.4	61.5	8.8	4.3	37.8	37.8	21.4	7.8	9.2	5.4	5.1	2.6
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	855	2936	1460	144	1520	565	635	770	409	156	296	899
V/C Ratio(X)	0.76	0.99	0.25	0.87	1.06	1.06	1.10	0.35	0.36	1.13	0.53	0.28
Avail Cap(c_a), veh/h	855	2936	1460	144	1520	565	635	1321	655	156	847	1325
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.16	0.16	0.16	0.45	0.45	0.45	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	28.3	15.7	54.7	22.2	22.2	49.3	39.9	36.4	57.3	52.7	11.8
Incr Delay (d2), s/veh	0.6	4.7	0.1	20.8	35.7	44.4	67.4	0.3	0.5	109.8	1.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	26.0	2.7	2.2	12.2	14.9	15.2	3.3	3.5	4.7	2.3	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	33.0	15.8	75.4	57.9	66.6	116.7	40.1	37.0	167.1	54.2	12.0
LnGrp LOS	D	C	B	E	F	F	F	D	D	F	D	B
Approach Vol, veh/h		3929			2343			1121				583
Approach Delay, s/veh		33.0			61.1			87.6				69.9
Approach LOS		C			E			F				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	31.8	9.6	68.6	26.0	15.8	34.6	43.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	5.8	* 5.8				
Max Green Setting (Gmax), s	5.4	44.6	5.0	44.2	21.4	28.6	11.4	* 38				
Max Q Clear Time (g_c+I1), s	7.4	11.2	6.3	63.5	23.4	7.1	22.4	39.8				
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	1.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	51.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)

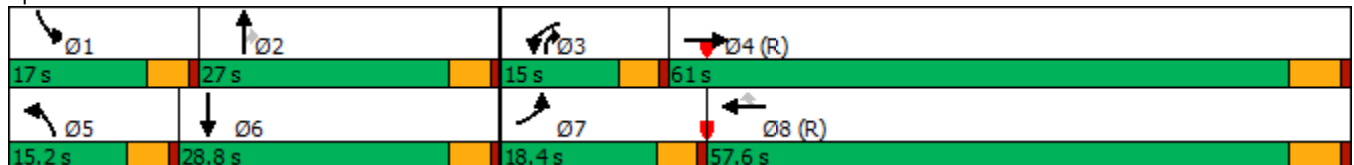
06/24/2021

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	216	2388	332	1956	405	137	680	522	421	340
Future Volume (vph)	216	2388	332	1956	405	137	680	522	421	340
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8		5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	9.6	33.8	9.6	26.8	26.8	9.6	14.7	9.6	9.6	28.7
Total Split (s)	18.4	61.0	15.0	57.6	57.6	15.2	27.0	15.0	17.0	28.8
Total Split (%)	15.3%	50.8%	12.5%	48.0%	48.0%	12.7%	22.5%	12.5%	14.2%	24.0%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.7	3.6	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.7	4.6	4.6	4.7
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	11.8	55.2	10.4	53.8	53.8	10.6	22.3	32.8	12.4	24.1
Actuated g/C Ratio	0.10	0.46	0.09	0.45	0.45	0.09	0.19	0.27	0.10	0.20
v/c Ratio	0.67	1.06	1.14	0.82	0.50	0.92	1.03	1.15	1.21	0.67
Control Delay	51.6	59.5	143.7	32.7	9.5	108.8	91.2	123.9	164.1	46.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	59.5	143.7	32.7	9.5	108.8	91.2	123.9	164.1	46.4
LOS	D	E	F	C	A	F	F	F	F	D
Approach Delay		58.9		42.9			105.7			103.1
Approach LOS		E		D			F			F

Intersection Summary


































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 62.4 (52%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.21
 Intersection Signal Delay: 66.5
 Intersection LOS: E
 Intersection Capacity Utilization 106.7%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	 
Traffic Volume (veh/h)	216	2388	168	332	1956	405	137	680	522	421	340	113
Future Volume (veh/h)	216	2388	168	332	1956	405	137	680	522	421	340	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	227	2514	88	349	2059	294	144	716	391	443	358	77
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	2478	86	309	2607	727	157	695	426	368	584	124
Arrive On Green	0.11	0.61	0.61	0.09	0.46	0.46	0.09	0.19	0.19	0.10	0.20	0.20
Sat Flow, veh/h	3456	5387	187	3563	5611	1565	1781	3741	1555	3563	2908	618
Grp Volume(v), veh/h	227	1739	863	349	2059	294	144	716	391	443	217	218
Grp Sat Flow(s),veh/h/ln	1728	1870	1833	1781	1870	1565	1781	1870	1555	1781	1777	1749
Q Serve(g_s), s	7.7	55.2	55.2	10.4	37.2	14.9	9.6	22.3	22.3	12.4	13.3	13.7
Cycle Q Clear(g_c), s	7.7	55.2	55.2	10.4	37.2	14.9	9.6	22.3	22.3	12.4	13.3	13.7
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	283	1721	843	309	2607	727	157	695	426	368	357	351
V/C Ratio(X)	0.80	1.01	1.02	1.13	0.79	0.40	0.92	1.03	0.92	1.20	0.61	0.62
Avail Cap(c_a), veh/h	397	1721	843	309	2607	727	157	695	426	368	357	351
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.57	0.57	0.57	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	23.3	23.3	54.8	27.2	21.2	54.3	48.8	42.4	53.8	43.7	43.8
Incr Delay (d2), s/veh	0.5	9.4	15.9	79.8	1.5	1.0	46.8	42.0	24.5	114.6	3.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	20.4	21.5	8.0	15.8	5.4	6.4	14.4	13.7	11.4	6.2	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.0	32.7	39.2	134.6	28.6	22.1	101.0	90.9	67.0	168.4	46.6	47.1
LnGrp LOS	D	F	F	F	C	C	F	F	E	F	D	D
Approach Vol, veh/h		2829			2702			1251			878	
Approach Delay, s/veh		36.3			41.6			84.6			108.2	
Approach LOS		D			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	27.0	15.0	61.0	15.2	28.8	14.4	61.6				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	5.8	4.6	* 4.7	4.6	5.8				
Max Green Setting (Gmax), s	12.4	* 22	10.4	55.2	10.6	* 24	13.8	51.8				
Max Q Clear Time (g_c+I1), s	14.4	24.3	12.4	57.2	11.6	15.7	9.7	39.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.7	0.2	10.3				
Intersection Summary												
HCM 6th Ctrl Delay			54.3									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
7: Whitewood Rd. & Clinton Keith Rd.

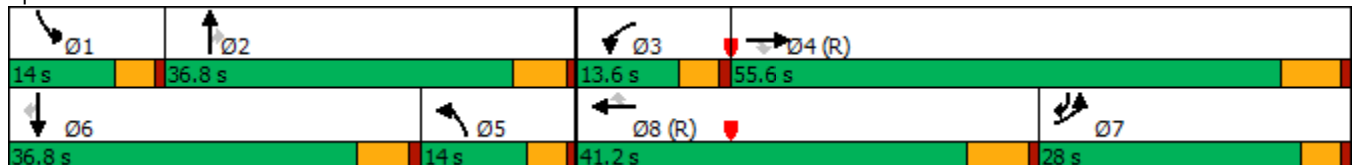
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	852	2118	238	233	1714	381	320	965	252	313	331	718
Future Volume (vph)	852	2118	238	233	1714	381	320	965	252	313	331	718
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0
Minimum Split (s)	9.6	35.5	35.5	9.6	35.5	35.5	9.6	36.8	36.8	9.6	36.8	9.6
Total Split (s)	28.0	55.6	55.6	13.6	41.2	41.2	14.0	36.8	36.8	14.0	36.8	28.0
Total Split (%)	23.3%	46.3%	46.3%	11.3%	34.3%	34.3%	11.7%	30.7%	30.7%	11.7%	30.7%	23.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	4.6
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	23.4	49.1	49.1	9.0	34.7	34.7	23.6	31.0	31.0	9.4	16.8	46.0
Actuated g/C Ratio	0.20	0.41	0.41	0.08	0.29	0.29	0.20	0.26	0.26	0.08	0.14	0.38
v/c Ratio	1.26	0.99	0.32	0.93	1.14	0.66	0.48	1.08	0.48	1.19	0.68	1.07
Control Delay	168.5	53.7	8.1	95.3	110.5	25.0	46.4	95.4	15.6	163.6	56.1	85.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	168.5	53.7	8.1	95.3	110.5	25.0	46.4	95.4	15.6	163.6	56.1	85.4
LOS	F	D	A	F	F	C	D	F	B	F	E	F
Approach Delay		80.8			95.0			72.1			96.2	
Approach LOS		F			F			E			F	

Intersection Summary



































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 80.8 (67%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.26
 Intersection Signal Delay: 85.6
 Intersection LOS: F
 Intersection Capacity Utilization 110.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 7: Whitewood Rd. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
7: Whitewood Rd. & Clinton Keith Rd.

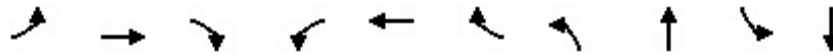
Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	
Traffic Volume (veh/h)	852	2118	238	233	1714	381	320	965	252	313	331	718
Future Volume (veh/h)	852	2118	238	233	1714	381	320	965	252	313	331	718
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	869	2161	228	238	1749	374	327	985	242	319	338	503
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1823	3953	1175	259	1541	458	653	918	409	271	490	1029
Arrive On Green	0.51	0.74	0.74	0.08	0.29	0.29	0.19	0.26	0.26	0.08	0.14	0.14
Sat Flow, veh/h	3563	5331	1585	3456	5331	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	869	2161	228	238	1749	374	327	985	242	319	338	503
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	18.9	21.1	6.0	8.2	34.7	32.3	10.2	31.0	16.0	9.4	10.9	0.0
Cycle Q Clear(g_c), s	18.9	21.1	6.0	8.2	34.7	32.3	10.2	31.0	16.0	9.4	10.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1823	3953	1175	259	1541	458	653	918	409	271	490	1029
V/C Ratio(X)	0.48	0.55	0.19	0.92	1.13	0.82	0.50	1.07	0.59	1.18	0.69	0.49
Avail Cap(c_a), veh/h	1823	3953	1175	259	1541	458	653	918	409	271	918	1220
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	6.7	6.3	55.1	42.7	59.8	43.6	44.5	39.0	55.3	49.3	10.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	5.2	61.5	1.5	0.2	51.3	2.3	111.8	1.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	5.6	1.3	3.6	23.0	12.5	4.3	19.6	6.2	8.2	4.8	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	6.8	6.3	60.4	104.1	61.3	43.8	95.8	41.2	167.1	51.0	11.2
LnGrp LOS	B	A	A	E	F	E	D	F	D	F	D	B
Approach Vol, veh/h		3258			2361			1554			1160	
Approach Delay, s/veh		10.0			92.9			76.4			65.7	
Approach LOS		A			F			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	36.8	13.6	95.5	28.5	22.3	67.9	41.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	5.8	* 5.8	6.5	* 6.5				
Max Green Setting (Gmax), s	9.4	31.0	9.0	49.1	9.4	* 31	23.4	* 35				
Max Q Clear Time (g_c+I1), s	11.4	33.0	10.2	23.1	12.2	12.9	20.9	36.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	18.1	0.0	3.7	0.6	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			53.6									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)

09/23/2021

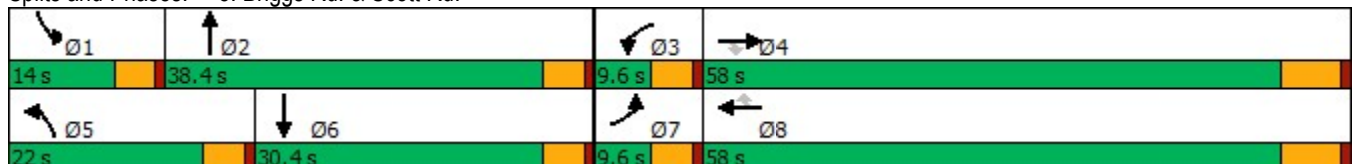


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘↗	↑	↘	↗
Traffic Volume (vph)	26	2676	671	94	2167	174	543	18	231	8
Future Volume (vph)	26	2676	671	94	2167	174	543	18	231	8
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	23.5	9.6	29.5	29.5	9.6	35.7	9.6	28.7
Total Split (s)	9.6	58.0	58.0	9.6	58.0	58.0	22.0	38.4	14.0	30.4
Total Split (%)	8.0%	48.3%	48.3%	8.0%	48.3%	48.3%	18.3%	32.0%	11.7%	25.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	4.7	4.6	4.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None
Act Effct Green (s)	5.0	51.6	51.6	5.0	55.6	55.6	20.2	14.7	9.4	10.0
Actuated g/C Ratio	0.05	0.51	0.51	0.05	0.55	0.55	0.20	0.15	0.09	0.10
v/c Ratio	0.31	0.98	0.69	1.13	0.73	0.19	0.82	0.33	1.47	0.21
Control Delay	57.4	37.7	10.7	181.7	20.5	2.7	51.8	15.0	275.2	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	37.7	10.7	181.7	20.5	2.7	51.8	15.0	275.2	21.9
LOS	E	D	B	F	C	A	D	B	F	C
Approach Delay		32.5			25.4			46.2		239.1
Approach LOS		C			C			D		F

Intersection Summary

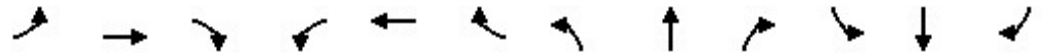
Cycle Length: 120
 Actuated Cycle Length: 101.1
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.47
 Intersection Signal Delay: 39.5
 Intersection LOS: D
 Intersection Capacity Utilization 92.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Keller Crossing (JN:13649)
09/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘↗	↑		↘	↗	
Traffic Volume (veh/h)	26	2676	671	94	2167	174	543	18	80	231	8	31
Future Volume (veh/h)	26	2676	671	94	2167	174	543	18	80	231	8	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	2788	402	98	2257	181	566	19	78	241	8	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	2765	781	85	2888	816	575	56	229	160	54	107
Arrive On Green	0.03	0.49	0.49	0.05	0.51	0.51	0.17	0.17	0.17	0.09	0.10	0.10
Sat Flow, veh/h	1781	5611	1585	1781	5611	1585	3456	320	1314	1781	550	1100
Grp Volume(v), veh/h	27	2788	402	98	2257	181	566	0	97	241	0	24
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	0	1634	1781	0	1650
Q Serve(g_s), s	1.6	51.5	18.0	5.0	34.1	6.5	17.1	0.0	5.4	9.4	0.0	1.4
Cycle Q Clear(g_c), s	1.6	51.5	18.0	5.0	34.1	6.5	17.1	0.0	5.4	9.4	0.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		0.67
Lane Grp Cap(c), veh/h	46	2765	781	85	2888	816	575	0	285	160	0	161
V/C Ratio(X)	0.58	1.01	0.51	1.15	0.78	0.22	0.98	0.00	0.34	1.50	0.00	0.15
Avail Cap(c_a), veh/h	85	2765	781	85	2888	816	575	0	527	160	0	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.3	26.5	18.0	49.8	20.6	13.9	43.4	0.0	37.9	47.6	0.0	43.2
Incr Delay (d2), s/veh	4.3	19.1	0.6	143.6	1.4	0.1	33.3	0.0	0.7	256.5	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	24.4	5.9	5.5	13.1	2.1	9.9	0.0	2.2	15.6	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	45.7	18.6	193.3	22.0	14.0	76.7	0.0	38.6	304.1	0.0	43.6
LnGrp LOS	D	F	B	F	C	B	E	A	D	F	A	D
Approach Vol, veh/h		3217			2536			663				265
Approach Delay, s/veh		42.3			28.1			71.1				280.5
Approach LOS		D			C			E				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	22.9	9.6	58.0	22.0	14.9	7.3	60.3				
Change Period (Y+Rc), s	4.6	* 4.7	4.6	6.5	4.6	* 4.7	4.6	6.5				
Max Green Setting (Gmax), s	9.4	* 34	5.0	51.5	17.4	* 26	5.0	51.5				
Max Q Clear Time (g_c+I1), s	11.4	7.4	7.0	53.5	19.1	3.4	3.6	36.1				
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.0	0.1	0.0	12.4				

Intersection Summary

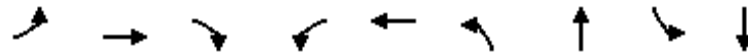
HCM 6th Ctrl Delay	49.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)
06/24/2021

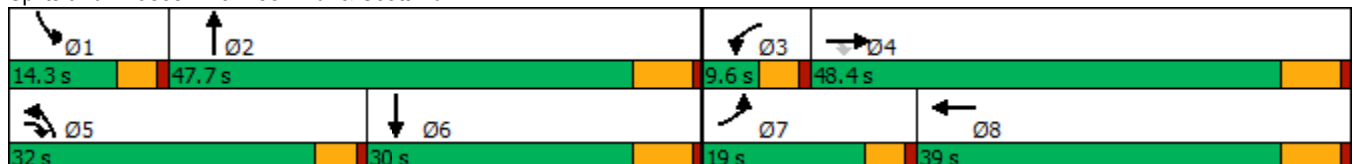


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↘↗	↑↗	↘	↑↗
Traffic Volume (vph)	228	1698	1007	19	1382	835	109	57	90
Future Volume (vph)	228	1698	1007	19	1382	835	109	57	90
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	28.5	9.6	9.6	28.5	9.6	28.2	9.6	28.2
Total Split (s)	19.0	48.4	32.0	9.6	39.0	32.0	47.7	14.3	30.0
Total Split (%)	15.8%	40.3%	26.7%	8.0%	32.5%	26.7%	39.8%	11.9%	25.0%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None	None
Act Effct Green (s)	14.4	47.7	81.6	5.0	32.5	27.4	32.1	7.7	10.5
Actuated g/C Ratio	0.13	0.45	0.76	0.05	0.30	0.26	0.30	0.07	0.10
v/c Ratio	1.02	0.79	0.79	0.24	1.01	1.01	0.13	0.48	0.53
Control Delay	109.9	29.6	9.2	56.7	62.6	72.5	25.1	59.6	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.9	29.6	9.2	56.7	62.6	72.5	25.1	59.6	23.9
LOS	F	C	A	E	E	E	C	E	C
Approach Delay		28.8			62.5		66.1		31.3
Approach LOS		C			E		E		C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 106.7
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 44.1
 Intersection LOS: D
 Intersection Capacity Utilization 91.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 9: Leon Rd. & Scott Rd.



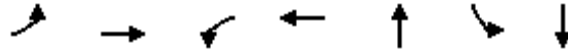
HCM 6th Signalized Intersection Summary
 9: Leon Rd. & Scott Rd.

Keller Crossing (JN:13649)
 06/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	228	1698	1007	19	1382	81	835	109	20	57	90	129
Future Volume (veh/h)	228	1698	1007	19	1382	81	835	109	20	57	90	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	243	1806	805	20	1470	65	888	116	16	61	96	89
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	2148	1076	37	1534	68	892	969	131	79	172	145
Arrive On Green	0.14	0.42	0.42	0.02	0.31	0.31	0.26	0.31	0.31	0.04	0.09	0.09
Sat Flow, veh/h	1781	5106	1585	1781	5013	222	3456	3144	426	1781	1832	1538
Grp Volume(v), veh/h	243	1806	805	20	998	537	888	65	67	61	93	92
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1830	1728	1777	1794	1781	1777	1593
Q Serve(g_s), s	14.4	33.7	35.2	1.2	30.6	30.6	27.3	2.8	2.9	3.6	5.3	5.9
Cycle Q Clear(g_c), s	14.4	33.7	35.2	1.2	30.6	30.6	27.3	2.8	2.9	3.6	5.3	5.9
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.24	1.00		0.97
Lane Grp Cap(c), veh/h	242	2148	1076	37	1042	560	892	547	553	79	167	150
V/C Ratio(X)	1.01	0.84	0.75	0.54	0.96	0.96	1.00	0.12	0.12	0.78	0.55	0.61
Avail Cap(c_a), veh/h	242	2148	1076	84	1042	560	892	694	701	163	398	357
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	27.6	11.1	51.5	36.2	36.2	39.3	26.4	26.4	50.2	46.0	46.2
Incr Delay (d2), s/veh	59.5	3.2	2.9	4.4	18.6	27.8	29.1	0.1	0.1	6.0	2.9	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	12.8	9.8	0.5	14.3	16.8	14.4	1.1	1.2	1.7	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	105.4	30.8	14.1	55.8	54.8	64.0	68.4	26.5	26.5	56.2	48.8	50.3
LnGrp LOS	F	C	B	E	D	E	E	C	C	E	D	D
Approach Vol, veh/h		2854			1555			1020			246	
Approach Delay, s/veh		32.4			58.0			63.0			51.2	
Approach LOS		C			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	38.9	6.8	51.2	32.0	16.2	19.0	39.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5				
Max Green Setting (Gmax), s	9.7	41.5	5.0	41.9	27.4	23.8	14.4	32.5				
Max Q Clear Time (g_c+1), s	5.6	4.9	3.2	37.2	29.3	7.9	16.4	32.6				
Green Ext Time (p_c), s	0.0	0.6	0.0	4.2	0.0	0.7	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			45.7									
HCM 6th LOS			D									

Timings
10: Leon Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

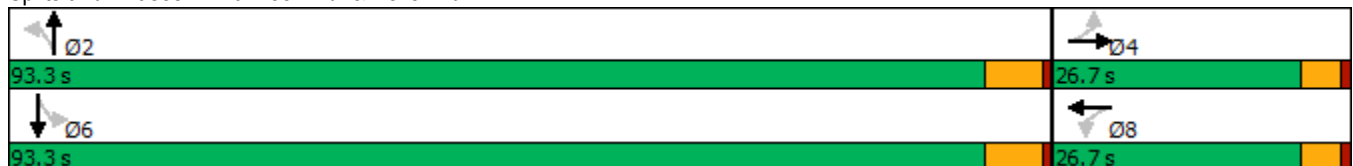


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations		↕		↕	↕	↕	↕
Traffic Volume (vph)	7	5	74	3	855	356	740
Future Volume (vph)	7	5	74	3	855	356	740
Turn Type	Perm	NA	Perm	NA	NA	Perm	NA
Protected Phases		4		8	2		6
Permitted Phases	4		8			6	
Detector Phase	4	4	8	8	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	26.7	26.7	26.7	26.7	28.2	28.2	28.2
Total Split (s)	26.7	26.7	26.7	26.7	93.3	93.3	93.3
Total Split (%)	22.3%	22.3%	22.3%	22.3%	77.8%	77.8%	77.8%
Yellow Time (s)	3.7	3.7	3.7	3.7	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7		4.7	6.2	6.2	6.2
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min
Act Effect Green (s)		21.1		21.1	87.1	87.1	87.1
Actuated g/C Ratio		0.18		0.18	0.73	0.73	0.73
v/c Ratio		0.13		0.95	0.41	1.13	0.31
Control Delay		24.0		68.1	6.6	111.1	6.0
Queue Delay		0.0		0.0	0.0	0.0	0.0
Total Delay		24.0		68.1	6.6	111.1	6.0
LOS		C		E	A	F	A
Approach Delay		24.0		68.1	6.6		40.2
Approach LOS		C		E	A		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.1
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 30.3
 Intersection Capacity Utilization 86.4%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 10: Leon Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
10: Leon Rd. & Keller Rd.

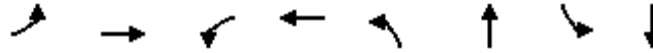
Keller Crossing (JN:13649)
06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↔		↕	↕↔	
Traffic Volume (veh/h)	7	5	18	74	3	241	0	855	103	356	740	0
Future Volume (veh/h)	7	5	18	74	3	241	0	855	103	356	740	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	5	20	80	3	262	0	929	112	387	804	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	59	153	95	10	216	60	2318	279	392	2579	0
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.73	0.73	0.73	0.73	0.00
Sat Flow, veh/h	223	319	835	316	56	1176	677	3193	385	542	3647	0
Grp Volume(v), veh/h	33	0	0	345	0	0	0	517	524	387	804	0
Grp Sat Flow(s),veh/h/ln	1378	0	0	1548	0	0	677	1777	1801	542	1777	0
Q Serve(g_s), s	0.0	0.0	0.0	19.5	0.0	0.0	0.0	13.5	13.5	73.6	9.6	0.0
Cycle Q Clear(g_c), s	2.0	0.0	0.0	22.0	0.0	0.0	0.0	13.5	13.5	87.1	9.6	0.0
Prop In Lane	0.24		0.61	0.23		0.76	1.00		0.21	1.00		0.00
Lane Grp Cap(c), veh/h	290	0	0	321	0	0	60	1290	1307	392	2579	0
V/C Ratio(X)	0.11	0.00	0.00	1.08	0.00	0.00	0.00	0.40	0.40	0.99	0.31	0.00
Avail Cap(c_a), veh/h	290	0	0	321	0	0	60	1290	1307	392	2579	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.8	0.0	0.0	50.2	0.0	0.0	0.0	6.4	6.4	28.4	5.8	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	71.8	0.0	0.0	0.0	0.2	0.2	41.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	16.2	0.0	0.0	0.0	4.0	4.0	16.0	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.0	0.0	0.0	122.0	0.0	0.0	0.0	6.6	6.6	70.0	5.9	0.0
LnGrp LOS	D	A	A	F	A	A	A	A	A	E	A	A
Approach Vol, veh/h		33			345			1041			1191	
Approach Delay, s/veh		41.0			122.0			6.6			26.7	
Approach LOS		D			F			A			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		93.3		26.7		93.3		26.7				
Change Period (Y+Rc), s		6.2		* 4.7		6.2		* 4.7				
Max Green Setting (Gmax), s		87.1		* 22		87.1		* 22				
Max Q Clear Time (g_c+I1), s		15.5		4.0		89.1		24.0				
Green Ext Time (p_c), s		7.3		0.1		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				31.5								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
11: Leon Rd. & Whisper Heights Blvd

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕↕	↗	↖	↗	↖	↗	↕↕
Traffic Volume (vph)	16	29	191	22	7	893	107	765
Future Volume (vph)	16	29	191	22	7	893	107	765
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	21.7	21.7	21.7	21.7	23.2	23.2	23.2	23.2
Total Split (s)	21.7	21.7	21.7	21.7	98.3	98.3	98.3	98.3
Total Split (%)	18.1%	18.1%	18.1%	18.1%	81.9%	81.9%	81.9%	81.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.7	4.7	4.7	6.2	6.2	6.2	6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		17.0	17.0	17.0	92.1	92.1	92.1	92.1
Actuated g/C Ratio		0.14	0.14	0.14	0.77	0.77	0.77	0.77
v/c Ratio		0.24	1.08	0.29	0.02	0.95	1.53	0.33
Control Delay		44.9	134.5	20.8	3.4	27.6	311.9	4.6
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		44.9	134.5	20.8	3.4	27.6	311.9	4.6
LOS		D	F	C	A	C	F	A
Approach Delay		44.9		103.1		27.4		41.1
Approach LOS		D		F		C		D

Intersection Summary





















Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.53
 Intersection Signal Delay: 41.2
 Intersection Capacity Utilization 104.5%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service G

Splits and Phases: 11: Leon Rd. & Whisper Heights Blvd



HCM 6th Signalized Intersection Summary
 11: Leon Rd. & Whisper Heights Blvd

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	29	6	191	22	51	7	893	291	107	765	31
Future Volume (veh/h)	16	29	6	191	22	51	7	893	291	107	765	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	32	7	212	24	57	8	992	240	119	850	34
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	144	27	254	70	165	495	1117	270	182	2673	107
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.77	0.77	0.77	0.77	0.77	0.77
Sat Flow, veh/h	353	1020	192	1368	492	1168	628	1455	352	452	3483	139
Grp Volume(v), veh/h	57	0	0	212	0	81	8	0	1232	119	434	450
Grp Sat Flow(s),veh/h/ln	1564	0	0	1368	0	1660	628	0	1807	452	1777	1845
Q Serve(g_s), s	0.0	0.0	0.0	11.7	0.0	5.3	0.5	0.0	59.8	31.3	9.0	9.0
Cycle Q Clear(g_c), s	5.3	0.0	0.0	17.0	0.0	5.3	9.5	0.0	59.8	91.1	9.0	9.0
Prop In Lane	0.32		0.12	1.00		0.70	1.00		0.19	1.00		0.08
Lane Grp Cap(c), veh/h	261	0	0	254	0	235	495	0	1387	182	1364	1416
V/C Ratio(X)	0.22	0.00	0.00	0.83	0.00	0.34	0.02	0.00	0.89	0.65	0.32	0.32
Avail Cap(c_a), veh/h	261	0	0	254	0	235	495	0	1387	182	1364	1416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.6	0.0	0.0	52.2	0.0	46.5	5.7	0.0	10.2	43.5	4.3	4.3
Incr Delay (d2), s/veh	0.4	0.0	0.0	20.6	0.0	0.9	0.0	0.0	7.4	8.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	7.9	0.0	2.2	0.1	0.0	18.2	3.7	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	0.0	0.0	72.8	0.0	47.3	5.8	0.0	17.6	51.6	4.4	4.4
LnGrp LOS	D	A	A	E	A	D	A	A	B	D	A	A
Approach Vol, veh/h		57			293			1240			1003	
Approach Delay, s/veh		46.0			65.8			17.5			10.0	
Approach LOS		D			E			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		98.3		21.7		98.3		21.7				
Change Period (Y+Rc), s		6.2		* 4.7		6.2		* 4.7				
Max Green Setting (Gmax), s		92.1		* 17		92.1		* 17				
Max Q Clear Time (g_c+I1), s		61.8		7.3		93.1		19.0				
Green Ext Time (p_c), s		13.2		0.1		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				20.7								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings
20: Winchester Rd. & Domenigoni Pkwy

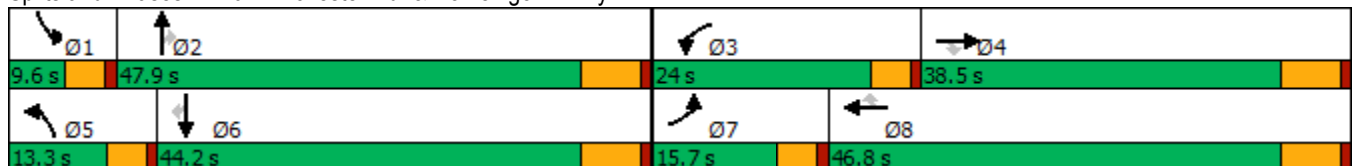
Keller Crossing (JN:13649)
06/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	902	90	666	785	19	123	1050	882	18	521	163
Future Volume (vph)	180	902	90	666	785	19	123	1050	882	18	521	163
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	38.5	38.5	9.6	38.5	38.5	9.6	38.5	38.5	9.6	38.5	38.5
Total Split (s)	15.7	38.5	38.5	24.0	46.8	46.8	13.3	47.9	47.9	9.6	44.2	44.2
Total Split (%)	13.1%	32.1%	32.1%	20.0%	39.0%	39.0%	11.1%	39.9%	39.9%	8.0%	36.8%	36.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	9.4	24.7	24.7	19.5	34.8	34.8	7.7	41.7	41.7	5.0	32.8	32.8
Actuated g/C Ratio	0.09	0.23	0.23	0.18	0.32	0.32	0.07	0.39	0.39	0.05	0.31	0.31
v/c Ratio	0.59	0.71	0.19	1.05	0.44	0.03	0.51	0.74	1.06	0.11	0.47	0.28
Control Delay	56.7	41.5	1.0	93.8	29.8	0.1	57.3	33.2	69.5	54.4	32.2	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	41.5	1.0	93.8	29.8	0.1	57.3	33.2	69.5	54.4	32.2	5.7
LOS	E	D	A	F	C	A	E	C	E	D	C	A
Approach Delay		40.7			58.4			50.3			26.6	
Approach LOS		D			E			D			C	

Intersection Summary































Cycle Length: 120
 Actuated Cycle Length: 107.1
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 47.3
 Intersection LOS: D
 Intersection Capacity Utilization 90.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 20: Winchester Rd. & Domenigoni Pkwy



HCM 6th Signalized Intersection Summary
 20: Winchester Rd. & Domenigoni Pkwy

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	 				
Traffic Volume (veh/h)	180	902	90	666	785	19	123	1050	882	18	521	163
Future Volume (veh/h)	180	902	90	666	785	19	123	1050	882	18	521	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	920	34	680	801	11	126	1071	492	18	532	64
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	1228	347	666	1882	532	192	1349	572	69	1214	515
Arrive On Green	0.07	0.22	0.22	0.19	0.34	0.34	0.06	0.36	0.36	0.02	0.32	0.32
Sat Flow, veh/h	3563	5611	1585	3563	5611	1585	3456	3741	1585	3563	3741	1585
Grp Volume(v), veh/h	184	920	34	680	801	11	126	1071	492	18	532	64
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.3	15.9	1.8	19.4	11.5	0.5	3.7	26.6	29.9	0.5	11.6	2.9
Cycle Q Clear(g_c), s	5.3	15.9	1.8	19.4	11.5	0.5	3.7	26.6	29.9	0.5	11.6	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	251	1228	347	666	1882	532	192	1349	572	69	1214	515
V/C Ratio(X)	0.73	0.75	0.10	1.02	0.43	0.02	0.66	0.79	0.86	0.26	0.44	0.12
Avail Cap(c_a), veh/h	381	1731	489	666	2180	616	290	1493	633	172	1359	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	37.9	32.3	42.2	26.7	23.1	48.0	29.7	30.8	50.1	27.6	24.7
Incr Delay (d2), s/veh	1.6	1.1	0.1	40.2	0.2	0.0	1.4	2.8	10.8	0.7	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	6.9	0.7	11.7	4.7	0.2	1.6	11.3	12.0	0.2	4.8	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	39.0	32.5	82.4	26.9	23.1	49.5	32.5	41.6	50.8	27.8	24.8
LnGrp LOS	D	D	C	F	C	C	D	C	D	D	C	C
Approach Vol, veh/h		1138			1492			1689			614	
Approach Delay, s/veh		40.4			52.1			36.4			28.2	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	43.9	24.0	29.2	10.4	40.2	11.9	41.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	5.0	41.4	19.4	32.0	8.7	37.7	11.1	40.3				
Max Q Clear Time (g_c+I1), s	2.5	31.9	21.4	17.9	5.7	13.6	7.3	13.5				
Green Ext Time (p_c), s	0.0	5.5	0.0	4.8	0.0	3.3	0.1	5.1				
Intersection Summary												
HCM 6th Ctrl Delay			41.1									
HCM 6th LOS			D									

Timings
22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)

06/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR	Ø1
Lane Configurations	↘	↗	↘	↗	↘	↑↑↑	↗	↑↑↑	↗	
Traffic Volume (vph)	7	18	30	18	10	4229	42	3696	12	
Future Volume (vph)	7	18	30	18	10	4229	42	3696	12	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm	
Protected Phases		4		8	5	2		6		1
Permitted Phases	4		8				2		6	
Detector Phase	4	4	8	8	5	2	2	6	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	14.7	14.7	35.7	35.7	9.6	26.5	26.5	16.5	16.5	9.6
Total Split (s)	35.7	35.7	35.7	35.7	9.6	74.7	74.7	74.7	74.7	9.6
Total Split (%)	29.8%	29.8%	29.8%	29.8%	8.0%	62.3%	62.3%	62.3%	62.3%	8%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	5.5	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	6.5	6.5	
Lead/Lag					Lead	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Max	None	None	Max	Max	None
Act Effct Green (s)	10.1	10.1	10.1	10.1	5.0	77.8	77.8	68.2	68.2	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.69	0.69	
v/c Ratio	0.06	0.15	0.23	0.37	0.12	1.14	0.04	0.90	0.01	
Control Delay	41.4	32.9	45.3	20.1	48.3	80.8	0.6	16.6	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.4	32.9	45.3	20.1	48.3	80.8	0.6	16.6	0.0	
LOS	D	C	D	C	D	F	A	B	A	
Approach Delay		34.8		27.0		79.9		16.6		
Approach LOS		C		C		E		B		

Intersection Summary

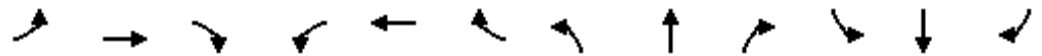
Cycle Length: 120
 Actuated Cycle Length: 99.1
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 50.1
 Intersection Capacity Utilization 99.4%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service F

Splits and Phases: 22: Winchester Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
 22: Winchester Rd. & Holland Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (veh/h)	7	18	8	30	18	61	10	4229	42	0	3696	12
Future Volume (veh/h)	7	18	8	30	18	61	10	4229	42	0	3696	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	19	5	32	19	61	11	4547	44	0	3974	13
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	144	38	196	39	127	90	4013	1246	2	4432	1092
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.05	0.79	0.79	0.00	0.69	0.69
Sat Flow, veh/h	1319	1427	376	1387	391	1254	1781	5106	1585	1781	6434	1585
Grp Volume(v), veh/h	8	0	24	32	0	80	11	4547	44	0	3974	13
Grp Sat Flow(s),veh/h/ln	1319	0	1803	1387	0	1645	1781	1702	1585	1781	1609	1585
Q Serve(g_s), s	0.6	0.0	1.2	2.1	0.0	4.6	0.6	77.8	0.6	0.0	49.8	0.3
Cycle Q Clear(g_c), s	5.1	0.0	1.2	3.3	0.0	4.6	0.6	77.8	0.6	0.0	49.8	0.3
Prop In Lane	1.00		0.21	1.00		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	0	182	196	0	166	90	4013	1246	2	4432	1092
V/C Ratio(X)	0.06	0.00	0.13	0.16	0.00	0.48	0.12	1.13	0.04	0.00	0.90	0.01
Avail Cap(c_a), veh/h	425	0	564	490	0	515	90	4013	1246	90	4432	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	0.0	40.5	42.1	0.0	42.1	44.9	10.6	2.3	0.0	12.5	4.8
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.4	0.0	2.2	2.8	63.5	0.0	0.0	3.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.7	0.0	1.9	0.3	35.6	0.1	0.0	12.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	0.0	40.9	42.4	0.0	44.2	47.7	74.1	2.3	0.0	15.8	4.9
LnGrp LOS	D	A	D	D	A	D	D	F	A	A	B	A
Approach Vol, veh/h		32			112			4602			3987	
Approach Delay, s/veh		41.8			43.7			73.4			15.8	
Approach LOS		D			D			E			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	84.3		14.7	9.6	74.7		14.7				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	68.2		* 31	5.0	68.2		* 31				
Max Q Clear Time (g_c+I1), s	0.0	79.8		7.1	2.6	51.8		6.6				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	16.3		0.5				

Intersection Summary

HCM 6th Ctrl Delay	46.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑↑	↑↑↑	↗
Traffic Volume (vph)	165	18	47	4116	3632	253
Future Volume (vph)	165	18	47	4116	3632	253
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.6	26.6	9.6	16.5	28.5	28.5
Total Split (s)	26.6	26.6	9.6	93.4	83.8	83.8
Total Split (%)	22.2%	22.2%	8.0%	77.8%	69.8%	69.8%
Yellow Time (s)	3.6	3.6	3.6	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	6.5	6.5	6.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	16.7	16.7	5.0	89.1	81.4	81.4
Actuated g/C Ratio	0.14	0.14	0.04	0.76	0.70	0.70
v/c Ratio	0.71	0.08	0.68	1.15	0.89	0.23
Control Delay	62.9	26.0	95.6	90.2	18.7	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	26.0	95.6	90.2	18.7	1.4
LOS	E	C	F	F	B	A
Approach Delay	59.2			90.3	17.6	
Approach LOS	E			F	B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.9
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 55.3
 Intersection LOS: E
 Intersection Capacity Utilization 97.9%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 23: Winchester Rd. & Garbani Rd.



HCM 6th Signalized Intersection Summary
 23: Winchester Rd. & Garbani Rd.

Keller Crossing (JN:13649)
 06/24/2021



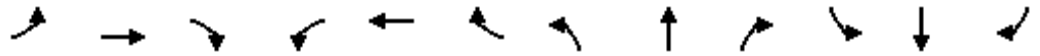
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	165	18	47	4116	3632	253
Future Volume (veh/h)	165	18	47	4116	3632	253
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	19	51	4474	3948	275
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	212	189	66	3988	4522	1114
Arrive On Green	0.12	0.12	0.04	0.78	0.70	0.70
Sat Flow, veh/h	1781	1585	1781	5274	6696	1585
Grp Volume(v), veh/h	179	19	51	4474	3948	275
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1702	1609	1585
Q Serve(g_s), s	10.9	1.2	3.2	86.9	52.5	6.9
Cycle Q Clear(g_c), s	10.9	1.2	3.2	86.9	52.5	6.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	212	189	66	3988	4522	1114
V/C Ratio(X)	0.84	0.10	0.78	1.12	0.87	0.25
Avail Cap(c_a), veh/h	352	313	80	3988	4522	1114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	43.7	53.1	12.2	12.7	5.9
Incr Delay (d2), s/veh	9.2	0.2	25.6	58.8	2.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	1.1	1.8	38.5	13.9	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	57.2	43.9	78.7	71.0	14.8	6.1
LnGrp LOS	E	D	E	F	B	A
Approach Vol, veh/h	198			4525	4223	
Approach Delay, s/veh	55.9			71.0	14.3	
Approach LOS	E			E	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.4		17.9	8.7	84.7
Change Period (Y+Rc), s		6.5		4.6	4.6	6.5
Max Green Setting (Gmax), s		86.9		22.0	5.0	77.3
Max Q Clear Time (g_c+1), s		88.9		12.9	5.2	54.5
Green Ext Time (p_c), s		0.0		0.4	0.0	22.6
Intersection Summary						
HCM 6th Ctrl Delay			43.9			
HCM 6th LOS			D			

Timings

Keller Crossing (JN:13649)

24: Winchester Rd. & Scott Rd./Washington St,

06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗
Traffic Volume (vph)	763	431	292	104	368	653	340	2697	50	437	2370	843
Future Volume (vph)	763	431	292	104	368	653	340	2697	50	437	2370	843
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	39.5	39.5	9.6	16.5	9.6	9.6	35.5	35.5	9.6	39.5	39.5
Total Split (s)	31.0	40.0	40.0	10.0	19.0	18.0	20.0	52.0	52.0	18.0	50.0	50.0
Total Split (%)	25.8%	33.3%	33.3%	8.3%	15.8%	15.0%	16.7%	43.3%	43.3%	15.0%	41.7%	41.7%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	26.4	33.5	33.5	5.4	12.5	32.4	14.7	45.5	45.5	13.4	44.2	44.2
Actuated g/C Ratio	0.22	0.28	0.28	0.04	0.10	0.27	0.12	0.38	0.38	0.11	0.37	0.37
v/c Ratio	1.03	0.44	0.50	0.69	1.00	0.73	0.83	1.00	0.08	1.16	0.91	0.98
Control Delay	86.7	37.1	12.0	78.2	99.0	38.2	68.0	55.4	0.2	144.9	42.1	42.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.7	37.1	12.0	78.2	99.0	38.2	68.0	55.4	0.2	144.9	42.1	42.8
LOS	F	D	B	E	F	D	E	E	A	F	D	D
Approach Delay		57.6			61.8			55.9			54.6	
Approach LOS		E			E			E			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 56.4
 Intersection LOS: E
 Intersection Capacity Utilization 102.0%
 ICU Level of Service G
 Analysis Period (min) 15

























Splits and Phases: 24: Winchester Rd. & Scott Rd./Washington St,



HCM 6th Signalized Intersection Summary
 24: Winchester Rd. & Scott Rd./Washington St,

Keller Crossing (JN:13649)

06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	763	431	292	104	368	653	340	2697	50	437	2370	843
Future Volume (veh/h)	763	431	292	104	368	653	340	2697	50	437	2370	843
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	803	454	149	109	387	450	358	2839	53	460	2495	413
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	784	1044	442	160	390	684	415	2837	601	398	2801	593
Arrive On Green	0.22	0.28	0.28	0.05	0.10	0.10	0.12	0.49	0.38	0.11	0.49	0.37
Sat Flow, veh/h	3563	3741	1585	3563	3741	3170	3563	7481	1585	3563	7481	1585
Grp Volume(v), veh/h	803	454	149	109	387	450	358	2839	53	460	2495	413
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	26.4	11.9	9.0	3.6	12.4	12.5	11.8	45.5	2.6	13.4	36.3	26.5
Cycle Q Clear(g_c), s	26.4	11.9	9.0	3.6	12.4	12.5	11.8	45.5	2.6	13.4	36.3	26.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	784	1044	442	160	390	684	415	2837	601	398	2801	593
V/C Ratio(X)	1.02	0.43	0.34	0.68	0.99	0.66	0.86	1.00	0.09	1.16	0.89	0.70
Avail Cap(c_a), veh/h	784	1044	442	160	390	684	457	2837	601	398	2801	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.30	1.00	1.00	1.30	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	35.5	34.4	56.4	53.7	43.0	52.1	30.4	23.9	53.3	28.6	31.8
Incr Delay (d2), s/veh	38.5	0.3	0.4	9.2	43.7	2.3	13.5	17.1	0.1	95.1	4.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.2	5.2	3.3	1.8	7.9	6.0	5.8	19.7	0.9	11.0	13.9	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.3	35.8	34.9	65.7	97.4	45.3	65.6	47.5	24.0	148.4	32.6	35.3
LnGrp LOS	F	D	C	E	F	D	E	F	C	F	C	D
Approach Vol, veh/h		1406			946			3250			3368	
Approach Delay, s/veh		64.0			69.0			49.1			48.7	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	52.0	10.0	40.0	18.6	51.4	31.0	19.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5				
Max Green Setting (Gmax), s	13.4	45.5	5.4	33.5	15.4	43.5	26.4	12.5				
Max Q Clear Time (g_c+I1), s	15.4	47.5	5.6	13.9	13.8	38.3	28.4	14.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.9	0.1	4.9	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			53.4									
HCM 6th LOS			D									

HCM Unsignalized Intersection Capacity Analysis
25: Winchester Rd. & Driveway 2

Keller Crossing (JN:13649)
06/24/2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR				
Lane Configurations										
Traffic Volume (veh/h)	0	170	0	3087	2626	141				
Future Volume (Veh/h)	0	170	0	3087	2626	141				
Sign Control	Stop			Free		Free				
Grade	0%			0%		0%				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Hourly flow rate (vph)	0	185	0	3355	2854	153				
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type				None	None					
Median storage veh)										
Upstream signal (ft)				742						
pX, platoon unblocked										
vC, conflicting volume	3769	790	3007							
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	3769	790	3007							
tC, single (s)	6.8	6.9	4.1							
tC, 2 stage (s)										
tF (s)	3.5	3.3	2.2							
p0 queue free %	100	44	100							
cM capacity (veh/h)	3	333	112							
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4	
Volume Total	185	839	839	839	839	815	815	815	561	
Volume Left	0	0	0	0	0	0	0	0	0	
Volume Right	185	0	0	0	0	0	0	0	153	
cSH	333	1700	1700	1700	1700	1700	1700	1700	1700	
Volume to Capacity	0.56	0.49	0.49	0.49	0.49	0.48	0.48	0.48	0.33	
Queue Length 95th (ft)	80	0	0	0	0	0	0	0	0	
Control Delay (s)	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS										
Approach Delay (s)	28.5	0.0					0.0			
Approach LOS										
D										
Intersection Summary										
Average Delay			0.8							
Intersection Capacity Utilization			57.6%				ICU Level of Service			B
Analysis Period (min)			15							

Timings
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)

06/24/2021

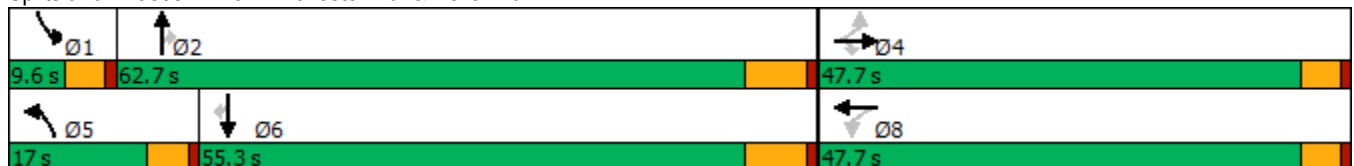


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	251	16	231	25	25	218	2816	107	8	2358	401
Future Volume (vph)	251	16	231	25	25	218	2816	107	8	2358	401
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	47.7	47.7	9.6	33.5	33.5	9.6	31.5	31.5
Total Split (s)	47.7	47.7	47.7	47.7	47.7	17.0	62.7	62.7	9.6	55.3	55.3
Total Split (%)	39.8%	39.8%	39.8%	39.8%	39.8%	14.2%	52.3%	52.3%	8.0%	46.1%	46.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	26.1	26.1	26.1		26.1	12.5	64.5	64.5	5.0	49.1	49.1
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.12	0.62	0.62	0.05	0.47	0.47
v/c Ratio	0.78	0.04	0.48		0.18	1.09	0.95	0.11	0.11	1.04	0.48
Control Delay	51.8	27.4	15.5		23.5	132.5	27.9	3.0	54.1	58.5	9.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	27.4	15.5		23.5	132.5	27.9	3.0	54.1	58.5	9.9
LOS	D	C	B		C	F	C	A	D	E	A
Approach Delay		34.2			23.5		34.3			51.5	
Approach LOS		C			C		C			D	

Intersection Summary























Cycle Length: 120
 Actuated Cycle Length: 103.6
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 41.5
 Intersection LOS: D
 Intersection Capacity Utilization 92.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 26: Winchester Rd. & Keller Rd.



HCM 6th Signalized Intersection Summary
26: Winchester Rd. & Keller Rd.

Keller Crossing (JN:13649)
06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	16	231	25	25	20	218	2816	107	8	2358	401
Future Volume (veh/h)	251	16	231	25	25	20	218	2816	107	8	2358	401
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	267	17	240	27	27	18	232	2996	113	9	2509	425
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	382	405	344	150	144	81	225	3122	948	20	2535	787
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.13	0.61	0.61	0.01	0.50	0.50
Sat Flow, veh/h	1361	1870	1585	457	666	375	1781	5106	1550	1781	5106	1585
Grp Volume(v), veh/h	267	17	240	72	0	0	232	2996	113	9	2509	425
Grp Sat Flow(s),veh/h/ln	1361	1870	1585	1498	0	0	1781	1702	1550	1781	1702	1585
Q Serve(g_s), s	14.3	0.7	13.7	0.0	0.0	0.0	12.4	54.2	3.0	0.5	47.8	18.1
Cycle Q Clear(g_c), s	17.6	0.7	13.7	3.2	0.0	0.0	12.4	54.2	3.0	0.5	47.8	18.1
Prop In Lane	1.00		1.00	0.37		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	382	405	344	375	0	0	225	3122	948	20	2535	787
V/C Ratio(X)	0.70	0.04	0.70	0.19	0.00	0.00	1.03	0.96	0.12	0.46	0.99	0.54
Avail Cap(c_a), veh/h	682	818	693	694	0	0	225	3122	948	91	2535	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	30.4	35.5	31.4	0.0	0.0	43.0	18.0	8.0	48.3	24.5	17.0
Incr Delay (d2), s/veh	2.3	0.0	2.6	0.2	0.0	0.0	68.8	8.7	0.1	6.0	15.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.3	5.5	1.4	0.0	0.0	9.4	18.4	0.8	0.2	19.7	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	30.5	38.1	31.7	0.0	0.0	111.7	26.6	8.1	54.3	40.0	17.8
LnGrp LOS	D	C	D	C	A	A	F	C	A	D	D	B
Approach Vol, veh/h		524			72			3341			2943	
Approach Delay, s/veh		38.3			31.7			31.9			36.8	
Approach LOS		D			C			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	66.6		26.0	17.0	55.3		26.0				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	56.2		* 43	12.4	48.8		* 43				
Max Q Clear Time (g_c+I1), s	2.5	56.2		19.6	14.4	49.8		5.2				
Green Ext Time (p_c), s	0.0	0.0		1.8	0.0	0.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)

06/24/2021

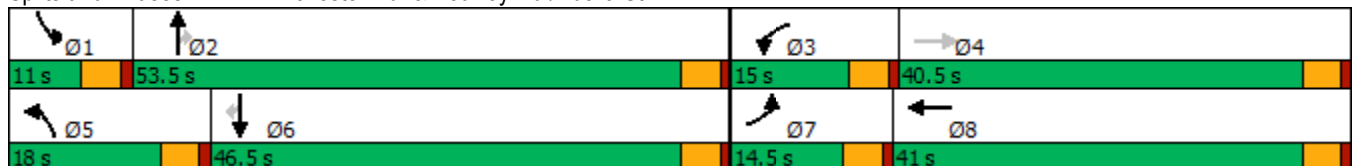


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖↗	↖	↖	↑↑↑	↖	↖	↑↑↑	↖
Traffic Volume (vph)	126	43	342	45	230	2893	326	95	2417	101
Future Volume (vph)	126	43	342	45	230	2893	326	95	2417	101
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		3	8	5	2		1	6	
Permitted Phases		4					2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.5	40.5	9.5	40.5	9.5	26.5	26.5	9.5	25.5	25.5
Total Split (s)	14.5	40.5	15.0	41.0	18.0	53.5	53.5	11.0	46.5	46.5
Total Split (%)	12.1%	33.8%	12.5%	34.2%	15.0%	44.6%	44.6%	9.2%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	9.9	11.0	10.5	11.6	13.5	49.0	49.0	6.5	42.0	42.0
Actuated g/C Ratio	0.10	0.12	0.11	0.12	0.14	0.52	0.52	0.07	0.44	0.44
v/c Ratio	0.72	0.47	0.95	0.57	0.96	0.92	0.37	0.83	0.90	0.14
Control Delay	64.4	16.5	78.7	22.8	90.6	27.4	6.3	91.5	30.1	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.4	16.5	78.7	22.8	90.6	27.4	6.3	91.5	30.1	2.0
LOS	E	B	E	C	F	C	A	F	C	A
Approach Delay		33.9		60.5		29.6			31.3	
Approach LOS		C		E		C			C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 95
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 32.7
 Intersection LOS: C
 Intersection Capacity Utilization 80.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 27: Winchester Rd. & Pourroy Rd./Abelia St.



HCM 6th Signalized Intersection Summary
 27: Winchester Rd. & Pourroy Rd./Abelia St.

Keller Crossing (JN:13649)
 06/24/2021



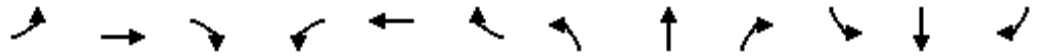
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	43	180	342	45	121	230	2893	326	95	2417	101
Future Volume (veh/h)	126	43	180	342	45	121	230	2893	326	95	2417	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	45	94	360	47	93	242	3045	343	100	2544	102
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	189	169	386	71	140	256	3354	826	123	2875	708
Arrive On Green	0.09	0.11	0.11	0.11	0.13	0.13	0.14	0.52	0.52	0.07	0.45	0.45
Sat Flow, veh/h	1781	1777	1585	3456	561	1110	1781	6434	1585	1781	6434	1585
Grp Volume(v), veh/h	133	45	94	360	0	140	242	3045	343	100	2544	102
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	0	1671	1781	1609	1585	1781	1609	1585
Q Serve(g_s), s	6.9	2.2	5.3	9.7	0.0	7.5	12.7	40.4	12.4	5.2	34.0	3.6
Cycle Q Clear(g_c), s	6.9	2.2	5.3	9.7	0.0	7.5	12.7	40.4	12.4	5.2	34.0	3.6
Prop In Lane	1.00		1.00	1.00		0.66	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	164	189	169	386	0	211	256	3354	826	123	2875	708
V/C Ratio(X)	0.81	0.24	0.56	0.93	0.00	0.66	0.95	0.91	0.42	0.81	0.88	0.14
Avail Cap(c_a), veh/h	189	680	607	386	0	649	256	3354	826	123	2875	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	38.5	39.9	41.4	0.0	39.2	39.9	20.4	13.7	43.1	23.8	15.4
Incr Delay (d2), s/veh	17.8	0.6	2.9	28.9	0.0	3.6	41.2	4.7	1.5	30.4	4.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	1.0	2.2	5.6	0.0	3.3	8.1	13.4	4.6	3.2	11.9	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.7	39.1	42.8	70.3	0.0	42.7	81.1	25.2	15.3	73.5	28.2	15.8
LnGrp LOS	E	D	D	E	A	D	F	C	B	E	C	B
Approach Vol, veh/h		272			500			3630			2746	
Approach Delay, s/veh		50.5			62.6			28.0			29.4	
Approach LOS		D			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	53.5	15.0	14.5	18.0	46.5	13.1	16.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.5	49.0	10.5	36.0	13.5	42.0	10.0	36.5				
Max Q Clear Time (g_c+I1), s	7.2	42.4	11.7	7.3	14.7	36.0	8.9	9.5				
Green Ext Time (p_c), s	0.0	6.4	0.0	0.8	0.0	5.5	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay				31.8								
HCM 6th LOS				C								

Timings

Keller Crossing (JN:13649)

28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

06/24/2021

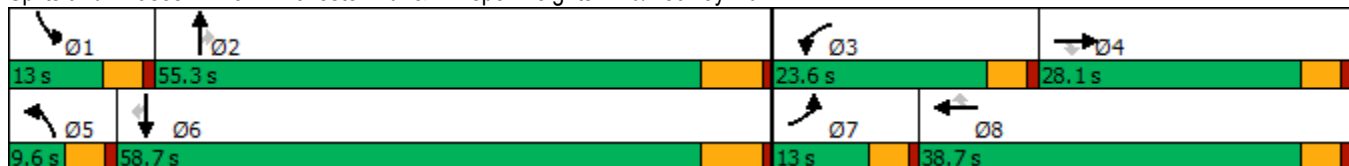


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑↑	↗	↖↗	↑↑↑	↗
Traffic Volume (vph)	130	21	24	153	24	282	46	3038	2	264	2542	133
Future Volume (vph)	130	21	24	153	24	282	46	3038	2	264	2542	133
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	14.7	14.7	9.6	38.7	38.7	9.6	28.5	28.5	9.6	25.5	25.5
Total Split (s)	13.0	28.1	28.1	23.6	38.7	38.7	9.6	55.3	55.3	13.0	58.7	58.7
Total Split (%)	10.8%	23.4%	23.4%	19.7%	32.3%	32.3%	8.0%	46.1%	46.1%	10.8%	48.9%	48.9%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	8.4	13.1	13.1	20.0	18.4	18.4	5.0	49.0	49.0	8.4	54.5	54.5
Actuated g/C Ratio	0.08	0.13	0.13	0.19	0.18	0.18	0.05	0.47	0.47	0.08	0.52	0.52
v/c Ratio	0.95	0.09	0.07	0.47	0.08	0.80	0.57	1.06	0.00	1.00	0.79	0.16
Control Delay	114.3	42.0	0.4	45.9	34.9	40.9	77.0	62.2	0.0	103.2	24.5	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.3	42.0	0.4	45.9	34.9	40.9	77.0	62.2	0.0	103.2	24.5	3.3
LOS	F	D	A	D	C	D	E	E	A	F	C	A
Approach Delay		89.9			42.2			62.4			30.6	
Approach LOS		F			D			E			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 104.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 47.7	Intersection LOS: D
Intersection Capacity Utilization 82.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.



HCM 6th Signalized Intersection Summary
 28: Winchester Rd. & Whisper Heights Blvd/Pourroy Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘↗	↑↑↑	↗
Traffic Volume (veh/h)	130	21	24	153	24	282	46	3038	2	264	2542	133
Future Volume (veh/h)	130	21	24	153	24	282	46	3038	2	264	2542	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	22	18	159	25	239	48	3165	2	275	2648	138
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	283	240	190	333	278	64	3002	739	277	3287	810
Arrive On Green	0.08	0.15	0.15	0.11	0.18	0.18	0.04	0.47	0.47	0.08	0.51	0.51
Sat Flow, veh/h	1781	1870	1585	1781	1870	1561	1781	6434	1584	3456	6434	1585
Grp Volume(v), veh/h	135	22	18	159	25	239	48	3165	2	275	2648	138
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1561	1781	1609	1584	1728	1609	1585
Q Serve(g_s), s	7.9	1.1	1.0	9.2	1.2	15.5	2.8	48.8	0.1	8.3	35.8	4.9
Cycle Q Clear(g_c), s	7.9	1.1	1.0	9.2	1.2	15.5	2.8	48.8	0.1	8.3	35.8	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	283	240	190	333	278	64	3002	739	277	3287	810
V/C Ratio(X)	0.94	0.08	0.08	0.84	0.08	0.86	0.75	1.05	0.00	0.99	0.81	0.17
Avail Cap(c_a), veh/h	143	418	355	324	608	508	85	3002	739	277	3287	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	38.1	38.1	45.8	35.8	41.7	50.0	27.9	14.9	48.1	21.3	13.7
Incr Delay (d2), s/veh	57.7	0.1	0.1	3.7	0.1	7.7	14.7	33.1	0.0	51.4	1.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.5	0.4	4.2	0.5	6.5	1.4	23.1	0.0	5.4	11.8	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	105.6	38.2	38.2	49.5	35.9	49.4	64.7	61.0	14.9	99.4	22.8	13.8
LnGrp LOS	F	D	D	D	D	D	E	F	B	F	C	B
Approach Vol, veh/h		175			423			3215			3061	
Approach Delay, s/veh		90.2			48.7			61.0			29.3	
Approach LOS		F			D			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	55.3	15.8	20.5	8.4	59.9	13.0	23.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	8.4	48.8	19.0	* 23	5.0	52.2	8.4	* 34				
Max Q Clear Time (g_c+I1), s	10.3	50.8	11.2	3.1	4.8	37.8	9.9	17.5				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.1	0.0	12.8	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

Notes

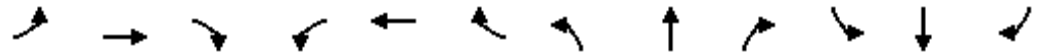
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Keller Crossing (JN:13649)

29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

06/24/2021

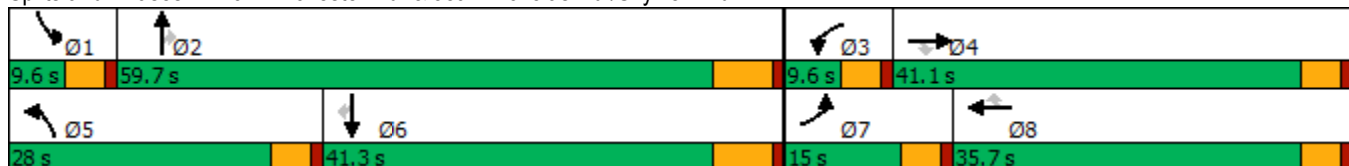


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (vph)	191	58	262	10	57	31	469	2987	15	19	2081	177
Future Volume (vph)	191	58	262	10	57	31	469	2987	15	19	2081	177
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.7	36.7	9.6	35.7	35.7	9.6	23.5	23.5	9.6	26.5	26.5
Total Split (s)	15.0	41.1	41.1	9.6	35.7	35.7	28.0	59.7	59.7	9.6	41.3	41.3
Total Split (%)	12.5%	34.3%	34.3%	8.0%	29.8%	29.8%	23.3%	49.8%	49.8%	8.0%	34.4%	34.4%
Yellow Time (s)	3.6	3.7	3.7	3.6	3.7	3.7	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.7	4.7	4.6	4.7	4.7	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	10.4	20.2	20.2	5.0	10.3	10.3	23.5	59.3	59.3	5.0	34.9	34.9
Actuated g/C Ratio	0.11	0.21	0.21	0.05	0.11	0.11	0.24	0.62	0.62	0.05	0.36	0.36
v/c Ratio	1.04	0.15	0.50	0.11	0.30	0.09	1.13	0.79	0.02	0.22	0.93	0.27
Control Delay	120.9	32.9	8.1	48.0	45.5	0.5	121.0	17.7	0.0	51.4	39.2	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	120.9	32.9	8.1	48.0	45.5	0.5	121.0	17.7	0.0	51.4	39.2	4.7
LOS	F	C	A	D	D	A	F	B	A	D	D	A
Approach Delay		53.1			31.5			31.6			36.6	
Approach LOS		D			C			C			D	

Intersection Summary

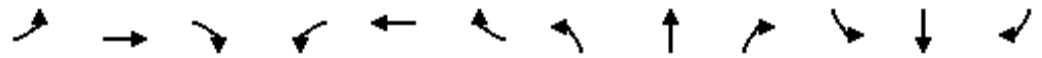
Cycle Length: 120
 Actuated Cycle Length: 96.3
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 35.1
 Intersection LOS: D
 Intersection Capacity Utilization 87.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.



HCM 6th Signalized Intersection Summary
 29: Winchester Rd. & Jean Nicholas Rd./Skyview Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (veh/h)	191	58	262	10	57	31	469	2987	15	19	2081	177
Future Volume (veh/h)	191	58	262	10	57	31	469	2987	15	19	2081	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	199	60	223	10	59	18	489	3111	13	20	2168	166
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	380	320	22	208	177	416	3602	869	38	2236	544
Arrive On Green	0.10	0.20	0.20	0.01	0.11	0.11	0.23	0.56	0.56	0.02	0.35	0.35
Sat Flow, veh/h	1781	1870	1576	1781	1870	1585	1781	6434	1552	1781	6434	1565
Grp Volume(v), veh/h	199	60	223	10	59	18	489	3111	13	20	2168	166
Grp Sat Flow(s),veh/h/ln	1781	1870	1576	1781	1870	1585	1781	1609	1552	1781	1609	1565
Q Serve(g_s), s	10.4	2.6	13.2	0.6	2.9	1.0	23.4	41.3	0.4	1.1	33.2	7.8
Cycle Q Clear(g_c), s	10.4	2.6	13.2	0.6	2.9	1.0	23.4	41.3	0.4	1.1	33.2	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	380	320	22	208	177	416	3602	869	38	2236	544
V/C Ratio(X)	1.08	0.16	0.70	0.46	0.28	0.10	1.18	0.86	0.01	0.53	0.97	0.31
Avail Cap(c_a), veh/h	185	680	573	89	579	491	416	3602	869	89	2236	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	32.9	37.0	49.1	40.8	40.0	38.4	18.8	9.8	48.5	32.2	23.9
Incr Delay (d2), s/veh	87.8	0.2	2.7	5.6	0.7	0.2	101.3	3.0	0.0	4.2	13.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	1.2	5.2	0.3	1.4	0.4	21.1	13.2	0.1	0.5	13.6	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.7	33.0	39.8	54.8	41.6	40.2	139.7	21.8	9.8	52.7	45.3	25.3
LnGrp LOS	F	C	D	D	D	D	F	C	A	D	D	C
Approach Vol, veh/h		482			87			3613			2354	
Approach Delay, s/veh		77.3			42.8			37.7			44.0	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	62.6	5.8	25.0	28.0	41.3	15.0	15.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.7	4.6	6.5	4.6	* 4.7				
Max Green Setting (Gmax), s	5.0	53.2	5.0	* 36	23.4	34.8	10.4	* 31				
Max Q Clear Time (g_c+I1), s	3.1	43.3	2.6	15.2	25.4	35.2	12.4	4.9				
Green Ext Time (p_c), s	0.0	9.5	0.0	1.0	0.0	0.0	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

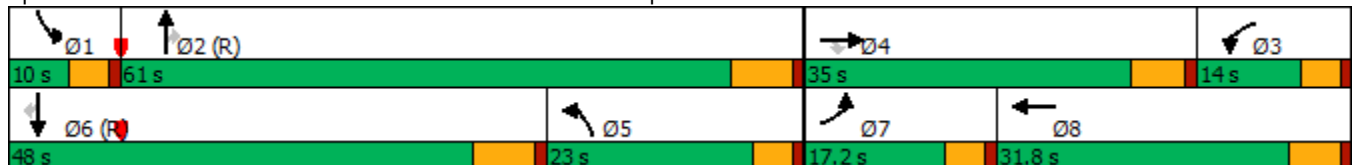


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔↔	↔↔	↑↑	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	398	473	492	496	468	462	3975	555	283	2420	298
Future Volume (vph)	398	473	492	496	468	462	3975	555	283	2420	298
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	15.8	9.6	36.5	36.5	9.6	38.5	38.5
Total Split (s)	17.2	35.0	35.0	14.0	31.8	23.0	61.0	61.0	10.0	48.0	48.0
Total Split (%)	14.3%	29.2%	29.2%	11.7%	26.5%	19.2%	50.8%	50.8%	8.3%	40.0%	40.0%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	0.0	-1.0	-1.0	-1.0	-1.0	0.0	-1.0	-1.0	0.0
Total Lost Time (s)	3.6	4.8	5.8	3.6	4.8	3.6	5.5	6.5	3.6	5.5	6.5
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	13.6	24.3	23.3	16.3	27.0	19.4	55.5	54.5	6.4	42.5	41.5
Actuated g/C Ratio	0.11	0.20	0.19	0.14	0.22	0.16	0.46	0.45	0.05	0.35	0.35
v/c Ratio	1.02	0.65	0.50	1.06	0.75	0.83	1.19	0.66	1.55	0.95	0.47
Control Delay	103.1	47.6	5.0	109.0	47.7	62.6	125.7	24.0	310.7	46.6	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.1	47.6	5.0	109.0	47.7	62.6	125.7	24.0	310.7	46.6	14.7
LOS	F	D	A	F	D	E	F	C	F	D	B
Approach Delay		48.4			75.2		108.5			68.4	
Approach LOS		D			E		F			E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 86 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.55
 Intersection Signal Delay: 85.7
 Intersection LOS: F
 Intersection Capacity Utilization 109.7%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.



HCM 6th Signalized Intersection Summary
 30: Winchester Rd. & Max Gilliss Blvd/Thompson Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔↔	↔↔	↑↑		↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	398	473	492	496	468	141	462	3975	555	283	2420	298
Future Volume (veh/h)	398	473	492	496	468	141	462	3975	555	283	2420	298
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	410	488	172	511	482	21	476	4098	567	292	2495	302
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	637	506	363	601	26	721	3879	806	190	2645	540
Arrive On Green	0.17	0.26	0.16	0.15	0.25	0.16	0.30	0.78	0.51	0.08	0.53	0.35
Sat Flow, veh/h	3563	3741	3123	3563	3556	155	3563	7481	1579	3563	7481	1564
Grp Volume(v), veh/h	410	488	172	511	253	250	476	4098	567	292	2495	302
Grp Sat Flow(s),veh/h/ln	1781	1870	1562	1781	1870	1840	1781	1870	1579	1781	1870	1564
Q Serve(g_s), s	13.6	14.5	5.9	12.2	15.2	15.3	14.0	62.2	19.7	6.4	37.6	13.1
Cycle Q Clear(g_c), s	13.6	14.5	5.9	12.2	15.2	15.3	14.0	62.2	19.7	6.4	37.6	13.1
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	404	637	506	363	316	311	721	3879	806	190	2645	540
V/C Ratio(X)	1.02	0.77	0.34	1.41	0.80	0.80	0.66	1.06	0.70	1.54	0.94	0.56
Avail Cap(c_a), veh/h	404	941	760	363	421	414	721	3879	806	190	2650	541
HCM Platoon Ratio	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00	1.50	1.50	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.09	0.09	0.09	0.35	0.35	0.35
Uniform Delay (d), s/veh	49.8	42.5	44.6	50.8	42.9	43.4	38.2	13.3	8.1	55.2	27.1	15.6
Incr Delay (d2), s/veh	17.5	0.2	0.0	198.4	7.9	8.2	0.2	26.2	0.5	250.7	3.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	6.0	0.0	15.1	7.2	7.2	5.3	14.1	6.2	9.3	12.7	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.3	42.7	44.6	249.2	50.8	51.6	38.3	39.5	8.5	305.9	30.5	17.0
LnGrp LOS	F	D	D	F	D	D	D	F	A	F	C	B
Approach Vol, veh/h		1070			1014			5141			3089	
Approach Delay, s/veh		52.4			151.0			36.0			55.3	
Approach LOS		D			F			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	67.7	17.0	25.2	29.8	47.9	17.2	25.1				
Change Period (Y+Rc), s	4.6	6.5	5.8	* 5.8	6.5	* 6.5	4.6	5.8				
Max Green Setting (Gmax), s	5.4	54.5	9.4	* 29	18.4	* 42	12.6	26.0				
Max Q Clear Time (g_c+I1), s	8.4	64.2	14.2	16.5	16.0	39.6	15.6	17.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.9	0.3	1.8	0.0	2.0				

Intersection Summary

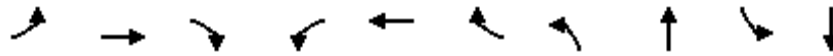
HCM 6th Ctrl Delay	54.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
06/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↑	↔↔	↑↑↑
Traffic Volume (vph)	220	379	735	411	257	1361	566	3411	880	2341
Future Volume (vph)	220	379	735	411	257	1361	566	3411	880	2341
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	1	5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	14.5	14.5	14.6	30.6	9.6	9.6	38.5	9.6	16.5
Total Split (s)	11.0	25.6	25.6	17.0	31.6	10.4	22.6	67.0	10.4	54.8
Total Split (%)	9.2%	21.3%	21.3%	14.2%	26.3%	8.7%	18.8%	55.8%	8.7%	45.7%
Yellow Time (s)	3.6	3.5	3.5	3.6	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.5	4.5	4.6	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	19.2	21.1	21.1	12.4	14.2	20.0	18.0	60.5	5.8	48.3
Actuated g/C Ratio	0.16	0.18	0.18	0.10	0.12	0.17	0.15	0.50	0.05	0.40
v/c Ratio	0.42	0.62	1.57	1.21	0.63	4.10	1.15	1.16	5.53	0.91
Control Delay	48.8	50.6	289.3	163.1	56.6	1414.8	132.6	104.6	2057.1	53.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	50.6	289.3	163.1	56.6	1414.8	132.6	104.6	2057.1	53.4
LOS	D	D	F	F	E	F	F	F	F	D
Approach Delay		181.7			989.3			108.1		570.6
Approach LOS		F			F			F		F

Intersection Summary

































Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 22.6 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 5.53
 Intersection Signal Delay: 413.8
 Intersection Capacity Utilization 162.7%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 31: Winchester Rd. & Benton Rd.



HCM 6th Signalized Intersection Summary
 31: Winchester Rd. & Benton Rd.

Keller Crossing (JN:13649)
 06/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	220	379	735	411	257	1361	566	3411	574	880	2341	188
Future Volume (veh/h)	220	379	735	411	257	1361	566	3411	574	880	2341	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	237	408	333	442	276	657	609	3668	321	946	2517	143
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	559	658	279	368	458	1140	534	3431	286	2132	6791	384
Arrive On Green	0.16	0.18	0.18	0.10	0.12	0.12	0.15	0.50	0.50	0.20	0.32	0.32
Sat Flow, veh/h	3563	3741	1585	3563	3741	1563	3563	6805	567	3563	7013	397
Grp Volume(v), veh/h	237	408	333	442	276	657	609	2992	997	946	2012	648
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1563	1781	1870	1760	1781	1870	1799
Q Serve(g_s), s	7.2	12.1	21.1	12.4	8.4	0.0	18.0	60.5	60.5	28.0	33.2	33.4
Cycle Q Clear(g_c), s	7.2	12.1	21.1	12.4	8.4	0.0	18.0	60.5	60.5	28.0	33.2	33.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		0.22
Lane Grp Cap(c), veh/h	559	658	279	368	458	1140	534	2829	887	2132	5433	1742
V/C Ratio(X)	0.42	0.62	1.19	1.20	0.60	0.58	1.14	1.06	1.12	0.44	0.37	0.37
Avail Cap(c_a), veh/h	559	658	279	368	842	1300	534	2829	887	2132	5433	1742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.32	0.32	0.32
Uniform Delay (d), s/veh	45.7	45.7	49.5	53.8	49.9	8.0	51.0	29.7	29.8	30.6	12.6	12.7
Incr Delay (d2), s/veh	0.2	1.8	117.3	113.6	1.3	0.5	65.2	26.9	57.4	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	5.8	17.4	11.3	4.0	7.3	12.5	30.8	36.5	13.2	9.9	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	47.5	166.7	167.4	51.2	8.5	116.2	56.7	87.1	30.6	12.7	12.9
LnGrp LOS	D	D	F	F	D	A	F	F	F	C	B	B
Approach Vol, veh/h		978			1375			4598			3606	
Approach Delay, s/veh		87.7			68.1			71.2			17.4	
Approach LOS		F			E			E			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	80.3	67.0	17.0	25.7	22.6	124.7	23.4	19.3				
Change Period (Y+Rc), s	6.5	* 6.5	4.6	* 4.6	4.6	6.5	4.6	4.6				
Max Green Setting (Gmax), s	5.8	* 61	12.4	* 21	18.0	48.3	6.4	27.0				
Max Q Clear Time (g_c+1), s	30.0	62.5	14.4	23.1	20.0	35.4	9.2	10.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	11.1	0.0	4.3				

Intersection Summary

HCM 6th Ctrl Delay	53.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

32: Winchester Rd. & Via Mira Mosa/Auld Rd.

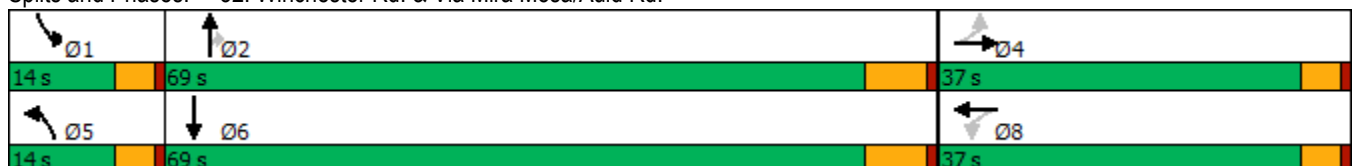


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔	↔↔	↔	↔	↑↑↑↑	↔	↔↔	↑↑↑↑
Traffic Volume (vph)	240	53	397	89	136	3980	357	270	2861
Future Volume (vph)	240	53	397	89	136	3980	357	270	2861
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	34.7	34.7	9.6	23.5	23.5	9.6	23.5
Total Split (s)	37.0	37.0	37.0	37.0	14.0	69.0	69.0	14.0	69.0
Total Split (%)	30.8%	30.8%	30.8%	30.8%	11.7%	57.5%	57.5%	11.7%	57.5%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	6.5	6.5	4.6	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	Min	Min	Max	Min
Act Effct Green (s)	32.3	32.3	32.3	32.3	9.4	62.5	62.5	9.4	62.5
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.08	0.52	0.52	0.08	0.52
v/c Ratio	1.95	0.34	0.78	0.81	1.04	1.08	0.41	1.06	0.89
Control Delay	479.1	19.5	51.7	40.1	140.4	70.1	9.0	124.1	28.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	479.1	19.5	51.7	40.1	140.4	70.1	9.0	124.1	28.9
LOS	F	B	D	D	F	E	A	F	C
Approach Delay		292.5		45.7		67.3			36.3
Approach LOS		F		D		E			D

Intersection Summary

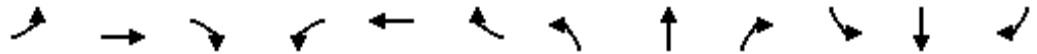
Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.95
 Intersection Signal Delay: 63.5
 Intersection LOS: E
 Intersection Capacity Utilization 115.8%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 32: Winchester Rd. & Via Mira Mosa/Auld Rd.



HCM 6th Signalized Intersection Summary
 32: Winchester Rd. & Via Mira Mosa/Auld Rd.

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔↔	↔		↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	240	53	111	397	89	330	136	3980	357	270	2861	356
Future Volume (veh/h)	240	53	111	397	89	330	136	3980	357	270	2861	356
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	56	100	418	94	184	143	4189	290	284	3012	191
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	383	162	289	584	152	298	140	3897	826	271	3624	226
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.08	0.52	0.52	0.08	0.52	0.52
Sat Flow, veh/h	2136	602	1075	2388	565	1106	1781	7481	1585	3456	6958	434
Grp Volume(v), veh/h	253	0	156	418	0	278	143	4189	290	284	2419	784
Grp Sat Flow(s),veh/h/ln	1068	0	1677	1194	0	1671	1781	1870	1585	1728	1870	1781
Q Serve(g_s), s	14.1	0.0	9.0	20.5	0.0	17.5	9.4	62.5	12.9	9.4	43.6	45.2
Cycle Q Clear(g_c), s	31.6	0.0	9.0	29.5	0.0	17.5	9.4	62.5	12.9	9.4	43.6	45.2
Prop In Lane	1.00		0.64	1.00		0.66	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	383	0	451	584	0	450	140	3897	826	271	2922	928
V/C Ratio(X)	0.66	0.00	0.35	0.72	0.00	0.62	1.02	1.08	0.35	1.05	0.83	0.84
Avail Cap(c_a), veh/h	383	0	451	584	0	450	140	3897	826	271	2922	928
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	0.0	35.3	47.2	0.0	38.4	55.3	28.7	16.9	55.3	24.2	24.6
Incr Delay (d2), s/veh	3.3	0.0	0.2	4.2	0.0	2.6	82.9	39.4	0.3	68.2	2.0	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	3.7	6.4	0.0	7.5	7.3	35.0	4.3	6.5	17.5	18.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.0	35.5	51.4	0.0	41.0	138.2	68.2	17.1	123.5	26.2	31.5
LnGrp LOS	E	A	D	D	A	D	F	F	B	F	C	C
Approach Vol, veh/h		409			696			4622			3487	
Approach Delay, s/veh		48.0			47.3			67.1			35.3	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	69.0		37.0	14.0	69.0		37.0				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	9.4	62.5		* 32	9.4	62.5		* 32				
Max Q Clear Time (g_c+I1), s	11.4	64.5		33.6	11.4	47.2		31.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	12.2		0.3				

Intersection Summary

HCM 6th Ctrl Delay	52.7
HCM 6th LOS	D

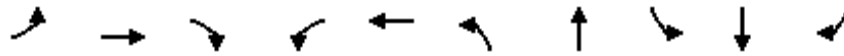
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)

06/24/2021

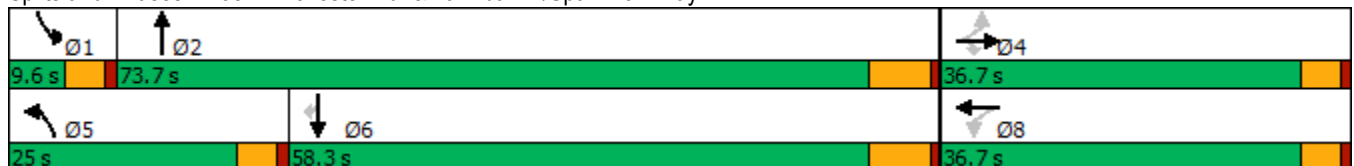


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	200	12	188	160	9	297	4083	22	3180	167
Future Volume (vph)	200	12	188	160	9	297	4083	22	3180	167
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		4			8	5	2	1	6	
Permitted Phases	4		4	8						6
Detector Phase	4	4	4	8	8	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	14.7	36.7	36.7	9.6	16.5	9.6	26.5	26.5
Total Split (s)	36.7	36.7	36.7	36.7	36.7	25.0	73.7	9.6	58.3	58.3
Total Split (%)	30.6%	30.6%	30.6%	30.6%	30.6%	20.8%	61.4%	8.0%	48.6%	48.6%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.6	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7		4.7	4.6	6.5	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min
Act Effct Green (s)	29.4	29.4	29.4		29.4	20.4	71.3	5.0	51.9	51.9
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.17	0.61	0.04	0.44	0.44
v/c Ratio	0.93	0.03	0.36		0.92	1.00	0.98	0.31	1.00	0.22
Control Delay	87.8	32.8	6.7		66.6	100.2	32.4	66.7	48.2	5.2
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.8	32.8	6.7		66.6	100.2	32.4	66.7	48.2	5.2
LOS	F	C	A		E	F	C	E	D	A
Approach Delay		48.0			66.6		36.8		46.2	
Approach LOS		D			E		D		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 117.5
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 42.2
 Intersection LOS: D
 Intersection Capacity Utilization 106.9%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 33: Winchester Rd. & La Alba Dr./Sparkman Way



HCM 6th Signalized Intersection Summary
 33: Winchester Rd. & La Alba Dr./Sparkman Way

Keller Crossing (JN:13649)
 06/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	12	188	160	9	190	297	4083	166	22	3180	167
Future Volume (veh/h)	200	12	188	160	9	190	297	4083	166	22	3180	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	206	12	122	165	9	185	306	4209	99	23	3278	150
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	496	420	214	13	195	304	4227	98	40	3237	670
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.17	0.58	0.58	0.02	0.43	0.43
Sat Flow, veh/h	1189	1870	1585	640	50	734	1781	7278	169	1781	7481	1549
Grp Volume(v), veh/h	206	12	122	359	0	0	306	3231	1077	23	3278	150
Grp Sat Flow(s),veh/h/ln	1189	1870	1585	1425	0	0	1781	1870	1836	1781	1870	1549
Q Serve(g_s), s	0.0	0.6	7.3	29.1	0.0	0.0	20.4	68.1	69.5	1.5	51.8	7.3
Cycle Q Clear(g_c), s	27.5	0.6	7.3	29.6	0.0	0.0	20.4	68.1	69.5	1.5	51.8	7.3
Prop In Lane	1.00		1.00	0.46		0.52	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	295	496	420	421	0	0	304	3258	1066	40	3237	670
V/C Ratio(X)	0.70	0.02	0.29	0.85	0.00	0.00	1.01	0.99	1.01	0.58	1.01	0.22
Avail Cap(c_a), veh/h	298	500	424	425	0	0	304	3258	1066	74	3237	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	32.5	35.0	43.2	0.0	0.0	49.7	24.8	25.1	58.0	34.0	21.3
Incr Delay (d2), s/veh	6.9	0.0	0.4	15.2	0.0	0.0	53.7	13.8	30.1	4.9	19.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.3	2.9	12.1	0.0	0.0	13.2	29.4	34.1	0.7	25.5	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	32.6	35.4	58.3	0.0	0.0	103.4	38.6	55.2	62.8	53.0	21.5
LnGrp LOS	D	C	D	E	A	A	F	D	F	E	F	C
Approach Vol, veh/h		340			359			4614			3451	
Approach Delay, s/veh		43.8			58.3			46.8			51.7	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	76.0		36.4	25.0	58.3		36.4				
Change Period (Y+Rc), s	4.6	6.5		* 4.7	4.6	6.5		* 4.7				
Max Green Setting (Gmax), s	5.0	67.2		* 32	20.4	51.8		* 32				
Max Q Clear Time (g_c+I1), s	3.5	71.5		29.5	22.4	53.8		31.6				
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	0.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.