



Canterwood (Tentative Tract Map No. 37439)

**TRAFFIC IMPACT ANALYSIS
COUNTY OF RIVERSIDE**

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
CAMUTCD	California Manual on Uniform Traffic Control Devices
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
DIF	Development Impact Fee
E+P	Existing Plus Project
EAP	Existing Plus Ambient Growth Plus Project
EAPC	Existing Plus Ambient Growth Plus Project Plus Cumulative
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
ITE	Institute of Transportation Engineers
LOS	Level of Service
N/A	Not Applicable
PCE	Passenger Car Equivalents
PeMS	Performance Measurement System
PHF	Peak Hour Factor
Project	Canterwood (Tentative Tract Map No. 37439)
RCTC	Riverside County Transportation Commission
RTA	Riverside Transit Authority
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
SHS	State Highway System
TIA	Traffic Impact Analysis
TTM	Tentative Tract Map
TUMF	Transportation Uniform Mitigation Fee
WRCOG	Western Riverside Council of Governments

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1 INTRODUCTION

This report presents the results of the traffic impact analysis (TIA) for the proposed Canterwood (Tentative Tract Map No. 37439) (TTM No. 37439) development (“Project”) located on the northeast corner of Leon Road and Craig Avenue in the County of Riverside as shown on Exhibit 1-1.

The purpose of this TIA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project and recommend improvements to achieve acceptable circulation system operational conditions. This TIA has been prepared in accordance with the County of Riverside Transportation Department Traffic Impact Analysis Preparation Guide (April 2008), the California Department of Transportation (Caltrans) Guide for the Preparation of Traffic Impact Studies (December 2002), and consultation with County of Riverside staff during the scoping process. (1) (2) The approved Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TIA.

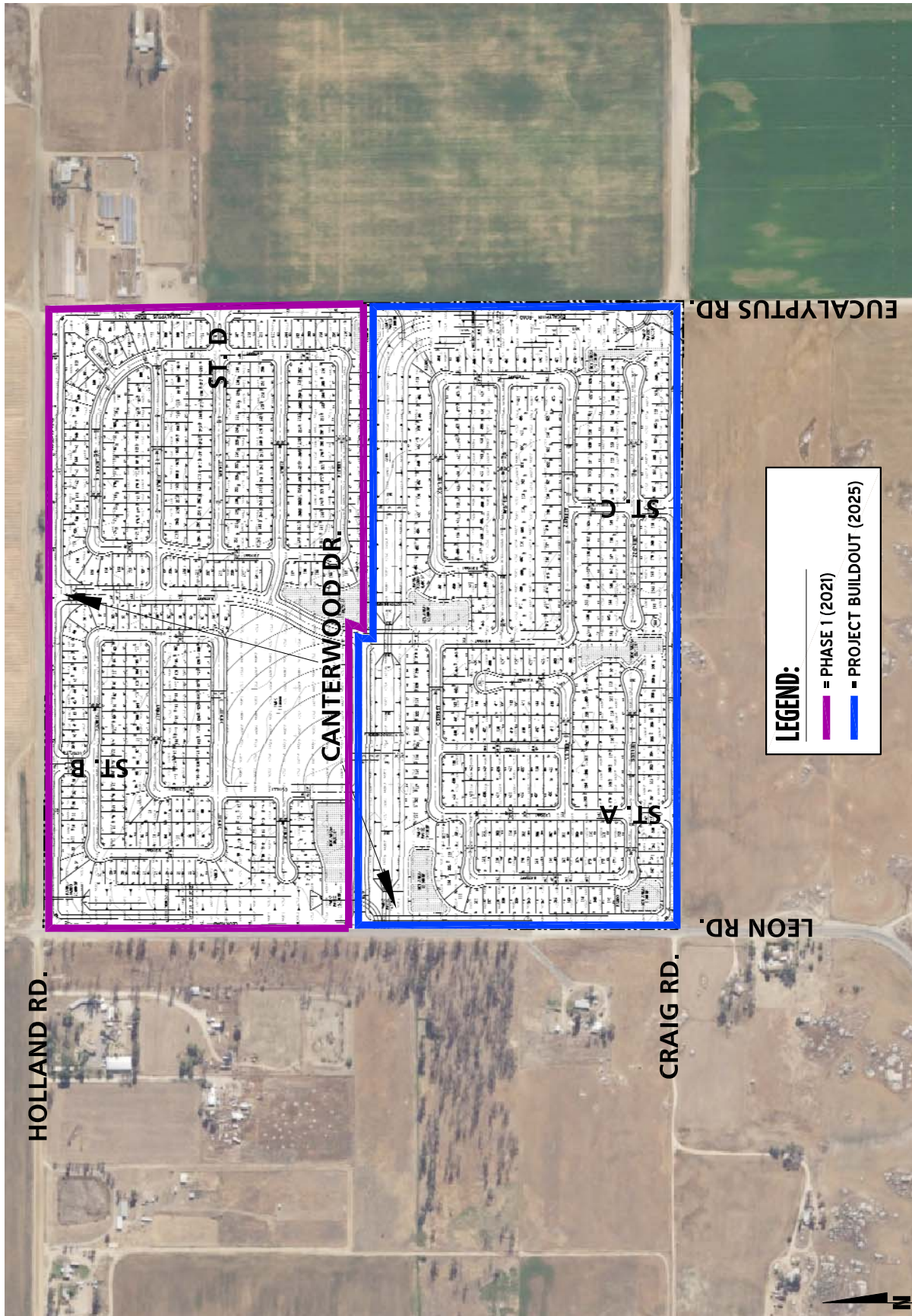
1.1 PROJECT OVERVIEW

For the purposes of this analysis, potential impacts have been assessed for two development phases. Exhibit 1-1 identifies the proposed land use and planning areas which are included in Phase 1 and Phase 2. The two phases and their anticipated opening years are as follows:

- Phase 1 2021 – 317 single-family residential units and an 8.2-acre park
- Phase 2 Project Buildout 2025 – Phase 1 development plus 257 additional single-family residential units

Trips generated by the Project’s proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, 2017. (3) Phase 1 (2021) of the Project is estimated to generate a net total of 2,998 trip-ends per day on a typical weekday with 235 AM peak hour trips and 314 PM peak hour trips. Phase 2 Project Buildout (2025) is estimated to generate a net total of 5,425 trip-ends per day with 425 AM peak hour trips and 568 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.

EXHIBIT 1-1: PRELIMINARY SITE PLAN



1.2 ANALYSIS SCENARIOS

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

- Existing (2018) Conditions
- Existing plus Project (E+P) (Phase 1) Conditions
- E+P (Phase 2 Project Buildout) Conditions
- Existing plus Ambient Growth Plus Project (EAP) (Phase 1 2021) Conditions
- EAP (Phase 2 Project Buildout 2025) Conditions
- Existing plus Ambient Growth Plus Project Plus Cumulative (EAPC) (Phase 1 2021) Conditions
- EAPC (Phase 2 Project Buildout 2025) Conditions

All study area intersections will be evaluated using the Highway Capacity Manual (HCM) 6 analysis methodology.

1.2.1 EXISTING CONDITIONS

Existing physical conditions have been disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared.

1.2.2 E+P CONDITIONS

The E+P analysis determines circulation system deficiencies that would occur on the existing roadway system in the scenario of the Project being placed upon Existing conditions. This analysis scenario has been evaluated for both Phase 1 and Project buildout traffic conditions.

1.2.3 EAP CONDITIONS

The EAP (Phase 1 2021) and EAP (Phase 2 Project Buildout 2025) traffic conditions analyses determine potential traffic impacts based on a comparison of the EAP traffic conditions to Existing conditions. To account for background traffic growth, an ambient growth factor from Existing conditions of 6.12% (2 percent per year over 3 years, compounded annually) for 2021 (Phase 1) conditions and 14.87% (2 percent per year over 7 years, compounded annually) for 2025 (Phase 2 Project Buildout) conditions are included for EAP traffic conditions. 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.

1.2.4 EAPC CONDITIONS

The EAPC (Phase 1 2021) and EAPC (Phase 2 Project Buildout 2025) traffic conditions analyses determine the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth factor from Existing conditions of 6.12% (for Phase 1 2021 conditions) and 14.87% (for Phase 2 Project Buildout 2025 conditions) are included for EAPC

traffic conditions. This comprehensive list was compiled from information provided by the County of Riverside, City of Menifee, City of Murrieta, and City of Temecula.

1.3 STUDY AREA

1.3.1 INTERSECTIONS

The Project study area was defined in coordination with the County of Riverside. Consistent with County of Riverside traffic study guidelines, the study area includes any intersection of “Collector” or higher classification street, with “Collector” or higher classification streets, at which the proposed project will add 50 or more peak hour trips. Exhibit 1-2 and Table 1-1 presents the study area and intersection analysis locations.

The “50 peak hour trip” criteria generally represents a minimum number of trips at which a typical intersection would have the potential to be substantively impacted by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of impact (i.e., study area).

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

The Congestion Management Program (CMP) study area intersections are anticipated to operate at LOS E or better with the implementation of planned improvements or improvements recommended in this traffic study.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction	CMP
1	Haun Rd./Zeiders Rd. & Scott Rd.	Menifee	No
2	I-215 Southbound Ramps & Scott Rd.	Caltrans, Menifee	Yes
3	I-215 Northbound Ramps & Scott Rd.	Caltrans, Menifee, Murrieta	Yes
4	Antelope Rd. & Scott Rd.	Menifee	No
5	Menifee Rd. & Holland Rd.	Menifee	No
6	Menifee Rd. & Scott Rd.	Riverside County, Menifee	No
7	Briggs Rd. & Holland Rd.	Riverside County, Menifee	No
8	Briggs Rd. & Scott Rd.	Riverside County, Menifee	No
9	Leon Rd. & Holland Rd.	Riverside County	No
10	Leon Rd. & Canterwood Dr. – Future Intersection	Riverside County	No
11	Leon Rd. & Craig Av.	Riverside County	No
12	Leon Rd. & Garbani Rd.	Riverside County	No
13	Leon Rd. & Scott Rd.	Riverside County, Menifee	No
14	St. A & Craig Av. – Future Intersection	Riverside County	No
15	St. B & Holland Rd. – Future Intersection	Riverside County	No
16	Canterwood Dr. & Holland Rd. – Future Intersection	Riverside County	No
17	St. C & Craig Av. – Future Intersection	Riverside County	No
18	Eucalyptus Rd. & Holland Rd. – Future Intersection	Riverside County	No
19	Eucalyptus Rd. & St. D – Future Intersection	Riverside County	No

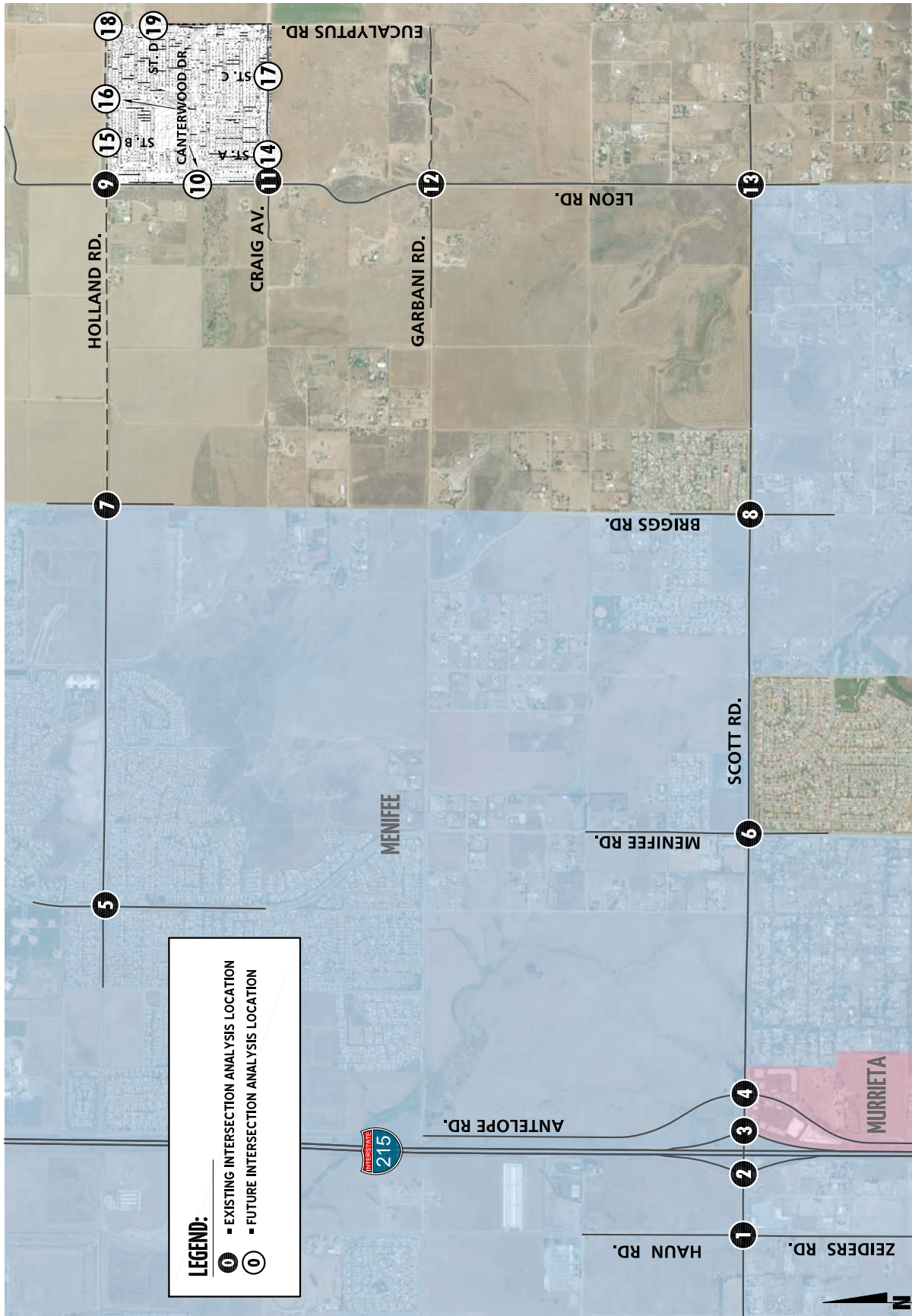
1.3.2 FREEWAY MAINLINE SEGMENTS

Standard Caltrans guidance related to the geographic scope of the study area for the State Highway System (SHS) suggests the traffic study should include as a minimum all State highway facilities where the project will add over 100 peak hour trips. State highway facilities that are experiencing noticeable delays (per HCM analysis) should be analyzed in the scope of the traffic study for projects that add 50 to 100 peak hour trips. Because impacts to freeway segments dissipate with distance from the point of entry, quantitative study of freeway segments beyond those immediately adjacent to the point of entry is not being proposed. As such, the traffic study has evaluated the segments shown on Table 1-2.

TABLE 1-2: FREEWAY MAINLINE SEGMENT ANALYSIS LOCATIONS

ID	Freeway Mainline Segments
1	I-215 Freeway Southbound – North of Scott Road
2	I-215 Freeway Southbound – South of Scott Road
3	I-215 Freeway Northbound – North of Scott Road
4	I-215 Freeway Northbound – South of Scott Road

EXHIBIT 1-2: LOCATION MAP



11302 - locmap.dwg



1.3.3 FREEWAY MERGE/DIVERGE RAMP JUNCTIONS

The study area freeway merge/diverge ramp junction analysis locations (i.e., the location where the ramp meets the freeway mainline) include the following I-215 Freeway ramp merge/diverge areas for the southbound and northbound directions of flow as shown on Table 1-3:

TABLE 1-3: FREEWAY MERGE/DIVERGE RAMP JUNCTION ANALYSIS LOCATIONS

ID	Freeway Merge/Diverge Ramp Junctions
1	I-215 Freeway – Southbound, Off-Ramp at Scott Road (Diverge)
2	I-215 Freeway – Southbound, Loop On-Ramp (Upstream) at Scott Road (Merge) – Future Ramp Junction
3	I-215 Freeway – Southbound, Loop On-Ramp (Downstream) at Scott Road (Merge) – Future Ramp Junction
4	I-215 Freeway – Southbound, On-Ramp at Scott Road (Merge)
5	I-215 Freeway – Northbound, On-Ramp at Scott Road (Merge)
6	I-215 Freeway – Northbound, Off-Ramp at Scott Road (Diverge)

1.4 ANALYSIS FINDINGS

This section provides a summary of the analysis results for Existing (2018), E+P (Phase 1), E+P (Project Buildout), EAP (Phase 1 2021), EAP (Phase 2 Project Buildout 2025), EAPC (Phase 1 2021), and EAPC (Phase 2 Project Buildout 2025) traffic conditions.

1.4.1 INTERSECTIONS

Existing (2018) Conditions

For Existing (2018) traffic conditions, the study area intersections are currently operating at an acceptable level of service (LOS) (i.e., LOS D or better) during one or both of the peak hours, with the exception of the following intersection:

- Briggs Rd. & Scott Rd. (#8) – LOS F AM peak hour only

It is important to recognize that the intersection operations analysis reflects the existing constrained traffic count conditions. These constraints in the form of vehicle queues at closely spaced intersections significantly limit the number of vehicles that can physically be accommodated during peak hour conditions. While the traffic counts identify all the vehicles using an intersection during peak hours, they may not fully account for the unconstrained demand at a particular location. The I-215 Ramps locations at the Scott Road interchange experience vehicle delays that are not reflected in the intersection LOS analysis due to the constrained conditions. As such, based on the constrained traffic count data the intersections appear to operate at acceptable LOS or at LOS better than field observations would suggest. Field observations show that these intersections along Scott Road near the I-215 Freeway experience peak hour queues that periodically affect intersection operations.

E+P (Phase 1) Conditions

The intersection analysis results indicate that the addition of Phase 1 traffic is anticipated to result in the following LOS deficiencies:

- Briggs Rd. & Scott Rd. (#8) – LOS F AM peak hour only
- Leon Rd. & Scott Rd. (#13) – LOS E PM peak hour only

E+P (Project Buildout) Conditions

The intersection analysis results indicate that the addition of Project Buildout traffic is not anticipated to result in any additional LOS deficiencies, in addition to those previously identified under Existing (2018) and E+P (Phase 1) traffic conditions.

EAP (Phase 1 2021) Conditions

The intersection analysis results indicate that the following study area intersection is anticipated to operate at an unacceptable LOS under EAP (Phase 1 2021) traffic conditions:

- Briggs Rd. & Scott Rd. (#8) – LOS F AM peak hour only
- Leon Rd. & Scott Rd. (#13) – LOS E AM and PM peak hours

EAP (Phase 2 Project Buildout 2025) Conditions

The intersection analysis results indicate that the following study area intersection is anticipated to operate at an unacceptable LOS under EAP (Phase 2 Project Buildout 2025) traffic conditions, in addition to those previously identified under Existing (2018) and EAP (Phase 1 2021) traffic conditions:

- Haun Rd./Zeiders Rd. & Scott Rd. (#1) – LOS E AM and PM peak hours

EAPC (Phase 1 2021) Conditions

The intersection analysis results indicate that the following study area intersections are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during one or more peak hours under EAPC (Phase 1 2021) traffic conditions:

- Haun Rd./Zeiders Rd. & Scott Rd. (#1) – LOS F AM and PM peak hours
- Antelope Rd. & Scott Rd. (#4) – LOS E AM peak hour, LOS F PM peak hour
- Menifee Rd. & Holland Rd. (#5) – LOS F AM and PM peak hours
- Menifee Rd. & Scott Rd. (#6) – LOS E AM peak hour, LOS F PM peak hour
- Briggs Rd. & Scott Rd. (#8) – LOS F AM and PM peak hours
- Leon Rd. & Scott Rd. (#13) – LOS F AM and PM peak hours

EAPC (Phase 2 Project Buildout 2025) Conditions

The intersection analysis results indicate that the following intersection is anticipated to operate at unacceptable LOS under EAPC (Phase 2 Project Buildout 2025) traffic conditions, in addition to those previously identified under Existing (2018) and EAPC (Phase 1 2021) traffic conditions:

- Leon Av. & Craig Av. (#11) – LOS F AM peak hour, LOS E PM peak hour

1.4.2 FREEWAY FACILITIES

Existing (2018) Conditions

The following freeway mainline segments are currently operating an unacceptable LOS (i.e., LOS E or worse) under Existing (2018) traffic conditions:

- I-215 Freeway Southbound – North of Scott Road (#1) – LOS E AM peak hour only
- I-215 Freeway Southbound – South of Scott Road (#2) – LOS E AM peak hour only

The following ramp merge/diverge areas are currently operating at an unacceptable LOS (i.e., LOS E or worse) under Existing (2018) traffic conditions:

- I-215 Freeway – Southbound, Off-Ramp at Scott Road (#1) – LOS E AM peak hour only
- I-215 Freeway – Southbound, On-Ramp at Scott Road (#4) – LOS E AM peak hour only

E+P (Phase 1) Conditions

The freeway mainline segment analysis indicates that the addition of Phase 1 traffic is anticipated to result in the same LOS deficiencies as those identified under Existing (2018) conditions:

- I-215 Freeway Southbound – North of Scott Road (#1) – LOS E AM peak hour only
- I-215 Freeway Southbound – South of Scott Road (#2) – LOS F AM peak hour only

The following ramp merge/diverge areas are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under E+P (Phase 1) traffic conditions:

- I-215 Freeway – Southbound, Off-Ramp at Scott Road (#1) – LOS E AM and PM peak hours
- I-215 Freeway – Southbound, On-Ramp at Scott Road (#4) – LOS F AM peak hour only
- I-215 Freeway – Northbound, Off-Ramp at Scott Road (#6) – LOS E PM peak hour only

E+P (Project Buildout) Conditions

The freeway mainline segment analysis indicates that the addition of Project Buildout traffic is not anticipated to result in any new LOS deficiencies, in addition to those identified under Existing (2018) and E+P (Phase 1) conditions.

The freeway ramp merge/diverge analysis indicates that the addition of Project Buildout traffic is not anticipated to result in any new LOS deficiencies, in addition to those identified under Existing (2018) and E+P (Phase 1) conditions.

EAP (Phase 1 2021) Conditions

The following freeway mainline segments are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAP (Phase 1 2021) traffic conditions:

- I-215 Freeway Southbound – North of Scott Road (#1) – LOS F AM peak hour; LOS E PM peak hour
- I-215 Freeway Southbound – South of Scott Road (#2) – LOS F AM peak hour; LOS E PM peak hour
- I-215 Freeway Northbound – South of Scott Road (#4) – LOS E PM peak hour only

The following ramp merge/diverge areas are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAP (Phase 1 2021) traffic conditions:

- I-215 Freeway – Southbound, Off-Ramp at Scott Road (#1) – LOS F AM peak hour; LOS E PM peak hour
- I-215 Freeway – Southbound, On-Ramp at Scott Road (#4) – LOS F AM peak hour only
- I-215 Freeway – Northbound, Off-Ramp at Scott Road (#6) – LOS E PM peak hour only

EAP (Phase 2 Project Buildout 2025) Conditions

The following additional freeway mainline segment is anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAP (Phase 2 Project Buildout 2025) traffic conditions, in addition to those identified under Existing (2018) and EAP (Phase 1 2021) conditions:

- I-215 Freeway Northbound – North of Scott Road (#3) – LOS E PM peak hour only

The following additional ramp merge/diverge area is anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAP (Phase 2 Project Buildout 2025) traffic conditions, in addition to those identified under Existing (2018) and EAP (Phase 1 2021) conditions:

- I-215 Freeway – Northbound, On-Ramp at Scott Road (#5) – LOS E PM peak hour only

EAPC (Phase 1 2021) Conditions

All freeway mainline segments are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAPC (Phase 1 2021) traffic conditions:

- I-215 Freeway Southbound – North of Scott Road (#1) – LOS F AM peak hour; LOS E PM peak hour
- I-215 Freeway Southbound – South of Scott Road (#2) – LOS F AM peak hour; LOS E PM peak hour
- I-215 Freeway Northbound – North of Scott Road (#3) – LOS E PM peak hour only
- I-215 Freeway Northbound – South of Scott Road (#4) – LOS E PM peak hour only

The following ramp merge/diverge areas are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAPC (Phase 1 2021) traffic conditions:

- I-215 Freeway – Southbound, Off-Ramp at Scott Road (#1) – LOS F AM peak hour; LOS E PM peak hour
- I-215 Freeway – Southbound, Loop On-Ramp (Upstream) at Scott Road (#2) – LOS F AM peak hour, LOS E PM peak hour

- I-215 Freeway – Southbound, Loop On-Ramp (Downstream) at Scott Road (#3) – LOS F AM peak hour, LOS E PM peak hour
- I-215 Freeway – Southbound, On-Ramp at Scott Road (#4) – LOS F AM peak hour; LOS E PM Peak hour
- I-215 Freeway – Northbound, Off-Ramp at Scott Road (#6) – LOS F PM peak hour only

EAPC (Phase 2 Project Buildout 2025) Conditions

There are no freeway mainline segments anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAPC (Phase 2 Project Buildout 2025) traffic conditions, in addition to those previously identified under Existing (2018), EAP (Phase 1 2021), EAP (Phase 2 Project Buildout 2025), and EAPC (Phase 1 2021) traffic conditions.

The following ramp merge/diverge area is anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during one or more peak hours under EAPC (Phase 2 Project Buildout 2025) traffic conditions, in addition to those previously identified under Existing (2018), EAP (Phase 1 2021), EAP (Phase 2 Project Buildout 2025) and EAPC (Phase 1 2021) traffic conditions:

- I-215 Freeway – Northbound, On-Ramp at Scott Road (#5) – LOS E PM peak hour only

1.5 CIRCULATION SYSTEM DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

1.5.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

A summary of the operationally deficient study area intersections and recommended improvements required to achieve acceptable circulation system performance are described in detail within Section 3 *Existing Conditions*, Section 5 *E+P Traffic Analysis*, Section 6 *EAP Traffic Analysis*, and Section 7 *EAPC Traffic Analysis* of this report.

A summary of off-site improvements needed to address intersection operational deficiencies for each analysis scenario is included in Table 1-4. These recommended improvements are consistent with or less than the geometrics assumed in the County of Riverside and City of Menifee General Plan Circulation Elements. Improvements found to be included in the Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF) and County of Riverside’s (lead agency) Development Impact Fee (DIF) program have been identified as such. (4) For improvements that do not appear to be in the TUMF or DIF, a fair share financial contribution based on the Project’s fair share impact may be imposed in order to mitigate the Project’s share of impacts in lieu of construction. These fees (both to the County of Riverside, TUMF, and as determined, to surrounding agencies as fair-share contributions) are collected as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected vehicle trip increases. Additional information related to these various fee programs are contained in Section 1.6 *Local and Regional Funding Mechanisms* of this report.

1.5.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

Deficiencies on freeway mainline and merge-diverge segments are identified and described in detail within Section 7 *EAPC Traffic Analysis* of this report. The I-215 Central Project includes the construction of a mixed-flow lane in each direction of travel along the I-215 Freeway within the existing median between Nuevo Road and Scott Road. Based on information obtained from the Riverside County Transportation Commission (RCTC), and as verified through field observations, RCTC began construction early 2013 to widen 12.5 miles of Interstate 215 between Scott Road in Menifee and Nuevo Road in Perris and was completed in 2015. One lane was added in each direction to this section of I-215 Freeway. No additional improvements have been recommended to address the I-215 Freeway deficiencies beyond those completed by Caltrans in 2015.

1.6 LOCAL AND REGIONAL FUNDING MECHANISMS

1.6.1 TRANSPORTATION UNIFORM MITIGATION FEE (TUMF) PROGRAM

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, except the City of Beaumont.

TUMF fees are imposed on new residential, industrial, and commercial development through application of the TUMF fee ordinance and fees are collected at the building or occupancy permit stage. In addition, an annual inflation adjustment is considered each year in February. In this way, TUMF fees are adjusted upwards on a regular basis to ensure that the development impact fees collected keep pace with construction and labor costs, etc.

Table 1-4
1 of 2

Summary of Intersection Improvements

#	Intersection Location	Jurisdiction	Recommended Improvements ¹							Improvements in TUMF or DIF ² ?	Fair Share % ³
			Existing (2018)	E+P (Phase 1)	E+P (Project Buildout)	EAP (2021)	EAP (2025)	EAPC (2021)	EAPC (2025)		
1	Haun Rd./Zeiders Rd. / Scott Rd.	Menifee	None	None	None	None	2nd SB left turn lane Overlap phasing on WB right turn lane	Same Same 2nd EB through lane 2nd WB through lane	Same Same Same Same	No No Yes (TUMF) Yes (TUMF)	4.1%
2	I-215 SB Ramps / Scott Rd.	Menifee, Caltrans	None	None	None	None	None	Dual SB left turn lanes ⁴ Dual SB right turn lanes ⁴ 2nd EB through lane ⁴ EB free-right turn lane ⁴ 2nd WB through lane ⁴ WB right turn lane ⁴	Same ⁴ Same ⁴ Same ⁴ Same ⁴ Same ⁴ Same ⁴	Yes (TUMF) Yes (TUMF) Yes (TUMF) Yes (TUMF) Yes (TUMF) Yes (TUMF)	N/A
3	I-215 NB Ramps / Scott Rd.	Menifee, Murrieta, Caltrans	None	None	None	None	None	2nd NB right turn lane ⁴ Dual SB right turn lanes ⁴ 2nd EB through lanes ⁴ 2nd WB through lane ⁴	Same ⁴ Same ⁴ Same ⁴ Same ⁴	Yes (TUMF) Yes (TUMF) Yes (TUMF) Yes (TUMF)	N/A
4	Antelope Rd. / Scott Rd.	Menifee	None	None	None	None	None	3rd WB through lane ⁴ Overlap phasing on EB right turn lane ⁴	Same ⁴ Same ⁴ 2nd EB left turn lane 3rd EB through lane	Yes (TUMF) Yes (TUMF) Yes (TUMF) Yes (TUMF)	N/A
5	Menifee Rd. / Holland Rd.	Menifee	None	None	None	None	None	Traffic Signal	Same 2nd WB left turn lane WB right turn lane	No No No	4.1%
6	Menifee Rd. / Scott Rd.	Menifee, Riverside County	None	None	None	None	None	SB right turn lane 2nd EB left turn lane 3rd WB through lane WB right turn lane	Same Same Same Same 3rd EB through lane	No No No Yes (TUMF) No	14.5%
8	Briggs Rd. / Scott Rd.	Riverside County, Menifee	NB left and shared through-right turn lane	Same	Same	Same	Same	Same	Same	Yes (TUMF)	N/A
11	Leon Rd. / Craig Av.	Riverside County	None	None	None	None	None	None	NB left turn lane 2nd NB through lane SB left turn lane 2nd SB through lane	No No No No	64.8%

Table 1-4
2 of 2

Summary of Intersection Improvements

#	Intersection Location	Jurisdiction	Recommended Improvements ¹							Improvements in TUMF or DIF ² ?	Fair Share % ³
			Existing (2018)	E+P (Phase 1)	E+P (Project Buildout)	EAP (2021)	EAP (2025)	EAPC (2021)	EAPC (2025)		
13	Leon Rd. / Scott Rd.	Riverside County, Menifee	None	Traffic Signal	Same	Same	Same	Same NB left turn lane SB left turn lane EB left turn lane WB left turn lane	Same Same Same Same Overlap phasing on SB right turn lane 2nd EB through lane 2nd WB through lane	Yes (DIF) No No No No Yes (TUMF) Yes (TUMF)	24.1%

¹ All recommended improvements are consistent with the general plan designations of the respective jurisdictions in which they are located.

² Improvements are identified as being included in the Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF) program and/or County of Riverside DIF.

³ Program improvements constructed by project may be eligible for fee credit, at discretion of County. See Table 1-5 for Fair Share Calculations.

⁴ Recommended improvements are consistent with the proposed Phase 1 (interim) I-215 Freeway and Scott Road Interchange Improvements. These improvements are assumed to be in place starting in EAPC (2021) traffic conditions. Improvements also assumed at Antelope Road.

1.6.2 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 2010. (5) 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.

1.6.3 FAIR SHARE CONTRIBUTION

Project mitigation may include a combination of fee payments to established programs (e.g., TUMF and/or DIF), 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 of Riverside'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 on Table 1-5 for the applicable deficient intersections shown previously on Table 1-4. Improvements included in a defined program and constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate.

Table 1-5

Project Fair Share Calculations

#	Intersection	Existing	Project Only (Buildout)	EAPC (2025) With Project	Total New Traffic	Project % of New Traffic ¹	
1	Haun Rd./Zeiders Rd. / Scott Rd.	AM:	2,124	76	3,980	1,856	4.1%
		PM:	2,042	103	4,564	2,522	4.1%
5	Menifee Rd. / Holland Rd.	AM:	1,315	59	3,310	1,995	3.0%
		PM:	1,042	79	2,961	1,919	4.1%
6	Menifee Rd. / Scott Rd.	AM:	2,064	293	4,207	2,143	13.7%
		PM:	2,376	392	5,073	2,697	14.5%
11	Leon Rd. / Craig Av.	AM:	112	375	691	579	64.8%
		PM:	89	500	862	773	64.7%
13	Leon Rd. / Scott Rd.	AM:	1,068	356	2,865	1,797	19.8%
		PM:	954	478	2,936	1,982	24.1%

¹ Project percentage of new traffic between Existing (2018) and EAPC (2025) traffic conditions. Highest fair share percentage is highlighted.

1.7 PROJECT IMPACTS AND MITIGATION MEASURES

Project-related impacts are anticipated to occur if the addition of project traffic results in deficient peak hour operations where there were acceptable operations under pre-project conditions (based on a comparison of Existing and E+P/EAP traffic conditions).

1.7.1 PROJECT IMPACTS

The recommended mitigation measures necessary to reduce Project impacts to less-than-significant are discussed in Section 1.7.2 *Project Mitigation Measures*. The construction of facilities by the Project Applicant would be eligible for DIF credit and reimbursement if the construction exceeds the Project's fair share, as identified in Table 1-4. The County shall review the proposed mitigation measures to determine if the Project shall construct certain improvements, including traffic signals, or contribute fair share.

Phase 1 2021

Impact 1.1 – Leon Road & Scott Road (#13) – This intersection was found to operate at an acceptable LOS (LOS B/C) during the AM and PM peak hours under Existing traffic conditions. However, the intersection is anticipated to operate at unacceptable levels during one or more of the peak hours with the addition of Project traffic for E+P (Phase 1) and EAP (Phase 1 2021) traffic conditions. As such, the impact is considered significant.

Phase 2 Project Buildout 2025

Impact 1.2 – Leon Road & Scott Road (#13) – This intersection was found to operate at an acceptable LOS (LOS B/C) during the AM and PM peak hours under Existing traffic conditions. However, the intersection is anticipated to operate at unacceptable levels during one or more of the peak hours with the addition of Project traffic for E+P (Phase 2 Project Buildout) traffic conditions. As such, the impact is considered significant.

Impact 2.1 – Haun Road/Zeiders Road & Scott Road (#1) – This intersection was found to operate at an acceptable LOS (LOS D) during the AM and PM peak hours under Existing traffic conditions. However, the intersection is anticipated to operate at unacceptable levels during one or more of the peak hours with the addition of Project traffic for EAP (Phase 2 Project Buildout 2025) traffic conditions. As such, the impact is considered significant.

1.7.2 MITIGATION MEASURES

Phase 1 2021

Mitigation Measure 1.1 – Leon Road & Scott Road (#13) – The following improvement would be necessary to improve the intersection's peak hour operations to acceptable levels, thus reducing the significant impact to less than significant:

- Install a traffic signal.

Phase 2 Project Buildout 2025

Mitigation Measure 1.2 – Leon Road & Scott Road (#13) – The following improvement would be necessary to improve the intersection’s peak hour operations to acceptable levels, thus reducing the significant impact to less than significant:

- Install a traffic signal.

Mitigation Measure 2.1 – Haun Road/Zeiders Road & Scott Road (#1) – The following improvements would be necessary to improve the intersection’s peak hour operations to acceptable levels, thus reducing the significant impact to less than significant:

- Construct a 2nd southbound left turn lane.
- Modify the traffic signal to implement overlap phasing on the westbound right turn lane.
- It should be noted that these improvements have been conditioned on other near-by development and are to be constructed by others.

1.8 CUMULATIVE MITIGATION MEASURES

A summary of the cumulatively impacted study area intersections and recommended mitigation measures to address cumulatively significant impacts are described in detail within Section 6.0 *Opening Year Cumulative (Phase 1 2021) Traffic Conditions*, Section 7.0 *Opening Year Cumulative (Phase 2 Project Buildout 2025) Traffic Conditions*, and Section 8.0 *Horizon Year (2040) Traffic Conditions*. Cumulative traffic impacts are deficiencies that are not directly caused by the project but occur as a result of regional growth combined with that or other nearby cumulative development projects or if the project is anticipated to contribute traffic to a deficient intersection under pre-project conditions. The Project’s contribution to a particular cumulative transportation deficiency is deemed cumulatively considerable if the Project adds significant traffic to the forecasted deficiency.

A rough order of magnitude cost has been prepared to determine the appropriate contribution value based upon the Project’s fair share of traffic as part of the project approval process. Table 1-6 summarizes the applicable cost associated with each of the recommended improvements based on current construction unit costs. The total cost of needed study area intersection improvements is \$1,497,500. Based on the project fair share percentages shown on Table 1-6, the project’s fair share cost is estimated at \$401,549. These estimates are a rough order of magnitude only as they are intended only for discussion purposes and do not imply any legal responsibility or formula for contributions or mitigation.

The following mitigation measures are based on the improvements needed under Horizon Year (2040) traffic conditions. The improvements needed to address Opening Year Cumulative deficiencies would be a sub-set of those improvements recommended under Horizon Year (2040) traffic conditions.

Table 1-6
1 of 2

Rough Order of Magnitude Costs for Intersection Improvements

#	Intersection Location	Jurisdiction	Recommended Improvements ¹	Improvements in TUMF or DIF? ²	Total Cost ³	Fair Share % ⁴	Fair Share Cost ⁵
1	Haun Rd./Zeiders Rd. / Scott Rd.	Menifee	2nd SB left turn lane Overlap phasing on WB right turn lane 2nd EB through lane 2nd WB through lane	No No Yes (TUMF) Yes (TUMF) Total	\$82,500 \$7,500 \$0 \$0 \$90,000	4.1%	\$3,369 \$306 \$0 \$0 \$3,676
2	I-215 SB Ramps / Scott Rd.	Menifee, Caltrans	Dual SB left turn lanes ⁶ Dual SB right turn lanes ⁶ 2nd EB through lane ⁶ EB free-right turn lane ⁶ 2nd WB through lane ⁶ WB right turn lane ⁶	Yes (TUMF) Yes (TUMF) Yes (TUMF) Yes (TUMF) Yes (TUMF) Yes (TUMF) Total	\$0 \$0 \$0 \$0 \$0 \$0 \$0	N/A	\$0 \$0 \$0 \$0 \$0 \$0 \$0
3	I-215 NB Ramps / Scott Rd.	Menifee, Murrieta, Caltrans	2nd NB right turn lane ⁶ Dual SB right turn lanes ⁶ 2nd EB through lanes ⁶ 2nd WB through lane ⁶	Yes (TUMF) Yes (TUMF) Yes (TUMF) Yes (TUMF) Total	\$0 \$0 \$0 \$0 \$0	N/A	\$0 \$0 \$0 \$0 \$0
4	Antelope Rd. / Scott Rd.	Menifee	3rd WB through lane ⁶ Overlap phasing on EB right turn lane ⁶ 2nd EB left turn lane 3rd EB through lane	Yes (TUMF) Yes (TUMF) Yes (TUMF) Yes (TUMF) Total	\$0 \$0 \$0 \$0 \$0	N/A	\$0 \$0 \$0 \$0 \$0
5	Menifee Rd. / Holland Rd.	Menifee	Traffic Signal 2nd WB left turn lane WB right turn lane	No No No Total	\$250,000 \$82,500 \$65,000 \$397,500	4.1%	\$10,292 \$3,396 \$2,676 \$16,364
6	Menifee Rd. / Scott Rd.	Menifee, Riverside County	SB right turn lane 2nd EB left turn lane 3rd WB through lane WB right turn lane 3rd EB through lane	No No No Yes (TUMF) No Total	\$65,000 \$82,500 \$90,000 \$0 \$90,000 \$327,500	14.5%	\$9,448 \$11,991 \$13,081 \$0 \$13,081 \$47,601



Table 1-6
2 of 2

Rough Order of Magnitude Costs for Intersection Improvements

#	Intersection Location	Jurisdiction	Recommended Improvements ¹	Improvements in TUMF or DIF? ²	Total Cost ³	Fair Share % ⁴	Fair Share Cost ⁵
8	Briggs Rd. / Scott Rd.	Riverside County, Menifee	NB left and shared through-right turn lane	Yes (TUMF)	\$0	N/A	\$0
11	Leon Rd. / Craig Av.	Riverside County	NB left turn lane 2nd NB through lane SB left turn lane ⁷ 2nd SB through lane	No No No No	\$82,500 \$90,000 \$82,500 \$90,000 \$345,000	64.8%	\$53,433 \$58,290 \$82,500 \$58,290 \$252,513
13	Leon Rd. / Scott Rd.	Riverside County, Menifee	Traffic Signal NB left turn lane SB left turn lane EB left turn lane WB left turn lane Overlap phasing on SB right turn lane 2nd EB through lane 2nd WB through lane	Yes (DIF) No No No No No Yes (TUMF) Yes (TUMF)	\$0 \$82,500 \$82,500 \$82,500 \$82,500 \$7,500 \$0 \$0 \$337,500	24.1%	\$0 \$19,897 \$19,897 \$19,897 \$19,897 \$1,809 \$0 \$0 \$81,395
Total					\$1,497,500		\$401,549
Fair Share Contribution to the County of Riverside (non-DIF/TUMF)⁸					\$600,000		\$314,011
Fair Share Contribution to the City of Menifee⁹					\$897,500		\$87,537

¹ All recommended improvements are consistent with the general plan designations of the respective jurisdictions in which they are located (see Table 1-4).
² Improvements are identified as being included in the Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF) program and/or County of Riverside DIF.
³ Costs have been estimated using current construction unit costs. Cost does not include right of way acquisition.
⁴ See Table 1-5 for Fair Share Calculations. Represents the highest fair share for the Project.
⁵ Program improvements constructed by project may be eligible for fee credit. In lieu fee payment is at discretion of City.
⁶ Recommended improvements are consistent with the proposed Phase 1 (interim) I-215 Freeway and Scott Road Interchange Improvements. These improvements are assumed to be in place starting in EAPC (2021) traffic conditions. Improvements also assumed at Antelope Road.
⁷ Project Improvement/design feature.
⁸ Total project fair share contribution consists of the improvements which are not already included in the County-wide DIF/TUMF for those intersections wholly or partially within the County.
⁹ Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Menifee.



Mitigation Measure 3.1 – Prior to the issuance of building permits, the Project applicant shall participate in the County’s TUMF/DIF programs by paying the requisite TUMF/DIF fees at the time of building permit; and in addition, shall pay the Project’s fair share amount of \$314,011 for the improvements identified in Table 1-6 that are consistent with the improvements shown on Table 7-5, or as agreed to by the County and Project Applicant.

Mitigation Measure 4.1 – Table 1-6 of the TIA includes intersections that either share a mutual border with the City of Menifee or are wholly located within the City of Menifee that have recommended improvements which are not covered by DIF. Because the County of Riverside does not have plenary control over intersections that share a border with the City of Menifee, the County cannot guarantee that such improvements will be constructed. Thus, the following additional mitigation measure is required: The County of Riverside shall participate in a multi-jurisdictional effort with the City of Menifee to develop a study to identify fair share contribution funding sources attributable to and paid from private and public development to supplement other regional and State funding sources necessary to implement the improvements identified in Table 1-6 of the TIA, that are located in the City of Menifee. The study shall include fair-share contributions related to private and or public development based on nexus requirements contained in the Mitigation Fee Act (Govt. Code § 66000 et seq.) and 14 Cal. Code of Regs. § 15126.4(a)(4) and, to this end, the study shall recognize that impacts attributable to City of Menifee facilities that are not attributable to development located within the County of Riverside are not paying in excess of such developments’ fair share obligations. The fee study shall also be compliant with Government Code § 66001(g) and any other applicable provisions of law. The study shall set forth a timeline and other agreed-upon relevant criteria for implementation of the recommendations contained within the study to the extent the other agencies agree to participate in the fee study program. Because the County of Riverside and the City of Menifee are responsible to implement this mitigation measure, Developer shall have no compliance obligations with respect to this Mitigation Measure.

Mitigation Measure 4.2 – The Developer’s fair-share amount for the intersections that either share a mutual border with the City of Menifee or are wholly located within the City of Menifee that have recommended improvements for Phase Project Buildout 2025 which are not covered by TUMF/DIF equals \$87,537. Developer shall be required to pay this \$87,537 amount to the County of Riverside prior to the issuance of the Project's final certificate of occupancy. The County of Riverside shall hold Developer’s Fair Share contribution in trust and shall apply Developer’s Fair Share Contribution to any fee program adopted or agreed upon by the County of Riverside and the City of Menifee as a result of implementation of Mitigation Measure 4.1. If, within five years of the date of collection of Developer’s Fair Share Contribution, the County of Riverside and the City of Menifee do not comply with Mitigation Measure 4.1, then Developer’s Fair Share Contribution shall be returned to the Developer.

1.9 ON-SITE ROADWAY AND SITE ACCESS IMPROVEMENTS

The Project is proposed to have access onto Leon Road via Canterwood Drive, Holland Road via Street B and Canterwood Drive, Craig Avenue via Street A and Street C, and Eucalyptus Road via Street D. All Project driveways are proposed to be stop controlled on the minor street with free-

flow along the major streets and are proposed to allow for full access. Regional access to the Project site will be provided by the I-215 Freeway (via the Scott Road interchange).

As part of the development, the Project will construct improvements on the site adjacent roadways of Leon Road, Eucalyptus road, Holland road and Craig Avenue. Roadway improvements necessary to provide site access and on-site circulation are assumed to be constructed in conjunction with site development and are described below. These improvements should be in place prior to occupancy.

1.9.1 SITE ADJACENT ROADWAY IMPROVEMENTS

The recommended site-adjacent roadway improvements for the Project are described below. These improvements need to be incorporated into the Project description prior to Project approval or imposed as conditions of approval as part of the Project approval. Exhibit 1-3 illustrates the site adjacent roadway improvement recommendations for Phase 1 (2021) and Exhibit 1-4 illustrates the site adjacent roadway improvement recommendations for Phase 2 Project Buildout (2025).

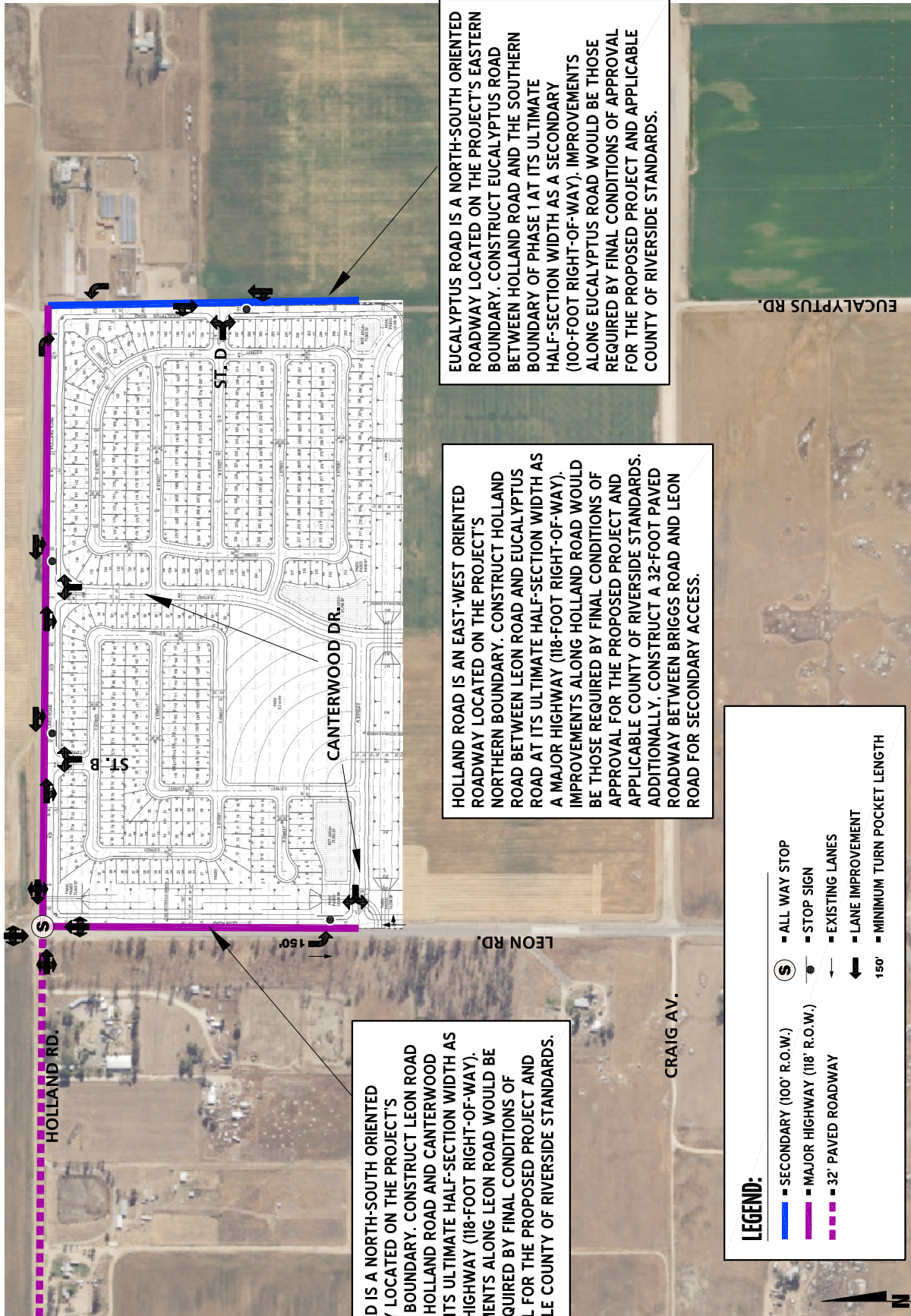
Phase 1 2021

Leon Road – Leon Road is a north-south oriented roadway located on the Project’s western boundary. Construct Leon Road between Holland Road and Canterwood Drive at its ultimate half-section width as a Major Highway (118-foot right-of-way). Improvements along Leon Road would be those required by final conditions of approval for the proposed Project and applicable County of Riverside standards.

Holland Road – Holland Road is an east-west oriented roadway located on the Project’s northern boundary. Construct Holland Road between Leon Road and Eucalyptus Road at its ultimate half-section width as a Major Highway (118-foot right-of-way). Improvements along Holland Road would be those required by final conditions of approval for the proposed Project and applicable County of Riverside standards. Additionally, construct a 32-foot paved roadway between Briggs Road and Leon Road for secondary access.

Eucalyptus Road – Eucalyptus Road is a north-south oriented roadway located on the Project’s eastern boundary. Construct Eucalyptus Road between Holland Road and the southern boundary of Phase 1 at its ultimate half-section width as a Secondary (100-foot right-of-way). Improvements along Eucalyptus Road would be those required by final conditions of approval for the proposed Project and applicable County of Riverside standards.

EXHIBIT 1-3: PHASE 1 (2021) SITE ADJACENT ROADWAY AND SITE ACCESS RECOMMENDATIONS



LEON ROAD IS A NORTH-SOUTH ORIENTED ROADWAY LOCATED ON THE PROJECT'S WESTERN BOUNDARY. CONSTRUCT LEON ROAD BETWEEN HOLLAND ROAD AND CANTERWOOD DRIVE AT ITS ULTIMATE HALF-SECTION WIDTH AS A MAJOR HIGHWAY (118-FOOT RIGHT-OF-WAY). IMPROVEMENTS ALONG LEON ROAD WOULD BE THOSE REQUIRED BY FINAL CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND APPLICABLE COUNTY OF RIVERSIDE STANDARDS.

HOLLAND ROAD IS AN EAST-WEST ORIENTED ROADWAY LOCATED ON THE PROJECT'S NORTHERN BOUNDARY. CONSTRUCT HOLLAND ROAD BETWEEN LEON ROAD AND EUCALYPTUS ROAD AT ITS ULTIMATE HALF-SECTION WIDTH AS A MAJOR HIGHWAY (118-FOOT RIGHT-OF-WAY). IMPROVEMENTS ALONG HOLLAND ROAD WOULD BE THOSE REQUIRED BY FINAL CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND APPLICABLE COUNTY OF RIVERSIDE STANDARDS. ADDITIONALLY, CONSTRUCT A 32-FOOT PAVED ROADWAY BETWEEN BRIGGS ROAD AND LEON ROAD FOR SECONDARY ACCESS.

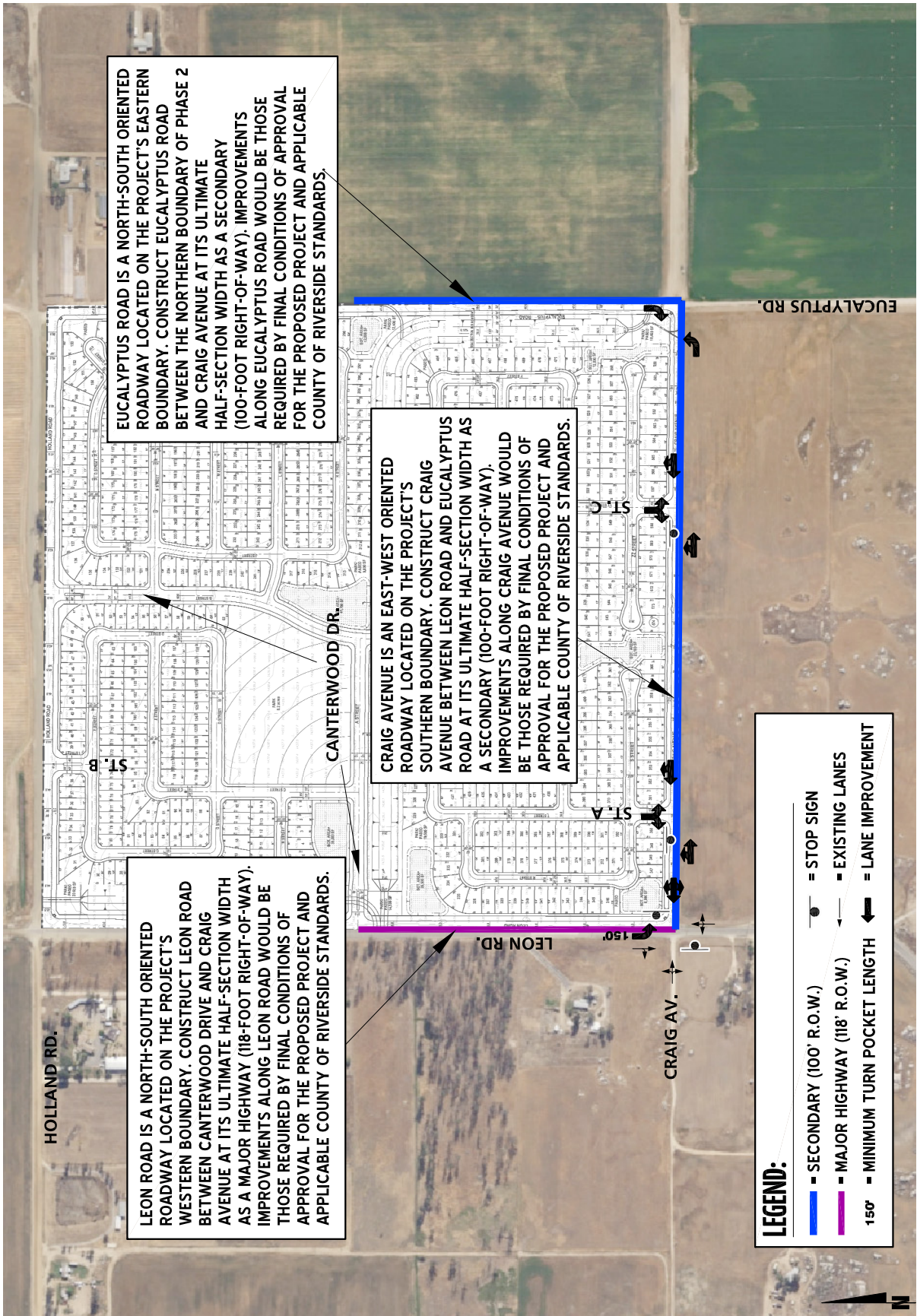
EUCALYPTUS ROAD IS A NORTH-SOUTH ORIENTED ROADWAY LOCATED ON THE PROJECT'S EASTERN BOUNDARY. CONSTRUCT EUCALYPTUS ROAD BETWEEN HOLLAND ROAD AND THE SOUTHERN BOUNDARY OF PHASE 1 AT ITS ULTIMATE HALF-SECTION WIDTH AS A SECONDARY (100-FOOT RIGHT-OF-WAY). IMPROVEMENTS ALONG EUCALYPTUS ROAD WOULD BE THOSE REQUIRED BY FINAL CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND APPLICABLE COUNTY OF RIVERSIDE STANDARDS.

LEGEND:

- SECONDARY (100' R.O.W.)
- MAJOR HIGHWAY (118' R.O.W.)
- 32' PAVED ROADWAY
- ⊙ ALL WAY STOP
- ⊙ STOP SIGN
- ← EXISTING LANES
- ← LANE IMPROVEMENT
- 150' MINIMUM TURN POCKET LENGTH



EXHIBIT 1-4: PHASE 2 PROJECT BUILDOUT (2025) SITE ADJACENT ROADWAY AND SITE ACCESS RECOMMENDATIONS



Phase 2 Project Buildout 2025

Leon Road – Leon Road is a north-south oriented roadway located on the Project’s western boundary. Construct Leon Road between Canterwood Drive and Craig Avenue at its ultimate half-section width as a Major Highway (118-foot right-of-way). Improvements along Leon Road would be those required by final conditions of approval for the proposed Project and applicable County of Riverside standards.

Craig Avenue – Craig Avenue is an east-west oriented roadway located on the Project’s southern boundary. Construct Craig Avenue between Leon Road and Eucalyptus Road at its ultimate half-section width as a Secondary (100-foot right-of-way). Improvements along Craig Avenue would be those required by final conditions of approval for the proposed Project and applicable County of Riverside standards.

Eucalyptus Road – Eucalyptus Road is a north-south oriented roadway located on the Project’s eastern boundary. Construct Eucalyptus Road between the northern boundary of Phase 2 and Craig Avenue at its ultimate half-section width as a Secondary (100-foot right-of-way). Improvements along Eucalyptus Road would be those required by final conditions of approval for the proposed Project and applicable County of Riverside standards.

Wherever necessary, roadways adjacent to the Project, site access points and site-adjacent intersections will be constructed to be consistent with the identified roadway classifications and respective cross-sections in the County of Riverside General Plan Circulation Element.

1.8.2 SITE ACCESS IMPROVEMENTS

The recommended site access driveway improvements for the Project are described below. Exhibit 1-3 illustrates the on-site and site adjacent recommended intersection lane improvements for Phase 1 (2021) and Exhibit 1-4 illustrates the on-site and site adjacent recommended intersection lane improvements for Phase 2 Project Buildout (2025). Construction of on-site and site adjacent improvements are recommended to occur in conjunction with adjacent Project development activity or as needed for Project access purposes.

The following intersection recommendations represent the minimum lanes that must be provided to achieve acceptable peak hour operations. As there is not anticipated to be sufficient receiving lanes beyond the Project, a minimum of one lane should be provided in each direction of travel until such time that the adjacent roadways are also widened to their ultimate General Plan roadway classification. However, the site adjacent roadways will be improved consistent with Section 1.7.1 *Site Adjacent Roadway Improvements* of this report.

Phase 1 2021

Leon Road & Holland Road (#9) – Install a stop control on all approaches and construct the intersection with the following geometrics:

Northbound Approach: One shared left-through-right turn lane.

Southbound Approach: One shared left-through-right turn lane.

Eastbound Approach: One shared left-through-right turn lane.

Westbound Approach: One shared left-through-right turn lane.

Leon Road & Canterwood Drive (#10) – Install a stop control on the westbound approach and construct the intersection with the following geometrics:

Northbound Approach: One shared through-right turn lane.

Southbound Approach: One left turn lane with a minimum of 150 feet of storage and one through lane.

Eastbound Approach: Not applicable (N/A)

Westbound Approach: One shared left-right turn lane.

Street B & Holland Road (#15) – Install a stop control on the northbound approach and construct the intersection with the following geometrics:

Northbound Approach: One shared left-right turn lane.

Southbound Approach: N/A

Eastbound Approach: One shared through-right turn lane.

Westbound Approach: One shared left-through lane.

Canterwood Drive & Holland Road (#16) – Install a stop control on the northbound approach and construct the intersection with the following geometrics:

Northbound Approach: One shared left-right turn lane.

Southbound Approach: N/A

Eastbound Approach: One shared through-right turn lane.

Westbound Approach: One shared left-through lane.

Eucalyptus Road & Holland Road (#18) – Construct the intersection with the following geometrics:

Northbound Approach: One left turn lane.

Southbound Approach: N/A

Eastbound Approach: One right turn lane.

Westbound Approach: N/A

Eucalyptus Road & Street D (#19) – Install a stop control on the eastbound approach and construct the intersection with the following geometrics:

Northbound Approach: One shared left-through lane.

Southbound Approach: One shared through-right turn lane.

Eastbound Approach: One shared left-right turn lane.

Westbound Approach: N/A

Phase 2 Project Buildout 2025

Leon Road & Craig Avenue (#11) – Install a stop control on the eastbound and westbound approaches and construct the intersection with the following geometrics:

Northbound Approach: One shared left-through-right turn lane.

Southbound Approach: One left turn lane with a minimum of 150-feet of storage and one shared through-right turn lane.

Eastbound Approach: One shared left-through-right turn lane.

Westbound Approach: One shared left-through-right turn lane.

Street A & Craig Avenue (#14) – Install a stop control on the southbound approach and construct the intersection with the following geometrics:

Northbound Approach: N/A

Southbound Approach: One shared left-right turn lane.

Eastbound Approach: One shared left-through lane.

Westbound Approach: One shared through-right turn lane.

Street C & Craig Avenue (#17) – Install a stop control on the southbound approach and construct the intersection with the following geometrics:

Northbound Approach: N/A

Southbound Approach: One shared left-right turn lane.

Eastbound Approach: One shared left-through lane.

Westbound Approach: One shared through-right turn lane.

Eucalyptus Road & Craig Avenue (Not a study area intersection) – Construct the intersection with the following geometrics:

Northbound Approach: N/A

Southbound Approach: One right turn lane.

Eastbound Approach: One left turn lane.

Westbound Approach: N/A

1.8.3 QUEUING ANALYSIS AT THE PROJECT DRIVEWAYS AND SITE ADJACENT INTERSECTIONS

A queuing analysis was conducted at the Project driveways along Leon Road, Eucalyptus Road, Holland Road and Craig Avenue for EAPC (Phase 2 Project Buildout 2025) traffic conditions to determine the turn pocket length necessary to accommodate long-range 95th percentile peak hour volumes. The analysis was only performed for EAPC (Phase 2 Project Buildout 2025) traffic conditions as the findings would be based on the most conservative traffic forecasts (both for the Project and the background traffic). The analysis was conducted for both the weekday AM and weekday PM peak hours. The 95th percentile queues for the applicable study area intersections can be found in Appendix 1.2.

The traffic modeling and signal timing optimization software package Synchro (Version 10) has been utilized to assess queues at the Project driveways and site adjacent intersections. Synchro is a macroscopic traffic software program that is based on the signalized and unsignalized intersection capacity analyses 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 in Synchro. The LOS and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. SimTraffic uses the input parameters from Synchro to generate random simulations. The 95th percentile queue is not necessarily ever observed; it is simply based on statistical calculations (or Average Queue plus 1.65 standard deviations) and represents the maximum back of queue with 95th percentile traffic volumes during the peak hour. The maximum back of queue observed for every two-minute period is recorded by SimTraffic. However, the average queue is the average of all the two-minute maximum queues observed by SimTraffic. In other words, if traffic were observed for 100 cycles, the 95th percentile queue would be the queue experienced with the 95th busiest cycle (or 5% of the time).

SimTraffic has been utilized to assess peak hour queuing at the site access driveways for EAPC (Phase 2 Project Buildout 2025) traffic conditions. The random simulations generated by SimTraffic have been utilized to determine the 50th and 95th percentile queue lengths observed for each turn lane. A SimTraffic simulation has been recorded up to 5 times, during the weekday AM and weekday PM peak hours, and has been seeded for 15-minute periods with 60-minute recording intervals.

The storage length recommendations for the turning movements at the Project were shown previously on Exhibits 1-3 and 1-4.

2 METHODOLOGIES

This section documents the methodologies and assumptions used to perform this traffic assessment.

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

County of Riverside, City of Meniffee

The County of Riverside and City of Meniffee require signalized intersection operations analysis based on the methodology described in the HCM 6 (6). 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.

California Department of Transportation (Caltrans)

Per the Caltrans Guide for the Preparation of Traffic Impact Studies, the traffic modeling and signal timing optimization software package Synchro (Version 10) has been utilized to analyze signalized intersections under Caltrans' jurisdiction, which include interchange to arterial ramps (i.e. I-215 Freeway ramps at Scott Road). (2) Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM 6. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections.

TABLE 2-1: SIGNALIZED INTERSECTION DESCRIPTION OF LOS

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 6

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. 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. All signalized study area intersections with the County of Riverside, and City of Menifee have also utilized the Synchro software.

The peak hour traffic volumes have been 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. $PHF = \frac{\text{Hourly Volume}}{4 \times \text{Peak 15-minute Flow Rate}}$). 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 6, 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)

2.2.2 UNSIGNALIZED INTERSECTIONS

The County of Riverside and City of Menifee require the operations of unsignalized intersections be evaluated using the methodology described in the HCM 6. (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 DESCRIPTION OF LOS

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 6

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. For all-way stop controlled intersections, LOS is computed for the intersection as a whole.

2.3 FREEWAY OFF-RAMP QUEUING ANALYSIS

The study area for this TIA includes the freeway-to-arterial interchange of the I-215 Freeway at Scott Road. Consistent with Caltrans requirements, the 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing issues at the freeway ramp intersections on Scott Road. Specifically, the queuing analysis is utilized to identify any potential queuing and “spill back” onto the I-215 Freeway mainline from the off-ramps.

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential issues/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 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes. The queue length reported is for the lane with the highest queue in the lane group.

A footnote on the Synchro outputs 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.

A vehicle is considered queued whenever it is traveling at less than 10 feet/second. A vehicle will only become queued when it is either at the stop bar or behind another queued vehicle. Although only the 95th percentile queue has been reported in the tables, the 50th percentile queue can be found in the appendix alongside the 95th percentile queue for each ramp location. The 50th percentile maximum queue is the maximum back of queue on a typical cycle during the peak hour, while the 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes during the peak hour. In other words, if traffic were observed for 100 cycles, the 95th percentile queue would be the queue experienced with the 95th busiest cycle (or 5% of the time). The 50th percentile or average queue represents the typical queue length for peak hour traffic conditions, while 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.

2.4 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by 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 TIA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD) for all study area intersections. (7)

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. (7) Specifically, this TIA 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 TIA 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.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets.

Traffic signal warrant analyses were performed for all of the study area intersections, with the exception of the following locations as shown on Table 2-3, which are currently signalized:

TABLE 2-3: SIGNALIZED INTERSECTION LOCATIONS

ID	Intersection Location
1	Haun Rd./Zeiders Rd. & Scott Rd.
2	I-215 Southbound Ramps & Scott Rd.
3	I-215 Northbound Ramps & Scott Rd.
4	Antelope Rd. & Scott Rd.
6	Menifee Rd. & Scott Rd.
8	Briggs Rd. & Scott Rd.

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Existing Conditions* of this report. The traffic signal warrant analysis for future conditions is presented in Section 5 *E+P Traffic Analysis*, Section 6 *EAP Traffic Analysis*, and Section 7 *EAPC Traffic Analysis*.

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 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 (i.e., other warrants such as interruption of continuous traffic, pedestrian volumes, school crossing, etc.). 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.

2.5 FREEWAY MAINLINE SEGMENT ANALYSIS

The freeway system in the study area has been broken into segments defined by the freeway-to-arterial interchange locations. The freeway segments have been evaluated in this TIA based upon peak hour directional volumes. The freeway segment analysis is based on the methodology described in the HCM 6 and performed using Highway Capacity Software (HCS) 7 software. The performance measure preferred by Caltrans to calculate LOS is density. Density is expressed in terms of passenger cars per mile per lane. Table 2-4 illustrates the freeway segment LOS descriptions for each density range utilized for this analysis.

TABLE 2-4: DESCRIPTION OF FREEWAY MAINLINE LOS

Level of Service	Description	Density Range (pc/mi/ln) ¹
A	Free-flow operations in which vehicles are relatively unimpeded in their ability to maneuver within the traffic stream. Effects of incidents are easily absorbed.	0.0 – 11.0
B	Relative free-flow operations in which vehicle maneuvers within the traffic stream are slightly restricted. Effects of minor incidents are easily absorbed.	11.1 – 18.0
C	Travel is still at relative free-flow speeds, but freedom to maneuver within the traffic stream is noticeably restricted. Minor incidents may be absorbed, but local deterioration in service will be substantial. Queues begin to form behind significant blockages.	18.1 – 26.0
D	Speeds begin to decline slightly, and flows and densities begin to increase more quickly. Freedom to maneuver is noticeably limited. Minor incidents can be expected to create queuing as the traffic stream has little space to absorb disruptions.	26.1 – 35.0
E	Operation at capacity. Vehicles are closely spaced with little room to maneuver. Any disruption in the traffic stream can establish a disruption wave that propagates throughout the upstream traffic flow. Any incident can be expected to produce a serious disruption in traffic flow and extensive queuing.	35.1 – 45.0
F	Breakdown in vehicle flow.	>45.0

¹ pc/mi/ln = passenger cars per mile per lane. Source: HCM 6

The number of lanes for existing baseline conditions has been obtained from field observations conducted by Urban Crossroads in January 2018. These existing freeway geometrics have been utilized for all analysis scenarios. The I-215 Central Project includes the construction of a mixed-flow lane in each direction of travel along the I-215 Freeway between Nuevo Road and Scott Road. Based on information obtained from RCTC, and as verified through field observations, the project was completed in late 2015.

The I-215 Freeway mainline volume data was obtained from the Caltrans Performance Measurement System (PeMS) website for the segments of the I-215 Freeway interchange at Scott Road. The data was obtained from August 2017 plus 2% to reflect 2018 traffic conditions. (8) In an effort to conduct a conservative analysis, the maximum value observed within the three-day period was utilized for the weekday morning (AM) and weekday evening (PM) peak hours. In addition, truck traffic, represented as a percentage of total traffic, has been utilized for the purposes of this analysis in an effort to not overstate traffic volumes and peak hour deficiencies. As such, actual vehicles (as opposed to passenger-car-equivalent (PCE) volumes) have been utilized for the purposes of the basic freeway segment analysis.

2.6 FREEWAY MERGE/DIVERGE RAMP JUNCTION ANALYSIS

The freeway system in the study area has been broken into segments defined by freeway-to-arterial interchange locations resulting in two existing on and off ramp locations. Although the HCM 6 indicates the influence area for a merge/diverge junction is 1,500 feet, the analysis presented in this traffic study has been performed at the Scott Road ramp locations with respect

to the nearest on or off ramp at each interchange in an effort to be consistent with Caltrans guidance/comments on other projects Urban Crossroads has worked on along the I-215 corridor.

The merge/diverge analysis is based on the HCM Ramps and Ramp Junctions analysis method and performed using HCS 7 software. The measure of effectiveness (reported in passenger car/mile/lane) is calculated based on the existing number of travel lanes, number of lanes at the on and off ramps both at the analysis junction and at upstream and downstream locations (if applicable) and acceleration/deceleration lengths at each merge/diverge point. Table 2-5 presents the merge/diverge area level of service descriptions for each density range utilized for this analysis.

TABLE 2-5: DESCRIPTION OF FREEWAY MERGE AND DIVERGE LOS

Level of Service	Density Range (pc/mi/ln) ¹
A	≤10.0
B	10.0 – 20.0
C	20.0 – 28.0
D	28.0 – 35.0
E	>35.0
F	Demand Exceeds Capacity

¹ pc/mi/ln = passenger cars per mile per lane. Source: HCM 6

The ramp data (per the count data presented in Appendix 3.1) were utilized to flow conserve the mainline volumes to determine the I-215 Freeway mainline volumes south of Scott Road. Similar to the basic freeway segment analysis, actual vehicles (as opposed to passenger-car-equivalent volumes) have been utilized for the purposes of the freeway ramp junction (merge/diverge) analysis.

2.7 MINIMUM LEVEL OF SERVICE (LOS)

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

2.7.1 COUNTY OF RIVERSIDE

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.*

Notwithstanding the forgoing minimum LOS targets, the Board of Supervisors may, on occasion by virtue of their discretionary powers, approve a project that fails to meet these LOS targets in order to balance congestion management considerations in relation to benefits, environmental impacts and costs, provided an Environmental Impact Report, or equivalent, has been completed to fully evaluate the impacts of such approval. Any such approval must incorporate all feasible mitigation measures, make specific findings to support the decision, and adopt a statement of overriding considerations.

2.7.2 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: Require development to achieve a peak hour LOS D or better at intersections, except at constrained intersections within close proximity to the I-215 Freeway, where LOS E may be permitted. However, for the purposes of this analysis, LOS D has been used as the minimum LOS in an effort to conduct a conservative analysis.

2.7.3 CALTRANS

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on SHS facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. Consistent with the County of Riverside minimum LOS of LOS D, LOS D will be used as the target LOS for both arterial-to-freeway ramps and freeway mainline segments and ramp merge/diverge junctions.

2.8 DEFICIENCY CRITERIA

This section outlines the methodology used in this analysis related to identifying circulation system deficiencies.

2.8.1 INTERSECTIONS

To determine whether the addition of project 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 would occur if the Project contributes 50 or more peak hour trips to pre-project traffic conditions.

2.8.2 CALTRANS FACILITIES

To determine whether the addition of project traffic to the SHS freeway segments would result in a deficiency, the following will be utilized:

- The traffic study finds that the LOS of a segment will degrade from D or better to E or F.
- The traffic study finds that the project will exacerbate an already deficient condition (i.e., contributing 50 or more peak hour trips). A segment that is operating at or near capacity is deemed to be deficient.

2.9 PROJECT FAIR SHARE CALCULATION METHODOLOGY

In cases where this TIA identifies that the Project would contribute additional traffic volumes to cumulative traffic deficiencies, Project fair share costs of improvements necessary to address deficiencies have been identified. The Project's fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to new traffic, and new traffic is total future traffic less existing baseline traffic:

$$\text{Project Fair Share \%} = \frac{\text{Project Traffic}}{[\text{EAPC (Phase 2 Project Buildout 2025) Total Traffic} - \text{Existing Traffic}]}$$

The Project fair share contribution calculations are presented in Section 1.6 *Local and Regional Funding Mechanisms* of this TIA.

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3 EXISTING 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, freeway mainline operations, and traffic signal warrant analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with County of Riverside staff (Appendix 1.1), the study area includes a total of 19 existing and future intersections as shown previously on Exhibit 1-2. 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 GENERAL PLAN CIRCULATION ELEMENT

3.2.1 COUNTY OF RIVERSIDE

Exhibit 3-2 shows the adopted County of Riverside General Plan Roadway Network. Exhibit 3-3 illustrates the adopted County of Riverside General Plan roadway cross-sections.

3.2.2 CITY OF MENIFEE

Exhibit 3-4 shows the City of Menifee General Plan Circulation Element, and Exhibit 3-5 illustrates the City of Menifee General Plan roadway cross-sections.

3.3 PEDESTRIAN AND BICYCLE FACILITIES

The Riverside County Trails and Bikeway System is shown on Exhibit 3-6. Future planned regional trails are proposed along Holland Road and Eucalyptus Road. A community trail is proposed along Garbani Road to the west with a combination trail (Regional/Class I bike path) to the east. The Bikeways and Community Pedestrian Network for the City of Menifee are shown on Exhibit 3-7. Field observations conducted in January 2018 indicate nominal pedestrian and bicycle activity within the study area. Existing pedestrian facilities currently exist along portions of Scott Road, Holland Road, Menifee Road, Antelope Road and Zeiders Road. The existing pedestrian facilities within the study area are shown on Exhibit 3-8.

3.4 TRANSIT SERVICE

The study area is currently served by the Riverside Transit Agency (RTA) with bus services along Antelope Road, Menifee Road and Scott Road via Route 61. RTA Route 208 has services along the I-215 Freeway. The transit services are illustrated on Exhibit 3-9. The City of Menifee Proposed Transit Services are shown on Exhibit 3-10. There does not appear to be an existing transit route that could potentially serve the Project. Transit service is reviewed and updated by the 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 3-1 (1OF2): EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS

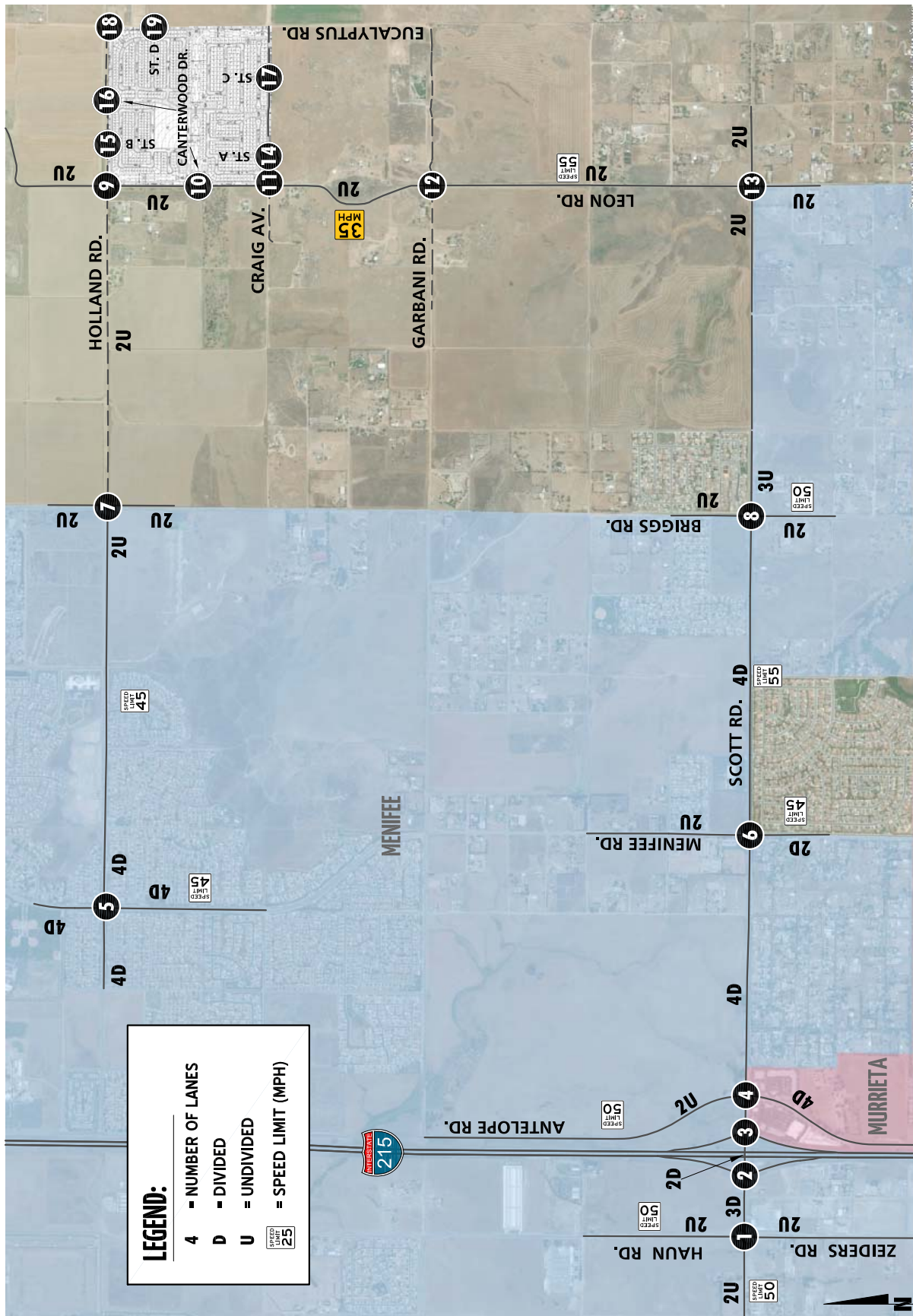
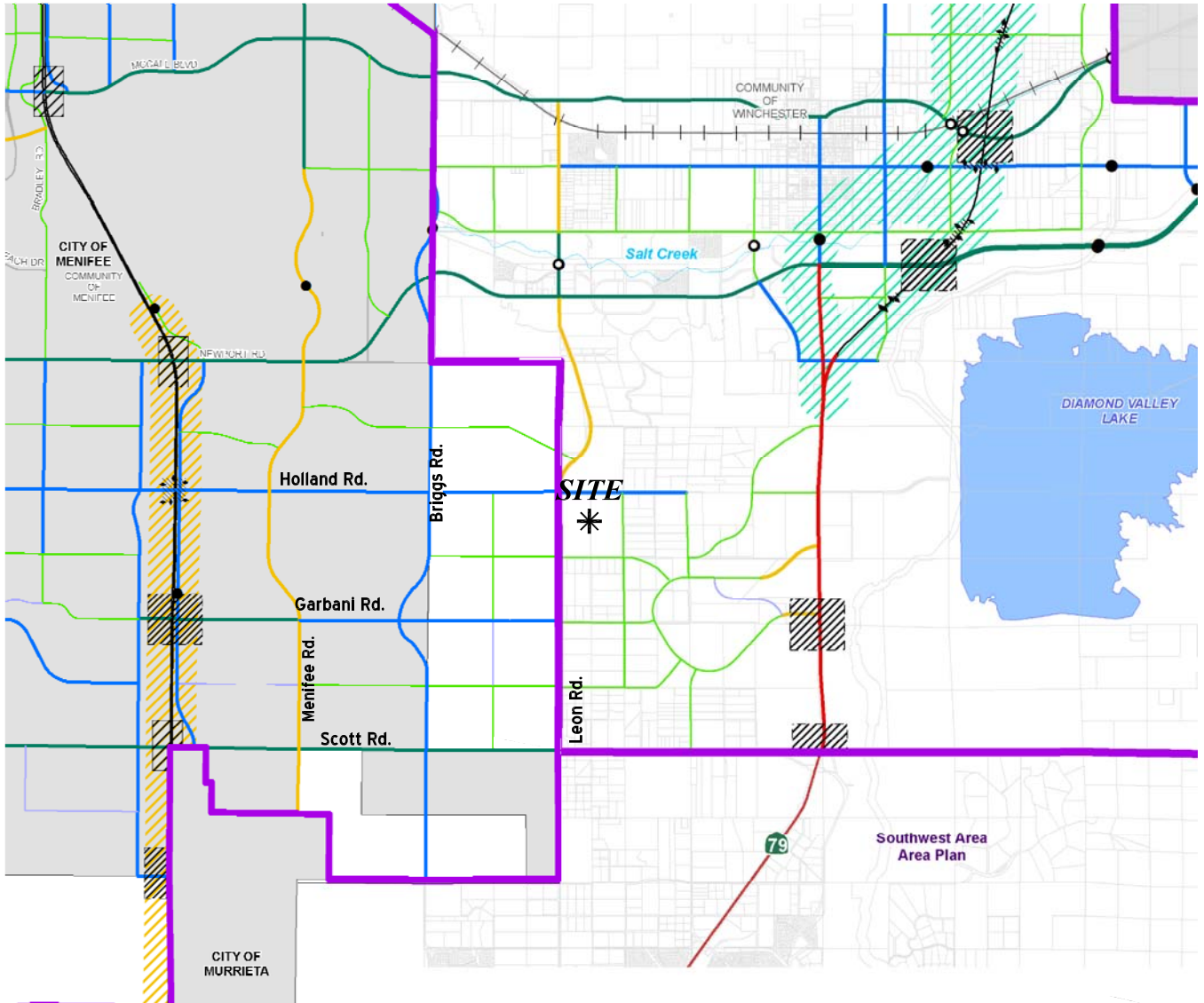


EXHIBIT 3-1 (1OF2): EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS

<p>1 Haun Rd./ Zelders Rd. & Scott Rd.</p>	<p>2 I-215 SB Ramps & Scott Rd.</p>	<p>3 I-215 NB Ramps & Scott Rd.</p>	<p>4 Antelope Rd. & Scott Rd.</p>	<p>5 Menifee Rd. & Holland Rd.</p>	<p>6 Menifee Rd. & Scott Rd.</p>
<p>7 Briggs Rd. & Holland Rd.</p>	<p>8 Briggs Rd. & Scott Rd.</p>	<p>9 Leon Rd. & Holland Rd.</p>	<p>10 Leon Rd. & Canterwood Dr.</p> <p>Future Intersection</p>	<p>11 Leon Rd. & Craig Av.</p>	<p>12 Leon Rd. & Garbanl Rd.</p>
<p>13 Leon Rd. & Scott Rd.</p>	<p>14 Street A & Craig Av.</p> <p>Future Intersection</p>	<p>15 Street B & Holland Rd.</p> <p>Future Intersection</p>	<p>16 Canterwood Dr. & Holland Rd.</p> <p>Future Intersection</p>	<p>17 Street C & Craig Av.</p> <p>Future Intersection</p>	<p>18 Eucalyptus Rd. & Holland Rd.</p> <p>Future Intersection</p>
<p>19 Eucalyptus Rd. & Street D</p> <p>Future Intersection</p>					

- LEGEND:**
- TRAFFIC SIGNAL
 - ALL WAY STOP
 - STOP SIGN
 - DEF** - DEFACTO RIGHT TURN

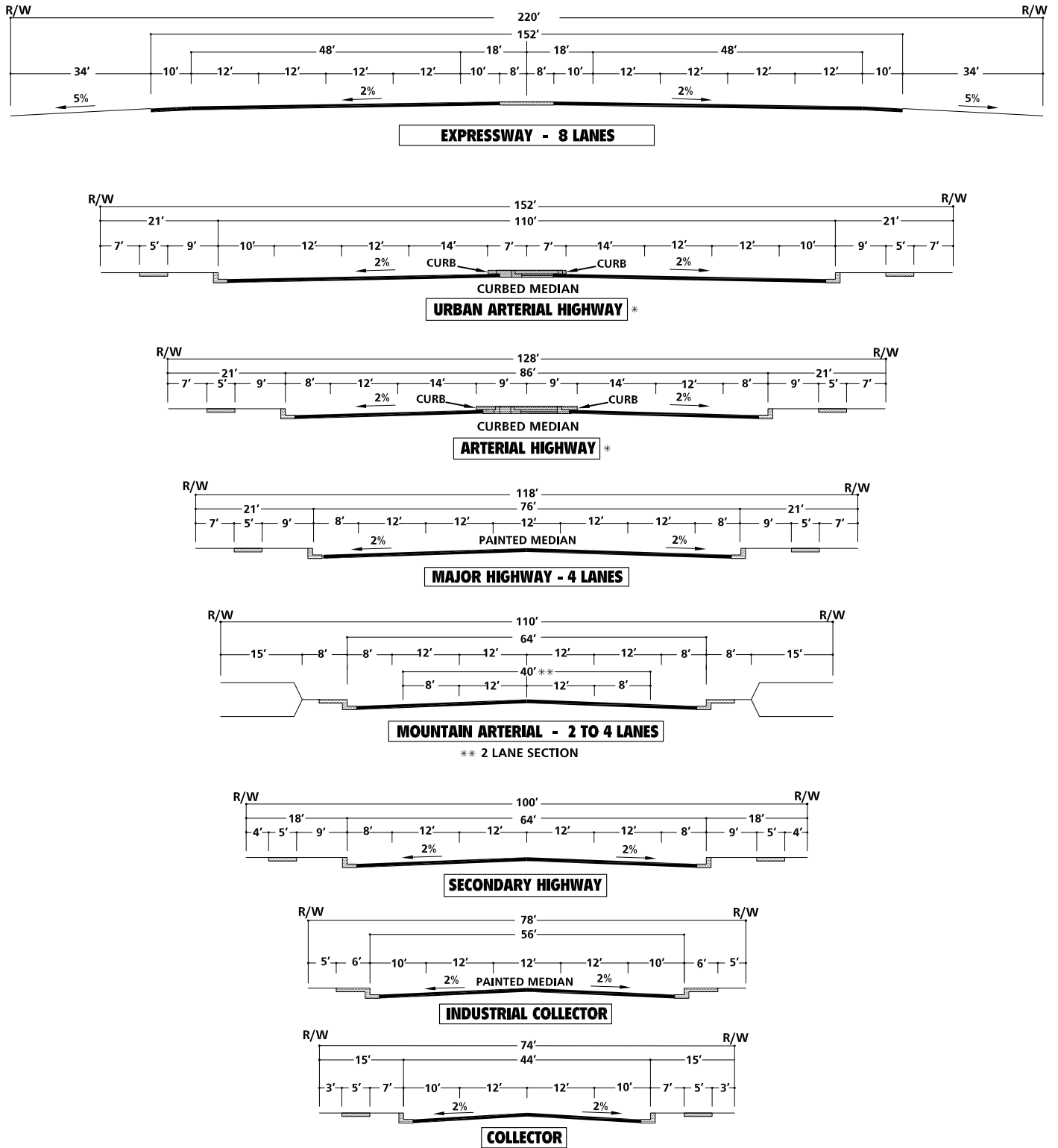
EXHIBIT 3-2: RIVERSIDE COUNTY GENERAL PLAN ROADWAY NETWORK



- | | | | |
|-------------------------------|-------------------------------|-----------------|--------------------|
| Freeway (Variable ROW) | Proposed Interchange | Existing Bridge | Highways |
| Expressway (128' to 220' ROW) | Proposed Overpass/Underpass | Proposed Bridge | Area Plan Boundary |
| Urban Arterial (152' ROW) | Railroads Amended | | City Boundary |
| Arterial (128' ROW) | SR-79 Re-alignment Study Area | | Waterbodies |
| Major (118' ROW) | | | |
| Secondary (100' ROW) | | | |
| Collector (74' ROW) | | | |



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

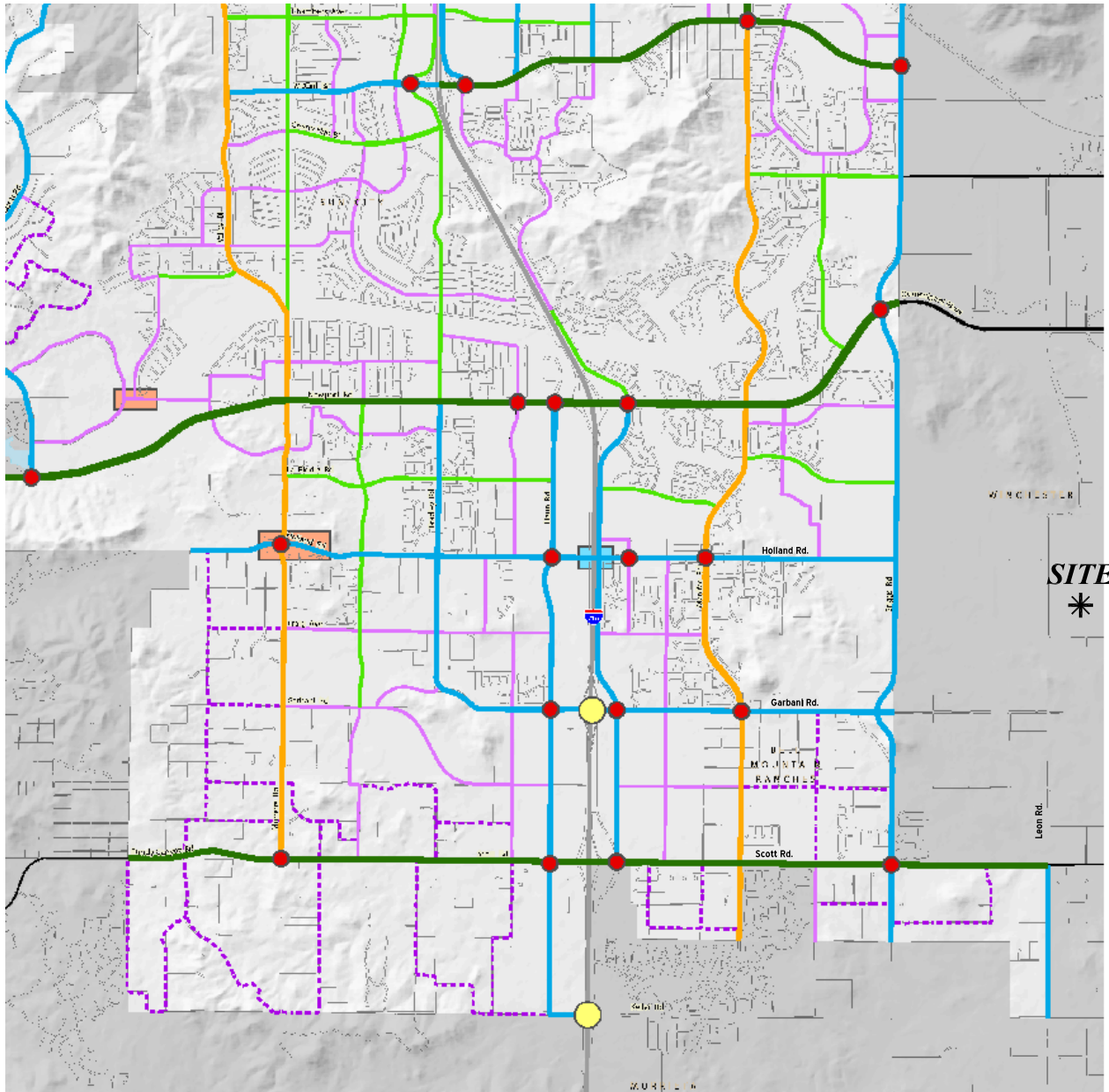


* IMPROVEMENTS MAY BE RECONFIGURED TO ACCOMMODATE EXCLUSIVE TRANSIT LANES OR ALTERNATIVE LANE ARRANGEMENTS. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE ULTIMATE IMPROVEMENTS FOR STATE HIGHWAYS. SHALL CONFORM TO CALTRANS DESIGN STANDARDS.

NOT TO SCALE

SOURCE: COUNTY OF RIVERSIDE

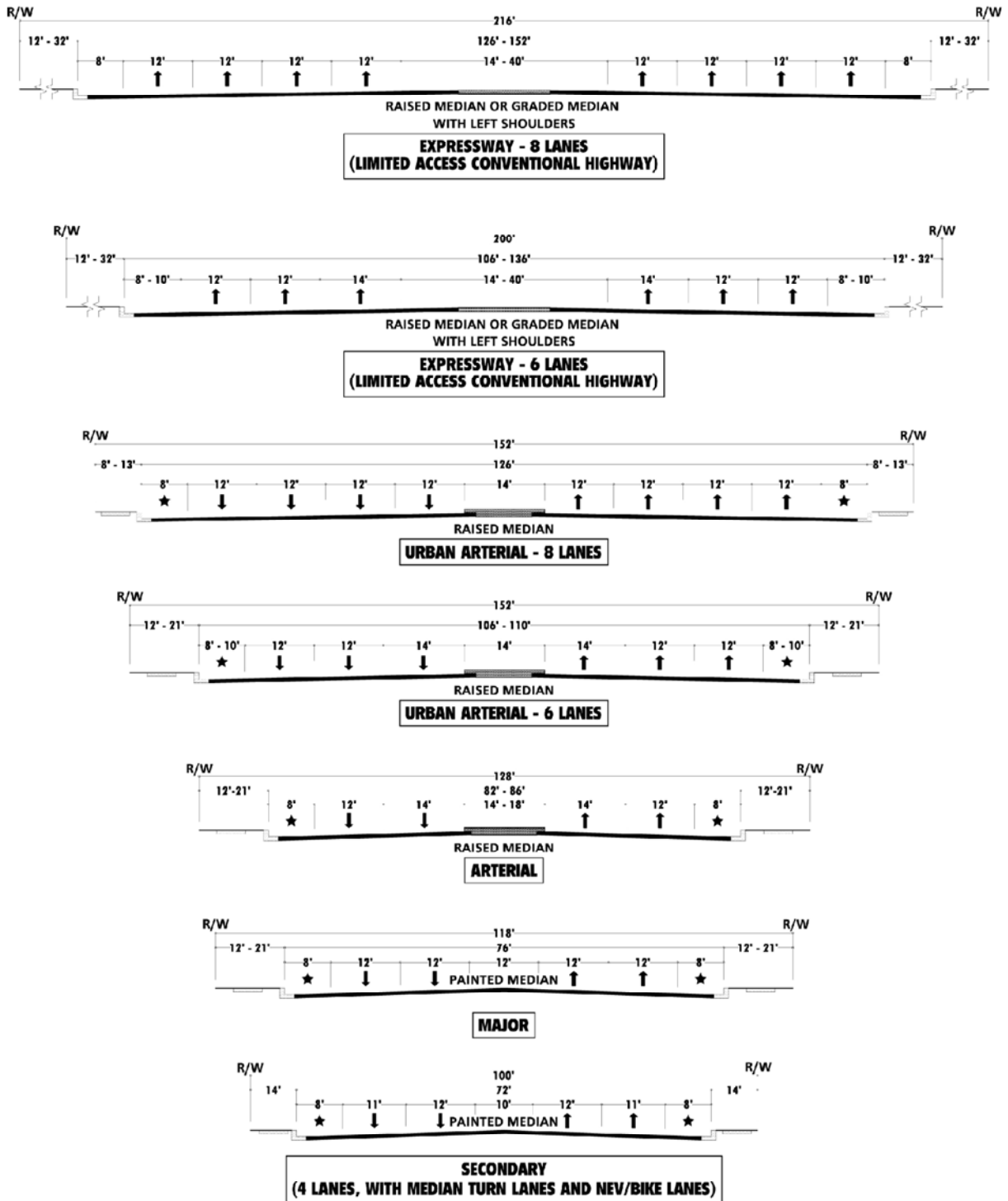
EXHIBIT 3-4: CITY OF MENIFEE GENERAL PLAN ROADWAY NETWORK



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



EXHIBIT 3-5 (PAGE 1 OF 2): CITY OF MENIFEE GENERAL PLAN ROADWAY CROSS-SECTIONS



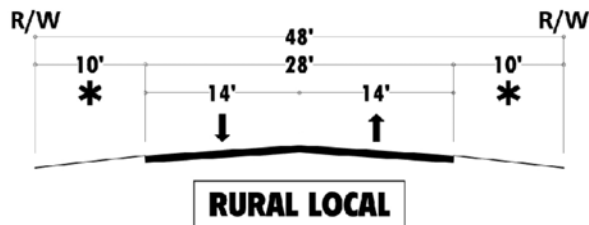
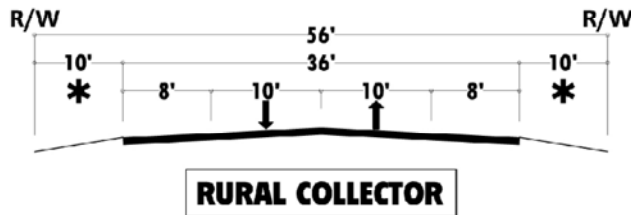
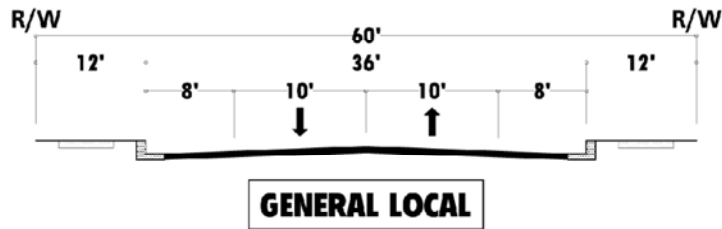
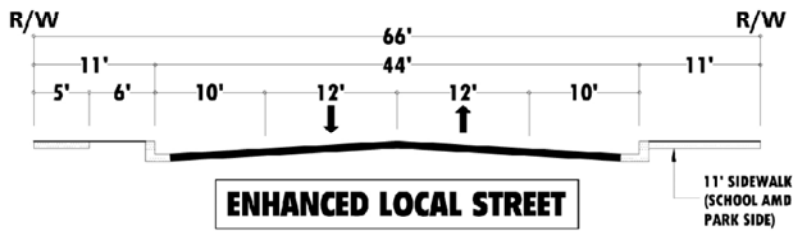
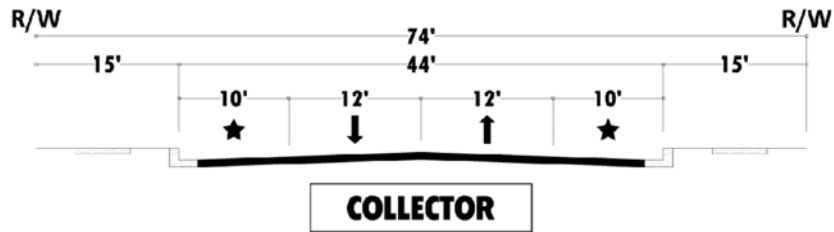
NOTES:

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.

EXHIBIT 3-5 (PAGE 2 OF 2): CITY OF MENIFEE GENERAL PLAN ROADWAY CROSS-SECTIONS



NOTES:

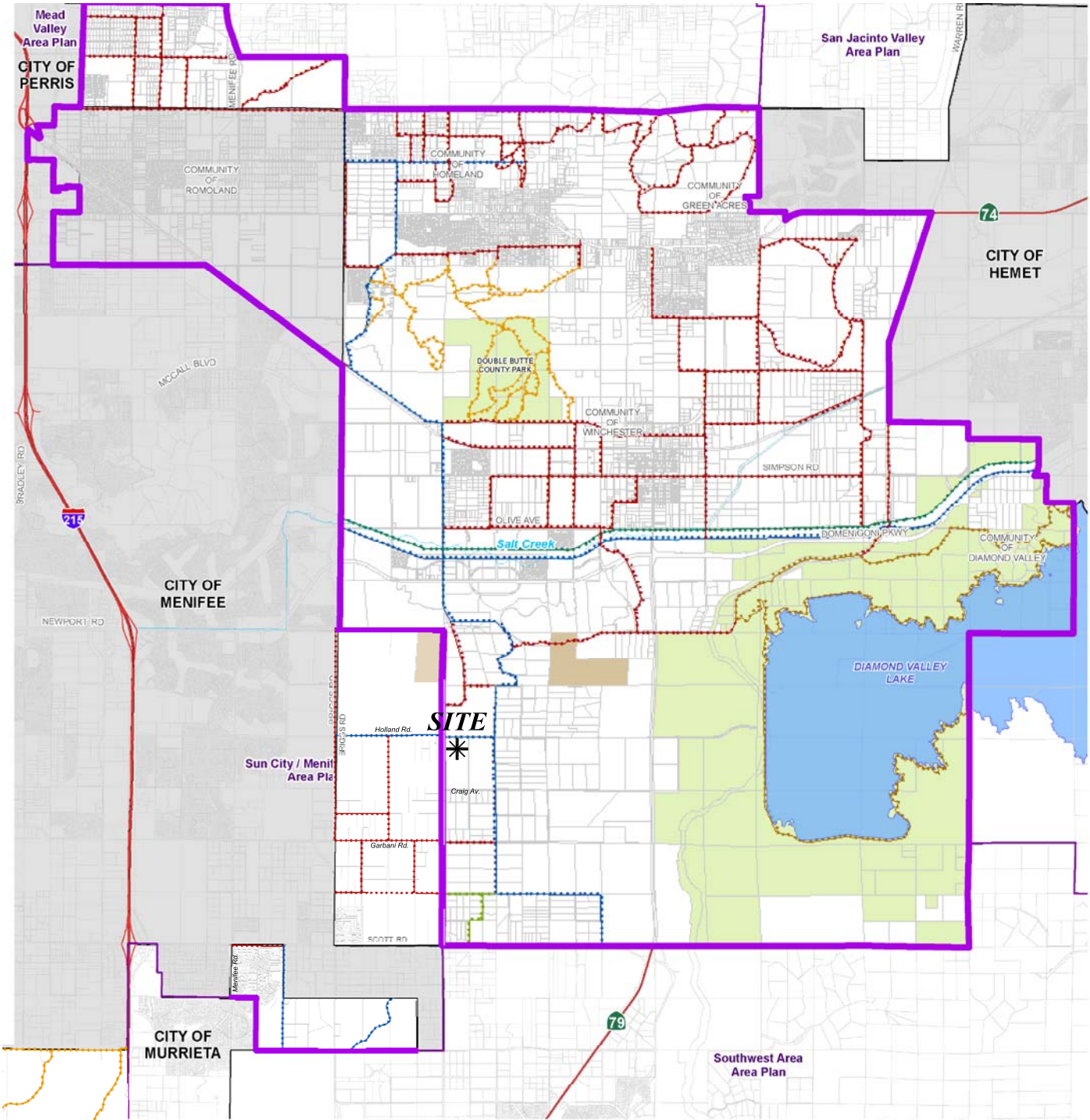
These standard sections are for typical roadway segments and may vary slightly based on intersection land requirements, physical site constraints, and/or environmental issues. Proposed roadway sections should always provide the greatest width possible. Any deviation from these sections is at the discretion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

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

EXHIBIT 3-6: RIVERSIDE COUNTY TRAILS AND BIKEWAY SYSTEM

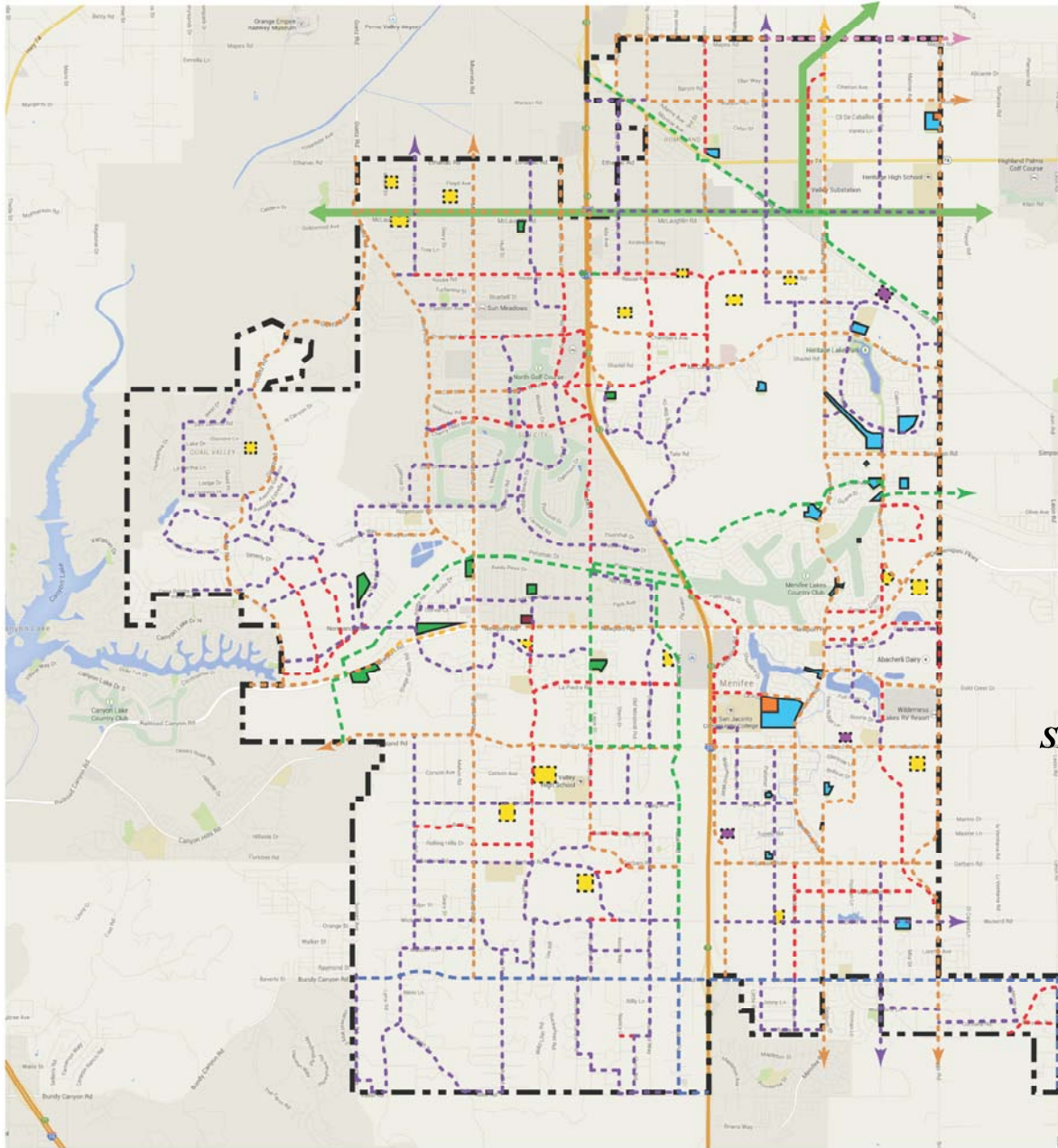


- Regional Trail: Urban/Suburban
- Community Trail
- Combination Trail (Regional Trail / Class I Bike Path)
- Class I Bike Path
- Regional Trail: Open Space
- Non-County Trail (Public and Quasi-Public Lands)
- Miscellaneous Public Lands
- Bureau of Land Management (BLM) Lands
- Highways
- Area Plan Boundary
- City Boundary
- Waterbodies

Note: Trails shown in non-county jurisdictions for informational/coordination purposes only.
 Data Source: Riverside County Regional Park and Open Space District, with assistance from Riverside County TMA/Transportation and Planning Department, 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 administrative 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.



EXHIBIT 3-7: CITY OF MENEFEE BIKEWAY AND COMMUNITY PEDESTRIAN NETWORK



SITE
*

LEGEND

TRAILS

- - - Regional Trail - Class I
(Includes C4 Subregional Route - Off-Road Bike Trail Class I, C4 Community Off-Road Bike Trail, and Landscape Standards Regional Trail)
- - - Regional Bike Lane - Class II
(Includes C4 Subregional - On-Street Bike Lane Class II)
- - - Community Bike Lane - Class II
(Includes C4 Community On-Street NEV/Bike Lanes Class II, and Community On-Street Bike Lane, Class II)
- - - Community Bike Lane - Class III
(Includes C4 Class III Bike Routes)
- - - Community Trail - Hiking, Biking & Equestrian
(Includes C4 Community Hiking/Biking Trail Opportunity)

TRAIL OPPORTUNITIES

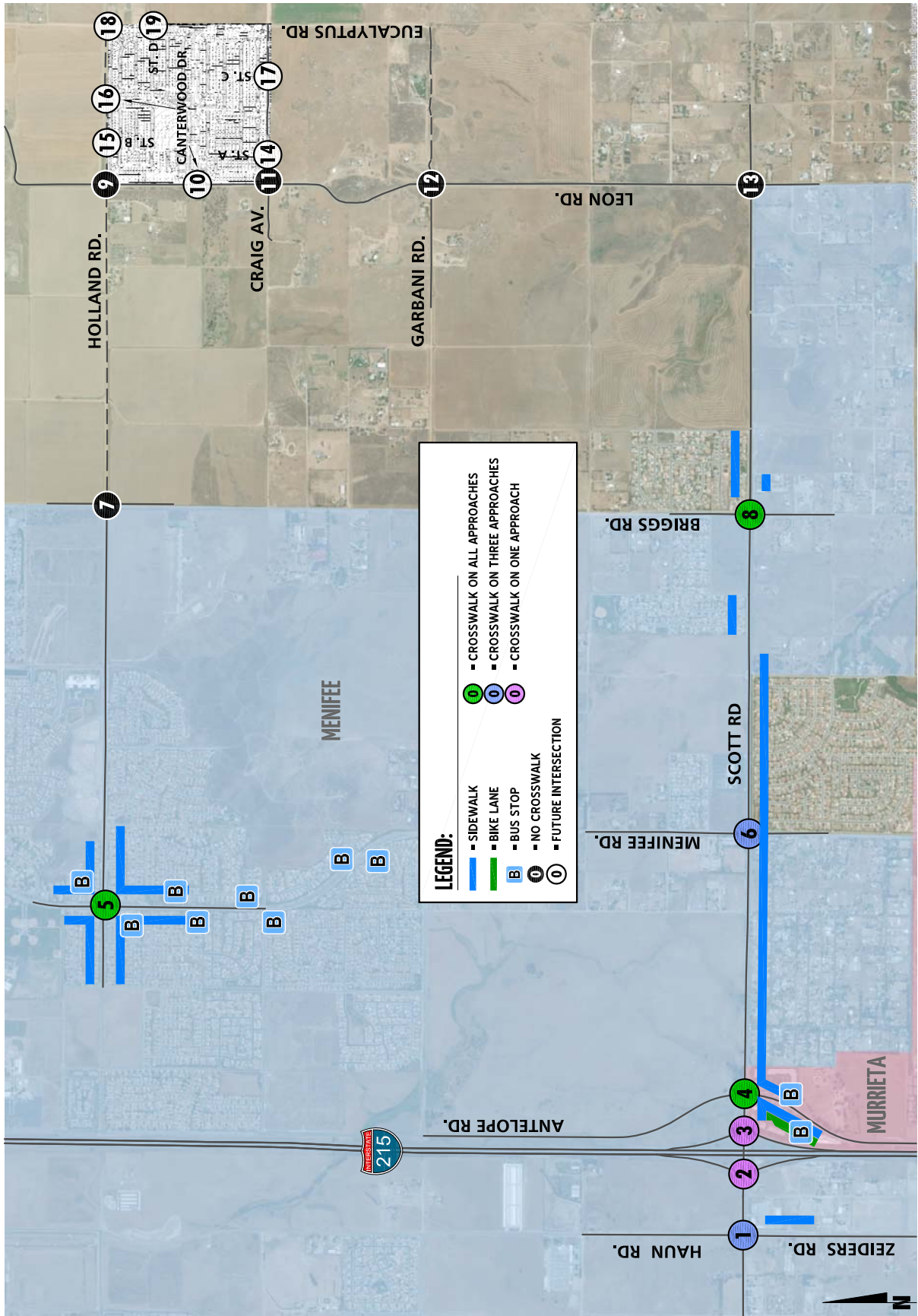
- Public Utility Corridor

PARKS & FACILITIES

- City Parks
- City Facilities
- City Parks in Progress
- VWRPD Parks
- VWRPD Facilities
- VWRPD Parks in Progress



EXHIBIT 3-8: EXISTING PEDESTRIAN FACILITIES



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EXHIBIT 3-9: EXISTING TRANSIT ROUTES

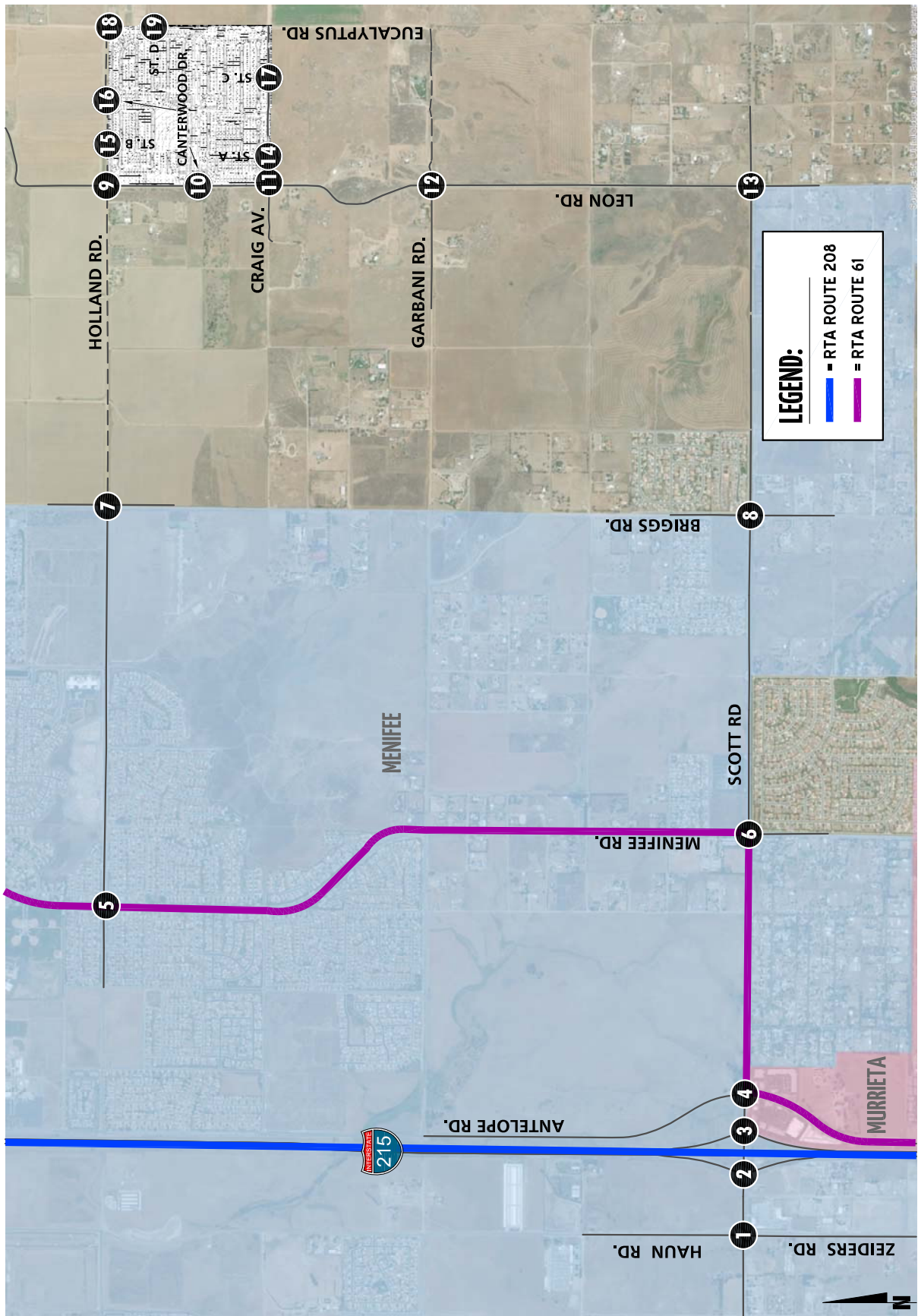
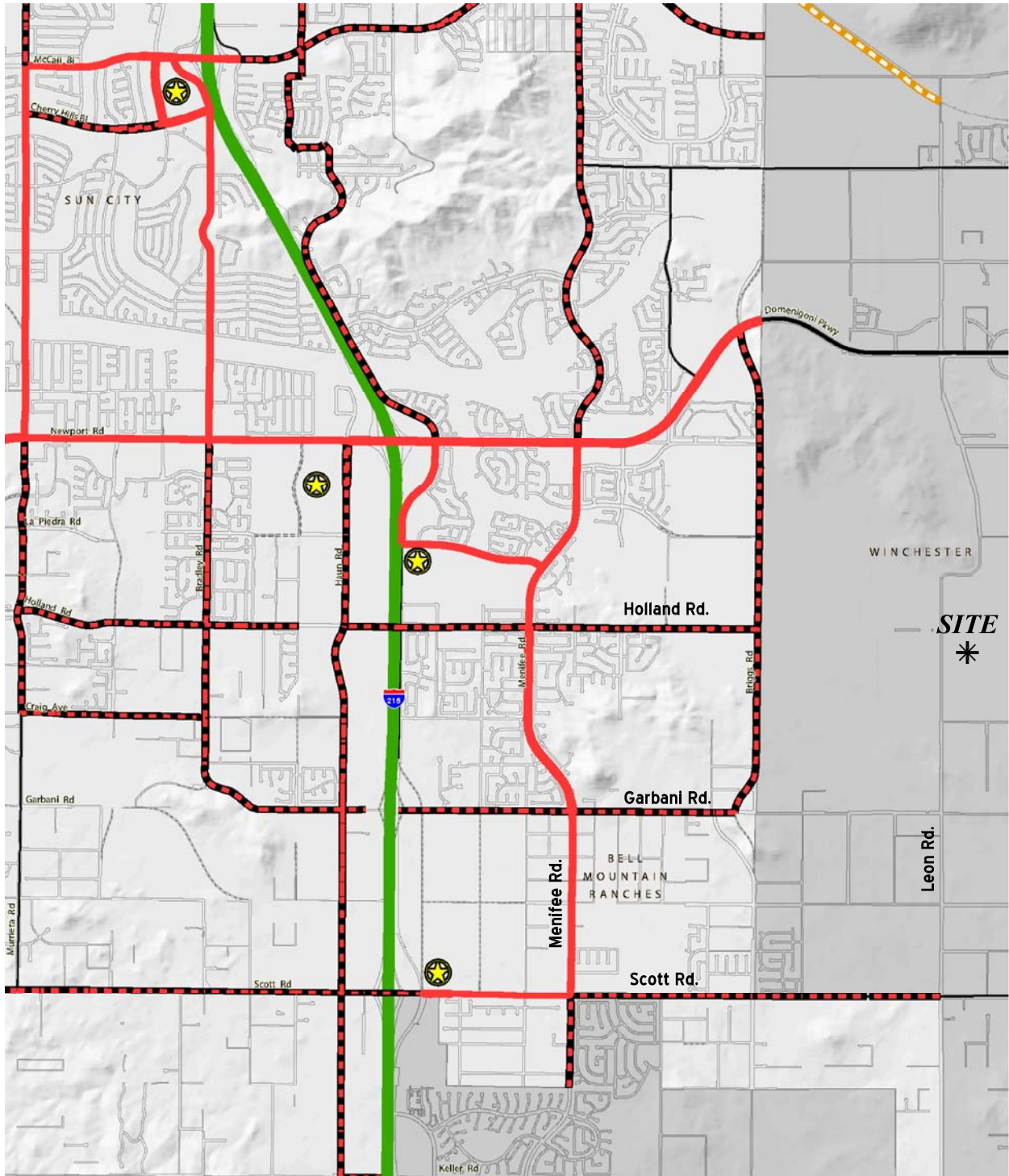


EXHIBIT 3-10: CITY OF MENIFEE PROPOSED TRANSIT SERVICES



- Existing On-Road Transit Service (RTA)
- - - Potential Future Rail Service
- ★ Transit Node
- - - Potential Future On-Road Transit Service
- Express Bus Service

3.5 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 January 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)

The weekday AM and PM peak hour count data are representative of typical 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 that would prevent or limit roadway access and detour routes. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1. These raw turning volumes have been flow conserved between intersections with limited access, no access and where there are currently no uses generating traffic.

Existing weekday ADT volumes on arterial highways throughout the study area are shown on Exhibit 3-11. Existing ADT volumes are based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 8.28 = \text{Leg Volume}$$

For those roadway segments which have 24-hour tube count data available in close proximity to the study area, a comparison between the PM peak hour and daily traffic volumes indicated that the peak-to-daily relationship of approximately 12.07 percent would sufficiently estimate ADT volumes for planning-level analyses. As such, the above equation utilizing a factor of 8.28 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 12.07 percent (i.e., $1/0.1207 = 8.28$). Existing weekday AM and PM peak hour intersection volumes are shown on Exhibit 3-12.

3.6 EXISTING CONDITIONS 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 all of the existing study area intersections are currently operating at an acceptable LOS during the peak hours, with the exception of the following intersection:

- Briggs Rd. & Scott Rd. (#8) – LOS F AM peak hour only

Consistent with Table 3-1, a summary of the peak hour intersection LOS for Existing conditions is shown on Exhibit 3-13. The intersection operations analysis worksheets are included in Appendix 3.2 of this TIA.

EXHIBIT 3-11: EXISTING (2018) AVERAGE DAILY TRAFFIC (ADT)

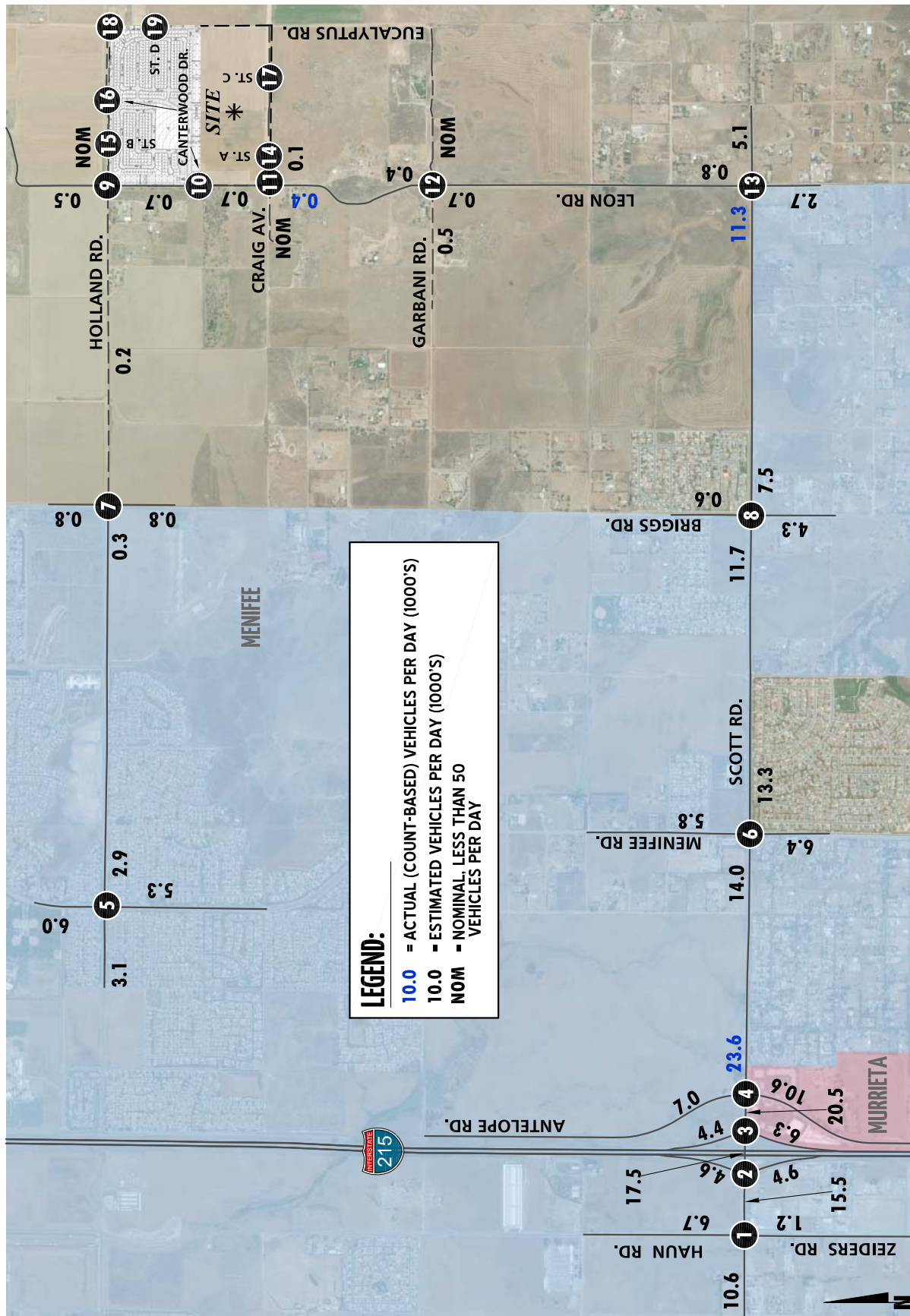


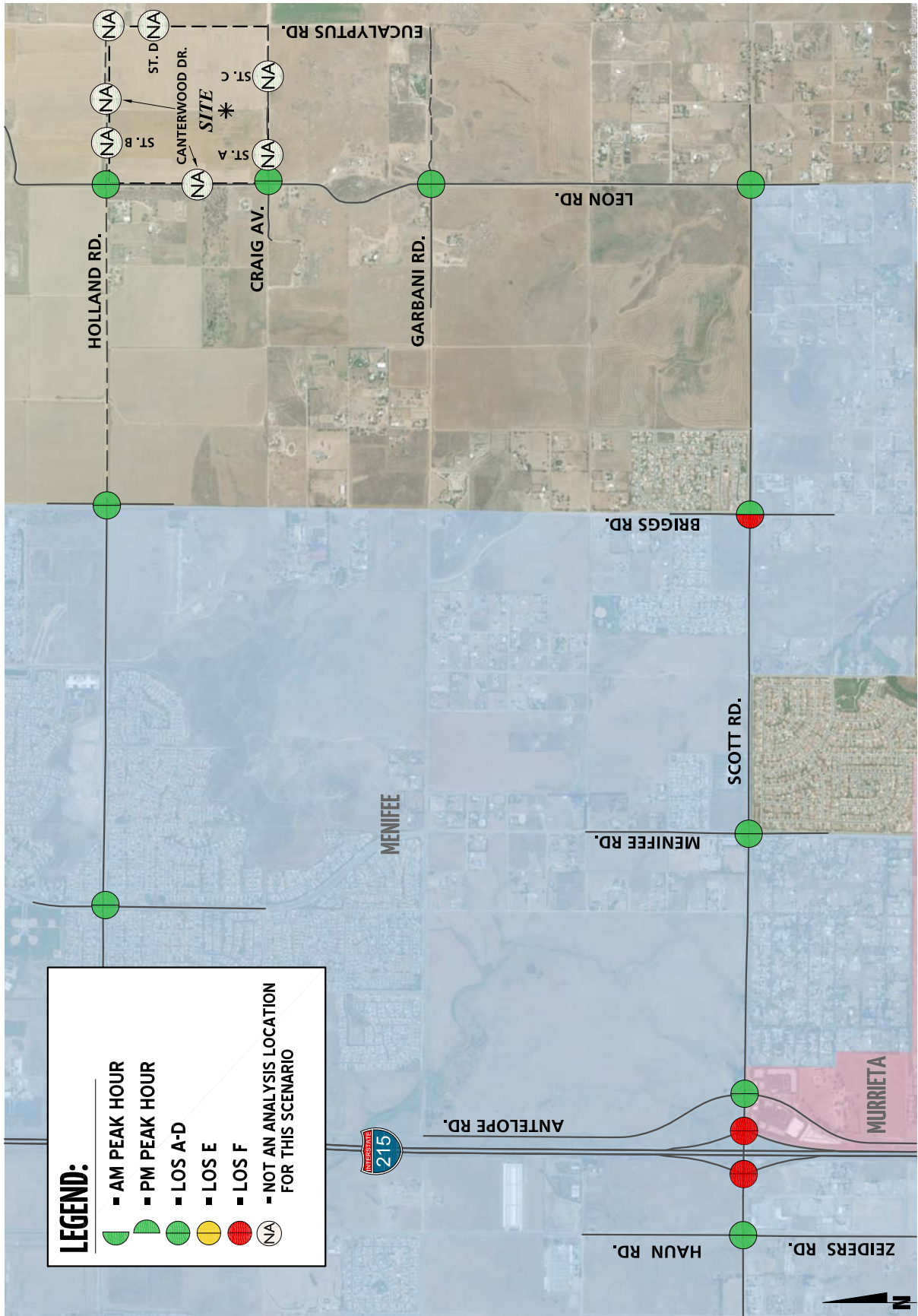
EXHIBIT 3-12: EXISTING (2018) TRAFFIC VOLUMES

<p>1 Haun Rd./ Zelders Rd. & Scott Rd.</p> <p>40(61) ← 24(15) ↓ 529(355) → 582(306) ← 375(682) ↓ 22(34) →</p> <p>68(41) ← 400(448) ↓ 12(13) →</p> <p>13(28) ← 53(30) ↓ 6(29) →</p>	<p>2 I-215 SB Ramps & Scott Rd.</p> <p>133(170) ← 2(0) ↓ 305(381) → 846(852) ← 316(293) ↓</p> <p>542(583) → 369(265) ↓</p>	<p>3 I-215 NB Ramps & Scott Rd.</p> <p>449(447) ← 926(766) ↓</p> <p>101(82) → 746(882) ↓</p> <p>236(379) ← 1(0) ↓ 170(381) →</p>	<p>4 Antelope Rd. & Scott Rd.</p> <p>306(203) ← 124(123) ↓ 42(62) → 21(36) ← 740(616) ↓ 23(71) →</p> <p>108(214) ← 515(699) ↓ 293(350) →</p> <p>329(394) ← 69(201) ↓ 63(145) →</p>	<p>5 Menifee Rd. & Holland Rd.</p> <p>83(59) ← 254(218) ↓ 59(68) → 99(40) ← 158(76) ↓ 69(19) →</p> <p>108(51) ← 73(107) ↓ 15(45) →</p> <p>38(31) ← 272(288) ↓ 87(40) →</p>	<p>6 Menifee Rd. & Scott Rd.</p> <p>81(79) ← 193(83) ↓ 110(78) → 141(102) ← 523(582) ↓ 103(91) →</p> <p>55(144) ← 427(622) ↓ 109(137) →</p> <p>100(124) ← 159(209) ↓ 63(125) →</p>
<p>7 Briggs Rd. & Holland Rd.</p> <p>59(5) ← 32(36) ↓ 0(1) → 2(3) ← 2(8) ↓ 0(1) →</p> <p>46(8) ← 3(6) ↓ 29(5) →</p> <p>16(8) ← 13(40) ↓ 0(0) →</p>	<p>8 Briggs Rd. & Scott Rd.</p> <p>49(24) ← 14(5) ↓ 16(0) → 6(9) ← 478(428) ↓ 6(2) →</p> <p>10(20) ← 382(458) ↓ 222(238) →</p> <p>226(248) ← 4(13) ↓ 10(7) →</p>	<p>9 Leon Rd. & Holland Rd.</p> <p>3(1) ← 52(23) ↓ 0(0) → 0(0) ← 0(0) ↓ 0(1) →</p> <p>3(4) ← 3(0) ↓ 7(21) →</p> <p>18(3) ← 29(36) ↓ 4(1) →</p>	<p>10 Leon Rd. & Canterwood Dr.</p> <p>Future Intersection</p>	<p>11 Leon Rd. & Craig Av.</p> <p>0(0) ← 59(44) ↓ 0(1) → 0(2) ← 0(0) ↓ 1(1) →</p> <p>0(1) ← 0(0) ↓ 1(0) →</p> <p>0(1) ← 51(37) ↓ 0(2) →</p>	<p>12 Leon Rd. & Garbanl Rd.</p> <p>5(2) ← 5(17) ↓ 0(0) → 1(0) ← 3(1) ↓ 1(1) →</p> <p>0(5) ← 0(2) ↓ 53(27) →</p> <p>36(20) ← 12(20) ↓ 3(0) →</p>
<p>13 Leon Rd. & Scott Rd.</p> <p>3(14) ← 56(31) ↓ 23(6) → 8(12) ← 262(297) ↓ 13(13) →</p> <p>5(11) ← 258(283) ↓ 173(134) →</p> <p>226(126) ← 35(18) ↓ 6(9) →</p>	<p>14 Street A & Craig Av.</p> <p>Future Intersection</p>	<p>15 Street B & Holland Rd.</p> <p>Future Intersection</p>	<p>16 Canterwood Dr. & Holland Rd.</p> <p>Future Intersection</p>	<p>17 Street C & Craig Av.</p> <p>Future Intersection</p>	<p>18 Eucalyptus Rd. & Holland Rd.</p> <p>Future Intersection</p>
<p>19 Eucalyptus Rd. & Street D</p> <p>Future Intersection</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

EXHIBIT 3-13: EXISTING (2018) SUMMARY OF LOS



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Table 3-1

Intersection Analysis for Existing (2018) Conditions

#	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				
1	Haun Rd./Zeiders Rd. / Scott Rd.	TS	1	1	1	1	1	0	1	1	0	1	1	1	44.6	43.8	D	D
2	I-215 SB Ramps / Scott Rd.	TS	0	0	0	0	1	1	0	1	1	1	1	0	LOS E/F ⁴			
3	I-215 NB Ramps / Scott Rd.	TS	0	1	1	0	0	0	1	1	0	0	1	1	LOS E/F ⁴			
4	Antelope Rd. / Scott Rd.	TS	2	1	1	1	1	1	1	2	0	1	2	0	35.1	35.7	D	D
5	Menifee Rd. / Holland Rd.	AWS	1	2	0	1	2	0	1	2	0	1	2	0	17.9	11.6	C	B
6	Menifee Rd. / Scott Rd.	TS	1	1	1	1	1	0	1	2	0	1	2	0	32.1	34.5	C	C
7	Briggs Rd. / Holland Rd.	CSS	0	1	0	0	1	0	0	1	0	0	1	0	10.3	9.5	B	A
8	Briggs Rd. / Scott Rd.	TS	0	1	d	0	1	1	1	2	0	1	2	1	186.6	29.5	F	C
9	Leon Rd. / Holland Rd.	AWS	0	1	0	0	1	0	0	1	0	0	1	0	7.3	7.2	A	A
10	Leon Rd. / Canterwood Dr.		Future Analysis Location															
11	Leon Rd. / Craig Av.	CSS	0	1	0	0	1	0	0	1	0	0	1	0	9.8	9.3	A	A
12	Leon Rd. / Garbani Rd.	CSS	0	1	0	0	1	0	0	1	0	0	1	0	9.5	9.6	A	A
13	Leon Rd. / Scott Rd.	AWS	0	1	0	0	1	0	0	1	0	0	1	0	16.5	14.5	C	B
14	St. A / Craig Av.		Future Analysis Location															
15	St. B / Holland Rd.		Future Analysis Location															
16	Canterwood Dr. / Holland Rd.		Future Analysis Location															
17	St. C / Craig Av.		Future Analysis Location															
18	Eucalyptus Rd. / Holland Rd.		Future Analysis Location															
19	Eucalyptus Rd. / St. D		Future Analysis Location															

BOLD = LOS does not meet the County, City of Menifee, City of Murrieta, or Caltrans requirements (i.e., unacceptable LOS or LOS E/F)

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

² Per the Highway Capacity Manual 6, 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 movement: sharing a single lane) are shown.

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

⁴ Based on the constrained traffic count data, the intersection appears to operate at acceptable LOS or at LOS better than field observations would suggest. However, field observations show that the intersections along Scott Road near the I-215 Freeway experience peak hour queues that periodically affect intersection operations

It is important to recognize that the intersection operations analysis reflects the existing constrained traffic count conditions. These constraints in the form of vehicle queues at closely spaced intersections significantly limit the number of vehicles that can physically be accommodated during peak hour conditions. While the traffic counts identify all the vehicles using an intersection during peak hours, they may not fully account for the unconstrained demand at a particular location. Several intersections such as Antelope Road at Scott Road and the I-215 Ramps locations at the Scott Road interchange experience vehicle delays that are not reflected in the intersection LOS analysis due to the constrained conditions. As such, based on the constrained traffic count data the intersections appear to operate at acceptable LOS or at LOS better than field observations would suggest. Field observations show that these intersections along Scott Road near the I-215 Freeway experience peak hour queues that periodically affect intersection operations.

3.7 EXISTING CONDITIONS OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for southbound and northbound off-ramps at the I-215 Freeway Scott Road interchange to assess vehicle queues for the off ramps that may potentially impact peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-215 Freeway mainline. 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 on Table 3-2, there are no existing queuing issues. Worksheets for Existing conditions off-ramp queuing analysis are provided in Appendix 3.3.

3.8 EXISTING CONDITIONS TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. For Existing traffic conditions, a traffic signal appears to currently be warranted at the following unsignalized study area intersections (see Appendix 3.4):

- Menifee Rd. & Holland Rd. (#5)
- Leon Rd. & Scott Rd. (#13)

3.9 EXISTING CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS

Existing mainline directional volumes for the weekday AM and PM peak hours are provided on Exhibit 3-14. As shown on Table 3-3, I-215 Freeway segments analyzed for this study were found to operate at an acceptable LOS (i.e., LOS D or better) during the peak hours, with the exception of the following segments:

- I-215 Freeway Southbound – North of Scott Road (#1) – LOS E AM peak hour only
- I-215 Freeway Southbound – South of Scott Road (#2) – LOS E AM peak hour only

Existing basic freeway segment analysis worksheets are provided in Appendix 3.5.

Table 3-2

Peak Hour Freeway Off-Ramp Queuing Analysis for Existing (2018) Conditions

Intersection	Movement	Stacking (Feet)	95th Percentile Stacking Distance Required (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Off-Ramp / Scott Road	SBL/T	1,300	347 ²	423 ²	Yes	Yes
	SBR	460	49	52	Yes	Yes
I-215 NB Off-Ramp / Scott Road	NBL/T	1,560	276 ²	399 ²	Yes	Yes
	NBR	400	59	250	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.

Table 3-3

Basic Freeway Segment Analysis for Existing (2018) Conditions

Freeway	Direction	Mainline Segment	Lanes ¹	Volume ²		Density ³		LOS ⁴	
				AM	PM	AM	PM	AM	PM
I-215 Freeway	Southbound	North of Scott Road	3	6,220	5,302	41.8	31.9	E	D
		South of Scott Road	3	6,467	5,309	44.6	31.9	E	D
	Northbound	North of Scott Road	3	3,387	5,147	18.3	29.6	C	D
		South of Scott Road	3	3,243	5,378	17.4	31.7	B	D

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

¹ Number of lanes are in the specified direction and is based on existing conditions.

² Directional volumes based on current PeMS data.

³ Density is measured by passenger cars per mile per lane (pc/mi/ln).

⁴ LOS = Level of Service

EXHIBIT 3-14: EXISTING (2018) FREEWAY MAINLINE VOLUMES



LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES
NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



3.10 EXISTING CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS

Ramp merge and diverge operations were also evaluated for Existing conditions and the results of this analysis are presented in Table 3-4. As shown in Table 3-4, the I-215 Freeway ramp merge/diverge areas analyzed for this study currently operate at LOS D or better, with the exception of the following areas:

- I-215 Freeway – Southbound, Off-Ramp at Scott Road (#1) – LOS E AM peak hour only
- I-215 Freeway – Southbound, On-Ramp at Scott Road (#2) – LOS E AM peak hour only

Existing freeway ramp merge/diverge operations analysis worksheets are provided in Appendix 3.6.

3.11 RECOMMENDED IMPROVEMENTS

3.11.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been recommended at intersections that have been identified as deficient to reduce each location's peak hour delay and improve the associated LOS grade to an acceptable LOS (LOS D or better). The effectiveness of the proposed recommended improvements is presented in Table 3-5 for Existing traffic conditions. Recommended improvements to address deficiencies for Existing traffic conditions are described below.

Recommended Improvement –Briggs Road & Scott Road (#8)

- Widen to accommodate a dedicated left turn lane and a shared through-right turn lane.

The intersection operations analysis worksheets, with improvements, are included in Appendix 3.7 of this TIA.

3.11.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the County of Riverside (or other neighboring jurisdictions) on the SHS roadway segments. As such, no improvements have been recommended to address the Existing (2018) deficiencies on the SHS.

Table 3-4

Freeway Ramp Merge/Diverge Analysis for Existing (2018) Conditions

Freeway	Direction	Ramp Junction	Lanes on Freeway	AM Peak Hour		PM Peak Hour	
				Density ¹	LOS ²	Density ¹	LOS ²
I-215 Freeway	Southbound	Off-Ramp at Scott Road	3	36.3	E	31.2	D
		On-Ramp at Scott Road	3	43.4	E	33.3	D
	Northbound	On-Ramp at Scott Road	3	20.5	C	31.7	D
		Off-Ramp at Scott Road	3	18.9	C	32.0	D

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

¹ Density is measured by passenger cars per mile per lane (pc/mi/ln).

² LOS = Level of Service

Table 3-5

Intersection Analysis for Existing (2018) 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					
2	I-215 SB Ramps / Scott Rd. - Without Improvements - With Improvements	TS	0	0	0	0	1	1	0	1	1	1	1	1	0	LOS E/F ⁴ Acceptable LOS ⁵			
3	I-215 NB Ramps / Scott Rd. - Without Improvements - With Improvements	TS	0	1	1	0	0	0	1	1	0	0	1	1	LOS E/F ⁴ Acceptable LOS ⁵				
8	Briggs Rd. / Scott Rd. - Without Improvements	TS	0	1	d	0	1	1	1	2	0	1	2	1	186.6	29.5	F	C	
	- With Improvements	TS	<u>1</u>	1	<u>0</u>	0	1	1	1	2	0	1	2	1	29.0	28.6	C	C	

BOLD = LOS does not meet the County, City of Menifee, City of Murrieta, or Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

NOTE: All recommended improvements described above are consistent with the General Plan

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; d= Defacto Right Turn Lane; 1 = Improvement

² Per the Highway Capacity Manual 6, 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

⁴ Based on the constrained traffic count data, the intersection appears to operate at acceptable LOS or at LOS better than field observations would suggest. However, field observations show that the intersections along Scott Road near the I-215 Freeway experience peak hour queues that periodically affect intersection operations.

⁵ As demonstrated on the subsequent Table 7-5, the study area intersections are anticipated to operate at acceptable LOS with the planned I-215 Freeway at Scott Road (Phase 1) interchange improvements in place.

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4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. For the purposes of this analysis, potential impacts have been assessed for two development phases. The two phases and their anticipated opening years are as follows:

- Phase 1 2021 – 317 single-family residential units and an 8.2-acre park
- Phase 2 Project Buildout 2025 – Phase 1 development plus 257 single-family residential units

The Project is proposed to have access onto Leon Road via Canterwood Drive, Eucalyptus Road via Street D, Holland Road via Street B and Canterwood Drive, and Craig Avenue via Street A and Street C. All Project driveways are proposed to be stop controlled on the minor street with free-flow along the major streets and are proposed to allow for full access. Regional access to the Project site will be provided by the I-215 Freeway (via the Scott Road interchange).

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

Trip generation rates used to estimate Project traffic and a summary of the Project's trip generation are shown on Table 4-1. The trip generation rates are based upon data collected by the Institute of Transportation Engineers (ITE) for Single Family Residential (ITE Land Use Code 210) and Public Parks (ITE Land Use Code 411) in their published Trip Generation Manual, 10th Edition, 2017. (3)

Phase 1 (2021) of the Project is estimated to generate a net total of 2,998 trip-ends per day on a typical weekday with approximately 235 AM peak hour trips and 314 PM peak hour trips. Phase 2 Project Buildout (2025) is estimated to generate a net total of 5,425 trip-ends per day with 425 AM peak hour trips and 568 PM peak hour trips.

4.2 PROJECT TRIP DISTRIBUTION

Trip distribution patterns for the residential uses proposed as part of the Project are illustrated on Exhibit 4-1. This trip distribution pattern has been utilized for E+P, EAP/EAPC (Phase 1 2021), and EAP/EAPC (Phase 2 Project Buildout 2025) traffic conditions.

4.3 MODAL SPLIT

Although the use of public transit, walking, and/or bicycling have the potential to reduce Project-related traffic, such reductions have not been taken into consideration in this traffic study to provide a conservative analysis of the Project's potential to contribute to circulation system deficiencies.

Table 4-1

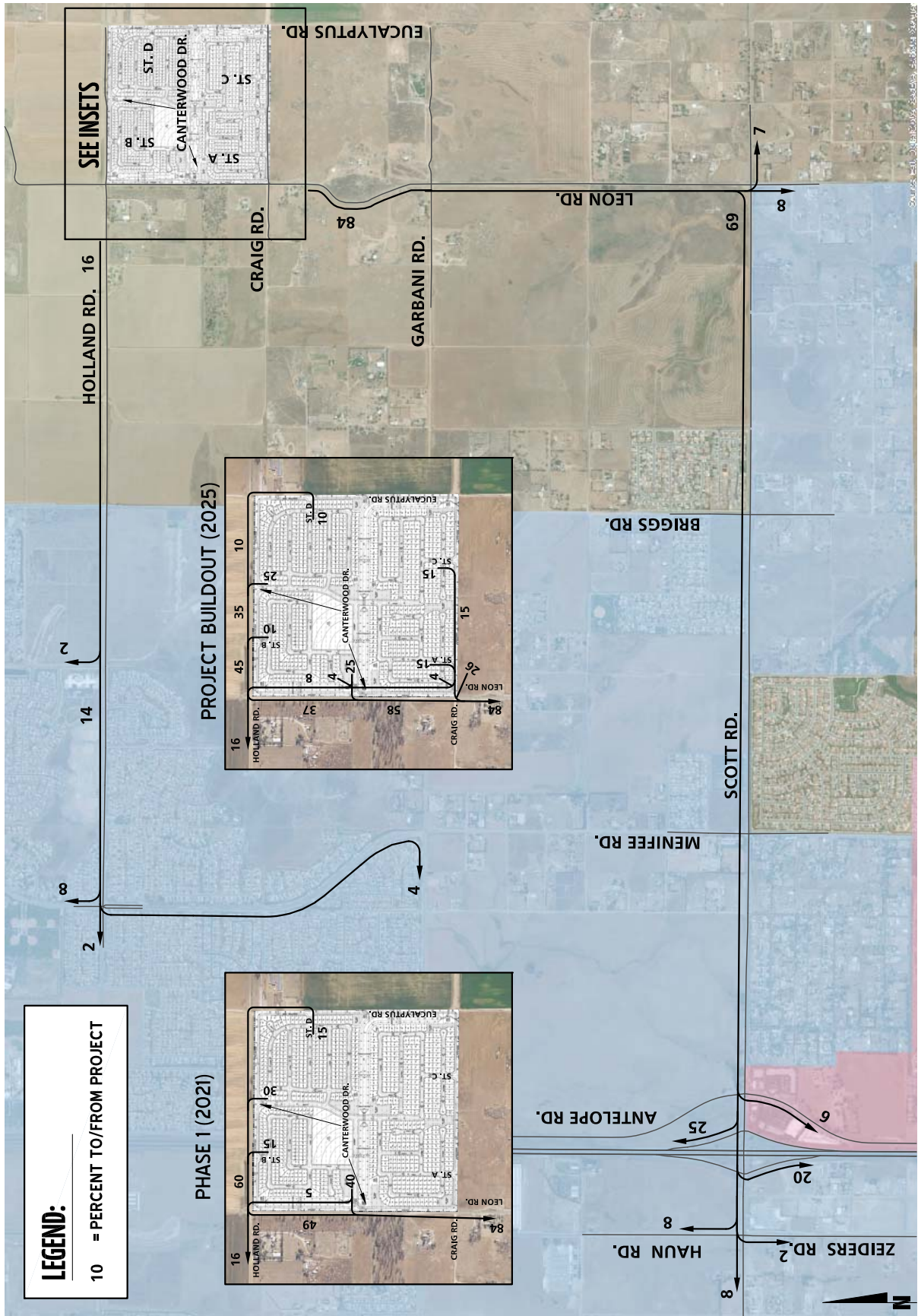
Project Trip Generation Summary

Land Use	Units ¹	ITE LU Code	AM Peak Hour			PM Peak Hour			Weekday Daily
			In	Out	Total	In	Out	Total	
Trip Generation Rates²									
Single Family Detached Residential	DU	210	0.19	0.56	0.74	0.62	0.37	0.99	9.44
Public Park	AC	411	0.01	0.01	0.02	0.06	0.05	0.11	0.78
Land Use	Units ¹	Quantity	AM Peak Hour			PM Peak Hour			Weekday Daily
			In	Out	Total	In	Out	Total	
Trip Generation Summary									
Phase 1 (2021):									
Single Family Detached Residential	DU	317	59	176	235	198	116	314	2,992
Parks	AC	8.20	0	0	0	0	0	0	6
Project Phase 1 (2021) Total			59	176	235	198	116	314	2,998
Single Family Detached Residential	DU	574	106	319	425	358	210	568	5,419
Parks	AC	8.20	0	0	0	0	0	0	6
Project Buildout (2025) Total			106	319	425	358	210	568	5,425

¹ DU = Dwelling Units; AC = Acres

² Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

EXHIBIT 4-1: PROJECT TRIP DISTRIBUTION



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, Project ADT and peak hour intersection turning movement volumes for Phase 1 (2021) are shown on Exhibits 4-2 and 4-3, respectively. Project ADT and peak hour intersection turning movement volumes for Phase 2 Project Buildout (2025) traffic conditions are shown on Exhibits 4-4 and 4-5, respectively.

4.5 CONSTRUCTION TRAFFIC

Project construction activities may potentially result in temporary and transient traffic deficiencies related to:

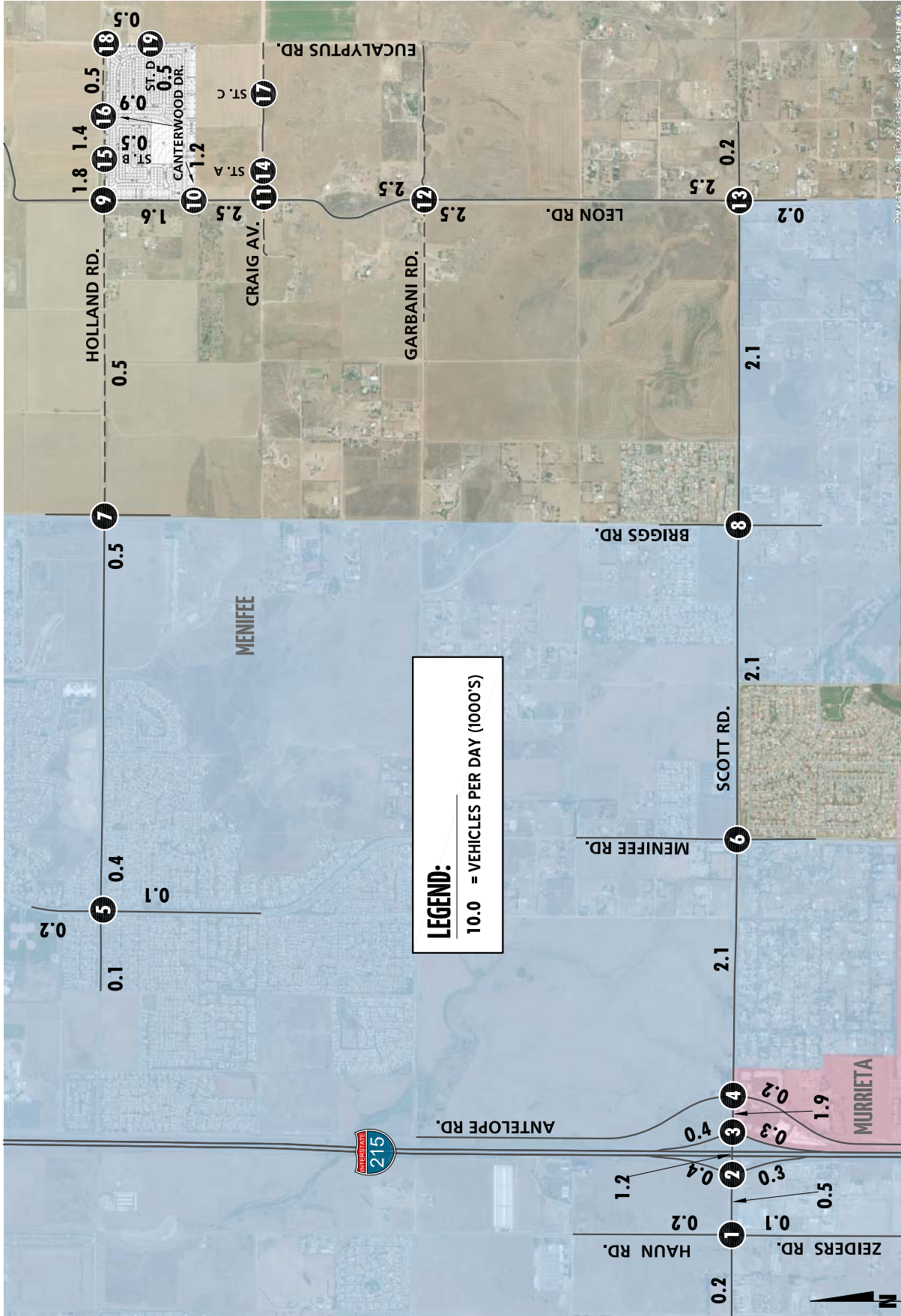
- Construction employee commutes;
- Import of construction materials and soils; and
- Transport and use of heavy construction equipment.

The Project Applicant would be required to develop and implement a County-approved Construction Traffic Management Plan addressing potential construction-related traffic detours and disruptions. In general, the Construction Traffic Management Plan would ensure that to the extent practical, construction traffic would access the Project site during off-peak hours; and that construction traffic would be routed to avoid travel through, or proximate to, sensitive land uses.

4.6 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon a background (ambient) growth factor of 2% per year. The ambient growth factor is intended to approximate traffic growth. The total ambient growth is 6.12% for Phase 1 2021 traffic conditions (compounded growth of two percent per year over 3 years) and 14.87% for Phase 2 Project Buildout 2025 traffic conditions (compounded growth of two percent per year over 7 years). 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.

EXHIBIT 4-2: PROJECT ONLY (PHASE 1: 2021) AVERAGE DAILY TRAFFIC (ADT)



11302 - adt.dwg



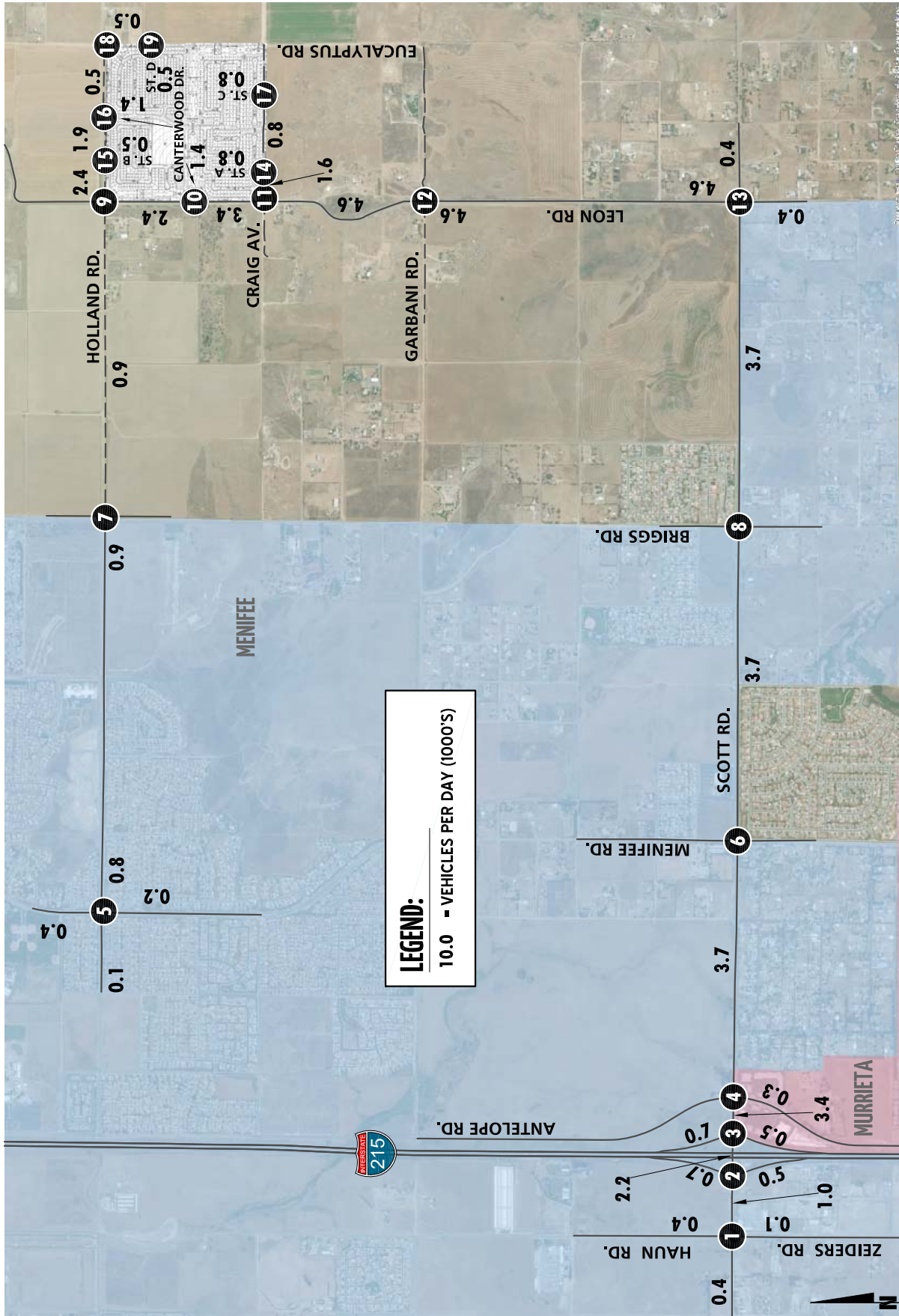
EXHIBIT 4-3: PROJECT ONLY (PHASE 1: 2021) TRAFFIC VOLUMES

<p>1 Haun Rd./ Zelders Rd. & Scott Rd.</p>	<p>2 I-215 SB Ramps & Scott Rd.</p>	<p>3 I-215 NB Ramps & Scott Rd.</p>	<p>4 Antelope Rd. & Scott Rd.</p>	<p>5 Menifee Rd. & Holland Rd.</p>	<p>6 Menifee Rd. & Scott Rd.</p>
<p>7 Briggs Rd. & Holland Rd.</p>	<p>8 Briggs Rd. & Scott Rd.</p>	<p>9 Leon Rd. & Holland Rd.</p>	<p>10 Leon Rd. & Canterwood Dr.</p>	<p>11 Leon Rd. & Craig Av.</p>	<p>12 Leon Rd. & Garbanl Rd.</p>
<p>13 Leon Rd. & Scott Rd.</p>	<p>14 Street A & Craig Av. Future Intersection</p>	<p>15 Street B & Holland Rd.</p>	<p>16 Canterwood Dr. & Holland Rd.</p>	<p>17 Street C & Craig Av. Future Intersection</p>	<p>18 Eucalyptus Rd. & Holland Rd.</p>
<p>19 Eucalyptus Rd. & Street D</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

EXHIBIT 4-4: PROJECT ONLY (PHASE 2 PROJECT BUILDOUT: 2025) AVERAGE DAILY TRAFFIC (ADT)



11302 - adt.dwg



EXHIBIT 4-5: PROJECT ONLY (PHASE 2 PROJECT BUILDOUT: 2025) TRAFFIC VOLUMES

<p>1 Haun Rd./ Zelders Rd. & Scott Rd.</p>	<p>2 I-215 SB Ramps & Scott Rd.</p>	<p>3 I-215 NB Ramps & Scott Rd.</p>	<p>4 Antelope Rd. & Scott Rd.</p>	<p>5 Menifee Rd. & Holland Rd.</p>	<p>6 Menifee Rd. & Scott Rd.</p>
<p>7 Briggs Rd. & Holland Rd.</p>	<p>8 Briggs Rd. & Scott Rd.</p>	<p>9 Leon Rd. & Holland Rd.</p>	<p>10 Leon Rd. & Canterwood Dr.</p>	<p>11 Leon Rd. & Craig Av.</p>	<p>12 Leon Rd. & Garbanl Rd.</p>
<p>13 Leon Rd. & Scott Rd.</p>	<p>14 Street A & Craig Av.</p>	<p>15 Street B & Holland Rd.</p>	<p>16 Canterwood Dr. & Holland Rd.</p>	<p>17 Street C & Craig Av.</p>	<p>18 Eucalyptus Rd. & Holland Rd.</p>
<p>19 Eucalyptus Rd. & Street D</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

The adopted Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (April 2016) growth forecasts for Riverside County identifies projected growth in population of 359,000 in 2012 to 499,200 in 2040, or a 28.1% increase over the 28-year period. The change in population equates to roughly a 1.18 percent growth rate compounded annually. Similarly, growth over the same 28-year period in households is projected to increase by 31.1 percent, or 1.34 percent annual growth rate. Finally, growth in employment over the same 27-year period is projected to increase by 54.98 percent, or a 2.89 percent annual growth rate. (9) Therefore, the annual growth rate of 2% in conjunction with cumulative project traffic would appear to be conservative and tend to overstate as opposed to understate future traffic growth.

4.7 CUMULATIVE DEVELOPMENT TRAFFIC

California Environmental Quality Act (CEQA) guidelines require that other reasonably foreseeable development projects which are either approved or being processed concurrently in the study area also be included as part of a cumulative analysis scenario. A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the County of Riverside. The neighboring jurisdictions of Menifee, Murrieta, and Temecula have also been contacted to include key projects in their respective cities.

Exhibit 4-6 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown on Table 4-2. Where applicable, the traffic generated by individual cumulative projects has been manually added to the EAPC (Phase 1 2021) and EAPC (Phase 2 Project Buildout 2025) forecasts to ensure that traffic generated by the listed cumulative development projects in Table 4-2 are reflected as part of the background traffic. For projects that are likely to contribute nominal traffic to the study area intersections, their traffic is assumed to be accounted for through the application of the ambient growth factor.

Due to the comprehensive nature of the list of cumulative projects, Urban Crossroads, Inc. has consulted with County staff to determine a reasonable absorption percentage to be applied to the cumulative development projects for each analysis phase. Based on these discussions, an absorption of 75 percent has been assumed for EAPC (Phase 1 2021) traffic conditions and an absorption of 100 percent has been assumed for EAPC (Phase 2 Project Buildout 2025) traffic conditions.

4.8 TRAFFIC FORECASTS

To provide a comprehensive assessment of the deficiencies a “buildup” analysis was performed in support of this work effort. The “buildup” method was used to approximate E+P, EAP, and EAPC traffic conditions, and is intended to identify the near-term deficiencies on both the existing and planned near-term circulation system. The EAPC traffic condition includes background traffic, traffic generated by other cumulative development projects within the study area, and traffic generated by the proposed Project.

EXHIBIT 4-6: CUMULATIVE DEVELOPMENT LOCATION MAP

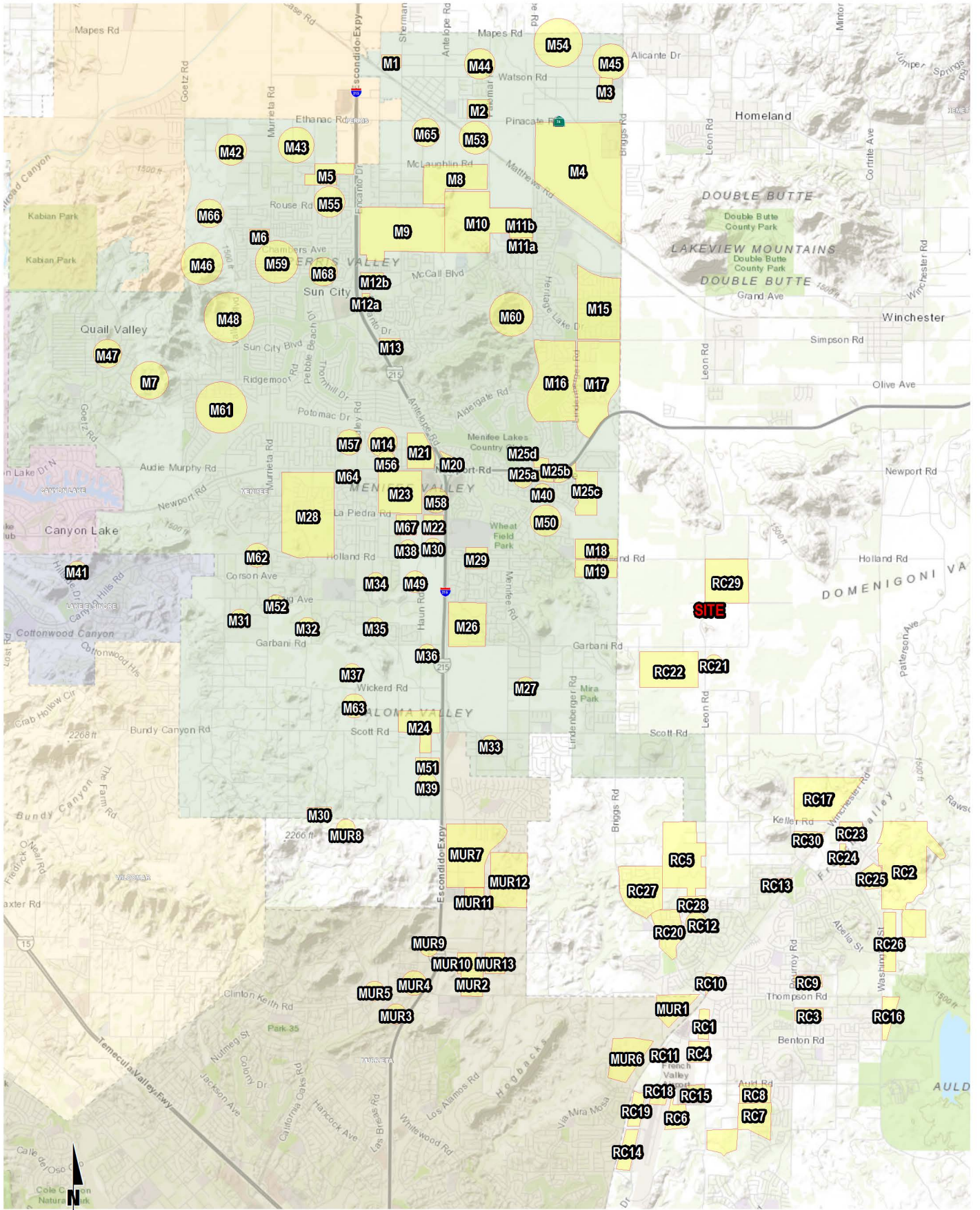


Table 4-2
Table 1 of 6

List of Cumulative Developments

#	Project Name	Land Use ¹	Quantity	Units ²
COUNTY OF RIVERSIDE				
RC1	CUP 03467	Home Improvement Store	137.627	TSF
		Fast Food w/ Drive-Thru	12.042	TSF
		Bank w/ Drive-Thru	4.014	TSF
		Shopping Center	134.972	TSF
		Gas Station	12	VFP
RC2	Belle Terre (SP 382)	Single Family Housing	1282	DU
RC3	TR 33170	Condominium	186	DU
	TR 34689	Single Family Housing	19	DU
	TR 35161	Single Family Housing	54	DU
RC4	PP 23146	Office	346.000	TSF
	TR 32323	Single Family Housing	38	DU
RC5	Spencer's Crossing	SFDR	753	DU
		Active Parks	5.6	AC
		Elementary School	600	STU
RC6	French Valley Airport	Business Park	694.629	TSF
		Apartments	240	DU
		Condominium	211	DU
RC7	TR 31871	Single Family Housing	258	DU
	TR 36376	Single Family Housing	446	DU
RC8	TR 34324	Condominium	127	DU
	TR 32011	Single Family Housing	33	DU
RC9	TR 33307	Single Family Housing	55	DU
RC10	CUP 03593	Gas Station	6.200	TSF
		Commercial Retail	26.500	TSF
		Storage	128.600	TSF
	TR 33751	Single Family Housing	11	DU
RC11	PP 20375	Fast Food w/ Drive-Thru	2.000	TSF
RC12	Los Olivos	SFDR	48	DU
RC13	PP 24903	Church	15.273	TSF
RC14	PM 35212	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	
RC15	PP 19414	Office	78.410	TSF
RC16	TTM No. 35770	Single Family Housing	156	DU
RC17	Keller Crossing Specific Plan	Single Family Housing	98	DU
		Continuing Care Retirement Community	225	DU
		General Office	250.000	TSF
		Shopping Center	400.000	TSF
RC18	Fausto Office Building	Single Tenant Office Building	7.850	TSF

Table 4-2
Table 2 of 6

List of Cumulative Developments

#	Project Name	Land Use ¹	Quantity	Units ²
COUNTY OF RIVERSIDE				
RC19	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
RC20	Specific Plan 312 A-1	Single Family Housing	1,671	DU
		Parks	32.1	AC
RC21	Perris Union HSD High School	High School	2800	STU
RC22	La Ventana Ranch	Single Family Housing	535	DU
		Community Park	15.0	AC
		Passive Park	2.0	AC
RC23	TR36722	SFDR	146	DU
RC24	TR36687	SFDR	71	DU
RC25	TR33423M1	SFDR	132	DU
RC26	TR30837	SFDR	320	DU
RC27	TR30433	SFDR	508	DU
RC28	Los Olivos	SFDR	48	DU
RC29	TR36467	SFDR	381	DU
		Multifamily Residential	92	DU
RC30	Morningstar	Supermarket	55.000	TSF
		Day Care Center	5.000	TSF
		Pharmacy w/ Drive-Thru	13.600	TSF
		Bank w/ Drive-Thru	113.300	TSF
		Shopping Center	64.600	TSF
		High-Turnover Restaurant	11.500	TSF
		Fast-food Restaurant w/ Drive-Thru	3.000	TSF
Gasoline Station w/ Convenience Market	12	VFP		
CITY OF MENIFEE				
M1	UPS Expansion	General Light Industrial	30.000	TSF
M2	TR 34118	Single Family Residential	169	DU
M3	TR34600	Single Family Residential	153	DU
M4	TR 31811	Single Family Residential	559	DU
	TR 31812	Senior Adult Detached Housing	742	DU
M5	TR 30182	Single Family Residential	84	DU
	TR 33419	Single Family Residential	140	DU
	TR 35143	Single Family Residential	15	DU
M6	TR 32314	Single Family Residential	33	DU
M7	TM 28859	Single Family Residential (50% Complete)	246	DU

Table 4-2
Table 3 of 6

List of Cumulative Developments

#	Project Name	Land Use ¹	Quantity	Units ²
CITY OF MENIFEE				
M9	Fleming Ranch Specific Plan	Single Family Residential	1,169	DU
		Apartments	556	DU
		Active Parks	16.1	AC
		City Parks	11.5	AC
		Elementary School	1,050	STU
		Business Park	163.000	TSF
M10	TR 29835	Single Family Residential	543	DU
	TR 31098	Single Family Residential	264	DU
M11a	CUP 03549	Shopping Center	81.700	TSF
M11b	Village at Junipero	Apartments	240	DU
M12a	TR 33446	Condo/Townhomes	180	DU
M12b	Menifee North Shopping Center	Free-Standing Discount Store	200.000	TSF
		Bank w/ Drive-Thru	5.500	TSF
		Fast-food w/ Drive-Thru	6.700	TSF
		Fast-food w/o Drive-Thru	5.500	TSF
		Coffee Shop w/ Drive-Thru	2.000	TSF
		Retail	7.500	TSF
M13	PP 19469R1	Senior Apartments	221	DU
M14	American Tire Depot (CUP 2013-157)	Auto Shop	7.171	TSF
M15	TR 34180	Single Family Residential (75% Complete)	484	DU
		Elementary School (75% Complete)	950	STU
	TR 34406	Single Family Residential (100 Lots Complete)	817	DU
		Shopping Center	228.690	TSF
M16	TR 31455	Single Family Residential	60	DU
	TR 31582	Single Family Residential (25% Complete)	280	DU
M17	TR 32186	Single Family Residential (75% Complete)	101	DU
	TR 32100	Single Family Residential	170	DU
	TR 32101	Single Family Residential	197	DU
	TR 32102	Single Family Residential	272	DU
M18	Nautical Cove Residential	Single Family Residential	235	DU
M19	Menifee Heights - TR32277	Single Family Residential	359	DU
		Active Parks	10.2	AC
M20	Menifee Lakes Shopping Center (PP 2009-052)	Shopping Center	120.848	TSF
		Gas Station & Market / Car Wash	12	VFP
		Hotel	71	ROOM
M21	SP 248 Newport Hub	Shopping Center (50% Occupied)	229.700	TSF
		General Office	97.580	TSF
		General Light Industrial (50% Occupied)	241.760	TSF
		Motel	100	ROOM
M22	Pechanga Commercial Site (PP 2010-123)	Shopping Center	208.160	TSF

Table 4-2
Table 4 of 6

List of Cumulative Developments

#	Project Name	Land Use ¹	Quantity	Units ²
CITY OF MENIFEE				
M23	Menifee Town Center Specific Plan	Shopping Center	509.370	TSF
		Hotel	200	ROOM
		General Office	65.340	TSF
		Single Family Residential	577	DU
		Condo/Townhomes	475	DU
M24	Junction at Menifee	Shopping Center	526.800	TSF
	Menifee Shopping Center	Shopping Center	238.180	TSF
	Shops at Scott	Shopping Center (50% Complete)	82.000	TSF
		Fast-Food Restaurant w/ Drive-Thru (50% Complete)	9.000	TSF
M25a	TPM 2009-168 (PM 36720)	Retail	112.167	TSF
M25b	Newport Menifee Retail Shopping Center	Fast-food w/ Drive-Thru	7.000	TSF
		Supermarket	45.272	TSF
		Bank w/ Drive-Thru	5.000	TSF
		Pharmacy w/ Drive-Thru	14.576	TSF
		High Turnover (Sit-Down) Restaurant	7.360	TSF
		Retail	58.883	TSF
M25c	The Lakes TR 30422 (SP 247 Amendment 1)	Single Family Residential	992	DU
M25d	Arco Gas Station	Gas Station & Market	16	VFP
M26	TR 32628	Single Family Residential	364	DU
	TR 28206	Single Family Residential (50% Complete)	148	DU
M27	Cantalena Specific Plan	Single Family Residential	353	DU
		Apartments	851	DU
M28*	TR 28786	Single Family Residential	72	DU
	TR 28787	Single Family Residential	67	DU
	TR 28788	Single Family Residential	119	DU
	TR 28789	Single Family Residential	131	DU
	TR 28790	Single Family Residential	110	DU
	TR 28791	Single Family Residential	80	DU
	TR 28792	Single Family Residential	85	DU
	TR 28793	Single Family Residential	77	DU
	TR 28794	Single Family Residential	65	DU
	TR 30812	Single Family Residential	29	DU
M29	Del Oro (Holland Road Residential)	Single Family Residential	68	DU
		Apartments	238	DU
		Senior Housing	100	DU
M30	TR2015-053 / TR 36684	Single Family Residential	10	DU
M31	TR 29636	Single Family Residential (75% Complete)	75	DU
M32	TR 30142	Single Family Residential (113 Lots Complete)	537	DU
M33	Antelope Square	Shopping Center	14.000	TSF
M34	TR 30465	Single Family Residential	8	DU
M35	TR 33883	Single Family Residential	51	DU
M36	PP 18014	Mini-warehouse	191.260	TSF
M37	TR 31194	Single Family Residential	483	DU
	TR 33511	Single Family Residential	71	DU
M38	TR 36303	Single Family Residential	97	DU

Table 4-2
Table 5 of 6

List of Cumulative Developments

#	Project Name	Land Use ¹	Quantity	Units ²
CITY OF MENIFEE				
M39	Commerce Point (PP 21452 & PP 22280)	General Light Industrial	872.350	TSF
	PP 18570	Warehousing	109.940	TSF
	PP 20021	Warehousing	4.500	TSF
M40	Rite Aid	Pharmacy w/ Drive-Thru	17.185	TSF
		Fast Food w/ Drive-Thru	3.285	TSF
M41	Audie Murphy Ranch SP	Single Family Residential (500 Lots Complete)	2,355	DU
	Canyon Cove	Single Family Residential	198	DU
M42	TTM 34037	Single Family Residential	128	DU
M43	TTM 31856	Single Family Residential	79	DU
M44	TTM 35876	Single Family Residential	17	DU
M45	TTM 33738	Single Family Residential	52	DU
M46	Cimarron Ridge (TTM 36657 / PM 36658)	Single Family Residential	756	DU
M47	Quail Hill (TTM 32794)	Single Family Residential	152	DU
M48	Stonegate (TM31456)	Single Family Residential	177	DU
M49	PA 2014-218 / TR 2015-108	Single Family Residential	80	DU
M50	Stater Bros. (2014-091 / PM36728)	Commercial Retail	121.277	TSF
M51	All Star Storage (PP 2015-156)	Storage	242.150	TSF
M52	His Light (PUP 2009-077)	Church	47.030	TSF
M53	Motte Town Center	Industrial	97.564	TSF
M54	TR31536	Single Family Residential	44	DU
M55	McLaughlin Village (PAR 2015-133)	Townhomes	126	DU
M56	PP 2014-009	Commercial Retail	100.024	TSF
M57	CUP 2015-157	Self-Service Carwash w/ Drive-Thru	11.783	TSF
M58	Menifee Village	Commercial Retail	231.600	TSF
M59	Thorton Terraces (TTM 2014-225)	Townhomes	19	DU
M60	Chapparal Apartments/Condos (PP 2014-040)	Apartment/Condos	5,572	DU
M61	Oak Tree Industries (TTM 29015)	Single Family Residential	18	DU
M62	Alasia - Meritage Homes	Single Family Residential	86	DU
M63	TR 2014-073	Single Family Residential	30	DU
M64	Shops at Newport	Shopping Center	3.490	TSF
		Restaurant	6.467	TSF
M65	Trumble Office and Warehouse (PP 2011-003, EOT 205-208)	Industrial	61.730	TSF
M66	Valley Blvd. Tract (TR 2015-211)	SFDR	75	DU
M67	Regent - South 35 (TR 2015-239)	SFDR	149	DU
M68	2015-246 PAR	Fast Food	2.400	TSF
M69	Impact Church Expansion (2015-249 PP)	Church Expansion		
MUR1	Murrieta Marketplace (DP-2011-3129)	Commercial Retail	548.055	TSF
MUR2	Pacific Landing (DP2008-2668)	Apartments	400	DU
MUR3	CVS	Pharmacy w/ Drive-Thru	14.576	TSF
MUR4	Sierra Lane	Commercial Center	28.709	TSF
MUR5	Mitchell Crossing (DP-2014-864) (Melia Homes)	Multifamily Residential	331	DU
		Specialty Retail	50.000	TSF
MUR6	Adobe Springs (Tentative Parcel Map No. 36779)	SFDR	287	DU
MUR7	Murrieta Fields II (TR32718)	SFDR	10	DU
MUR8	Murrieta Hills (SPO-012-3164) (Phase 1)	SFDR	300	DU
MUR9	The Orchard (DPO-03-161)	Shopping Center	215.850	TSF

Table 4-2
Table 6 of 6

List of Cumulative Developments

#	Project Name	Land Use ¹	Quantity	Units ²
CITY OF MURRIETA				
MUR10	Vineyard Shopping Center (DPO-2012-3260)	Shopping Center	78.489	TSF
		Hotel	91.000	RM
MUR11	Phase 1 Kaiser (DP-2014-348)	Medical Office	80.000	TSF
	Physician Hospital (Phase 2)	Hospital & Medical Office Building	124	Beds
MUR12	Golden Cities Tract 28532 (SCO-004-066)	Single Family Residential	486.000	DU
MUR13	Health South Rehab Hospital (DP-2015-571)	Hospital	50	Beds

¹ SFDR = Single Family Detached Residential

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

4.9 NEAR-TERM CONDITIONS

The “buildup” approach combines existing traffic counts with a background ambient growth factor to forecast the EAP (Phase 1 2021), EAP (Phase 2 Project Buildout 2025), EAPC (Phase 1 2021), and EAPC (Phase 2 Project Buildout 2025) traffic conditions. An ambient growth factor of 6.12% accounts for background (area-wide) traffic increases that occur over time up to the year 2021 from the year 2018 (compounded 2 percent per year growth over a 3-year period) and 14.87% for year 2025 from the year 2018 (compounded 2 percent per year over a 7-year period). Phase 1 and Phase 2 Project traffic is added to assess EAP (Phase 1 2021) and EAP (Phase 2 Project Buildout 2025) traffic conditions, respectively. Traffic volumes generated by cumulative development projects are then added to assess the EAPC (Phase 1 2021) and EAPC (Phase 2 Project Buildout 2025) traffic conditions. The Phase 1 2021 roadway network is similar to the existing conditions roadway network with the exception of future roadways and intersections proposed to be developed by the Project. The Phase 2 Project Buildout 2025 roadway network is similar to the 2021 roadway network with the exception of the I-215 Freeway at Scott Road interchange improvements, which are assumed to be in place.

The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- EAP (2021)
 - Existing 2018 counts
 - Ambient growth traffic (6.12%)
 - Phase 1 Project traffic
- EAP (2025)
 - Existing 2018 counts
 - Ambient growth traffic (14.87%)
 - Phase 1 and Phase 2 Project traffic
- EAPC (2021)
 - Existing 2018 counts
 - Ambient growth traffic (6.12%)
 - Cumulative Development Project traffic (75% absorption)
 - Phase 1 Project traffic
- EAPC (2025)
 - Existing 2018 counts
 - Ambient growth traffic (14.87%)
 - Cumulative Development Project traffic (100% absorption)
 - Phase 1 and Phase 2 Project traffic

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5 E+P TRAFFIC CONDITIONS

In an effort to satisfy the CEQA Guideline Section 15125(a), an analysis of existing traffic volumes plus traffic generated by the proposed Project (E+P) has been included in this report. This section discusses the traffic forecasts for Existing plus Project (E+P) conditions and the resulting intersection operations, freeway mainline operations, and traffic signal warrant analyses. This analysis scenario has been provided for informational purposes only as Project impacts have been discerned from a comparison of Existing (2018) to EAP (Phase 1 2021) and EAP (Phase 2 Project Buildout 2025) traffic conditions (per the County's traffic study guidelines).

CEQA Guideline Section 15125(a): An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for E+P conditions consist 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 E+P conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways). These include the Project site adjacent roadways of Leon Road, Holland Road and Eucalyptus Road.
- In order to access the existing roadway network from the site, the Project Applicant will also construct a 32-foot paved roadway along Holland Road between Briggs Road and Leon Road.

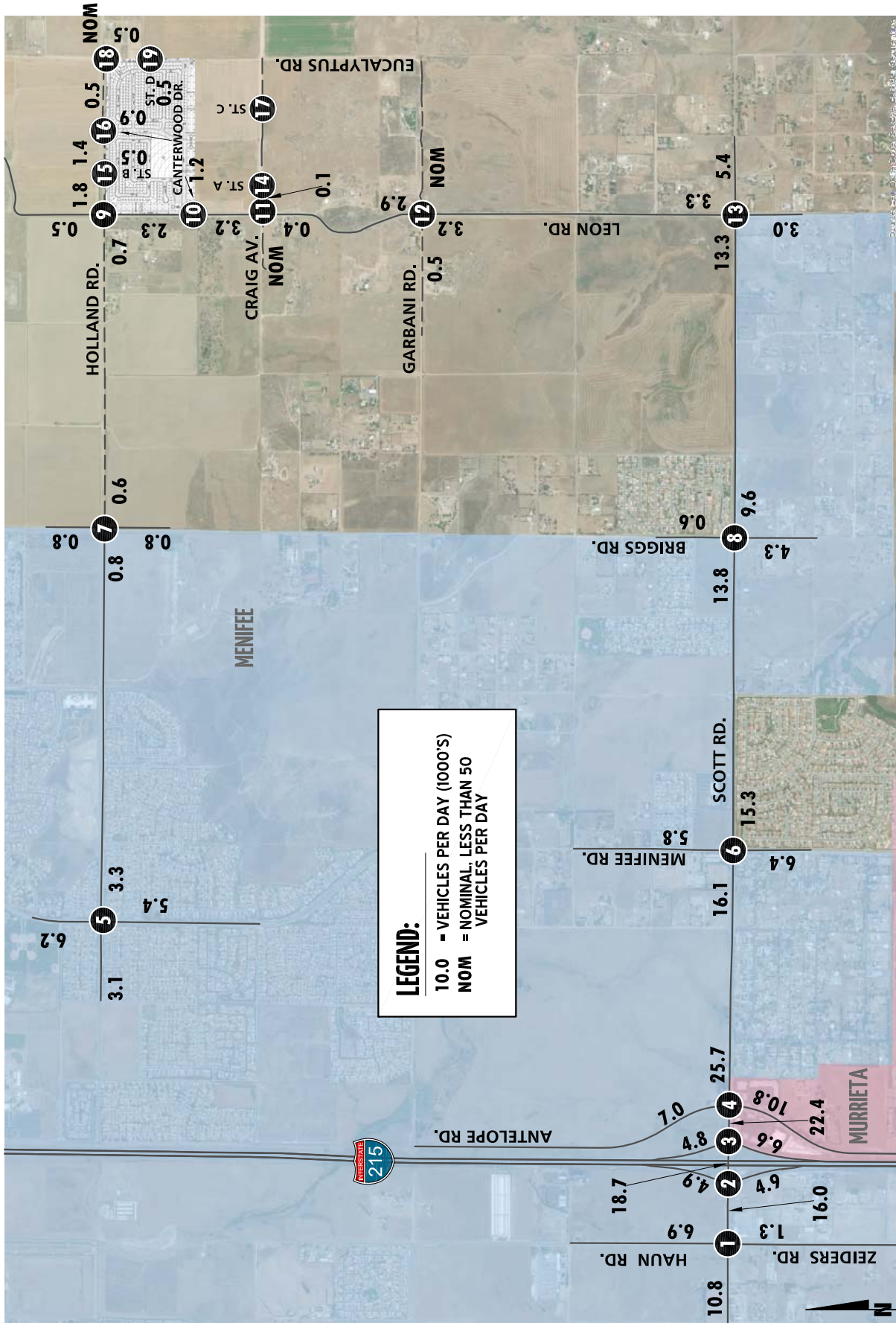
5.2 E+P (PHASE 1) TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus Project (Phase 1) traffic. Exhibit 5-1 shows the ADT volumes which can be expected for E+P (Phase 1) traffic conditions. E+P (Phase 1) weekday AM and weekday PM peak hour intersection turning movement volumes are shown on Exhibit 5-2.

5.3 E+P (PROJECT BUILDOUT) TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus Project (Buildout) traffic. Exhibit 5-3 shows the ADT volumes which can be expected for E+P (Project Buildout) traffic conditions. E+P (Project Buildout) weekday AM and weekday PM peak hour intersection turning movement volumes are shown on Exhibit 5-4.

EXHIBIT 5-1: E+P (PHASE 1) AVERAGE DAILY TRAFFIC (ADT)



11302 - adt.dwg



EXHIBIT 5-2: E+P (PHASE 1) TRAFFIC VOLUMES

<p>1 Haun Rd./ Zelders Rd. & Scott Rd.</p> <p>40(61) ↓ 24(15) ↓ 534(371) ↓ 596(315) ↑ 389(691) ↑ 26(36) ↑</p> <p>68(41) ↓ 405(464) ↓ 12(13) ↓</p> <p>13(28) ↑ 53(30) ↑ 7(33) ↑</p>	<p>2 I-215 SB Ramps & Scott Rd.</p> <p>133(170) ↓ 2(0) ↓ 320(431) ↓ 878(873) ↑ 351(316) ↑</p> <p>553(619) ↓ 369(265) ↓</p>	<p>3 I-215 NB Ramps & Scott Rd.</p> <p>493(476) ↑ 993(810) ↑</p> <p>101(82) ↓ 771(967) ↓</p> <p>236(379) ↓ 1(0) ↓ 182(421) ↓</p>	<p>4 Antelope Rd. & Scott Rd.</p> <p>306(203) ↓ 124(123) ↓ 42(62) ↓ 21(36) ↑ 851(689) ↑ 34(78) ↑</p> <p>108(214) ↓ 552(824) ↓ 293(350) ↓</p> <p>329(394) ↓ 69(201) ↓ 67(157) ↓</p>	<p>5 Menifee Rd. & Holland Rd.</p> <p>83(59) ↓ 254(218) ↓ 64(84) ↓ 113(49) ↑ 162(78) ↑ 76(24) ↑</p> <p>108(51) ↓ 74(111) ↓ 15(45) ↓</p> <p>38(31) ↓ 272(288) ↓ 89(48) ↓</p>	<p>6 Menifee Rd. & Scott Rd.</p> <p>81(79) ↓ 193(83) ↓ 110(78) ↓ 141(102) ↑ 644(662) ↑ 103(91) ↑</p> <p>55(144) ↓ 468(759) ↓ 109(137) ↓</p> <p>100(124) ↓ 159(209) ↓ 63(125) ↓</p>
<p>7 Briggs Rd. & Holland Rd.</p> <p>59(5) ↓ 32(36) ↓ 0(1) ↓ 2(3) ↑ 30(27) ↑ 0(1) ↑</p> <p>46(8) ↓ 12(38) ↓ 29(5) ↓</p> <p>16(8) ↓ 13(40) ↓ 0(0) ↓</p>	<p>8 Briggs Rd. & Scott Rd.</p> <p>49(24) ↓ 14(5) ↓ 16(0) ↓ 6(9) ↑ 599(508) ↑ 6(2) ↑</p> <p>10(20) ↓ 423(595) ↓ 222(238) ↓</p> <p>226(248) ↓ 4(13) ↓ 10(7) ↓</p>	<p>9 Leon Rd. & Holland Rd.</p> <p>3(1) ↓ 52(23) ↓ 0(0) ↓ 0(0) ↑ 19(13) ↑ 86(58) ↑</p> <p>3(4) ↓ 9(22) ↓ 10(31) ↓</p> <p>27(9) ↓ 29(36) ↓ 33(98) ↓</p>	<p>10 Leon Rd. & Canterwood Dr.</p> <p>145(102) ↓ 3(10) ↓ 9(6) ↑ 62(41) ↑</p> <p>80(137) ↓ 21(69) ↓</p>	<p>11 Leon Rd. & Craig Av.</p> <p>0(0) ↓ 207(141) ↓ 0(1) ↓ 0(2) ↑ 0(0) ↑ 1(1) ↑</p> <p>0(1) ↓ 0(0) ↓ 1(0) ↓</p> <p>0(1) ↓ 101(203) ↓ 0(2) ↓</p>	<p>12 Leon Rd. & Garbanl Rd.</p> <p>5(2) ↓ 153(114) ↓ 0(0) ↓ 1(0) ↑ 3(1) ↑ 1(1) ↑</p> <p>0(5) ↓ 0(2) ↓ 53(27) ↓</p> <p>36(20) ↓ 62(186) ↓ 3(0) ↓</p>
<p>13 Leon Rd. & Scott Rd.</p> <p>124(94) ↓ 70(40) ↓ 35(14) ↓ 12(26) ↑ 262(297) ↑ 13(13) ↑</p> <p>46(148) ↓ 258(283) ↓ 173(134) ↓</p> <p>226(126) ↓ 40(34) ↓ 6(9) ↓</p>	<p>14 Street A & Craig Av.</p> <p>Future Intersection</p>	<p>15 Street B & Holland Rd.</p> <p>79(53) ↓ 0(0) ↓</p> <p>34(90) ↓ 9(30) ↓</p> <p>26(17) ↓ 0(0) ↓</p>	<p>16 Canterwood Dr. & Holland Rd.</p> <p>26(18) ↓ 0(0) ↓</p> <p>16(31) ↓ 18(59) ↓</p> <p>53(35) ↓ 0(0) ↓</p>	<p>17 Street C & Craig Av.</p> <p>Future Intersection</p>	<p>18 Eucalyptus Rd. & Holland Rd.</p> <p>0(0) ↓ 0(0) ↓ 0(0) ↓ 0(0) ↑ 0(1) ↑ 0(0) ↑</p> <p>0(0) ↓ 7(1) ↓ 9(30) ↓</p> <p>26(17) ↓ 0(0) ↓ 0(0) ↓</p>
<p>19 Eucalyptus Rd. & Street D</p> <p>9(30) ↓ 0(0) ↓</p> <p>26(17) ↓ 0(0) ↓</p> <p>0(0) ↓ 0(0) ↓</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

EXHIBIT 5-4: E+P (PROJECT BUILDOUT) TRAFFIC VOLUMES

<p>1 Haun Rd./ Zelders Rd. & Scott Rd.</p> <p>↓40(61) ↓24(15) ↓537(384) ←608(323) ←401(699) ←28(38)</p> <p>68(41) → 408(477) → 12(13) →</p> <p>↑13(28) ↑53(30) ↑8(36)</p>	<p>2 I-215 SB Ramps & Scott Rd.</p> <p>↓133(170) ↓2(0) ↓332(471) ←903(890) ←380(335)</p> <p>561(647) → 369(265) →</p>	<p>3 I-215 NB Ramps & Scott Rd.</p> <p>↑529(500) ↑1047(846)</p> <p>101(82) → 792(1036) →</p> <p>236(379) → 1(0) → 191(453) →</p>	<p>4 Antelope Rd. & Scott Rd.</p> <p>↓306(203) ↓124(123) ↓42(62) ←21(36) ←941(748) ←42(84)</p> <p>108(214) → 582(925) → 293(350) →</p> <p>329(394) → 69(201) → 69(166) →</p>	<p>5 Menifee Rd. & Holland Rd.</p> <p>↓83(59) ↓254(218) ↓67(97) ←125(57) ←164(80) ←82(27)</p> <p>108(51) → 75(114) → 15(45) →</p> <p>38(31) → 272(288) → 91(54) →</p>	<p>6 Menifee Rd. & Scott Rd.</p> <p>↓81(79) ↓193(83) ↓110(78) ←141(102) ←743(727) ←103(91)</p> <p>55(144) → 500(869) → 109(137) →</p> <p>100(124) → 159(209) → 63(125) →</p>
<p>7 Briggs Rd. & Holland Rd.</p> <p>↓59(5) ↓32(36) ↓0(1) ←2(3) ←53(42) ←0(1)</p> <p>46(8) → 20(63) → 29(5) →</p> <p>↑16(8) ↑13(40) ↑0(0)</p>	<p>8 Briggs Rd. & Scott Rd.</p> <p>↓49(24) ↓14(5) ↓16(0) ←6(9) ←698(573) ←6(2)</p> <p>10(20) → 455(705) → 222(238) →</p> <p>226(248) → 4(13) → 10(7) →</p>	<p>9 Leon Rd. & Holland Rd.</p> <p>↓3(1) ↓52(23) ↓0(0) ←0(0) ←26(17) ←118(79)</p> <p>3(4) → 11(29) → 15(50) →</p> <p>44(20) → 29(36) → 43(133) →</p>	<p>10 Leon Rd. & Canterwood Dr.</p> <p>↓181(137) ↓4(14) ←13(8) ←67(44)</p> <p>103(181) → 22(75) →</p>	<p>11 Leon Rd. & Craig Av.</p> <p>↓0(0) ↓244(166) ↓4(15) ←13(10) ←0(0) ←84(56)</p> <p>0(1) → 0(0) → 1(0) →</p> <p>0(1) → 113(245) → 28(95) →</p>	<p>12 Leon Rd. & Garbanl Rd.</p> <p>↓5(2) ↓273(193) ↓0(0) ←1(0) ←3(1) ←1(1)</p> <p>0(5) → 0(2) → 53(27) →</p> <p>36(20) → 101(321) → 3(0) →</p>
<p>13 Leon Rd. & Scott Rd.</p> <p>↓223(159) ↓82(48) ↓45(21) ←15(37) ←262(297) ←13(13)</p> <p>78(258) → 258(283) → 173(134) →</p> <p>226(126) → 43(47) → 6(9) →</p>	<p>14 Street A & Craig Av.</p> <p>↓48(31) ↓0(0) ←0(0) ←49(35)</p> <p>16(54) → 16(57) →</p>	<p>15 Street B & Holland Rd.</p> <p>←112(75) ←0(0)</p> <p>44(126) → 11(36) →</p> <p>32(21) → 0(0) →</p>	<p>16 Canterwood Dr. & Holland Rd.</p> <p>←32(22) ←0(0)</p> <p>18(37) → 27(90) →</p> <p>80(53) → 0(0) →</p>	<p>17 Street C & Craig Av.</p> <p>↓48(32) ↓0(0) ←0(0) ←1(3)</p> <p>16(54) → 0(3) →</p>	<p>18 Eucalyptus Rd. & Holland Rd.</p> <p>↓0(0) ↓0(0) ↓0(0) ←0(0) ←0(1) ←0(0)</p> <p>0(0) → 7(1) → 11(36) →</p> <p>32(21) → 0(0) → 0(0) →</p>
<p>19 Eucalyptus Rd. & Street D</p> <p>↓11(36) ↓0(0)</p> <p>32(21) → 0(0) →</p> <p>0(0) → 0(0) →</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

5.4 INTERSECTION OPERATIONS ANALYSIS

E+P peak hour traffic operations have been evaluated for the 19 study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TIA.

E+P (Phase 1)

The intersection analysis results indicate that the addition of Project (Phase 1) traffic is anticipated to result in the following additional LOS deficiencies:

- Briggs Rd. & Scott Rd. (#8) – LOS F AM peak hour only
- Leon Rd. & Scott Rd. (#13) – LOS E PM peak hour only

Exhibit 5-5 summarizes the weekday AM and PM peak hour study area intersection LOS under E+P (Phase 1) traffic conditions, consistent with the summary provided in Table 5-1. The intersection operations analysis worksheets are included in Appendix 5.1 for E+P (Phase 1) traffic conditions.

E+P (Project Buildout)

The intersection analysis results indicate that the addition of Project (Buildout) traffic is not anticipated to result in any additional LOS deficiencies, in addition to those previously identified above under Existing (2018) and E+P (Phase 1) traffic conditions.

Exhibit 5-6 summarizes the weekday AM and PM peak hour study area intersection LOS under E+P (Buildout) traffic conditions, consistent with the summary provided in Table 5-1. Appendix 5.2 includes the intersection operations analysis worksheets for E+P (Project Buildout) traffic conditions. Measures to address deficiencies for E+P traffic conditions are discussed in Section 5.9 *Deficiencies and Recommended Improvements*.

Similar to Existing traffic conditions, the constrained traffic count data at the I-215 Northbound ramps on Scott Road results in the ramp-to-arterial intersections appearing to operate at acceptable LOS. Field observations show that this intersection and others along Scott Road between the I-215 Freeway and Briggs Road experience peak hour queues that periodically affect intersection operations.

EXHIBIT 5-5: E+P (PHASE 1) SUMMARY OF LOS

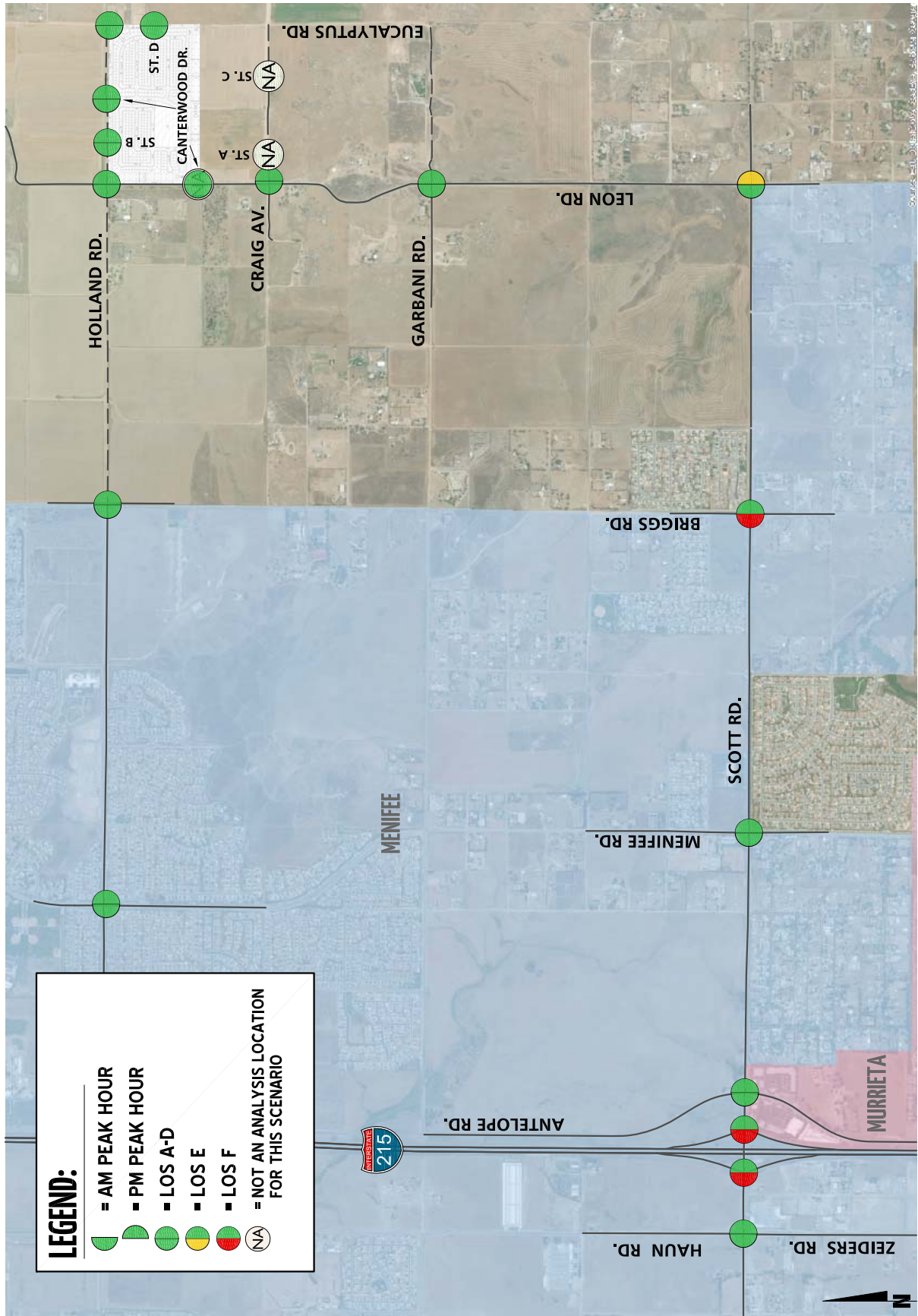


EXHIBIT 5-6: E+P (PROJECT BUILDOUT) SUMMARY OF LOS

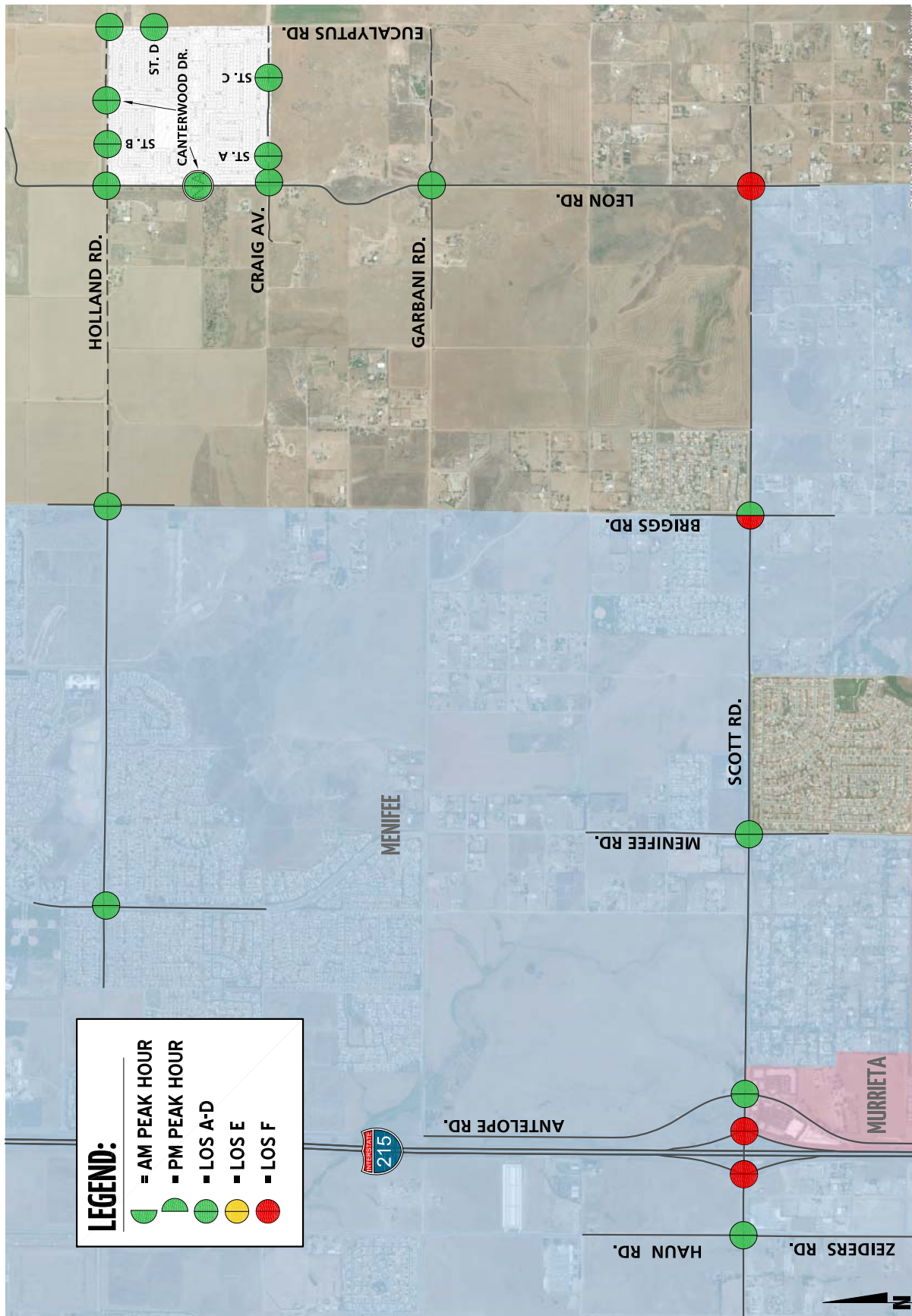


Table 5-1

Intersection Analysis for E+P Conditions

#	Intersection	Traffic Control ²	Existing (2018)				E+P (Phase 1)				E+P (Project Buildout)			
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Haun Rd./Zeiders Rd. / Scott Rd.	TS	44.6	43.8	D	D	45.5	44.6	D	D	46.3	45.3	D	D
2	I-215 SB Ramps / Scott Rd.	TS	LOS E/F ³				LOS E/F ³				LOS E/F ³			
3	I-215 NB Ramps / Scott Rd.	TS	LOS E/F ³				LOS E/F ³				LOS E/F ³			
4	Antelope Rd. / Scott Rd.	TS	35.1	35.7	D	D	37.4	38.6	D	D	39.8	41.4	D	D
5	Menifee Rd. / Holland Rd.	AWS	17.9	11.6	C	B	18.5	11.8	C	B	19.1	12.1	C	B
6	Menifee Rd. / Scott Rd.	TS	32.1	34.5	C	C	32.8	37.1	C	D	34.2	39.4	C	D
7	Briggs Rd. / Holland Rd.	CSS	10.3	9.5	B	A	11.0	10.0	B	B	11.5	10.3	B	B
8	Briggs Rd. / Scott Rd.	TS	186.6	29.5	F	C	187.5	30.4	F	C	190.5	32.0	F	C
9	Leon Rd. / Holland Rd.	AWS	7.3	7.2	A	A	8.1	8.4	A	A	8.6	9.3	A	A
10	Leon Rd. / Canterwood Dr.	CSS	Future Intersection				10.4	10.7	B	B	11.0	11.6	B	B
11	Leon Rd. / Craig Av.	CSS	9.8	9.3	A	A	13.5	12.7	B	B	23.9	18.6	C	C
12	Leon Rd. / Garbani Rd.	CSS	9.5	9.6	A	A	11.1	12.6	B	B	12.8	16.6	B	C
13	Leon Rd. / Scott Rd.	AWS	16.5	14.5	C	B	28.6	37.3	D	E	55.5	98.2	F	F
14	St. A / Craig Av.	CSS	Future Intersection				Future Intersection				8.7	8.6	A	A
15	St. B / Holland Rd.	CSS	Future Intersection				9.3	9.5	A	A	9.6	10.0	A	B
16	Canterwood Dr. / Holland Rd.	CSS	Future Intersection				9.0	9.1	A	A	9.3	9.4	A	A
17	St. C / Craig Av.	CSS	Future Intersection				Future Intersection				8.5	8.4	A	A
18	Eucalyptus Rd. / Holland Rd.	CSS	Future Intersection				8.7	8.7	A	A	8.7	8.7	A	A
19	Eucalyptus Rd. / St. D	CSS	Future Intersection				8.6	8.7	A	A	8.7	8.7	A	A

BOLD = LOS does not meet the County, City of Menifee, City of Murrieta, or Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

¹ Per the Highway Capacity Manual 6, 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; **CSS** = Improvement

³ Based on the constrained traffic count data, the intersection appears to operate at acceptable LOS or at LOS better than field observations would suggest. However, field observations show that the intersections along Scott Road near the I-215 Freeway experience peak hour queues that periodically affect intersection operations.

5.5 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the northbound and southbound off-ramps at the I-215 Freeway at Scott Road interchange 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. Queuing analysis findings are presented in Table 5-2 for E+P traffic conditions. Off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline.

As shown on Table 5-2 and consistent with Existing traffic conditions, there are no potential queuing issues anticipated during the weekday AM or PM peak 95th percentile traffic flows for E+P traffic conditions. Worksheets for E+P (Phase 1) conditions off-ramp queuing analysis are provided in Appendix 5.3, and worksheets for E+P (Project Buildout) conditions off-ramp queuing analysis are provided in Appendix 5.4.

5.6 TRAFFIC SIGNAL WARRANTS ANALYSIS

For E+P conditions, there are no additional study area intersections anticipated to warrant a traffic signal beyond those previously warranted under Existing conditions (see Appendix 5.5 and Appendix 5.6).

#	Intersection	Existing 2018	E+P Phase 1	E+P Phase 2
5	Menifee Rd. / Holland Rd.	PH		
7	Briggs Rd. / Holland Rd.			
9	Leon Rd. / Holland Rd.			
10	Leon Rd. / Canterwood Dr.	DNE		
11	Leon Rd. / Craig Av.			
12	Leon Rd. / Garbani Rd.			
13	Leon Rd. / Scott Rd.	PH		
14	St. A / Craig Av.	DNE	DNE	
15	St. B / Holland Rd.	DNE		
16	Canterwood Dr. / Holland Rd.	DNE		
17	St. C / Craig Av.	DNE	DNE	
18	Eucalyptus Rd. / Holland Rd.	DNE		
19	Eucalyptus Rd. / St. D	DNE		

PH = Peak Hour Warrant Met; X = Daily Volume Warrant Met; DNE = Does Not Exist

Table 5-2

Peak Hour Freeway Off-Ramp Queuing Analysis for E+P Conditions

Intersection	Movement	Available Stacking (Feet)	E+P (Phase 1)				E+P (Project Buildout)			
			95th Percentile Stacking Distance Required (Feet)		Acceptable? ¹		95th Percentile Stacking Distance Required (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Off-Ramp / Scott Road	SBL/T	1,300	374 ²	504 ²	Yes	Yes	393 ²	570 ²	Yes	Yes
	SBR	460	49	53	Yes	Yes	49	57	Yes	Yes
I-215 NB Off-Ramp / Scott Road	NBL/T	1,560	276 ²	399 ²	Yes	Yes	276 ²	399 ²	Yes	Yes
	NBR	400	61	350 ²	Yes	Yes	62	426 ²	Yes	Yes ³

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 The 95th percentile queues indicates potential queuing for the movements and peak hours identified above. However, while the potential queues would exceed the turn pocket lengths and could spillback into the adjacent through lanes, none are anticipated to result in spillback onto the I-215 Freeway mainline since the adjacent through lanes all have sufficient capacity.

5.7 BASIC FREEWAY SEGMENT ANALYSIS

E+P (Phase 1)

E+P (Phase 1) mainline directional volumes for the weekday AM and PM peak hours are provided on Exhibit 5-7. As shown on Table 5-3, the freeway mainline segment analysis indicates that the addition of Phase 1 traffic is anticipated to result in the same LOS deficiencies as those identified under Existing (2018) conditions:

- I-215 Freeway Southbound – North of Scott Road (#1) – LOS E AM peak hour only
- I-215 Freeway Southbound – South of Scott Road (#2) – LOS F AM peak hour only

E+P (Phase 1) basic freeway segment analysis worksheets are provided in Appendix 5.7.

E+P (Project Buildout)

E+P (Buildout) mainline directional volumes for the weekday AM and PM peak hours are provided on Exhibit 5-8. As shown on Table 5-3, the freeway mainline segment analysis indicates that the addition of Buildout traffic is not anticipated to result in any additional LOS deficiencies, in addition to those listed under Existing (2018) and E+P (Phase 1) conditions. E+P (Project Buildout) basic freeway segment analysis worksheets are provided in Appendix 5.8.

5.8 FREEWAY MERGE/DIVERGE ANALYSIS

Ramp merge and diverge operations were also evaluated for E+P conditions and the results of this analysis are presented in Table 5-4.

E+P (Phase 1)

As shown in Table 5-4, the following additional ramp merge/diverge areas are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under E+P (Phase 1) traffic conditions:

- I-215 Freeway – Southbound, Off-Ramp at Scott Road (#1) – LOS E AM and PM peak hours
- I-215 Freeway – Southbound, On-Ramp at Scott Road (#4) – LOS F AM peak hour only
- I-215 Freeway – Northbound, Off-Ramp at Scott Road (#6) – LOS E PM peak hour only

E+P (Phase 1) freeway ramp merge/diverge operations analysis worksheets are provided in Appendix 5.9.

E+P (Project Buildout)

As shown in Table 5-4, the freeway ramp merge/diverge analysis indicates that the addition of Project Buildout traffic is not anticipated to result in any new LOS deficiencies, in addition to those listed under Existing (2018) and E+P (Phase 1) conditions. E+P (Project Buildout) freeway ramp merge/diverge operations analysis worksheets are provided in Appendix 5.10.

EXHIBIT 5-7: E+P (PHASE 1) FREEWAY MAINLINE VOLUMES

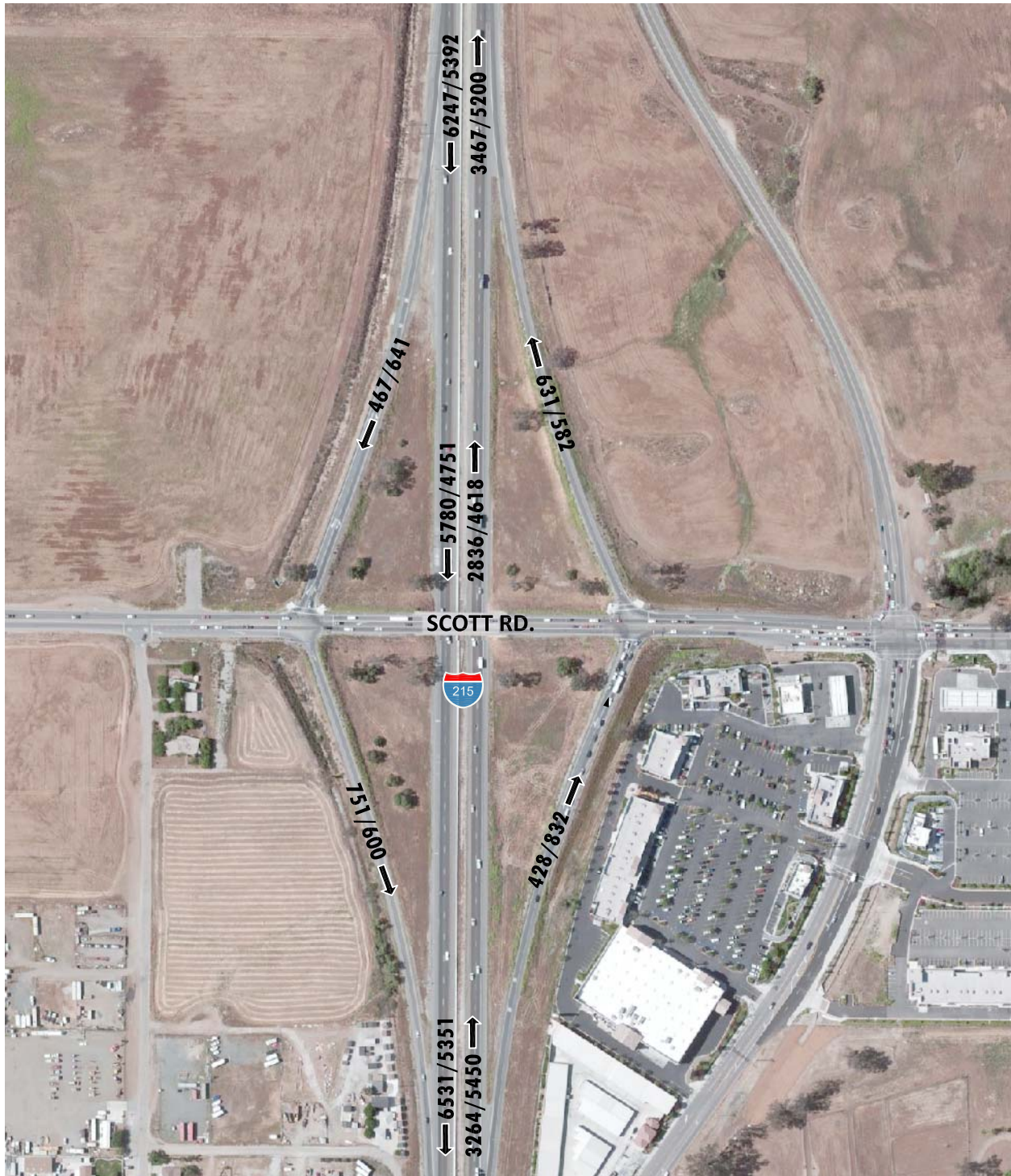


LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES
NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



EXHIBIT 5-8: E+P (PROJECT BUILDOUT) FREEWAY MAINLINE VOLUMES



LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES
NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



Table 5-3

Basic Freeway Segment Analysis for E+P Conditions

Freeway	Direction	Mainline Segment	Lanes ¹	Existing (2018)				E+P (Phase 1)				E+P (Project Buildout)			
				Density ²		LOS ³		Density ²		LOS ³		Density ²		LOS ³	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-215 Freeway	Southbound	North of Scott Road	3	41.8	31.9	E	D	42.1	32.4	E	D	42.2	32.8	E	D
		South of Scott Road	3	44.6	31.9	E	D	-- ⁴	32.2	F	D	-- ⁴	32.3	F	D
	Northbound	North of Scott Road	3	18.3	29.6	C	D	18.5	29.9	C	D	18.7	30.1	C	D
		South of Scott Road	3	17.4	31.7	B	D	17.5	32.0	B	D	17.6	32.3	B	D

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

¹ Number of lanes are in the specified direction and is based on existing conditions.

² Density is measured by passenger cars per mile per lane (pc/mi/ln).

³ LOS = Level of Service

⁴ HCS7 does not report density for freeway facilities operating at LOS F.

Table 5-4

Freeway Ramp Merge/Diverge Analysis for E+P Conditions

Freeway	Direction	Ramp Junction	Lanes on Freeway	Existing (2018)				E+P (Phase 1)				E+P (Project Buildout)			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²
I-215 Freeway	Southbound	Off-Ramp at Scott Road	3	36.3	E	31.2	D	36.5	E	31.5	E	36.5	E	31.8	E
		On-Ramp at Scott Road	3	43.4	E	33.3	D	-- ³	F	33.5	D	-- ³	F	33.7	D
	Northbound	On-Ramp at Scott Road	3	20.5	C	31.7	D	20.8	C	31.9	D	21.0	C	32.1	D
		Off-Ramp at Scott Road	3	18.9	C	32.0	D	19.0	C	32.3	E	19.0	C	32.5	E

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

¹ Density is measured by passenger cars per mile per lane (pc/mi/ln).

² LOS = Level of Service

³ HCS7 does not report density for freeway facilities operating at LOS F.

5.9 DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

5.9.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been recommended at intersections that have been identified as deficient to reduce each location's peak hour delay and improve the associated LOS grade to an acceptable LOS (LOS D or better). The effectiveness of the proposed recommended improvements is presented in Table 5-5 for E+P traffic conditions. Recommended improvements to address deficiencies for E+P (Phase 1) and E+P (Project Buildout) traffic conditions are described below.

Recommended Improvement – Briggs Road & Scott Road (#8) – This intersection is currently operating at an unacceptable LOS and the addition of Project traffic is anticipated to contribute to the existing deficiency. As such, the impact is cumulatively considerable.

- Project to contribute fair share towards widening and constructing the a dedicated northbound left turn lane and a shared through-right turn lane (consistent with Existing conditions).

Recommended Improvement – Leon Road & Scott Road (#13) – This intersection currently operates at an acceptable LOS under Existing traffic conditions and is anticipated to operate at a deficient LOS with the addition of Project traffic. As such, the impact is considered significant.

- Project to install a traffic signal.

Worksheets for E+P (Phase 1) and E+P (Project Buildout) conditions, with improvements, HCM calculations are provided in Appendix 5.11 and Appendix 5.12, respectively.

5.9.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the County of Riverside (or other neighboring jurisdictions) on the SHS roadway segments. As such, no improvements have been recommended to address the E+P (Phase 1) and E+P (Project Buildout) deficiencies on the SHS.

Table 5-5

Intersection Analysis for E+P Conditions With Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		LOS	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
2	I-215 SB Ramps / Scott Rd. Phase 1																	
	- Without Improvements	TS	0	0	0	0	1	1	0	1	1	1	1	0	LOS E/F ⁴			
	- With Improvements		I-215/Scott Road Interchange Improvements												Acceptable LOS ⁵			
	Project Buildout																	
3	I-215 NB Ramps / Scott Rd. Phase 1																	
	- Without Improvements	TS	0	1	1	0	0	0	1	1	0	0	1	1	LOS E/F ⁴			
	- With Improvements		I-215/Scott Road Interchange Improvements												Acceptable LOS ⁵			
	Project Buildout																	
8	Briggs Rd. / Scott Rd. Phase 1																	
	- Without Improvements	TS	0	1	d	0	1	1	1	2	0	1	2	1	187.5	30.4	F	C
	- With Improvements	TS	<u>1</u>	1	<u>0</u>	0	1	1	1	2	0	1	2	1	29.6	30.3	C	C
	Project Buildout																	
13	Leon Rd. / Scott Rd. Phase 1																	
	- Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	28.6	37.3	D	E
	- With Improvements	TS	0	1	0	0	1	0	0	1	0	0	1	0	11.0	11.0	B	B
	Project Buildout																	
13	- Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	55.5	98.2	F	F
	- With Improvements	TS	0	1	0	0	1	0	0	1	0	0	1	0	13.2	14.2	B	B

BOLD = LOS does not meet the County, City of Menifee, City of Murrieta, or Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

NOTE: All recommended improvements described above are consistent with the General Plan designations of the respective jurisdictions in which they are located.

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; d= Defacto Right Turn Lane; 1 = Improvement

² Per the Highway Capacity Manual 6, overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control.

³ AWS = All-Way Stop; TS = Traffic Signal; **TS** = Improvement

⁴ Based on the constrained traffic count data, the intersection appears to operate at acceptable LOS or at LOS better than field observations would suggest. However, field observations show that the intersections along Scott Road near the I-215 Freeway experience peak hour queues that periodically affect intersection operations.

⁵ As demonstrated on the subsequent Table 7-5, the study area intersections are anticipated to operate at acceptable LOS with the planned I-215 Freeway at Scott Road (Phase 1) interchange improvements in place.

6 EXISTING PLUS AMBIENT GROWTH PLUS PROJECT TRAFFIC CONDITIONS

This section discusses the methods used to develop EAP traffic forecasts, and the resulting intersection operations, freeway mainline operations, and traffic signal warrant analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAP conditions are consistent with 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 conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways). These include the Project site adjacent roadways of Leon Road, Holland Road, and Eucalyptus Road.
- In order to access the existing roadway network from the site, the Project Applicant will also construct a 32-foot paved roadway along Holland Road between Briggs Road and Leon Road.

6.2 EAP (PHASE 1 2021) TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 6.12% and the addition of Project (Phase 1) traffic. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for EAP (Phase 1 2021) traffic conditions are shown on Exhibits 6-1 and 6-2, respectively.

6.3 EAP (PHASE 2 PROJECT BUILDOUT 2025) TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes, an ambient growth factor of 14.87%, and the addition of Phase 2 Project Buildout traffic. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for EAP (Phase 2 Project Buildout 2025) traffic conditions are shown on Exhibits 6-3 and 6-4, respectively.

EXHIBIT 6-1: EAP (PHASE 1 2021) AVERAGE DAILY TRAFFIC (ADT)

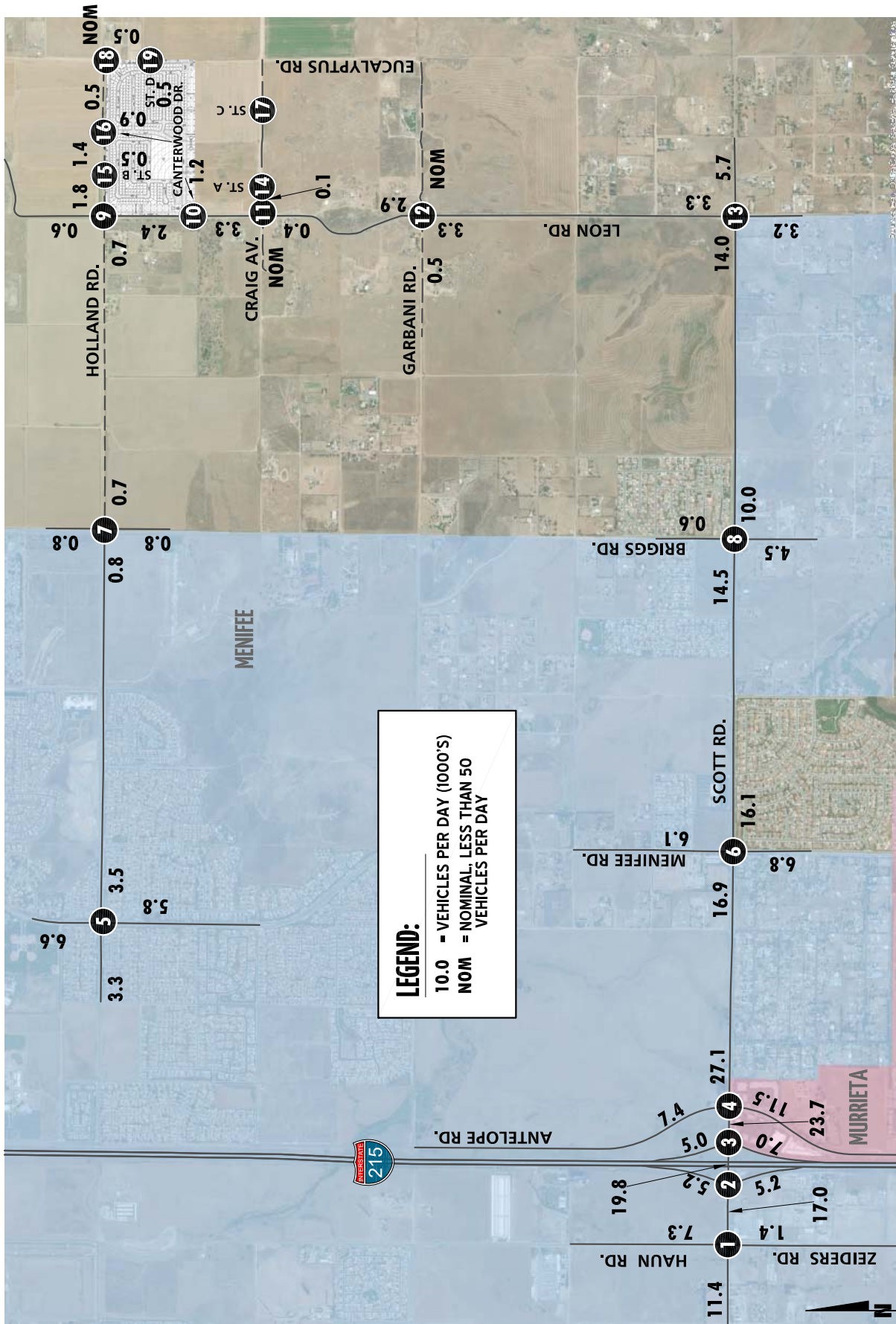


EXHIBIT 6-2: EAP (PHASE 1 2021) TRAFFIC VOLUMES

<p>1 Haun Rd./ Zelders Rd. & Scott Rd.</p> <p>↓42(65) ↓25(16) ↓566(393) ←632(334) ←412(733) ←27(38)</p> <p>72(44) → 429(491) → 13(14) →</p> <p>↑14(30) ↑56(32) ↑7(35)</p>	<p>2 I-215 SB Ramps & Scott Rd.</p> <p>←141(180) ←2(0) ←339(454) ←930(925) ←370(334)</p> <p>586(655) → 392(281) →</p>	<p>3 I-215 NB Ramps & Scott Rd.</p> <p>↑520(503) ↑1050(857)</p> <p>107(87) → 817(1021) →</p> <p>250(402) ↑ 1(0) ↑ 192(444) ↑</p>	<p>4 Antelope Rd. & Scott Rd.</p> <p>↓325(215) ↓132(131) ↓45(66) ←22(38) ←896(727) ←35(82)</p> <p>115(227) → 584(867) → 311(371) →</p> <p>349(418) ↑ 73(213) ↑ 71(166) ↑</p>	<p>5 Menifee Rd. & Holland Rd.</p> <p>↓88(63) ↓270(231) ↓68(88) ←119(51) ←172(83) ←80(25)</p> <p>115(54) → 78(118) → 16(48) →</p> <p>40(33) ↑ 289(306) ↑ 94(50) ↑</p>	<p>6 Menifee Rd. & Scott Rd.</p> <p>←86(84) ←205(88) ←117(83) ←150(108) ←676(698) ←109(97)</p> <p>58(153) → 494(797) → 116(145) →</p> <p>106(132) ↑ 169(222) ↑ 67(133) ↑</p>
<p>7 Briggs Rd. & Holland Rd.</p> <p>↓63(5) ↓34(38) ↓0(1) ←2(3) ←30(27) ←0(1)</p> <p>49(8) → 12(38) → 31(5) →</p> <p>↑17(8) ↑14(42) ↑0(0)</p>	<p>8 Briggs Rd. & Scott Rd.</p> <p>↓52(25) ↓15(5) ↓17(0) ←6(10) ←628(534) ←6(2)</p> <p>11(21) → 446(623) → 236(253) →</p> <p>240(263) ↑ 4(14) ↑ 11(7) ↑</p>	<p>9 Leon Rd. & Holland Rd.</p> <p>↓3(1) ↓55(24) ↓0(0) ←0(0) ←19(13) ←86(58)</p> <p>3(4) → 9(22) → 10(32) →</p> <p>28(9) ↑ 31(38) ↑ 33(98) ↑</p>	<p>10 Leon Rd. & Canterwood Dr.</p> <p>↓149(105) ↓3(10) ←9(6) ←62(41)</p> <p>83(139) ↑ 21(69) ↑</p>	<p>11 Leon Rd. & Craig Av.</p> <p>↓0(0) ↓211(144) ↓0(1) ←0(2) ←0(0) ←1(1)</p> <p>0(1) → 0(0) → 1(0) →</p> <p>0(1) ↑ 104(205) ↑ 0(2) ↑</p>	<p>12 Leon Rd. & Garbanl Rd.</p> <p>↓5(2) ↓153(115) ↓0(0) ←1(0) ←3(1) ←1(1)</p> <p>0(5) → 0(2) → 56(29) →</p> <p>38(21) ↑ 63(187) ↑ 3(0) ↑</p>
<p>13 Leon Rd. & Scott Rd.</p> <p>↓124(95) ↓73(42) ↓36(14) ←12(27) ←278(315) ←14(14)</p> <p>46(149) → 274(300) → 184(142) →</p> <p>240(134) ↑ 42(35) ↑ 6(10) ↑</p>	<p>14 Street A & Craig Av.</p> <p>Future Intersection</p>	<p>15 Street B & Holland Rd.</p> <p>←79(53) ←0(0)</p> <p>34(90) → 9(30) →</p> <p>26(17) ↑ 0(0) ↑</p>	<p>16 Canterwood Dr. & Holland Rd.</p> <p>←26(18) ←0(0)</p> <p>16(31) → 18(59) →</p> <p>53(35) ↑ 0(0) ↑</p>	<p>17 Street C & Craig Av.</p> <p>Future Intersection</p>	<p>18 Eucalyptus Rd. & Holland Rd.</p> <p>←0(0) ←0(0) ←0(0) ←0(0) ←0(0) ←0(0)</p> <p>0(0) → 7(1) → 9(30) →</p> <p>26(17) ↑ 0(0) ↑ 0(0) ↑</p>
<p>19 Eucalyptus Rd. & Street D</p> <p>↓9(30) ↓0(0)</p> <p>26(17) → 0(0) →</p> <p>0(0) ↑ 0(0) ↑</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

EXHIBIT 6-3: EAP (PHASE 2 PROJECT BUILDOUT 2025) AVERAGE DAILY TRAFFIC (ADT)

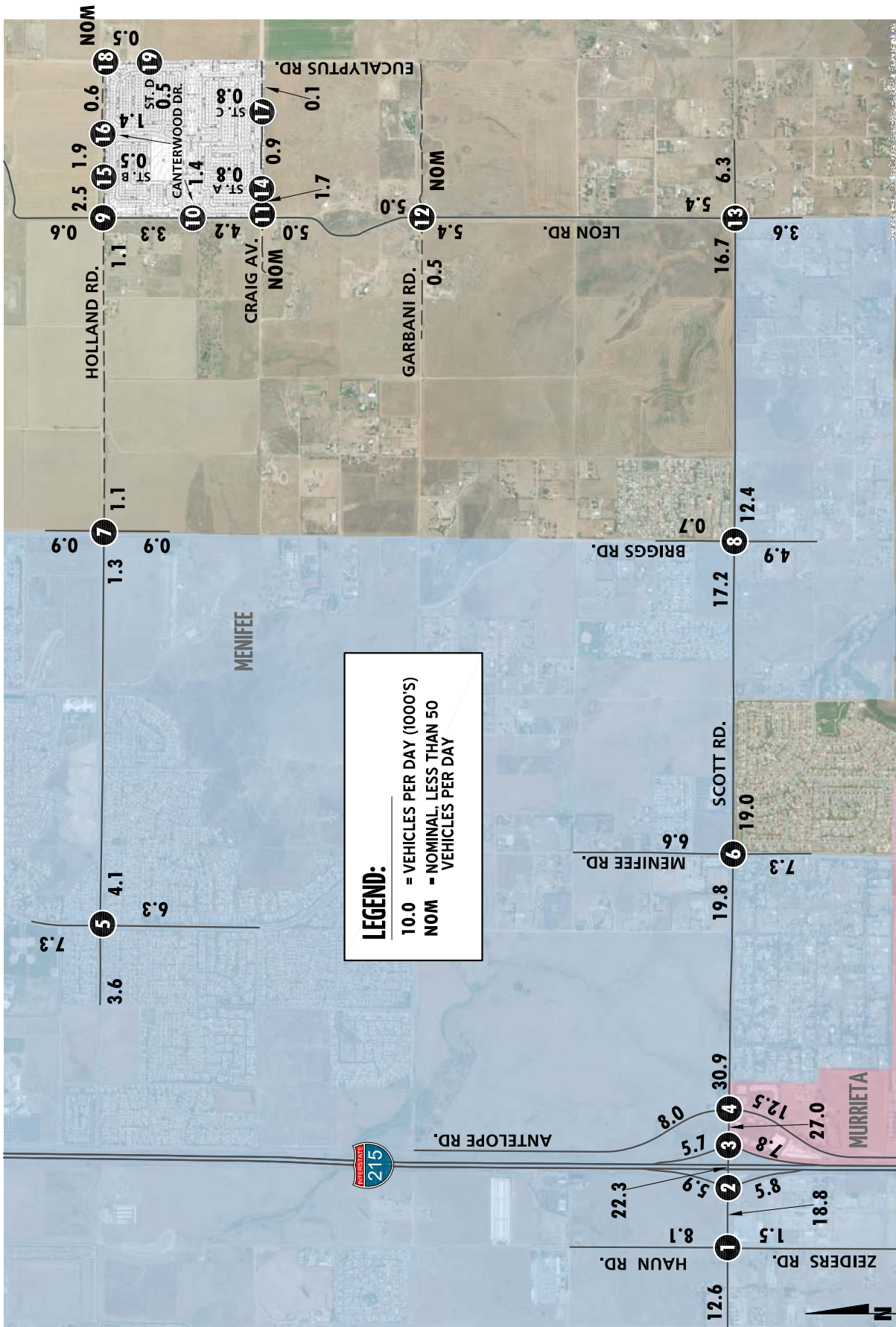


EXHIBIT 6-4: EAP (PHASE 2 PROJECT BUILDOUT 2025) TRAFFIC VOLUMES

<p>1 Haun Rd./ Zelders Rd. & Scott Rd.</p> <p> ↓ 46(70) ↓ 28(17) ↓ 616(437) ← 695(368) ← 457(800) ← 31(43) </p> <p> 78(47) → 467(544) → 14(15) → </p> <p> 15(32) ↑ 61(34) ↑ 9(40) ↑ </p>	<p>2 I-215 SB Ramps & Scott Rd.</p> <p> ↓ 153(195) ↓ 2(0) ↓ 377(528) </p> <p> ← 1029(1017) ← 427(379) </p> <p> 642(734) → 424(304) → </p>	<p>3 I-215 NB Ramps & Scott Rd.</p> <p> ← 596(566) ← 1185(960) </p> <p> 116(94) → 903(1167) → </p> <p> 271(435) ↑ 1(0) ↑ 216(510) ↑ </p>	<p>4 Antelope Rd. & Scott Rd.</p> <p> ↓ 351(233) ↓ 142(141) ↓ 48(71) </p> <p> ← 24(41) ← 1051(840) ← 45(95) </p> <p> 124(246) → 659(1029) → 337(402) → </p> <p> 378(453) ↑ 79(231) ↑ 78(188) ↑ </p>	<p>5 Menifee Rd. & Holland Rd.</p> <p> ↓ 95(68) ↓ 292(250) ↓ 76(107) </p> <p> ← 140(63) ← 187(91) ← 92(30) </p> <p> 124(59) → 86(130) → 17(52) → </p> <p> 44(36) ↑ 312(331) ↑ 104(60) ↑ </p>	<p>6 Menifee Rd. & Scott Rd.</p> <p> ↓ 93(91) ↓ 222(95) ↓ 126(90) </p> <p> ← 162(117) ← 821(814) ← 118(105) </p> <p> 63(165) → 563(961) → 125(157) → </p> <p> 115(142) ↑ 183(240) ↑ 72(144) ↑ </p>						
<p>7 Briggs Rd. & Holland Rd.</p> <p> ↓ 68(6) ↓ 37(41) ↓ 0(1) </p> <p> ← 2(3) ← 53(43) ← 0(1) </p> <p> 53(9) → 20(64) → 33(6) → </p> <p> 18(9) ↑ 15(46) ↑ 0(0) ↑ </p>	<p>8 Briggs Rd. & Scott Rd.</p> <p> ↓ 56(28) ↓ 16(6) ↓ 18(0) </p> <p> ← 7(10) ← 769(637) ← 7(2) </p> <p> 11(23) → 512(773) → 255(273) → </p> <p> 260(285) ↑ 5(15) ↑ 11(8) ↑ </p>	<p>9 Leon Rd. & Holland Rd.</p> <p> ↓ 3(1) ↓ 60(26) ↓ 0(0) </p> <p> ← 0(0) ← 26(17) ← 118(79) </p> <p> 3(5) → 11(29) → 16(53) → </p> <p> 47(20) ↑ 33(41) ↑ 44(133) ↑ </p>	<p>10 Leon Rd. & Canterwood Dr.</p> <p> ↓ 190(144) ↓ 4(14) </p> <p> ← 13(8) ← 67(44) </p> <p> 111(187) → 22(75) → </p> <p> 111(187) ↑ 22(75) ↑ </p>	<p>11 Leon Rd. & Craig Av.</p> <p> ↓ 0(0) ↓ 253(173) ↓ 4(15) </p> <p> ← 13(10) ← 0(0) ← 84(56) </p> <p> 0(1) → 0(0) → 1(0) → </p> <p> 0(1) ↑ 121(251) ↑ 28(95) ↑ </p>	<p>12 Leon Rd. & Garbanl Rd.</p> <p> ↓ 6(2) ↓ 274(196) ↓ 0(0) </p> <p> ← 1(0) ← 3(1) ← 1(1) </p> <p> 0(6) → 0(2) → 61(31) → </p> <p> 41(23) ↑ 103(324) ↑ 3(0) ↑ </p>						
<p>13 Leon Rd. & Scott Rd.</p> <p> ↓ 223(161) ↓ 90(53) ↓ 48(22) </p> <p> ← 16(39) ← 301(341) ← 15(15) </p> <p> 79(260) → 296(325) → 199(154) → </p> <p> 260(145) ↑ 48(50) ↑ 7(10) ↑ </p>	<p>14 Street A & Craig Av.</p> <p> ↓ 48(31) ↓ 0(0) </p> <p> ← 0(0) ← 49(35) </p> <p> 16(54) → 16(57) → </p>	<p>15 Street B & Holland Rd.</p> <p> ← 112(75) ← 0(0) </p> <p> 45(126) → 11(36) → </p> <p> 32(21) ↑ 0(0) ↑ </p>	<p>16 Canterwood Dr. & Holland Rd.</p> <p> ← 32(22) ← 0(0) </p> <p> 19(37) → 27(90) → </p> <p> 80(53) ↑ 0(0) ↑ </p>	<p>17 Street C & Craig Av.</p> <p> ↓ 48(32) ↓ 0(0) </p> <p> ← 0(0) ← 1(3) </p> <p> 16(54) → 0(3) → </p>	<p>18 Eucalyptus Rd. & Holland Rd.</p> <p> ↓ 0(0) ↓ 0(0) ↓ 0(0) </p> <p> ← 0(0) ← 0(1) ← 0(0) </p> <p> 0(0) → 8(1) → 11(36) → </p> <p> 32(21) ↑ 0(0) ↑ 0(0) ↑ </p>						
<p>19 Eucalyptus Rd. & Street D</p> <p> ↓ 11(36) ↓ 0(0) </p> <p> 32(21) → 0(0) → </p> <p> 0(0) ↑ 0(0) ↑ </p>											

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

6.4 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under EAP traffic conditions with roadway and intersection geometrics consistent with Section 6.1 *Roadway Improvements*.

EAP (Phase 1 2021)

The intersection analysis results are summarized in Table 6-1, which indicates that the following study area intersection is anticipated to operate at an unacceptable LOS under EAP (Phase 1 2021) traffic conditions:

- Briggs Rd. & Scott Rd. (#8) – LOS F AM peak hour only
- Leon Rd. & Scott Rd. (#13) – LOS E AM and PM peak hours

Exhibit 6-5 summarizes the weekday AM and PM peak hour study area intersection LOS under EAP (Phase 1 2021) traffic conditions, consistent with the summary provided in Table 6-1. The intersection operations analysis worksheets for EAP (Phase 1 2021) conditions are included in Appendix 6.1 of this TIA.

EAP (Phase 2 Project Buildout 2025)

As shown on Table 6-1 and illustrated on Exhibit 6-6, the following additional study area intersection is anticipated to operate at unacceptable LOS for EAP (Phase 2 Project Buildout 2025) traffic conditions in addition to those previously identified under Existing (2018) and EAP (Phase 1 2021) conditions:

- Haun Rd./Zeiders Rd. & Scott Rd. (#1) – LOS E AM and PM peak hours

The intersection operations analysis worksheets for EAP (Phase 2 Project Buildout 2025) traffic conditions are included in Appendix 6.2 of this TIA. Measures to address near-term deficiencies for EAP traffic conditions are discussed in Section 6.9 *EAP Deficiencies and Recommended Improvements*.

Similar to Existing traffic conditions, the constrained traffic count data at the I-215 Northbound ramps on Scott Road results in the ramp-to-arterial intersections appearing to operate at acceptable LOS. Field observations show that this intersection and others along Scott Road between the I-215 Freeway and Briggs Road experience peak hour queues that periodically affect intersection operations.

Table 6-1

Intersection Analysis for EAP Conditions

#	Intersection	Traffic Control ²	Existing (2018)				EAP (Phase 1 2021)				EAP (Phase 2 Project Buildout 2025)			
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Haun Rd./Zeiders Rd. / Scott Rd.	TS	44.6	43.8	D	D	48.2	48.3	D	D	55.7	58.9	E	E
2	I-215 SB Ramps / Scott Rd.	TS	LOS E/F ³				LOS E/F ³				LOS E/F ³			
3	I-215 NB Ramps / Scott Rd.	TS	LOS E/F ³				LOS E/F ³				LOS E/F ³			
4	Antelope Rd. / Scott Rd.	TS	35.1	35.7	D	D	40.0	41.9	D	D	50.5	53.0	D	D
5	Menifee Rd. / Holland Rd.	AWS	17.9	11.6	C	B	20.8	12.5	C	B	26.8	13.6	D	B
6	Menifee Rd. / Scott Rd.	TS	32.1	34.5	C	C	34.0	39.1	C	D	34.4	46.5	C	D
7	Briggs Rd. / Holland Rd.	CSS	10.3	9.5	B	A	11.2	10.1	B	B	12.2	10.5	B	B
8	Briggs Rd. / Scott Rd.	TS	186.6	29.5	F	C	191.6	31.0	F	C	191.8	33.9	F	C
9	Leon Rd. / Holland Rd.	AWS	7.3	7.2	A	A	8.1	8.4	A	A	8.7	9.4	A	A
10	Leon Rd. / Canterwood Dr.	<u>CSS</u>	Future Intersection				10.5	10.8	B	B	11.2	11.7	B	B
11	Leon Rd. / Craig Av.	CSS	9.8	9.3	A	A	13.7	12.8	B	B	25.7	19.1	D	C
12	Leon Rd. / Garbani Rd.	CSS	9.5	9.6	A	A	11.2	12.7	B	B	13.1	17.1	B	C
13	Leon Rd. / Scott Rd.	AWS	16.5	14.5	C	B	41.7	49.0	E	E	>100.0	>100.0	F	F
14	St. A / Craig Av.	<u>CSS</u>	Future Intersection				Future Intersection				8.7	8.6	A	A
15	St. B / Holland Rd.	<u>CSS</u>	Future Intersection				9.3	9.5	A	A	9.6	10.0	A	B
16	Canterwood Dr. / Holland Rd.	<u>CSS</u>	Future Intersection				9.0	9.1	A	A	9.3	9.4	A	A
17	St. C / Craig Av.	<u>CSS</u>	Future Intersection				Future Intersection				8.5	8.4	A	A
18	Eucalyptus Rd. / Holland Rd.	<u>CSS</u>	Future Intersection				8.7	8.7	A	A	8.7	8.7	A	A
19	Eucalyptus Rd. / St. D	<u>CSS</u>	Future Intersection				8.6	8.7	A	A	8.7	8.7	A	A

BOLD = LOS does not meet the County, City of Menifee, City of Murrieta, or Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

¹ Per the Highway Capacity Manual 6, 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; CSS = Improvement

³ Based on the constrained traffic count data, the intersection appears to operate at acceptable LOS or at LOS better than field observations would suggest. However, field observations show that the intersections along Scott Road near the I-215 Freeway experience peak hour queues that periodically affect intersection operations.

EXHIBIT 6-5: EAP (PHASE 1 2021) SUMMARY OF LOS

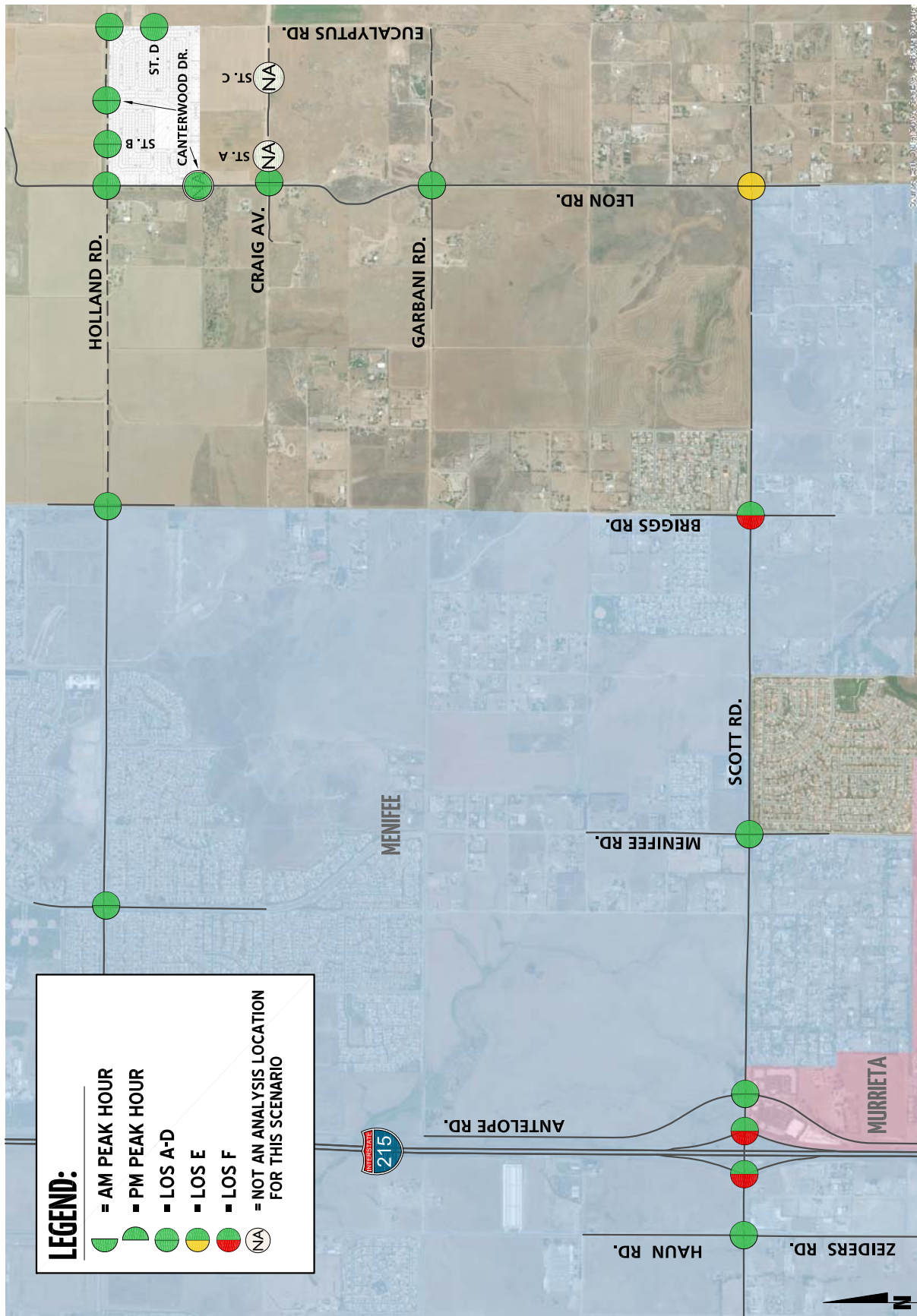
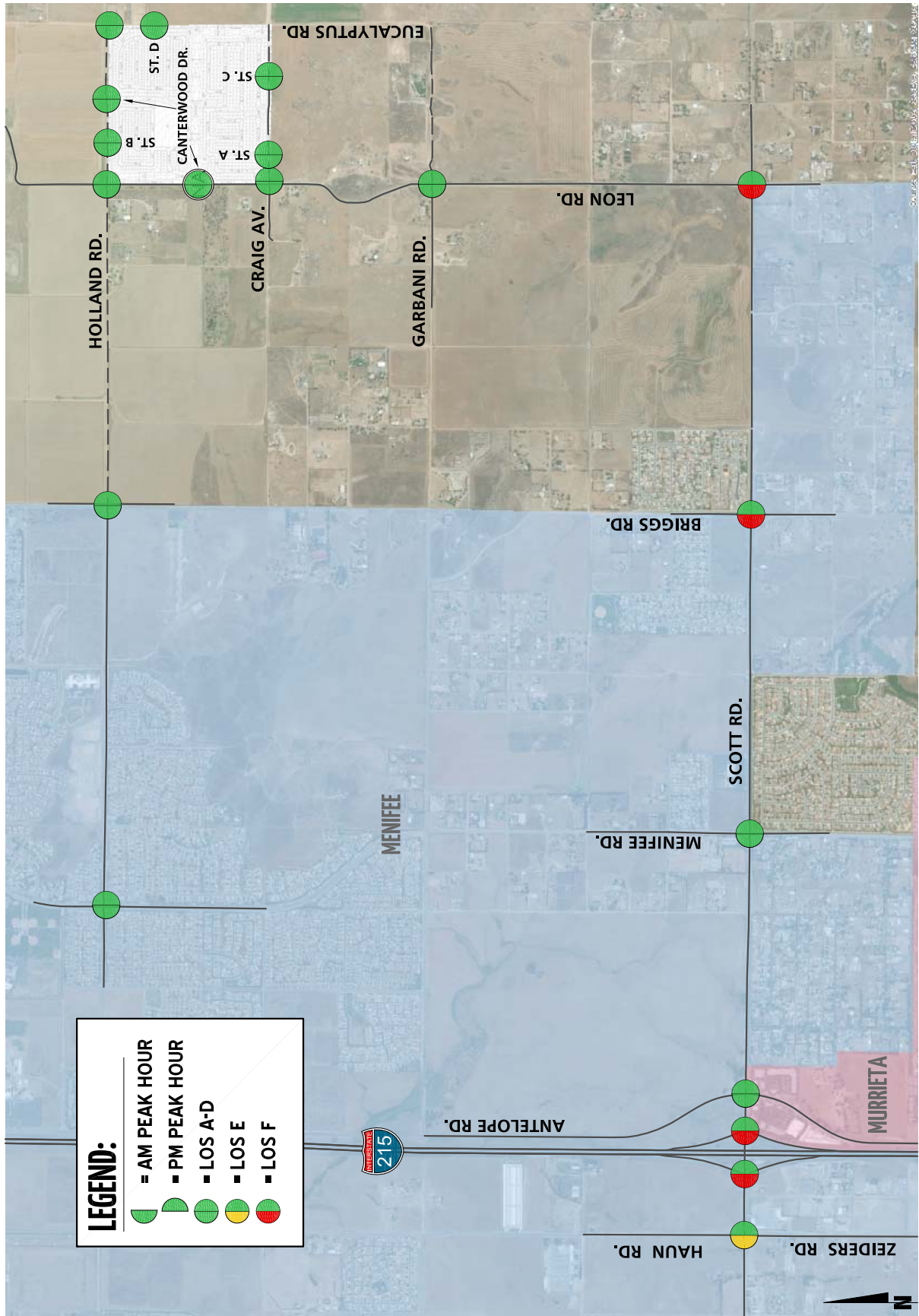


EXHIBIT 6-6: EAP (PHASE 2 PROJECT BUILDOUT 2025) SUMMARY OF LOS



6.5 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the northbound and southbound off-ramps at the I-215 Freeway at Scott Road interchange 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. Queuing analysis findings are presented in Table 6-2 for EAP traffic conditions. Off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline.

As shown on Table 6-2 and consistent with Existing traffic conditions, there are no potential queuing issues anticipated during the weekday AM or PM peak 95th percentile traffic flows for EAP traffic conditions. Worksheets for EAP (Phase 1 2021) and EAP (Phase 2 Project Buildout 2025) traffic conditions off-ramp queuing analysis are provided in Appendix 6.3 and Appendix 6.4, respectively.

6.6 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed on unsignalized intersections that have not warranted a signal under Existing conditions for EAP traffic conditions. There are no additional study area intersections anticipated to warrant a traffic signal for EAP (Phase 1 2021) or EAP (Phase 2 Project Buildout 2025) traffic conditions in addition to those previously warranted under Existing (2018) traffic conditions (see Appendix 6.5 and Appendix 6.6).

#	Intersection	Existing 2018	EAP Phase 1 2021	EAP Phase 2 Project Buildout 2025
5	Menifee Rd. / Holland Rd.	PH		
7	Briggs Rd. / Holland Rd.			
9	Leon Rd. / Holland Rd.			
10	Leon Rd. / Canterwood Dr.	DNE		
11	Leon Rd. / Craig Av.			
12	Leon Rd. / Garbani Rd.			
13	Leon Rd. / Scott Rd.	PH		
14	St. A / Craig Av.	DNE	DNE	
15	St. B / Holland Rd.	DNE		
16	Canterwood Dr. / Holland Rd.	DNE		
17	St. C / Craig Av.	DNE	DNE	
18	Eucalyptus Rd. / Holland Rd.	DNE		
19	Eucalyptus Rd. / St. D	DNE		

PH = Peak Hour Warrant Met; X = Daily Volume Warrant Met; DNE = Does Not Exist

6.7 BASIC FREEWAY SEGMENT ANALYSIS

EAP (Phase 1 2021)

EAP (Phase 1 2021) peak hour mainline directional volumes are provided on Exhibit 6-5. As shown on Table 6-3, the following additional freeway mainline segment is anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAP (Phase 1 2021) traffic conditions:

- I-215 Freeway Southbound – North of Scott Road (#1) – LOS F AM peak hour; LOS E PM peak hour
- I-215 Freeway Southbound – South of Scott Road (#2) – LOS F AM peak hour; LOS E PM peak hour
- I-215 Freeway Northbound – South of Scott Road (#4) – LOS E PM peak hour only

Table 6-2

Peak Hour Freeway Off-Ramp Queuing Analysis for EAP Conditions

Intersection	Movement	Available Stacking (Feet)	EAP (Phase 1 2021)				EAP (Phase 2 Project Buildout 2025)			
			95th Percentile Stacking Distance Required (Feet)		Acceptable? ¹		95th Percentile Stacking Distance Required (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Off-Ramp / Scott Road	SBL/T	1,300	406 ²	542 ²	Yes	Yes	472 ²	663 ²	Yes	Yes
	SBR	460	51	74	Yes	Yes	77	106	Yes	Yes
I-215 NB Off-Ramp / Scott Road	NBL/T	1,560	302 ²	438 ²	Yes	Yes	337 ²	491 ²	Yes	Yes
	NBR	400	62	405 ²	Yes	Yes	71	555 ²	Yes	Yes ³

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 The 95th percentile queues indicates potential queuing for the movements and peak hours identified above. However, while the potential queues would exceed the turn pocket lengths and could spillback into the adjacent through lanes, none are anticipated to result in spillback onto the I-215 Freeway mainline since the adjacent through lanes all have sufficient capacity.

Table 6-3

Basic Freeway Segment Analysis for EAP Conditions

Freeway	Direction	Mainline Segment	Lanes ¹	Existing (2018)						EAP (Phase 1 2021)						EAP (Phase 2 Project Buildout 2025)					
				Density ²			LOS ³			Density ²			LOS ³			Density ²			LOS ³		
				AM	PM	PM	AM	PM	PM	AM	PM	PM	AM	PM	PM	AM	PM	PM	AM	PM	
I-215 Freeway	Southbound	North of Scott Road	3	41.8	31.9	E	D	-- ⁴	35.8	F	E	-- ⁴	42.1	F	E	-- ⁴	41.5	F	E		
		South of Scott Road	3	44.6	31.9	E	D	-- ⁴	35.5	F	E	-- ⁴	41.5	F	E	-- ⁴	41.5	F	E		
	Northbound	North of Scott Road	3	18.3	29.6	C	D	19.7	32.7	C	D	21.7	37.8	C	D	21.7	37.8	C	E		
		South of Scott Road	3	17.4	31.7	B	D	18.6	35.4	C	E	20.3	41.5	C	E	20.3	41.5	C	E		

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

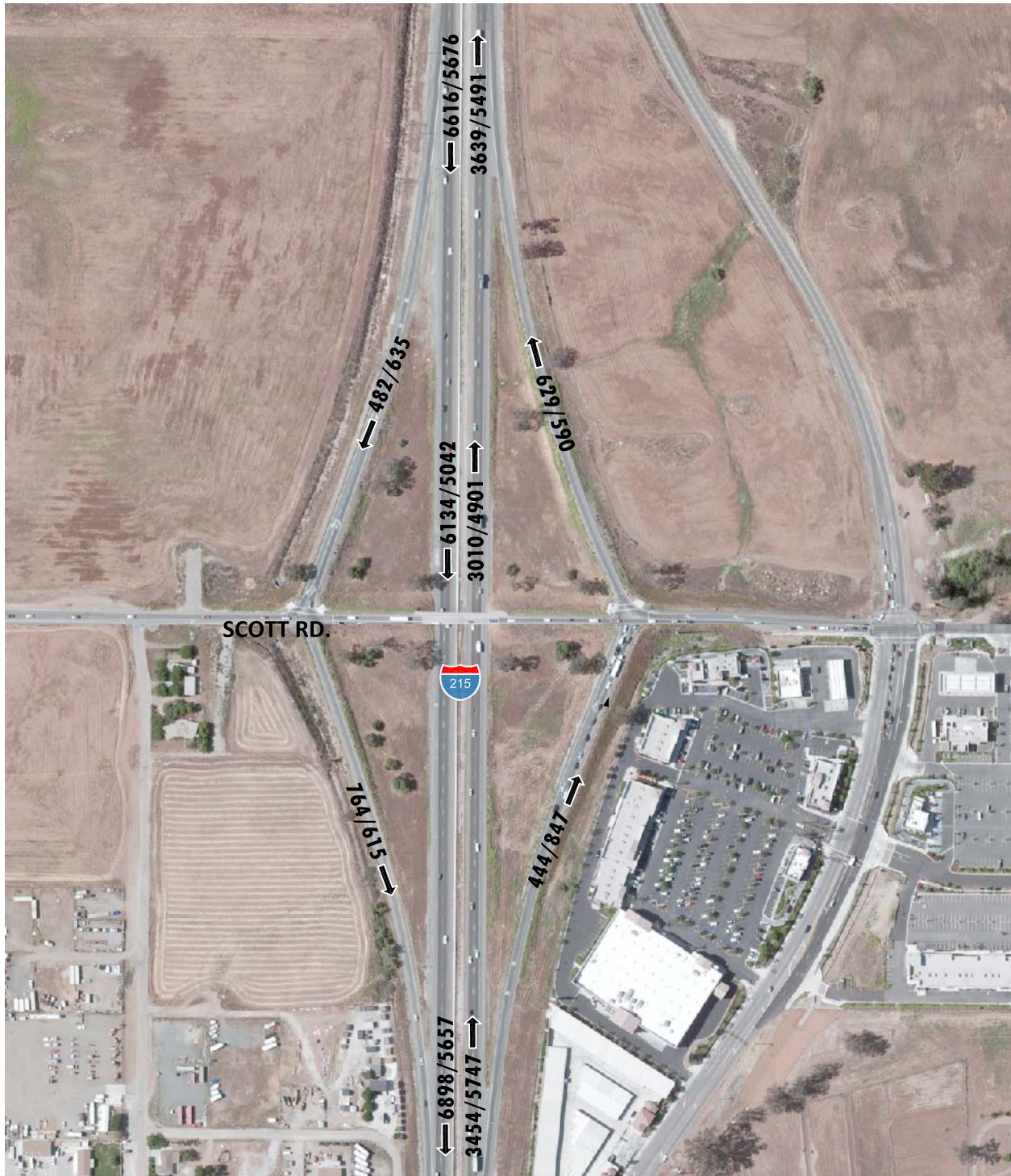
¹ Number of lanes are in the specified direction and is based on existing conditions.

² Density is measured by passenger cars per mile per lane (pc/mi/ln).

³ LOS = Level of Service

⁴ HCS7 does not report density for freeway facilities operating at LOS F.

EXHIBIT 6-7: EAP (PHASE 1 2021) FREEWAY MAINLINE VOLUMES



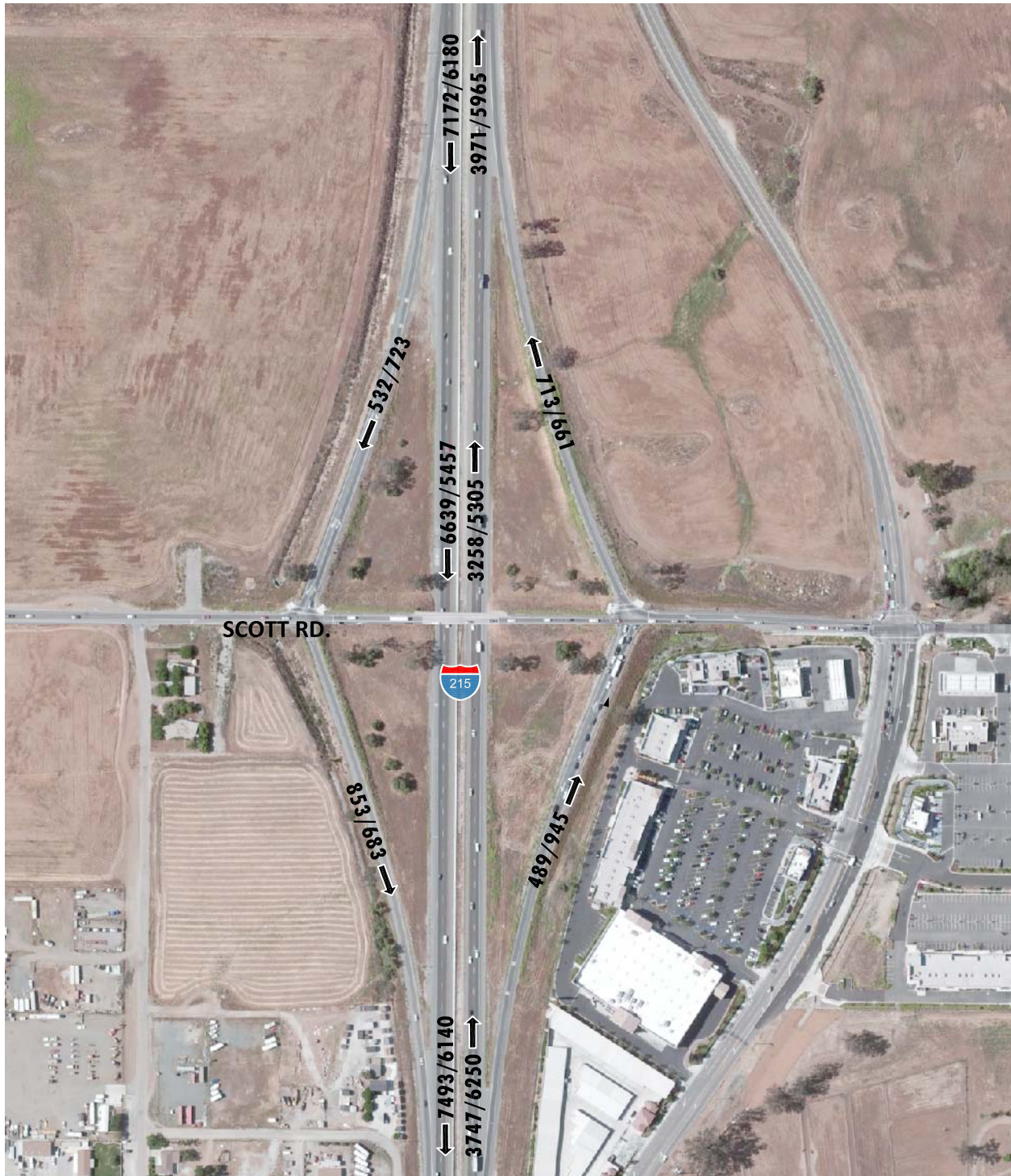
LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES

NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



EXHIBIT 6-8: EAP (PHASE 2 PROJECT BUILDOUT 2025) FREEWAY MAINLINE VOLUMES



LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES
NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



EAP (Phase 2 Project Buildout 2025)

EAP (Phase 2 Project Buildout 2025) peak hour mainline directional volumes are provided on Exhibit 6-6. As shown on Table 6-3, the following additional freeway mainline segment is anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAP (Phase 2 Project Buildout 2025) traffic conditions, in addition to those listed under Existing (2018) and EAP (Phase 1 2021) conditions:

- I-215 Freeway Northbound – North of Scott Road (#3) – LOS E PM peak hour only

EAP (Phase 1 2021) and EAP (Phase 2 Project Buildout 2025) conditions basic freeway segment analysis worksheets are provided in Appendix 6.7 and Appendix 6.8, respectively.

6.8 FREEWAY MERGE/DIVERGE ANALYSIS

Ramp merge and diverge operations were also evaluated for EAP conditions and the results of this analysis are presented in Table 6-4.

EAP (Phase 1 2021)

As shown in Table 6-4, the following additional ramp merge/diverge is anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAP (Phase 1 2021) traffic conditions:

- I-215 Freeway – Southbound, Off-Ramp at Scott Road (#1) – LOS F AM peak hour; LOS E PM peak hour
- I-215 Freeway – Southbound, On-Ramp at Scott Road (#4) – LOS F AM peak hour only
- I-215 Freeway – Northbound, Off-Ramp at Scott Road (#6) – LOS E PM peak hour only

EAP (Phase 2 Project Buildout 2025)

The following additional ramp merge/diverge is anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAP (Phase 2 Project Buildout 2025) traffic conditions, in addition to those listed under Existing (2018) and EAP (Phase 1 2021) conditions:

- I-215 Freeway – Northbound, On-Ramp at Scott Road (#5) – LOS E PM peak hour only

EAP (Phase 1 2021) and EAP (Phase 2 Project Buildout 2025) conditions freeway ramp merge/diverge operations analysis worksheets are provided in Appendix 6.9 and Appendix 6.10, respectively.

Table 6-4

Freeway Ramp Merge/Diverge Analysis for EAP Conditions

Freeway	Direction	Ramp Junction	Lanes on Freeway	Existing (2018)				EAP (Phase 1 2021)				EAP (Phase 2 Project Buildout 2025)			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²
I-215 Freeway	Southbound	Off-Ramp at Scott Road	3	36.3	E	31.2	D	-- ³	F	33.5	E	-- ³	F	36.8	E
		On-Ramp at Scott Road	3	43.4	E	33.3	D	-- ³	F	36.2	D	-- ³	F	40.9	E
	Northbound	On-Ramp at Scott Road	3	20.5	C	31.7	D	22.1	C	34.4	D	24.3	C	38.4	E
		Off-Ramp at Scott Road	3	18.9	C	32.0	D	20.2	C	34.3	E	21.9	C	-- ³	F

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

¹ Density is measured by passenger cars per mile per lane (pc/mi/ln).

² LOS = Level of Service

³ HCS7 does not report density for freeway facilities operating at LOS F.

6.9 EAP DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

6.9.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been recommended at intersections that have been identified as deficient in an effort to reduce each location's peak hour delay and improve the associated LOS grade to an acceptable LOS (LOS D or better). The effectiveness of the recommended improvement strategies discussed below to address EAP traffic deficiencies is presented in Table 6-5. The improvements that were previously required to address LOS deficiencies for Existing and E+P traffic conditions are shown in *italics*. New improvements for EAP traffic conditions are shown in regular text.

Phase 1 2021

Recommended Improvement –Briggs Road & Scott Road (#8) – This intersection is currently operating at an unacceptable LOS and the addition of Project traffic is anticipated to contribute to the existing deficiency. As such, the impact is cumulatively considerable.

- *Project to contribute fair share towards widening and constructing a dedicated northbound left turn lane and a shared through-right turn lane (consistent with Existing conditions).*

Recommended Improvement – Leon Road & Scott Road (#13) – This intersection currently operates at an acceptable LOS under Existing traffic conditions and is anticipated to operate at a deficient LOS with the addition of Project traffic. As such, the impact is considered significant.

- *Project to install a traffic signal (consistent with E+P conditions).*

Phase 2 Project Buildout 2025

Recommended Improvement –Haun Road/Zeiders Road & Scott Road (#1) – This intersection currently operates at an acceptable LOS under Existing traffic conditions and is anticipated to operate at a deficient LOS with the addition of Project traffic. As such, the impact is considered significant.

- Project to construct a 2nd southbound left turn lane.
- Project to modify the traffic signal to implement overlap phasing on the westbound right turn lane.
- It should be noted that these improvements have been conditioned on other near-by development and are to be constructed by others.

Recommended Improvement –Briggs Road & Scott Road (#8) – This intersection is currently operating at an unacceptable LOS and the addition of Project traffic is anticipated to contribute to the existing deficiency. As such, the impact is cumulatively considerable.

- *Project to contribute fair share towards widening and constructing a dedicated northbound left turn lane and a shared through-right turn lane (consistent with Existing conditions).*

Recommended Improvement – Leon Road & Scott Road (#13) – This intersection currently operates at an acceptable LOS under Existing traffic conditions and is anticipated to operate at a deficient LOS with the addition of Project traffic. As such, the impact is considered significant.

- *Project to install a traffic signal (consistent with E+P conditions).*

Worksheets for EAP (Phase 1 2021) and EAP (Phase 2 Project Buildout 2025) conditions, with improvements, HCM calculations are provided in Appendix 6.11 and Appendix 6.12.

6.9.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the County of Riverside (or other neighboring jurisdictions) on the SHS roadway segments. As such, no improvements have been recommended to address the EAP (Phase 1 2021) and EAP (Phase 2 Project Buildout 2025) deficiencies on the SHS.

Table 6-5

Intersection Analysis for EAP Conditions With Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		LOS		
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM	
			L	T	R	L	T	R	L	T	R	L	T	R					
1	Haun Rd./Zeiders Rd. / Scott Rd. - 2021 With Improvements - 2025 With Improvements	TS	No Improvements Necessary												44.6	54.3	D	D	
3	I-215 SB Ramps / Scott Rd. - 2021 With Improvements - 2025 With Improvements	TS	0	0	0	0	1	1	0	1	1	0	1	1	0	LOS E/F ⁴ Acceptable LOS ⁵			
5	I-215 NB Ramps / Scott Rd. - 2021 With Improvements - 2025 With Improvements	TS	0	1	1	0	0	0	1	1	0	0	1	1	LOS E/F ⁴ Acceptable LOS ⁵				
8	Briggs Rd. / Scott Rd. - 2021 With Improvements - 2025 With Improvements	TS TS	<u>1</u>	1	<u>0</u>	0	1	1	1	2	0	1	2	1	30.9 31.1	30.6 33.8	C C	C C	
13	Leon Rd. / Scott Rd. - 2021 With Improvements - 2025 With Improvements	<u>TS</u> <u>TS</u>	0	1	0	0	1	0	0	1	0	0	1	0	11.2 17.2	11.5 22.1	B B	B C	

NOTE: All recommended improvements described above are consistent with the General Plan designations of the respective jurisdictions in which they are located.

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 6, overall average intersection delay and level of service are shown for intersections with a traffic signal.

³ TS = Traffic Signal; TS = Improvement

⁴ Based on the constrained traffic count data, the intersection appears to operate at acceptable LOS or at LOS better than field observations would suggest. However, field observations show that the intersections along Scott Road near the I-215 Freeway experience peak hour queues that periodically affect intersection operations.

⁵ As demonstrated on the subsequent Table 7-5, the study area intersections are anticipated to operate at acceptable LOS with the planned I-215 Freeway at Scott Road (Phase 1) interchange improvements in place.

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7 EXISTING PLUS AMBIENT GROWTH PLUS PROJECT PLUS CUMULATIVE TRAFFIC CONDITIONS

This section discusses the methods used to develop EAPC traffic forecasts, and the resulting intersection operations, freeway mainline operations, and traffic signal warrant analyses.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAPC conditions are consistent with the following improvements discussed below. The improvements listed below have been confirmed with County of Riverside staff, City of Menifee staff, or the Project Applicant.

- 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 conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways). These include the Project site adjacent roadways of Leon Road, Holland Road, and Eucalyptus Road.
- In order to access the existing roadway network from the site, the Project Applicant will also construct a 32-foot paved roadway along Holland Road between Briggs Road and Leon Road.
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for EAPC conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways).
- The Phase 1 (interim) I-215 Freeway at Scott Road planned interchange improvements are anticipated to be in place by EAPC (Phase 1 2021) traffic conditions (see Exhibit 7-1).

7.2 EAPC (PHASE 1 2021) TRAFFIC VOLUME FORECASTS

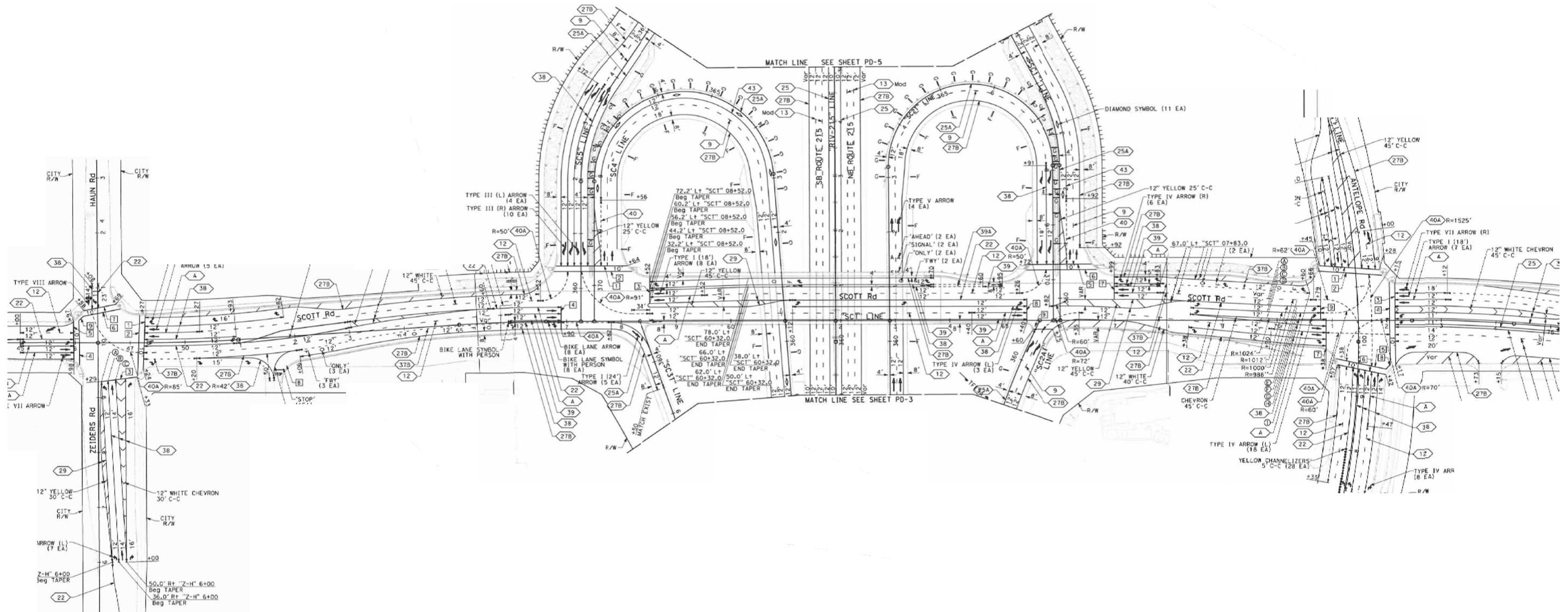
This scenario includes Existing traffic volumes plus an ambient growth factor of 6.12% plus traffic from pending and approved but not yet constructed known development projects in the area and the addition of Project Phase 1 traffic. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for EAPC (Phase 1 2021) traffic conditions are shown on Exhibits 7-2 and 7-3, respectively.

7.3 EAPC (PHASE 2 PROJECT BUILDOUT 2025) TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes, an ambient growth factor of 14.87%, traffic from pending and approved but not yet constructed known development projects in the area and the addition of Phase 2 Project Buildout traffic. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for EAPC (Phase 2 Project Buildout 2025) traffic conditions are shown on Exhibits 7-4 and 7-5, respectively.

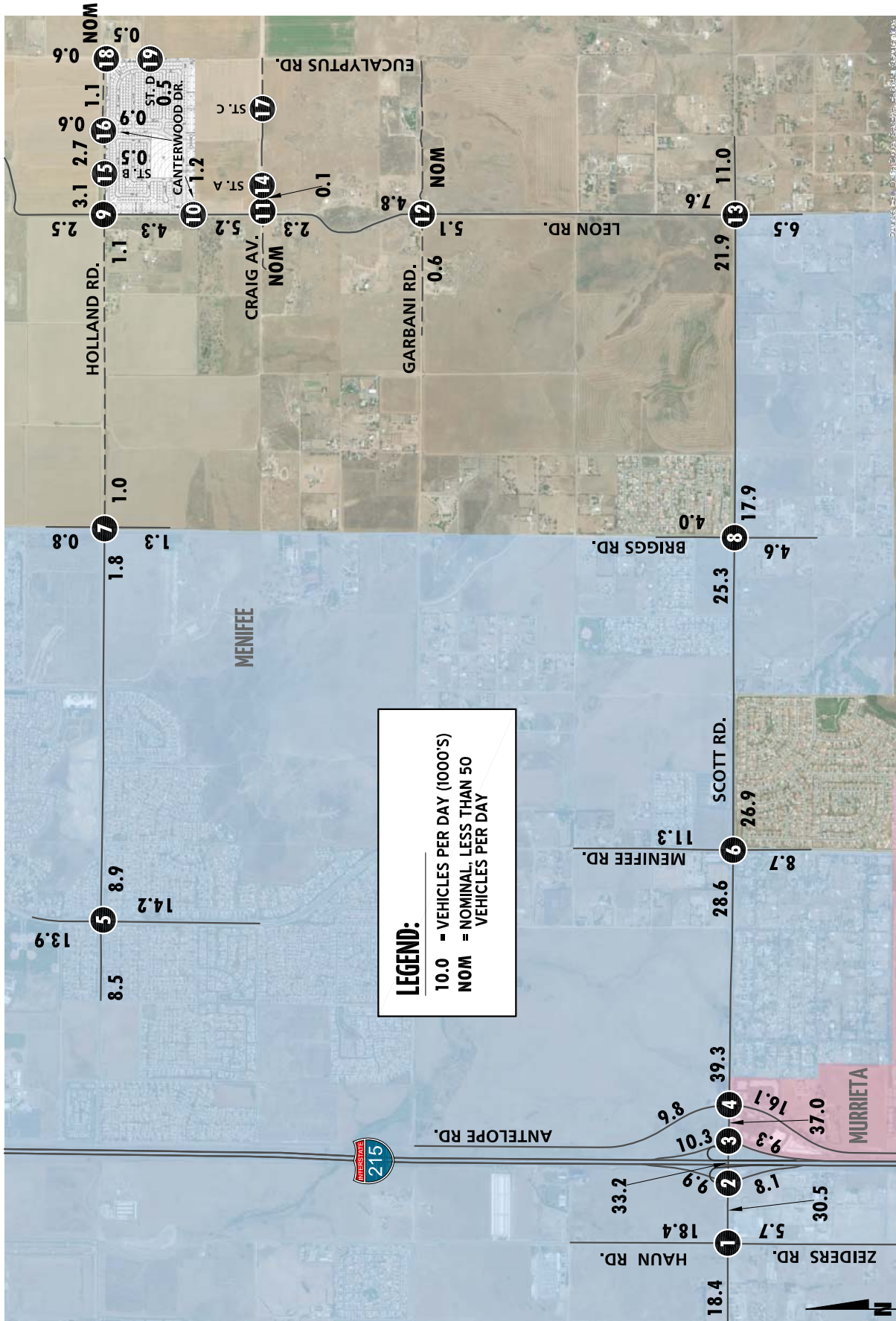
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EXHIBIT 7-1: I-215 FREEWAY AT SCOTT ROAD PROPOSED INTERIM INTERCHANGE IMPROVEMENTS



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EXHIBIT 7-2: EAPC (PHASE 1 2021) AVERAGE DAILY TRAFFIC (ADT)



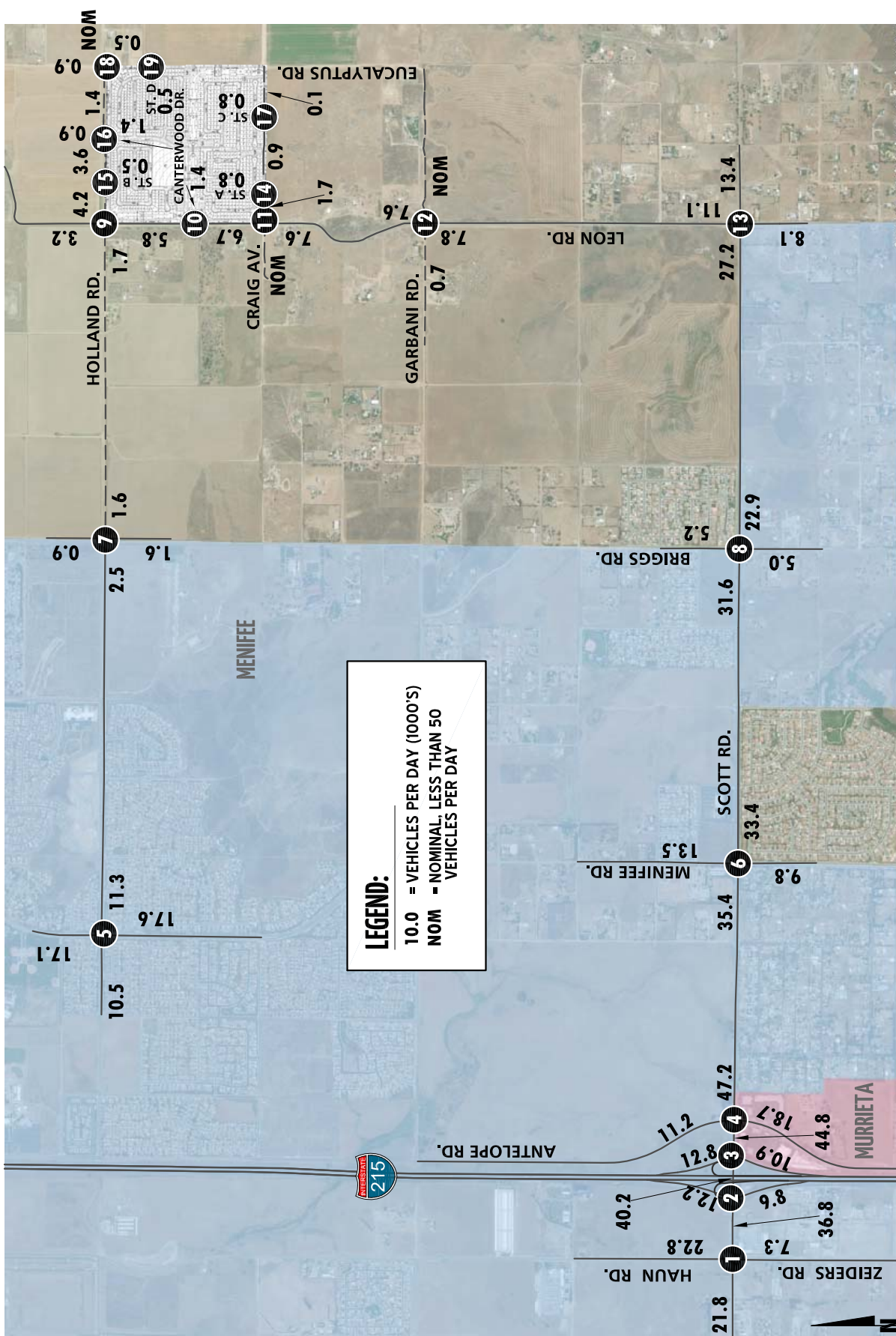
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EXHIBIT 7-3: EAPC (PHASE 1 2021) TRAFFIC VOLUMES

<p>1 Haun Rd./ Zelders Rd. & Scott Rd.</p> <p>126(121) ← 516(728) → 39(43) ↓</p> <p>↑ 85(143) ↑ 79(95) ↑ 777(709)</p> <p>← 857(666) ↑ 573(922) ↑ 111(107)</p> <p>39(58) → 112(112) ↑ 80(105) ↓</p>	<p>2 I-215 SB Ramps & Scott Rd.</p> <p>804(1026) → 543(532) ↓</p> <p>↓ 208(258) ↓ 409(622)</p> <p>← 628(517) ← 1333(1438)</p>	<p>3 I-215 NB Ramps & Scott Rd.</p> <p>166(164) → 1046(1482) ↓</p> <p>↓ 414(665)</p> <p>↑ 665(617) ↑ 1548(1290)</p> <p>297(735) ↓</p>	<p>4 Antelope Rd. & Scott Rd.</p> <p>130(274) → 827(1473) ↓ 387(471) ↓</p> <p>↓ 366(243) ↓ 175(175) ↓ 64(98)</p> <p>← 37(73) ← 1427(1144) ← 86(139)</p> <p>420(519) → 100(269) ↑ 104(233) ↓</p>	<p>5 Menifee Rd. & Holland Rd.</p> <p>177(114) → 135(262) ↓ 70(124) ↓</p> <p>↓ 155(129) ↓ 599(471) ↓ 89(146)</p> <p>← 168(91) ← 305(173) ← 218(108)</p> <p>120(93) → 553(515) ↑ 146(190) ↓</p>	<p>6 Menifee Rd. & Scott Rd.</p> <p>139(322) → 718(1263) ↓ 131(165) ↓</p> <p>↓ 230(206) ↓ 227(116) ↓ 189(157)</p> <p>← 193(204) ← 1045(1068) ← 161(132)</p> <p>125(151) → 187(253) ↑ 164(166) ↓</p>
<p>7 Briggs Rd. & Holland Rd.</p> <p>49(8) → 20(62) ↓ 62(26) ↓</p> <p>↓ 63(5) ↓ 34(38) ↓ 0(1)</p> <p>← 2(3) ← 52(42) ← 0(1)</p> <p>30(43) → 14(42) ↓ 0(0) ↓</p>	<p>8 Briggs Rd. & Scott Rd.</p> <p>89(214) → 762(1004) ↓ 236(253) ↓</p> <p>↓ 227(153) ↓ 15(5) ↓ 48(10)</p> <p>← 24(19) ← 917(908) ← 9(4)</p> <p>240(263) → 4(14) ↓ 11(11) ↓</p>	<p>9 Leon Rd. & Holland Rd.</p> <p>17(46) → 10(32) ↓</p> <p>↓ 3(1) ↓ 131(84) ↓ 8(29)</p> <p>← 26(17) ← 41(27) ← 112(75)</p> <p>3(4) → 28(9) ↓ 62(128) ↓ 41(127) ↓</p>	<p>10 Leon Rd. & Canterwood Dr.</p> <p>122(258) → 21(69) ↓</p> <p>↓ 250(181) ↓ 3(10)</p> <p>← 9(6) ← 62(41)</p>	<p>11 Leon Rd. & Craig Av.</p> <p>0(1) → 0(0) ↓ 1(0) ↓</p> <p>↓ 0(0) ↓ 312(220) ↓ 0(1)</p> <p>← 0(2) ← 0(0) ← 1(1)</p> <p>0(1) → 143(324) ↓ 0(2) ↓</p>	<p>12 Leon Rd. & Garbanl Rd.</p> <p>7(10) → 0(2) ↓ 56(29) ↓</p> <p>↓ 8(10) ↓ 252(184) ↓ 0(0)</p> <p>← 1(0) ← 3(1) ← 1(1)</p> <p>38(21) → 96(301) ↑ 3(0) ↓</p>
<p>13 Leon Rd. & Scott Rd.</p> <p>189(245) → 421(516) ↓ 242(224) ↓</p> <p>↓ 243(168) ↓ 151(101) ↓ 98(56)</p> <p>← 89(78) ← 442(523) ← 21(18)</p> <p>266(238) → 122(113) ↓ 9(17) ↓</p>	<p>14 Street A & Craig Av.</p> <p>Future Intersection</p>	<p>15 Street B & Holland Rd.</p> <p>58(171) → 9(30) ↓</p> <p>↑ 153(101) 0(0)</p> <p>26(17) → 0(0) ↓</p>	<p>16 Canterwood Dr. & Holland Rd.</p> <p>12(41) → 28(72) ↓ 18(59) ↓</p> <p>↓ 37(24) ↓ 0(0) ↓ 0(0)</p> <p>← 0(0) ← 63(42) ← 0(0)</p> <p>53(35) → 0(0) ↓ 0(0) ↓</p>	<p>17 Street C & Craig Av.</p> <p>Future Intersection</p>	<p>18 Eucalyptus Rd. & Holland Rd.</p> <p>12(41) → 7(1) ↓ 9(30) ↓</p> <p>↓ 37(24) ↓ 0(0) ↓ 0(0)</p> <p>← 0(0) ← 0(1) ← 0(0)</p> <p>26(17) → 0(0) ↓ 0(0) ↓</p>
<p>19 Eucalyptus Rd. & Street D</p> <p>26(17) → 0(0) ↓</p> <p>↓ 9(30) ↓ 0(0)</p> <p>0(0) → 0(0) ↓</p>	<p>LEGEND: 10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES</p>				

EXHIBIT 7-4: EAPC (PHASE 2 PROJECT BUILDOUT 2025) AVERAGE DAILY TRAFFIC (ADT)



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EXHIBIT 7-5: EAPC (PHASE 2 PROJECT BUILDOUT 2025) TRAFFIC VOLUMES

<p>1 Haun Rd./ Zelders Rd. & Scott Rd.</p> <p>↓ 103(175) ↓ 99(122) ↓ 897(859)</p> <p>← 995(811) ← 672(1053) ← 142(135)</p> <p>150(150) → 583(859) → 49(54) →</p> <p>↑ 49(70) ↑ 136(141) ↑ 106(133)</p>	<p>2 I-215 SB Ramps & Scott Rd.</p> <p>↓ 242(298) ↓ 471(751)</p> <p>← 771(623) ← 1567(1701)</p> <p>932(1229) → 626(639) →</p>	<p>3 I-215 NB Ramps & Scott Rd.</p> <p>↓ 489(786)</p> <p>↑ 789(718) ↑ 1849(1537)</p> <p>194(197) → 1209(1782) →</p> <p>356(898) →</p>	<p>4 Antelope Rd. & Scott Rd.</p> <p>↓ 406(270) ↓ 200(200) ↓ 74(114)</p> <p>← 44(87) ← 1759(1397) ← 113(170)</p> <p>144(308) → 984(1837) → 438(535) →</p> <p>472(588) → 115(305) → 122(278) →</p>	<p>5 Menifee Rd. & Holland Rd.</p> <p>↓ 184(156) ↓ 731(569) ↓ 104(184)</p> <p>← 205(116) ← 365(211) ← 276(140)</p> <p>207(139) → 161(322) → 89(153) →</p> <p>150(116) → 664(610) → 173(246) →</p>	<p>6 Menifee Rd. & Scott Rd.</p> <p>↓ 285(254) ↓ 251(132) ↓ 223(189)</p> <p>← 220(245) ← 1313(1308) ← 187(152)</p> <p>170(390) → 862(1582) → 146(183) →</p> <p>140(168) → 207(281) → 202(189) →</p>
<p>7 Briggs Rd. & Holland Rd.</p> <p>↓ 68(6) ↓ 37(41) ↓ 0(1)</p> <p>← 2(3) ← 82(62) ← 0(1)</p> <p>53(9) → 30(96) → 74(34) →</p> <p>35(55) → 15(46) → 0(0) →</p>	<p>8 Briggs Rd. & Scott Rd.</p> <p>↓ 289(198) ↓ 16(6) ↓ 60(13)</p> <p>← 30(23) ← 1154(1135) ← 11(5)</p> <p>116(280) → 933(1281) → 255(273) →</p> <p>260(285) → 5(15) → 12(13) →</p>	<p>9 Leon Rd. & Holland Rd.</p> <p>↓ 3(1) ↓ 161(106) ↓ 11(38)</p> <p>← 34(22) ← 55(36) ← 152(101)</p> <p>3(5) → 21(61) → 16(53) →</p> <p>47(20) → 74(161) → 55(171) →</p>	<p>10 Leon Rd. & Canterwood Dr.</p> <p>↓ 325(246) ↓ 4(14)</p> <p>← 13(8) ← 67(44)</p> <p>163(345) → 22(75) →</p>	<p>11 Leon Rd. & Craig Av.</p> <p>↓ 0(0) ↓ 388(275) ↓ 4(15)</p> <p>← 13(10) ← 0(0) ← 84(56)</p> <p>0(1) → 0(0) → 1(0) →</p> <p>0(1) → 173(409) → 28(95) →</p>	<p>12 Leon Rd. & Garbanl Rd.</p> <p>↓ 9(12) ↓ 406(288) ↓ 0(0)</p> <p>← 1(0) ← 3(1) ← 1(1)</p> <p>9(12) → 0(2) → 61(31) →</p> <p>41(23) → 147(476) → 3(0) →</p>
<p>13 Leon Rd. & Scott Rd.</p> <p>↓ 381(259) ↓ 194(132) ↓ 130(77)</p> <p>← 118(107) ← 520(618) ← 24(21)</p> <p>269(389) → 492(613) → 277(263) →</p> <p>295(284) → 154(154) → 10(20) →</p>	<p>14 Street A & Craig Av.</p> <p>↓ 48(31) ↓ 0(0) ↓ 0(0)</p> <p>← 0(0) ← 49(35)</p> <p>16(54) → 16(57) →</p>	<p>15 Street B & Holland Rd.</p> <p>↓ 210(139) ↓ 0(0)</p> <p>77(234) → 11(36) →</p> <p>32(21) → 0(0) →</p>	<p>16 Canterwood Dr. & Holland Rd.</p> <p>↓ 49(32) ↓ 0(0) ↓ 0(0)</p> <p>← 0(0) ← 81(54) ← 0(0)</p> <p>16(54) → 35(91) → 27(90) →</p> <p>80(53) → 0(0) → 0(0) →</p>	<p>17 Street C & Craig Av.</p> <p>↓ 48(32) ↓ 0(0) ↓ 0(0)</p> <p>← 0(0) ← 1(3)</p> <p>16(54) → 0(3) →</p>	<p>18 Eucalyptus Rd. & Holland Rd.</p> <p>↓ 49(32) ↓ 0(0) ↓ 0(0)</p> <p>← 0(0) ← 0(1) ← 0(0)</p> <p>16(54) → 8(1) → 11(36) →</p> <p>32(21) → 0(0) → 0(0) →</p>
<p>19 Eucalyptus Rd. & Street D</p> <p>↓ 11(36) ↓ 0(0)</p> <p>32(21) → 0(0) →</p> <p>0(0) → 0(0) →</p>					

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES

7.4 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under EAPC traffic conditions with roadway and intersection geometrics consistent with Section 7.1 *Roadway Improvements*.

EAPC (Phase 1 2021)

The intersection analysis results are summarized in Table 7-1, which indicates that the following study area intersections are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during one or more peak hours under EAPC (Phase 1 2021) traffic conditions:

- Haun Rd./Zeiders Rd. & Scott Rd. (#1) – LOS F AM and PM peak hours
- Antelope Rd. & Scott Rd. (#4) – LOS E AM peak hour, LOS F PM peak hour
- Menifee Rd. & Holland Rd. (#5) – LOS F AM and PM peak hours
- Menifee Rd. & Scott Rd. (#6) – LOS E AM peak hour, LOS F PM peak hour
- Briggs Rd. & Scott Rd. (#8) – LOS F AM and PM peak hours
- Leon Rd. & Scott Rd. (#13) – LOS F AM and PM peak hours

Exhibit 7-6 summarizes the weekday AM and PM peak hour study area intersection LOS under EAPC (Phase 1 2021) traffic conditions, consistent with the summary provided in Table 7-1. The intersection operations analysis worksheets for EAPC (Phase 1 2021) conditions are included in Appendix 7.1 of this TIA.

EAPC (Phase 2 Project Buildout 2025)

As shown on Table 7-1 and illustrated on Exhibit 7-7, the following intersection is anticipated to operate at unacceptable LOS under EAPC (Phase 2 Project Buildout 2025) traffic conditions, in addition to those previously identified under Existing (2018), EAP (Phase 1 2021), EAP (Phase 2 Project Buildout 2025) and EAPC (Phase 1 2021) traffic conditions:

- Leon Av. & Craig Av. (#11) – LOS F AM peak hour, LOS E PM peak hour

The intersection operations analysis worksheets for EAPC (Phase 2 Project Buildout 2025) traffic conditions are included in Appendix 7.2 of this TIA. Measures to address near-term deficiencies for EAPC traffic conditions are discussed in Section 7.9 *EAPC Deficiencies and Recommended Improvements*.

Table 7-1

Intersection Analysis for EAPC Conditions

#	Intersection	Traffic Control ²	EAPC (Phase 1 2021)				EAPC (Phase 2 Project Buildout 2025)			
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Haun Rd./Zeiders Rd. / Scott Rd.	TS	132.8	181.5	F	F	>200.0	>200.0	F	F
2	I-215 SB Ramps / Scott Rd.	TS	LOS E/F ³				LOS E/F ³			
3	I-215 NB Ramps / Scott Rd.	TS	LOS E/F ³				LOS E/F ³			
4	Antelope Rd. / Scott Rd.	TS	77.6	106.2	E	F	130.0	178.8	F	F
5	Menifee Rd. / Holland Rd.	AWS	>100.0	84.7	F	F	>100.0	>100.0	F	F
6	Menifee Rd. / Scott Rd.	TS	60.4	83.3	E	F	103.4	154.8	F	F
7	Briggs Rd. / Holland Rd.	CSS	12.5	11.0	B	B	14.6	12.3	B	B
8	Briggs Rd. / Scott Rd.	TS	192.1	>200.0	F	F	195.2	>200.0	F	F
9	Leon Rd. / Holland Rd.	AWS	9.5	12.5	A	B	11.4	26.7	B	D
10	Leon Rd. / Canterwood Dr.	CSS	11.8	12.8	B	B	13.3	15.2	B	C
11	Leon Rd. / Craig Av.	CSS	18.2	17.1	C	C	83.5	39.8	F	E
12	Leon Rd. / Garbani Rd.	CSS	12.6	16.2	B	C	15.8	25.3	C	D
13	Leon Rd. / Scott Rd.	AWS	>100.0	>100.0	F	F	>100.0	>100.0	F	F
14	St. A / Craig Av.	CSS	Future Intersection				8.7	8.6	A	A
15	St. B / Holland Rd.	CSS	10.0	10.4	B	B	10.6	11.4	B	B
16	Canterwood Dr. / Holland Rd.	CSS	10.0	10.8	B	B	10.8	12.0	B	B
17	St. C / Craig Av.	CSS	Future Intersection				8.5	8.4	A	A
18	Eucalyptus Rd. / Holland Rd.	CSS	9.1	9.5	A	A	9.4	9.9	A	A
19	Eucalyptus Rd. / St. D	CSS	8.6	8.7	A	A	8.7	8.7	A	A

BOLD = LOS does not meet the County, City of Menifee, City of Murrieta, or Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

¹ Per the Highway Capacity Manual 6, 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; **CSS** = Improvement

³ Based on the constrained traffic count data, the intersection appears to operate at acceptable LOS or at LOS better than field observations would suggest. However, field observations show that the intersections along Scott Road near the I-215 Freeway experience peak hour queues that periodically affect intersection operations.

EXHIBIT 7-6: EAPC (PHASE 1 2021) SUMMARY OF LOS

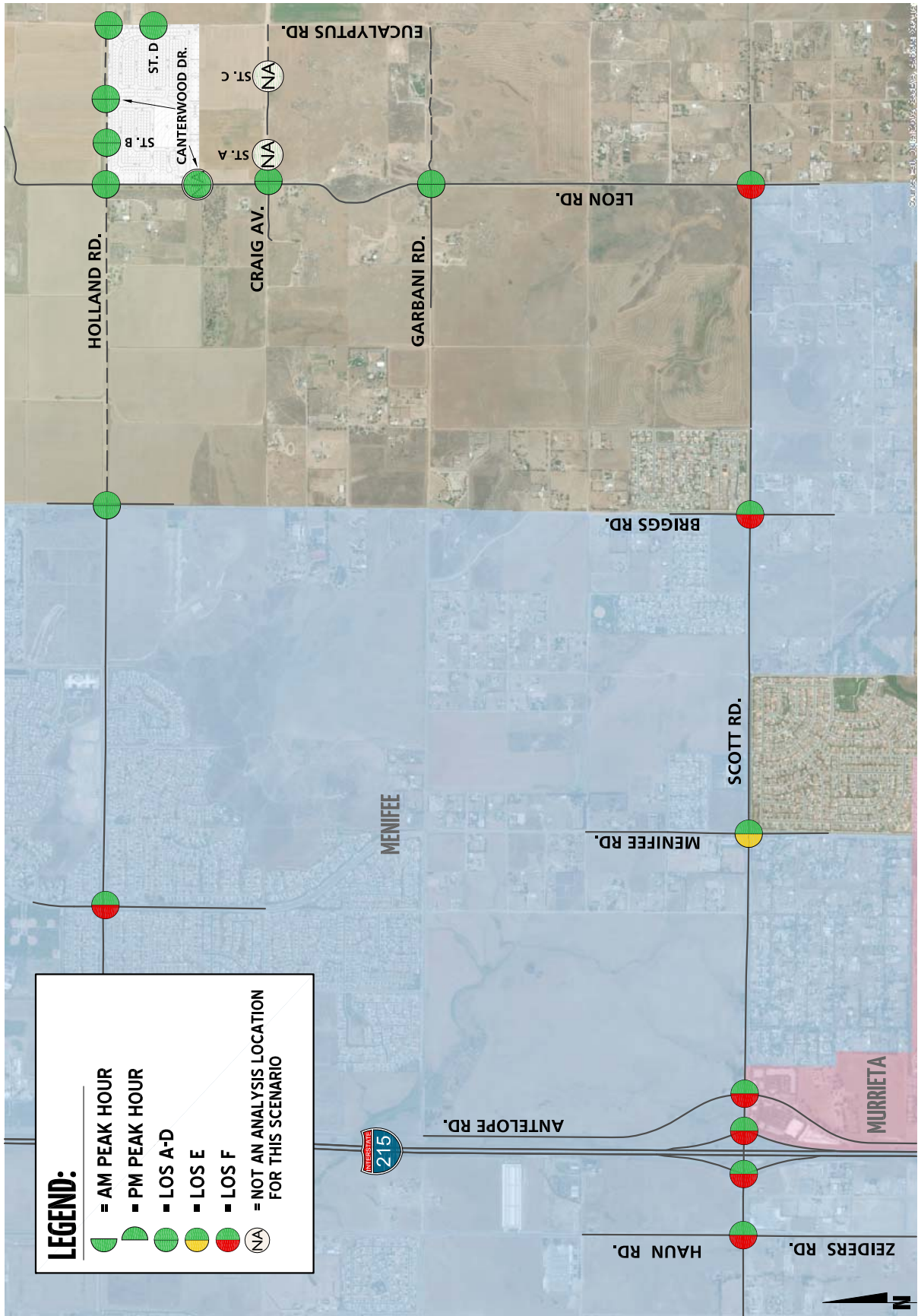
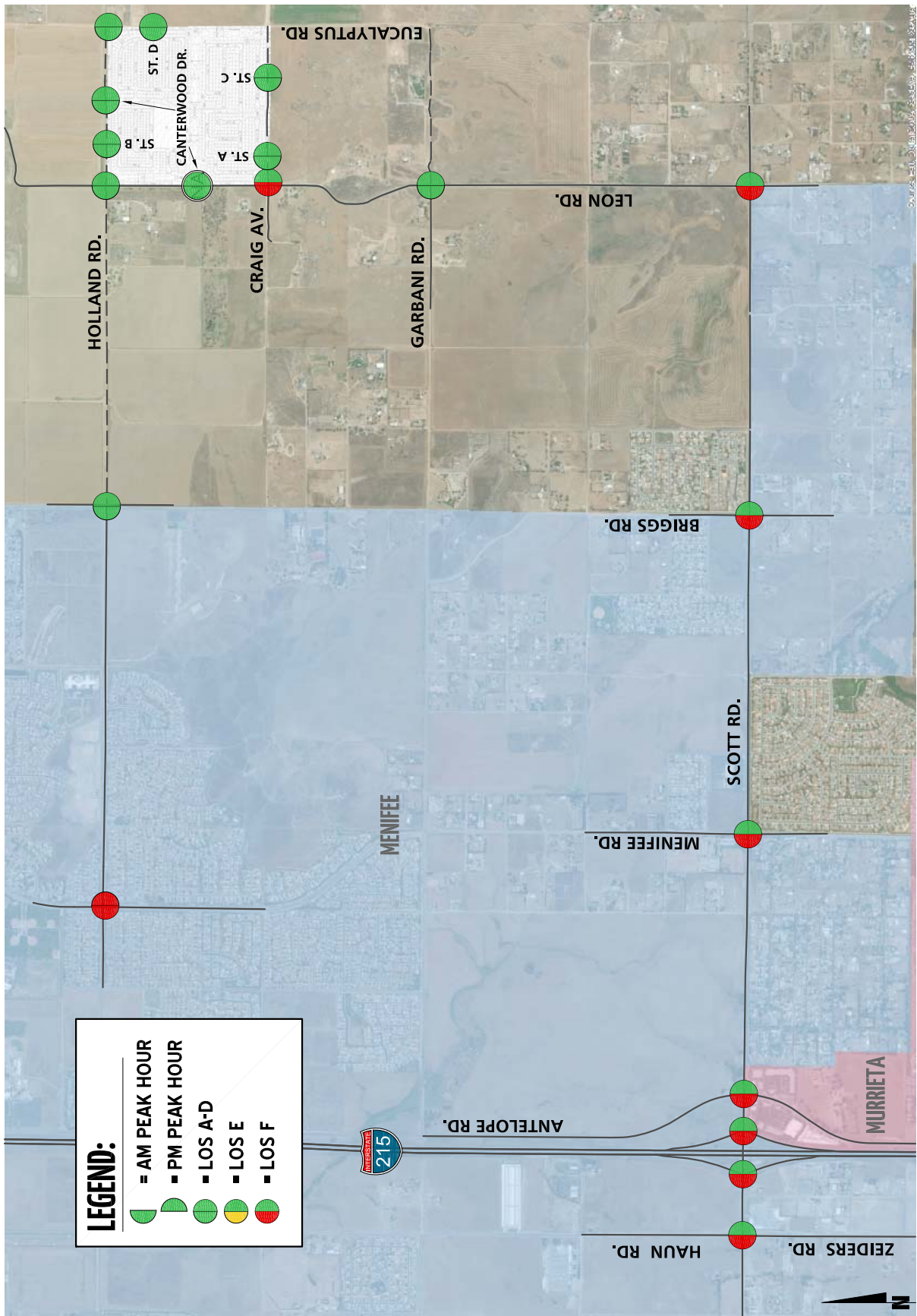


EXHIBIT 7-7: EAPC (PHASE 2 PROJECT BUILDOUT 2025) SUMMARY OF LOS



7.5 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the northbound and southbound off-ramps at the I-215 Freeway at Scott Road interchanges 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. Queuing analysis findings are presented in Table 7-2 for EAPC traffic conditions. Off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown on Table 7-2 and consistent with Existing traffic conditions, there are no potential queuing issues anticipated during the weekday AM or PM peak 95th percentile traffic flows for EAPC traffic conditions. Worksheets for EAPC (Phase 1 2021) and EAPC (Phase 2 Project Buildout 2025) traffic conditions off-ramp queuing analysis are provided in Appendix 7.3 and Appendix 7.4, respectively.

7.6 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed on unsignalized intersections that have not warranted a signal under Existing traffic conditions. For EAPC (Phase 1 2021) and EAPC (Phase 2 Project Buildout 2025) traffic conditions, there are no unsignalized study area intersections anticipated to warrant a traffic signal in addition to those previously warranted under Existing traffic conditions (see Appendix 7.5 and Appendix 7.6).

#	Intersection	Existing 2018	EAPC Phase 1 2021	EAPC Phase 2 Project Buildout 2025
5	Menifee Rd. / Holland Rd.	PH		
7	Briggs Rd. / Holland Rd.			
9	Leon Rd. / Holland Rd.			
10	Leon Rd. / Canterwood Dr.	DNE		
11	Leon Rd. / Craig Av.			
12	Leon Rd. / Garbani Rd.			
13	Leon Rd. / Scott Rd.	PH		
14	St. A / Craig Av.	DNE	DNE	
15	St. B / Holland Rd.	DNE		
16	Canterwood Dr. / Holland Rd.	DNE		
17	St. C / Craig Av.	DNE	DNE	
18	Eucalyptus Rd. / Holland Rd.	DNE		
19	Eucalyptus Rd. / St. D	DNE		

PH = Peak Hour Warrant Met; X = Daily Volume Warrant Met; DNE = Does Not Exist

7.7 BASIC FREEWAY SEGMENT ANALYSIS

EAPC (Phase 1 2021)

EAPC (Phase 1 2021) peak hour mainline directional volumes are provided on Exhibit 7-6. As shown on Table 7-3, the following additional freeway mainline segment is anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAPC (Phase 1 2021) traffic conditions:

- I-215 Freeway Southbound – North of Scott Road (#1) – LOS F AM peak hour; LOS E PM peak hour
- I-215 Freeway Southbound – South of Scott Road (#2) – LOS F AM peak hour; LOS E PM peak hour
- I-215 Freeway Northbound – North of Scott Road (#3) – LOS E PM peak hour only
- I-215 Freeway Northbound – South of Scott Road (#4) – LOS E PM peak hour only

Table 7-2

Peak Hour Freeway Off-Ramp Queuing Analysis for EAPC Conditions

Intersection	Movement	Available Stacking (Feet)	EAPC (Phase 1 2021)				EAPC (Phase 2 Project Buildout 2025)			
			95th Percentile Stacking Distance Required (Feet)		Acceptable? ¹		95th Percentile Stacking Distance Required (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Off-Ramp / Scott Road	SBL/T	1,300	528 ²	816 ²	Yes	Yes	633 ²	1,019 ²	Yes	Yes
	SBR	460	161	197	Yes	Yes	197	239	Yes	Yes
I-215 NB Off-Ramp / Scott Road	NBL/T	1,560	302 ²	438 ²	Yes	Yes	337 ²	491 ²	Yes	Yes
	NBR	400	203 ²	945 ²	Yes	Yes ³	367 ²	1,205 ²	Yes	Yes ³

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 The 95th percentile queues indicates potential queuing for the movements and peak hours identified above. However, while the potential queues would exceed the turn pocket lengths and could spillback into the adjacent through lanes, none are anticipated to result in spillback onto the I-215 Freeway mainline since the adjacent through lanes all have sufficient capacity.

Table 7-3

Basic Freeway Segment Analysis for EAPC Conditions

Freeway	Direction	Mainline Segment	Lanes ¹	EAPC (Phase 1 2021)				EAPC (Phase 2 Project Buildout 2025)			
				Density ²		LOS ³		Density ²		LOS ³	
				AM	PM	AM	PM	AM	PM	AM	PM
I-215 Freeway	Southbound	North of Scott Road	3	-- ⁴	39.0	F	E	-- ⁴	-- ⁴	F	F
		South of Scott Road	3	-- ⁴	40.5	F	E	-- ⁴	-- ⁴	F	F
	Northbound	North of Scott Road	3	21.0	36.2	C	E	23.6	43.6	C	E
		South of Scott Road	3	20.2	44.1	C	E	22.6	-- ⁴	C	F

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

¹ Number of lanes are in the specified direction and is based on existing conditions.

² Density is measured by passenger cars per mile per lane (pc/mi/ln).

³ LOS = Level of Service

⁴ HCS7 does not report density for freeway facilities operating at LOS F.

EXHIBIT 7-8: EAPC (2021) FREEWAY MAINLINE VOLUMES

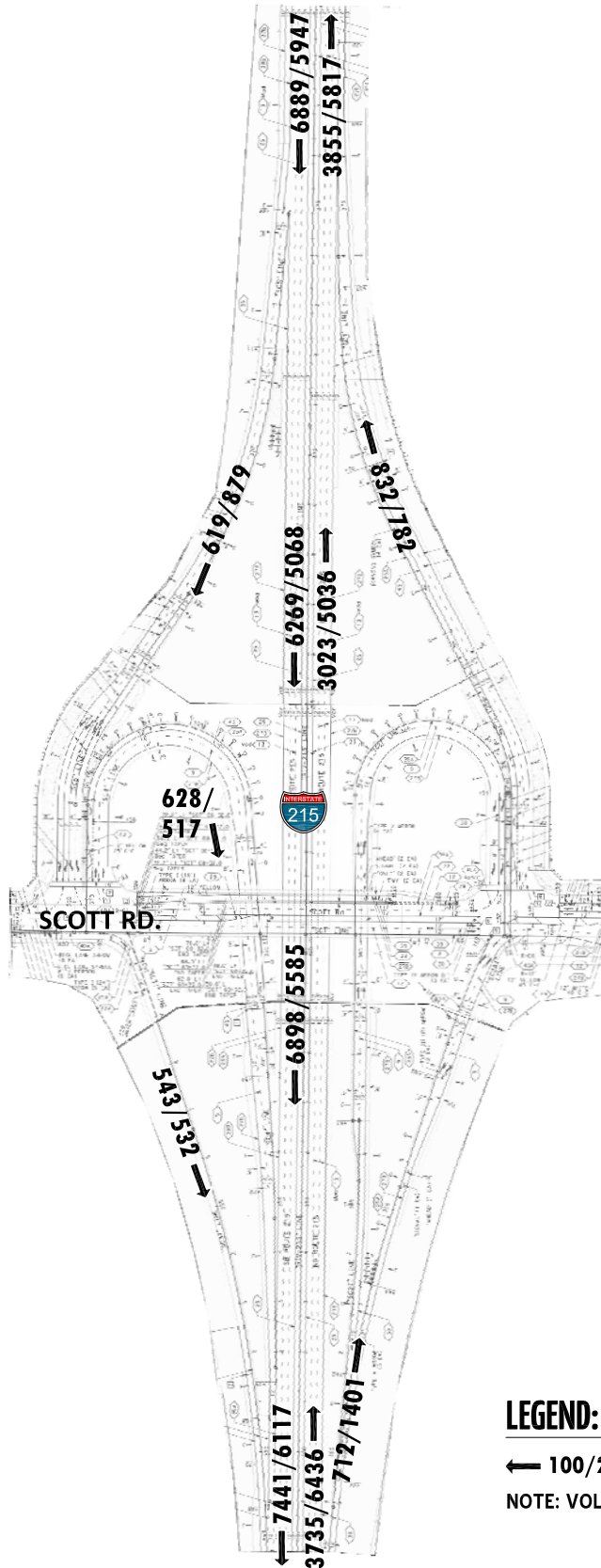
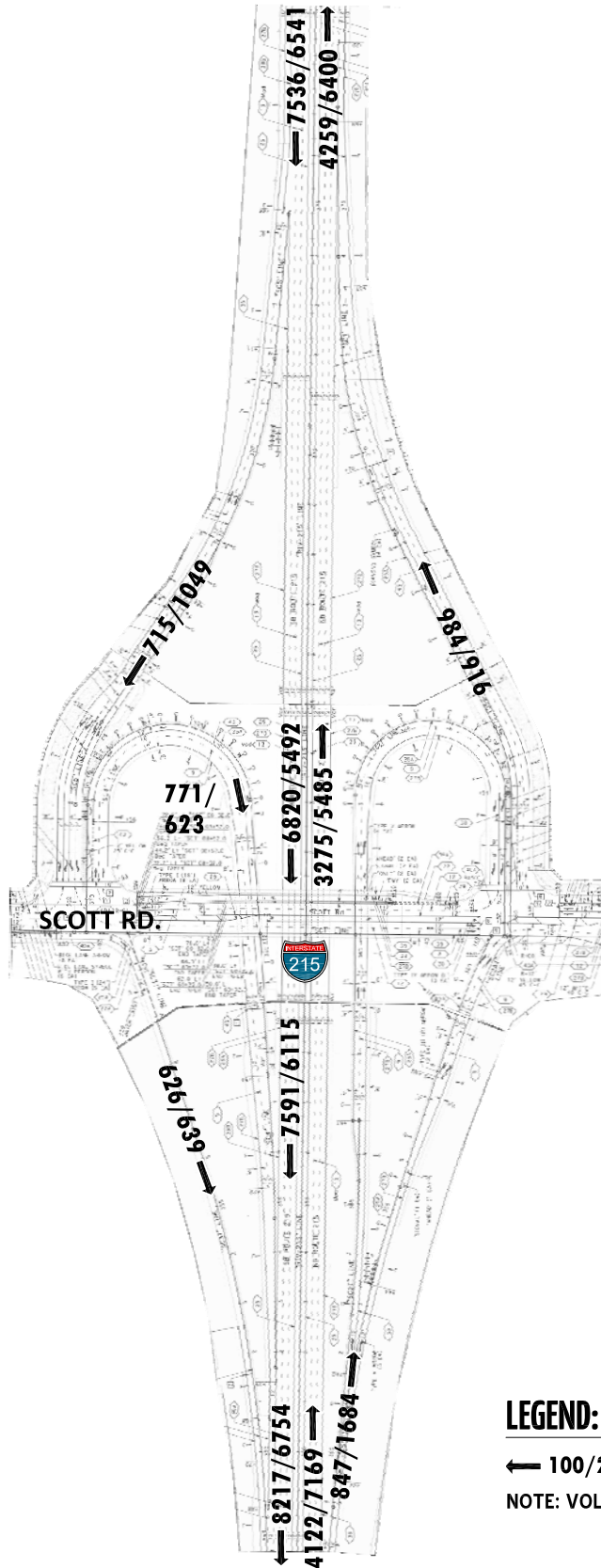


EXHIBIT 7-9: EAPC (2025) FREEWAY MAINLINE VOLUMES



LEGEND:

← 100/200 = AM/PM PEAK HOUR VOLUMES
NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)



EAPC (Phase 2 Project Buildout 2025)

EAPC (Phase 2 Project Buildout 2025) peak hour mainline directional volumes are provided on Exhibit 7-7. There are no freeway mainline segments anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAPC (Phase 2 Project Buildout 2025) traffic conditions, in addition to those previously identified under Existing (2018), EAP (Phase 1 2021), EAP (Phase 2 Project Buildout 2025), and EAPC (Phase 1 2021) traffic conditions.

EAPC (Phase 1 2021) and EAPC (Phase 2 Project Buildout 2025) conditions basic freeway segment analysis worksheets are provided in Appendix 7.7 and Appendix 7.8, respectively.

7.8 FREEWAY MERGE/DIVERGE ANALYSIS

Ramp merge and diverge operations were also evaluated for EAPC conditions and the results of this analysis are presented in Table 7-4.

EAPC (Phase 1 2021)

As shown in Table 7-4, the following additional ramp merge/diverge areas are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) under EAPC (Phase 1 2021) traffic conditions:

- I-215 Freeway – Southbound, Off-Ramp at Scott Road (#1) – LOS F AM peak hour; LOS E PM peak hour
- I-215 Freeway – Southbound, Loop On-Ramp (Upstream) at Scott Road (#2) – LOS F AM peak hour, LOS E PM peak hour
- I-215 Freeway – Southbound, Loop On-Ramp (Downstream) at Scott Road (#3) – LOS F AM peak hour, LOS E PM peak hour
- I-215 Freeway – Southbound, On-Ramp at Scott Road (#4) – LOS F AM peak hour; LOS E PM Peak hour
- I-215 Freeway – Northbound, Off-Ramp at Scott Road (#6) – LOS F PM peak hour only

EAPC (Phase 2 Project Buildout 2025)

There are no ramp merge/diverge areas are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during one or more peak hours under EAPC (Phase 2 Project Buildout 2025) traffic conditions, in addition to those previously identified under Existing (2018), EAP (Phase 1 2021), EAP (Phase 2 Project Buildout 2025) and EAPC (Phase 1 2021) traffic conditions.

EAPC (Phase 1 2021) and EAPC (Phase 2 Project Buildout 2025) conditions freeway ramp merge/diverge operations analysis worksheets are provided in Appendix 7.9 and Appendix 7.10, respectively.

Table 7-4

Freeway Ramp Merge/Diverge Analysis for EAPC Conditions

Freeway	Direction	Ramp Junction	Lanes on Freeway	EAPC (Phase 1 2021)				EAPC (Phase 2 Project Buildout 2025)			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²
I-215 Freeway	Southbound	Off-Ramp at Scott Road	3	-- ³	F	35.4	E	-- ³	F	-- ³	F
		Loop On-Ramp (Upstream) at Scott Road	3	-- ³	F	36.0	E	-- ³	F	40.9	E
		Loop On-Ramp (Downstream) at Scott Road	3	-- ³	F	36.0	E	-- ³	F	40.9	E
	Northbound	On-Ramp at Scott Road	3	-- ³	F	40.4	E	-- ³	F	-- ³	F
		On-Ramp at Scott Road	3	23.3	C	37.3	D	26.0	C	43.4	E
		Off-Ramp at Scott Road	3	22.0	C	-- ³	F	24.4	D	-- ³	F

BOLD = LOS does not meet Caltrans requirements (i.e., unacceptable LOS or LOS E/F).

¹ Density is measured by passenger cars per mile per lane (pc/mi/ln).

² LOS = Level of Service

³ HCS7 does not report density for freeway facilities operating at LOS F.

7.9 EAPC DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

7.9.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been recommended at intersections that have been identified as deficient in an effort to reduce each location's peak hour delay and improve the associated LOS grade to an acceptable LOS (LOS D or better). The effectiveness of the recommended improvement strategies necessary to address EAPC traffic deficiencies is presented in Table 7-5. Worksheets for EAPC (Phase 1 2021) and EAPC (Phase 2 Project Buildout 2025) conditions, with improvements, HCM calculations are provided in Appendix 7.11 and Appendix 7.12, respectively.

7.9.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the County of Riverside (or other neighboring jurisdictions) on the SHS roadway segments beyond those planned as part of the I-215 Freeway and Scott Road interchange project. As such, no additional improvements have been recommended to address the EAPC (Phase 1 2021) and EAPC (Phase 2 Project Buildout 2025) deficiencies on the SHS.

Table 7-5

Intersection Analysis for EAPC Conditions With Improvements

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		LOS	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
1	Haun Rd./Zeiders Rd. / Scott Rd. - 2021 With Improvements ⁴ - 2025 With Improvements ⁴	TS TS	1	1	1	<u>2</u>	1	0	1	<u>2</u>	0	1	<u>2</u>	<u>1</u> >	50.3	40.7	D	D
2	I-215 SB Ramps / Scott Rd. - 2021 With Improvements ⁵ - 2025 With Improvements ⁵	TS TS	0	0	0	<u>2</u>	<u>0</u>	<u>2</u>	0	<u>2</u>	<u>1</u> >>	<u>0</u>	<u>2</u>	<u>1</u>	21.6	11.0	C	B
3	I-215 NB Ramps / Scott Rd. - 2021 With Improvements ^{5,6} - 2025 With Improvements ^{5,6}	TS TS	<u>0</u>	1	<u>2</u>	0	0	<u>2</u>	1	<u>2</u>	0	<u>0</u>	<u>2</u>	<u>1</u>	18.0	22.3	B	C
4	Antelope Rd. / Scott Rd. - 2021 With Improvements - 2025 With Improvements	TS TS	2	1	1	1	1	1	1	2	<u>1</u> >	1	<u>3</u>	0	40.3	52.3	D	D
5	Menifee Rd. / Holland Rd. - 2021 With Improvements - 2025 With Improvements	<u>TS</u> <u>TS</u>	1	2	0	1	2	0	1	2	0	1	2	0	22.0	23.8	C	C
6	Menifee Rd. / Scott Rd. - 2021 With Improvements - 2025 With Improvements	TS TS	1	1	1	1	1	<u>1</u>	<u>2</u>	2	0	1	<u>3</u>	<u>1</u>	29.9	53.7	C	D
8	Briggs Rd. / Scott Rd. - 2021 With Improvements - 2025 With Improvements	TS TS	<u>1</u>	1	<u>0</u>	0	1	1	1	2	0	1	2	1	31.1	31.4	C	C
11	Leon Rd. / Craig Av. - 2021 With Improvements - 2025 With Improvements	CSS CSS	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	0	0	1	0	0	1	0	28.1	29.0	D	D
13	Leon Rd. / Scott Rd. - 2021 With Improvements - 2025 With Improvements	<u>TS</u> <u>TS</u>	<u>1</u>	1	0	<u>1</u>	1	0	<u>1</u>	1	0	<u>1</u>	1	0	18.9	34.1	B	C
			<u>1</u>	1	0	<u>1</u>	1	<u>1</u> >	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	0	40.6	39.6	D	D

NOTE: All recommended improvements described above are consistent with the General Plan designations of the respective jurisdictions in which they are located.

- 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; >> = Free-Right Turn Lane; d = Defacto Right Turn Lane; 1 = Improvement
- ² Per the Highway Capacity Manual 6, 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 CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; CSS = Improvement
- ⁴ Implement protected left turn phasing on the northbound and southbound approaches.
- ⁵ Improvements consistent with the new interchange improvements at I-215 Freeway and Scott Road.
- ⁶ LOS reported per HCM 2000 methodology as the HCM 6 methodology does not support the proposed lane configuration.



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8 REFERENCES

1. **Riverside County Transportation Department.** *Traffic Impact Analysis Preparation Guide.* County of Riverside : s.n., Updated April 2008.
2. **California Department of Transportation.** *Guide for the Preparation of Traffic Impact Studies.* December 2002.
3. **Institute of Transportation Engineers.** *Trip Generation.* 10th Edition. 2017.
4. **Western Riverside Council of Governments.** *TUMF Nexus Study, 2016 Program Update.* July 2017.
5. **David Taussig & Associates, Inc.** *County of Riverside DIF Update - Updated Public Facilities Needs List through the year 2010.* County of Riverside : s.n., 2006.
6. **Transportation Research Board.** *Highway Capacity Manual (HCM).* 6th Edition. s.l. : National Academy of Sciences, 2016.
7. **Federal Highway Administration.** California Manual on Uniform Traffic Control Devices (MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CAMUTCD).* 2017.
8. **California Department of Transportation.** *Freeway Performance Measurement (PeMS).* [Online] <http://pems.dot.ca.gov/>.
9. **Southern California Association of Governments.** *2016 Regional Transportation Plan.* April 2016.

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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 April 2008.

Case No. TR37439

Related Cases- _____

SP No. _____

EIR No. _____

GPA No. _____

CZ No. _____

Project Name: Canterwood

Project Address: Northeast corner of Leon Road and Craig Avenue

Project Description: 537 single family detached residential dwelling units

	<u>Consultant</u>	<u>Developer</u>
Name:	<u>Urban Crossroads Inc. - Charlene So</u>	<u>Canterwood Properties, LLC</u>
Address:	<u>260 E. Baker Street, Suite 200</u> <u>Costa Mesa, CA 92626</u>	<u>27127 Calle Arroyo, Suite 19110</u> <u>San Juan Capistrano, CA 92675</u>
Telephone:	<u>(949) 336-5982</u>	_____
Fax:	_____	_____

A. Trip Generation Source: ITE 10th Edition (2017) (See Table 1)

Current GP Land Use	<u>Medium Density Residential</u>	Proposed Land Use	<u>Medium Density Residential</u>
Current Zoning	<u>R-1</u>	Proposed Zoning	<u>R-4</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	<u>0</u>	<u>0</u>	<u>0</u>	<u>99</u>	<u>298</u>	<u>397</u>
PM Trips	<u>0</u>	<u>0</u>	<u>0</u>	<u>336</u>	<u>197</u>	<u>533</u>

Internal Trip Allowance Yes No (0 % Trip Discount)

Pass-By Trip Allowance Yes No (0 % 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: (See attached Exhibit 3 for detailed assignment)

N 41 % S 36 % E 9 % W 14 %

C. Background Traffic

Project Build-out Year: 2025 Annual Ambient Growth Rate: 2 %

Phase Year(s) N/A

Other area Projects to be analyzed: N/A

Model/Forecast Methodology: _____

If phasing is not proposed, it would be beneficial if the analysis identified a unit count for when the recommended improvements are needed.



D. Study Intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies). (See Exhibit 2)

- | | |
|---|--|
| 1. Haun Rd. & Scott Rd. | 11. Holland Rd. & Craig Av. |
| 2. I-215 SB Ramps & Scott Rd. | 12. Holland Rd. & Garbani Rd. |
| 3. I-215 NB Ramps & Scott Rd. | 13. Holland Rd. & Scott Rd. |
| 4. Antelope Rd. & Scott Rd. | 14. St. A & Craig Av. - Future Intersection |
| 5. Menifee Rd. & Holland Rd. | 15. St. B & Holland Rd. - Future Intersection |
| 6. Menifee Rd. & Scott Rd. | 16. Canterwood Dr. & Holland Rd. - Future Intersection |
| 7. Briggs Rd. & Holland Rd. | 17. St. C & Craig Av. - Future Intersection |
| 8. Briggs Rd. & Scott Rd. | 18. Eucalyptus Rd. & Holland Rd. - Future Intersection |
| 9. Leon Rd. & Holland Rd. | 19. Eucalyptus Rd. & St. D - Future Intersection |
| 10. Leon Rd. & Canterwood Dr. - Future Intersection | 20. Eucalyptus Rd. & Craig Av. - Future Intersection |

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

***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:

Consultant's Representative

11/14/2017

Date

Approved Scoping Agreement:

Riverside County Transportation Department

12/13/2017

Date

November 14, 2017

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

SUBJECT: CANTERWOOD (TTM No. 37439) TRAFFIC IMPACT ANALYSIS SCOPING AGREEMENT

Dear Mr. Kevin Tsang:

The firm of Urban Crossroads, Inc. is pleased to submit this scoping letter regarding the traffic impact analysis for the proposed Canterwood (TTM No. 37439) development (“Project”), which is located on the northwest corner of Leon Road and Craig Avenue in the County of Riverside. The Project is proposed to consist of the development of 537 single-family detached residential dwelling units. 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.

PROJECT DESCRIPTION

A preliminary site use plan for the proposed Project and proposed phasing are shown on Exhibit 1. Exhibit 2 depicts the location of the proposed project in relation to the existing roadway network. The Project is anticipated to have an opening year of 2025. Access to the Project site will be provided to Leon Road, Holland Road, Craig Avenue, and Eucalyptus Road. It is our understanding that the Project will construct Holland Road west of Leon Road to Briggs Road to accommodate secondary access to the site.

TRIP GENERATION

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 proposed land uses were used. Table 1 presents the trip generation rates for the proposed uses. As shown in Table 1, the Project is anticipated to generate a net total of 5,076 trip-ends per day with 397 AM peak hour trips and 533 PM peak hour trips.

TRIP DISTRIBUTION

The Project trip distribution and assignment process 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. The Project trip distribution patterns are graphically depicted on Exhibit 3.

ANALYSIS SCENARIOS

Consistent with the County's TIA guidelines, intersection analysis will be provided for the following analysis scenarios:

- Existing (2017) Conditions
- Existing plus Project (E+P) Conditions
- Existing plus Ambient Growth plus Project (EAP) Conditions
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) Conditions

All study area intersections will be evaluated using the Highway Capacity Manual (HCM) 2010 analysis methodology.

CUMULATIVE PROJECTS

A preliminary list of cumulative projects is provided on Table 2 and graphically shown on Exhibit 4. It is requested that County staff provide an updated list of cumulative projects for inclusion in the traffic study. The City of Menifee will also be contacted to get a list of updated cumulative projects within the City.

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 Canterwood (TTM No. 37439) 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) 336-5982.

Respectfully submitted,

URBAN CROSSROADS, INC.



Charlene So, PE
Senior Associate

EXHIBIT 1: PRELIMINARY SITE PLAN

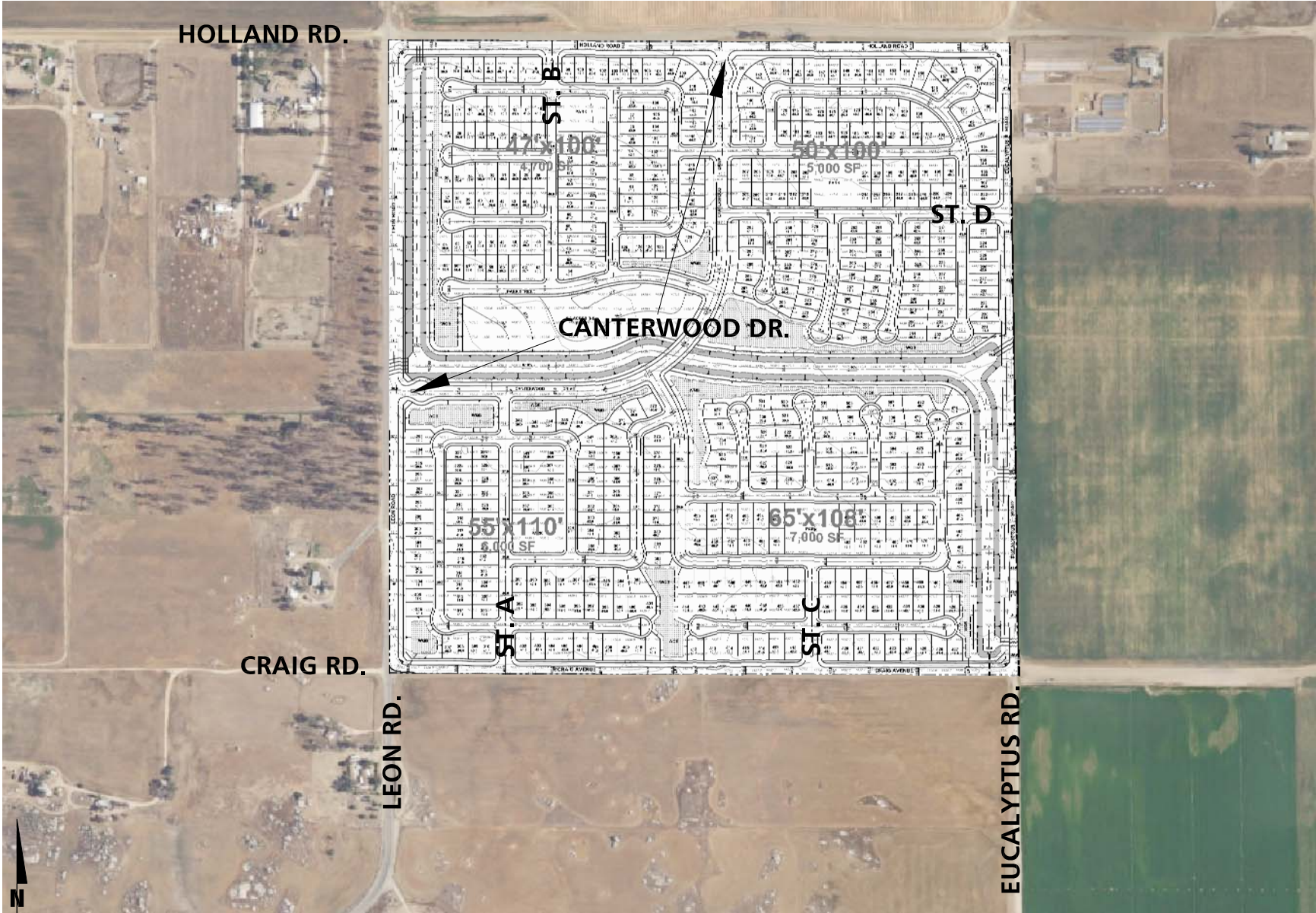


EXHIBIT 2: LOCATION MAP

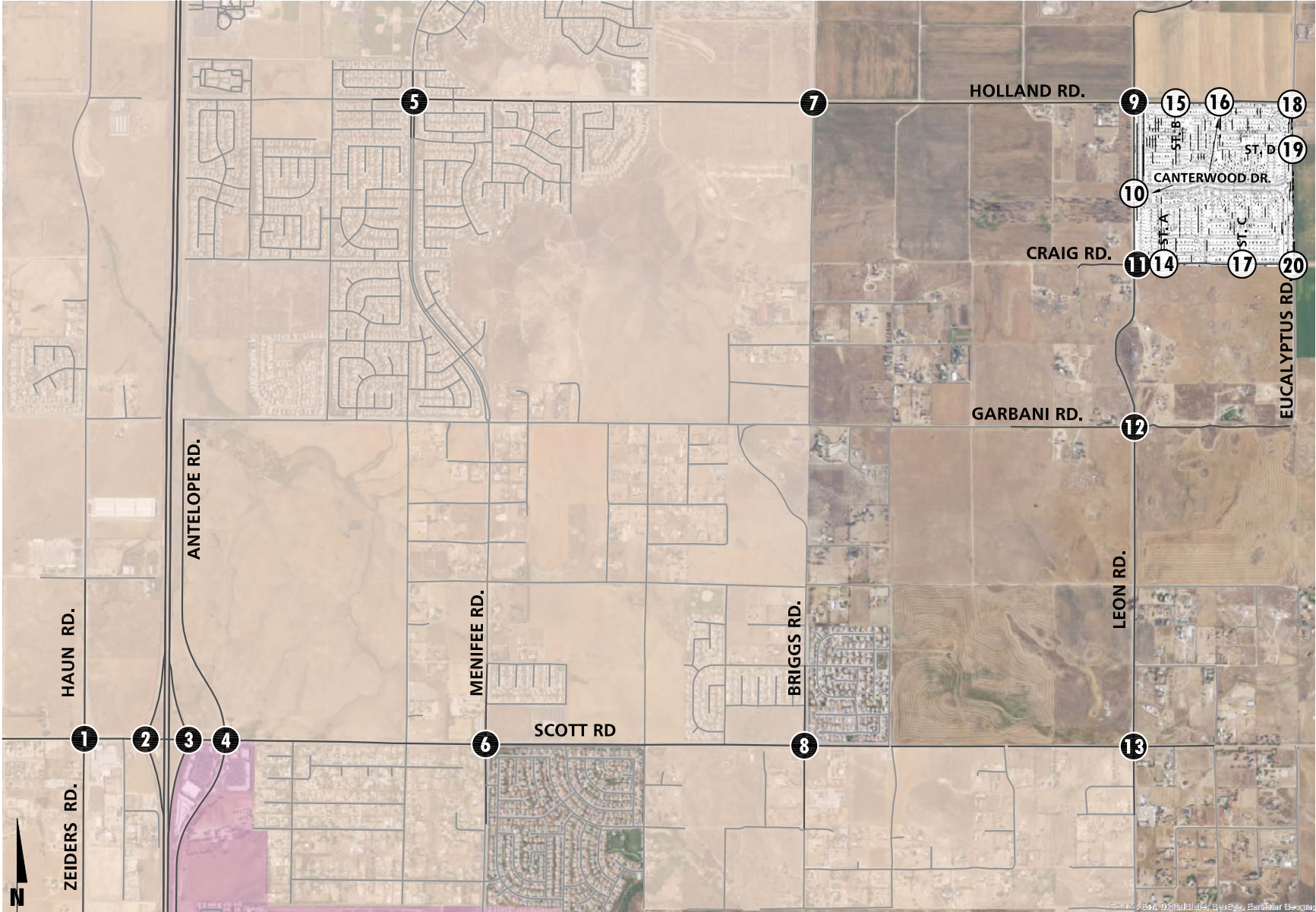


EXHIBIT 3: PROJECT TRIP DISTRIBUTION

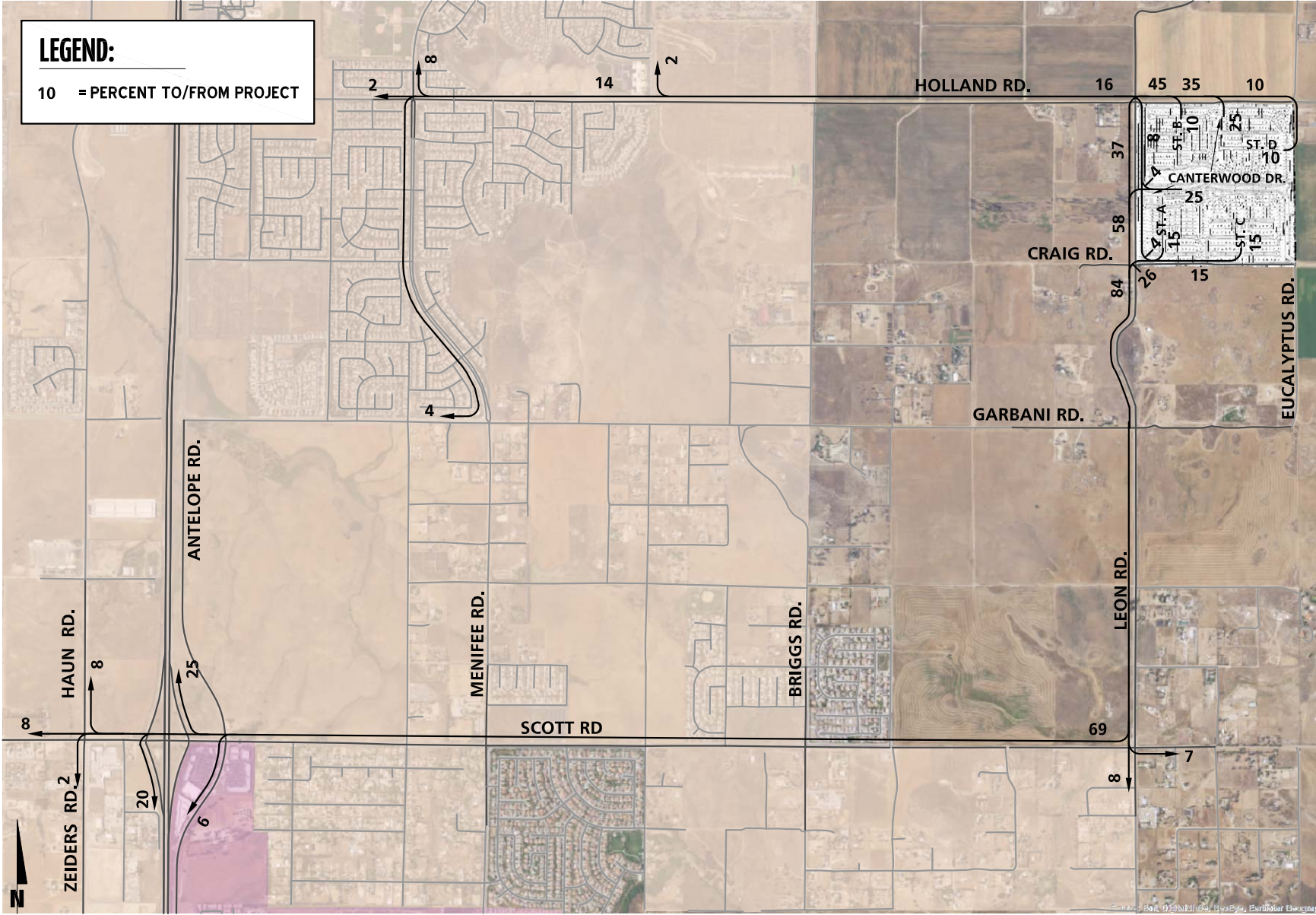


EXHIBIT 4: CUMULATIVE DEVELOPMENT LOCATION MAP

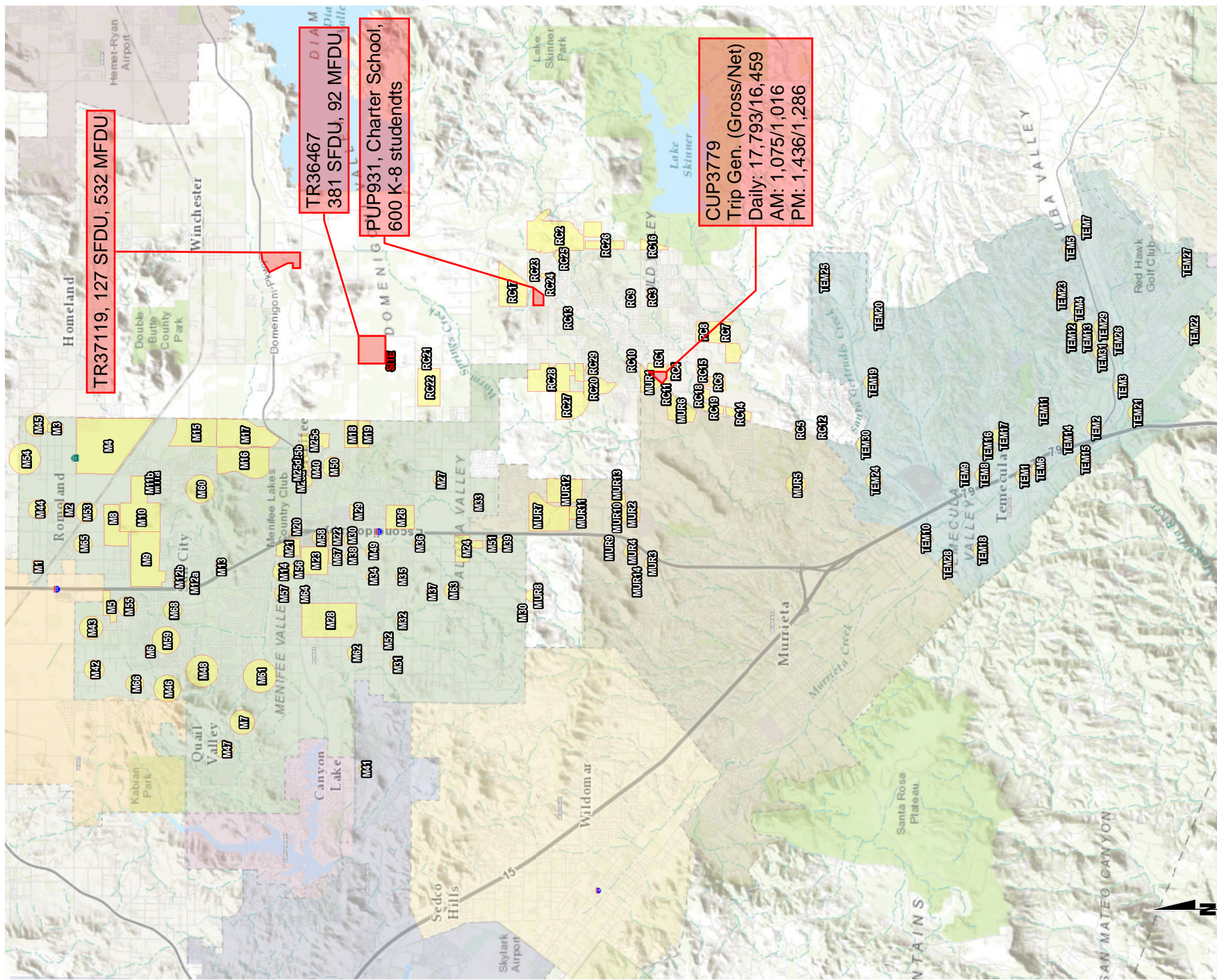


Table 1
Proposed Project Trip Generation Summary

Land Use	Units ¹	ITE LU Code	AM Peak Hour			PM Peak Hour			Weekday Daily
			In	Out	Total	In	Out	Total	
Trip Generation Rates: ²									
Single Family Detached Residential	DU	210	0.19	0.56	0.74	0.62	0.37	0.99	9.44
Public Park	AC	411	0.01	0.01	0.02	0.06	0.05	0.11	0.78
Land Use	Units ¹	Quantity	AM Peak Hour			PM Peak Hour			Weekday Daily
			In	Out	Total	In	Out	Total	
Trip Generation Summary:									
Single Family Detached Residential	DU	537	99	298	397	335	197	532	5,069
Parks	AC	8.51	0	0	0	1	0	1	7
Project Total			99	298	397	336	197	533	5,076

¹ DU = Dwelling Units; AC = Acres

² Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

Table 2
Table 1 of 6

List of Cumulative Developments

#	Project Name	Land Use ¹	Quantity	Units ²
COUNTY OF RIVERSIDE				
RC1	CUP 03467	Home Improvement Store	137.627	TSF
		Fast Food w/ Drive-Thru	12.042	TSF
		Bank w/ Drive-Thru	4.014	TSF
		Shopping Center	134.972	TSF
		Gas Station	12	VFP
RC2	Belle Terre (SP 382)	Single Family Housing	1282	DU
RC3	TR 33170	Condominium	186	DU
	TR 34689	Single Family Housing	19	DU
	TR 35161	Single Family Housing	54	DU
RC4	PP 23146	Office	346.000	TSF
	TR 32323	Single Family Housing	38	DU
RC5	PP 22147	Medical Office	10.750	TSF
	PP 22352	Business Park	177.742	TSF
RC6	French Valley Airport	Business Park	694.629	TSF
		Apartments	240	DU
		Condominium	211	DU
RC7	TR 31871	Single Family Housing	258	DU
	TR 36376	Single Family Housing	446	DU
RC8	TR 34324	Condominium	127	DU
	TR 32011	Single Family Housing	33	DU
RC9	TR 33307	Single Family Housing	55	DU
RC10	CUP 03593	Gas Station	6.200	TSF
		Commercial Retail	26.500	TSF
		Storage	128.600	TSF
	TR 33751	Single Family Housing	11	DU
RC11	PP 20375	Fast Food w/ Drive-Thru	2.000	TSF
RC12	PP 20574	Medical Office	29.400	TSF
RC13	PP 24903	Church	15.273	TSF
RC14	PM 35212	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
RC15	PP 19414	Office	78.410	TSF
RC16	TTM No. 35770	Single Family Housing	156	DU
RC17	Keller Crossing Specific Plan	Single Family Housing	98	DU
		Continuing Care Retirement Community	225	DU
		General Office	250.000	TSF
		Shopping Center	400.000	TSF
RC18	Fausto Office Building	Single Tenant Office Building	7.850	TSF

Table 2
Table 2 of 6

List of Cumulative Developments

#	Project Name	Land Use ¹	Quantity	Units ²
COUNTY OF RIVERSIDE				
RC19	French Valley Walmart & Commercial/Business Center (PP 21750, PM 34669)	Free-Standing Discount Store/Superstore	205.00	TSF
		Shopping Center	113.30	TSF
		Bank with Drive-Thru	5.50	TSF
		High Turnover (Sit-Down) Restaurant	6.50	TSF
		Fast Food Restaurant w/ Drive-Thru	4.00	TSF
RC20	Specific Plan 312 A-1	Single Family Housing	1,671	DU
		Parks	32.1	AC
RC21	Perris Union HSD High School	High School	2800	STU
RC22	La Ventana Ranch	Single Family Housing	535	DU
		Community Park	15.0	AC
		Passive Park	2.0	AC
RC23	TR36722	SFDR	146	DU
RC24	TR36687	SFDR	71	DU
RC25	TR33423M1	SFDR	132	DU
RC26	TR30837	SFDR	320	DU
RC27	TR30433	SFDR	508	DU
RC28	Spencer's Crossing	SFDR	753	DU
		Active Parks	5.6	AC
		Elementary School	600	STU
RC29	Los Olivos	SFDR	48	DU
CITY OF MENIFEE				
M1	UPS Expansion	General Light Industrial	30.000	TSF
M2	TR 34118	Single Family Residential	169	DU
M3	TR34600	Single Family Residential	153	DU
M4	TR 31811	Single Family Residential	559	DU
	TR 31812	Senior Adult Detached Housing	742	DU
M5	TR 30182	Single Family Residential	84	DU
	TR 33419	Single Family Residential	140	DU
	TR 35143	Single Family Residential	15	DU
M6	TR 32314	Single Family Residential	33	DU
M7	TM 28859	Single Family Residential (50% Complete)	246	DU
M9	Fleming Ranch Specific Plan	Single Family Residential	1,169	DU
		Apartments	556	DU
		Active Parks	16.1	AC
		City Parks	11.5	AC
		Elementary School	1,050	STU
		Business Park	163.000	TSF
M10	TR 29835	Single Family Residential	543	DU
	TR 31098	Single Family Residential	264	DU
M11a	CUP 03549	Shopping Center	81.700	TSF

Table 2
Table 3 of 6

List of Cumulative Developments

#	Project Name	Land Use ¹	Quantity	Units ²
CITY OF MENIFEE				
M11b	Village at Junipero	Apartments	240	DU
M12a	TR 33446	Condo/Townhomes	180	DU
M12b	Meniffee North Shopping Center	Free-Standing Discount Store	200.000	TSF
		Bank w/ Drive-Thru	5.500	TSF
		Fast-food w/ Drive-Thru	6.700	TSF
		Fast-food w/o Drive-Thru	5.500	TSF
		Coffee Shop w/ Drive-Thru	2.000	TSF
		Retail	7.500	TSF
M13	PP 19469R1	Senior Apartments	221	DU
M14	American Tire Depot (CUP 2013-157)	Auto Shop	7.171	TSF
M15	TR 34180	Single Family Residential (75% Complete)	484	DU
		Elementary School (75% Complete)	950	STU
	TR 34406	Single Family Residential (100 Lots Complete)	817	DU
		Shopping Center	228.690	TSF
M16	TR 31455	Single Family Residential	60	DU
	TR 31582	Single Family Residential (25% Complete)	280	DU
M17	TR 32186	Single Family Residential (75% Complete)	101	DU
	TR 32100	Single Family Residential	170	DU
	TR 32101	Single Family Residential	197	DU
	TR 32102	Single Family Residential	272	DU
M18	Nautical Cove Residential	Single Family Residential	235	DU
M19	Meniffee Heights - TR32277	Single Family Residential	359	DU
		Active Parks	10.2	AC
M20	Meniffee Lakes Shopping Center (PP 2009-052)	Shopping Center	120.848	TSF
		Gas Station & Market / Car Wash	12	VFP
		Hotel	71	ROOM
M21	SP 248 Newport Hub	Shopping Center (50% Occupied)	229.700	TSF
		General Office	97.580	TSF
		General Light Industrial (50% Occupied)	241.760	TSF
		Motel	100	ROOM
M22	Pechanga Commercial Site (PP 2010-123)	Shopping Center	208.160	TSF
M23	Meniffee Town Center Specific Plan	Shopping Center	509.370	TSF
		Hotel	200	ROOM
		General Office	65.340	TSF
		Single Family Residential	577	DU
		Condo/Townhomes	475	DU
M24	Junction at Meniffee	Shopping Center	526.800	TSF
	Meniffee Shopping Center	Shopping Center	238.180	TSF
	Shops at Scott	Shopping Center (50% Complete)	82.000	TSF
		Fast-Food Restaurant w/ Drive-Thru (50% Complete)	9.000	TSF

Table 2
Table 4 of 6

List of Cumulative Developments

#	Project Name	Land Use ¹	Quantity	Units ²
CITY OF MENIFEE				
M25a	TPM 2009-168 (PM 36720)	Retail	112.167	TSF
M25b	Newport Meniffee Retail Shopping Center	Fast-food w/ Drive-Thru	7.000	TSF
		Supermarket	45.272	TSF
		Bank w/ Drive-Thru	5.000	TSF
		Pharmacy w/ Drive-Thru	14.576	TSF
		High Turnover (Sit-Down) Restaurant	7.360	TSF
		Retail	58.883	TSF
M25c	The Lakes TR 30422 (SP 247 Amendment 1)	Single Family Residential	992	DU
M25d	Arco Gas Station	Gas Station & Market	16	VFP
M26	TR 32628	Single Family Residential	364	DU
	TR 28206	Single Family Residential (50% Complete)	148	DU
M27	Cantalena Specific Plan	Single Family Residential	353	DU
		Apartments	851	DU
M28*	TR 28786	Single Family Residential	72	DU
	TR 28787	Single Family Residential	67	DU
	TR 28788	Single Family Residential	119	DU
	TR 28789	Single Family Residential	131	DU
	TR 28790	Single Family Residential	110	DU
	TR 28791	Single Family Residential	80	DU
	TR 28792	Single Family Residential	85	DU
	TR 28793	Single Family Residential	77	DU
	TR 28794	Single Family Residential	65	DU
	TR 30812	Single Family Residential	29	DU
M29	Del Oro (Holland Road Residential)	Single Family Residential	68	DU
		Apartments	238	DU
		Senior Housing	100	DU
M30	TR2015-053 / TR 36684	Single Family Residential	10	DU
M31	TR 29636	Single Family Residential (75% Complete)	75	DU
M32	TR 30142	Single Family Residential (113 Lots Complete)	537	DU
M33	Antelope Square	Shopping Center	14.000	TSF
M34	TR 30465	Single Family Residential	8	DU
M35	TR 33883	Single Family Residential	51	DU
M36	PP 18014	Mini-warehouse	191.260	TSF
M37	TR 31194	Single Family Residential	483	DU
	TR 33511	Single Family Residential	71	DU
M38	TR 36303	Single Family Residential	97	DU
M39	Commerce Point (PP 21452 & PP 22280)	General Light Industrial	872.350	TSF
	PP 18570	Warehousing	109.940	TSF
	PP 20021	Warehousing	4.500	TSF
M40	Rite Aid	Pharmacy w/ Drive-Thru	17.185	TSF
		Fast Food w/ Drive-Thru	3.285	TSF
M41	Audie Murphy Ranch SP	Single Family Residential (500 Lots Complete)	2,355	DU
	Canyon Cove	Single Family Residential	198	DU
M42	TTM 34037	Single Family Residential	128	DU
M43	TTM 31856	Single Family Residential	79	DU
M44	TTM 35876	Single Family Residential	17	DU
M45	TTM 33738	Single Family Residential	52	DU

Table 2
Table 5 of 6

List of Cumulative Developments

#	Project Name	Land Use ¹	Quantity	Units ²
CITY OF MENIFEE				
M46	Cimarron Ridge (TTM 36657 / PM 36658)	Single Family Residential	756	DU
M47	Quail Hill (TTM 32794)	Single Family Residential	152	DU
M48	Stonegate (TM31456)	Single Family Residential	177	DU
M49	PA 2014-218 / TR 2015-108	Single Family Residential	80	DU
M50	Stater Bros. (2014-091 / PM36728)	Commercial Retail	121.277	TSF
M51	All Star Storage (PP 2015-156)	Storage	242.150	TSF
M52	His Light (PUP 2009-077)	Church	47.030	TSF
M53	Motte Town Center	Industrial	97.564	TSF
M54	TR31536	Single Family Residential	44	DU
M55	McLaughlin Village (PAR 2015-133)	Townhomes	126	DU
M56	PP 2014-009	Commercial Retail	100.024	TSF
M57	CUP 2015-157	Self-Service Carwash w/ Drive-Thru	11.783	TSF
M58	Menifee Village	Commercial Retail	231.600	TSF
M59	Thorton Terraces (TTM 2014-225)	Townhomes	19	DU
M60	Chapparral Apartments/Condos (PP 2014-040)	Apartment/Condos	5,572	DU
M61	Oak Tree Industries (TTM 29015)	Single Family Residential	18	DU
M62	Alasia - Meritage Homes	Single Family Residential	86	DU
M63	TR 2014-073	Single Family Residential	30	DU
M64	Shops at Newport	Shopping Center	3.490	TSF
		Restaurant	6.467	TSF
M65	Trumble Office and Warehouse (PP 2011-003, EOT 205-208)	Industrial	61.730	TSF
M66	Valley Blvd. Tract (TR 2015-211)	SFDR	75	DU
M67	Regent - South 35 (TR 2015-239)	SFDR	149	DU
M68	2015-246 PAR	Fast Food	2.400	TSF
M69	Impact Church Expansion (2015-249 PP)	Church Expansion		
CITY OF MURRIETA				
MUR1	Murrieta Marketplace (DP-2011-3129)	Commercial Retail	548.055	TSF
MUR2	Pacific Landing (DP2008-2668)	Apartments	400	DU
MUR3	CVS	Pharmacy w/ Drive-Thru	14.576	TSF
MUR4	Sierra Lane	Commercial Center	28.709	TSF
MUR5	Murrieta 196 (DP2013-3335)	Apartments	196	DU
MUR6	Adobe Springs (Tentative Parcel Map No. 36779)	SFDR	287	DU
MUR7	Murrieta Fields II (TR32718)	SFDR	10	DU
MUR8	Murrieta Hills (SPO-012-3164) (Phase 1)	SFDR	300	DU
MUR9	The Orchard (DPO-03-161)	Shopping Center	215.850	TSF
MUR10	Vineyard Shopping Center (DPO-2012-3260)	Shopping Center	78.489	TSF
		Hotel	91.000	RM
MUR11	Phase 1 Kaiser (DP-2014-348)	Medical Office	80.000	TSF
		Physician Hospital (Phase 2)	Hospital & Medical Office Building	124
MUR12	Golden Cities Tract 28532 (SCO-004-066)	Single Family Residential	486.000	DU
MUR13	Health South Rehab Hospital (DP-2015-571)	Hospital	50	Beds
MUR14	Mitchell Crossing (DP-2014-864) (Melia Homes)	Multifamily Residential	331	DU
		Specialty Retail	50.000	TSF

Table 2
Table 6 of 6

List of Cumulative Developments

#	Project Name	Land Use ¹	Quantity	Units ²
CITY OF TEMECULA				
TEM1	PA14-0058	Hotel	54	RMS
TEM2	PA14-2707	Commercial	13.248	TSF
TEM3	PA14-0155	Restaurant	11.722	TSF
TEM4	PA14-2696	Nursing Center	67.146	TSF
TEM5	TTM No.36483 (PA14-0087)	SFDR	175	DU
TEM6	PA14-0188	Commercial Expansion	6.657	TSF
TEM7	PA14-2796	Commercial	10.000	TSF
TEM8	PA14-0175	Tire Store	7.450	TSF
TEM9	PA14-2899	Auto Dealership	5.809	TSF
TEM10	LR10-0014	Commercial	2,633.424	TSF
		SFDR	4,375	DU
TEM11	PA10-0213	SFDR	7	DU
TEM12	APN 959-050-011 (PA11-0261, PA14-0107)	Offices	37.928	TSF
TEM13	PA13-0166	Medical Center	12.545	TSF
TEM14	Rancho Baptist (PA14-0009)	Church Expansion	2.074	TSF
TEM15	APNs: 922-110-013, 922-110-014(PA13-0156, PA13-0155, PA14-0058)	Condo/Townhomes	140	DU
TEM16	River Springs (PA14-0023, PA14-0028)	School Expansion	27.500	TSF
TEM17	PA14-0024	Senior Living	84	DU
TEM18	PA14-0008	Light Industrial	10.917	TSF
TEM19	TTM No. 36479 (PA12-0133)	SFDR	83	DU
TEM20	TTM No. 36295 (PA10-0145)	SFDR	45	DU
TEM21	Temecula Creek SP (PA08-0118) Related Cases PA08-0119, PA08-0120, PA08-0121 (APNs 922-220-002; 003; 008; 031; and 922-230-002; 003; 004; 007; 008)	Golf Course	18	HOLES
		Hotel	227	RMS
		Spa/Banquet Facility	153.837	TSF
		SFDR/Condos/Townhomes	409.000	DU
TEM22	TEIR Pechanga Resort Expansion	Hotel	550	RMS
		Events Center	126.000	TSF
		Spa/Fitness Center	23.000	TSF
		Resort Pool/Stage	12.750	TSF
		Events Lawn	25.000	TSF
TEM23	TTM No. 36212 (PA11-0178)	Condo/Townhomes	186	DU
TEM24	PA11-0082	Commercial	11.713	TSF
TEM25	Roripaugh Ranch (PA14-0051, PA14-0219)	SFDR	1,500	DU
TEM26	PA12-0178	Offices	29.211	TSF
TEM27	PA13-0207, PA13-0206	SFDR	76	DU
TEM28	PA11-0305	Waterpark	17.0	AC
TEM29	PA12-0194	Medical Office	11.982	TSF
TEM30	PA13-0290	Auto Parts Store	7.352	TSF
TEM31	UHS Temecula Regional Hospital (PA10-0194, PA07-0200)	Hospital	320	Beds

¹ SFDR = Single Family Detached Residential

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

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APPENDIX 1.2:
SITE ADJACENT QUEUES

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Queuing and Blocking Report
 EAPC (2025) - AM Peak Hour WITH IMPROVEMENTS

02/01/2018

Intersection: 9: Leon Rd. & Holland Rd.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	50	96	90	80
Average Queue (ft)	25	49	49	49
95th Queue (ft)	49	77	76	71
Link Distance (ft)	1800	615	1424	2022
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Leon Rd. & Canterwood Dr.

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	48	7	18
Average Queue (ft)	24	0	1
95th Queue (ft)	43	5	10
Link Distance (ft)	1044	1130	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			200
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Leon Rd. & Craig Rd.

Movement	EB	WB	SB
Directions Served	LTR	LTR	L
Maximum Queue (ft)	29	64	24
Average Queue (ft)	1	34	1
95th Queue (ft)	11	56	9
Link Distance (ft)	704	391	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			200
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Craig Rd. & Street A

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	25	48
Average Queue (ft)	1	25
95th Queue (ft)	11	48
Link Distance (ft)	391	444
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Street B & Holland Rd.

Movement	NB
Directions Served	LR
Maximum Queue (ft)	51
Average Queue (ft)	20
95th Queue (ft)	48
Link Distance (ft)	461
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: Canterwood Dr. & Holland Rd.

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	19	64	55
Average Queue (ft)	1	32	28
95th Queue (ft)	12	56	51
Link Distance (ft)		440	454
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 17: Craig Rd. & Street C

Movement	SB
Directions Served	LR
Maximum Queue (ft)	59
Average Queue (ft)	28
95th Queue (ft)	50
Link Distance (ft)	418
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 18: Eucalyptus Rd. & Holland Rd.

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	57	69
Average Queue (ft)	22	27
95th Queue (ft)	48	52
Link Distance (ft)	683	666
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Eucalyptus Rd. & Street D

Movement	EB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	21
95th Queue (ft)	47
Link Distance (ft)	449
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 20: Eucalyptus Rd. & Craig Rd.

Movement

Directions Served

Maximum Queue (ft)

Average Queue (ft)

95th Queue (ft)

Link Distance (ft)

Upstream Blk Time (%)

Queuing Penalty (veh)

Storage Bay Dist (ft)

Storage Blk Time (%)

Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 0

Queuing and Blocking Report
 EAPC (2025) - PM Peak Hour WITH IMPROVEMENTS

02/01/2018

Intersection: 9: Leon Rd. & Holland Rd.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	88	76	133	83
Average Queue (ft)	43	41	75	45
95th Queue (ft)	70	65	114	71
Link Distance (ft)	1800	615	1424	2022
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Leon Rd. & Canterwood Dr.

Movement	WB	NB	NB	SB
Directions Served	LR	T	TR	L
Maximum Queue (ft)	73	3	15	31
Average Queue (ft)	22	0	0	5
95th Queue (ft)	49	2	6	24
Link Distance (ft)	1044	1130	1130	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				200
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Leon Rd. & Craig Rd.

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	TR	L
Maximum Queue (ft)	24	51	19	35
Average Queue (ft)	1	28	1	6
95th Queue (ft)	12	47	10	27
Link Distance (ft)	704	391	1422	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				200
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
 EAPC (2025) - PM Peak Hour WITH IMPROVEMENTS

02/01/2018

Intersection: 14: Craig Rd. & Street A

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	29	52
Average Queue (ft)	2	23
95th Queue (ft)	14	48
Link Distance (ft)	391	444
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Street B & Holland Rd.

Movement	NB
Directions Served	LR
Maximum Queue (ft)	36
Average Queue (ft)	14
95th Queue (ft)	40
Link Distance (ft)	461
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: Canterwood Dr. & Holland Rd.

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	31	74	50
Average Queue (ft)	3	28	20
95th Queue (ft)	17	56	46
Link Distance (ft)		440	454
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 17: Craig Rd. & Street C

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	6	44
Average Queue (ft)	0	20
95th Queue (ft)	4	47
Link Distance (ft)	1241	418
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Eucalyptus Rd. & Holland Rd.

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	35	52
Average Queue (ft)	14	21
95th Queue (ft)	40	48
Link Distance (ft)	683	666
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Eucalyptus Rd. & Street D

Movement	EB
Directions Served	LR
Maximum Queue (ft)	40
Average Queue (ft)	15
95th Queue (ft)	41
Link Distance (ft)	449
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 20: Eucalyptus Rd. & Craig Rd.

Movement

Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 0

APPENDIX 3.1:

EXISTING TRAFFIC COUNTS – JANUARY 2018

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

City of Menifee
 N/S: Haun Road/Zeiders Road
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_Hau_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

Groups Printed- Total Volume

Start Time	Haun Road Southbound				Scott Road Westbound				Zeiders Road Northbound				Scott Road Eastbound				Exclu. Total	Inclu. Total	Int. Total		
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR				App. Total	
07:00 AM	84	1	4	1	2	66	155	57	223	6	9	1	0	16	97	1	0	112	58	440	498
07:15 AM	133	5	4	0	2	66	218	99	286	3	25	1	0	29	20	106	1	127	99	584	683
07:30 AM	164	7	14	4	7	115	118	47	240	1	13	2	1	16	20	105	5	130	53	571	624
07:45 AM	148	11	18	1	11	122	84	60	217	3	6	2	2	11	14	92	5	111	63	516	579
Total	529	24	40	6	22	369	575	263	966	13	53	6	3	72	68	400	12	480	273	2111	2384
08:00 AM	87	1	12	2	10	97	35	12	142	4	6	1	1	11	11	88	5	104	16	357	373
08:15 AM	74	2	9	1	10	78	39	12	127	3	1	5	5	9	2	120	6	128	18	349	367
08:30 AM	71	2	7	2	8	87	49	14	144	0	4	3	3	7	6	83	1	90	19	321	340
08:45 AM	79	2	6	1	17	72	45	17	134	5	5	0	0	10	10	88	3	101	18	332	350
Total	311	7	34	6	45	334	168	55	547	12	16	9	9	37	29	379	15	423	71	1359	1430
Grand Total	840	31	74	12	67	703	743	318	1513	25	69	15	12	109	97	779	27	903	344	3470	3814
Approach %	88.9	3.3	7.8		4.4	46.5	49.1		43.6	22.9	63.3	13.8		3.1	10.7	86.3	3				
Total %	24.2	0.9	2.1		1.9	20.3	21.4		43.6	0.7	2	0.4		3.1	2.8	22.4	0.8		9	9	91

Start Time	Haun Road Southbound				Scott Road Westbound				Zeiders Road Northbound				Scott Road Eastbound				Exclu. Total	Inclu. Total	Int. Total		
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR				App. Total	
07:00 AM	84	1	4	1	2	66	155	57	223	6	9	1	0	16	97	1	0	112	58	440	498
07:15 AM	133	5	4	0	2	66	218	99	286	3	25	1	0	29	20	106	1	127	99	584	683
07:30 AM	164	7	14	4	7	115	118	47	240	1	13	2	1	16	20	105	5	130	53	571	624
07:45 AM	148	11	18	1	11	122	84	60	217	3	6	2	2	11	14	92	5	111	63	516	579
Total	529	24	40	6	22	369	575	263	966	13	53	6	3	72	68	400	12	480	273	2111	2384
08:00 AM	87	1	12	2	10	97	35	12	142	4	6	1	1	11	11	88	5	104	16	357	373
08:15 AM	74	2	9	1	10	78	39	12	127	3	1	5	5	9	2	120	6	128	18	349	367
08:30 AM	71	2	7	2	8	87	49	14	144	0	4	3	3	7	6	83	1	90	19	321	340
08:45 AM	79	2	6	1	17	72	45	17	134	5	5	0	0	10	10	88	3	101	18	332	350
Total	311	7	34	6	45	334	168	55	547	12	16	9	9	37	29	379	15	423	71	1359	1430
Grand Total	840	31	74	12	67	703	743	318	1513	25	69	15	12	109	97	779	27	903	344	3470	3814
Approach %	88.9	3.3	7.8		4.4	46.5	49.1		43.6	22.9	63.3	13.8		3.1	10.7	86.3	3				
Total %	24.2	0.9	2.1		1.9	20.3	21.4		43.6	0.7	2	0.4		3.1	2.8	22.4	0.8		9	9	91

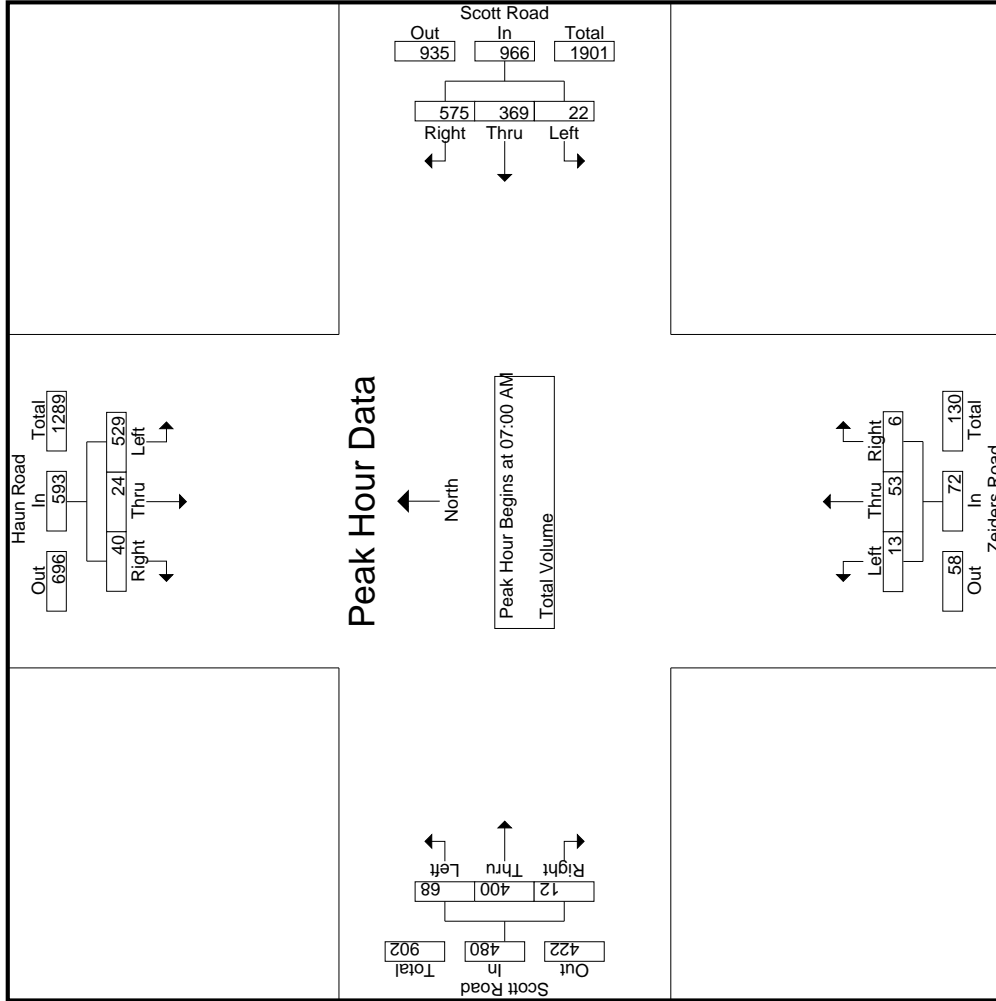
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Haun Road Southbound				Scott Road Westbound				Zeiders Road Northbound				Scott Road Eastbound				Exclu. Total	Inclu. Total	Int. Total		
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR				App. Total	
07:00 AM	84	1	4	1	2	66	155	57	223	6	9	1	0	16	97	1	0	112	58	440	498
07:15 AM	133	5	4	0	2	66	218	99	286	3	25	1	0	29	20	106	1	127	99	584	683
07:30 AM	164	7	14	4	7	115	118	47	240	1	13	2	1	16	20	105	5	130	53	571	624
07:45 AM	148	11	18	1	11	122	84	60	217	3	6	2	2	11	14	92	5	111	63	516	579
Total	529	24	40	6	22	369	575	263	966	13	53	6	3	72	68	400	12	480	273	2111	2384
% App. Total	89.2	4	6.7		2.3	38.2	59.5		43.6	18.1	73.6	8.3		3.1	14.2	83.3	2.5				
PHF	.806	.545	.556		.801	.500	.659		.844	.542	.530	.750		.621	.850	.600	.923		.904		.904

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

City of Menifee
 N/S: Haun Road/Zeiders Road
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_Hau_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

City of Menifee
 N/S: Haun Road/Zeiders Road
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_Hau_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

Start Time	Haun Road Southbound			Scott Road Westbound			Zeiders Road Northbound			Scott Road Eastbound			App. Total	Int. Total
	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:														
	07:15 AM													
+0 mins.	133	5	4	2	66	155	223	6	9	1	14	97	1	112
+15 mins.	164	7	14	2	66	218	286	3	25	1	20	106	1	127
+30 mins.	148	11	18	7	115	118	240	1	13	2	20	105	5	130
+45 mins.	87	1	12	11	122	84	217	3	6	2	14	92	5	111
Total Volume	532	24	48	22	369	575	966	13	53	6	68	400	12	480
% App. Total	88.1	4	7.9	2.3	38.2	59.5	84.4	18.1	73.6	8.3	14.2	83.3	2.5	92.3
PHF	.811	.545	.667	.500	.756	.659	.844	.542	.530	.750	.850	.943	.600	.923

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

City of Menifee
 N/S: Haun Road/Zeiders Road
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_Hau_Scot_PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

Groups Printed- Total Volume

Start Time	Haun Road Southbound				Scott Road Westbound				Zeiders 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	99	4	13	3	116	12	122	117	31	251	5	10	8	7	23	41	513	554
04:15 PM	81	1	10	0	92	10	130	116	54	256	5	6	9	7	20	61	473	534
04:30 PM	101	1	22	6	124	10	117	123	64	250	14	7	12	8	33	78	517	595
04:45 PM	112	1	15	0	128	12	126	120	36	258	9	8	7	6	24	43	511	554
Total	393	7	60	9	460	44	495	476	185	1015	33	31	36	28	100	223	2014	2237
05:00 PM	96	5	18	1	119	10	112	131	65	253	8	7	10	10	25	77	521	598
05:15 PM	52	4	13	1	69	8	129	128	40	265	4	7	6	3	17	45	492	537
05:30 PM	95	5	15	0	115	4	126	109	71	239	7	8	6	6	21	77	511	588
05:45 PM	76	1	16	2	93	11	114	121	42	246	6	5	3	3	14	48	456	504
Total	319	15	62	4	396	33	481	489	218	1003	25	27	25	22	77	247	1980	2227
Grand Total	712	22	122	13	856	77	976	965	403	2018	58	58	61	50	177	470	3994	4464
Approach %	83.2	2.6	14.3		21.4	3.8	48.4	47.8		50.5	32.8	32.8	34.5		4.4	11.1	86.1	23.6
Total %	17.8	0.6	3.1			1.9	24.4	24.2			1.5	1.5	1.5			2.6	20.3	0.7

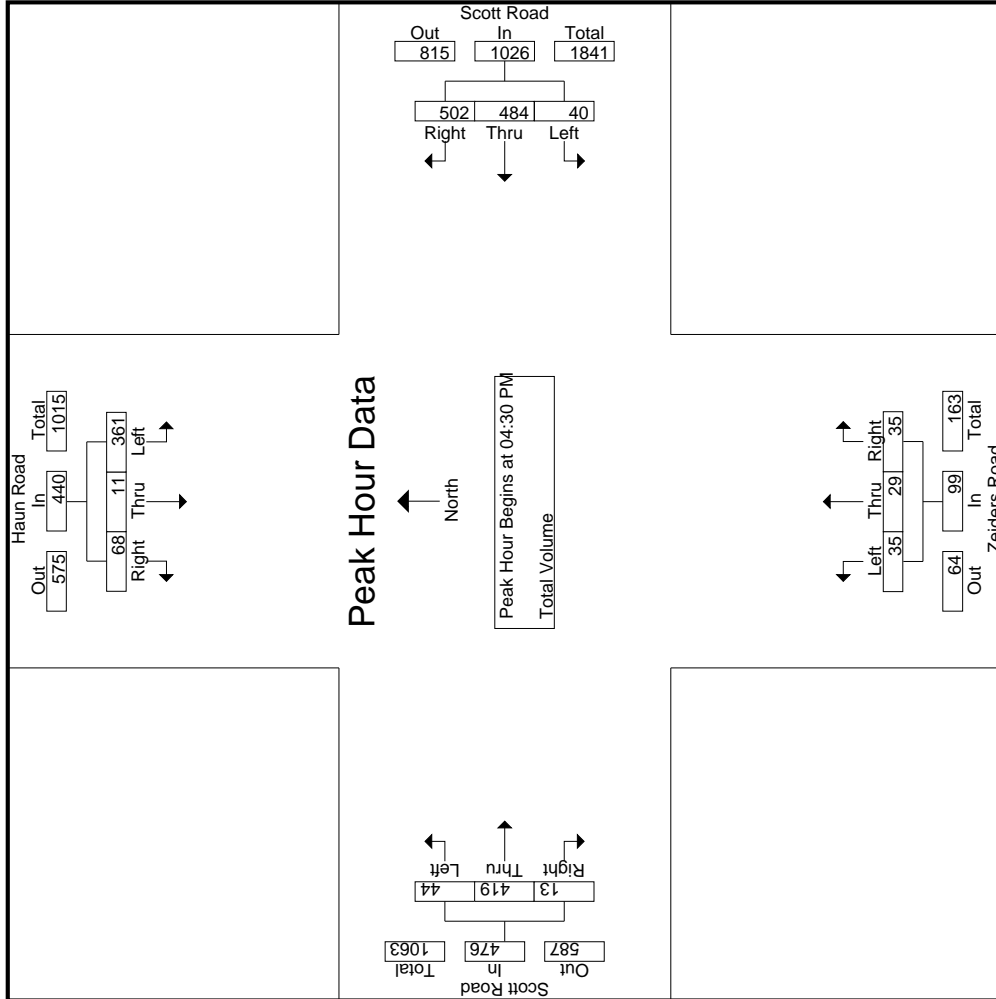
Start Time	Haun Road Southbound				Scott Road Westbound				Zeiders Road Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	101	1	22		124	10	117	123		250	14	7	12		33	4	110	517
04:45 PM	112	1	15		128	12	126	120		258	9	8	7		24	1	101	511
05:00 PM	96	5	18		119	10	112	131		253	8	7	10		25	5	124	521
05:15 PM	52	4	13		69	8	129	128		265	4	7	6		17	3	141	492
Total Volume	361	11	68		440	40	484	502		1026	35	29	35		99	13	476	2041
% App. Total	82	2.5	15.5		21.4	3.9	47.2	48.9		50.5	35.4	29.3	35.4		4.4	88	2.7	23.6
PHF	.806	.550	.773		.859	.833	.938	.958		.968	.625	.906	.729		.750	.650	.844	.979

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
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City of Menifee
 N/S: Haun Road/Zeiders Road
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_Hau_Scot_PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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City of Menifee
 N/S: Haun Road/Zeiders Road
 E/W: Scott Road
 Weather: Clear

File Name : 01_MEN_Hau_Scot_PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

Start Time	Haun Road Southbound			Scott Road Westbound			Zeiders Road Northbound			Scott Road 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:															
	04:15 PM														
+0 mins.	81	1	10	10	117	123	250	5	6	9	20	6	113	5	124
+15 mins.	101	1	22	12	126	120	258	14	7	12	33	11	127	3	141
+30 mins.	112	1	15	10	112	131	253	9	8	7	24	12	120	4	136
+45 mins.	96	5	18	8	129	128	265	8	7	10	25	22	77	4	103
Total Volume	390	8	65	40	484	502	1026	36	28	38	102	51	437	16	504
% App. Total	84.2	1.7	14	3.9	47.2	48.9	96.8	35.3	27.5	37.3	77.3	10.1	86.7	3.2	894
PHF	.871	.400	.739	.833	.938	.958	.968	.643	.875	.792	.773	.580	.860	.800	.894

Location: Menifee
 N/S: Haun Road/Zeiders Road
 E/W: Scott Road



Date: 1/11/2018
 Date: Thursday

PEDESTRIANS

	North Leg Haun Road	East Leg Scott Road	South Leg Zeiders 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 Haun Road	East Leg Scott Road	South Leg Zeiders 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: Haun Road/Zeiders
 E/W: Scott Road



Date: 1/11/2018
 Date: Thursday

BICYCLES

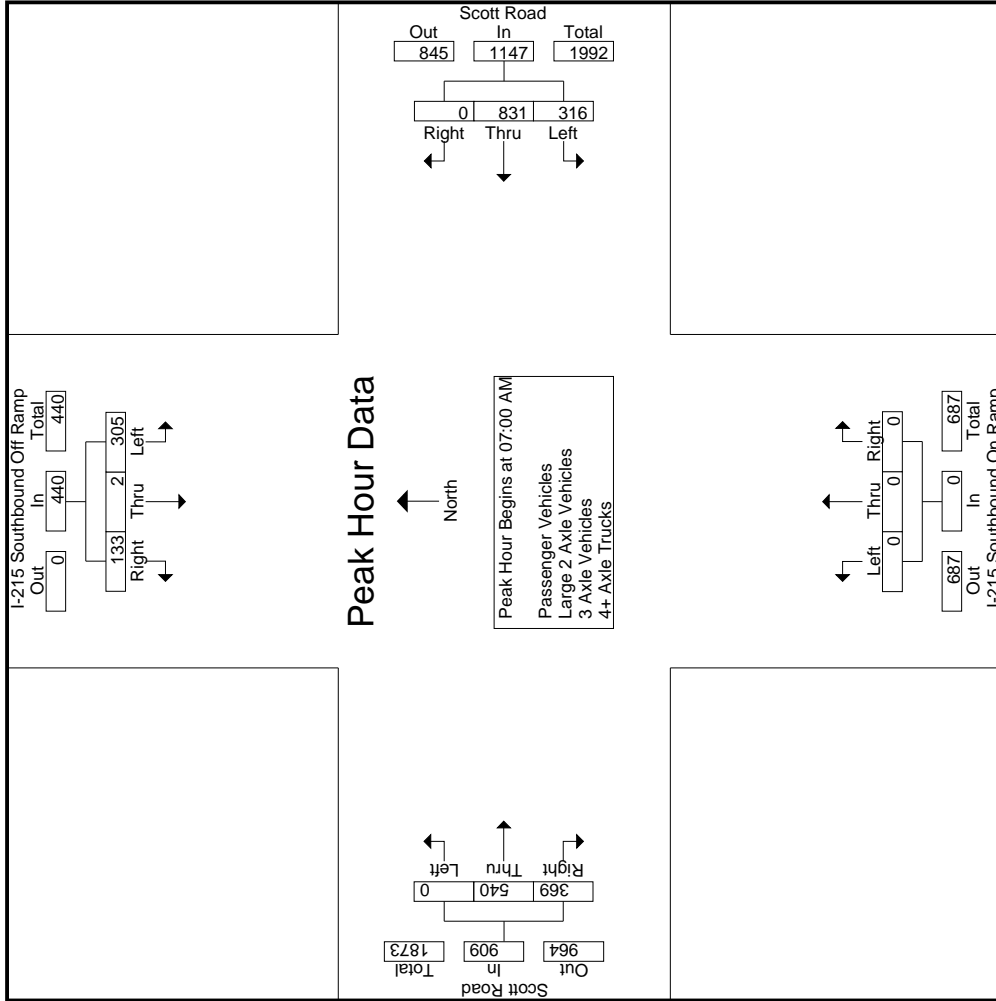
	Southbound Haun Road			Westbound Scott Road			Northbound Zeiders Road			Eastbound Scott Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 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 Haun Road			Westbound Scott Road			Northbound Zeiders 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	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

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

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

File Name : 02_MEN_215S_Scot_AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

File Name : 02_MEN_215S_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Southbound Off Ramp 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 07:00 AM to 08:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	81	0	40	68	204	0	272	0	0	0	116	69
+15 mins.	82	2	38	51	264	0	315	0	0	0	140	95
+30 mins.	86	0	27	88	195	0	283	0	0	0	147	105
+45 mins.	86	0	22	109	168	0	277	0	0	0	137	100
Total Volume	335	2	127	316	831	0	1147	0	0	0	540	369
% App. Total	72.2	0.4	27.4	27.6	72.4	0		0	0	0	59.4	40.6
PHF	.974	.250	.794	.725	.787	.000	.910	.000	.000	.000	.918	.879

Groups Printed- Passenger Vehicles

Start Time	I-215 Southbound Off Ramp 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	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
	07:00 AM	71	0	27	15	98	67	202	0	0	269	0	0	0	0	0	0	112	68	36	180	51	547	598				
07:15 AM	56	0	25	6	81	50	263	0	0	313	0	0	0	0	0	0	127	95	20	222	26	616	642					
07:30 AM	73	0	36	16	109	85	193	0	0	278	0	0	0	0	0	0	139	101	30	240	46	627	673					
07:45 AM	81	0	36	11	117	107	165	0	0	272	0	0	0	0	0	0	135	98	33	233	44	622	666					
Total	281	0	124	48	405	309	823	0	0	1132	0	0	0	0	0	0	513	362	119	875	167	2412	2579					
08:00 AM	81	0	25	20	106	92	110	0	0	202	0	0	0	0	0	0	98	74	22	172	42	480	522					
08:15 AM	78	0	19	15	97	79	100	0	0	179	0	0	0	0	0	0	107	88	28	195	43	471	514					
08:30 AM	68	0	18	13	86	99	120	0	0	219	0	0	0	0	0	0	98	58	18	156	31	461	492					
08:45 AM	77	1	26	15	104	98	111	0	0	209	0	0	0	0	0	0	87	74	19	161	34	474	508					
Total	304	1	88	63	393	368	441	0	0	809	0	0	0	0	0	0	390	294	87	684	150	1886	2036					
Grand Total	585	1	212	111	798	677	1264	0	0	1941	0	0	0	0	0	0	903	656	206	1559	317	4298	4615					
Approch %	73.3	0.1	26.6			34.9	65.1	0	0	45.2	0	0	0	0	0	0	57.9	42.1		36.3	6.9	93.1						
Total %	13.6	0	4.9			15.8	29.4	0	0		0	0	0	0	0	0	21	15.3										

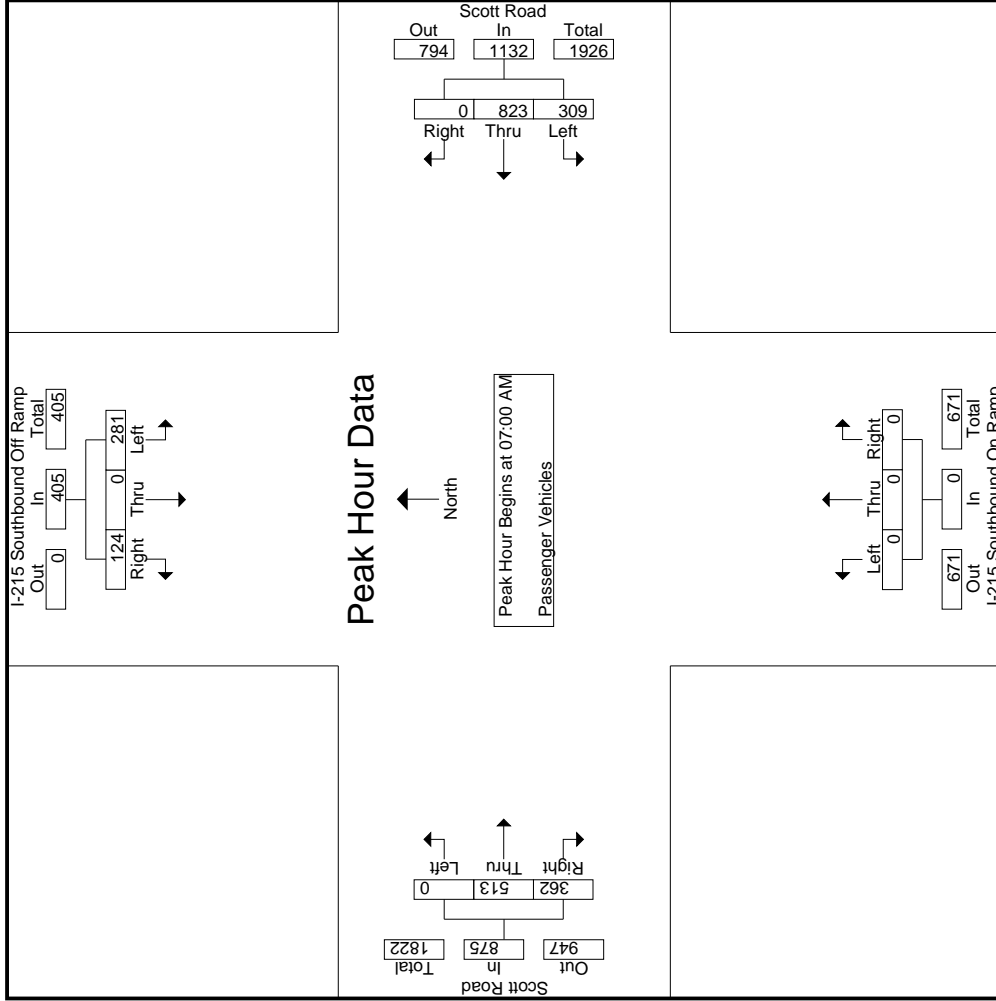
Start Time	I-215 Southbound Off Ramp Southbound						Scott Road Westbound						I-215 Southbound On Ramp Northbound						Scott Road Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
	07:00 AM	71	0	27	15	98	67	202	0	0	269	0	0	0	0	0	0	112	68	36	180	51	547	598				
07:15 AM	56	0	25	6	81	50	263	0	0	313	0	0	0	0	0	0	127	95	20	222	26	616	642					
07:30 AM	73	0	36	16	109	85	193	0	0	278	0	0	0	0	0	0	139	101	30	240	46	627	673					
07:45 AM	81	0	36	11	117	107	165	0	0	272	0	0	0	0	0	0	135	98	33	233	44	622	666					
Total Volume	281	0	124	48	405	309	823	0	0	1132	0	0	0	0	0	0	513	362	119	875	167	2412	2579					
% App. Total	69.4	0	30.6			27.3	72.7	0	0	45.2	0	0	0	0	0	0	58.6	41.4		36.3	6.9	93.1						
PHF	.867	.000	.861			.722	.782	.000	.904	.000	.000	.000	.000	.000	.000	.000	.923	.896		.911								

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
 PO Box 1178
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 (951) 268-6268

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

File Name : 02_MEN_215S_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



Counts Unlimited
 PO Box 1178
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City of Menifee
 N/S: I-215 Southbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215S_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

Start Time	I-215 Southbound Off Ramp 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 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	71	0	27	67	202	0	269	0	0	0	112	68
+15 mins.	56	0	25	50	263	0	313	0	0	0	127	95
+30 mins.	73	0	36	85	193	0	278	0	0	0	139	101
+45 mins.	81	0	36	107	165	0	272	0	0	0	135	98
Total Volume	281	0	124	309	823	0	1132	0	0	0	513	362
% App. Total	69.4	0	30.6	27.3	72.7	0	72.7	0	0	0	58.6	41.4
PHF	.867	.000	.861	.722	.782	.000	.904	.000	.000	.000	.923	.896

Groups Printed- Large 2 Axle Vehicles

Start Time	I-215 Southbound Off Ramp Southbound				Scott Road Westbound				I-215 Southbound On Ramp Northbound				Scott Road Eastbound						
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	3	0	0	0	1	1	0	0	2	0	0	0	0	3	1	0	4	0	9
07:15 AM	5	0	2	0	1	1	0	0	2	0	0	0	0	12	0	0	12	0	21
07:30 AM	6	0	4	1	1	1	0	0	2	0	0	0	0	8	4	1	12	2	26
07:45 AM	1	2	2	1	2	2	0	0	4	0	0	0	0	1	1	1	2	2	11
Total	15	2	8	2	5	5	0	0	10	0	0	0	0	24	6	2	30	4	65
08:00 AM	4	0	1	0	0	5	0	0	5	0	0	0	0	4	1	1	5	1	15
08:15 AM	7	0	3	3	3	3	0	0	6	0	0	0	0	2	1	1	3	4	19
08:30 AM	1	0	1	1	0	0	0	0	1	0	0	0	0	3	2	1	5	2	8
08:45 AM	3	0	0	0	2	4	0	0	6	0	0	0	0	3	1	0	4	0	13
Total	15	0	5	4	6	12	0	0	18	0	0	0	0	12	5	3	17	7	55
Grand Total	30	2	13	6	11	17	0	0	28	0	0	0	0	36	11	5	47	11	120
Approch %	66.7	4.4	28.9		39.3	60.7	0		23.3	0	0	0	0	76.6	23.4	9.2	39.2	8.4	91.6
Total %	25	1.7	10.8		9.2	14.2	0		0	0	0	0	0	30	9.2				

3.1-15

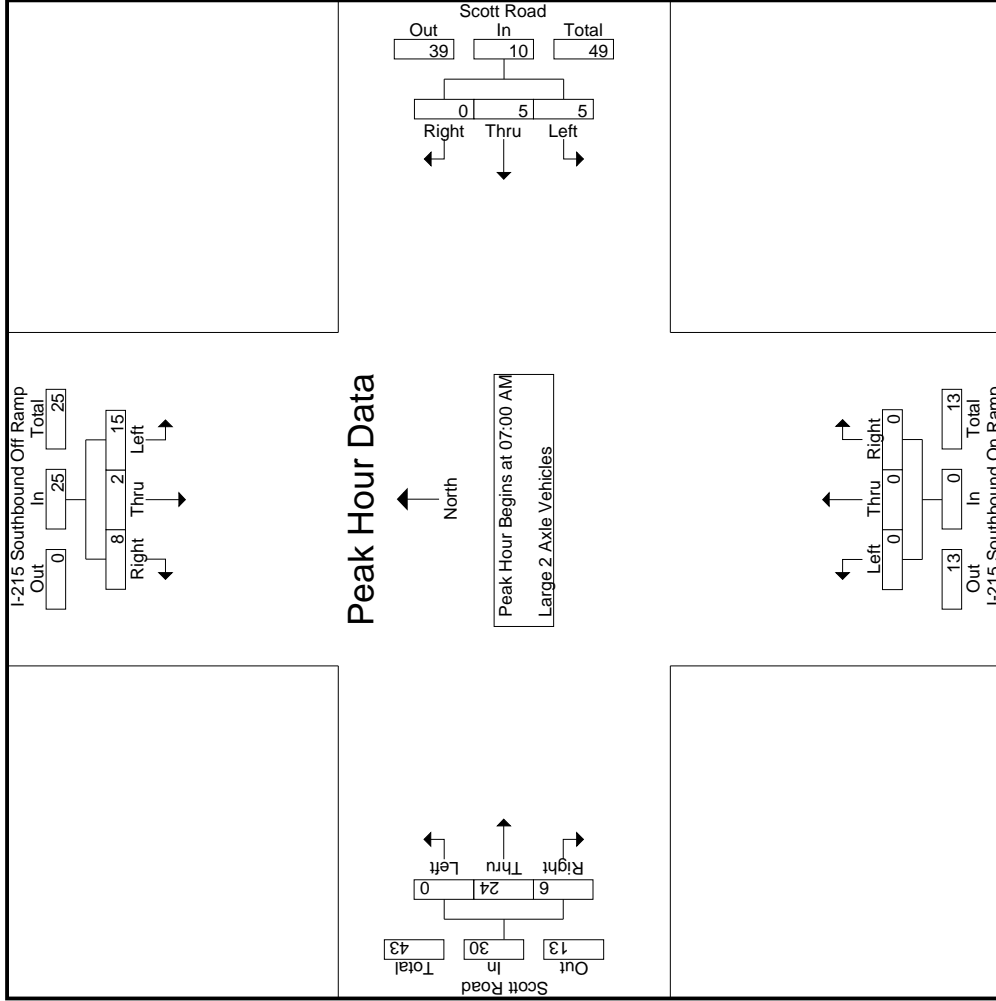
Start Time	I-215 Southbound Off Ramp Southbound				Scott Road Westbound				I-215 Southbound On Ramp Northbound				Scott Road Eastbound						
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	3	0	0	0	1	1	0	0	2	0	0	0	0	2	0	0	4	0	9
07:15 AM	5	0	2	0	1	1	0	0	2	0	0	0	0	12	0	0	12	0	21
07:30 AM	6	0	4	1	1	1	0	0	2	0	0	0	0	8	4	1	12	2	26
07:45 AM	1	2	2	1	2	2	0	0	4	0	0	0	0	1	1	1	2	2	11
Total Volume	15	2	8	2	5	5	0	0	10	0	0	0	0	24	6	2	30	4	65
% App. Total	60	8	32		50	50	0		0	0	0	0	0	80	20				
PHF	.625	.250	.500		.625	.625	.000		.625	.000	.000	.000	.000	.500	.375		.625		.677

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

File Name : 02_MEN_215S_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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File Name : 02_MEN_215S_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Southbound Off Ramp 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 07:00 AM to 07:45 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	07:00 AM													
+0 mins.	3	0	0	3	1	0	0	2	0	0	0	0	0	4
+15 mins.	5	0	2	7	1	0	0	2	0	0	0	0	12	12
+30 mins.	6	0	4	10	1	0	0	2	0	0	0	0	8	12
+45 mins.	1	2	2	5	2	0	0	4	0	0	0	0	1	2
Total Volume	15	2	8	25	5	0	0	10	0	0	0	0	24	30
% App. Total	60	8	32		50	0	0		0	0	0	0	80	20
PHF	.625	.250	.500	.625	.625	.000	.000	.625	.000	.000	.000	.000	.500	.375
														.625

Groups Printed- 3 Axle Vehicles

Start Time	I-215 Southbound Off Ramp Southbound						Scott Road Westbound						I-215 Southbound On Ramp Northbound						Scott 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	4	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	2	0	0	0	2	1	0	0	0	1	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	1	0	2	0	0	1	0	2	0
Total	7	0	1	0	8	1	1	0	0	2	0	0	0	0	1	1	0	2	0	1	1	0	2	0
08:00 AM	1	0	0	0	1	0	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	2	0	0	2	0	0	0	0	1	0	0	1	0	1	0	0	1	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	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	0	2	0	4	0	0	4	0	0	0	0	2	0	0	2	0	2	0	0	2	0
Grand Total	9	0	1	0	10	1	5	0	0	6	0	0	0	0	3	1	0	4	0	0	20	0	20	0
Approch %	90	0	10		16.7	83.3	0			30	0	0	0	0	75	25	5	20	0	0	100	0	100	0
Total %	45	0	5		50	5	25	0		30	0	0	0	0	15	5	5	20	0	0	100	0	100	0

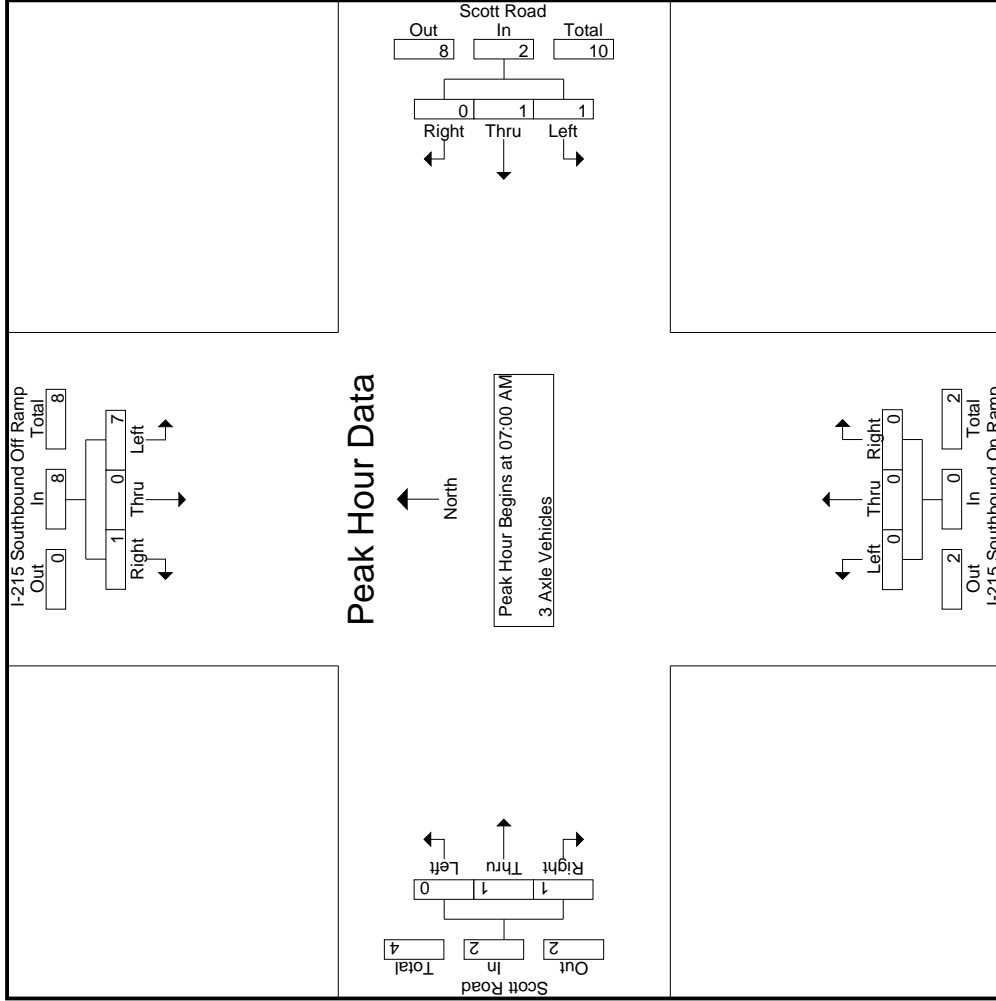
Start Time	I-215 Southbound Off Ramp Southbound						Scott Road Westbound						I-215 Southbound On Ramp Northbound						Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total
	07:00 AM	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	2	0	0	0	2	1	0	0	0	1	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	0
Total	7	0	0	0	7	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	87.5	0	0	0	12.5	50	0			30	0	0	0	0	75	25	5	20	0	0	100	0	100	0
PHF	.438	.000	.250	.400	.250	.000	.250	.000	.500	.000	.000	.000	.000	.000	.250	.250	.250	.250	.000	.250	.250	.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

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

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

File Name : 02_MEN_215S_Scot_AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

File Name : 02_MEN_215S_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Southbound Off Ramp 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 07:00 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.	4	0	1	0	0	0	0	0	0	0	0	0
+15 mins.	1	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	2	0	0	1	0	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	1	0	1	0	0	0	1	2
Total Volume	7	0	1	1	1	0	2	0	0	0	1	2
% App. Total	87.5	0	12.5	50	50	0	0	0	0	0	50	50
PHF	.438	.000	.250	.250	.250	.000	.500	.000	.000	.000	.250	.250

Groups Printed- 4+ Axle Trucks

Start Time	I-215 Southbound Off Ramp 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	0	0	2	0	1	0	0	1	0	0	0	0	1	0	4	4
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:30 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	2	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	0	2	1	2	0	0	3	0	0	0	0	2	0	7	7
08:00 AM	0	0	1	1	1	0	2	0	0	2	0	0	0	0	0	1	3	4
08:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
08:45 AM	1	2	0	0	3	0	1	0	0	1	0	0	0	0	1	0	5	5
Total	1	2	1	1	4	0	4	0	0	4	0	0	0	0	2	1	10	11
Grand Total	3	2	1	1	6	1	6	0	0	7	0	0	0	0	4	1	17	18
Approch %	50	33.3	16.7		14.3	85.7	0		41.2		0	100	0	23.5	5.6	94.4		
Total %	17.6	11.8	5.9		35.3	5.9	35.3	0			0	23.5	0	23.5	5.6	94.4		

3.1-21

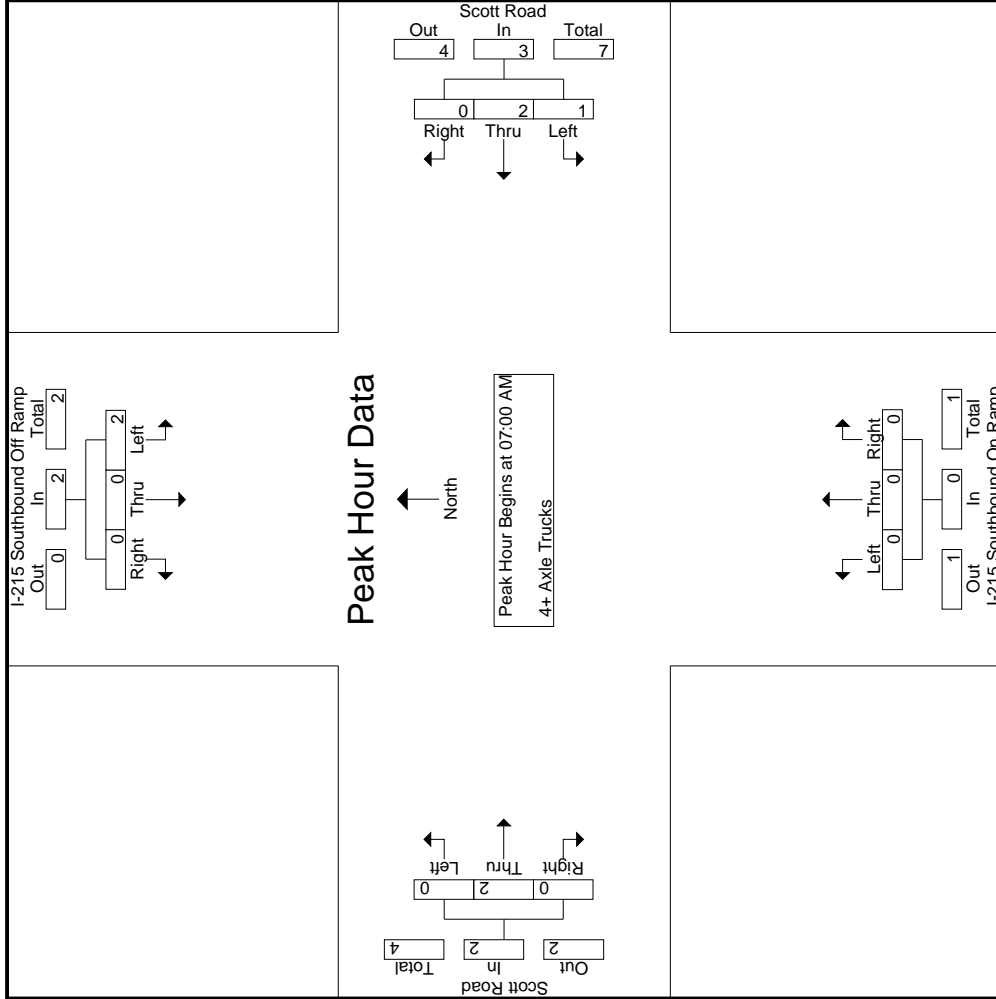
Start Time	I-215 Southbound Off Ramp Southbound				Scott Road Westbound				I-215 Southbound On Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	1	0	1	4
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:30 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	2	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	0	0	2	1	2	0	0	3	0	0	0	0	2	0	7	7
% App. Total	100	0	0	0	100	33.3	66.7	0	0	100	0	100	0	100	0	0	100	100
PHF	.250	.000	.000	.250	.250	.250	.500	.000	.375	.000	.000	.500	.000	.000	.500	.000	.438	

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
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

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

File Name : 02_MEN_215S_Scot_AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

File Name : 02_MEN_215S_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Southbound Off Ramp 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 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	2	0	0	1	0	0	0	0	0	0	1	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	1	0
+30 mins.	0	0	0	1	1	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	0	2	2	0	3	0	0	0	2	0
% App. Total	100	0	0	33.3	66.7	0	0	0	0	0	100	0
PHF	.250	.000	.000	.250	.500	.000	.375	.000	.000	.000	.500	.000

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

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

File Name : 02_MEN_215S_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

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

Start Time	I-215 Southbound Off Ramp						Scott Road Westbound						I-215 Southbound On Ramp						Scott Road Eastbound					
	Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR	
	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total
04:00 PM	93	0	46	22	139	0	0	286	0	0	0	0	0	0	141	61	15	202	37	627	664			
04:15 PM	95	1	47	18	143	0	0	279	0	0	0	0	0	124	60	17	184	35	606	641				
04:30 PM	94	0	45	17	139	0	0	277	0	0	0	0	0	135	75	17	210	34	626	660				
04:45 PM	89	0	47	16	136	0	0	281	0	0	0	0	0	136	71	18	207	34	624	658				
Total	371	1	185	73	557	0	0	1123	0	0	0	0	0	536	267	67	803	140	2483	2623				
05:00 PM	92	0	41	13	133	0	0	284	0	0	0	0	0	156	70	20	226	33	643	676				
05:15 PM	96	0	43	18	139	0	0	286	0	0	0	0	0	132	49	21	181	39	606	645				
05:30 PM	92	0	39	15	131	0	0	293	0	0	0	0	0	139	75	25	214	40	638	678				
05:45 PM	93	0	36	9	129	0	0	278	0	0	0	0	0	135	43	9	178	18	585	603				
Total	373	0	159	55	532	0	0	1141	0	0	0	0	0	562	237	75	799	130	2472	2602				
Grand Total	744	1	344	128	1089	0	0	2264	0	0	0	0	0	1098	504	142	1602	270	4955	5225				
Approach %	68.3	0.1	31.6											68.5	31.5									
Total %	15	0	6.9		22			45.7	0	0	0	0	0	22.2	10.2		32.3	5.2	94.8					
Passenger Vehicles	729	1	326		1181	0	0	2219	0	0	0	0	0	1074	500		1716	0	0	5116				
Large Passenger Vehicles	98	100	94.8	97.7	97	99.1	97.6	98	0	0	0	0	0	97.8	99.2	100	98.4	0	0	97.9				
Large 2 Axle Vehicles	13	0	16		32	5	39	44	0	0	0	0	0	20	4		24	0	0	100				
Large 2 Axle Trucks	1.7	0	4.7	2.3	2.6	0.9	2.3	1.9	0	0	0	0	0	1.8	0.8	0	1.4	0	0	1.9				
3 Axle Vehicles	2	0	0		2	0	0	0	0	0	0	0	0	0	0		0	0	0	2				
3 Axle Trucks	0.3	0	0		0.2	0	0	0	0	0	0	0	0	0	0		0	0	0	0				
4+ Axle Trucks	0	0	2		2	0	1	1	0	0	0	0	0	4	0		4	0	0	7				
4+ Axle Trucks	0	0	0.6		0.2	0	0.1	0	0	0	0	0	0	0.4	0		0.2	0	0	0.1				

Start Time	I-215 Southbound Off Ramp						Scott Road Westbound						I-215 Southbound On Ramp						Scott Road Eastbound					
	Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR	
	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total
04:45 PM	89	0	47		136	63	218	0	281	0	0	0	0	0	136	71	207	624						
05:00 PM	92	0	41		133	70	214	0	284	0	0	0	0	156	70	226	643							
05:15 PM	96	0	43		139	76	210	0	286	0	0	0	0	132	49	21	181	39	606	645				
05:30 PM	92	0	39		131	84	209	0	293	0	0	0	0	139	75	25	214	40	638	678				
05:45 PM	93	0	36		129	64	214	0	278	0	0	0	0	135	43	9	178	18	585	603				
Total Volume	369	0	170		539	293	851	0	1144	0	0	0	0	563	265	828	2511							
% App. Total	68.5	0	31.5		31.5	25.6	74.4	0	97.6	0	0	0	0	68	32	828	2511							
PHF	.961	.000	.904		.969	.872	.976	.000	.976	.000	.000	.000	.000	.902	.883	.916	.976							

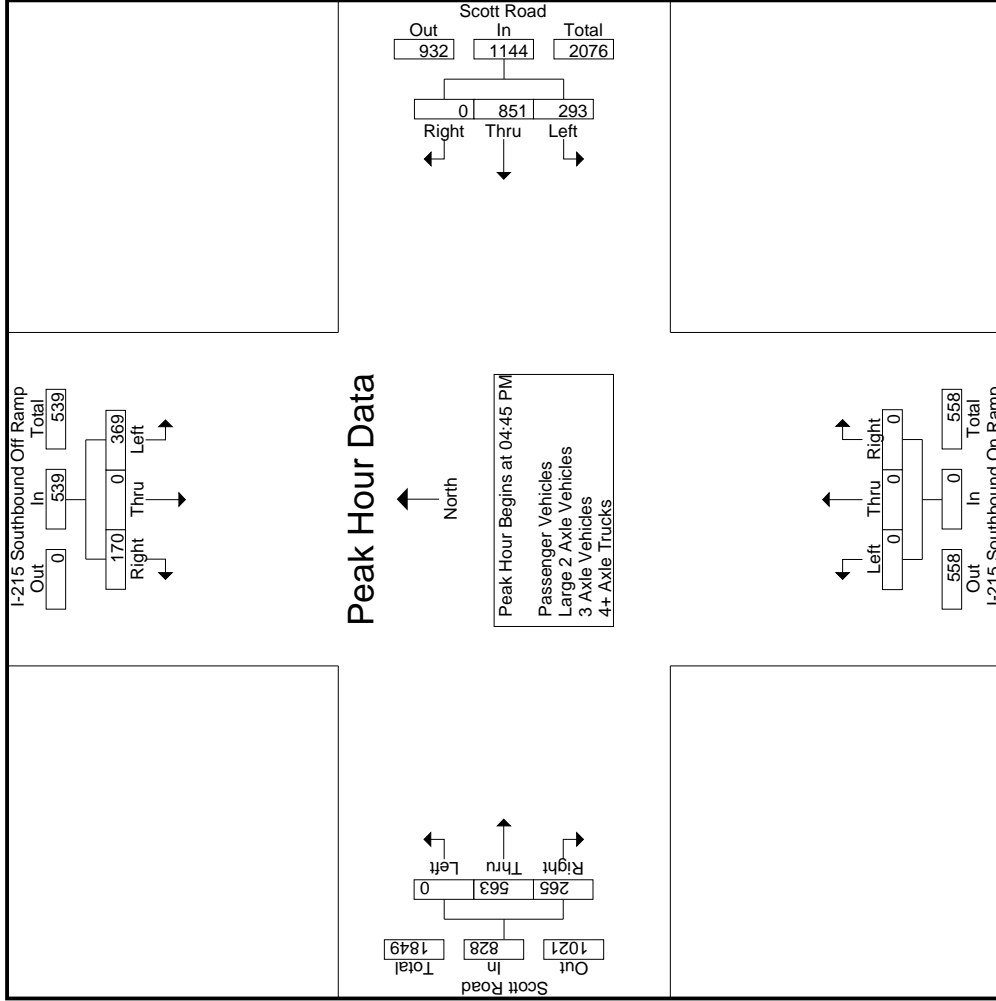
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

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

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

File Name : 02_MEN_215S_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

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

File Name : 02_MEN_215S_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

Start Time	I-215 Southbound Off Ramp 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 04:00 PM to 05:45 PM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	93	0	46	63	218	0	281	0	0	0	136	71
+15 mins.	95	1	47	70	214	0	284	0	0	0	156	70
+30 mins.	94	0	45	76	210	0	286	0	0	0	132	49
+45 mins.	89	0	47	84	209	0	293	0	0	0	139	75
Total Volume	371	1	185	293	851	0	1144	0	0	0	563	265
% App. Total	66.6	0.2	33.2	25.6	74.4	0		0	0	0	68	32
PHF	.976	.250	.984	.872	.976	.000	.976	.000	.000	.000	.902	.883

Groups Printed- Passenger Vehicles

Start Time	I-215 Southbound Off Ramp 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	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
	04:00 PM	88	0	44	22	132	73	201	0	0	274	0	0	0	0	0	0	136	61	15	197	0	121	59	17	180	37	603
04:15 PM	94	1	43	18	138	70	203	0	0	273	0	0	0	0	0	0	121	59	17	180	0	130	73	17	203	35	591	626
04:30 PM	93	0	43	16	136	78	191	0	0	269	0	0	0	0	0	0	130	73	17	203	0	134	71	18	205	33	608	641
04:45 PM	87	0	44	14	131	63	212	0	0	275	0	0	0	0	0	0	134	71	18	205	0	521	264	67	785	137	2413	2550
Total	362	1	174	70	537	284	807	0	0	1091	0	0	0	0	0	0	521	264	67	785	0	553	236	75	789	130	2436	2566
05:00 PM	90	0	39	13	129	69	213	0	0	282	0	0	0	0	0	0	154	70	20	224	0	1074	500	142	1574	267	4849	5116
05:15 PM	94	0	40	18	134	75	207	0	0	282	0	0	0	0	0	0	129	48	21	177	0	68.2	31.8	32.5	32.5	5.2	94.8	
05:30 PM	92	0	38	15	130	83	204	0	0	287	0	0	0	0	0	0	137	75	25	212	0	22.1	10.3					
05:45 PM	91	0	35	9	126	64	213	0	0	277	0	0	0	0	0	0	133	43	9	176	0	22.1	10.3					
Total	367	0	152	55	519	291	837	0	0	1128	0	0	0	0	0	0	553	236	75	789	0	1074	500	142	1574	267	4849	5116
Grand Total	729	1	326	125	1056	575	1644	0	0	2219	0	0	0	0	0	0	1074	500	142	1574	0	68.2	31.8	32.5	32.5	5.2	94.8	
Approch %	69	0.1	30.9			25.9	74.1	0	0	45.8	0	0	0	0	0	0	22.1	10.3			0	22.1	10.3					
Total %	15	0	6.7		21.8	11.9	33.9	0	0	45.8	0	0	0	0	0	0	22.1	10.3			0	22.1	10.3					

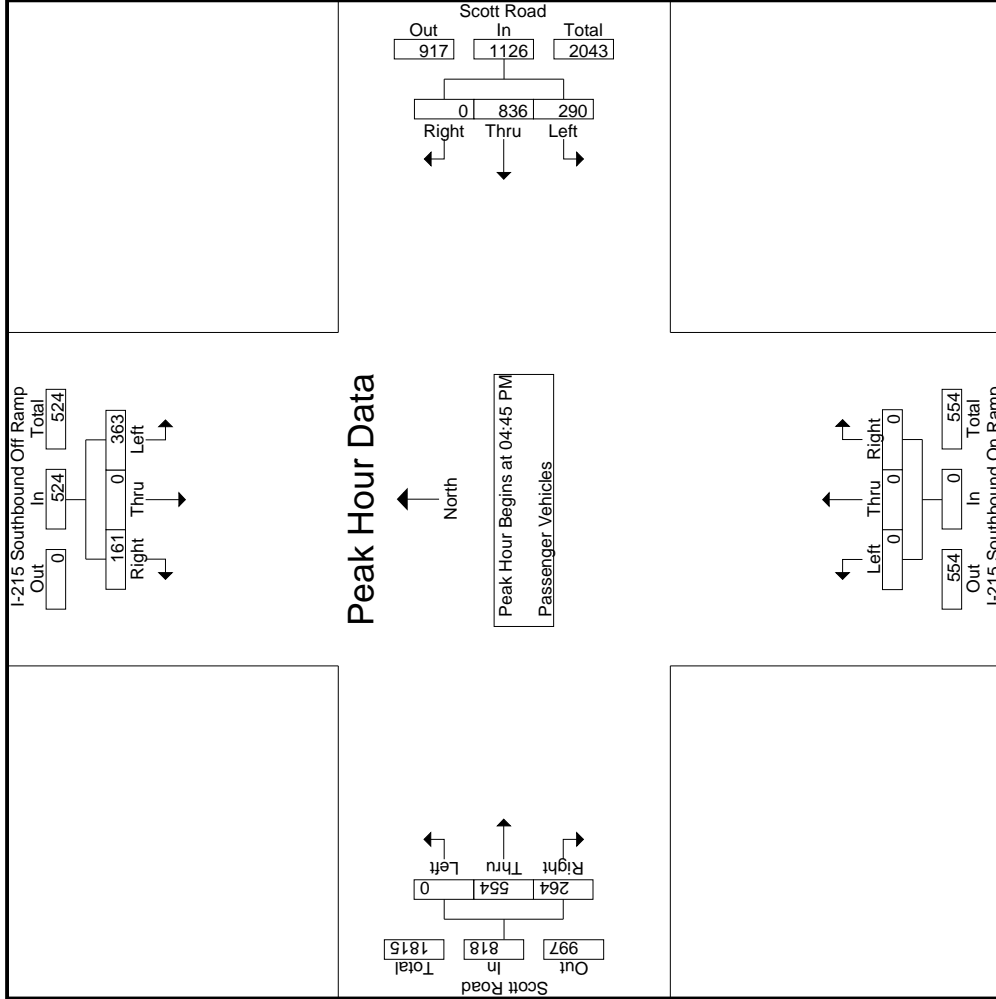
Start Time	I-215 Southbound Off Ramp Southbound						Scott Road Westbound						I-215 Southbound On Ramp Northbound						Scott Road Eastbound									
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
	04:45 PM	87	0	44		131	63	212	0	0	275	0	0	0	0	0	0	134	71		205	0	134	71		205		611
05:00 PM	90	0	39		129	69	213	0	0	282	0	0	0	0	0	0	154	70		224	0	154	70		224		635	
05:15 PM	94	0	40		134	75	207	0	0	282	0	0	0	0	0	0	129	48		177	0	68.2	31.8		32.5		593	
05:30 PM	92	0	38		130	83	204	0	0	287	0	0	0	0	0	0	137	75		212	0	22.1	10.3				669	
05:45 PM	91	0	35		126	64	213	0	0	277	0	0	0	0	0	0	133	43		176	0	22.1	10.3				597	
Total	363	0	161	30.7	524	290	836	0	0	1126	0	0	0	0	0	0	554	264	67.7	789	0	1074	500	142	1574	267	4849	5116
% App. Total	69.3	0	30.7		69.3	25.8	74.2	0	0	45.8	0	0	0	0	0	0	22.1	10.3			0	22.1	10.3					
PHF	.965	.000	.915		.978	.873	.981	.000	.000	.981	.000	.000	.000	.000	.000	.000	.899	.880		.913	.000	.899	.880					.972

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
 PO Box 1178
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City of Menifee
 N/S: I-215 Southbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215S_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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 (951) 268-6268

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

File Name : 02_MEN_215S_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

Start Time	I-215 Southbound Off Ramp 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 04:45 PM to 05:30 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins at:														
	04:45 PM													
+0 mins.	87	0	44	131	63	212	0	275	0	0	0	134	71	205
+15 mins.	90	0	39	129	69	213	0	282	0	0	0	154	70	224
+30 mins.	94	0	40	134	75	207	0	282	0	0	0	129	48	177
+45 mins.	92	0	38	130	83	204	0	287	0	0	0	137	75	212
Total Volume	363	0	161	524	290	836	0	1126	0	0	0	554	264	818
% App. Total	69.3	0	30.7	97.8	25.8	74.2	0	98.1	0	0	0	67.7	32.3	91.3
PHF	.965	.000	.915	.978	.873	.981	.000	.981	.000	.000	.000	.899	.880	.913

Groups Printed- Large 2 Axle Vehicles

Start Time	I-215 Southbound Off Ramp 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	4	0	2	0	6	2	10	0	0	12	0	0	0	0	0	0	4	0	0	0	0	22	22
04:15 PM	1	0	2	0	3	0	5	0	0	5	0	0	0	0	0	0	3	1	0	4	0	12	12	
04:30 PM	1	0	2	1	3	0	8	0	0	8	0	0	0	0	0	0	4	2	0	6	1	17	18	
04:45 PM	2	0	3	2	5	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	2	12	14	
Total	8	0	9	3	17	2	29	0	0	31	0	0	0	0	0	0	12	3	0	15	3	63	66	
05:00 PM	2	0	2	0	4	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	0	8	8	
05:15 PM	2	0	3	0	5	1	3	0	0	4	0	0	0	0	0	0	3	1	0	4	0	13	13	
05:30 PM	0	0	1	0	1	1	5	0	0	6	0	0	0	0	0	0	1	0	0	1	0	8	8	
05:45 PM	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	5	5	
Total	5	0	7	0	12	3	10	0	0	13	0	0	0	0	0	0	8	1	0	9	0	34	34	
Grand Total	13	0	16	3	29	5	39	0	0	44	0	0	0	0	0	0	20	4	0	24	3	97	100	
Approch %	44.8	0	55.2		11.4	88.6	0			45.4	0					0	83.3	16.7						
Total %	13.4	0	16.5		29.9	5.2	40.2	0			0					0	20.6	4.1		24.7	3	97		

3.1-30

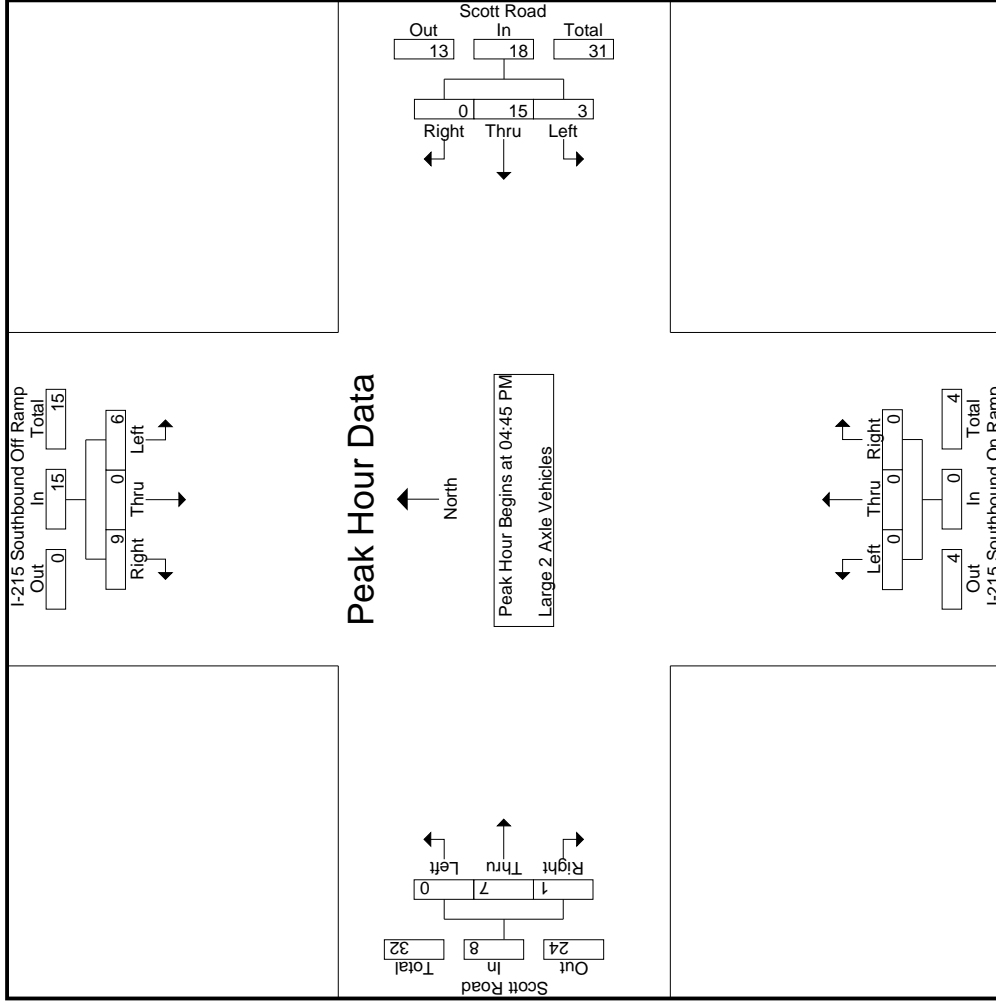
Start Time	I-215 Southbound Off Ramp Southbound						Scott Road Westbound						I-215 Southbound On Ramp Northbound						Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
	04:45 PM	2	0	0	0	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12
05:00 PM	2	0	2	0	4	4	1	0	0	2	0	0	0	0	0	0	2	0	0	2	0	2	8	
05:15 PM	2	0	0	3	5	1	3	0	0	4	0	0	0	0	0	0	3	0	0	3	0	4	13	
05:30 PM	0	0	1	0	1	1	5	0	0	6	0	0	0	0	0	0	1	0	0	1	0	1	8	
Total Volume	6	0	9	0	15	15	3	15	0	18	0	0	0	0	0	0	7	1	0	8	0	8	41	
% App. Total	40	0	60		16.7	83.3	0			16.7	83.3	0				0	87.5	12.5						
PHF	.750	.000	.750		.750	.750	.625	.000		.750	.000	.000	.000	.000	.000	.000	.583	.250		.500		.788		

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
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

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

File Name : 02_MEN_215S_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

File Name : 02_MEN_215S_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Southbound Off Ramp 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 04:45 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.	2	0	3	5	0	0	6	6	0	0	0	0	1	1
+15 mins.	2	0	2	4	1	1	0	2	0	0	0	0	2	2
+30 mins.	2	0	3	5	1	3	0	4	0	0	0	0	3	4
+45 mins.	0	0	1	1	1	5	0	6	0	0	0	0	1	1
Total Volume	6	0	9	15	3	15	0	18	0	0	0	0	7	8
% App. Total	40	0	60	16.7	83.3	0	0	0	0	0	0	0	87.5	12.5
PHF	.750	.000	.750	.750	.750	.625	.000	.750	.000	.000	.000	.000	.583	.250

Groups Printed- 3 Axle Vehicles

Start Time	I-215 Southbound Off Ramp 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	1	0	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	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	1	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	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	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	0	0	0	0	0	0	0	1	1
Grand Total	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
Approch %	100	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	100
Total %	100	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	100

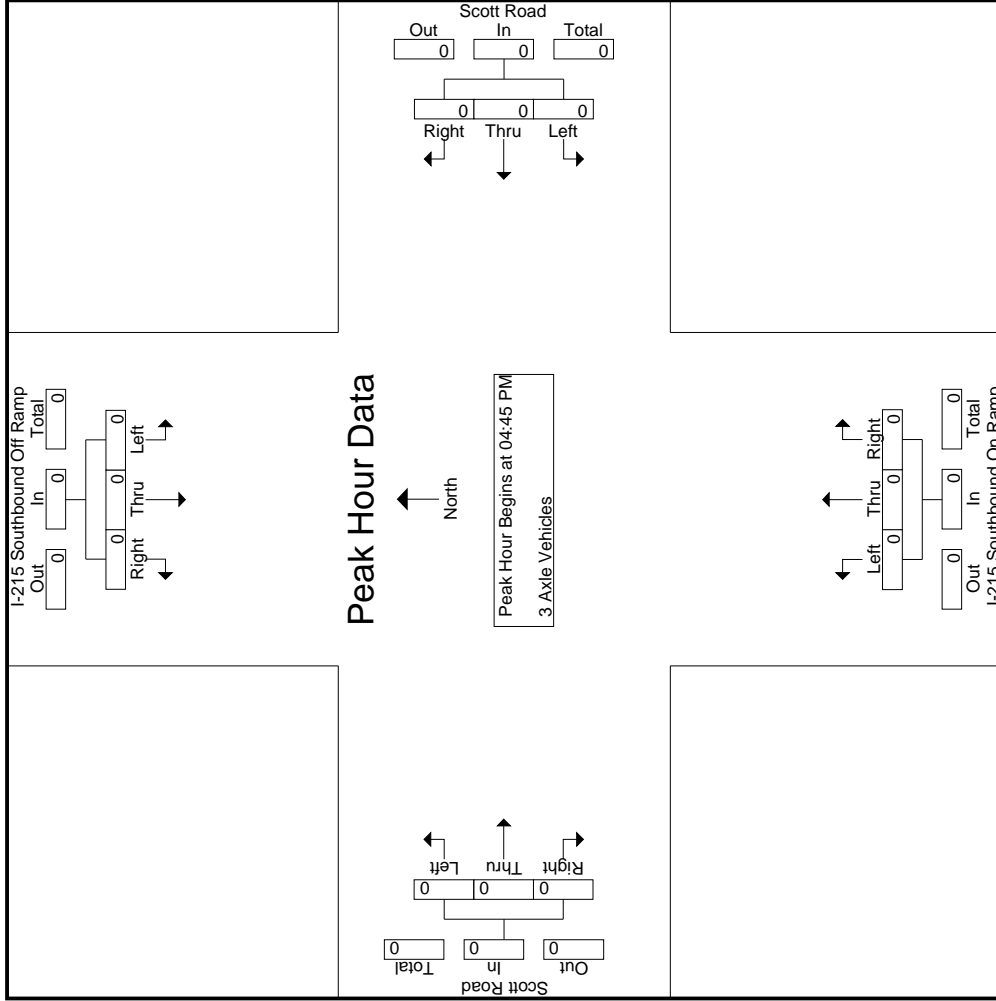
Start Time	I-215 Southbound Off Ramp Southbound				Scott Road Westbound				I-215 Southbound On Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	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	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

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
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

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

File Name : 02_MEN_215S_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

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

File Name : 02_MEN_215S_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

Start Time	I-215 Southbound Off Ramp 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 04:45 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	0	0	0	0
+15 mins.	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
+45 mins.	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
% App. Total	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

Groups Printed- 4+ Axle Trucks

Start Time	I-215 Southbound Off Ramp 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	2	0	2	0	1	0	0	1	0	0	0	0	0	0	3	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
Total	0	0	2	0	2	0	1	0	0	1	0	0	3	0	3	0	6	6
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	1	0	0	1	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	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
Grand Total	0	0	2	0	2	0	1	0	0	1	0	0	4	0	4	0	7	7
Approch %	0	0	100			0	100			0	0	100			0	0	100	
Total %	0	0	28.6		28.6	0	14.3			14.3	0	57.1			57.1	0	100	

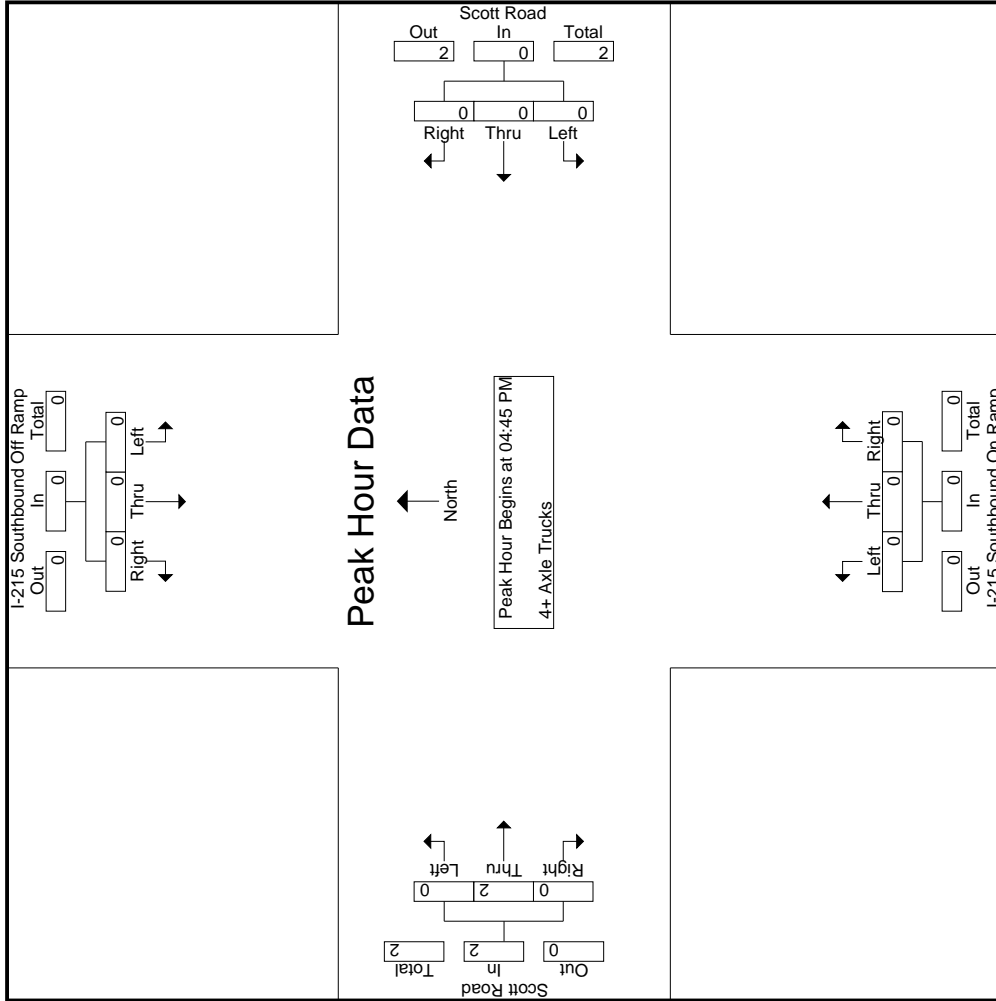
Start Time	I-215 Southbound Off Ramp Southbound				Scott Road Westbound				I-215 Southbound On Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	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	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	.500			.500	.000	.500	.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
 PO Box 1178
 Corona, CA 92878
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City of Menifee
 N/S: I-215 Southbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215S_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
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City of Menifee
 N/S: I-215 Southbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 02_MEN_215S_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

Start Time	I-215 Southbound Off Ramp 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 04:45 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	0	0	0	1
+15 mins.	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
+45 mins.	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	1
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	2
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

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



Date: 1/11/2018
 Date: Thursday

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
 E/W: Scott Road



Date: 1/11/2018
 Date: Thursday

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	1	0	0	0	0	0	0	0	1
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	1	0	0	0	0	0	0	0	1

	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

Counts Unlimited
 PO Box 1178
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City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 03_MEN_215N_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

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

Start Time	I-215 Northbound On Ramp						I-215 Northbound Off Ramp						Scott Road Eastbound							
	Southbound			Westbound			Northbound			Northbound			Right			Left				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
07:00 AM	0	0	0	0	208	121	12	329	70	0	58	38	128	30	168	0	198	50	655	705
07:15 AM	0	0	0	0	235	117	6	352	79	1	33	22	113	27	173	0	200	28	665	693
07:30 AM	0	0	0	0	242	96	4	338	47	0	36	28	83	25	210	0	235	32	656	688
07:45 AM	0	0	0	0	231	115	2	346	40	0	43	28	83	19	195	0	214	30	643	673
Total	0	0	0	0	916	449	24	1365	236	1	170	116	407	101	746	0	847	140	2619	2759
08:00 AM	0	0	0	0	175	75	2	250	27	0	56	32	83	20	171	0	191	34	524	558
08:15 AM	0	0	0	0	157	74	3	231	33	0	54	32	87	23	162	0	185	35	503	538
08:30 AM	0	0	0	0	175	86	1	261	39	0	66	32	105	24	157	0	181	33	547	580
08:45 AM	0	0	0	0	192	100	8	292	31	0	64	46	95	23	150	0	173	54	560	614
Total	0	0	0	0	699	335	14	1034	130	0	240	142	370	90	640	0	730	156	2134	2290
Grand Total	0	0	0	0	1615	784	38	2399	366	1	410	258	777	191	1386	0	1577	296	4753	5049
Approach %	0	0	0	0	67.3	32.7			47.1	0.1	52.8			12.1	87.9	0				
Total %	0	0	0	0	34	16.5		50.5	7.7	0	8.6		16.3	4	29.2	0	33.2	5.9	94.1	
Passenger Vehicles	0	0	0	0	1575	754	94.7	2365	361	1	391	96.1	1001	179	1313	0	1492	0	0	4858
Light Passenger Vehicles	0	0	0	0	97.5	96.2		97	98.6	100	95.4	96.1	96.7	93.7	94.7	0	94.6	0	0	96.2
Light 2 Axle Vehicles	0	0	0	0	26	20	0	46	4	0	14	3.1	26	11	57	0	68	0	0	140
% Large 2 Axle Vehicles	0	0	0	0	1.6	2.6	0	1.9	1.1	0	3.4	3.1	2.5	5.8	4.1	0	4.3	0	0	2.8
3 Axle Vehicles	0	0	0	0	7	5	0	12	0	0	1	0	1	1	10	0	11	0	0	24
% 3 Axle Vehicles	0	0	0	0	0.4	0.6	0	0.5	0	0	0.2	0	0.1	0.5	0.7	0	0.7	0	0	0.5
4+ Axle Trucks	0	0	0	0	7	5	0	14	1	0	4	0.8	7	0	6	0	6	0	0	27
% 4+ Axle Trucks	0	0	0	0	0.4	0.6	5.3	0.6	0.3	0	1	0.8	0.7	0	0.4	0	0.4	0	0	0.5

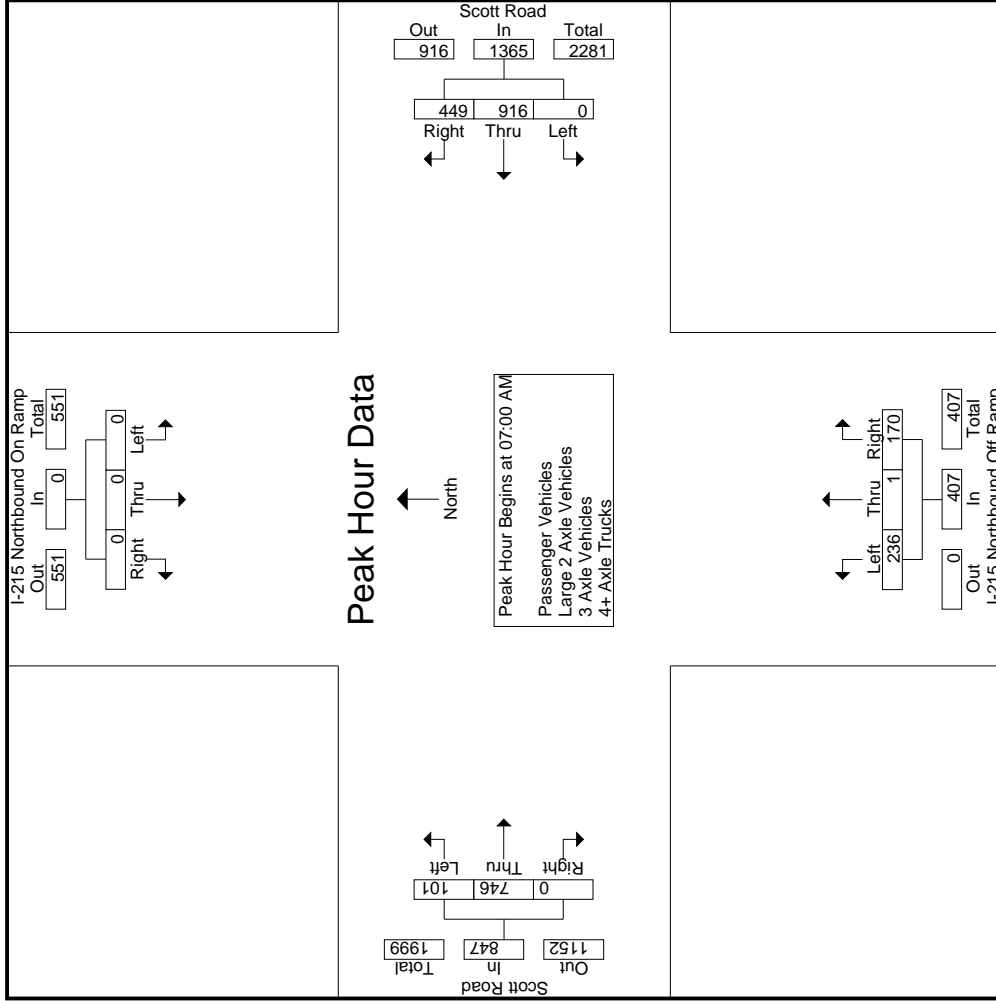
Start Time	I-215 Northbound On Ramp						Scott Road Westbound						I-215 Northbound Off Ramp						Scott Road Eastbound					
	Southbound			Northbound			Right			Left			Right			Left			Right			Left		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
07:00 AM	0	0	0	0	208	121	0	329	70	0	58	38	128	30	168	0	198	50	655	705				
07:15 AM	0	0	0	0	235	117	0	352	79	1	33	22	113	27	173	0	200	28	665	693				
07:30 AM	0	0	0	0	242	96	0	338	47	0	36	28	83	25	210	0	235	32	656	688				
07:45 AM	0	0	0	0	231	115	0	346	40	0	43	28	83	19	195	0	214	30	643	673				
Total	0	0	0	0	916	449	0	1365	236	1	170	116	407	101	746	0	847	140	2619	2759				
% App. Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.969	0.969	0.000	0.250	0.733	0.795	0.842	0.888	0.000	0.901	0.901	0.985	0.985				

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
 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 : 03_MEN_215N_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



Counts Unlimited
 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 : 03_MEN_215N_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

Start Time	I-215 Northbound On Ramp 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 07:00 AM to 08:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	0	0	70	0	58	30	168	0
+15 mins.	0	0	0	0	0	0	79	1	33	27	173	0
+30 mins.	0	0	0	0	0	0	47	0	36	25	210	0
+45 mins.	0	0	0	0	0	0	40	0	43	19	195	0
Total Volume	0	0	0	0	0	0	236	1	170	101	746	0
% App. Total	0	0	0	0	0	0	58	0.2	41.8	11.9	88.1	0
PHF	.000	.000	.000	.000	.000	.000	.747	.250	.733	.842	.888	.000

Groups Printed- Passenger Vehicles

Start Time	I-215 Northbound On Ramp 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			
	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		
07:00 AM	0	0	0	0	0	0	0	206	119	12	325	70	0	56	37	126	29	155	0	184	49	635	0	684		
07:15 AM	0	0	0	0	0	0	0	233	114	6	347	79	1	33	22	113	24	158	0	182	28	642	0	670		
07:30 AM	0	0	0	0	0	0	0	236	93	4	329	46	0	35	28	81	22	198	0	220	32	630	0	662		
07:45 AM	0	0	0	0	0	0	0	226	113	1	339	40	0	38	25	78	19	192	0	211	26	628	0	654		
Total	0	0	0	0	0	0	0	901	439	23	1340	235	1	162	112	398	94	703	0	797	135	2535	0	2670		
08:00 AM	0	0	0	0	0	0	0	169	73	2	242	25	0	55	32	80	18	161	0	179	34	501	0	535		
08:15 AM	0	0	0	0	0	0	0	149	67	2	216	32	0	50	30	82	22	154	0	176	32	474	0	506		
08:30 AM	0	0	0	0	0	0	0	174	82	1	256	39	0	62	29	101	23	151	0	174	30	531	0	561		
08:45 AM	0	0	0	0	0	0	0	182	93	8	275	30	0	62	45	92	22	144	0	166	53	533	0	586		
Total	0	0	0	0	0	0	0	674	315	13	989	126	0	229	136	355	85	610	0	695	149	2039	0	2188		
Grand Total	0	0	0	0	0	0	0	1575	754	36	2329	361	1	391	248	753	179	1313	0	1492	284	4574	0	4858		
Approch %	0	0	0	0	0	0	0	67.6	32.4		47.9	0.1	51.9		16.5				12	88	0		5.8	94.2	0	
Total %	0	0	0	0	0	0	0	34.4	16.5		7.9	0	8.5		16.5				3.9	28.7	0		5.8	94.2	0	

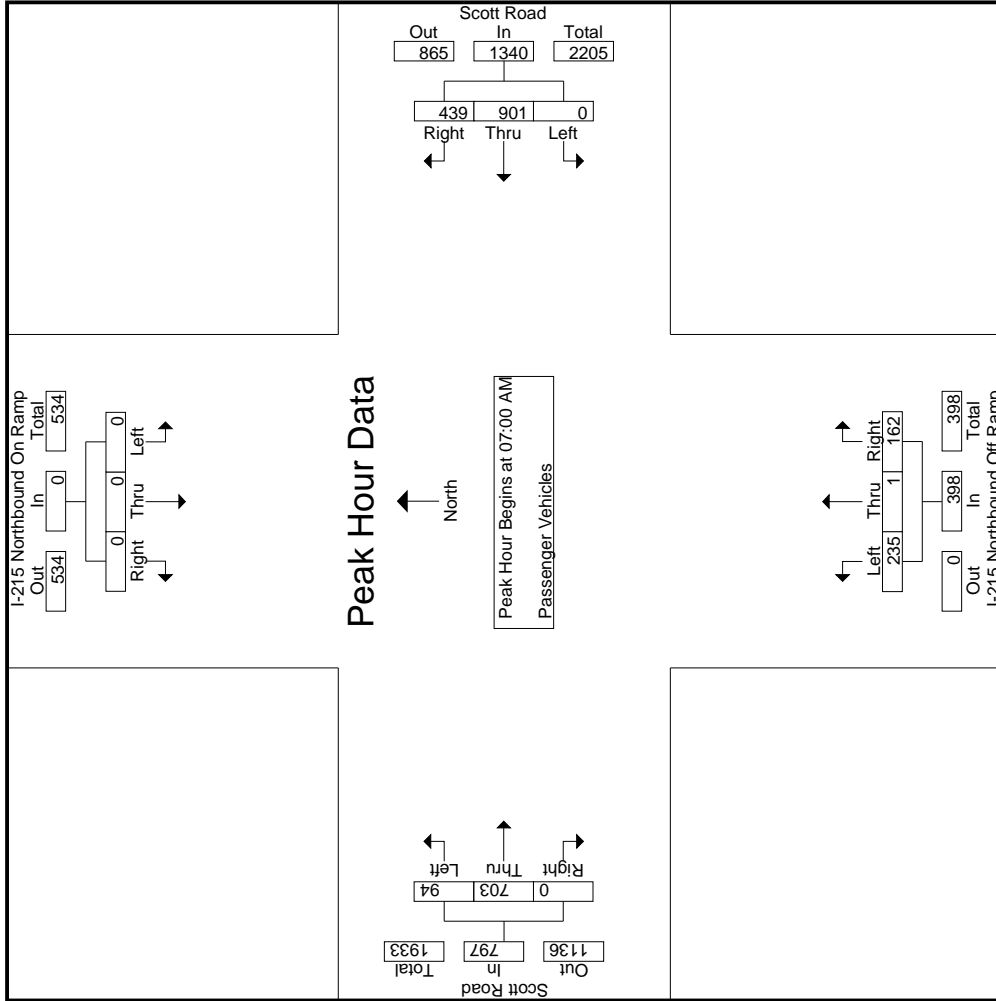
Start Time	I-215 Northbound On Ramp Southbound						Scott Road Westbound						I-215 Northbound Off Ramp Northbound						Scott Road Eastbound							
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right			
	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR		
07:00 AM	0	0	0	0	0	0	0	206	119	12	325	70	0	56	37	126	29	155	0	184	49	635	0	684		
07:15 AM	0	0	0	0	0	0	0	233	114	6	347	79	1	33	22	113	24	158	0	182	28	642	0	670		
07:30 AM	0	0	0	0	0	0	0	236	93	4	329	46	0	35	28	81	22	198	0	220	32	630	0	662		
07:45 AM	0	0	0	0	0	0	0	226	113	1	339	40	0	38	25	78	19	192	0	211	26	628	0	654		
Total Volume	0	0	0	0	0	0	0	901	439	23	1340	235	1	162	112	398	94	703	0	797	135	2535	0	2670		
% App. Total	0	0	0	0	0	0	0	67.2	32.8		47.9	0.3	40.7		16.5				11.8	88.2	0		5.8	94.2	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.954	.922		.965	.744	.723		.790				.810	.888	.000		.906	.987	.000	

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
 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 : 03_MEN_215N_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

File Name : 03_MEN_215N_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Northbound On Ramp 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 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	206	119	0	0	56	29	155	0
+15 mins.	0	0	0	0	233	114	1	33	33	24	158	0
+30 mins.	0	0	0	0	236	93	0	35	81	22	198	0
+45 mins.	0	0	0	0	226	113	0	38	78	19	192	0
Total Volume	0	0	0	0	901	439	1	162	398	94	703	0
% App. Total	0	0	0	0	67.2	32.8	0.3	40.7	11.8	11.8	88.2	0
PHF	.000	.000	.000	.000	.954	.922	.250	.723	.790	.810	.888	.000

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

File Name : 03_MEN_215N_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 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 On Ramp 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	1	6	1	12	13
07:15 AM	0	0	0	0	0	2	2	0	0	4	0	0	0	0	13	0	20	20
07:30 AM	0	0	0	0	0	2	3	0	0	5	1	0	0	0	11	0	20	20
07:45 AM	0	0	0	0	0	4	1	0	0	5	0	0	0	0	2	3	12	15
Total	0	0	0	0	0	10	8	0	0	18	1	0	6	4	7	4	64	68
08:00 AM	0	0	0	0	0	4	1	0	0	5	2	0	1	0	9	0	18	18
08:15 AM	0	0	0	0	0	6	5	0	0	11	0	0	3	1	7	1	22	23
08:30 AM	0	0	0	0	0	1	3	0	0	4	0	0	3	1	4	0	12	14
08:45 AM	0	0	0	0	0	5	3	0	0	8	1	0	1	2	5	2	16	17
Total	0	0	0	0	0	16	12	0	0	28	3	0	8	4	11	4	68	72
Grand Total	0	0	0	0	0	26	20	0	0	46	4	0	14	8	18	11	57	68
Approch %	0	0	0	0	0	56.5	43.5	0	0	22.2	3	0	77.8	0	13.6	16.2	83.8	0
Total %	0	0	0	0	0	19.7	15.2	0	0	34.8	3	0	10.6	0	13.6	8.3	43.2	0
															51.5	5.7	94.3	

3.1-47

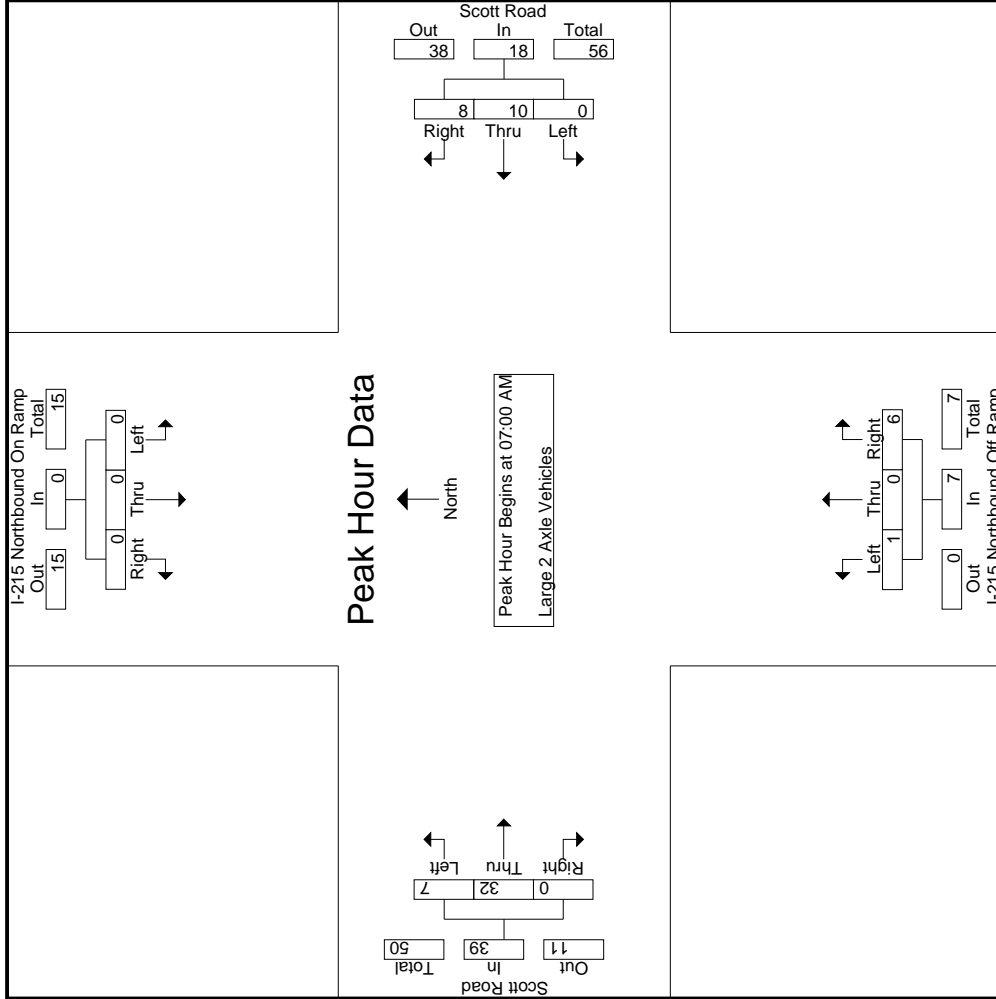
Start Time	I-215 Northbound On Ramp Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	2	2	0	4	0	0	0	0	1	1	7	12
07:15 AM	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	16	20
07:30 AM	0	0	0	0	0	0	2	3	0	5	1	0	0	0	0	0	20	20
07:45 AM	0	0	0	0	0	4	1	0	0	5	0	0	0	0	2	3	12	15
Total Volume	0	0	0	0	0	10	8	0	0	18	1	0	6	4	7	4	64	68
% App. Total	0	0	0	0	0	55.6	44.4	0	0	22.2	3	0	77.8	0	13.6	16.2	83.8	0
PHF	.000	.000	.000	.000	.000	.000	.625	.667	.900	.250	.000	.300	.350	.583	.615	.609	.800	

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
 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 : 03_MEN_215N_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

File Name : 03_MEN_215N_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Northbound On Ramp 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 07:00 AM to 07:45 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
+0 mins.	0	0	0	0	2	2	0	0	1	0	6	0
+15 mins.	0	0	0	0	2	2	0	0	0	3	13	0
+30 mins.	0	0	0	0	2	3	1	0	0	3	11	0
+45 mins.	0	0	0	0	4	1	0	0	5	0	2	0
Total Volume	0	0	0	0	10	8	1	0	6	7	32	0
% App. Total	0	0	0	0	55.6	44.4	14.3	0	85.7	17.9	82.1	0
PHF	.000	.000	.000	.000	.625	.667	.250	.000	.300	.583	.615	.000

Groups Printed- 3 Axle Vehicles

Start Time	I-215 Northbound On Ramp 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	4	0	4	4
07:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	2	0	0	0	1	0	0	0	0	1	0	0	4
07:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
Total	0	0	0	0	0	3	1	0	0	1	0	0	0	0	7	0	0	12
08:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
08:15 AM	0	0	0	0	0	2	1	0	0	0	0	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	1
08:45 AM	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4
Total	0	0	0	0	0	4	4	0	0	0	0	0	0	0	4	0	0	12
Grand Total	0	0	0	0	0	7	5	0	0	1	0	1	10	0	11	0	24	24
Approch %	0	0	0	0	0	58.3	41.7	0	0	100	0	9.1	90.9	0	45.8	0	100	
Total %	0	0	0	0	0	29.2	20.8	0	0	4.2	4.2	4.2	41.7	0	0	0	100	

3.1-50

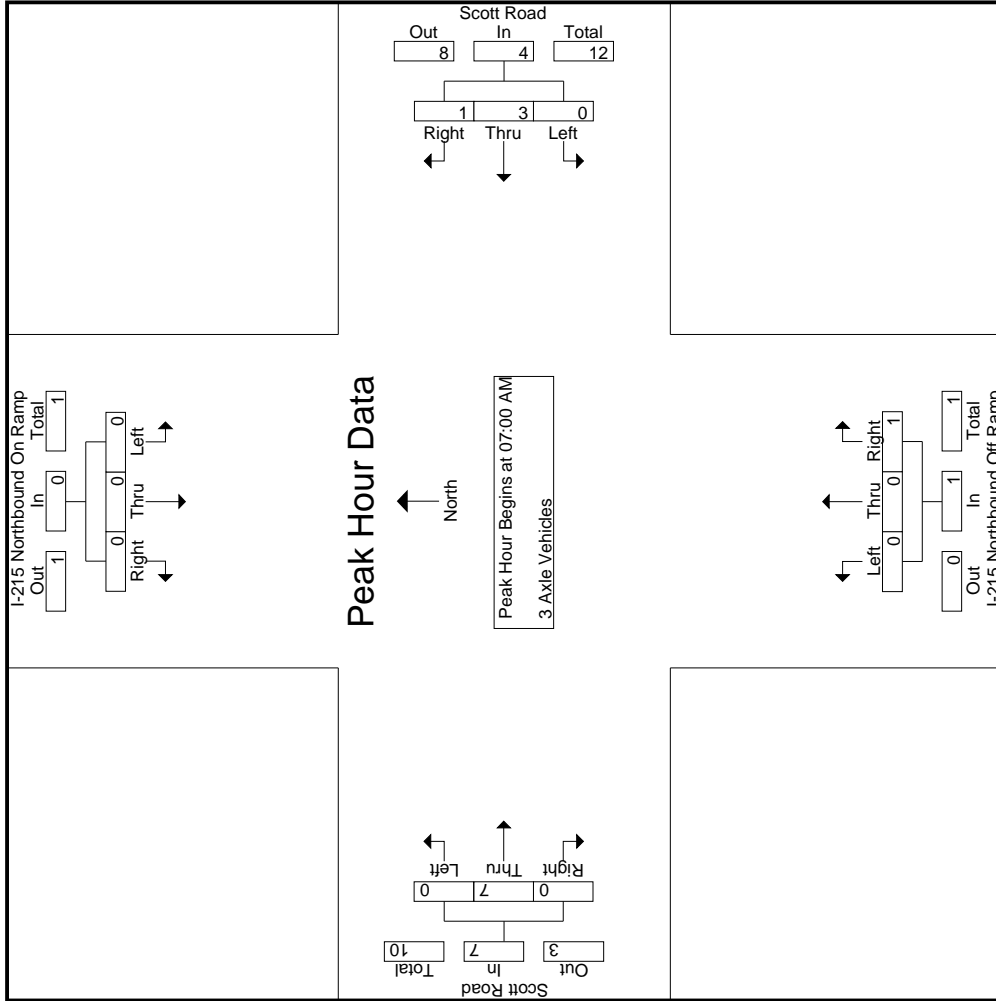
Start Time	I-215 Northbound On Ramp Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
07:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	1	0	0	4
07:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	3	1	0	1	0	0	0	0	7	0	0	12
% App. Total	0	0	0	0	0	0	75	25	0	100	0	100	0	0	0	0	0	100
PHF	.000	.000	.000	.000	.000	.000	.375	.250	.000	.250	.000	.250	.000	.000	.438	.000	.438	.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
 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 : 03_MEN_215N_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

File Name : 03_MEN_215N_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Northbound On Ramp Southbound			Scott Road Westbound			I-215 Northbound Off Ramp Northbound			Scott Road Eastbound		
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. 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			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	2	0	0	1	0	0	1	0	1
+45 mins.	0	0	0	1	0	0	1	0	0	0	0	1
Total Volume	0	0	0	3	1	0	4	0	0	1	7	0
% App. Total	0	0	0	75	25	0	100	0	0	100	0	0
PHF	.000	.000	.000	.000	.375	.250	.500	.000	.250	.250	.438	.000

Groups Printed- 4+ Axle Trucks

Start Time	I-215 Northbound On Ramp 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	3	0	0	0	4	4
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:30 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	2
Total	0	0	0	0	0	2	1	1	3	3	0	0	1	0	4	1	8	9
08:00 AM	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	2	2
08:15 AM	0	0	0	0	0	0	1	1	1	1	1	1	2	0	0	2	3	5
08:30 AM	0	0	0	0	0	0	1	0	1	1	1	1	1	0	0	1	3	4
08:45 AM	0	0	0	0	0	3	2	0	5	0	0	1	0	0	1	0	7	7
Total	0	0	0	0	0	5	4	1	9	2	4	0	2	0	2	3	15	18
Grand Total	0	0	0	0	0	7	5	2	12	2	5	0	6	0	6	4	23	27
Approch %	0	0	0	0	0	58.3	41.7					0	100	0	26.1	14.8	85.2	
Total %	0	0	0	0	0	30.4	21.7		52.2	21.7	0	26.1	0	0	26.1	14.8	85.2	

3.1-53

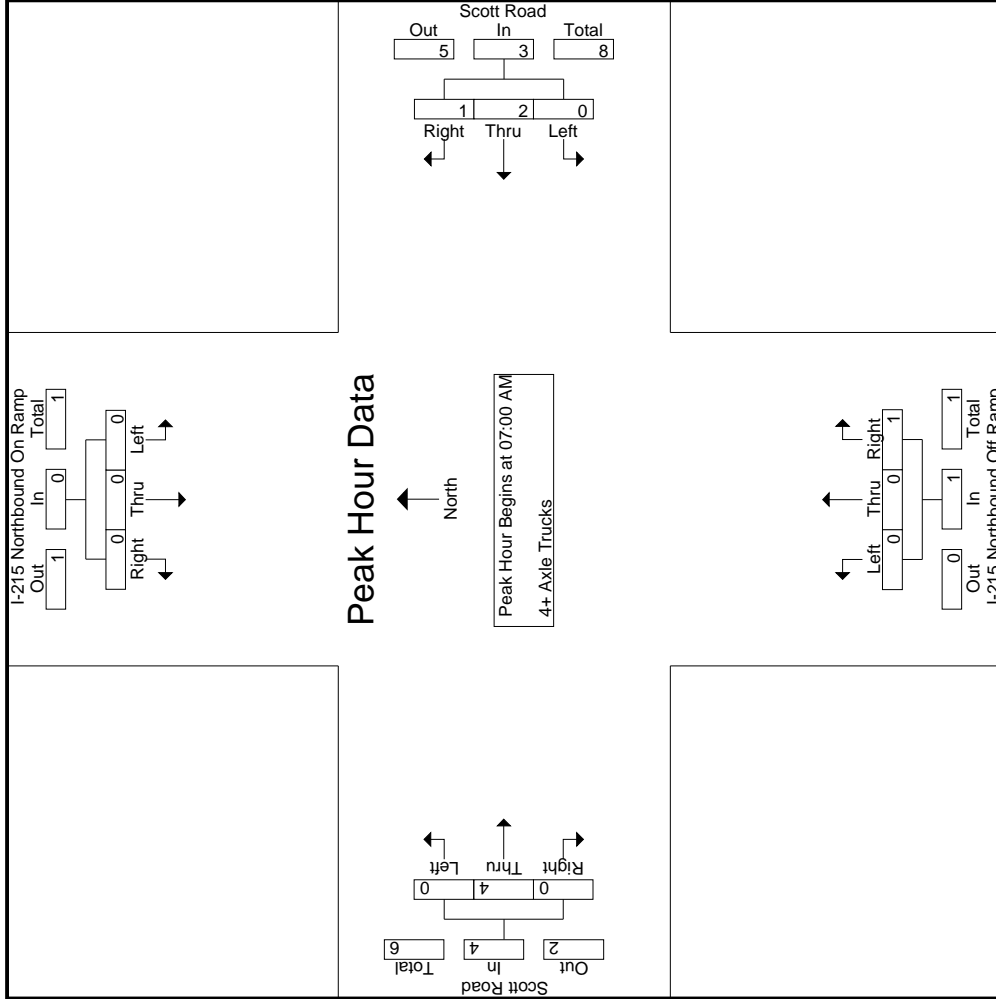
Start Time	I-215 Northbound On Ramp Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	4
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	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	2
07:45 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	2
Total Volume	0	0	0	0	0	2	1	3	3	1	1	0	4	0	4	1	8	9
% App. Total	0	0	0	0	0	66.7	33.3		.250	.250	0	100	0	0	100	0	100	0
PHF	.000	.000	.000	.000	.000	.000	.250	.375	.250	.250	.000	.250	.250	.000	.333	.000	.333	.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
 PO Box 1178
 Corona, CA 92878
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City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 03_MEN_215N_Scot_AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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File Name : 03_MEN_215N_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Northbound On Ramp Southbound			Scott Road Westbound			I-215 Northbound Off 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 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	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
+30 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	2	2	1	3	0	0	0	1	1	0	4	0	0	0	4
% App. Total	0	0	0	0	66.7	33.3	.250	.250	0	0	100	.250	.250	0	100	0	0	0	100
PHF	.000	.000	.000	.000	.000	.250	.250	.375	.000	.000	.250	.250	.250	.000	.333	.000	.000	.000	.333

Counts Unlimited
 PO Box 1178
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City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 03_MEN_215N_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

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

Start Time	I-215 Northbound On Ramp						I-215 Northbound Off Ramp						Scott Road Eastbound										
	Southbound			Westbound			Northbound			Northbound			Eastbound			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	192	99	15	291	83	1	93	5	177	19	220	0	0	239	20	707	727
04:15 PM	0	0	0	0	0	0	180	100	23	280	90	0	104	9	194	21	200	0	0	221	32	695	727
04:30 PM	0	0	0	0	0	0	175	88	16	263	104	0	119	14	223	25	197	0	0	222	30	708	738
04:45 PM	0	0	0	0	0	0	175	123	26	298	98	0	102	12	200	15	221	0	0	236	38	734	772
Total	0	0	0	0	0	0	722	410	80	1132	375	1	418	40	794	80	838	0	0	918	120	2844	2964
05:00 PM	0	0	0	0	0	0	195	108	11	303	99	0	86	9	185	26	227	0	0	253	20	741	761
05:15 PM	0	0	0	0	0	0	205	115	19	320	88	0	93	20	181	19	215	0	0	234	39	735	774
05:30 PM	0	0	0	0	0	0	188	101	14	289	94	0	100	16	194	22	216	0	0	238	30	721	751
05:45 PM	0	0	0	0	0	0	184	61	9	245	100	1	108	15	209	13	211	0	0	224	24	678	702
Total	0	0	0	0	0	0	772	385	53	1157	381	1	387	60	769	80	869	0	0	949	113	2875	2988
Grand Total	0	0	0	0	0	0	1494	795	133	2289	756	2	805	100	1563	160	1707	0	0	1867	233	5719	5952
Approch %	0	0	0	0	0	0	65.3	34.7		40	48.4	0.1	51.5		27.3	8.6	91.4	0	0		3.9	96.1	
Total %	0	0	0	0	0	0	26.1	13.9		40	13.2	0	14.1		27.3	2.8	29.8	0	0		3.9	96.1	
Passenger Vehicles	0	0	0	0	0	0	1462	755	95	98.5	2348	742	2	797	1639	153	1678	0	0	1831	0	0	5818
Passenger Vehicles	0	0	0	0	0	0	97.9	95	98.5	96.9	98.1	100	99	98	98.6	95.6	98.3	0	0	98.1	0	0	97.7
Large 2 Axle Vehicles	0	0	0	0	0	0	31	28	61	61	14	0	7	23	23	7	23	0	0	30	0	0	114
Large 2 Axle Vehicles	0	0	0	0	0	0	2.1	3.5	1.5	2.5	1.9	0	0.9	2	1.4	4.4	1.3	0	0	1.6	0	0	1.9
3 Axle Vehicles	0	0	0	0	0	0	0	10	10	10	0	0	1	1	1	0	2	0	2	0	0	0	13
3 Axle Vehicles	0	0	0	0	0	0	0	1.3	0	0.4	0	0	0.1	0	0.1	0	0.1	0	0	0.1	0	0	0.2
4+ Axle Trucks	0	0	0	0	0	0	1	2	3	3	0	0	0	0	0	0	4	0	4	0	0	0	7
4+ Axle Trucks	0	0	0	0	0	0	0.1	0.3	0	0.1	0	0	0	0	0	0	0.2	0	0.2	0	0	0	0.1

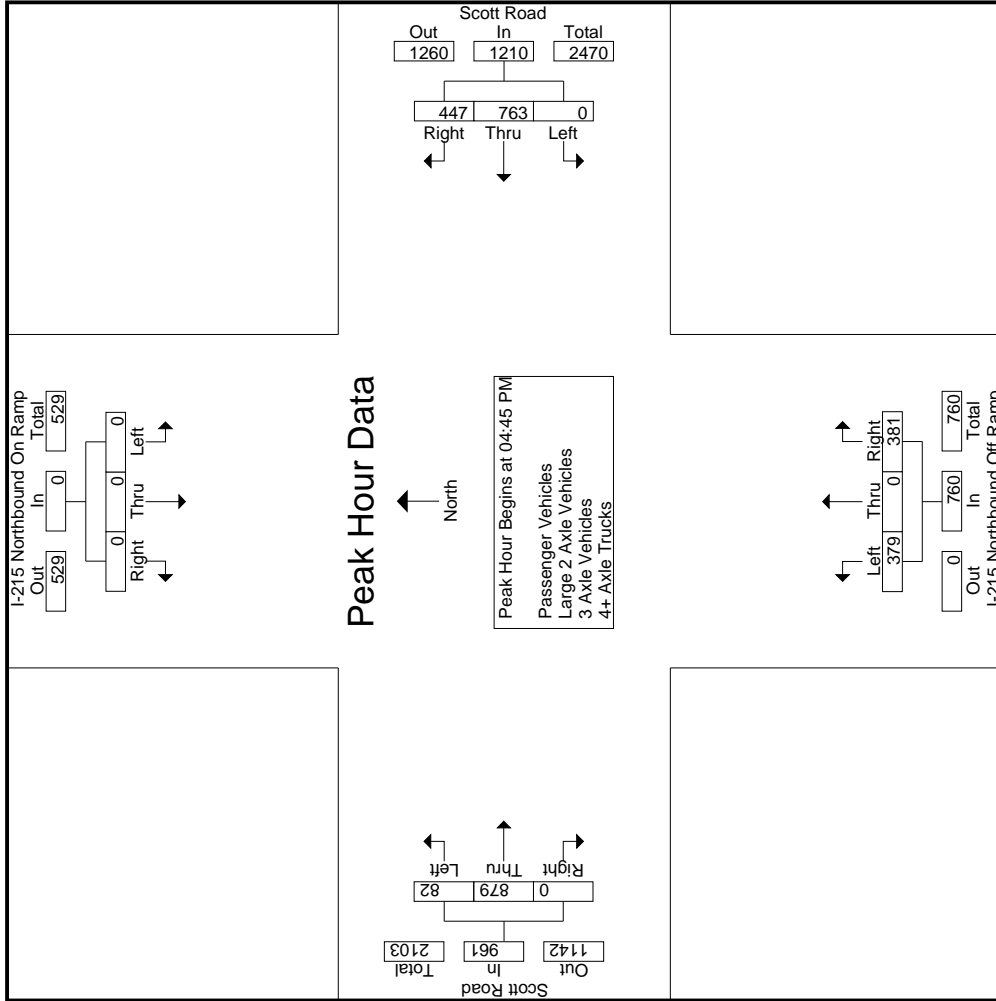
Start Time	I-215 Northbound On Ramp						Scott Road Westbound						I-215 Northbound Off Ramp						Scott Road Eastbound								
	Southbound			Westbound			Northbound			Northbound			Eastbound			Eastbound			Eastbound			Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	175	123	298	98	0	102	200	15	221	0	236	0	734			
05:00 PM	0	0	0	0	0	0	195	108	303	303	99	0	86	86	185	26	227	0	0	253	20	741	761				
05:15 PM	0	0	0	0	0	0	205	115	19	320	88	0	93	20	181	19	215	0	0	234	39	735	774				
05:30 PM	0	0	0	0	0	0	188	101	14	289	94	0	100	16	194	22	216	0	0	238	30	721	751				
05:45 PM	0	0	0	0	0	0	184	61	9	245	100	1	108	15	209	13	211	0	0	224	24	678	702				
Total Volume	0	0	0	0	0	0	763	447	1210	1210	379	0	381	760	82	879	0	0	961	120	2844	2964					
% App. Total	0	0	0	0	0	0	63.1	36.9		36.9	49.9	0	50.1		50.1	8.5	91.5	0	0		3.9	96.1					
PHF	.000	.000	.000	.000	.000	.000	.930	.909		.945	.957	.000	.934		.950	.788	.968	.000	.000		.950	.950	.989				

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
 PO Box 1178
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City of Menifee
 N/S: I-215 Northbound Ramps
 E/W: Scott Road
 Weather: Clear

File Name : 03_MEN_215N_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



Counts Unlimited
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 (951) 268-6268

File Name : 03_MEN_215N_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Northbound On Ramp Southbound			Scott Road Westbound			I-215 Northbound Off Ramp Northbound			Scott Road Eastbound			
	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 Each Approach Begins at:													
	04:00 PM			04:45 PM			04:15 PM			04:45 PM			
+0 mins.	0	0	0	0	175	123	298	0	104	194	221	0	236
+15 mins.	0	0	0	0	195	108	303	0	119	223	227	0	253
+30 mins.	0	0	0	0	205	115	320	0	102	200	215	0	234
+45 mins.	0	0	0	0	188	101	289	0	86	185	216	0	238
Total Volume	0	0	0	0	763	447	1210	0	411	802	879	0	961
% App. Total	0	0	0	0	63.1	36.9	.945	0	51.2	.899	91.5	0	.950
PHF	.000	.000	.000	.000	.930	.909	.945	.000	.863	.899	.968	.000	.950

Groups Printed- Passenger Vehicles

Start Time	I-215 Northbound On Ramp 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	180	97	15	277	83	1	92	5	176	19	210	0	0	229	20	682	702
04:15 PM	0	0	0	0	0	0	173	90	23	263	89	0	103	9	192	18	199	0	0	217	32	672	704	
04:30 PM	0	0	0	0	0	0	172	82	15	254	99	0	116	14	215	23	194	0	0	217	29	686	715	
04:45 PM	0	0	0	0	0	0	174	119	26	293	94	0	99	10	193	15	217	0	0	232	36	718	754	
Total	0	0	0	0	0	0	699	388	79	1087	365	1	410	38	776	75	820	0	0	895	117	2758	2875	
05:00 PM	0	0	0	0	0	0	193	101	11	294	99	0	86	9	185	26	226	0	0	252	20	731	751	
05:15 PM	0	0	0	0	0	0	202	112	18	314	87	0	93	20	180	18	210	0	0	228	38	722	760	
05:30 PM	0	0	0	0	0	0	184	96	14	280	92	0	100	16	192	22	214	0	0	236	30	708	738	
05:45 PM	0	0	0	0	0	0	184	58	9	242	99	1	108	15	208	12	208	0	0	220	24	670	694	
Total	0	0	0	0	0	0	763	367	52	1130	377	1	387	60	765	78	858	0	0	936	112	2831	2943	
Grand Total	0	0	0	0	0	0	1462	755	131	2217	742	2	797	98	1541	153	1678	0	0	1831	229	5589	5818	
Approch %	0	0	0	0	0	0	65.9	34.1		48.2	0.1	51.7		27.6	8.4	91.6			32.8					
Total %	0	0	0	0	0	0	26.2	13.5		39.7	13.3	0	14.3		27.6	2.7	30			32.8	3.9	96.1		

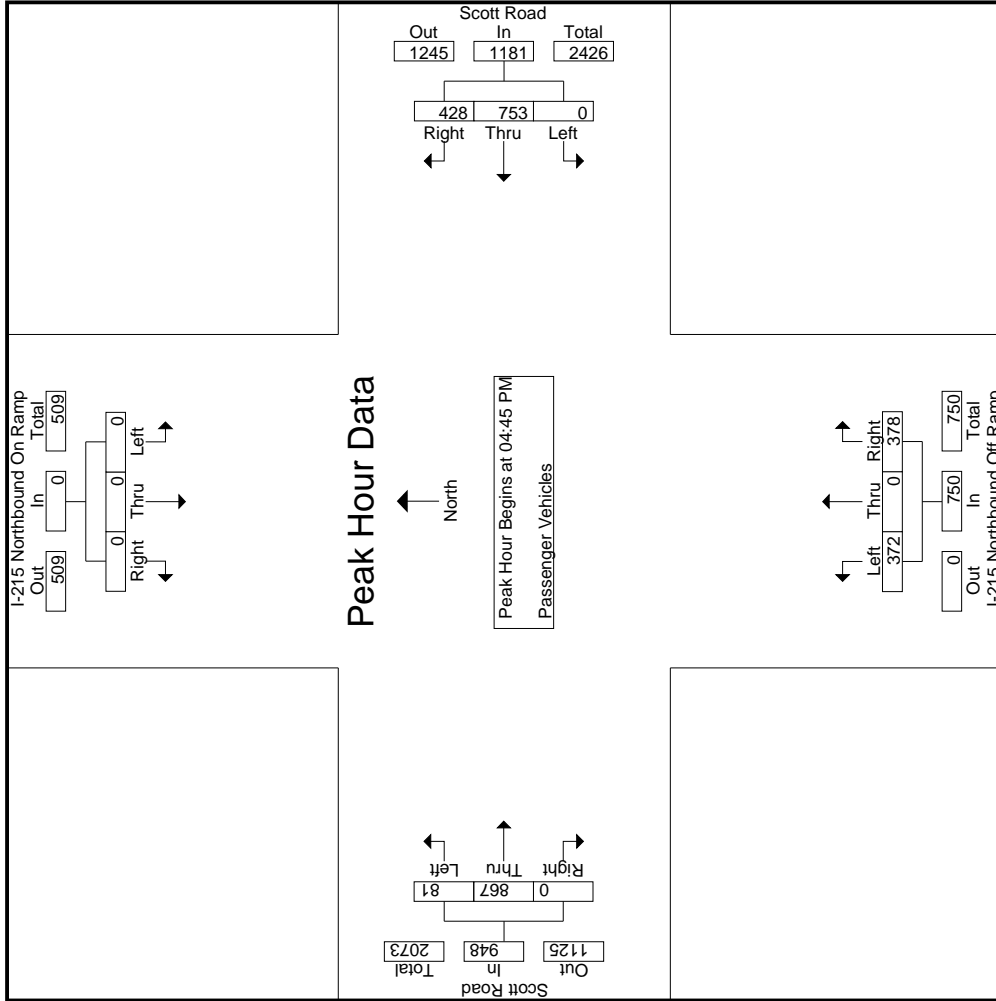
Start Time	I-215 Northbound On Ramp Southbound						Scott Road Westbound						I-215 Northbound Off Ramp Northbound						Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
	04:45 PM	0	0	0	0	0	0	174	119		293	94	0	99		193	15	217	0	0	232			718
05:00 PM	0	0	0	0	0	0	193	101		294	99	0	86		185	26	226	0	0	252			731	
05:15 PM	0	0	0	0	0	0	202	112		314	87	0	93		180	18	210	0	0	228			722	
05:30 PM	0	0	0	0	0	0	184	96		280	92	0	100		192	22	214	0	0	236			708	
Total Volume	0	0	0	0	0	0	753	428		1181	372	0	378		750	81	867	0	0	948			2879	
% App. Total	0	0	0	0	0	0	63.8	36.2		36.2	49.6	0	50.4		50.4	8.5	91.5	0	0	91.5			985	
PHF	.000	.000	.000	.000	.000	.000	.932	.899		.940	.939	.000	.945		.972	.779	.959	.000	.000	.940			.985	

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
 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 : 03_MEN_215N_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



Counts Unlimited
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File Name : 03_MEN_215N_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Northbound On Ramp Southbound			Scott Road Westbound			I-215 Northbound Off 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 04:45 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	174	119	293	0	0	99	193	15	217	0	232
+15 mins.	0	0	0	0	0	193	101	294	0	0	86	185	26	226	0	252
+30 mins.	0	0	0	0	0	202	112	314	0	0	93	180	18	210	0	228
+45 mins.	0	0	0	0	0	184	96	280	0	0	100	192	22	214	0	236
Total Volume	0	0	0	0	0	753	428	1181	0	0	378	750	81	867	0	948
% App. Total	0	0	0	0	0	63.8	36.2	94.0	0	0	50.4	97.2	8.5	91.5	0	94.0
PHF	.000	.000	.000	.000	.000	.932	.899	.940	.000	.000	.945	.972	.779	.959	.000	.940

Groups Printed- Large 2 Axle Vehicles

Start Time	I-215 Northbound On Ramp 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	
	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	12	2	0	14	0	0	0	1	0	0	8	0	0	8	0	23	23	
04:15 PM	0	0	0	0	0	6	6	0	12	1	0	0	0	1	3	1	0	4	0	4	0	17	17	
04:30 PM	0	0	0	0	0	3	4	1	7	5	0	3	0	8	2	2	0	4	0	4	1	19	20	
04:45 PM	0	0	0	0	0	1	3	0	4	4	0	3	2	7	0	3	0	3	0	3	2	14	16	
Total	0	0	0	0	0	22	15	1	37	10	0	7	2	17	5	14	0	19	0	3	73	76		
05:00 PM	0	0	0	0	0	2	4	0	6	0	0	0	0	0	0	1	0	0	1	0	0	7	7	
05:15 PM	0	0	0	0	0	3	3	1	6	1	0	0	0	1	1	5	0	6	1	13	1	13	14	
05:30 PM	0	0	0	0	0	4	3	0	7	2	0	0	0	2	0	1	0	1	0	0	1	10	10	
05:45 PM	0	0	0	0	0	0	3	0	3	1	0	0	0	1	1	2	0	3	0	0	0	7	7	
Total	0	0	0	0	0	9	13	1	22	4	0	0	0	4	2	9	0	11	1	37	1	37	38	
Grand Total	0	0	0	0	0	31	28	2	59	14	0	7	2	21	7	23	0	30	0	4	110	110	114	
Approch %	0	0	0	0	0	52.5	47.5			66.7	0	33.3		19.1	23.3	76.7	0	27.3	0	3.5	96.5			
Total %	0	0	0	0	0	28.2	25.5		53.6	12.7	0	6.4		19.1	6.4	20.9	0	27.3	0	3.5	96.5			

Start Time	I-215 Northbound On Ramp 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	
	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	4	0	0	0	3	0	0	0	0	0	0	0	0	3	14
05:00 PM	0	0	0	0	0	0	2	4	6	6	0	0	0	0	0	0	0	1	0	0	0	1	7	7
05:15 PM	0	0	0	0	0	0	3	0	3	6	1	0	0	1	1	5	0	6	1	13	1	13	14	
05:30 PM	0	0	0	0	0	0	4	3	7	2	0	0	0	2	0	1	0	1	0	0	0	10	10	
05:45 PM	0	0	0	0	0	0	3	0	3	1	0	0	0	1	1	2	0	3	0	0	0	7	7	
Total	0	0	0	0	0	9	13	1	22	4	0	0	0	4	2	9	0	11	1	37	1	37	38	
Grand Total	0	0	0	0	0	31	28	2	59	14	0	7	2	21	7	23	0	30	0	4	110	110	114	
Approch %	0	0	0	0	0	52.5	47.5			66.7	0	33.3		19.1	23.3	76.7	0	27.3	0	3.5	96.5			
Total %	0	0	0	0	0	28.2	25.5		53.6	12.7	0	6.4		19.1	6.4	20.9	0	27.3	0	3.5	96.5			

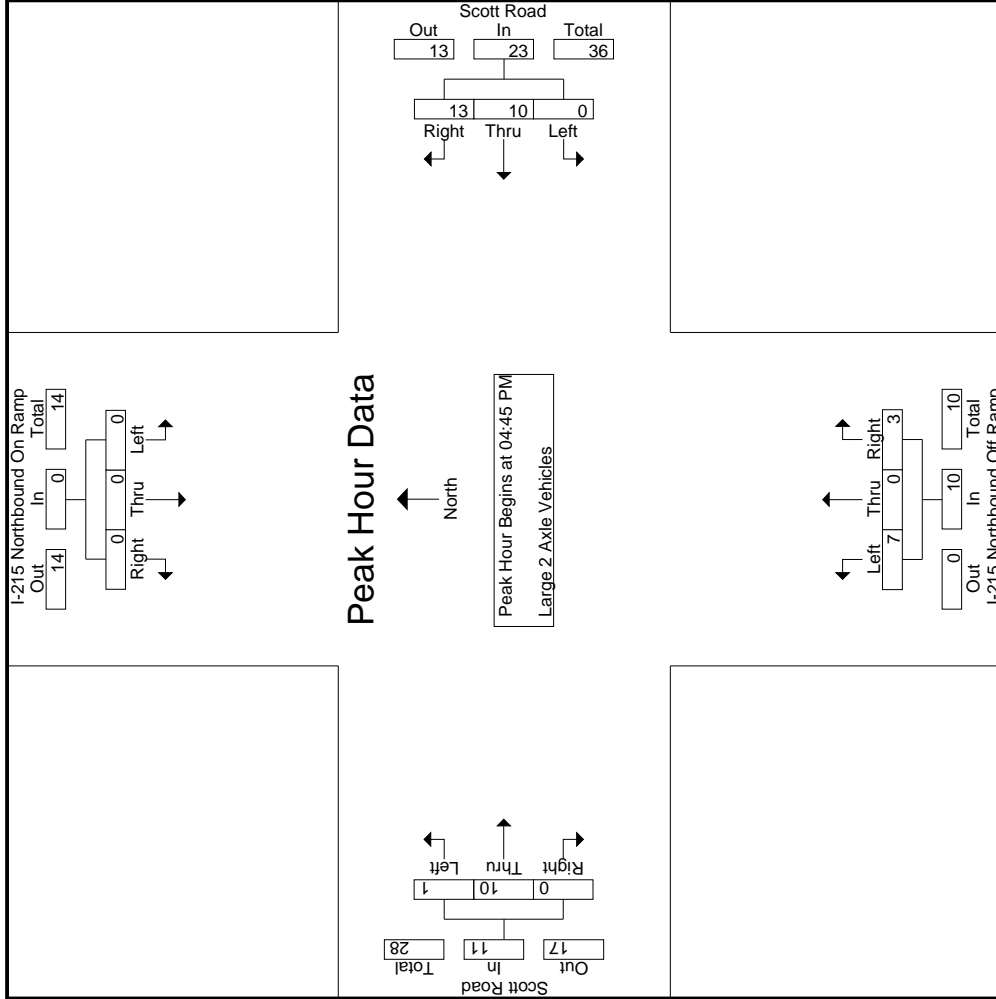
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Start Time	I-215 Northbound On Ramp Southbound						Scott Road Westbound						I-215 Northbound Off Ramp Northbound						Scott Road Eastbound					
	Left		Thru		Right		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	Exclu. Total	Inclu. Total	Int. Total	
04:45 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	3	14
05:00 PM	0	0	0	0	0	0	2	4	6	6	0	0	0	0	0	0	0	1	0	0	0	1	7	7
05:15 PM	0	0	0	0	0	0	3	0	3	6	1	0	0	1	1	5	0	6	1	13	1	13	14	
05:30 PM	0	0	0	0	0	0	4	3	7	2	0	0	0	2	0	1	0	1	0	0	0	10	10	
05:45 PM	0	0	0	0	0	0	3	0	3	1	0	0	0	1	1	2	0	3	0	0	0	7	7	
Total	0	0	0	0	0	9	13	1	22	4	0	0	0	4	2	9	0	11	1	37	1	37	38	
% App. Total	0	0	0	0	0	43.5	56.5		53.6	12.7	0	6.4		19.1	6.4	20.9	0	27.3	0	3.5	96.5			
PHF	.000	.000	.000	.000	.000	.000	.625	.813	.821	.438	.000	.250	.357	.250	.250	.500	.000	.458	.000	.458	.786			

Counts Unlimited
 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 : 03_MEN_215N_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

File Name : 03_MEN_215N_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Northbound On Ramp Southbound			Scott Road Westbound			I-215 Northbound Off 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 04:45 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	1	3	4	0	0	3	0	0	3
+15 mins.	0	0	0	0	2	4	6	0	0	0	0	0	1
+30 mins.	0	0	0	0	3	3	6	1	0	0	1	0	6
+45 mins.	0	0	0	0	4	3	7	2	0	0	0	0	1
Total Volume	0	0	0	0	10	13	23	7	0	3	10	0	11
% App. Total	0	0	0	0	43.5	56.5		70	0	30	9.1	90.9	0
PHF	.000	.000	.000	.000	.625	.813	.821	.438	.000	.250	.357	.250	.458

Groups Printed- 3 Axle Vehicles

Start Time	I-215 Northbound On Ramp 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	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	0	0	4	0	4	0	0	1	0	0	0	0	0	0	5	5
04:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	6	0	6	0	0	1	0	0	1	0	1	0	8	8
05:00 PM	0	0	0	0	2	0	2	0	0	0	0	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
05:30 PM	0	0	0	0	2	0	2	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	1	0	1	1
Total	0	0	0	0	4	0	4	0	0	0	0	0	1	0	1	0	5	5
Grand Total	0	0	0	0	10	0	10	0	0	1	0	0	2	0	2	0	13	13
Approch %	0	0	0	0	100	0	100	0	0	100	0	100	0	0	15.4	0	100	100
Total %	0	0	0	0	76.9	0	76.9	0	0	7.7	0	15.4	0	0	15.4	0	100	100

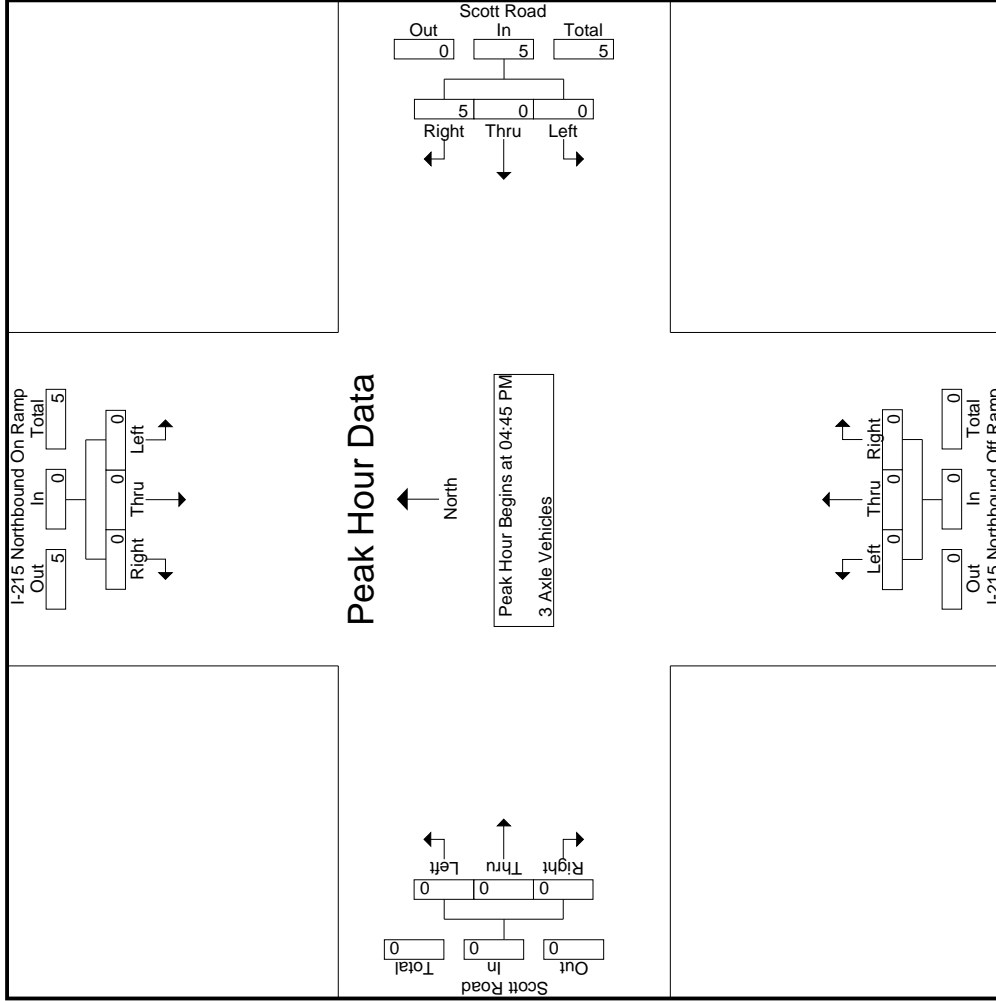
Start Time	I-215 Northbound On Ramp Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	2	0	2	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	2	0	2	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	5
% App. Total	0	0	0	0	100	0	100	0	0	0	0	0	0	0	0	0	0	100
PHF	.000	.000	.000	.000	.625	.000	.625	.000	.000	.000	.000	.000	.000	.000	.000	.000	.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
 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 : 03_MEN_215N_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

File Name : 03_MEN_215N_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Northbound On Ramp Southbound			Scott Road Westbound			I-215 Northbound Off 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 04:45 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	1	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	0	2	2	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	2	2	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	5	5	0	0	0	0	0	0	
% App. Total	0	0	0	0	0	0	100	.625	0	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.625	.625	.000	.000	.000	.000	.000	.000	

Groups Printed- 4+ Axle Trucks

Start Time	I-215 Northbound On Ramp 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	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	1	0	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	0	0	0	0	1	0	1	1
Total	0	0	0	0	2	0	0	0	0	0	0	3	0	0	3	0	5	5
05:00 PM	0	0	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	1	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	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
Grand Total	0	0	0	0	3	0	0	0	0	0	0	4	0	0	4	0	7	7
Approch %	0	0	0	0	33.3	0	0	0	0	0	0	100	0	0	57.1	0	100	100
Total %	0	0	0	0	42.9	0	0	0	0	0	0	57.1	0	0	57.1	0	100	100

3.1-68

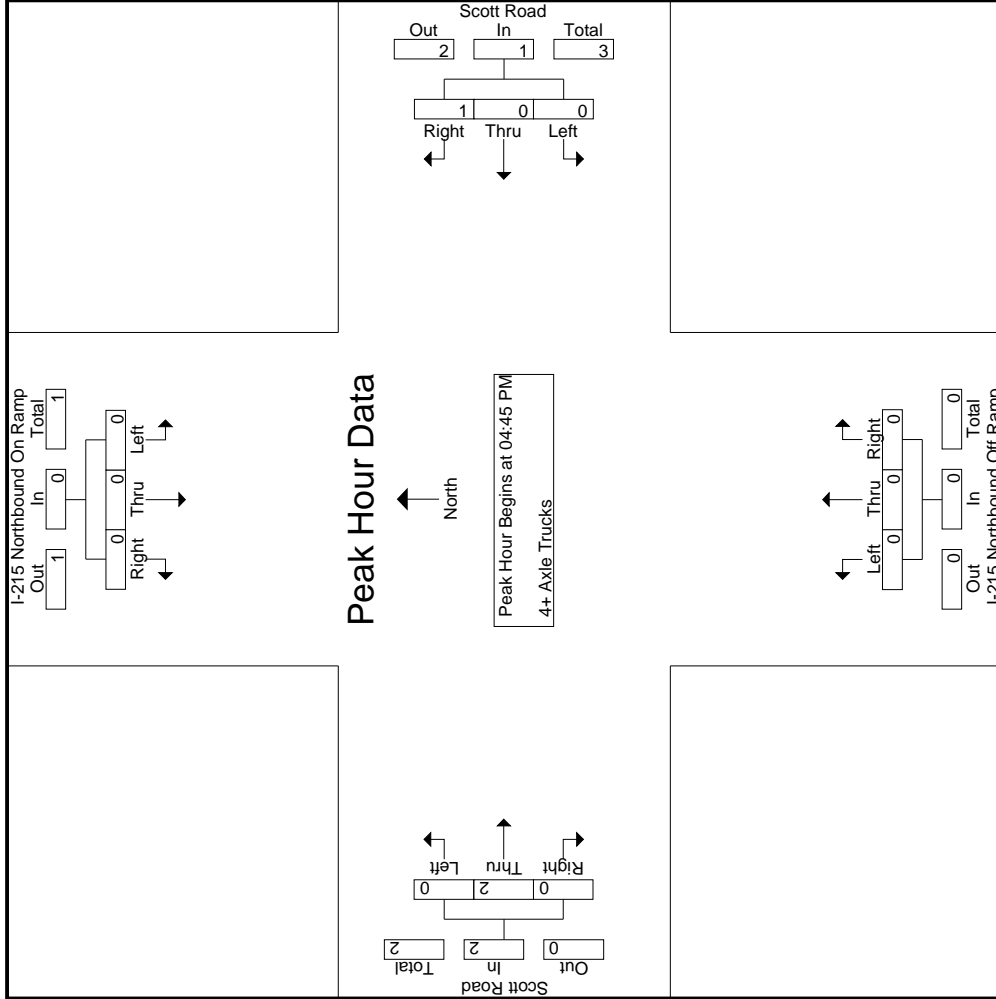
Start Time	I-215 Northbound On Ramp Southbound				Scott Road Westbound				I-215 Northbound Off Ramp Northbound				Scott Road Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	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
Total Volume	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	2	3
% App. Total	0	0	0	0	100	0	0	0	0	0	0	100	0	0	100	0	100	100
PHF	.000	.000	.000	.000	.250	.000	.000	.000	.000	.250	.000	.500	.000	.000	.500	.000	.750	.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
 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 : 03_MEN_215N_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

File Name : 03_MEN_215N_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

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

Start Time	I-215 Northbound On Ramp Southbound			Scott Road Westbound			I-215 Northbound Off 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 04:45 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	0	0	0	1
+15 mins.	0	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	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	1	0	0	0	0	2	0
% App. Total	0	0	0	0	0	100	.250	0	0	0	0	100	0
PHF	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.500	.500

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



Date: 1/11/2018
 Date: Thursday

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	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	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
 E/W: Scott Road



Date: 1/11/2018
 Date: Thursday

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	1	0	0	0	0	0	0	0	1
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	1	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	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	1	0	1	0	0	0	0	0	0	0	2

	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
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

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

City of Menifee
 N/S: Antelope Road
 E/W: Scott Road
 Weather: Clear

File Name : 04_MEN_Ant_Scot_AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

Groups Printed- Total Volume

Start Time	Antelope Road Southbound				Scott Road Westbound				Antelope Road Northbound				Scott Road 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	9	20	67	10	5	186	3	1	194	79	6	13	10	98	33	117	69	17	219	38	607	645
07:15 AM	10	27	93	2	5	179	3	1	187	83	17	13	9	113	12	117	71	22	200	34	630	664
07:30 AM	10	28	79	3	4	168	8	0	180	93	20	18	9	131	30	135	77	17	242	29	670	699
07:45 AM	13	49	67	5	9	207	7	1	223	74	26	19	10	119	31	135	70	24	236	40	707	747
Total	42	124	306	20	23	740	21	3	784	329	69	63	38	461	106	504	287	80	897	141	2614	2755
08:00 AM	6	28	53	16	21	129	8	2	158	59	37	17	9	113	27	123	75	29	225	56	583	639
08:15 AM	11	47	54	6	16	120	10	3	146	50	45	9	4	104	23	112	81	34	216	47	578	625
08:30 AM	15	43	56	6	12	134	7	1	153	71	25	16	12	112	29	117	74	33	220	52	599	651
08:45 AM	10	26	52	14	23	181	4	1	208	48	14	23	18	85	25	108	78	15	211	48	592	640
Total	42	144	215	42	72	564	29	7	665	228	121	65	43	414	104	460	308	111	872	203	2352	2555
Grand Total	84	268	521	62	95	1304	50	10	1449	557	190	128	81	875	210	964	595	191	1769	344	4966	5310
Approach %	9.6	30.7	59.7		6.6	90	3.5		29.2	63.7	21.7	14.6		17.6	11.9	54.5	33.6		35.6	6.5	93.5	
Total %	1.7	5.4	10.5		1.9	26.3	1			11.2	3.8	2.6			4.2	19.4	12					

Start Time	Antelope Road Southbound				Scott Road Westbound				Antelope Road Northbound				Scott Road 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	9	20	67	10	5	186	3	1	194	79	6	13	10	98	33	117	69	17	219	38	607	645
07:15 AM	10	27	93	2	5	179	3	1	187	83	17	13	9	113	12	117	71	22	200	34	630	664
07:30 AM	10	28	79	3	4	168	8	0	180	93	20	18	9	131	30	135	77	17	242	29	670	699
07:45 AM	13	49	67	5	9	207	7	1	223	74	26	19	10	119	31	135	70	24	236	40	707	747
Total	42	124	306	20	23	740	21	3	784	329	69	63	38	461	106	504	287	80	897	141	2614	2755
08:00 AM	6	28	53	16	21	129	8	2	158	59	37	17	9	113	27	123	75	29	225	56	583	639
08:15 AM	11	47	54	6	16	120	10	3	146	50	45	9	4	104	23	112	81	34	216	47	578	625
08:30 AM	15	43	56	6	12	134	7	1	153	71	25	16	12	112	29	117	74	33	220	52	599	651
08:45 AM	10	26	52	14	23	181	4	1	208	48	14	23	18	85	25	108	78	15	211	48	592	640
Total	42	144	215	42	72	564	29	7	665	228	121	65	43	414	104	460	308	111	872	203	2352	2555
Grand Total	84	268	521	62	95	1304	50	10	1449	557	190	128	81	875	210	964	595	191	1769	344	4966	5310
Approach %	9.6	30.7	59.7		6.6	90	3.5		29.2	63.7	21.7	14.6		17.6	11.9	54.5	33.6		35.6	6.5	93.5	
Total %	1.7	5.4	10.5		1.9	26.3	1			11.2	3.8	2.6			4.2	19.4	12					

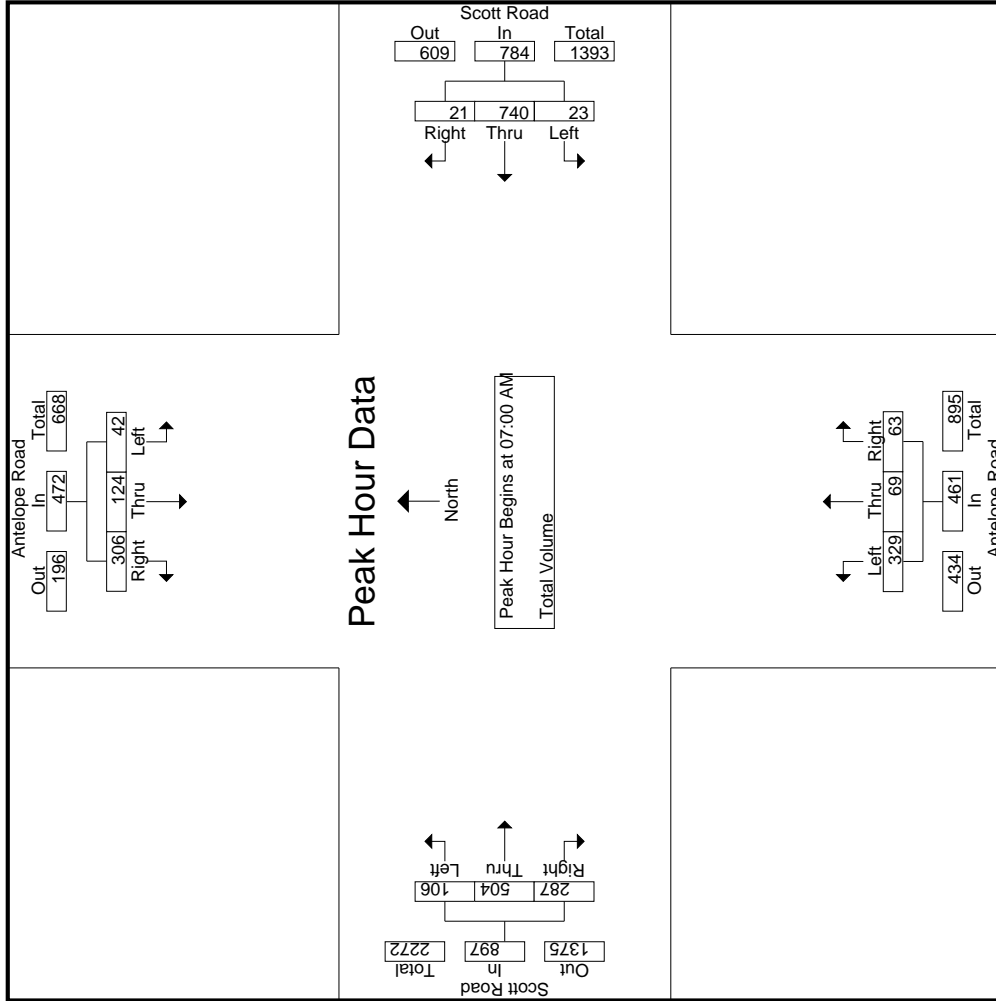
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	Antelope Road Southbound				Scott Road Westbound				Antelope Road Northbound				Scott Road 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	9	20	67	10	5	186	3	1	194	79	6	13	10	98	33	117	69	17	219	38	607	645
07:15 AM	10	27	93	2	5	179	3	1	187	83	17	13	9	113	12	117	71	22	200	34	630	664
07:30 AM	10	28	79	3	4	168	8	0	180	93	20	18	9	131	30	135	77	17	242	29	670	699
07:45 AM	13	49	67	5	9	207	7	1	223	74	26	19	10	119	31	135	70	24	236	40	707	747
Total	42	124	306	20	23	740	21	3	784	329	69	63	38	461	106	504	287	80	897	141	2614	2755
% App. Total	8.9	26.3	64.8		2.9	94.4	2.7		13.7	71.4	15	13.7		11.8	56.2	32			35.6	6.5	93.5	
PHF	.808	.633	.823		.908	.639	.894		.879	.884	.663	.829		.880	.803	.933	.932		.927		.924	

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

City of Menifee
 N/S: Antelope Road
 E/W: Scott Road
 Weather: Clear

File Name : 04_MEN_Ant_Scot_AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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

City of Menifee
 N/S: Antelope Road
 E/W: Scott Road
 Weather: Clear

File Name : 04_MEN_Ant_Scot_AM
 Site Code : 05118004
 Start Date : 1/11/2018
 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	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			07:15 AM			07:30 AM				
+0 mins.	9	20	67	5	186	3	194	83	17	13	30	135	77	242
+15 mins.	10	27	93	5	179	3	187	93	20	18	31	135	70	236
+30 mins.	10	28	79	4	168	8	180	74	26	19	27	123	75	225
+45 mins.	13	49	67	9	207	7	223	59	37	17	23	112	81	216
Total Volume	42	124	306	23	740	21	784	309	100	67	111	505	303	919
% App. Total	8.9	26.3	64.8	2.9	94.4	2.7	64.9	64.9	21	14.1	12.1	55	33	
PHF	.808	.633	.823	.639	.894	.656	.879	.831	.676	.882	.895	.935	.935	.949

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

City of Menifee
 N/S: Antelope Road
 E/W: Scott Road
 Weather: Clear

File Name : 04_MEN_Ant_Scot_PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

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	13	28	59	12	100	23	134	5	0	162	94	45	34	21	173	56	182	67	18	305	51	740	791
04:15 PM	11	23	51	11	85	17	126	7	0	150	96	50	32	20	178	40	180	90	13	310	44	723	767
04:30 PM	9	15	55	6	79	17	119	2	0	138	87	46	28	22	161	61	173	79	24	313	52	691	743
04:45 PM	13	30	40	8	83	15	154	7	1	176	100	46	30	18	176	53	179	91	25	323	52	758	810
Total	46	96	205	37	347	72	533	21	1	626	377	187	124	81	688	210	714	327	80	1251	199	2912	3111
05:00 PM	13	30	60	9	103	19	142	14	0	175	94	57	42	27	193	52	180	88	38	320	74	791	865
05:15 PM	12	38	52	21	102	11	167	10	3	188	103	40	41	22	184	56	163	88	19	307	65	781	846
05:30 PM	24	25	49	8	98	26	147	5	0	178	93	58	32	23	183	53	177	83	19	313	50	772	822
05:45 PM	12	34	40	14	86	13	112	9	2	134	92	61	36	24	189	59	180	86	20	325	60	734	794
Total	61	127	201	52	389	69	568	38	5	675	382	216	151	96	749	220	700	345	96	1265	249	3078	3327
Grand Total	107	223	406	89	736	141	1101	59	6	1301	759	403	275	177	1437	430	1414	672	176	2516	448	5990	6438
Approach %	14.5	30.3	55.2		12.3	10.8	84.6	4.5		21.7	52.8	28	19.1		24	17.1	56.2	26.7		42	7	93	
Total %	1.8	3.7	6.8			2.4	18.4	1			12.7	6.7	4.6			7.2	23.6	11.2					

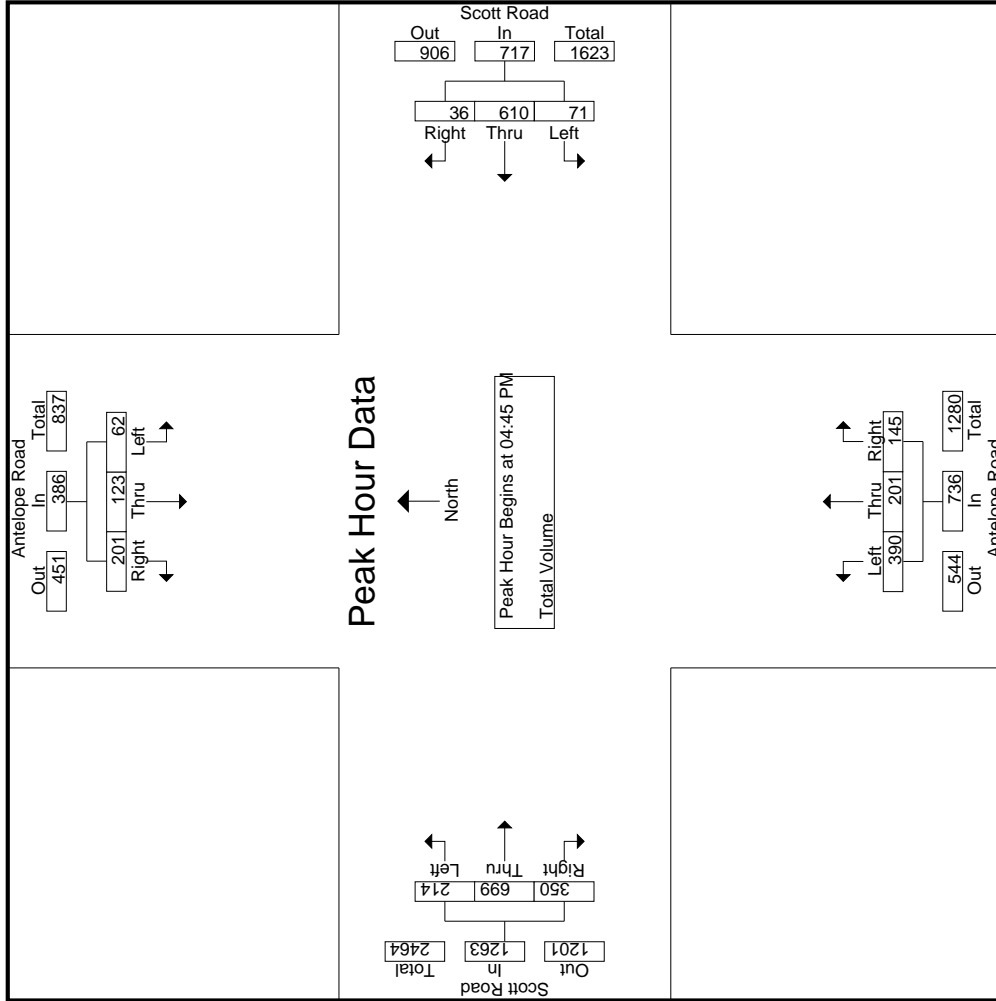
Start Time	Antelope Road Southbound					Scott Road Westbound					Antelope Road Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	13	30	40		83	15	154	7		176	100	46	30		176	53	179	91		323			758
05:00 PM	13	30	60		103	19	142	14		175	94	57	42		193	52	180	88		320			791
05:15 PM	12	38	52		102	11	167	10	3	188	103	40	41	22	184	56	163	88	19	307			781
05:30 PM	24	25	49		98	26	147	5	0	178	93	58	32	23	183	53	177	83	19	313			772
Total Volume	62	123	201		386	71	610	36		717	390	201	145		736	214	699	350		1263			3102
% App. Total	16.1	31.9	52.1		5	9.9	85.1	5		5	53	27.3	19.7		16.9	55.3	27.7						.980
PHF	.646	.809	.838		.937	.683	.913	.643		.953	.947	.866	.863		.953	.955	.971	.962					.978

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
 PO Box 1178
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City of Menifee
 N/S: Antelope Road
 E/W: Scott Road
 Weather: Clear

File Name : 04_MEN_Ant_Scot_PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



Counts Unlimited
 PO Box 1178
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City of Menifee
 N/S: Antelope Road
 E/W: Scott Road
 Weather: Clear

File Name : 04_MEN_Ant_Scot_PM
 Site Code : 05118004
 Start Date : 1/11/2018
 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	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			04:45 PM			05:00 PM			04:15 PM				
+0 mins.	13	30	60	15	154	7	176	94	57	42	193	40	180	90
+15 mins.	12	38	52	19	142	14	175	103	40	41	184	61	173	79
+30 mins.	24	25	49	11	167	10	188	93	58	32	183	53	179	91
+45 mins.	12	34	40	26	147	5	178	92	61	36	189	52	180	88
Total Volume	61	127	201	71	610	36	717	382	216	151	749	206	712	348
% App. Total	15.7	32.6	51.7	9.9	85.1	5		51	28.8	20.2		16.3	56.2	27.5
PHF	.635	.836	.838	.683	.913	.643	.953	.927	.885	.899	.970	.844	.989	.956

Location: Menifee
 N/S: Antelope Road
 E/W: Scott Road



Date: 1/11/2018
 Date: Thursday

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	1	1
7:15 AM	0	0	1	0	1
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	1	1	2

	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: 1/11/2018
 Date: Thursday

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	1	0	0	0	0	0	0	0	0	0	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	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	1	0	0	0	0	0	0	0	0	0	0	1

	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	1	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	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	1	0	0	1

City of Menifee
 N/S: Menifee Road
 E/W: Holland Road
 Weather: Clear

File Name : 05_MEN_Meni_Hol AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

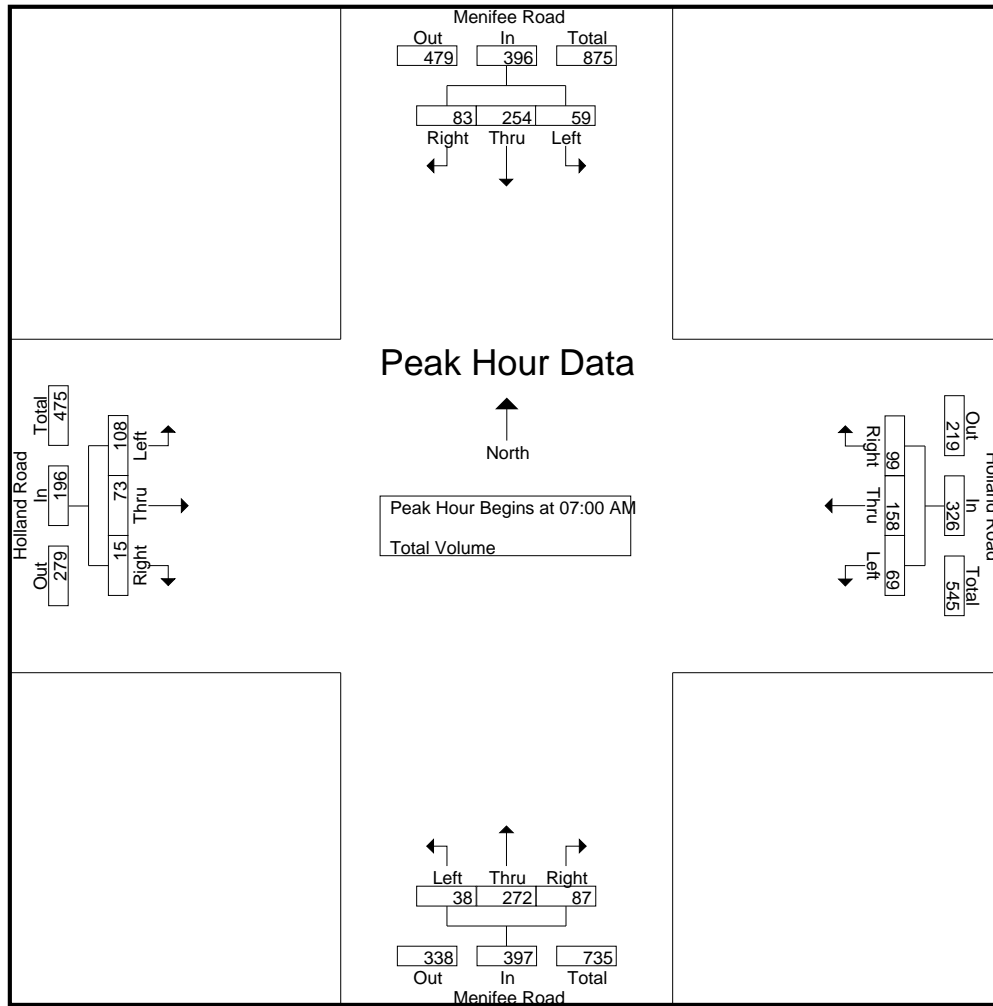
Groups Printed- Total Volume

Start Time	Menifee Road Southbound				Holland Road Westbound				Menifee Road Northbound				Holland 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	18	36	9	63	4	49	16	69	15	74	15	104	25	19	3	47	283
07:15 AM	16	70	23	109	23	46	27	96	6	79	45	130	57	24	2	83	418
07:30 AM	16	81	43	140	38	41	43	122	10	55	21	86	18	17	7	42	390
07:45 AM	9	67	8	84	4	22	13	39	7	64	6	77	8	13	3	24	224
Total	59	254	83	396	69	158	99	326	38	272	87	397	108	73	15	196	1315
08:00 AM	15	73	10	98	9	13	17	39	4	86	3	93	9	11	6	26	256
08:15 AM	9	113	22	144	6	19	21	46	11	130	5	146	12	9	7	28	364
08:30 AM	14	121	22	157	9	16	19	44	7	86	2	95	10	7	8	25	321
08:45 AM	16	41	7	64	4	17	8	29	4	35	4	43	4	5	1	10	146
Total	54	348	61	463	28	65	65	158	26	337	14	377	35	32	22	89	1087
Grand Total	113	602	144	859	97	223	164	484	64	609	101	774	143	105	37	285	2402
Apprch %	13.2	70.1	16.8		20	46.1	33.9		8.3	78.7	13		50.2	36.8	13		
Total %	4.7	25.1	6	35.8	4	9.3	6.8	20.1	2.7	25.4	4.2	32.2	6	4.4	1.5	11.9	

Start Time	Menifee Road Southbound				Holland Road Westbound				Menifee Road Northbound				Holland 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	18	36	9	63	4	49	16	69	15	74	15	104	25	19	3	47	283
07:15 AM	16	70	23	109	23	46	27	96	6	79	45	130	57	24	2	83	418
07:30 AM	16	81	43	140	38	41	43	122	10	55	21	86	18	17	7	42	390
07:45 AM	9	67	8	84	4	22	13	39	7	64	6	77	8	13	3	24	224
Total Volume	59	254	83	396	69	158	99	326	38	272	87	397	108	73	15	196	1315
% App. Total	14.9	64.1	21		21.2	48.5	30.4		9.6	68.5	21.9		55.1	37.2	7.7		
PHF	.819	.784	.483	.707	.454	.806	.576	.668	.633	.861	.483	.763	.474	.760	.536	.590	.786

City of Menifee
 N/S: Menifee Road
 E/W: Holland Road
 Weather: Clear

File Name : 05_MEN_Meni_Hol AM
 Site Code : 05118004
 Start Date : 1/11/2018
 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				07:45 AM				07:00 AM			
+0 mins.	9	67	8	84	4	49	16	69	7	64	6	77	25	19	3	47
+15 mins.	15	73	10	98	23	46	27	96	4	86	3	93	57	24	2	83
+30 mins.	9	113	22	144	38	41	43	122	11	130	5	146	18	17	7	42
+45 mins.	14	121	22	157	4	22	13	39	7	86	2	95	8	13	3	24
Total Volume	47	374	62	483	69	158	99	326	29	366	16	411	108	73	15	196
% App. Total	9.7	77.4	12.8		21.2	48.5	30.4		7.1	89.1	3.9		55.1	37.2	7.7	
PHF	.783	.773	.705	.769	.454	.806	.576	.668	.659	.704	.667	.704	.474	.760	.536	.590

City of Menifee
 N/S: Menifee Road
 E/W: Holland Road
 Weather: Clear

File Name : 05_MEN_Meni_Hol PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

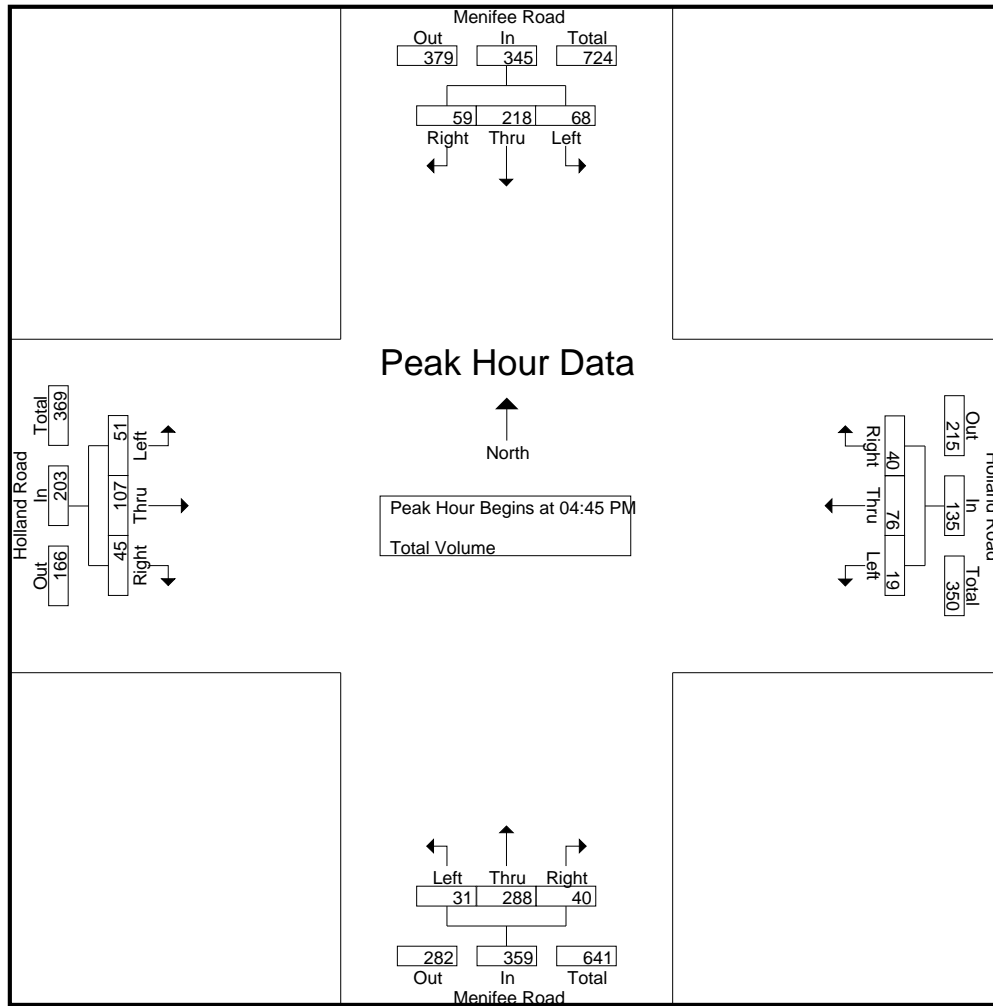
Groups Printed- Total Volume

Start Time	Menifee Road Southbound				Holland Road Westbound				Menifee Road Northbound				Holland 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	12	70	8	90	6	18	19	43	4	65	15	84	12	18	9	39	256
04:15 PM	5	52	22	79	2	14	11	27	6	68	6	80	13	16	7	36	222
04:30 PM	14	60	8	82	3	13	9	25	5	60	3	68	14	27	12	53	228
04:45 PM	21	39	14	74	4	13	12	29	9	68	13	90	16	24	13	53	246
Total	52	221	52	325	15	58	51	124	24	261	37	322	55	85	41	181	952
05:00 PM	15	60	22	97	8	23	9	40	8	71	8	87	14	28	12	54	278
05:15 PM	17	68	14	99	2	16	12	30	4	78	10	92	11	24	10	45	266
05:30 PM	15	51	9	75	5	24	7	36	10	71	9	90	10	31	10	51	252
05:45 PM	12	35	18	65	3	13	11	27	7	55	6	68	10	25	9	44	204
Total	59	214	63	336	18	76	39	133	29	275	33	337	45	108	41	194	1000
Grand Total	111	435	115	661	33	134	90	257	53	536	70	659	100	193	82	375	1952
Apprch %	16.8	65.8	17.4		12.8	52.1	35		8	81.3	10.6		26.7	51.5	21.9		
Total %	5.7	22.3	5.9	33.9	1.7	6.9	4.6	13.2	2.7	27.5	3.6	33.8	5.1	9.9	4.2	19.2	

Start Time	Menifee Road Southbound				Holland Road Westbound				Menifee Road Northbound				Holland 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 04:45 PM																	
04:45 PM	21	39	14	74	4	13	12	29	9	68	13	90	16	24	13	53	246
05:00 PM	15	60	22	97	8	23	9	40	8	71	8	87	14	28	12	54	278
05:15 PM	17	68	14	99	2	16	12	30	4	78	10	92	11	24	10	45	266
05:30 PM	15	51	9	75	5	24	7	36	10	71	9	90	10	31	10	51	252
Total Volume	68	218	59	345	19	76	40	135	31	288	40	359	51	107	45	203	1042
% App. Total	19.7	63.2	17.1		14.1	56.3	29.6		8.6	80.2	11.1		25.1	52.7	22.2		
PHF	.810	.801	.670	.871	.594	.792	.833	.844	.775	.923	.769	.976	.797	.863	.865	.940	.937

City of Menifee
 N/S: Menifee Road
 E/W: Holland Road
 Weather: Clear

File Name : 05_MEN_Meni_Hol PM
 Site Code : 05118004
 Start Date : 1/11/2018
 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				04:45 PM				04:30 PM			
+0 mins.	14	60	8	82	4	13	12	29	9	68	13	90	14	27	12	53
+15 mins.	21	39	14	74	8	23	9	40	8	71	8	87	16	24	13	53
+30 mins.	15	60	22	97	2	16	12	30	4	78	10	92	14	28	12	54
+45 mins.	17	68	14	99	5	24	7	36	10	71	9	90	11	24	10	45
Total Volume	67	227	58	352	19	76	40	135	31	288	40	359	55	103	47	205
% App. Total	19	64.5	16.5		14.1	56.3	29.6		8.6	80.2	11.1		26.8	50.2	22.9	
PHF	.798	.835	.659	.889	.594	.792	.833	.844	.775	.923	.769	.976	.859	.920	.904	.949

Location: Menifee
 N/S: Menifee Road
 E/W: Holland Road



Date: 1/11/2018
 Date: Thursday

PEDESTRIANS

	North Leg Menifee Road	East Leg Holland Road	South Leg Menifee Road	West Leg Holland Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	3	3
7:15 AM	3	3	0	0	6
7:30 AM	4	4	0	0	8
7:45 AM	2	2	0	2	6
8:00 AM	4	4	0	8	16
8:15 AM	9	4	0	2	15
8:30 AM	1	0	1	1	3
8:45 AM	0	1	0	0	1
TOTAL VOLUMES:	23	18	1	16	58

	North Leg Menifee Road	East Leg Holland Road	South Leg Menifee Road	West Leg Holland Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	1	0	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	1	0	0	1
4:45 PM	1	1	0	0	2
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	1	1	0	0	2
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	3	3	0	0	6

Location: Menifee
 N/S: Menifee Road
 E/W: Holland Road



Date: 1/11/2018
 Date: Thursday

BICYCLES

	Southbound Menifee Road			Westbound Holland Road			Northbound Menifee Road			Eastbound Holland Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
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	1	0	1
8:15 AM	0	1	0	0	1	0	0	0	0	0	6	0	8
8:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	2	0	0	0	0	0	10	0	13

	Southbound Menifee Road			Westbound Holland Road			Northbound Menifee Road			Eastbound Holland Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	1	0	0	0	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	1	0	0	0	0	0	2	0	0	0	0	3
4:45 PM	0	0	0	1	0	0	0	0	1	0	0	1	3
5:00 PM	0	0	0	0	0	1	1	3	0	0	0	0	5
5:15 PM	1	0	0	0	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:	1	2	0	1	0	1	1	5	1	0	0	1	13

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

City of Menifee
 N/S: Menifee Road
 E/W: Scott Road
 Weather: Clear

File Name : 06_MEN_Meni_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

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	16	17	17	4	50	18	178	15	1	211	38	18	25	13	81	12	114	13	3	139	21	481	502
07:15 AM	27	32	22	2	81	20	165	25	1	210	34	24	20	7	78	13	111	19	2	143	12	512	524
07:30 AM	27	41	19	5	87	28	142	21	1	191	20	18	24	8	62	12	120	33	3	165	17	505	522
07:45 AM	22	40	23	5	85	27	157	37	3	221	28	21	20	12	69	22	100	28	3	150	23	525	548
Total	92	130	81	16	303	93	642	98	6	833	120	81	89	40	290	59	445	93	11	597	73	2023	2096
08:00 AM	24	39	19	1	82	31	107	37	2	175	27	45	10	5	82	13	110	26	3	149	11	488	499
08:15 AM	37	73	20	2	130	17	117	46	8	180	25	75	9	4	109	8	97	22	2	127	16	546	562
08:30 AM	30	72	21	5	123	11	120	16	0	147	30	24	10	6	64	18	101	16	5	135	16	469	485
08:45 AM	21	32	19	3	72	14	163	12	2	189	25	8	14	8	47	10	102	24	4	136	17	444	461
Total	112	216	79	11	407	73	507	111	12	691	107	152	43	23	302	49	410	88	14	547	60	1947	2007
Grand Total	204	346	160	27	710	166	1149	209	18	1524	227	233	132	63	592	108	855	181	25	1144	133	3970	4103
Approach %	28.7	48.7	22.5			10.9	75.4	13.7			38.3	39.4	22.3		14.9	9.4	74.7	15.8		28.8	3.2	96.8	
Total %	5.1	8.7	4		17.9	4.2	28.9	5.3		38.4	5.7	5.9	3.3			2.7	21.5	4.6					

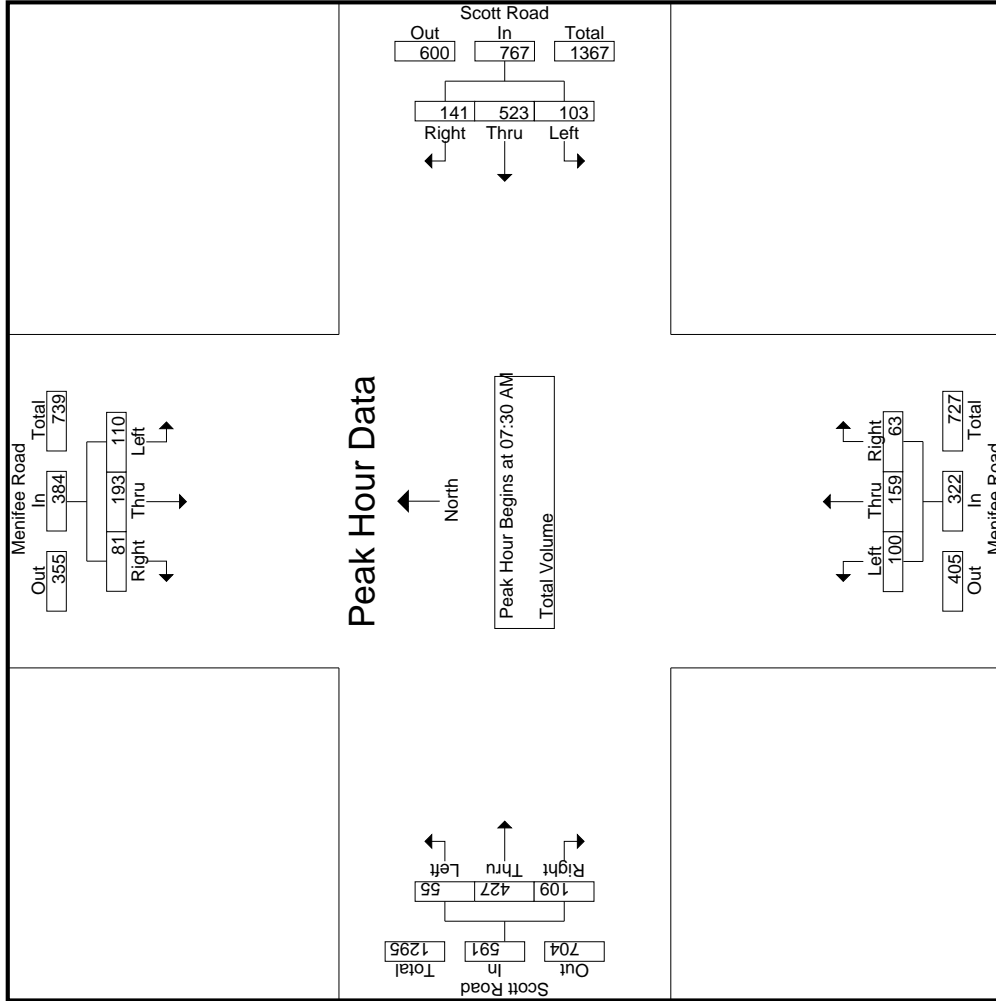
Start Time	Menifee Road Southbound					Scott Road Westbound					Menifee Road Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:30 AM	27	41	19		87	28	142	21		191	20	18		24	62	12	120			33		165	505
07:45 AM	22	40	23		85	27	157	37		221	28	21		20	69	22	100			28		150	525
08:00 AM	24	39	19		82	31	107	37		175	27	45		10	82	13	110			26		149	488
08:15 AM	37	73	20		130	17	117	46		180	25	75		9	109	8	97			22		127	546
Total Volume	110	193	81		384	103	523	141		767	100	159		63	322	55	427			109		591	2064
% App. Total	28.6	50.3	21.1			13.4	68.2	18.4			31.1	49.4		19.6		9.3	72.3			18.4			
PHF	.743	.661	.880		.738	.831	.833	.766		.868	.893	.530		.656	.739	.625	.826			.890		.895	.945

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
 PO Box 1178
 Corona, CA 92878
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City of Menifee
 N/S: Menifee Road
 E/W: Scott Road
 Weather: Clear

File Name : 06_MEN_Meni_Scot_AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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City of Menifee
 N/S: Menifee Road
 E/W: Scott Road
 Weather: Clear

File Name : 06_MEN_Meni_Scot_AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

Start Time	Menifee Road Southbound			Scott Road Westbound			Menifee Road Northbound			Scott Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
				App. Total			App. Total			App. Total			App. 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			07:00 AM			07:45 AM			07:15 AM			
+0 mins.	22	40	23	85	18	178	15	211	28	21	20	69	143
+15 mins.	24	39	19	82	20	165	25	210	27	45	10	82	165
+30 mins.	37	73	20	130	28	142	21	191	25	75	9	109	150
+45 mins.	30	72	21	123	27	157	37	221	30	24	10	64	149
Total Volume	113	224	83	420	93	642	98	833	110	165	49	324	607
% App. Total	26.9	53.3	19.8		11.2	77.1	11.8		34	50.9	15.1	9.9	72.7
PHF	.764	.767	.902	.808	.830	.902	.662	.942	.917	.550	.613	.743	.803

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City of Menifee
 N/S: Menifee Road
 E/W: Scott Road
 Weather: Clear

File Name : 06_MEN_Meni_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

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
04:00 PM	23	28	14	4	65	22	141	25	3	188	27	42	23	10	92	36	170	26	1	232	18	577	595
04:15 PM	17	29	17	3	63	25	133	15	0	173	33	40	29	15	102	33	150	31	3	214	21	552	573
04:30 PM	14	26	15	5	55	22	132	16	4	170	28	44	31	18	103	45	155	43	4	243	31	571	602
04:45 PM	14	19	25	8	58	19	144	23	1	186	32	46	38	18	116	29	155	39	2	223	29	583	612
Total	68	102	71	20	241	88	550	79	8	717	120	172	121	61	413	143	630	139	10	912	99	2283	2382
05:00 PM	21	18	26	13	65	34	142	26	2	202	29	56	33	15	118	45	163	34	7	242	37	627	664
05:15 PM	17	29	11	2	57	14	152	29	6	195	30	58	34	23	122	31	154	27	3	212	34	586	620
05:30 PM	26	17	17	2	60	24	144	24	2	192	33	49	20	11	102	39	150	37	7	226	22	580	602
05:45 PM	10	13	19	5	42	20	114	15	2	149	22	47	21	7	90	36	153	43	7	232	21	513	534
Total	74	77	73	22	224	92	552	94	12	738	114	210	108	56	432	151	620	141	24	912	114	2306	2420
Grand Total	142	179	144	42	465	180	1102	173	20	1455	234	382	229	117	845	294	1250	280	34	1824	213	4589	4802
Approach %	30.5	38.5	31		10.1	12.4	75.7	11.9		31.7	27.7	45.2	27.1		18.4	16.1	68.5	15.4		39.7	4.4	95.6	
Total %	3.1	3.9	3.1			3.9	24	3.8			5.1	8.3	5			6.4	27.2	6.1					

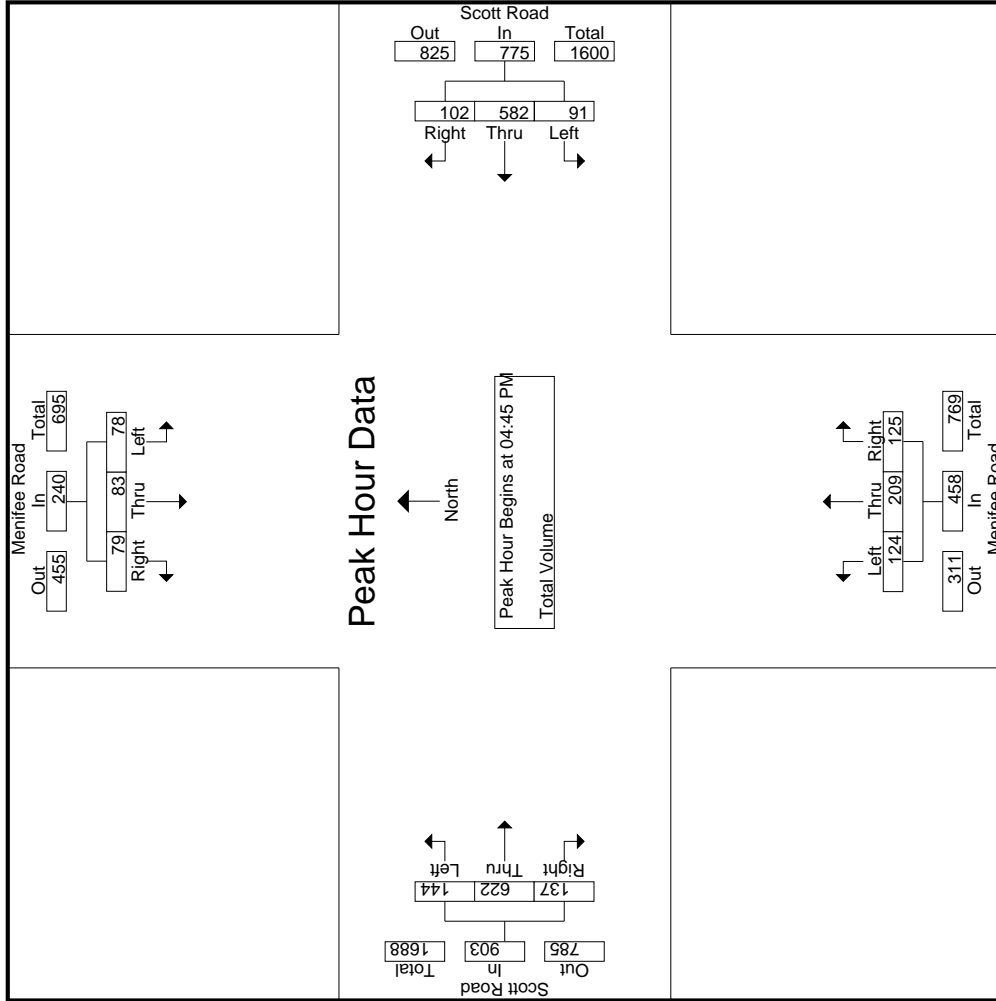
Start Time	Menifee Road Southbound					Scott Road Westbound					Menifee Road Northbound					Scott Road Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	14	19	25		58	19	144	23		186	32	46	38		116	29	155	39		223			583
05:00 PM	21	18	26		65	34	142	26		202	29	56	33		118	45	163	34		242			627
05:15 PM	17	29	11		57	14	152	29		195	30	58	34		122	31	154	27		212			586
05:30 PM	26	17	17		60	24	144	24		192	33	49	20		102	39	150	37		226			580
Total Volume	78	83	79		240	91	582	102		775	124	209	125		458	144	622	137		903			2376
% App. Total	32.5	34.6	32.9		13.2	11.7	75.1	13.2		27.3	27.1	45.6	27.3		15.9	15.9	68.9	15.2					.947
PHF	.750	.716	.760		.923	.669	.957	.879		.959	.939	.901	.822		.939	.800	.954	.878					.933

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
 PO Box 1178
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City of Menifee
 N/S: Menifee Road
 E/W: Scott Road
 Weather: Clear

File Name : 06_MEN_Meni_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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City of Menifee
 N/S: Menifee Road
 E/W: Scott Road
 Weather: Clear

File Name : 06_MEN_Meni_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

Start Time	Menifee Road Southbound			Scott Road Westbound			Menifee Road Northbound			Scott Road 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			04:30 PM			04:15 PM				
+0 mins.	23	28	14	19	144	23	186	28	44	31	33	150	31	214
+15 mins.	17	29	17	34	142	26	202	32	46	38	45	155	43	243
+30 mins.	14	26	15	14	152	29	195	29	56	33	29	155	39	223
+45 mins.	14	19	25	24	144	24	192	30	58	34	45	163	34	242
Total Volume	68	102	71	91	582	102	775	119	204	136	152	623	147	922
% App. Total	28.2	42.3	29.5	11.7	75.1	13.2	25.9	25.9	44.4	29.6	16.5	67.6	15.9	
PHF	.739	.879	.710	.669	.957	.879	.959	.930	.879	.895	.844	.956	.855	.949

Location: Menifee
 N/S: Menifee Road
 E/W: Scott Road



Date: 1/11/2018
 Date: Thursday

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	0	0	0
8:00 AM	0	0	0	1	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	0	1	1

	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	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: Menifee Road
 E/W: Scott Road



Date: 1/11/2018
 Date: Thursday

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	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	1	0	0	0	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	1	0	0	0	0	0	1	0	2
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	1	0	1
TOTAL VOLUMES:	0	0	0	0	1	0	0	1	0	0	3	0	5

	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	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	1	0	0	0	0	1
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	0	0
TOTAL VOLUMES:	0	1	0	0	0	0	0	2	0	0	0	0	3

City of Menifee
 N/S: Briggs Road
 E/W: Holland Road
 Weather: Clear

File Name : 07_MEN_Brig_Hol AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

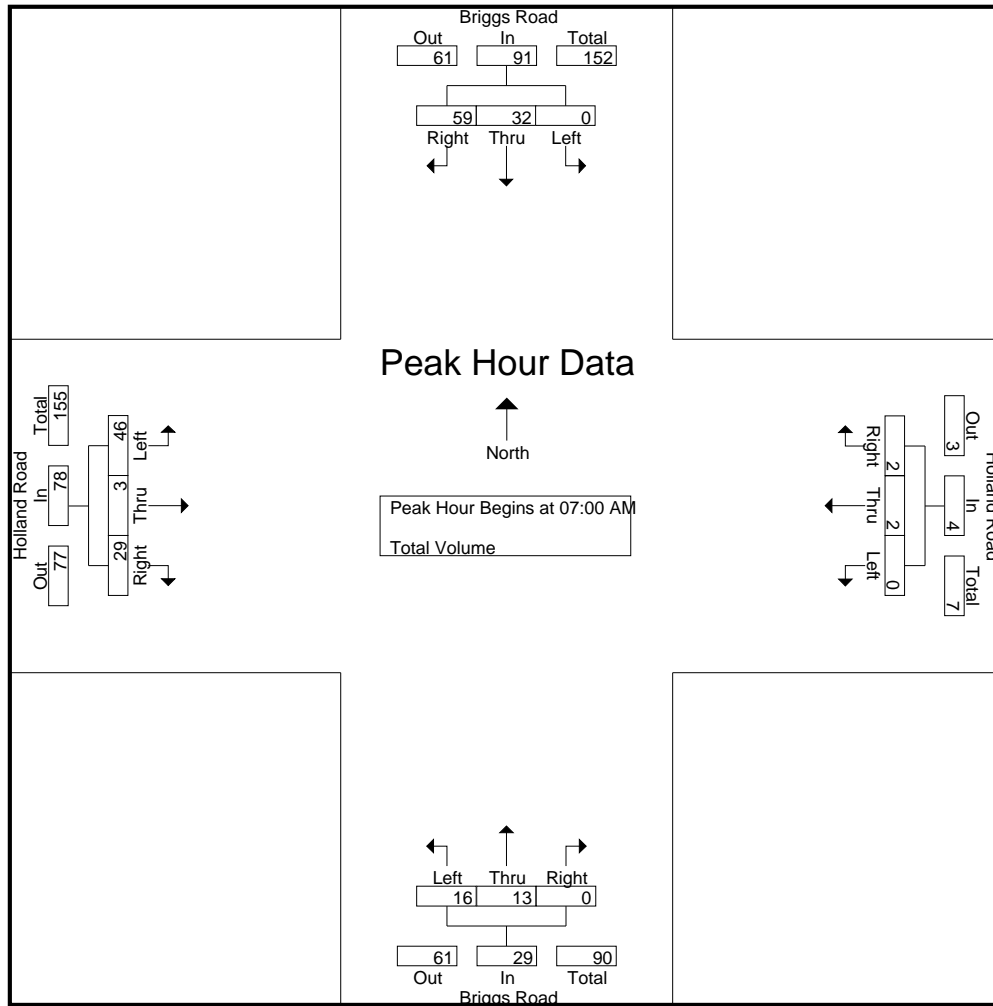
Groups Printed- Total Volume

Start Time	Briggs Road Southbound				Holland Road Westbound				Briggs Road Northbound				Holland 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	11	12	23	0	1	1	2	4	1	0	5	2	1	2	5	35
07:15 AM	0	5	28	33	0	1	0	1	4	4	0	8	6	0	4	10	52
07:30 AM	0	6	18	24	0	0	1	1	4	5	0	9	34	0	21	55	89
07:45 AM	0	10	1	11	0	0	0	0	4	3	0	7	4	2	2	8	26
Total	0	32	59	91	0	2	2	4	16	13	0	29	46	3	29	78	202
08:00 AM	0	6	0	6	0	3	1	4	2	6	1	9	0	0	1	1	20
08:15 AM	1	9	5	15	0	1	0	1	1	5	0	6	0	0	1	1	23
08:30 AM	0	9	2	11	1	1	0	2	3	3	0	6	3	0	0	3	22
08:45 AM	0	7	2	9	1	0	0	1	1	3	0	4	1	1	3	5	19
Total	1	31	9	41	2	5	1	8	7	17	1	25	4	1	5	10	84
Grand Total	1	63	68	132	2	7	3	12	23	30	1	54	50	4	34	88	286
Apprch %	0.8	47.7	51.5		16.7	58.3	25		42.6	55.6	1.9		56.8	4.5	38.6		
Total %	0.3	22	23.8	46.2	0.7	2.4	1	4.2	8	10.5	0.3	18.9	17.5	1.4	11.9	30.8	

Start Time	Briggs Road Southbound				Holland Road Westbound				Briggs Road Northbound				Holland 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	11	12	23	0	1	1	2	4	1	0	5	2	1	2	5	35
07:15 AM	0	5	28	33	0	1	0	1	4	4	0	8	6	0	4	10	52
07:30 AM	0	6	18	24	0	0	1	1	4	5	0	9	34	0	21	55	89
07:45 AM	0	10	1	11	0	0	0	0	4	3	0	7	4	2	2	8	26
Total Volume	0	32	59	91	0	2	2	4	16	13	0	29	46	3	29	78	202
% App. Total	0	35.2	64.8		0	50	50		55.2	44.8	0		59	3.8	37.2		
PHF	.000	.727	.527	.689	.000	.500	.500	.500	1.00	.650	.000	.806	.338	.375	.345	.355	.567

City of Menifee
 N/S: Briggs Road
 E/W: Holland Road
 Weather: Clear

File Name : 07_MEN_Brig_Hol AM
 Site Code : 05118004
 Start Date : 1/11/2018
 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				08:00 AM				07:15 AM				07:00 AM			
+0 mins.	0	11	12	23	0	3	1	4	4	4	0	8	2	1	2	5
+15 mins.	0	5	28	33	0	1	0	1	4	5	0	9	6	0	4	10
+30 mins.	0	6	18	24	1	1	0	2	4	3	0	7	34	0	21	55
+45 mins.	0	10	1	11	1	0	0	1	2	6	1	9	4	2	2	8
Total Volume	0	32	59	91	2	5	1	8	14	18	1	33	46	3	29	78
% App. Total	0	35.2	64.8		2.5	62.5	12.5		42.4	54.5	3		59	3.8	37.2	
PHF	.000	.727	.527	.689	.500	.417	.250	.500	.875	.750	.250	.917	.338	.375	.345	.355

City of Menifee
 N/S: Briggs Road
 E/W: Holland Road
 Weather: Clear

File Name : 07_MEN_Brig_Hol PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

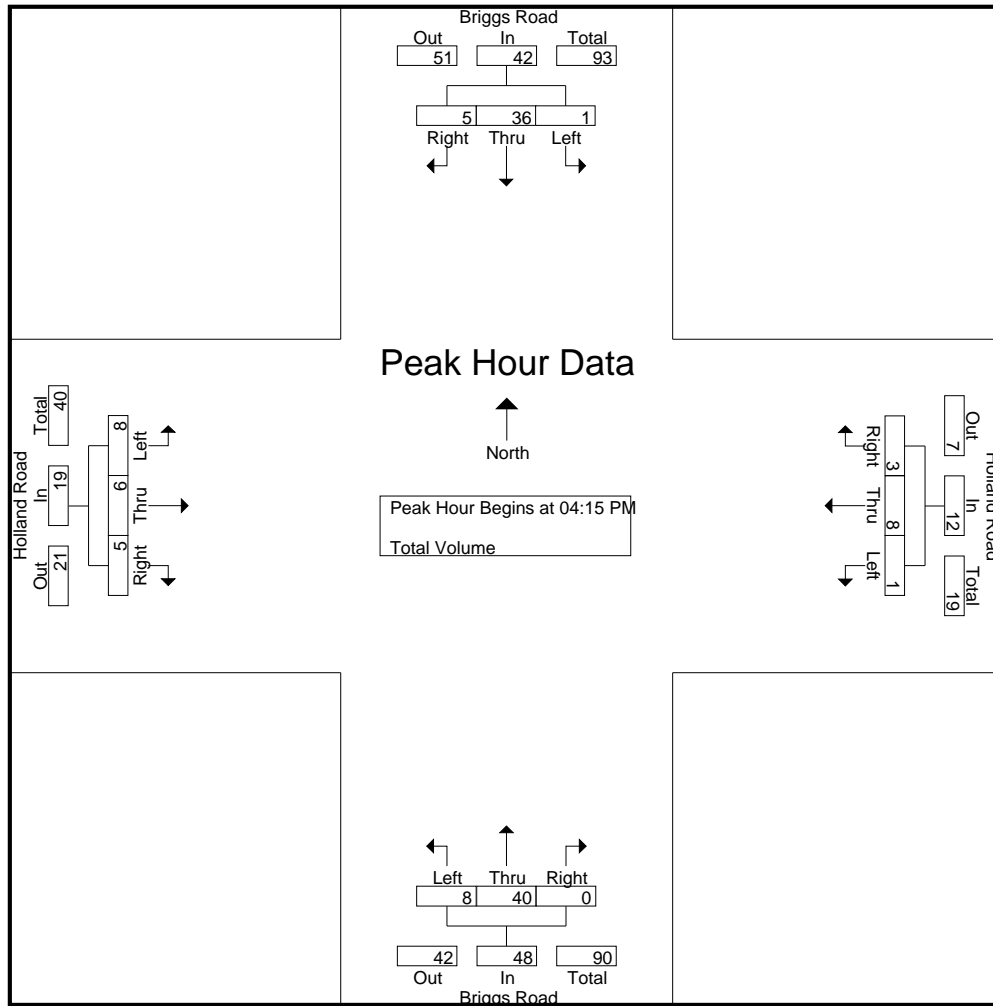
Groups Printed- Total Volume

Start Time	Briggs Road Southbound				Holland Road Westbound				Briggs Road Northbound				Holland 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	8	3	14	0	1	0	1	4	8	0	12	6	1	3	10	37
04:15 PM	0	10	2	12	1	0	1	2	2	9	0	11	2	4	3	9	34
04:30 PM	0	6	0	6	0	1	0	1	1	8	0	9	2	1	1	4	20
04:45 PM	1	8	2	11	0	3	1	4	1	9	0	10	1	1	1	3	28
Total	4	32	7	43	1	5	2	8	8	34	0	42	11	7	8	26	119
05:00 PM	0	12	1	13	0	4	1	5	4	14	0	18	3	0	0	3	39
05:15 PM	0	4	1	5	1	2	1	4	1	9	0	10	6	1	1	8	27
05:30 PM	0	8	0	8	2	0	1	3	1	8	0	9	0	0	1	1	21
05:45 PM	0	8	1	9	0	3	1	4	2	4	0	6	1	0	1	2	21
Total	0	32	3	35	3	9	4	16	8	35	0	43	10	1	3	14	108
Grand Total	4	64	10	78	4	14	6	24	16	69	0	85	21	8	11	40	227
Apprch %	5.1	82.1	12.8		16.7	58.3	25		18.8	81.2	0		52.5	20	27.5		
Total %	1.8	28.2	4.4	34.4	1.8	6.2	2.6	10.6	7	30.4	0	37.4	9.3	3.5	4.8	17.6	

Start Time	Briggs Road Southbound				Holland Road Westbound				Briggs Road Northbound				Holland 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	10	2	12	1	0	1	2	2	9	0	11	2	4	3	9	34
04:30 PM	0	6	0	6	0	1	0	1	1	8	0	9	2	1	1	4	20
04:45 PM	1	8	2	11	0	3	1	4	1	9	0	10	1	1	1	3	28
05:00 PM	0	12	1	13	0	4	1	5	4	14	0	18	3	0	0	3	39
Total Volume	1	36	5	42	1	8	3	12	8	40	0	48	8	6	5	19	121
% App. Total	2.4	85.7	11.9		8.3	66.7	25		16.7	83.3	0		42.1	31.6	26.3		
PHF	.250	.750	.625	.808	.250	.500	.750	.600	.500	.714	.000	.667	.667	.375	.417	.528	.776

City of Menifee
 N/S: Briggs Road
 E/W: Holland Road
 Weather: Clear

File Name : 07_MEN_Brig_Hol PM
 Site Code : 05118004
 Start Date : 1/11/2018
 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				04:15 PM				04:00 PM			
+0 mins.	3	8	3	14	0	3	1	4	2	9	0	11	6	1	3	10
+15 mins.	0	10	2	12	0	4	1	5	1	8	0	9	2	4	3	9
+30 mins.	0	6	0	6	1	2	1	4	1	9	0	10	2	1	1	4
+45 mins.	1	8	2	11	2	0	1	3	4	14	0	18	1	1	1	3
Total Volume	4	32	7	43	3	9	4	16	8	40	0	48	11	7	8	26
% App. Total	9.3	74.4	16.3		18.8	56.2	25		16.7	83.3	0		42.3	26.9	30.8	
PHF	.333	.800	.583	.768	.375	.563	1.000	.800	.500	.714	.000	.667	.458	.438	.667	.650

Location: Menifee
 N/S: Briggs Road
 E/W: Holland Road



Date: 1/11/2018
 Date: Thursday

PEDESTRIANS

	North Leg Briggs Road	East Leg Holland Road	South Leg Briggs 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 Briggs Road	East Leg Holland Road	South Leg Briggs Road	West Leg Holland Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	2	1	0	0	3
4:30 PM	2	0	0	0	2
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:	4	1	0	0	5

Location: Menifee
 N/S: Briggs Road
 E/W: Holland Road



Date: 1/11/2018
 Date: Thursday

BICYCLES

	Southbound Briggs Road			Westbound Holland Road			Northbound Briggs 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	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 Briggs Road			Westbound Holland Road			Northbound Briggs 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	1	0	0	0	0	0	0	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	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	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	1	0	0	0	0	0	2

Counts Unlimited
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City of Menifee
 N/S: Briggs Road
 E/W: Scott Road
 Weather: Clear

File Name : 08_MEN_Brig_Scot_AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

Groups Printed- Total Volume

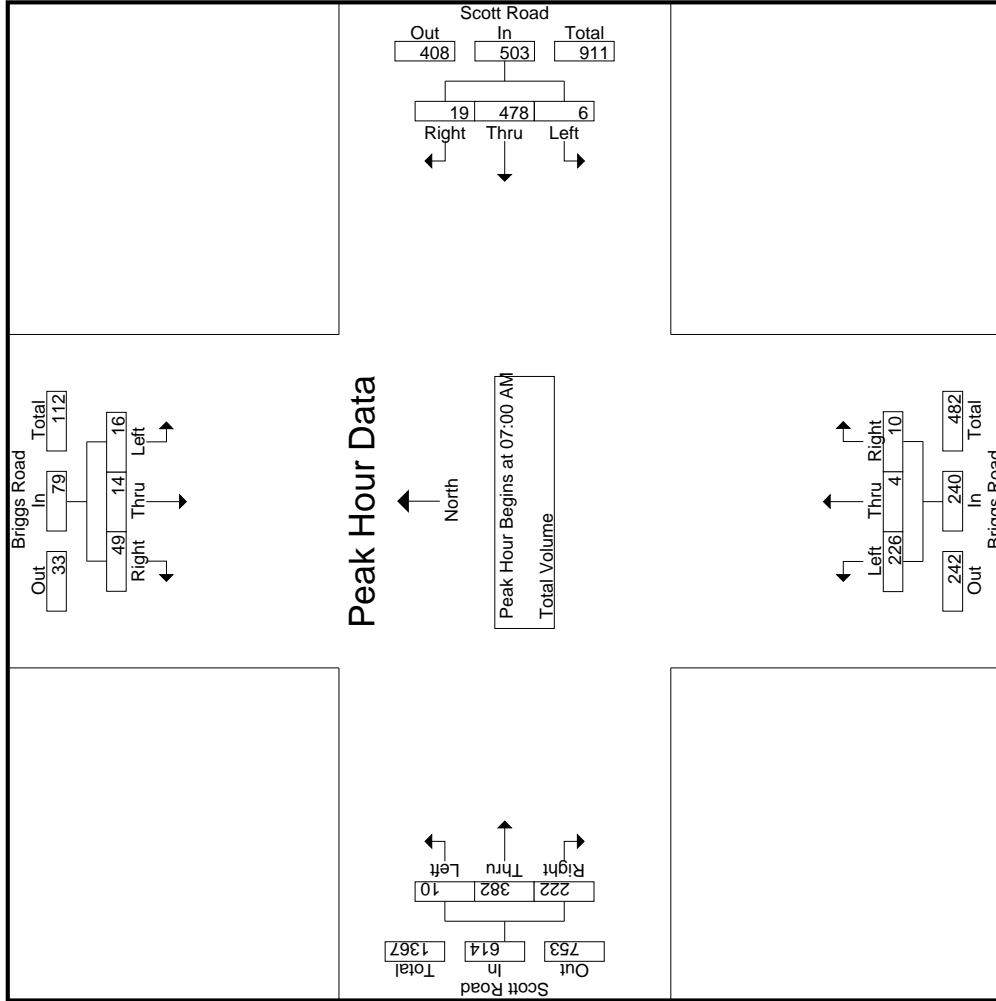
Start Time	Briggs Road Southbound				Scott Road Westbound				Briggs Road Northbound				Scott Road Eastbound										
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total					
07:00 AM	6	5	20	13	31	2	107	3	1	112	65	1	4	2	70	3	98	48	15	149	31	362	393
07:15 AM	5	6	10	6	21	2	118	4	0	124	49	2	5	2	56	0	108	57	12	165	20	366	386
07:30 AM	4	2	8	5	14	1	116	6	0	123	57	1	1	0	59	3	93	64	8	160	13	356	369
07:45 AM	1	1	11	9	13	1	137	6	2	144	55	0	0	0	55	4	83	53	10	140	21	352	373
Total	16	14	49	33	79	6	478	19	3	503	226	4	10	4	240	10	382	222	45	614	85	1436	1521
08:00 AM	0	2	5	3	7	1	105	0	0	106	44	0	1	1	45	4	86	50	2	140	6	298	304
08:15 AM	1	1	3	2	5	1	86	1	0	88	48	0	0	0	48	5	70	40	9	115	11	256	267
08:30 AM	0	2	3	2	5	1	66	0	0	67	56	1	1	0	58	4	81	41	1	126	3	256	259
08:45 AM	1	3	2	1	6	0	114	0	0	114	50	1	0	0	51	4	61	45	4	110	5	281	286
Total	2	8	13	8	23	3	371	1	0	375	198	2	2	1	202	17	298	176	16	491	25	1091	1116
Grand Total	18	22	62	41	102	9	849	20	3	878	424	6	12	5	442	27	680	398	61	1105	110	2527	2637
Approch %	17.6	21.6	60.8			1	96.7	2.3		34.7	95.9	1.4	2.7		17.5	2.4	61.5	36		43.7	4.2	95.8	
Total %	0.7	0.9	2.5		4	0.4	33.6	0.8			16.8	0.2	0.5			1.1	26.9	15.7					

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	6	5	20	13	31	2	107	3	1	112	65	1	4	2	70	3	98	48	15	149	31	362	393
07:15 AM	5	6	10	6	21	2	118	4	0	124	49	2	5	2	56	0	108	57	12	165	20	366	386
07:30 AM	4	2	8	5	14	1	116	6	0	123	57	1	1	0	59	3	93	64	8	160	13	356	369
07:45 AM	1	1	11	9	13	1	137	6	2	144	55	0	0	0	55	4	83	53	10	140	21	352	373
Total	16	14	49	33	79	6	478	19	3	503	226	4	10	4	240	10	382	222	45	614	85	1436	1521
08:00 AM	0	2	5	3	7	1	105	0	0	106	44	0	1	1	45	4	86	50	2	140	6	298	304
08:15 AM	1	1	3	2	5	1	86	1	0	88	48	0	0	0	48	5	70	40	9	115	11	256	267
08:30 AM	0	2	3	2	5	1	66	0	0	67	56	1	1	0	58	4	81	41	1	126	3	256	259
08:45 AM	1	3	2	1	6	0	114	0	0	114	50	1	0	0	51	4	61	45	4	110	5	281	286
Total	2	8	13	8	23	3	371	1	0	375	198	2	2	1	202	17	298	176	16	491	25	1091	1116
Grand Total	18	22	62	41	102	9	849	20	3	878	424	6	12	5	442	27	680	398	61	1105	110	2527	2637
Approch %	17.6	21.6	60.8			1	96.7	2.3		34.7	95.9	1.4	2.7		17.5	2.4	61.5	36		43.7	4.2	95.8	
Total %	0.7	0.9	2.5		4	0.4	33.6	0.8			16.8	0.2	0.5			1.1	26.9	15.7					

Counts Unlimited
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City of Menifee
 N/S: Briggs Road
 E/W: Scott Road
 Weather: Clear

File Name : 08_MEN_Brigg_Scot_AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



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City of Menifee
 N/S: Briggs Road
 E/W: Scott Road
 Weather: Clear

File Name : 08_MEN_Brig_Scot_AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

Start Time	Briggs Road Southbound			Scott Road Westbound			Briggs Road Northbound			Scott Road 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:															
	07:00 AM			07:00 AM			07:00 AM			07:00 AM			07:00 AM		
+0 mins.	6	5	20	2	107	3	112	65	1	4	3	98	48	149	
+15 mins.	5	6	10	2	118	4	124	49	2	5	0	108	57	165	
+30 mins.	4	2	8	1	116	6	123	57	1	1	3	93	64	160	
+45 mins.	1	1	11	1	137	6	144	55	0	0	4	83	53	140	
Total Volume	16	14	49	6	478	19	503	226	4	10	10	382	222	614	
% App. Total	20.3	17.7	62	1.2	95	3.8	94.2	94.2	1.7	4.2	1.6	62.2	36.2	61.4	
PHF	.667	.583	.613	.750	.872	.792	.873	.869	.500	.500	.625	.884	.867	.930	

Counts Unlimited
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File Name : 08_MEN_Brig_Scot_PM
 Site Code : 05118004
 Start Date : 1/11/2018
 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	Exclu. Total	Inclu. Total	Int. Total					
04:00 PM	1	2	5	4	8	3	83	0	0	86	62	2	1	1	65	2	98	60	11	160	16	319	335
04:15 PM	0	3	3	3	6	2	96	0	0	98	59	2	2	1	63	11	118	62	1	191	5	358	363
04:30 PM	0	0	3	3	3	0	87	0	0	87	57	0	1	1	58	6	110	60	8	176	12	324	336
04:45 PM	0	2	9	6	11	1	109	4	3	114	74	3	2	0	79	1	123	63	7	187	16	391	407
Total	1	7	20	16	28	6	375	4	3	385	252	7	6	3	265	20	449	245	27	714	49	1392	1441
05:00 PM	0	2	5	5	7	1	114	4	0	119	48	4	2	1	54	8	114	57	12	179	18	359	377
05:15 PM	0	1	7	5	8	0	118	1	1	119	69	6	2	1	77	5	111	58	3	174	10	378	388
05:30 PM	1	2	5	4	8	1	101	1	1	103	47	0	1	0	48	4	93	67	10	164	15	323	338
05:45 PM	2	3	2	2	7	2	77	5	3	84	47	1	0	0	48	11	89	64	19	164	24	303	327
Total	3	8	19	16	30	4	410	11	5	425	211	11	5	2	227	28	407	246	44	681	67	1363	1430
Grand Total	4	15	39	32	58	10	785	15	8	810	463	18	11	5	492	48	856	491	71	1395	116	2755	2871
Approach %	6.9	25.9	67.2		2.1	1.2	96.9	1.9		29.4	94.1	3.7	2.2		17.9	3.4	61.4	35.2		50.6			96
Total %	0.1	0.5	1.4		0.4	0.4	28.5	0.5		0.7	16.8	0.7	0.4		0.4	1.7	31.1	17.8					

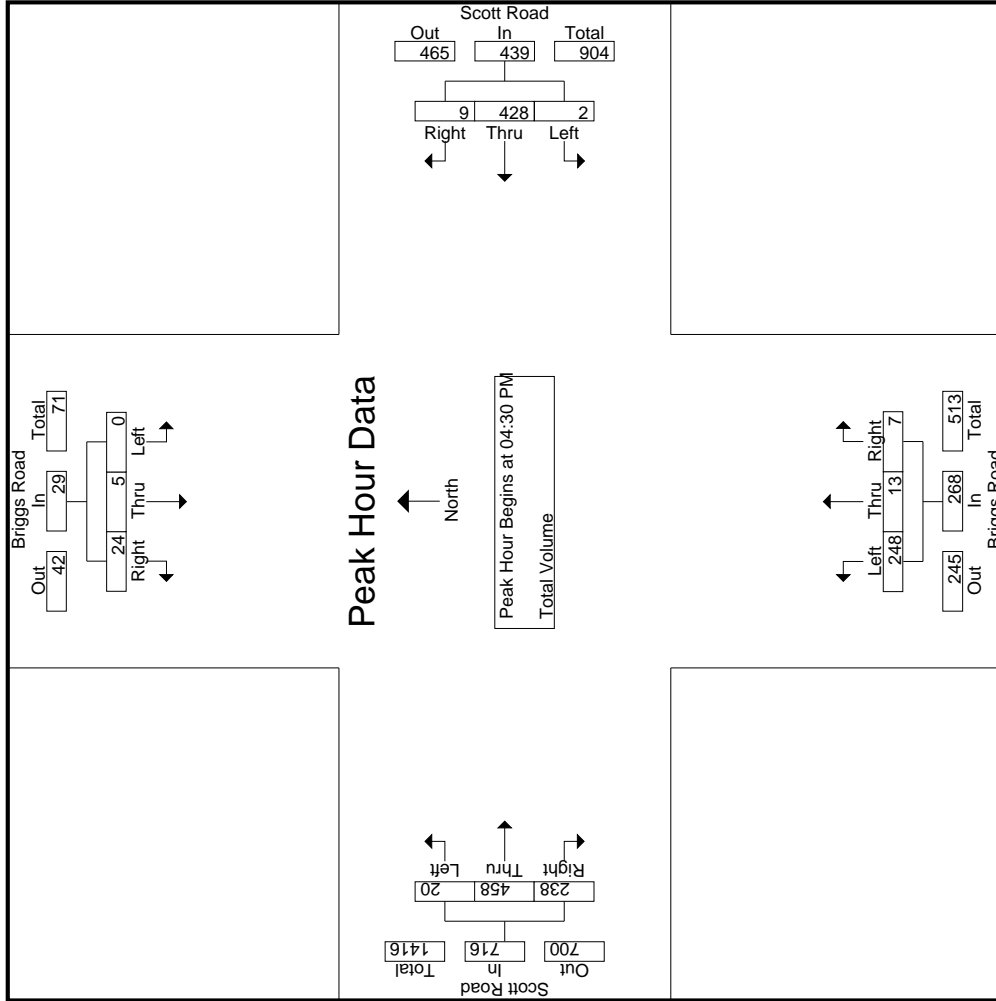
Start Time	Briggs Road Southbound				Scott Road Westbound				Briggs Road Northbound				Scott Road Eastbound											
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:30 PM	0	0	0	3	3	0	87	0	0	87	87	0	1	1	58	6	110	60	11	176			324	
04:45 PM	0	2	9	11	11	1	109	4	3	114	114	3	2	2	79	1	123	63	1	187			391	
05:00 PM	0	2	5	7	7	1	114	4	4	119	119	4	2	2	54	8	114	57	10	179			359	
05:15 PM	0	1	7	8	8	0	118	1	1	119	119	1	2	2	77	5	111	58	11	174			378	
Total Volume	0	5	24	29	29	2	428	9	9	439	439	13	7	7	268	20	458	238	20	716			1452	
% App. Total	0	17.2	82.8		2.1	0.5	97.5	2.1		29.4	94.1	3.7	2.2		17.9	3.4	61.4	35.2		50.6			96	
PHF	.000	.625	.667	.659	.659	.500	.907	.563	.922	.848	.875	.944	.928											

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: Briggs Road
 E/W: Scott Road
 Weather: Clear

File Name : 08_MEN_Brig_Scot_PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 2



Counts Unlimited
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 (951) 268-6268

City of Menifee
 N/S: Briggs Road
 E/W: Scott Road
 Weather: Clear

File Name : 08_MEN_Brig_Scot_PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 3

Start Time	Briggs Road Southbound			Scott Road Westbound			Briggs Road Northbound			Scott Road 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:														
	04:45 PM			04:45 PM			04:30 PM			04:15 PM				
+0 mins.	0	2	9	11	1	109	4	114	57	0	1	11	118	62
+15 mins.	0	2	5	7	1	114	4	119	74	3	2	6	110	60
+30 mins.	0	1	7	8	0	118	1	119	48	4	2	1	123	63
+45 mins.	1	2	5	8	1	101	1	103	69	6	2	8	114	57
Total Volume	1	7	26	34	3	442	10	455	248	13	7	26	465	242
% App. Total	2.9	20.6	76.5	77.3	0.7	97.1	2.2	92.5	92.5	4.9	2.6	3.5	63.4	33
PHF	.250	.875	.722	.773	.750	.936	.625	.956	.838	.542	.875	.591	.945	.960

Location: Menifee
 N/S: Briggs Road
 E/W: Scott Road



Date: 1/11/2018
 Date: Thursday

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: 1/11/2018
 Date: Thursday

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	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 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	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

City of Menifee
 N/S: Leon Road
 E/W: Holland Road
 Weather: Clear

File Name : 09_MEN_Leo_Hol AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

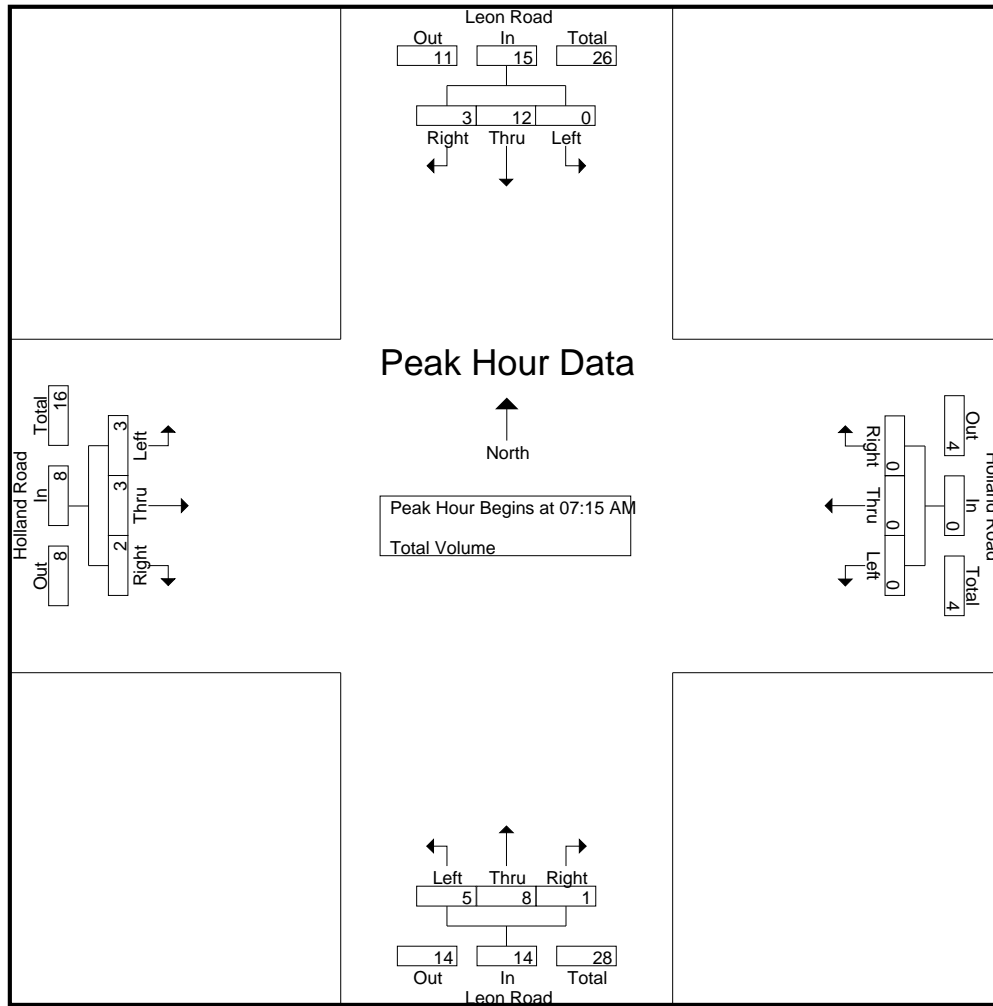
Groups Printed- Total Volume

Start Time	Leon Road Southbound				Holland Road Westbound				Leon Road Northbound				Holland 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	3	1	4	0	0	0	0	3	0	0	3	0	0	0	0	7
07:15 AM	0	5	1	6	0	0	0	0	2	1	0	3	0	0	2	2	11
07:30 AM	0	3	1	4	0	0	0	0	1	3	1	5	1	2	0	3	12
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	11	3	14	0	0	0	0	6	5	1	12	2	2	2	6	32
08:00 AM	0	4	1	5	0	0	0	0	2	3	0	5	1	1	0	2	12
08:15 AM	0	2	0	2	0	0	0	0	0	3	0	3	1	0	1	2	7
08:30 AM	0	4	0	4	0	1	0	1	0	1	0	1	0	0	3	3	9
08:45 AM	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	12	2	14	0	1	0	1	2	7	0	9	2	1	4	7	31
Grand Total	0	23	5	28	0	1	0	1	8	12	1	21	4	3	6	13	63
Apprch %	0	82.1	17.9		0	100	0		38.1	57.1	4.8		30.8	23.1	46.2		
Total %	0	36.5	7.9	44.4	0	1.6	0	1.6	12.7	19	1.6	33.3	6.3	4.8	9.5	20.6	

Start Time	Leon Road Southbound				Holland Road Westbound				Leon Road Northbound				Holland 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 07:15 AM																	
07:15 AM	0	5	1	6	0	0	0	0	2	1	0	3	0	0	2	2	11
07:30 AM	0	3	1	4	0	0	0	0	1	3	1	5	1	2	0	3	12
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2
08:00 AM	0	4	1	5	0	0	0	0	2	3	0	5	1	1	0	2	12
Total Volume	0	12	3	15	0	0	0	0	5	8	1	14	3	3	2	8	37
% App. Total	0	80	20		0	0	0		35.7	57.1	7.1		37.5	37.5	25		
PHF	.000	.600	.750	.625	.000	.000	.000	.000	.625	.667	.250	.700	.750	.375	.250	.667	.771

City of Menifee
 N/S: Leon Road
 E/W: Holland Road
 Weather: Clear

File Name : 09_MEN_Leo_Hol AM
 Site Code : 05118004
 Start Date : 1/11/2018
 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				07:45 AM				07:15 AM				07:15 AM			
+0 mins.	0	5	1	6	0	0	0	0	2	1	0	3	0	0	2	2
+15 mins.	0	3	1	4	0	0	0	0	1	3	1	5	1	2	0	3
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1
+45 mins.	0	4	1	5	0	1	0	1	2	3	0	5	1	1	0	2
Total Volume	0	12	3	15	0	1	0	1	5	8	1	14	3	3	2	8
% App. Total	0	80	20		0	100	0		35.7	57.1	7.1		37.5	37.5	25	
PHF	.000	.600	.750	.625	.000	.250	.000	.250	.625	.667	.250	.700	.750	.375	.250	.667

City of Menifee
 N/S: Leon Road
 E/W: Holland Road
 Weather: Clear

File Name : 09_MEN_Leo_Hol PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

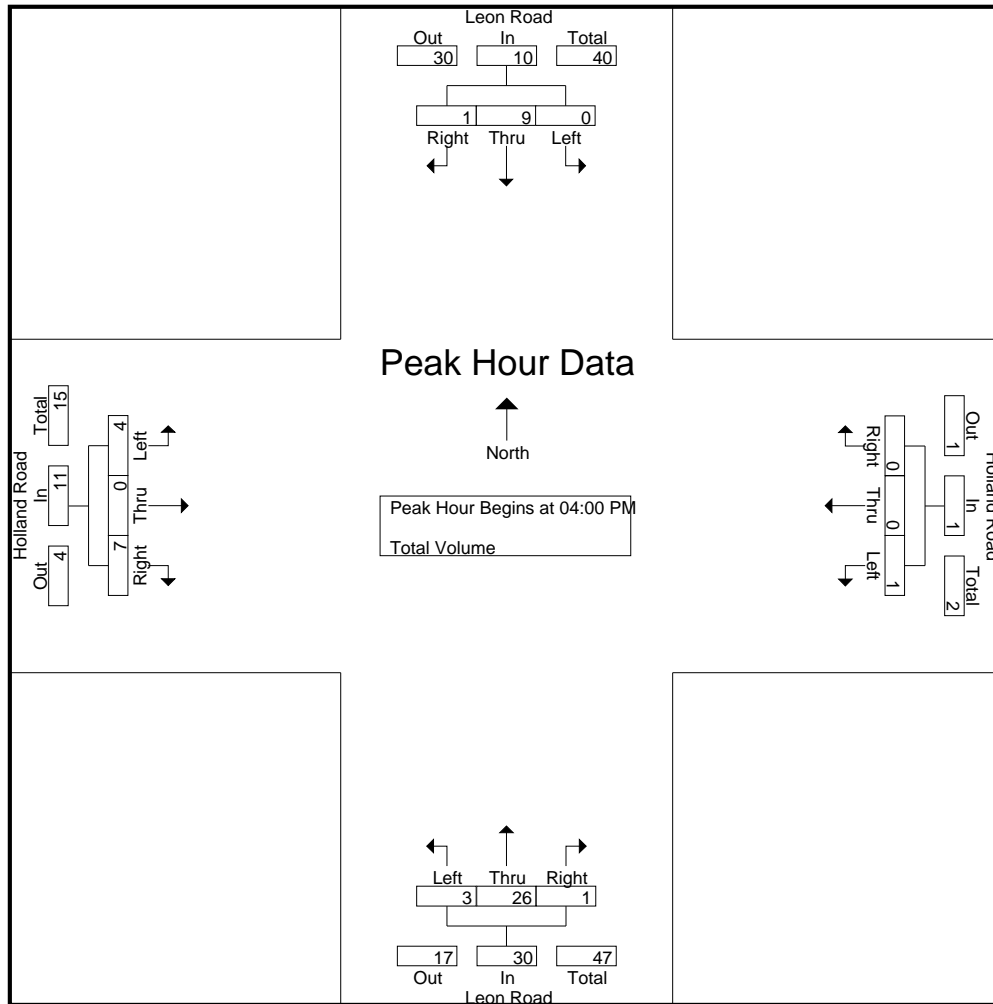
Groups Printed- Total Volume

Start Time	Leon Road Southbound				Holland Road Westbound				Leon Road Northbound				Holland 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	2	1	3	0	0	0	0	1	14	0	15	1	0	2	3	21
04:15 PM	0	3	0	3	0	0	0	0	1	8	0	9	0	0	3	3	15
04:30 PM	0	3	0	3	0	0	0	0	1	3	0	4	3	0	2	5	12
04:45 PM	0	1	0	1	1	0	0	1	0	1	1	2	0	0	0	0	4
Total	0	9	1	10	1	0	0	1	3	26	1	30	4	0	7	11	52
05:00 PM	0	1	2	3	0	0	0	0	2	9	0	11	0	0	0	0	14
05:15 PM	0	0	0	0	0	0	0	0	3	3	0	6	2	0	0	2	8
05:30 PM	0	5	2	7	0	0	0	0	0	2	0	2	1	0	0	1	10
05:45 PM	0	4	1	5	0	0	0	0	1	2	0	3	1	0	1	2	10
Total	0	10	5	15	0	0	0	0	6	16	0	22	4	0	1	5	42
Grand Total	0	19	6	25	1	0	0	1	9	42	1	52	8	0	8	16	94
Apprch %	0	76	24		100	0	0		17.3	80.8	1.9		50	0	50		
Total %	0	20.2	6.4	26.6	1.1	0	0	1.1	9.6	44.7	1.1	55.3	8.5	0	8.5	17	

Start Time	Leon Road Southbound				Holland Road Westbound				Leon Road Northbound				Holland 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 04:00 PM																	
04:00 PM	0	2	1	3	0	0	0	0	1	14	0	15	1	0	2	3	21
04:15 PM	0	3	0	3	0	0	0	0	1	8	0	9	0	0	3	3	15
04:30 PM	0	3	0	3	0	0	0	0	1	3	0	4	3	0	2	5	12
04:45 PM	0	1	0	1	1	0	0	1	0	1	1	2	0	0	0	0	4
Total Volume	0	9	1	10	1	0	0	1	3	26	1	30	4	0	7	11	52
% App. Total	0	90	10		100	0	0		10	86.7	3.3		36.4	0	63.6		
PHF	.000	.750	.250	.833	.250	.000	.000	.250	.750	.464	.250	.500	.333	.000	.583	.550	.619

City of Menifee
 N/S: Leon Road
 E/W: Holland Road
 Weather: Clear

File Name : 09_MEN_Leo_Hol PM
 Site Code : 05118004
 Start Date : 1/11/2018
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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				04:00 PM				04:00 PM			
+0 mins.	0	1	2	3	0	0	0	0	1	14	0	15	1	0	2	3
+15 mins.	0	0	0	0	0	0	0	0	1	8	0	9	0	0	3	3
+30 mins.	0	5	2	7	0	0	0	0	1	3	0	4	3	0	2	5
+45 mins.	0	4	1	5	1	0	0	1	0	1	1	2	0	0	0	0
Total Volume	0	10	5	15	1	0	0	1	3	26	1	30	4	0	7	11
% App. Total	0	66.7	33.3		100	0	0		10	86.7	3.3		36.4	0	63.6	
PHF	.000	.500	.625	.536	.250	.000	.000	.250	.750	.464	.250	.500	.333	.000	.583	.550

Location: Menifee
 N/S: Leon Road
 E/W: Holland Road



Date: 1/11/2018
 Date: Thursday

PEDESTRIANS

	North Leg Leon Road	East Leg Holland Road	South Leg Leon 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 Leon Road	East Leg Holland Road	South Leg Leon 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: Menifee
 N/S: Leon Road
 E/W: Holland Road



Date: 1/11/2018
 Date: Thursday

BICYCLES

	Southbound Leon Road			Westbound Holland Road			Northbound Leon 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	0	0	0	0	0	1	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	0	0	0	0	0	1	0	0	0	0	0	1

	Southbound Leon Road			Westbound Holland Road			Northbound Leon 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	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

City of Menifee
 N/S: Leon Road
 E/W: Craig Avenue
 Weather: Clear

File Name : 11_MEN_Leo_Cra AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

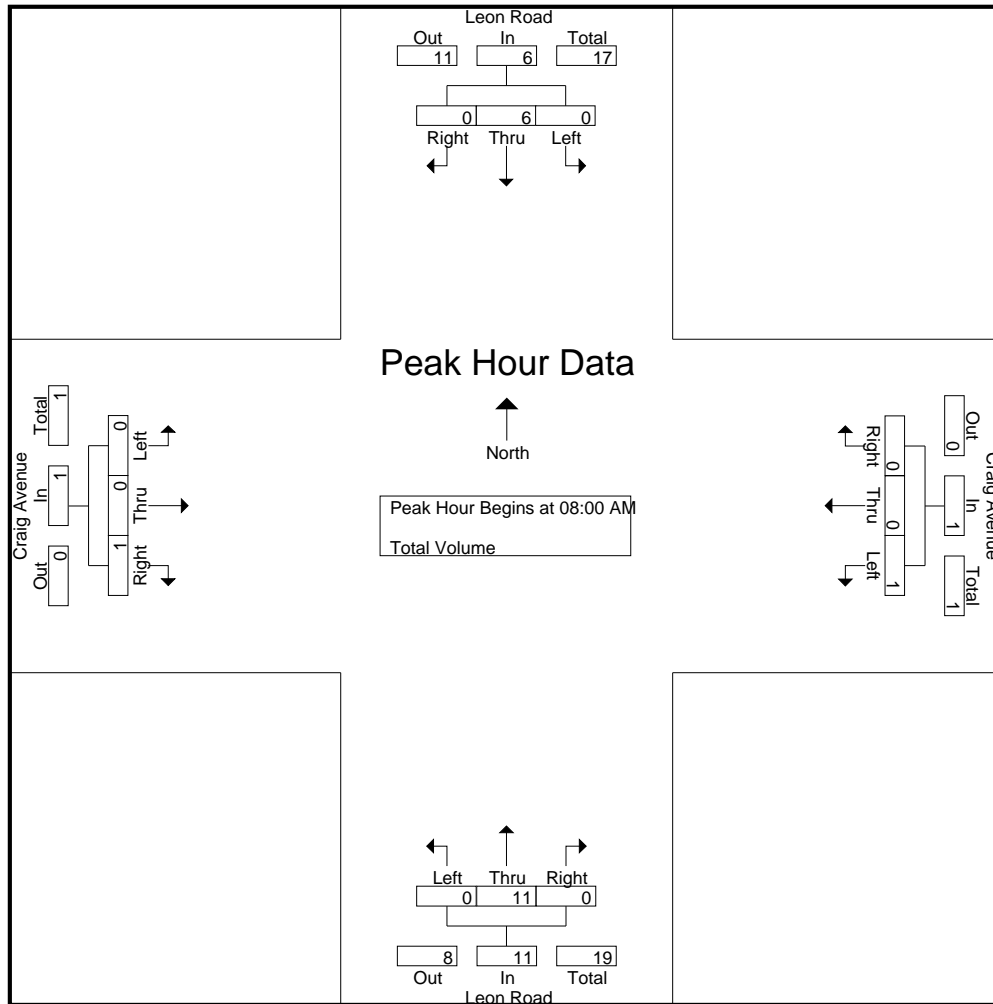
Groups Printed- Total Volume

Start Time	Leon Road Southbound				Craig Avenue Westbound				Leon Road Northbound				Craig Avenue 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	0	0	0	0	2	0	2	0	0	0	0	2
07:15 AM	0	4	0	4	0	0	0	0	0	2	0	2	0	0	1	1	7
07:30 AM	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	1	3
07:45 AM	0	1	0	1	0	0	0	0	0	0	4	0	4	0	0	0	5
Total	0	5	0	5	0	0	0	0	1	9	0	10	0	0	2	2	17
08:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:15 AM	0	2	0	2	1	0	0	1	0	2	0	2	0	0	1	1	6
08:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:45 AM	0	4	0	4	0	0	0	0	0	5	0	5	0	0	0	0	9
Total	0	6	0	6	1	0	0	1	0	11	0	11	0	0	1	1	19
Grand Total	0	11	0	11	1	0	0	1	1	20	0	21	0	0	3	3	36
Apprch %	0	100	0		100	0	0		4.8	95.2	0		0	0	100		
Total %	0	30.6	0	30.6	2.8	0	0	2.8	2.8	55.6	0	58.3	0	0	8.3	8.3	

Start Time	Leon Road Southbound				Craig Avenue Westbound				Leon Road Northbound				Craig Avenue 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 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:15 AM	0	2	0	2	1	0	0	1	0	2	0	2	0	0	1	1	6
08:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:45 AM	0	4	0	4	0	0	0	0	0	5	0	5	0	0	0	0	9
Total Volume	0	6	0	6	1	0	0	1	0	11	0	11	0	0	1	1	19
% App. Total	0	100	0		100	0	0		0	100	0		0	0	100		
PHF	.000	.375	.000	.375	.250	.000	.000	.250	.000	.550	.000	.550	.000	.000	.250	.250	.528

City of Menifee
 N/S: Leon Road
 E/W: Craig Avenue
 Weather: Clear

File Name : 11_MEN_Leo_Cra AM
 Site Code : 05118004
 Start Date : 1/11/2018
 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:

	08:00 AM				07:30 AM				08:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	1
+45 mins.	0	4	0	4	1	0	0	1	0	5	0	5	0	0	0	0
Total Volume	0	6	0	6	1	0	0	1	0	11	0	11	0	0	2	2
% App. Total	0	100	0		100	0	0		0	100	0		0	0	100	
PHF	.000	.375	.000	.375	.250	.000	.000	.250	.000	.550	.000	.550	.000	.000	.500	.500

City of Menifee
 N/S: Leon Road
 E/W: Craig Avenue
 Weather: Clear

File Name : 11_MEN_Leo_Cra PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

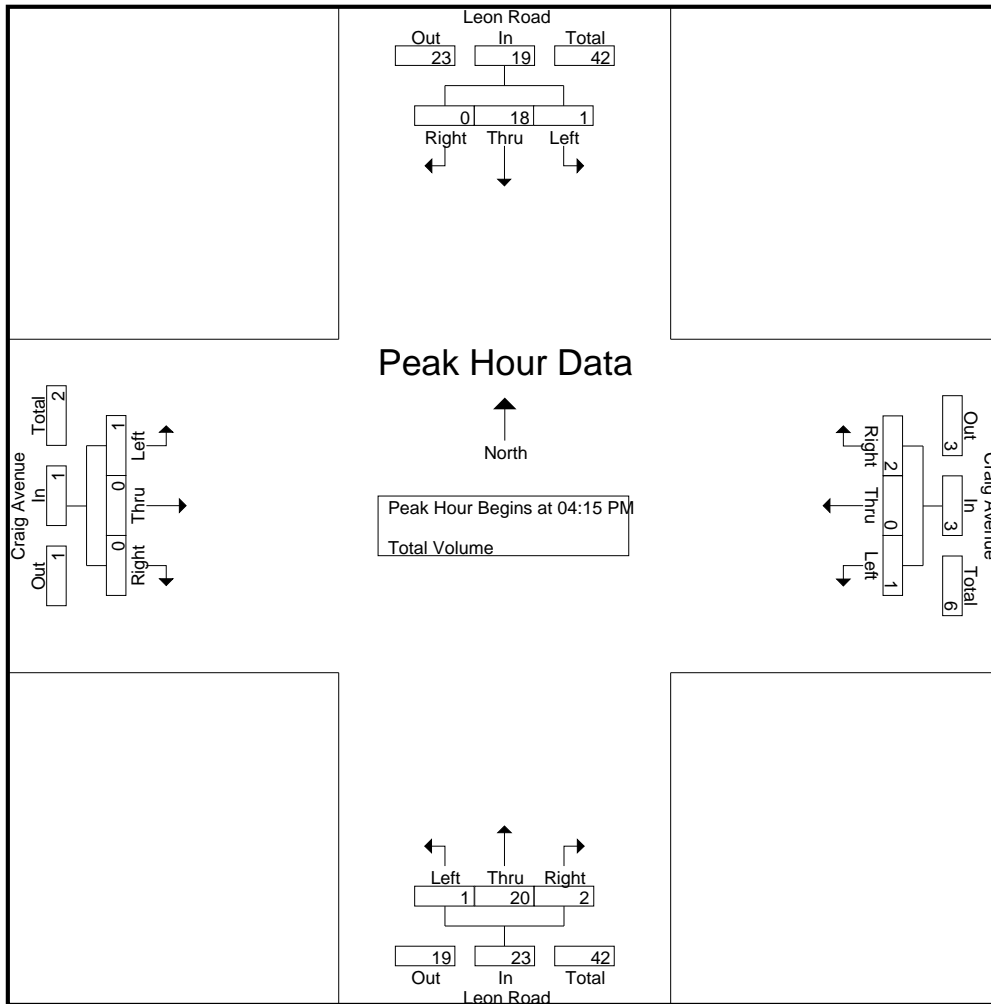
Groups Printed- Total Volume

Start Time	Leon Road Southbound				Craig Avenue Westbound				Leon Road Northbound				Craig Avenue 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	3	1	4	0	0	1	1	0	3	0	3	0	0	0	0	8
04:15 PM	1	3	0	4	0	0	0	0	0	6	1	7	1	0	0	1	12
04:30 PM	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
04:45 PM	0	6	0	6	0	0	0	0	0	4	1	5	0	0	0	0	11
Total	1	15	1	17	0	0	1	1	0	16	2	18	1	0	0	1	37
05:00 PM	0	6	0	6	1	0	2	3	1	7	0	8	0	0	0	0	17
05:15 PM	0	1	0	1	0	0	0	0	0	4	0	4	0	0	0	0	5
05:30 PM	0	2	0	2	1	0	0	1	0	4	0	4	0	0	0	0	7
05:45 PM	0	1	0	1	1	0	0	1	0	2	0	2	0	0	0	0	4
Total	0	10	0	10	3	0	2	5	1	17	0	18	0	0	0	0	33
Grand Total	1	25	1	27	3	0	3	6	1	33	2	36	1	0	0	1	70
Apprch %	3.7	92.6	3.7		50	0	50		2.8	91.7	5.6		100	0	0		
Total %	1.4	35.7	1.4	38.6	4.3	0	4.3	8.6	1.4	47.1	2.9	51.4	1.4	0	0	1.4	

Start Time	Leon Road Southbound				Craig Avenue Westbound				Leon Road Northbound				Craig Avenue 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	1	3	0	4	0	0	0	0	0	6	1	7	1	0	0	1	12
04:30 PM	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
04:45 PM	0	6	0	6	0	0	0	0	0	4	1	5	0	0	0	0	11
05:00 PM	0	6	0	6	1	0	2	3	1	7	0	8	0	0	0	0	17
Total Volume	1	18	0	19	1	0	2	3	1	20	2	23	1	0	0	1	46
% App. Total	5.3	94.7	0		33.3	0	66.7		4.3	87	8.7		100	0	0		
PHF	.250	.750	.000	.792	.250	.000	.250	.250	.250	.714	.500	.719	.250	.000	.000	.250	.676

City of Menifee
 N/S: Leon Road
 E/W: Craig Avenue
 Weather: Clear

File Name : 11_MEN_Leo_Cra PM
 Site Code : 05118004
 Start Date : 1/11/2018
 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:

	04:15 PM				05:00 PM				04:15 PM				04:00 PM			
+0 mins.	1	3	0	4	1	0	2	3	0	6	1	7	0	0	0	0
+15 mins.	0	3	0	3	0	0	0	0	0	3	0	3	1	0	0	1
+30 mins.	0	6	0	6	1	0	0	1	0	4	1	5	0	0	0	0
+45 mins.	0	6	0	6	1	0	0	1	1	7	0	8	0	0	0	0
Total Volume	1	18	0	19	3	0	2	5	1	20	2	23	1	0	0	1
% App. Total	5.3	94.7	0		60	0	40		4.3	87	8.7		100	0	0	
PHF	.250	.750	.000	.792	.750	.000	.250	.417	.250	.714	.500	.719	.250	.000	.000	.250

Location: Menifee
 N/S: Leon Road
 E/W: Craig Avenue



Date: 1/11/2018
 Date: Thursday

PEDESTRIANS

	North Leg Leon Road	East Leg Craig Avenue	South Leg Leon Road	West Leg Craig Avenue	
	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 Craig Avenue	South Leg Leon Road	West Leg Craig Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
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	0	0	1

Location: Menifee
 N/S: Leon Road
 E/W: Craig Avenue



Date: 1/11/2018
 Date: Thursday

BICYCLES

	Southbound Leon Road			Westbound Craig Avenue			Northbound Leon Road			Eastbound Craig Avenue			
	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 Craig Avenue			Northbound Leon Road			Eastbound Craig Avenue			
	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

City of Menifee
 N/S: Leon Road
 E/W: Garbani Road
 Weather: Clear

File Name : 12_MEN_Leo_Garb AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

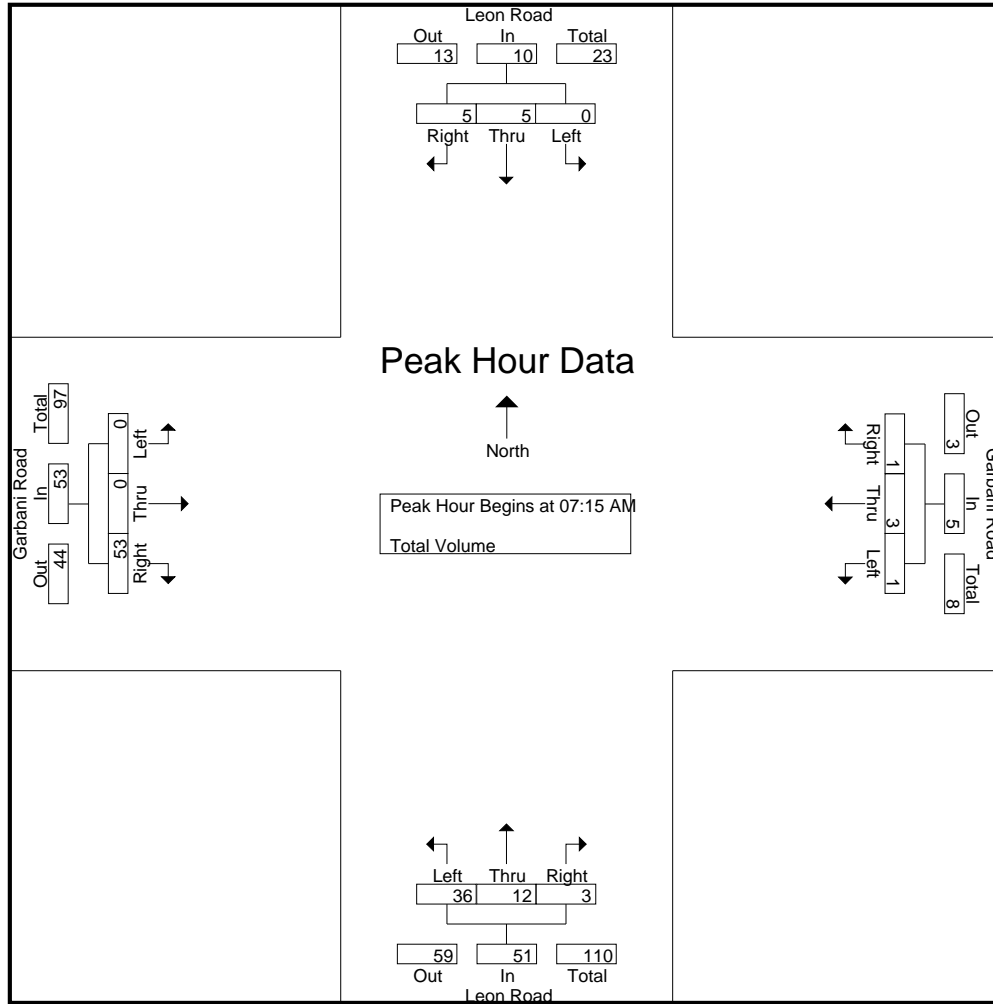
Groups Printed- Total Volume

Start Time	Leon Road Southbound				Garbani Road Westbound				Leon Road Northbound				Garbani 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	1	0	1	1	2	0	3	0	0	14	14	18
07:15 AM	0	5	1	6	0	2	0	2	3	3	1	7	0	0	19	19	34
07:30 AM	0	0	1	1	0	1	1	2	11	1	0	12	0	0	21	21	36
07:45 AM	0	0	2	2	1	0	0	1	8	5	1	14	0	0	9	9	26
Total	0	5	4	9	1	4	1	6	23	11	2	36	0	0	63	63	114
08:00 AM	0	0	1	1	0	0	0	0	14	3	1	18	0	0	4	4	23
08:15 AM	0	3	1	4	0	0	0	0	6	2	0	8	0	0	8	8	20
08:30 AM	0	0	0	0	0	0	0	0	2	2	0	4	0	0	5	5	9
08:45 AM	0	4	0	4	0	1	0	1	0	5	0	5	0	0	7	7	17
Total	0	7	2	9	0	1	0	1	22	12	1	35	0	0	24	24	69
Grand Total	0	12	6	18	1	5	1	7	45	23	3	71	0	0	87	87	183
Apprch %	0	66.7	33.3		14.3	71.4	14.3		63.4	32.4	4.2		0	0	100		
Total %	0	6.6	3.3	9.8	0.5	2.7	0.5	3.8	24.6	12.6	1.6	38.8	0	0	47.5	47.5	

Start Time	Leon Road Southbound				Garbani Road Westbound				Leon Road Northbound				Garbani 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 07:15 AM																	
07:15 AM	0	5	1	6	0	2	0	2	3	3	1	7	0	0	19	19	34
07:30 AM	0	0	1	1	0	1	1	2	11	1	0	12	0	0	21	21	36
07:45 AM	0	0	2	2	1	0	0	1	8	5	1	14	0	0	9	9	26
08:00 AM	0	0	1	1	0	0	0	0	14	3	1	18	0	0	4	4	23
Total Volume	0	5	5	10	1	3	1	5	36	12	3	51	0	0	53	53	119
% App. Total	0	50	50		20	60	20		70.6	23.5	5.9		0	0	100		
PHF	.000	.250	.625	.417	.250	.375	.250	.625	.643	.600	.750	.708	.000	.000	.631	.631	.826

City of Menifee
 N/S: Leon Road
 E/W: Garbani Road
 Weather: Clear

File Name : 12_MEN_Leo_Garb AM
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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				07:00 AM			
+0 mins.	0	5	1	6	0	1	0	1	11	1	0	12	0	0	14	14
+15 mins.	0	0	1	1	0	2	0	2	8	5	1	14	0	0	19	19
+30 mins.	0	0	2	2	0	1	1	2	14	3	1	18	0	0	21	21
+45 mins.	0	0	1	1	1	0	0	1	6	2	0	8	0	0	9	9
Total Volume	0	5	5	10	1	4	1	6	39	11	2	52	0	0	63	63
% App. Total	0	50	50		16.7	66.7	16.7		75	21.2	3.8		0	0	100	
PHF	.000	.250	.625	.417	.250	.500	.250	.750	.696	.550	.500	.722	.000	.000	.750	.750

City of Menifee
 N/S: Leon Road
 E/W: Garbani Road
 Weather: Clear

File Name : 12_MEN_Leo_Garb PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

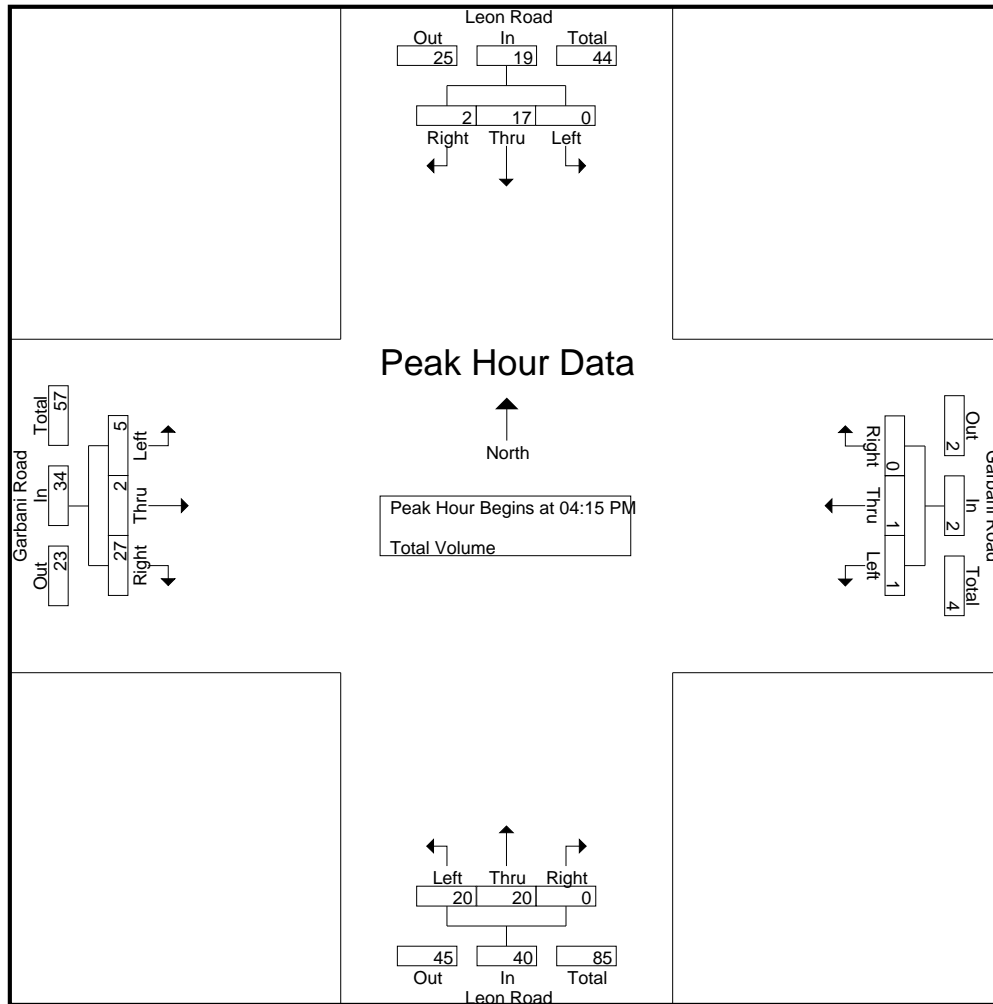
Groups Printed- Total Volume

Start Time	Leon Road Southbound				Garbani Road Westbound				Leon Road Northbound				Garbani 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	2	1	3	0	0	0	0	7	3	0	10	0	0	9	9	22
04:15 PM	0	3	0	3	0	0	0	0	5	6	0	11	2	0	7	9	23
04:30 PM	0	1	2	3	0	1	0	1	2	2	0	4	1	1	4	6	14
04:45 PM	0	3	0	3	0	0	0	0	7	6	0	13	1	1	8	10	26
Total	0	9	3	12	0	1	0	1	21	17	0	38	4	2	28	34	85
05:00 PM	0	10	0	10	1	0	0	1	6	6	0	12	1	0	8	9	32
05:15 PM	0	1	0	1	0	0	0	0	3	2	0	5	2	0	7	9	15
05:30 PM	1	1	2	4	1	0	0	1	3	4	1	8	1	0	4	5	18
05:45 PM	0	1	0	1	0	0	0	0	3	0	0	3	0	0	2	2	6
Total	1	13	2	16	2	0	0	2	15	12	1	28	4	0	21	25	71
Grand Total	1	22	5	28	2	1	0	3	36	29	1	66	8	2	49	59	156
Apprch %	3.6	78.6	17.9		66.7	33.3	0		54.5	43.9	1.5		13.6	3.4	83.1		
Total %	0.6	14.1	3.2	17.9	1.3	0.6	0	1.9	23.1	18.6	0.6	42.3	5.1	1.3	31.4	37.8	

Start Time	Leon Road Southbound				Garbani Road Westbound				Leon Road Northbound				Garbani 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	3	0	3	0	0	0	0	5	6	0	11	2	0	7	9	23
04:30 PM	0	1	2	3	0	1	0	1	2	2	0	4	1	1	4	6	14
04:45 PM	0	3	0	3	0	0	0	0	7	6	0	13	1	1	8	10	26
05:00 PM	0	10	0	10	1	0	0	1	6	6	0	12	1	0	8	9	32
Total Volume	0	17	2	19	1	1	0	2	20	20	0	40	5	2	27	34	95
% App. Total	0	89.5	10.5		50	50	0		50	50	0		14.7	5.9	79.4		
PHF	.000	.425	.250	.475	.250	.250	.000	.500	.714	.833	.000	.769	.625	.500	.844	.850	.742

City of Menifee
 N/S: Leon Road
 E/W: Garbani Road
 Weather: Clear

File Name : 12_MEN_Leo_Garb PM
 Site Code : 05118004
 Start Date : 1/11/2018
 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:

	04:15 PM				04:15 PM				04:15 PM				04:00 PM			
+0 mins.	0	3	0	3	0	0	0	0	5	6	0	11	0	0	9	9
+15 mins.	0	1	2	3	0	1	0	1	2	2	0	4	2	0	7	9
+30 mins.	0	3	0	3	0	0	0	0	7	6	0	13	1	1	4	6
+45 mins.	0	10	0	10	1	0	0	1	6	6	0	12	1	1	8	10
Total Volume	0	17	2	19	1	1	0	2	20	20	0	40	4	2	28	34
% App. Total	0	89.5	10.5		50	50	0		50	50	0		11.8	5.9	82.4	
PHF	.000	.425	.250	.475	.250	.250	.000	.500	.714	.833	.000	.769	.500	.500	.778	.850

Location: Menifee
 N/S: Leon Road
 E/W: Garbani Road



Date: 1/11/2018
 Date: Thursday

PEDESTRIANS

	North Leg Leon Road	East Leg Garbani Road	South Leg Leon Road	West Leg Garbani 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 Garbani Road	South Leg Leon Road	West Leg Garbani 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: Leon Road
 E/W: Garbani Road



Date: 1/11/2018
 Date: Thursday

BICYCLES

	Southbound Leon Road			Westbound Garbani Road			Northbound Leon Road			Eastbound Garbani 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 Garbani Road			Northbound Leon Road			Eastbound Garbani 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

City of Menifee
 N/S: Leon Road
 E/W: Scott Road
 Weather: Clear

File Name : 13_MEN_Leo_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

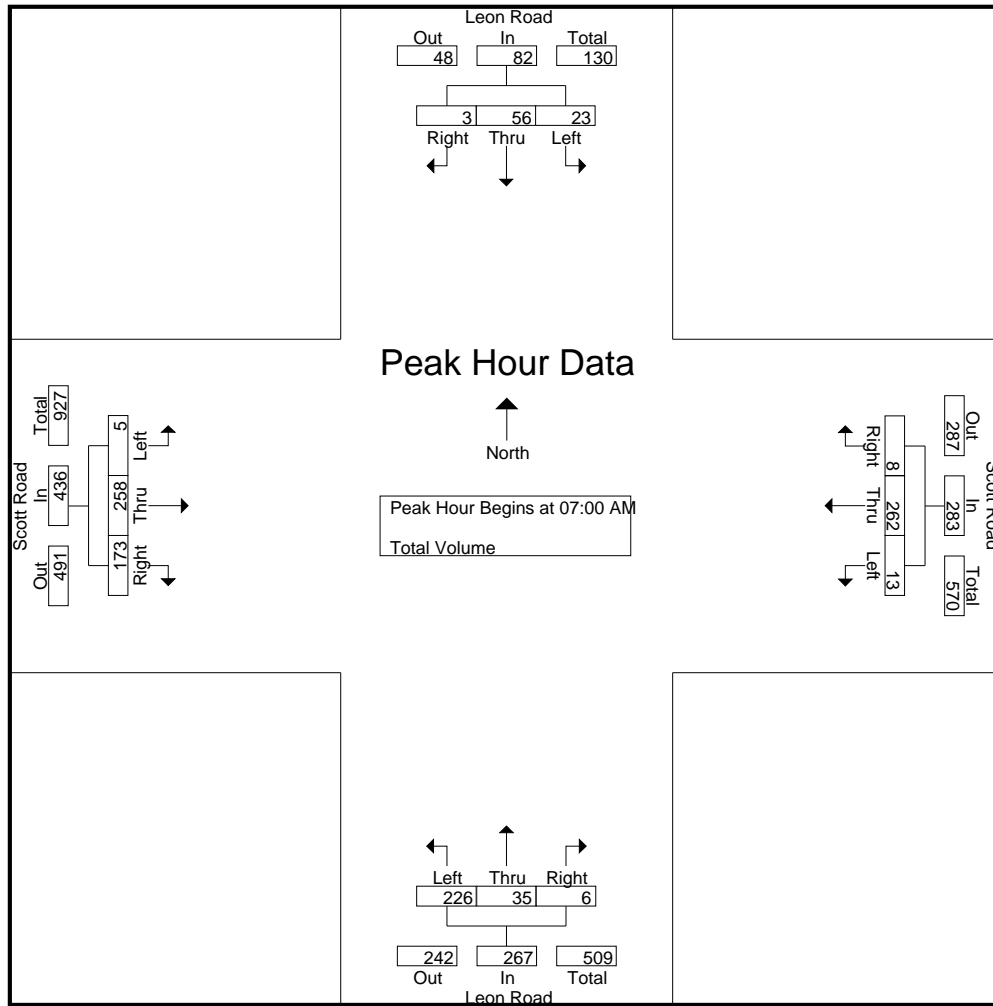
Groups Printed- Total Volume

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	4	14	0	18	4	67	0	71	41	4	1	46	2	73	45	120	255
07:15 AM	2	23	2	27	4	62	3	69	54	7	1	62	0	56	65	121	279
07:30 AM	9	12	0	21	2	55	0	57	66	11	1	78	1	71	38	110	266
07:45 AM	8	7	1	16	3	78	5	86	65	13	3	81	2	58	25	85	268
Total	23	56	3	82	13	262	8	283	226	35	6	267	5	258	173	436	1068
08:00 AM	1	2	0	3	0	60	4	64	39	7	1	47	2	45	33	80	194
08:15 AM	3	8	1	12	3	55	3	61	29	4	2	35	0	47	23	70	178
08:30 AM	3	1	1	5	0	41	0	41	28	3	2	33	1	42	28	71	150
08:45 AM	0	8	2	10	3	60	0	63	42	3	1	46	5	38	21	64	183
Total	7	19	4	30	6	216	7	229	138	17	6	161	8	172	105	285	705
Grand Total	30	75	7	112	19	478	15	512	364	52	12	428	13	430	278	721	1773
Apprch %	26.8	67	6.2		3.7	93.4	2.9		85	12.1	2.8		1.8	59.6	38.6		
Total %	1.7	4.2	0.4	6.3	1.1	27	0.8	28.9	20.5	2.9	0.7	24.1	0.7	24.3	15.7	40.7	

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	
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	4	14	0	18	4	67	0	71	41	4	1	46	2	73	45	120	255
07:15 AM	2	23	2	27	4	62	3	69	54	7	1	62	0	56	65	121	279
07:30 AM	9	12	0	21	2	55	0	57	66	11	1	78	1	71	38	110	266
07:45 AM	8	7	1	16	3	78	5	86	65	13	3	81	2	58	25	85	268
Total Volume	23	56	3	82	13	262	8	283	226	35	6	267	5	258	173	436	1068
% App. Total	28	68.3	3.7		4.6	92.6	2.8		84.6	13.1	2.2		1.1	59.2	39.7		
PHF	.639	.609	.375	.759	.813	.840	.400	.823	.856	.673	.500	.824	.625	.884	.665	.901	.957

City of Menifee
 N/S: Leon Road
 E/W: Scott Road
 Weather: Clear

File Name : 13_MEN_Leo_Scot AM
 Site Code : 05118004
 Start Date : 1/11/2018
 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				07:15 AM				07:00 AM			
+0 mins.	4	14	0	18	4	67	0	71	54	7	1	62	2	73	45	120
+15 mins.	2	23	2	27	4	62	3	69	66	11	1	78	0	56	65	121
+30 mins.	9	12	0	21	2	55	0	57	65	13	3	81	1	71	38	110
+45 mins.	8	7	1	16	3	78	5	86	39	7	1	47	2	58	25	85
Total Volume	23	56	3	82	13	262	8	283	224	38	6	268	5	258	173	436
% App. Total	28	68.3	3.7		4.6	92.6	2.8		83.6	14.2	2.2		1.1	59.2	39.7	
PHF	.639	.609	.375	.759	.813	.840	.400	.823	.848	.731	.500	.827	.625	.884	.665	.901

City of Menifee
 N/S: Leon Road
 E/W: Scott Road
 Weather: Clear

File Name : 13_MEN_Leo_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 Page No : 1

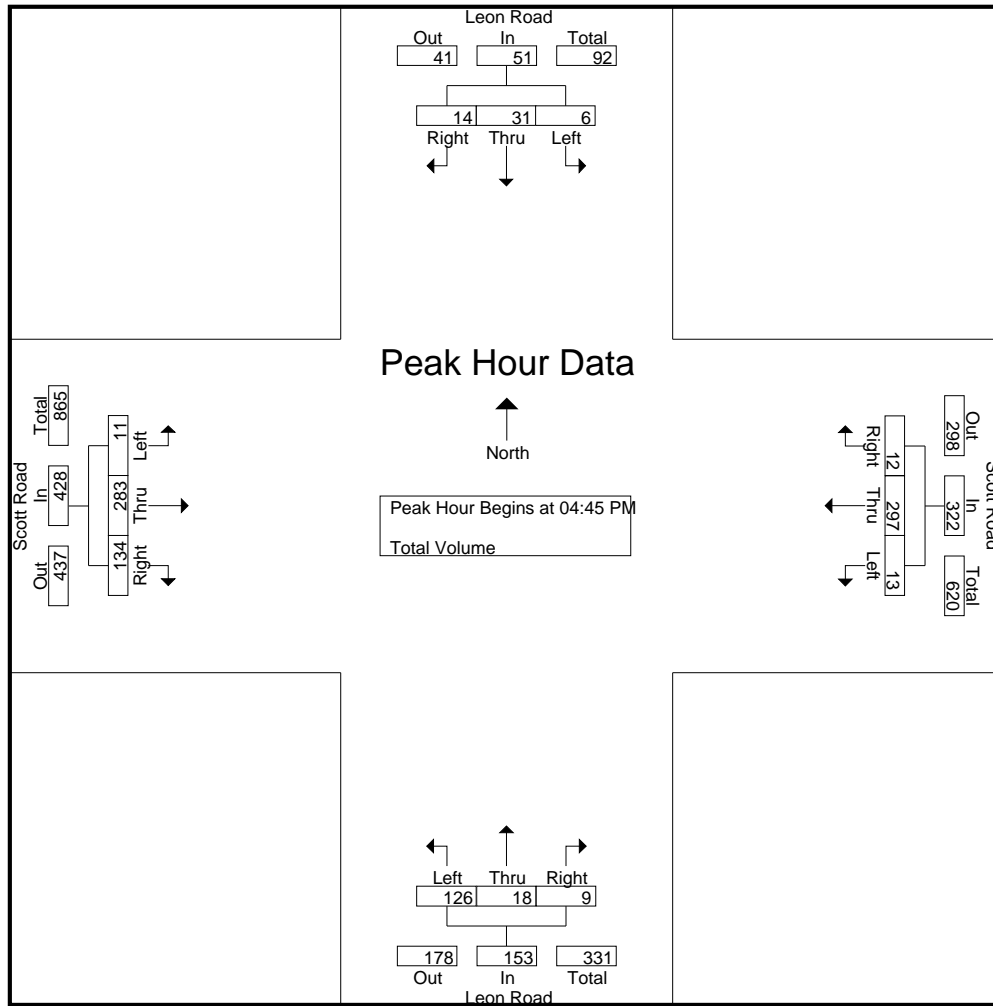
Groups Printed- Total Volume

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	3	7	1	11	1	52	1	54	36	5	5	46	6	67	38	111	222
04:15 PM	4	4	2	10	2	58	3	63	21	3	1	25	3	72	30	105	203
04:30 PM	2	1	1	4	2	65	1	68	26	1	1	28	2	74	28	104	204
04:45 PM	1	11	1	13	3	69	5	77	35	7	2	44	2	89	33	124	258
Total	10	23	5	38	8	244	10	262	118	16	9	143	13	302	129	444	887
05:00 PM	3	9	9	21	5	72	2	79	36	5	2	43	6	63	26	95	238
05:15 PM	1	7	1	9	2	82	2	86	28	1	2	31	2	80	38	120	246
05:30 PM	1	4	3	8	3	74	3	80	27	5	3	35	1	51	37	89	212
05:45 PM	1	2	2	5	0	58	2	60	18	3	3	24	0	53	28	81	170
Total	6	22	15	43	10	286	9	305	109	14	10	133	9	247	129	385	866
Grand Total	16	45	20	81	18	530	19	567	227	30	19	276	22	549	258	829	1753
Apprch %	19.8	55.6	24.7		3.2	93.5	3.4		82.2	10.9	6.9		2.7	66.2	31.1		
Total %	0.9	2.6	1.1	4.6	1	30.2	1.1	32.3	12.9	1.7	1.1	15.7	1.3	31.3	14.7	47.3	

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	
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	1	11	1	13	3	69	5	77	35	7	2	44	2	89	33	124	258
05:00 PM	3	9	9	21	5	72	2	79	36	5	2	43	6	63	26	95	238
05:15 PM	1	7	1	9	2	82	2	86	28	1	2	31	2	80	38	120	246
05:30 PM	1	4	3	8	3	74	3	80	27	5	3	35	1	51	37	89	212
Total Volume	6	31	14	51	13	297	12	322	126	18	9	153	11	283	134	428	954
% App. Total	11.8	60.8	27.5		4	92.2	3.7		82.4	11.8	5.9		2.6	66.1	31.3		
PHF	.500	.705	.389	.607	.650	.905	.600	.936	.875	.643	.750	.869	.458	.795	.882	.863	.924

City of Menifee
 N/S: Leon Road
 E/W: Scott Road
 Weather: Clear

File Name : 13_MEN_Leo_Scot PM
 Site Code : 05118004
 Start Date : 1/11/2018
 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				04:45 PM				04:45 PM				04:00 PM			
+0 mins.	1	11	1	13	3	69	5	77	35	7	2	44	6	67	38	111
+15 mins.	3	9	9	21	5	72	2	79	36	5	2	43	3	72	30	105
+30 mins.	1	7	1	9	2	82	2	86	28	1	2	31	2	74	28	104
+45 mins.	1	4	3	8	3	74	3	80	27	5	3	35	2	89	33	124
Total Volume	6	31	14	51	13	297	12	322	126	18	9	153	13	302	129	444
% App. Total	11.8	60.8	27.5		4	92.2	3.7		82.4	11.8	5.9		2.9	68	29.1	
PHF	.500	.705	.389	.607	.650	.905	.600	.936	.875	.643	.750	.869	.542	.848	.849	.895

Location: Menifee
 N/S: Leon Road
 E/W: Scott Road



Date: 1/11/2018
 Date: Thursday

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	2	1	3
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	2	1	3

	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: Menifee
 N/S: Leon Road
 E/W: Scott Road



Date: 1/11/2018
 Date: Thursday

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	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

Counts Unlimited, Inc.

City of Menifee
 Leon Road
 S/ Craig Road
 24 Hour Directional Volume Count

PO Box 1178
 Corona, CA 92878
 Phone: 951-268-6268
 email: counts@countsunlimited.com

MEN003
 Site Code: 051-18004

Start Time	11-Jan-18 Thu	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	4			0	6				
12:15		2	4			0	4				
12:30		1	4			1	2				
12:45		1	1	4	13	0	2	1	14	5	27
01:00		0	5			0	3				
01:15		0	1			0	5				
01:30		1	6			0	1				
01:45		1	0	2	12	0	3	0	12	2	24
02:00		0	7			1	6				
02:15		0	6			0	2				
02:30		0	4			0	6				
02:45		0	4	0	21	0	5	1	19	1	40
03:00		0	7			0	0				
03:15		0	10			0	1				
03:30		0	9			0	1				
03:45		0	9	0	35	0	9	0	11	0	46
04:00		0	4			1	5				
04:15		1	5			0	1				
04:30		0	4			0	4				
04:45		1	5	2	18	0	5	1	15	3	33
05:00		1	4			2	9				
05:15		0	8			0	3				
05:30		0	3			0	2				
05:45		0	4	1	19	0	2	2	16	3	35
06:00		0	3			1	4				
06:15		0	6			0	2				
06:30		3	2			5	1				
06:45		1	4	4	15	6	1	12	8	16	23
07:00		2	1			0	1				
07:15		1	2			3	1				
07:30		4	2			2	2				
07:45		3	2	10	7	1	0	6	4	16	11
08:00		2	2			1	1				
08:15		3	1			3	2				
08:30		0	1			1	3				
08:45		3	1	8	5	2	1	7	7	15	12
09:00		6	1			3	0				
09:15		1	1			5	1				
09:30		2	0			4	1				
09:45		4	0	13	2	1	0	13	2	26	4
10:00		4	2			4	1				
10:15		5	0			1	0				
10:30		4	1			3	1				
10:45		1	0	14	3	4	0	12	2	26	5
11:00		3	1			4	1				
11:15		3	0			1	0				
11:30		2	0			2	0				
11:45		0	0	8	1	3	0	10	1	18	2
Total		66	151	66	151	65	111	65	111	131	262
Combined Total		217		217		176		176		393	
AM Peak	-	09:45	-	-	-	06:30	-	-	-	-	-
Vol.	-	17	-	-	-	14	-	-	-	-	-
P.H.F.	-	0.850	-	-	-	0.583	-	-	-	-	-
PM Peak	-	-	03:00	-	-	-	04:30	-	-	-	-
Vol.	-	-	35	-	-	-	21	-	-	-	-
P.H.F.	-	-	0.875	-	-	-	0.583	-	-	-	-
Percentage		30.4%	69.6%			36.9%	63.1%				
ADT/AADT		ADT 393		AADT 393							

Counts Unlimited, Inc.

City of Menifee
 Scott Road
 E/ Interstate 215 Northbound
 24 Hour Directional Volume Count

PO Box 1178
 Corona, CA 92878
 Phone: 951-268-6268
 email: counts@countsunlimited.com

MEN001
 Site Code: 051-18004

Start Time	11-Jan-18 Thu	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		25	150			17	173				
12:15		34	143			12	171				
12:30		21	155			14	140				
12:45		19	156	99	604	13	168	56	652	155	1256
01:00		19	178			7	165				
01:15		14	183			8	167				
01:30		13	204			9	171				
01:45		17	199	63	764	11	190	35	693	98	1457
02:00		13	202			9	176				
02:15		10	226			11	167				
02:30		14	206			5	200				
02:45		13	205	50	839	9	195	34	738	84	1577
03:00		15	207			20	181				
03:15		9	221			30	176				
03:30		6	227			34	196				
03:45		10	228	40	883	37	221	121	774	161	1657
04:00		20	250			57	189				
04:15		9	238			60	182				
04:30		13	229			94	177				
04:45		14	229	56	946	92	179	303	727	359	1673
05:00		23	221			135	193				
05:15		32	243			116	188				
05:30		39	220			151	218				
05:45		57	232	151	916	133	165	535	764	686	1680
06:00		74	215			154	129				
06:15		104	227			173	119				
06:30		118	240			178	119				
06:45		153	176	449	858	219	138	724	505	1173	1363
07:00		142	196			203	80				
07:15		135	177			272	90				
07:30		158	182			247	95				
07:45		155	167	590	722	241	83	963	348	1553	1070
08:00		164	180			199	78				
08:15		144	156			236	58				
08:30		146	138			212	67				
08:45		124	157	578	631	248	148	895	351	1473	982
09:00		145	118			246	105				
09:15		119	125			191	65				
09:30		119	124			169	45				
09:45		111	124	494	491	179	43	785	258	1279	749
10:00		127	91			170	32				
10:15		135	64			178	36				
10:30		140	73			205	30				
10:45		137	60	539	288	162	29	715	127	1254	415
11:00		134	51			146	25				
11:15		139	45			180	23				
11:30		135	61			152	15				
11:45		168	46	576	203	139	13	617	76	1193	279
Total		3685	8145	3685	8145	5783	6013	5783	6013	9468	14158
Combined Total		11830		11830		11796		11796		23626	
AM Peak Vol.	-	07:30	-	-	-	07:00	-	-	-	-	-
P.H.F.	-	0.947	-	-	-	0.885	-	-	-	-	-
PM Peak Vol.	-	-	04:00	-	-	-	03:30	-	-	-	-
P.H.F.	-	-	0.946	-	-	-	0.891	-	-	-	-
Percentage		31.1%	68.9%			49.0%	51.0%				
ADT/AADT		ADT 23,626	AADT 23,626								

Counts Unlimited, Inc.

City of Menifee
 Scott Road
 W/ Leon Road
 24 Hour Directional Volume Count

PO Box 1178
 Corona, CA 92878
 Phone: 951-268-6268
 email: counts@countsunlimited.com

MEN002
 Site Code: 051-18004

Start Time	11-Jan-18 Thu	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		10	68			7	56				
12:15		11	70			3	75				
12:30		7	74			5	73				
12:45		10	71	38	283	5	72	20	276	58	559
01:00		9	74			5	71				
01:15		7	83			2	68				
01:30		4	114			4	85				
01:45		4	113	24	384	5	66	16	290	40	674
02:00		7	106			5	82				
02:15		2	116			7	129				
02:30		2	111			5	95				
02:45		5	106	16	439	4	109	21	415	37	854
03:00		3	111			11	109				
03:15		5	102			8	89				
03:30		5	121			12	128				
03:45		4	115	17	449	14	116	45	442	62	891
04:00		8	118			27	90				
04:15		7	107			27	96				
04:30		10	105			28	82				
04:45		11	123	36	453	46	93	128	361	164	814
05:00		18	112			32	117				
05:15		18	110			52	124				
05:30		22	110			47	105				
05:45		34	77	92	409	40	92	171	438	263	847
06:00		53	85			74	85				
06:15		75	95			68	78				
06:30		87	79			86	63				
06:45		127	53	342	312	93	56	321	282	663	594
07:00		124	60			118	37				
07:15		126	58			120	60				
07:30		132	72			112	31				
07:45		88	47	470	237	156	44	506	172	976	409
08:00		79	50			126	41				
08:15		74	66			93	35				
08:30		76	49			68	34				
08:45		74	52	303	217	103	31	390	141	693	358
09:00		61	38			100	27				
09:15		60	22			72	35				
09:30		82	42			84	19				
09:45		69	39	272	141	66	21	322	102	594	243
10:00		70	29			88	16				
10:15		73	25			81	11				
10:30		88	21			77	21				
10:45		65	15	296	90	78	12	324	60	620	150
11:00		77	20			69	9				
11:15		67	21			79	8				
11:30		75	24			63	4				
11:45		66	19	285	84	76	7	287	28	572	112
Total		2191	3498	2191	3498	2551	3007	2551	3007	4742	6505
Combined Total		5689		5689		5558		5558		11247	
AM Peak	-	06:45	-	-	-	07:15	-	-	-	-	-
Vol.	-	509	-	-	-	514	-	-	-	-	-
P.H.F.	-	0.964	-	-	-	0.824	-	-	-	-	-
PM Peak	-	-	03:30	-	-	-	02:15	-	-	-	-
Vol.	-	-	461	-	-	-	442	-	-	-	-
P.H.F.	-	-	0.952	-	-	-	0.857	-	-	-	-
Percentage		38.5%	61.5%			45.9%	54.1%				
ADT/AADT		ADT 11,247		AADT 11,247							

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APPENDIX 3.2:

EXISTING (2018) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

01/31/2018

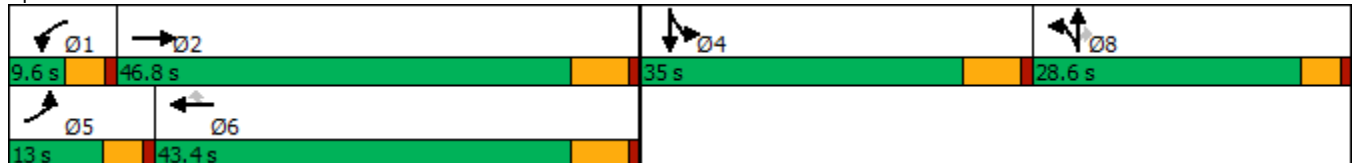


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	68	400	22	375	582	13	53	6	529	24
Future Volume (vph)	68	400	22	375	582	13	53	6	529	24
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	13.0	46.8	9.6	43.4	43.4	28.6	28.6	28.6	35.0	35.0
Total Split (%)	10.8%	39.0%	8.0%	36.2%	36.2%	23.8%	23.8%	23.8%	29.2%	29.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 111
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	400	12	22	375	582	13	53	6	529	24	40
Future Volume (veh/h)	68	400	12	22	375	582	13	53	6	529	24	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	76	444	12	24	417	355	14	59	4	642	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	524	14	42	483	410	395	414	351	947	497	0
Arrive On Green	0.05	0.29	0.29	0.02	0.26	0.26	0.22	0.22	0.22	0.27	0.00	0.00
Sat Flow, veh/h	1781	1813	49	1781	1870	1585	1781	1870	1585	3563	1870	0
Grp Volume(v), veh/h	76	0	456	24	417	355	14	59	4	642	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1862	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	4.6	0.0	25.0	1.4	23.0	23.2	0.7	2.7	0.2	17.5	0.0	0.0
Cycle Q Clear(g_c), s	4.6	0.0	25.0	1.4	23.0	23.2	0.7	2.7	0.2	17.5	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	97	0	539	42	483	410	395	414	351	947	497	0
V/C Ratio(X)	0.78	0.00	0.85	0.57	0.86	0.87	0.04	0.14	0.01	0.68	0.00	0.00
Avail Cap(c_a), veh/h	138	0	698	82	642	544	395	414	351	947	497	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	50.6	0.0	36.2	52.3	38.3	38.4	33.1	33.9	32.9	35.6	0.0	0.0
Incr Delay (d2), s/veh	10.4	0.0	7.6	4.4	9.2	11.0	0.2	0.7	0.1	3.9	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	2.2	0.0	11.8	0.7	11.2	9.7	0.3	1.3	0.1	7.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.9	0.0	43.8	56.7	47.5	49.3	33.2	34.6	33.0	39.5	0.0	0.0
LnGrp LOS	E	A	D	E	D	D	C	C	C	D	A	A
Approach Vol, veh/h		532			796			77			642	
Approach Delay, s/veh		46.3			48.6			34.3			39.5	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	37.5		35.0	10.5	34.2		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	40.6		28.8	8.4	37.2		24.0				
Max Q Clear Time (g_c+I1), s	3.4	27.0		19.5	6.6	25.2		4.7				
Green Ext Time (p_c), s	0.0	2.1		1.7	0.0	2.8		0.3				

Intersection Summary

HCM 6th Ctrl Delay	44.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	542	369	316	846	2	133
Future Volume (vph)	542	369	316	846	2	133
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	49.0	49.0	30.0	79.0	31.0	31.0
Total Split (%)	44.5%	44.5%	27.3%	71.8%	28.2%	28.2%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

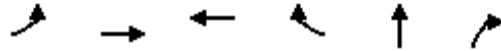


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	542	369	316	846	0	0	0	0	305	2	133
Future Volume (veh/h)	0	542	369	316	846	0	0	0	0	305	2	133
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		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	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	571	261	333	891	0				321	2	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	770	653	366	1233	0				414	3	370
Arrive On Green	0.00	0.41	0.41	0.07	0.22	0.00				0.23	0.23	0.23
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1771	11	1585
Grp Volume(v), veh/h	0	571	261	333	891	0				323	0	87
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1782	0	1585
Q Serve(g_s), s	0.0	28.4	12.8	20.4	48.7	0.0				18.7	0.0	4.9
Cycle Q Clear(g_c), s	0.0	28.4	12.8	20.4	48.7	0.0				18.7	0.0	4.9
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	770	653	366	1233	0				416	0	370
V/C Ratio(X)	0.00	0.74	0.40	0.91	0.72	0.00				0.78	0.00	0.23
Avail Cap(c_a), veh/h	0	770	653	411	1233	0				416	0	370
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.56	0.44	0.44	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	27.4	22.8	50.3	33.7	0.0				39.5	0.0	34.2
Incr Delay (d2), s/veh	0.0	3.6	1.0	11.2	1.7	0.0				13.2	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	12.4	4.6	10.8	24.4	0.0				9.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.0	23.8	61.5	35.4	0.0				52.7	0.0	35.7
LnGrp LOS	A	C	C	E	D	A				D	A	D
Approach Vol, veh/h		832			1224						410	
Approach Delay, s/veh		28.7			42.5						49.1	
Approach LOS		C			D						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.2	51.8		31.0		79.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	25.4	42.5		25.7		72.5						
Max Q Clear Time (g_c+I1), s	22.4	30.4		20.7		50.7						
Green Ext Time (p_c), s	0.2	2.0		0.6		3.5						
Intersection Summary												
HCM 6th Ctrl Delay				38.9								
HCM 6th LOS				D								

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	101	746	926	449	1	170
Future Volume (vph)	101	746	926	449	1	170
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0
Total Split (s)	14.0	85.0	71.0	71.0	25.0	25.0
Total Split (%)	12.7%	77.3%	64.5%	64.5%	22.7%	22.7%
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3
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	5.3	5.3	5.3	5.3	5.3
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	746	0	0	926	449	236	1	170	0	0	0
Future Volume (veh/h)	101	746	0	0	926	449	236	1	170	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		0.99			
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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	102	754	0	0	935	430	238	1	55			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	127	1355	0	0	1143	949	318	1	280			
Arrive On Green	0.07	0.72	0.00	0.00	0.61	0.61	0.18	0.18	0.18			
Sat Flow, veh/h	1781	1870	0	0	1870	1552	1774	7	1564			
Grp Volume(v), veh/h	102	754	0	0	935	430	239	0	55			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1552	1782	0	1564			
Q Serve(g_s), s	6.2	20.5	0.0	0.0	42.7	16.4	14.0	0.0	3.3			
Cycle Q Clear(g_c), s	6.2	20.5	0.0	0.0	42.7	16.4	14.0	0.0	3.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	127	1355	0	0	1143	949	319	0	280			
V/C Ratio(X)	0.80	0.56	0.00	0.00	0.82	0.45	0.75	0.00	0.20			
Avail Cap(c_a), veh/h	152	1355	0	0	1143	949	319	0	280			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.57	0.57	0.00	0.00	0.58	0.58	1.00	0.00	1.00			
Uniform Delay (d), s/veh	50.3	7.0	0.0	0.0	16.6	11.5	42.8	0.0	38.4			
Incr Delay (d2), s/veh	11.4	0.9	0.0	0.0	3.9	0.9	14.9	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	3.0	5.9	0.0	0.0	16.0	4.9	7.3	0.0	1.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	7.9	0.0	0.0	20.5	12.4	57.7	0.0	40.0			
LnGrp LOS	E	A	A	A	C	B	E	A	D			
Approach Vol, veh/h		856			1365			294				
Approach Delay, s/veh		14.3			18.0			54.4				
Approach LOS		B			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		85.0			12.5	72.5		25.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		79.7			9.4	65.7		19.7				
Max Q Clear Time (g_c+I1), s		22.5			8.2	44.7		16.0				
Green Ext Time (p_c), s		2.8			0.0	4.6		0.3				

Intersection Summary

HCM 6th Ctrl Delay	21.0
HCM 6th LOS	C

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

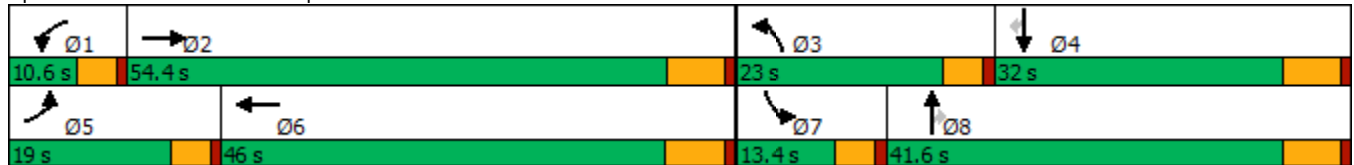


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	108	515	23	740	329	69	63	42	124	306
Future Volume (vph)	108	515	23	740	329	69	63	42	124	306
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	19.0	54.4	10.6	46.0	23.0	41.6	41.6	13.4	32.0	32.0
Total Split (%)	15.8%	45.3%	8.8%	38.3%	19.2%	34.7%	34.7%	11.2%	26.7%	26.7%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 105.8
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	108	515	293	23	740	21	329	69	63	42	124	306
Future Volume (veh/h)	108	515	293	23	740	21	329	69	63	42	124	306
Initial Q (Qb), 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	117	560	231	25	804	20	358	75	27	46	135	311
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	147	818	337	45	979	24	436	698	592	66	531	450
Arrive On Green	0.08	0.33	0.33	0.03	0.28	0.28	0.13	0.37	0.37	0.04	0.28	0.28
Sat Flow, veh/h	1781	2454	1010	1781	3541	88	3456	1870	1585	1781	1870	1583
Grp Volume(v), veh/h	117	405	386	25	403	421	358	75	27	46	135	311
Grp Sat Flow(s),veh/h/ln	1781	1777	1687	1781	1777	1852	1728	1870	1585	1781	1870	1583
Q Serve(g_s), s	6.1	18.7	18.8	1.3	20.2	20.2	9.6	2.5	1.0	2.4	5.3	16.6
Cycle Q Clear(g_c), s	6.1	18.7	18.8	1.3	20.2	20.2	9.6	2.5	1.0	2.4	5.3	16.6
Prop In Lane	1.00		0.60	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	147	592	562	45	491	512	436	698	592	66	531	450
V/C Ratio(X)	0.80	0.68	0.69	0.55	0.82	0.82	0.82	0.11	0.05	0.70	0.25	0.69
Avail Cap(c_a), veh/h	270	903	857	113	740	771	670	698	592	165	531	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)	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	42.7	27.3	27.3	45.7	32.1	32.1	40.4	19.4	19.0	45.1	26.2	30.2
Incr Delay (d2), s/veh	3.7	1.4	1.5	3.9	4.6	4.4	2.6	0.3	0.1	4.9	1.2	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	2.7	7.5	7.1	0.6	8.5	8.8	4.0	1.1	0.4	1.1	2.4	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	28.7	28.8	49.5	36.7	36.5	43.0	19.7	19.1	50.0	27.3	38.7
LnGrp LOS	D	C	C	D	D	D	D	B	B	D	C	D
Approach Vol, veh/h		908			849			460			492	
Approach Delay, s/veh		31.0			37.0			37.8			36.6	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	38.1	16.6	33.1	12.4	32.7	8.1	41.6				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	6.0	* 48	18.4	25.8	14.4	39.5	8.8	35.4				
Max Q Clear Time (g_c+I1), s	3.3	20.8	11.6	18.6	8.1	22.2	4.4	4.5				
Green Ext Time (p_c), s	0.0	4.7	0.4	1.0	0.1	4.1	0.0	0.4				

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.

Intersection	
Intersection Delay, s/veh	17.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↔		↵	↕↔		↵	↕↔		↵	↕↔	
Traffic Vol, veh/h	108	73	15	69	158	99	38	272	87	59	254	83
Future Vol, veh/h	108	73	15	69	158	99	38	272	87	59	254	83
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	137	92	19	87	200	125	48	344	110	75	322	105
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	16	16.5	19.5	18.4
HCM LOS	C	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	51%	0%	100%	62%	0%	100%	35%	0%	100%
Vol Right, %	0%	0%	49%	0%	0%	38%	0%	0%	65%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	181	178	108	49	39	69	105	152	59	169
LT Vol	38	0	0	108	0	0	69	0	0	59	0
Through Vol	0	181	91	0	49	24	0	105	53	0	169
RT Vol	0	0	87	0	0	15	0	0	99	0	0
Lane Flow Rate	48	230	225	137	62	50	87	133	192	75	214
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.121	0.545	0.513	0.369	0.158	0.124	0.226	0.326	0.445	0.188	0.509
Departure Headway (Hd)	9.048	8.548	8.205	9.73	9.23	8.963	9.308	8.808	8.351	9.05	8.55
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	397	422	441	370	389	400	386	408	432	397	422
Service Time	6.791	6.291	5.948	7.48	6.98	6.713	7.053	6.553	6.096	6.793	6.293
HCM Lane V/C Ratio	0.121	0.545	0.51	0.37	0.159	0.125	0.225	0.326	0.444	0.189	0.507
HCM Control Delay	13	21.1	19.3	18.1	13.7	13	14.8	15.8	17.7	13.9	19.9
HCM Lane LOS	B	C	C	C	B	B	B	C	C	B	C
HCM 95th-tile Q	0.4	3.2	2.9	1.7	0.6	0.4	0.9	1.4	2.2	0.7	2.8

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

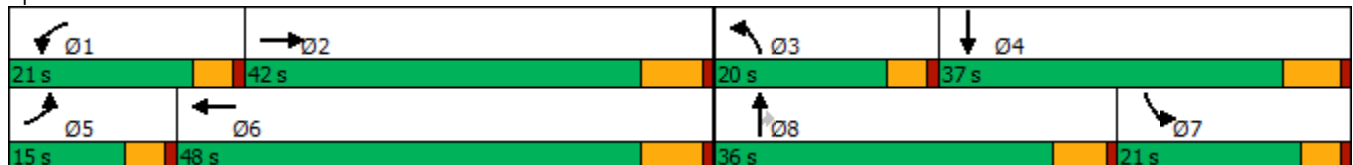


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↗	↗	↖	↗
Traffic Volume (vph)	55	427	103	523	100	159	63	110	193
Future Volume (vph)	55	427	103	523	100	159	63	110	193
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	15.0	42.0	21.0	48.0	20.0	36.0	36.0	21.0	37.0
Total Split (%)	12.5%	35.0%	17.5%	40.0%	16.7%	30.0%	30.0%	17.5%	30.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 95.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Volume (veh/h)	55	427	109	103	523	141	100	159	63	110	193	81
Future Volume (veh/h)	55	427	109	103	523	141	100	159	63	110	193	81
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	58	449	103	108	551	133	105	167	35	116	203	71
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	78	614	140	138	705	169	134	663	555	147	495	173
Arrive On Green	0.04	0.21	0.21	0.08	0.25	0.25	0.08	0.35	0.35	0.08	0.38	0.38
Sat Flow, veh/h	1781	2862	651	1781	2841	683	1781	1870	1565	1781	1318	461
Grp Volume(v), veh/h	58	277	275	108	344	340	105	167	35	116	0	274
Grp Sat Flow(s),veh/h/ln	1781	1777	1736	1781	1777	1747	1781	1870	1565	1781	0	1780
Q Serve(g_s), s	2.7	12.4	12.6	5.1	15.4	15.5	4.9	5.4	0.9	5.4	0.0	9.7
Cycle Q Clear(g_c), s	2.7	12.4	12.6	5.1	15.4	15.5	4.9	5.4	0.9	5.4	0.0	9.7
Prop In Lane	1.00		0.38	1.00		0.39	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	78	381	372	138	441	433	134	663	555	147	0	669
V/C Ratio(X)	0.74	0.73	0.74	0.78	0.78	0.78	0.78	0.25	0.06	0.79	0.00	0.41
Avail Cap(c_a), veh/h	217	740	723	343	865	851	322	663	555	343	0	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	40.3	31.1	31.2	38.6	29.9	29.9	38.7	19.5	8.7	38.4	0.0	19.6
Incr Delay (d2), s/veh	5.1	2.7	2.9	3.7	3.0	3.2	3.7	0.9	0.2	3.5	0.0	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	1.2	5.1	5.0	2.2	6.2	6.2	2.2	2.3	0.4	2.4	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	33.8	34.1	42.3	32.9	33.1	42.4	20.4	8.9	41.9	0.0	21.5
LnGrp LOS	D	C	C	D	C	C	D	C	A	D	A	C
Approach Vol, veh/h		610			792			307			390	
Approach Delay, s/veh		35.0			34.3			26.6			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	11.2	24.8	11.0	38.2	8.3	27.6	13.2	36.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	6.2	* 5.8				
Max Green Setting (Gmax), s	16.4	35.5	15.4	30.8	10.4	41.5	16.4	* 30				
Max Q Clear Time (g_c+I1), s	7.1	14.6	6.9	11.7	4.7	17.5	7.4	7.4				
Green Ext Time (p_c), s	0.1	2.7	0.1	1.3	0.0	3.6	0.1	0.9				

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.

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	46	3	29	0	2	2	16	13	0	0	32	59
Future Vol, veh/h	46	3	29	0	2	2	16	13	0	0	32	59
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	57	57	57	57	57	57	57	57	57	57	57	57
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	81	5	51	0	4	4	28	23	0	0	56	104

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	191	187	108	215	239	23	160	0	0	23	0	0
Stage 1	108	108	-	79	79	-	-	-	-	-	-	-
Stage 2	83	79	-	136	160	-	-	-	-	-	-	-
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	769	708	946	742	662	1054	1419	-	-	1592	-	-
Stage 1	897	806	-	930	829	-	-	-	-	-	-	-
Stage 2	925	829	-	867	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	751	694	946	687	649	1054	1419	-	-	1592	-	-
Mov Cap-2 Maneuver	751	694	-	687	649	-	-	-	-	-	-	-
Stage 1	879	806	-	911	812	-	-	-	-	-	-	-
Stage 2	900	812	-	815	766	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.3		9.5		4.2		0	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1419	-	-	811	803	1592	-
HCM Lane V/C Ratio	0.02	-	-	0.169	0.009	-	-
HCM Control Delay (s)	7.6	0	-	10.3	9.5	0	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

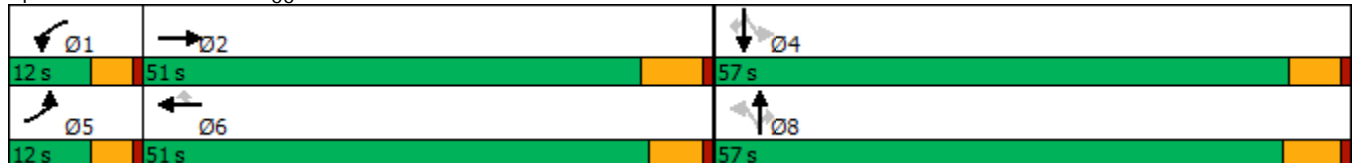


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	10	382	6	478	6	226	4	10	16	14	49
Future Volume (vph)	10	382	6	478	6	226	4	10	16	14	49
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6			8			4	
Permitted Phases					6	8		8	4		4
Detector Phase	5	2	1	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	51.0	12.0	51.0	51.0	57.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	10.0%	42.5%	10.0%	42.5%	42.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	4.8	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
Total Lost Time (s)	4.6	6.5	4.6	5.8	5.8		6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 84.6
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	382	222	6	478	6	226	4	10	16	14	49
Future Volume (veh/h)	10	382	222	6	478	6	226	4	10	16	14	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	10	390	181	6	488	3	231	4	6	16	14	16
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	22	509	233	14	748	334	81	1	921	63	37	921
Arrive On Green	0.01	0.22	0.22	0.01	0.21	0.21	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	1781	2368	1084	1781	3554	1585	0	1	1585	0	64	1585
Grp Volume(v), veh/h	10	291	280	6	488	3	235	0	6	30	0	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1675	1781	1777	1585	1	0	1585	64	0	1585
Q Serve(g_s), s	0.5	13.6	13.9	0.3	11.1	0.1	0.0	0.0	0.1	0.0	0.0	0.4
Cycle Q Clear(g_c), s	0.5	13.6	13.9	0.3	11.1	0.1	51.2	0.0	0.1	51.2	0.0	0.4
Prop In Lane	1.00		0.65	1.00		1.00	0.98		1.00	0.53		1.00
Lane Grp Cap(c), veh/h	22	382	360	14	748	334	82	0	921	100	0	921
V/C Ratio(X)	0.46	0.76	0.78	0.43	0.65	0.01	2.88	0.00	0.01	0.30	0.00	0.02
Avail Cap(c_a), veh/h	150	897	846	150	1822	813	82	0	921	100	0	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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.2	32.5	32.6	43.5	31.8	27.5	43.6	0.0	7.8	21.7	0.0	7.8
Incr Delay (d2), s/veh	5.4	3.2	3.6	7.8	1.0	0.0	876.4	0.0	0.0	7.6	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	5.6	5.5	0.2	4.4	0.0	21.6	0.0	0.0	0.5	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	35.6	36.2	51.3	32.8	27.5	920.0	0.0	7.8	29.3	0.0	7.9
LnGrp LOS	D	D	D	D	C	C	F	A	A	C	A	A
Approach Vol, veh/h		581			497			241				46
Approach Delay, s/veh		36.1			33.0			897.3				21.9
Approach LOS		D			C			F				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	25.5		57.4	5.7	25.1		57.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	7.4	44.5		* 51	7.4	* 45		50.8				
Max Q Clear Time (g_c+I1), s	2.3	15.9		53.2	2.5	13.1		53.2				
Green Ext Time (p_c), s	0.0	3.1		0.0	0.0	2.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	186.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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	3	3	7	0	0	0	18	29	4	0	52	3
Future Vol, veh/h	3	3	7	0	0	0	18	29	4	0	52	3
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	9	0	0	0	23	38	5	0	68	4
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	0	7.4	7.3
HCM LOS	A	-	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	35%	23%	0%	0%
Vol Thru, %	57%	23%	100%	95%
Vol Right, %	8%	54%	0%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	51	13	0	55
LT Vol	18	3	0	0
Through Vol	29	3	0	52
RT Vol	4	7	0	3
Lane Flow Rate	66	17	0	71
Geometry Grp	1	1	1	1
Degree of Util (X)	0.074	0.018	0	0.079
Departure Headway (Hd)	4.04	3.892	4.184	3.98
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	888	911	0	901
Service Time	2.059	1.951	2.246	1.999
HCM Lane V/C Ratio	0.074	0.019	0	0.079
HCM Control Delay	7.4	7	7.2	7.3
HCM Lane LOS	A	A	N	A
HCM 95th-tile Q	0.2	0.1	0	0.3

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	1	0	0	0	51	0	0	59	0
Future Vol, veh/h	0	0	1	1	0	0	0	51	0	0	59	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	53	53	53	53	53	53	53	53	53	53	53	53
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	2	0	0	0	96	0	0	111	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	207	207	111	208	207	96	111	0	0	96	0	0
Stage 1	111	111	-	96	96	-	-	-	-	-	-	-
Stage 2	96	96	-	112	111	-	-	-	-	-	-	-
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	751	690	942	749	690	960	1479	-	-	1498	-	-
Stage 1	894	804	-	911	815	-	-	-	-	-	-	-
Stage 2	911	815	-	893	804	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	751	690	942	748	690	960	1479	-	-	1498	-	-
Mov Cap-2 Maneuver	751	690	-	748	690	-	-	-	-	-	-	-
Stage 1	894	804	-	911	815	-	-	-	-	-	-	-
Stage 2	911	815	-	891	804	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9.8	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1479	-	-	942	748	1498	-
HCM Lane V/C Ratio	-	-	-	0.002	0.003	-	-
HCM Control Delay (s)	0	-	-	8.8	9.8	0	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-

Intersection												
Int Delay, s/veh	6.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	53	1	3	1	36	12	3	0	5	5
Future Vol, veh/h	0	0	53	1	3	1	36	12	3	0	5	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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	64	1	4	1	43	14	4	0	6	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	114	113	9	143	114	16	12	0	0	18	0	0
Stage 1	9	9	-	102	102	-	-	-	-	-	-	-
Stage 2	105	104	-	41	12	-	-	-	-	-	-	-
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	863	777	1073	826	776	1063	1607	-	-	1599	-	-
Stage 1	1012	888	-	904	811	-	-	-	-	-	-	-
Stage 2	901	809	-	974	886	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	841	756	1073	761	755	1063	1607	-	-	1599	-	-
Mov Cap-2 Maneuver	841	756	-	761	755	-	-	-	-	-	-	-
Stage 1	985	888	-	880	789	-	-	-	-	-	-	-
Stage 2	872	787	-	916	886	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.6		9.5		5.2		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1607	-	-	1073	803	1599	-
HCM Lane V/C Ratio	0.027	-	-	0.06	0.008	-	-
HCM Control Delay (s)	7.3	0	-	8.6	9.5	0	-
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-

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	5	258	173	13	262	8	226	35	6	23	56	3
Future Vol, veh/h	5	258	173	13	262	8	226	35	6	23	56	3
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	269	180	14	273	8	235	36	6	24	58	3
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	19.4	14.5	15.4	11.2
HCM LOS	C	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	85%	1%	5%	28%
Vol Thru, %	13%	59%	93%	68%
Vol Right, %	2%	40%	3%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	267	436	283	82
LT Vol	226	5	13	23
Through Vol	35	258	262	56
RT Vol	6	173	8	3
Lane Flow Rate	278	454	295	85
Geometry Grp	1	1	1	1
Degree of Util (X)	0.488	0.681	0.488	0.162
Departure Headway (Hd)	6.425	5.496	5.958	6.826
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	565	663	607	527
Service Time	4.425	3.496	3.958	4.842
HCM Lane V/C Ratio	0.492	0.685	0.486	0.161
HCM Control Delay	15.4	19.4	14.5	11.2
HCM Lane LOS	C	C	B	B
HCM 95th-tile Q	2.7	5.3	2.7	0.6

Timings

Canterwood (TTM No. 37439) (JN 11302)

1: Zeiders Rd./Haun Rd. & Scott Rd.

01/31/2018

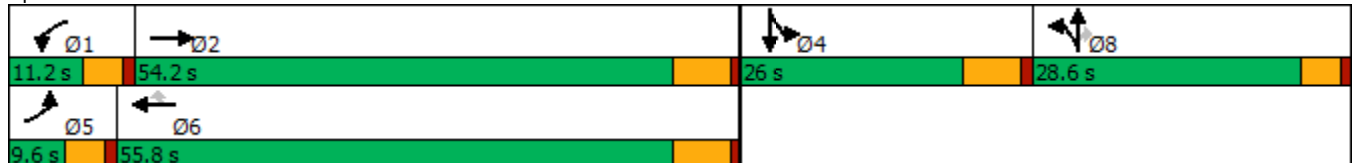


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	41	448	34	682	306	28	30	29	355	15
Future Volume (vph)	41	448	34	682	306	28	30	29	355	15
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	9.6	54.2	11.2	55.8	55.8	28.6	28.6	28.6	26.0	26.0
Total Split (%)	8.0%	45.2%	9.3%	46.5%	46.5%	23.8%	23.8%	23.8%	21.7%	21.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.5
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↗
Traffic Volume (veh/h)	41	448	13	34	682	306	28	30	29	355	15	61
Future Volume (veh/h)	41	448	13	34	682	306	28	30	29	355	15	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	42	457	10	35	696	96	29	31	4	429	0	0
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	57	728	16	52	742	629	373	392	332	616	323	0
Arrive On Green	0.03	0.40	0.40	0.03	0.40	0.40	0.21	0.21	0.21	0.17	0.00	0.00
Sat Flow, veh/h	1781	1823	40	1781	1870	1585	1781	1870	1585	3563	1870	0
Grp Volume(v), veh/h	42	0	467	35	696	96	29	31	4	429	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	2.7	0.0	23.0	2.2	40.9	4.5	1.5	1.5	0.2	13.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	23.0	2.2	40.9	4.5	1.5	1.5	0.2	13.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	57	0	744	52	742	629	373	392	332	616	323	0
V/C Ratio(X)	0.73	0.00	0.63	0.67	0.94	0.15	0.08	0.08	0.01	0.70	0.00	0.00
Avail Cap(c_a), veh/h	78	0	781	103	810	687	373	392	332	616	323	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.9	0.0	27.5	55.0	33.2	22.2	36.4	36.4	35.9	44.5	0.0	0.0
Incr Delay (d2), s/veh	12.0	0.0	1.5	5.4	17.6	0.1	0.4	0.4	0.1	6.4	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	1.4	0.0	9.8	1.0	20.7	1.6	0.7	0.8	0.1	6.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.0	0.0	29.0	60.4	50.8	22.3	36.8	36.8	35.9	50.9	0.0	0.0
LnGrp LOS	E	A	C	E	D	C	D	D	D	D	A	A
Approach Vol, veh/h		509			827			64			429	
Approach Delay, s/veh		32.2			47.9			36.7			50.9	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	52.0		26.0	8.3	51.6		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.6	48.0		19.8	5.0	49.6		24.0				
Max Q Clear Time (g_c+I1), s	4.2	25.0		15.0	4.7	42.9		3.5				
Green Ext Time (p_c), s	0.0	2.5		0.7	0.0	2.5		0.2				

Intersection Summary

HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

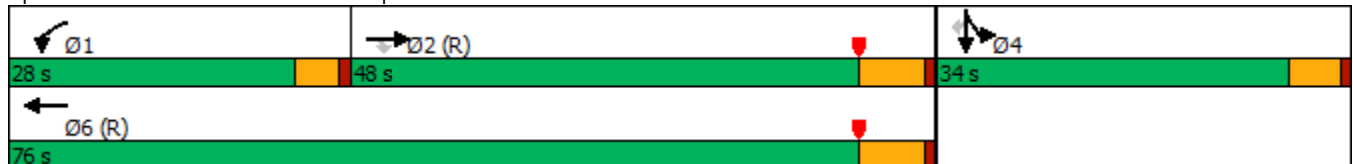


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	583	265	293	852	0	170
Future Volume (vph)	583	265	293	852	0	170
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	48.0	48.0	28.0	76.0	34.0	34.0
Total Split (%)	43.6%	43.6%	25.5%	69.1%	30.9%	30.9%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↖	↗
Traffic Volume (veh/h)	0	583	265	293	852	0	0	0	0	381	0	170
Future Volume (veh/h)	0	583	265	293	852	0	0	0	0	381	0	170
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	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	595	184	299	869	0				389	0	110
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	761	645	326	1182	0				465	0	414
Arrive On Green	0.00	0.41	0.41	0.24	0.84	0.00				0.26	0.00	0.26
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1781	0	1585
Grp Volume(v), veh/h	0	595	184	299	869	0				389	0	110
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1781	0	1585
Q Serve(g_s), s	0.0	30.4	8.6	18.0	21.4	0.0				22.7	0.0	6.1
Cycle Q Clear(g_c), s	0.0	30.4	8.6	18.0	21.4	0.0				22.7	0.0	6.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	761	645	326	1182	0				465	0	414
V/C Ratio(X)	0.00	0.78	0.29	0.92	0.74	0.00				0.84	0.00	0.27
Avail Cap(c_a), veh/h	0	761	645	379	1182	0				465	0	414
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.72	0.72	0.55	0.55	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.4	21.9	40.8	4.9	0.0				38.4	0.0	32.3
Incr Delay (d2), s/veh	0.0	5.8	0.8	14.7	2.3	0.0				16.3	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
%ile BackOfQ(50%),veh/ln	0.0	13.7	3.1	8.2	4.2	0.0				11.6	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.1	22.7	55.5	7.2	0.0				54.7	0.0	33.9
LnGrp LOS	A	C	C	E	A	A				D	A	C
Approach Vol, veh/h		779			1168						499	
Approach Delay, s/veh		31.4			19.6						50.1	
Approach LOS		C			B						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	24.7	51.3		34.0		76.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	23.4	41.5		28.7		69.5						
Max Q Clear Time (g_c+I1), s	20.0	32.4		24.7		23.4						
Green Ext Time (p_c), s	0.2	1.8		0.7		3.5						

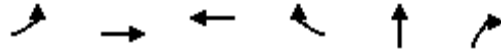
Intersection Summary

HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

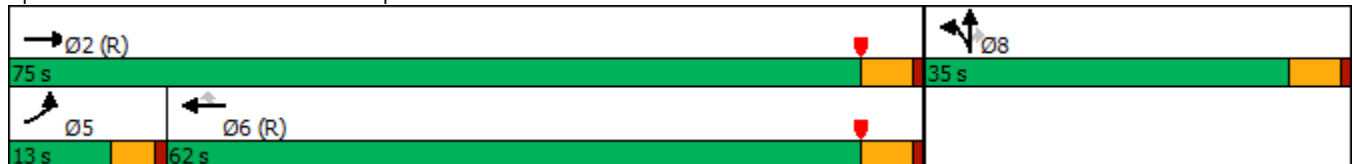


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	82	882	766	447	0	381
Future Volume (vph)	82	882	766	447	0	381
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0
Total Split (s)	13.0	75.0	62.0	62.0	35.0	35.0
Total Split (%)	11.8%	68.2%	56.4%	56.4%	31.8%	31.8%
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3
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	5.3	5.3	5.3	5.3	5.3
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	882	0	0	766	447	379	0	381	0	0	0
Future Volume (veh/h)	82	882	0	0	766	447	379	0	381	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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	83	891	0	0	774	381	383	0	327			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	104	1185	0	0	997	845	481	0	428			
Arrive On Green	0.12	1.00	0.00	0.00	0.53	0.53	0.27	0.00	0.27			
Sat Flow, veh/h	1781	1870	0	0	1870	1585	1781	0	1585			
Grp Volume(v), veh/h	83	891	0	0	774	381	383	0	327			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	1781	0	1585			
Q Serve(g_s), s	5.0	0.0	0.0	0.0	36.2	16.2	22.0	0.0	20.9			
Cycle Q Clear(g_c), s	5.0	0.0	0.0	0.0	36.2	16.2	22.0	0.0	20.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	104	1185	0	0	997	845	481	0	428			
V/C Ratio(X)	0.80	0.75	0.00	0.00	0.78	0.45	0.80	0.00	0.76			
Avail Cap(c_a), veh/h	136	1185	0	0	997	845	481	0	428			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.49	0.49	0.00	0.00	0.67	0.67	1.00	0.00	1.00			
Uniform Delay (d), s/veh	47.9	0.0	0.0	0.0	20.4	15.8	37.3	0.0	36.9			
Incr Delay (d2), s/veh	8.5	2.2	0.0	0.0	4.0	1.2	12.8	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	2.3	0.7	0.0	0.0	14.7	5.4	10.9	0.0	9.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	2.2	0.0	0.0	24.5	16.9	50.2	0.0	49.1			
LnGrp LOS	E	A	A	A	C	B	D	A	D			
Approach Vol, veh/h		974			1155			710				
Approach Delay, s/veh		6.8			22.0			49.7				
Approach LOS		A			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		75.0			11.0	64.0		35.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		69.7			8.4	56.7		29.7				
Max Q Clear Time (g_c+I1), s		2.0			7.0	38.2		24.0				
Green Ext Time (p_c), s		3.7			0.0	3.3		1.1				

Intersection Summary

HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙↕	↕	↙	↙	↕	↙
Traffic Volume (vph)	214	699	71	616	394	201	145	62	123	203
Future Volume (vph)	214	699	71	616	394	201	145	62	123	203
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	27.0	53.8	14.0	40.8	24.0	37.8	37.8	14.4	28.2	28.2
Total Split (%)	22.5%	44.8%	11.7%	34.0%	20.0%	31.5%	31.5%	12.0%	23.5%	23.5%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 106.4
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated























Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	699	350	71	616	36	394	201	145	62	123	203
Future Volume (veh/h)	214	699	350	71	616	36	394	201	145	62	123	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	218	713	254	72	629	33	402	205	56	63	126	160
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	253	864	308	93	846	44	481	625	530	81	450	381
Arrive On Green	0.14	0.34	0.34	0.05	0.25	0.25	0.14	0.33	0.33	0.05	0.24	0.24
Sat Flow, veh/h	1781	2568	915	1781	3435	180	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	218	493	474	72	325	337	402	205	56	63	126	160
Grp Sat Flow(s),veh/h/ln	1781	1777	1706	1781	1777	1838	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	11.3	24.1	24.1	3.8	16.0	16.0	10.7	7.7	2.3	3.3	5.2	8.1
Cycle Q Clear(g_c), s	11.3	24.1	24.1	3.8	16.0	16.0	10.7	7.7	2.3	3.3	5.2	8.1
Prop In Lane	1.00		0.54	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	253	598	574	93	438	453	481	625	530	81	450	381
V/C Ratio(X)	0.86	0.82	0.82	0.78	0.74	0.74	0.84	0.33	0.11	0.78	0.28	0.42
Avail Cap(c_a), veh/h	422	894	859	177	645	667	709	625	530	185	450	381
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	28.8	28.8	44.3	32.9	32.9	39.6	23.5	21.7	44.6	29.2	30.3
Incr Delay (d2), s/veh	4.5	4.0	4.2	5.2	2.6	2.5	3.7	1.4	0.4	5.8	1.5	3.4
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	5.0	10.0	9.6	1.7	6.6	6.8	4.5	3.4	0.9	1.5	2.4	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	32.8	33.0	49.4	35.5	35.4	43.3	24.9	22.1	50.5	30.8	33.7
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	C	C
Approach Vol, veh/h		1185			734			663			349	
Approach Delay, s/veh		35.0			36.8			35.8			35.7	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	38.3	17.8	28.9	18.1	29.8	8.9	37.8				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.4	* 48	19.4	22.0	22.4	34.3	9.8	31.6				
Max Q Clear Time (g_c+I1), s	5.8	26.1	12.7	10.1	13.3	18.0	5.3	9.7				
Green Ext Time (p_c), s	0.0	5.7	0.5	0.8	0.2	3.1	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			35.7									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↔		↵	↕↔		↵	↕↔		↵	↕↔	
Traffic Vol, veh/h	51	107	45	19	76	40	31	288	40	68	218	59
Future Vol, veh/h	51	107	45	19	76	40	31	288	40	68	218	59
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	54	114	48	20	81	43	33	306	43	72	232	63
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	11	10.8	12.3	11.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	71%	0%	100%	44%	0%	100%	39%	0%	100%
Vol Right, %	0%	0%	29%	0%	0%	56%	0%	0%	61%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	192	136	51	71	81	19	51	65	68	145
LT Vol	31	0	0	51	0	0	19	0	0	68	0
Through Vol	0	192	96	0	71	36	0	51	25	0	145
RT Vol	0	0	40	0	0	45	0	0	40	0	0
Lane Flow Rate	33	204	145	54	76	86	20	54	70	72	155
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.065	0.374	0.257	0.114	0.149	0.159	0.043	0.108	0.132	0.143	0.285
Departure Headway (Hd)	7.094	6.594	6.388	7.568	7.068	6.678	7.743	7.243	6.815	7.129	6.629
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	503	543	560	471	505	534	460	492	523	501	540
Service Time	4.867	4.367	4.161	5.351	4.851	4.46	5.532	5.032	4.604	4.901	4.401
HCM Lane V/C Ratio	0.066	0.376	0.259	0.115	0.15	0.161	0.043	0.11	0.134	0.144	0.287
HCM Control Delay	10.4	13.3	11.4	11.3	11.1	10.7	10.9	10.9	10.7	11.1	12.1
HCM Lane LOS	B	B	B	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.2	1.7	1	0.4	0.5	0.6	0.1	0.4	0.5	0.5	1.2

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

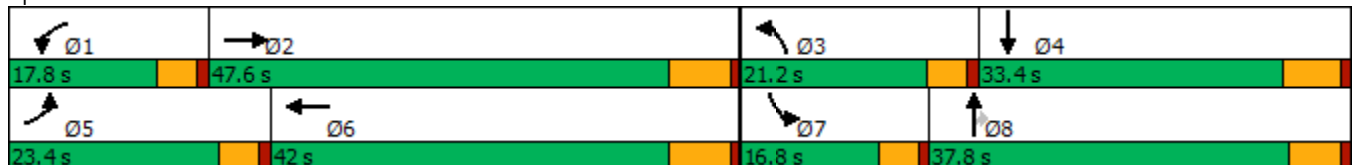


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	144	622	91	582	124	209	125	78	83
Future Volume (vph)	144	622	91	582	124	209	125	78	83
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	23.4	47.6	17.8	42.0	21.2	37.8	37.8	16.8	33.4
Total Split (%)	19.5%	39.7%	14.8%	35.0%	17.7%	31.5%	31.5%	14.0%	27.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
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	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	144	622	137	91	582	102	124	209	125	78	83	79
Future Volume (veh/h)	144	622	137	91	582	102	124	209	125	78	83	79
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	655	124	96	613	95	131	220	61	82	87	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	186	839	159	123	759	117	163	655	555	105	335	220
Arrive On Green	0.10	0.28	0.28	0.07	0.25	0.25	0.09	0.35	0.35	0.06	0.32	0.32
Sat Flow, veh/h	1781	2970	561	1781	3074	475	1781	1870	1585	1781	1055	691
Grp Volume(v), veh/h	152	391	388	96	354	354	131	220	61	82	0	144
Grp Sat Flow(s),veh/h/ln	1781	1777	1755	1781	1777	1772	1781	1870	1585	1781	0	1746
Q Serve(g_s), s	7.6	18.5	18.6	4.9	17.1	17.2	6.6	7.9	2.4	4.2	0.0	5.6
Cycle Q Clear(g_c), s	7.6	18.5	18.6	4.9	17.1	17.2	6.6	7.9	2.4	4.2	0.0	5.6
Prop In Lane	1.00		0.32	1.00		0.27	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	186	502	496	123	439	438	163	655	555	105	0	555
V/C Ratio(X)	0.82	0.78	0.78	0.78	0.81	0.81	0.80	0.34	0.11	0.78	0.00	0.26
Avail Cap(c_a), veh/h	366	799	789	257	690	688	323	655	555	238	0	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	40.1	30.2	30.2	41.9	32.4	32.4	40.7	21.9	20.1	42.4	0.0	23.2
Incr Delay (d2), s/veh	3.3	2.7	2.7	4.1	3.9	4.0	3.5	1.4	0.4	4.6	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	7.5	7.4	2.1	7.1	7.2	2.9	3.5	0.9	1.9	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	32.9	32.9	46.0	36.2	36.4	44.2	23.3	20.5	47.0	0.0	24.3
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	A	C
Approach Vol, veh/h		931			804			412				226
Approach Delay, s/veh		34.6			37.5			29.5				32.6
Approach LOS		C			D			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	32.3	13.0	35.2	14.1	29.1	10.0	38.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	* 6.2				
Max Green Setting (Gmax), s	13.2	41.1	16.6	27.2	18.8	35.5	12.2	* 32				
Max Q Clear Time (g_c+I1), s	6.9	20.6	8.6	7.6	9.6	19.2	6.2	9.9				
Green Ext Time (p_c), s	0.0	4.1	0.1	0.6	0.1	3.4	0.0	1.2				

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.

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	6	5	1	8	3	8	40	0	1	36	5
Future Vol, veh/h	8	6	5	1	8	3	8	40	0	1	36	5
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	1	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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	8	6	1	10	4	10	51	0	1	46	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	133	123	49	130	126	56	52	0	0	52	0	0
Stage 1	51	51	-	72	72	-	-	-	-	-	-	-
Stage 2	82	72	-	58	54	-	-	-	-	-	-	-
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	839	767	1020	843	764	1011	1554	-	-	1554	-	-
Stage 1	962	852	-	938	835	-	-	-	-	-	-	-
Stage 2	926	835	-	954	850	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	819	760	1020	825	757	1006	1554	-	-	1553	-	-
Mov Cap-2 Maneuver	819	760	-	825	757	-	-	-	-	-	-	-
Stage 1	955	851	-	930	828	-	-	-	-	-	-	-
Stage 2	901	828	-	938	849	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.4		9.5		1.2		0.2	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1554	-	-	842	813	1553	-
HCM Lane V/C Ratio	0.007	-	-	0.029	0.019	0.001	-
HCM Control Delay (s)	7.3	0	-	9.4	9.5	7.3	0
HCM Lane LOS	A	A	-	A	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

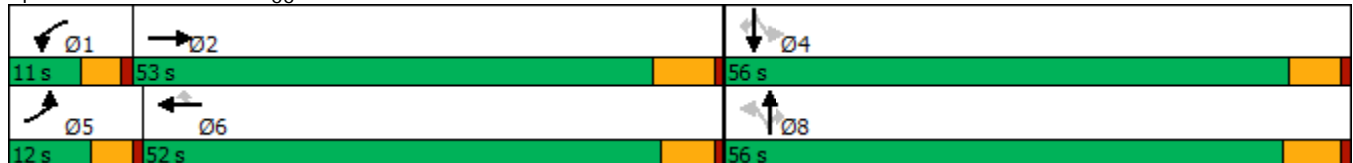


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	20	458	2	428	9	248	13	7	5	24
Future Volume (vph)	20	458	2	428	9	248	13	7	5	24
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		8		4
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8
Total Split (s)	12.0	53.0	11.0	52.0	52.0	56.0	56.0	56.0	56.0	56.0
Total Split (%)	10.0%	44.2%	9.2%	43.3%	43.3%	46.7%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	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
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	5.8	5.8		6.2	6.2	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.8
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖		↖	↗		↖	↗
Traffic Volume (veh/h)	20	458	238	2	428	9	248	13	7	0	5	24
Future Volume (veh/h)	20	458	238	2	428	9	248	13	7	0	5	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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	492	224	2	460	6	267	14	5	0	5	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	42	618	280	5	851	379	815	39	869	0	1025	869
Arrive On Green	0.02	0.26	0.26	0.00	0.24	0.24	0.55	0.55	0.55	0.00	0.55	0.55
Sat Flow, veh/h	1781	2377	1076	1781	3554	1585	1347	71	1585	0	1870	1585
Grp Volume(v), veh/h	22	367	349	2	460	6	281	0	5	0	5	6
Grp Sat Flow(s),veh/h/ln	1781	1777	1677	1781	1777	1585	1418	0	1585	0	1870	1585
Q Serve(g_s), s	1.1	17.6	17.8	0.1	10.4	0.3	10.2	0.0	0.1	0.0	0.1	0.2
Cycle Q Clear(g_c), s	1.1	17.6	17.8	0.1	10.4	0.3	10.3	0.0	0.1	0.0	0.1	0.2
Prop In Lane	1.00		0.64	1.00		1.00	0.95		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	42	462	436	5	851	379	854	0	869	0	1025	869
V/C Ratio(X)	0.53	0.79	0.80	0.41	0.54	0.02	0.33	0.00	0.01	0.00	0.00	0.01
Avail Cap(c_a), veh/h	144	902	851	125	1793	800	854	0	869	0	1025	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	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	31.6	31.6	45.6	30.4	26.6	11.7	0.0	9.4	0.0	9.4	9.4
Incr Delay (d2), s/veh	3.8	3.1	3.4	19.7	0.5	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	0.5	7.3	6.9	0.1	4.1	0.1	2.9	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	34.7	35.1	65.3	31.0	26.6	12.7	0.0	9.4	0.0	9.4	9.4
LnGrp LOS	D	C	D	E	C	C	B	A	A	A	A	A
Approach Vol, veh/h		738			468			286				11
Approach Delay, s/veh		35.3			31.1			12.7				9.4
Approach LOS		D			C			B				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.8	30.3		56.4	6.7	28.4		56.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	6.4	46.5		* 50	7.4	* 46		49.8				
Max Q Clear Time (g_c+I1), s	2.1	19.8		2.2	3.1	12.4		12.3				
Green Ext Time (p_c), s	0.0	4.0		0.0	0.0	2.7		1.5				

Intersection Summary

HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Intersection Delay, s/veh	7.2											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	21	1	0	0	3	36	1	0	23	1
Future Vol, veh/h	4	0	21	1	0	0	3	36	1	0	23	1
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	0	34	2	0	0	5	58	2	0	37	2
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	7.4	7.4	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	16%	100%	0%
Vol Thru, %	90%	0%	0%	96%
Vol Right, %	3%	84%	0%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	25	1	24
LT Vol	3	4	1	0
Through Vol	36	0	0	23
RT Vol	1	21	0	1
Lane Flow Rate	65	40	2	39
Geometry Grp	1	1	1	1
Degree of Util (X)	0.072	0.041	0.002	0.043
Departure Headway (Hd)	4.035	3.639	4.343	4.03
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	889	977	819	888
Service Time	2.055	1.686	2.394	2.055
HCM Lane V/C Ratio	0.073	0.041	0.002	0.044
HCM Control Delay	7.4	6.8	7.4	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0	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	1	0	0	1	0	2	1	37	2	1	44	0
Future Vol, veh/h	1	0	0	1	0	2	1	37	2	1	44	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	1	0	3	1	54	3	1	65	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	126	127	65	126	126	57	65	0	0	58	0	0
Stage 1	67	67	-	59	59	-	-	-	-	-	-	-
Stage 2	59	60	-	67	67	-	-	-	-	-	-	-
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	848	764	999	848	764	1009	1537	-	-	1546	-	-
Stage 1	943	839	-	953	846	-	-	-	-	-	-	-
Stage 2	953	845	-	943	839	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	845	762	999	846	762	1008	1537	-	-	1545	-	-
Mov Cap-2 Maneuver	845	762	-	846	762	-	-	-	-	-	-	-
Stage 1	942	838	-	951	844	-	-	-	-	-	-	-
Stage 2	949	843	-	942	838	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	9.3		8.8		0.2		0.2			
HCM LOS	A		A							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1537	-	-	845	948	1545	-
HCM Lane V/C Ratio	0.001	-	-	0.002	0.005	0.001	-
HCM Control Delay (s)	7.3	0	-	9.3	8.8	7.3	0
HCM Lane LOS	A	A	-	A	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-

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	5	2	27	1	1	0	20	20	0	0	17	2
Future Vol, veh/h	5	2	27	1	1	0	20	20	0	0	17	2
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	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	3	36	1	1	0	27	27	0	0	23	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	107	106	25	125	107	27	26	0	0	27	0	0
Stage 1	25	25	-	81	81	-	-	-	-	-	-	-
Stage 2	82	81	-	44	26	-	-	-	-	-	-	-
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	872	784	1051	849	783	1048	1588	-	-	1587	-	-
Stage 1	993	874	-	927	828	-	-	-	-	-	-	-
Stage 2	926	828	-	970	874	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	860	771	1051	807	770	1048	1588	-	-	1587	-	-
Mov Cap-2 Maneuver	860	771	-	807	770	-	-	-	-	-	-	-
Stage 1	976	874	-	911	814	-	-	-	-	-	-	-
Stage 2	909	814	-	933	874	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.8		9.6		3.7		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1588	-	-	997	788	1587	-
HCM Lane V/C Ratio	0.017	-	-	0.046	0.003	-	-
HCM Control Delay (s)	7.3	0	-	8.8	9.6	0	-
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0	0	-

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	283	134	13	297	12	126	18	9	6	31	14
Future Vol, veh/h	11	283	134	13	297	12	126	18	9	6	31	14
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	12	308	146	14	323	13	137	20	10	7	34	15
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	16.5	13.7	11.8	10
HCM LOS	C	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	82%	3%	4%	12%
Vol Thru, %	12%	66%	92%	61%
Vol Right, %	6%	31%	4%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	153	428	322	51
LT Vol	126	11	13	6
Through Vol	18	283	297	31
RT Vol	9	134	12	14
Lane Flow Rate	166	465	350	55
Geometry Grp	1	1	1	1
Degree of Util (X)	0.287	0.642	0.512	0.096
Departure Headway (Hd)	6.207	4.967	5.267	6.231
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	577	726	683	572
Service Time	4.26	3.007	3.31	4.299
HCM Lane V/C Ratio	0.288	0.64	0.512	0.096
HCM Control Delay	11.8	16.5	13.7	10
HCM Lane LOS	B	C	B	A
HCM 95th-tile Q	1.2	4.7	2.9	0.3

APPENDIX 3.3:
EXISTING (2018) CONDITIONS FREEWAY OFF-RAMP QUEUING ANALYSIS
WORKSHEETS

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Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	571	388	333	891	323	140
v/c Ratio	0.76	0.44	0.89	0.73	0.78	0.29
Control Delay	36.4	4.0	54.9	10.3	54.0	7.5
Queue Delay	0.0	0.0	0.0	1.8	3.4	0.0
Total Delay	36.4	4.0	54.9	12.2	57.3	7.5
Queue Length 50th (ft)	352	0	200	393	215	0
Queue Length 95th (ft)	497	60	m#284	477	#347	49
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	756	873	408	1227	414	477
Starvation Cap Reductn	0	0	0	188	0	0
Spillback Cap Reductn	0	0	0	0	38	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.44	0.82	0.86	0.86	0.29

Intersection Summary

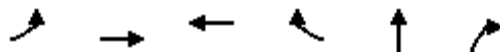
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	102	754	935	454	239	172
v/c Ratio	0.72	0.56	0.83	0.41	0.75	0.41
Control Delay	62.6	18.5	25.9	2.4	59.0	9.1
Queue Delay	0.0	3.7	20.1	0.0	0.0	0.0
Total Delay	62.6	22.2	46.1	2.4	59.0	9.1
Queue Length 50th (ft)	74	533	500	5	162	0
Queue Length 95th (ft)	m90	666	717	46	#276	59
Internal Link Dist (ft)		633	514		1324	
Turn Bay Length (ft)	240					400
Base Capacity (vph)	151	1349	1123	1107	317	420
Starvation Cap Reductn	0	490	209	0	0	0
Spillback Cap Reductn	0	0	29	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.88	1.02	0.41	0.75	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	595	270	299	869	389	173
v/c Ratio	0.81	0.34	0.87	0.74	0.84	0.32
Control Delay	40.2	4.5	57.3	13.1	56.5	6.6
Queue Delay	0.0	0.0	0.0	1.8	54.5	0.0
Total Delay	40.2	4.5	57.3	14.9	111.0	6.6
Queue Length 50th (ft)	380	4	179	389	261	0
Queue Length 95th (ft)	#577	57	m#274	512	#423	52
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	738	785	376	1177	461	540
Starvation Cap Reductn	0	0	0	164	0	0
Spillback Cap Reductn	0	0	0	0	173	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.34	0.80	0.86	1.35	0.32

Intersection Summary

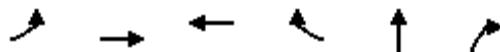
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	83	891	774	452	383	385
v/c Ratio	0.66	0.76	0.77	0.43	0.80	0.70
Control Delay	64.3	31.5	27.5	3.1	51.7	27.1
Queue Delay	0.0	31.2	4.9	0.0	0.0	0.0
Total Delay	64.3	62.7	32.3	3.1	51.7	27.1
Queue Length 50th (ft)	61	659	435	6	252	136
Queue Length 95th (ft)	m74	785	613	56	#399	250
Internal Link Dist (ft)		633	514		1324	
Turn Bay Length (ft)	240					400
Base Capacity (vph)	135	1180	1005	1054	477	552
Starvation Cap Reductn	0	333	168	0	0	0
Spillback Cap Reductn	0	0	29	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	1.05	0.92	0.43	0.80	0.70

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 3.4:

EXISTING (2018) 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 (2018) Conditions - Weekday AM Peak Hour**

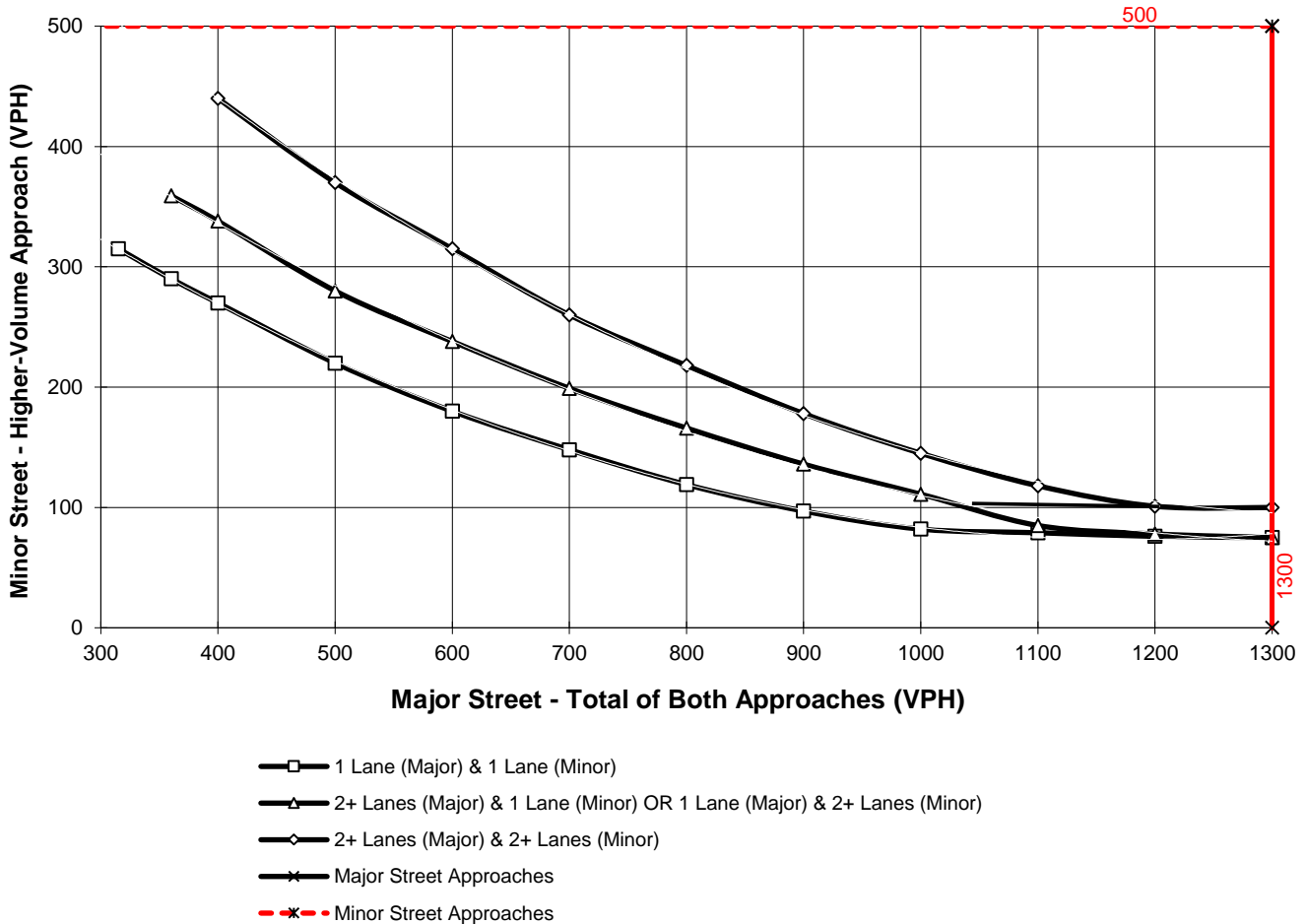
Major Street Name = **Scott Rd.**

Total of Both Approaches (VPH) = **1446**
 Number of Approach Lanes Major Street = **2**

Minor Street Name = **Haun Rd. / Zeiders Rd.**

High Volume Approach (VPH) = **593**
 Number of Approach Lanes Minor Street = **2**

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 (2018) Conditions - Weekday AM Peak Hour**

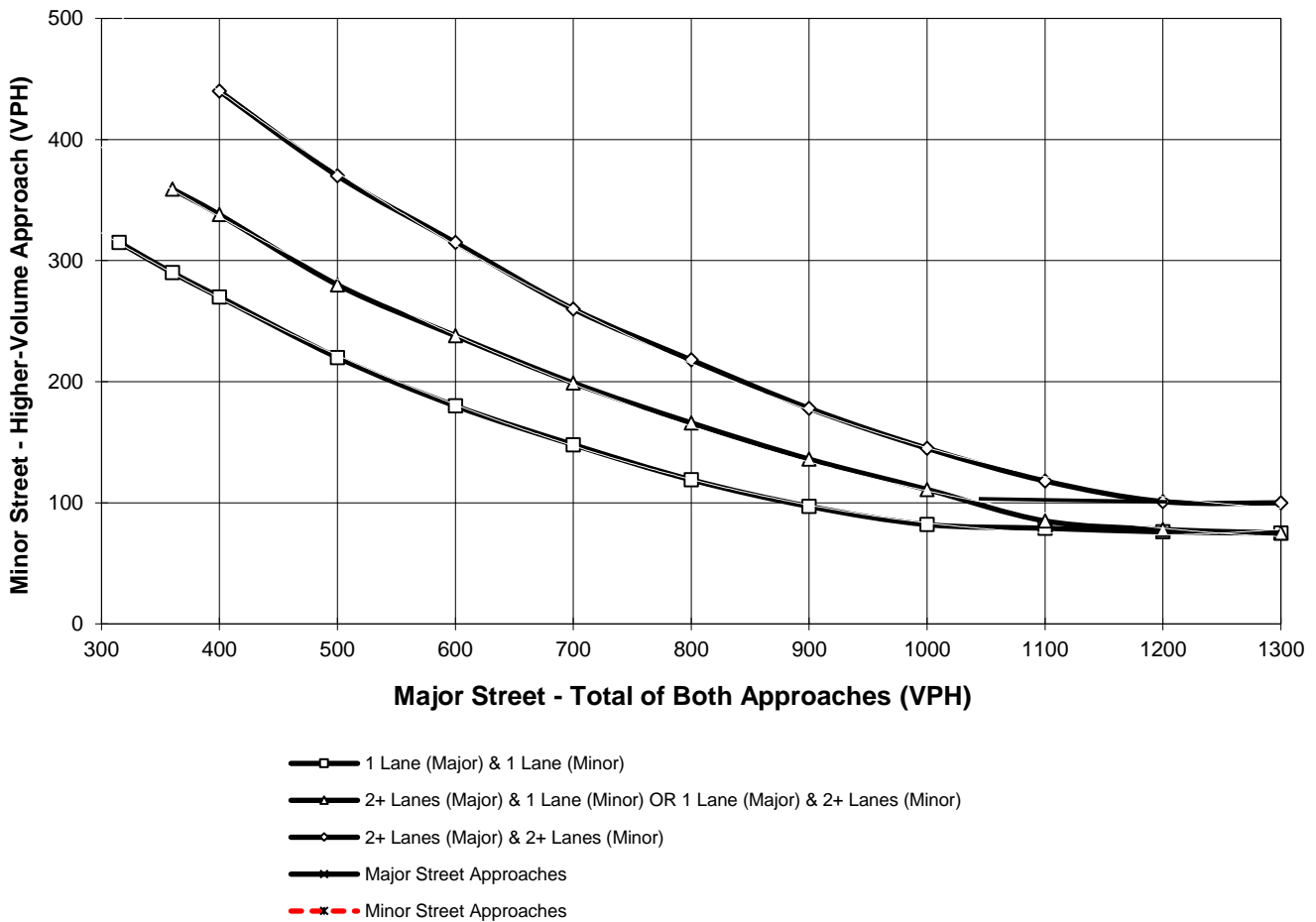
Major Street Name = **Briggs Rd.**

Total of Both Approaches (VPH) = **120**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **78**
 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-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2018) Conditions - Weekday AM Peak Hour**

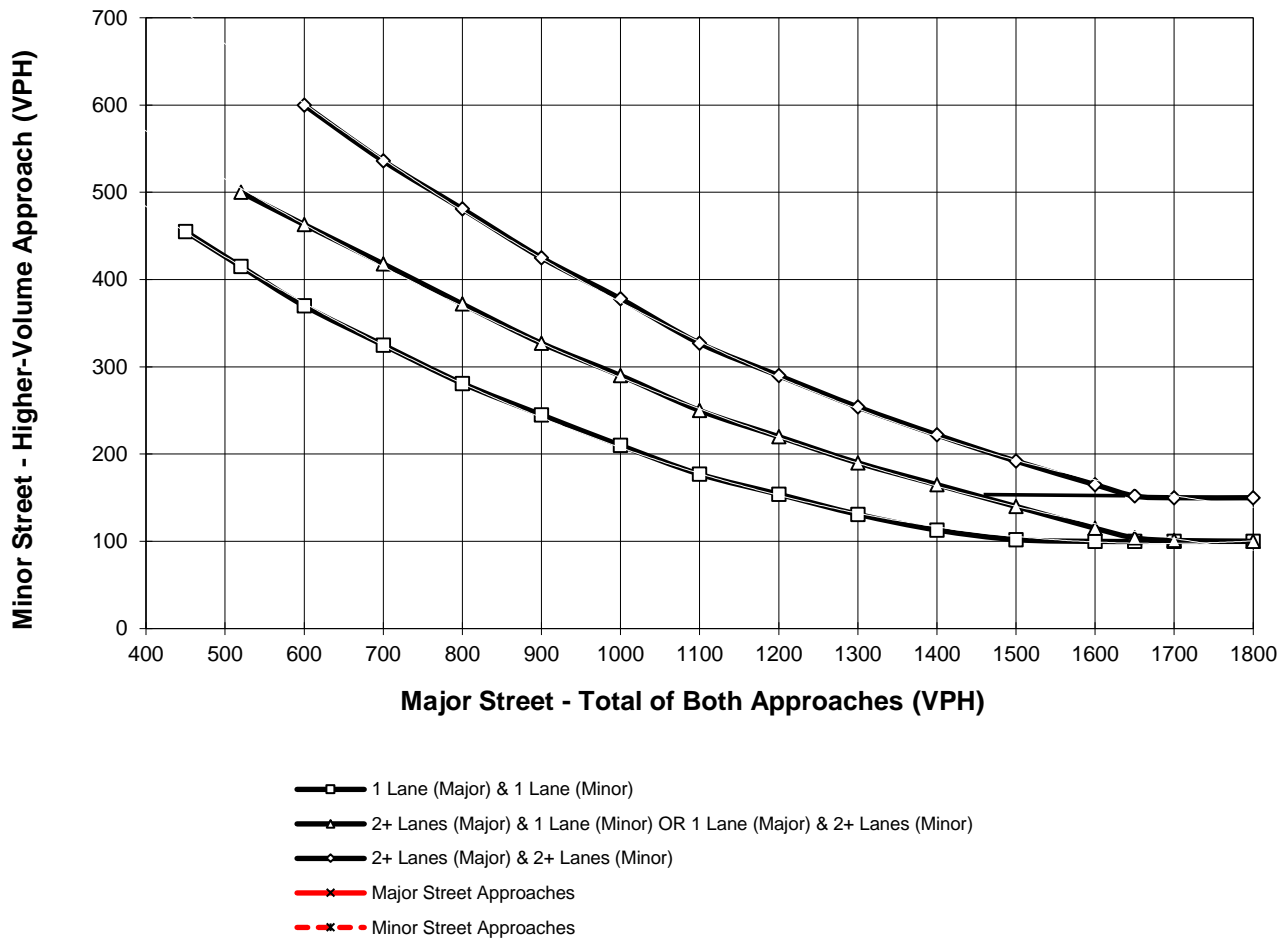
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **106**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **13**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = Existing (2018) Conditions - Weekday AM Peak Hour

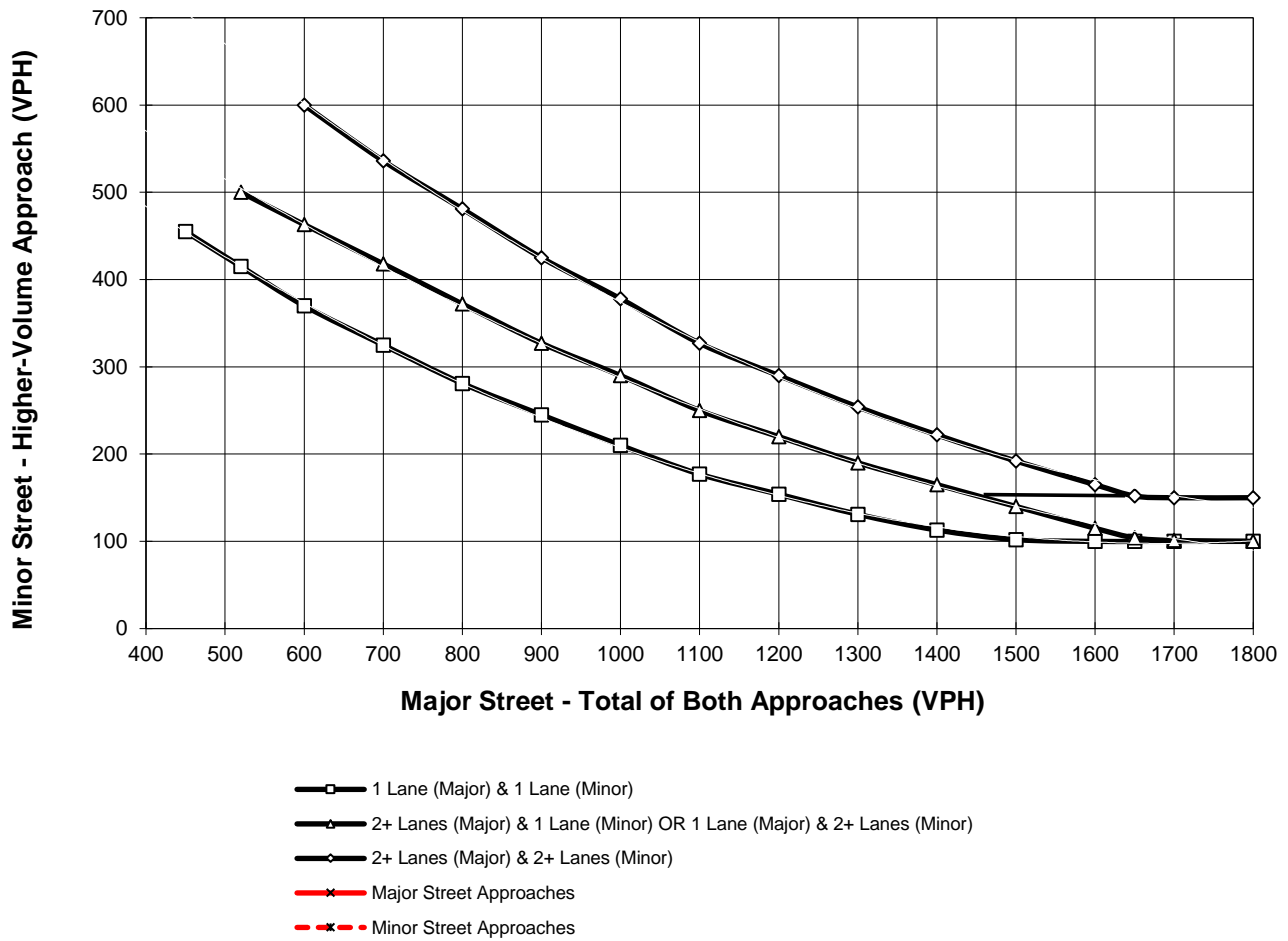
Major Street Name = Leon Rd.

Total of Both Approaches (VPH) = 110
 Number of Approach Lanes on Major Street = 1

Minor Street Name = Craig Av.

High Volume Approach (VPH) = 2
 Number of Approach Lanes On Minor Street = 1

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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 (2018) Conditions - Weekday AM Peak Hour**

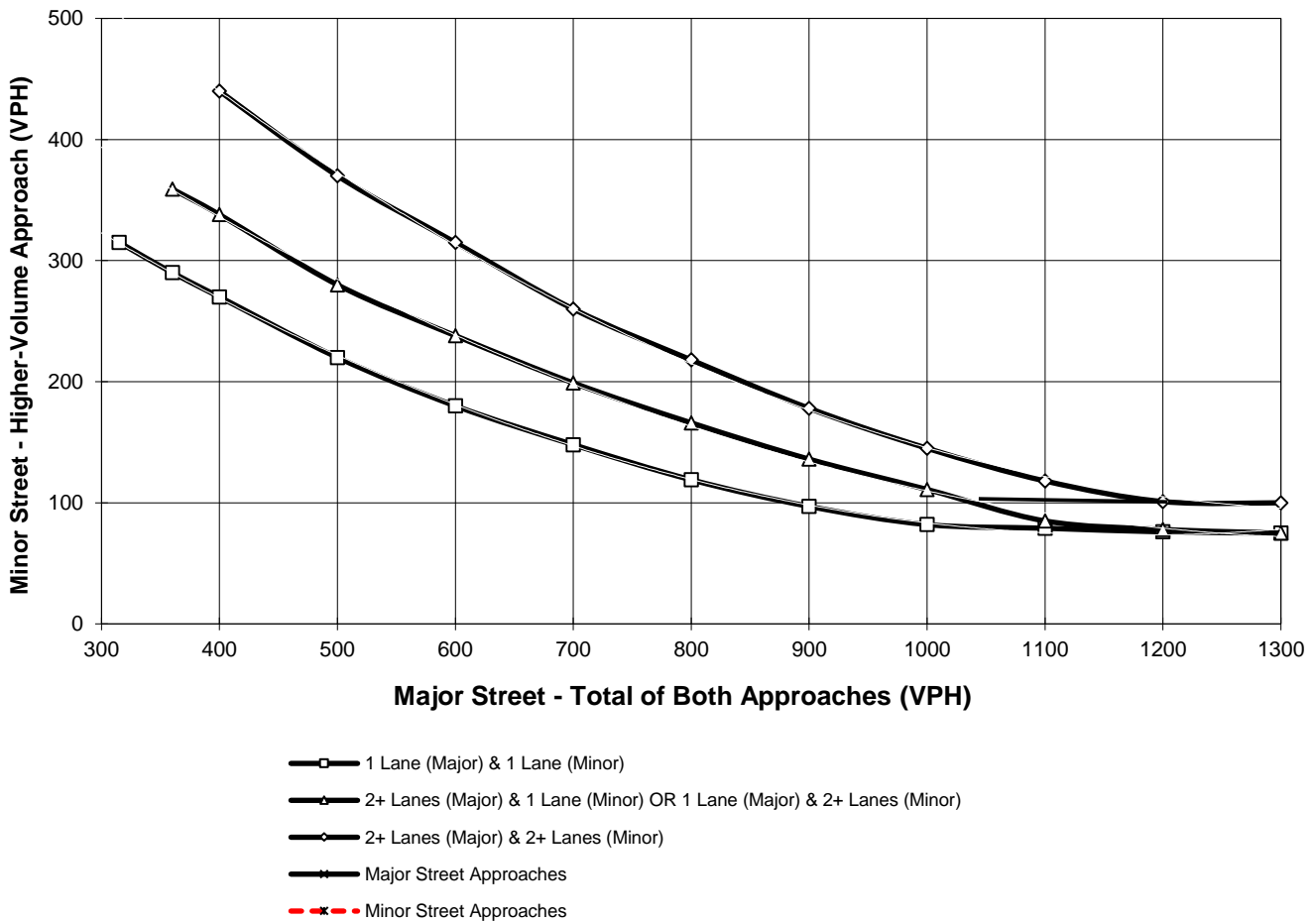
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **61**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Garbani Rd.**

High Volume Approach (VPH) = **53**
 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 (2018) Conditions - Weekday AM Peak Hour**

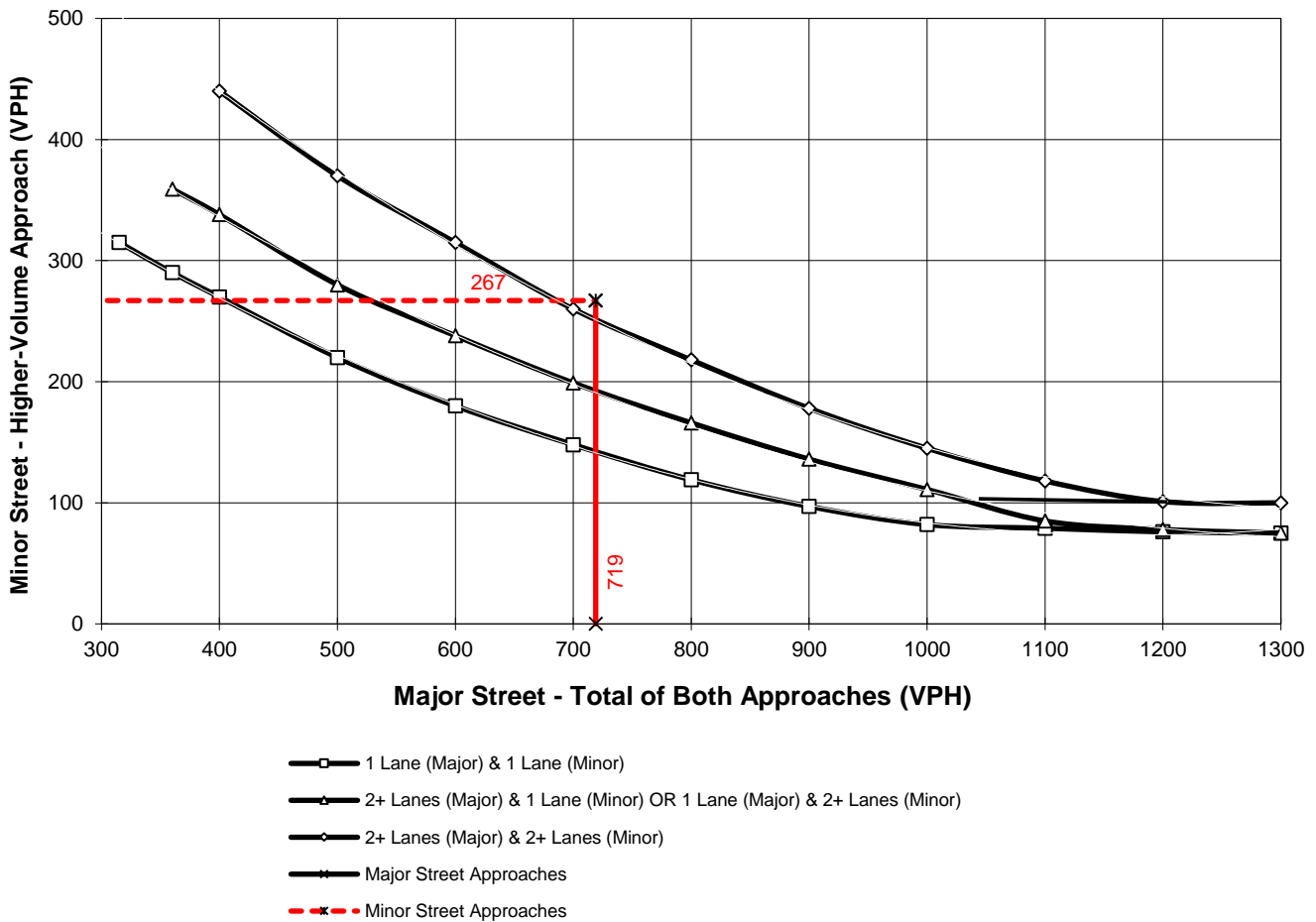
Major Street Name = **Scott Rd.**

Total of Both Approaches (VPH) = **719**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Leon Rd.**

High Volume Approach (VPH) = **267**
 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

APPENDIX 3.5:

EXISTING (2018) CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6220	Heavy Vehicle Adjustment Factor (f _{HV})	0.971
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2321
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	55.5
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	41.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6467	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2391
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	53.6
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	44.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	3387	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1276
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	69.9
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	18.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	3243	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1221
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	17.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5302	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1997
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.83
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	62.6
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	31.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5309	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2000
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.83
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	62.6
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	31.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5147	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1903
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	64.3
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	29.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5378	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1988
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.83
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	62.8
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	31.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

APPENDIX 3.6:

EXISTING (2018) CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	165
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6220	440
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	3.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.971	0.926
Flow Rate (v _i), pc/h	6963	516
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.97	0.25

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	39.4
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.344
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	2000	Off-Ramp Influence Area Speed (S _R), mi/h	60.4
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.562	Outer Lanes Freeway Speed (S _O), mi/h	70.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4263	Ramp Junction Speed (S), mi/h	63.9
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	36.3
Level of Service (LOS)	E	3.6-1	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (L _A), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5780	687
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.980
Flow Rate (v _i), pc/h	6411	762
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.00	0.36

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1757.3	Density in Ramp Influence Area (D _R), pc/mi/ln	37.1
Distance to Upstream Ramp (L _{UP}), ft	2000	Speed Index (M _s)	0.645
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2596
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	51.9
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.595	Outer Lanes Freeway Speed (S _O), mi/h	61.7
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3815	Ramp Junction Speed (S), mi/h	55.1
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4577	Average Density (D), pc/mi/ln	43.4
Level of Service (LOS)	E	3.6-2	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i), veh/h	2836	551
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	5.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.952	0.971
Flow Rate (v_i), pc/h	3238	617
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.54	0.29

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	980.6	Density in Ramp Influence Area (D_R), pc/mi/ln	22.1
Distance to Upstream Ramp (L_{UP}), ft	2050	Speed Index (M_s)	0.328
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1328
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.590	Outer Lanes Freeway Speed (S_o), mi/h	67.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1910	Ramp Junction Speed (S), mi/h	62.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2527	Average Density (D), pc/mi/ln	20.5
Level of Service (LOS)	C	3.6-3	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	3243	407
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.980
Flow Rate (v _i), pc/h	3664	451
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.51	0.21

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	24.2
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.339
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1131
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	60.5
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.648	Outer Lanes Freeway Speed (S _O), mi/h	76.3
Flow in Lanes 1 and 2 (v ₁₂), pc/h	2533	Ramp Junction Speed (S), mi/h	64.6
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	18.9
Level of Service (LOS)	C	3.6-4	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	165
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5302	551
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.971
Flow Rate (v _i), pc/h	5991	617
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.83	0.29

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	35.0
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.354
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2246
Distance to Downstream Ramp (L _{DOWN}), ft	2000	Off-Ramp Influence Area Speed (S _R), mi/h	60.1
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.582	Outer Lanes Freeway Speed (S _O), mi/h	71.9
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3745	Ramp Junction Speed (S), mi/h	64.0
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	31.2
Level of Service (LOS)	D	3.6-5	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	4751	558
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.990
Flow Rate (v _i), pc/h	5368	613
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.83	0.29

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1502.2	Density in Ramp Influence Area (D _R), pc/mi/ln	31.1
Distance to Upstream Ramp (L _{UP}), ft	2000	Speed Index (M _s)	0.442
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2174
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.595	Outer Lanes Freeway Speed (S _O), mi/h	64.0
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3194	Ramp Junction Speed (S), mi/h	59.8
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3807	Average Density (D), pc/mi/ln	33.3
Level of Service (LOS)	D	3.6-6	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	4618	529
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.962
Flow Rate (v _i), pc/h	5122	598
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.79	0.28

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1379.7	Density in Ramp Influence Area (D _R), pc/mi/ln	30.6
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.425
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2100
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	58.1
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	64.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3022	Ramp Junction Speed (S), mi/h	60.2
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3620	Average Density (D), pc/mi/ln	31.7
Level of Service (LOS)	D	3.6-7	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2018)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	Mostly Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	1.000
Final Capacity Adjustment Factor (CAF)	0.968	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5378	760
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (v _i), pc/h	5965	834
Capacity (c), pc/h	6824	2100
Volume-to-Capacity Ratio (v/c)	0.87	0.40

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	34.9
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.373
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2191
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	58.4
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.573	Outer Lanes Freeway Speed (S _O), mi/h	70.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3774	Ramp Junction Speed (S), mi/h	62.2
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	32.0
Level of Service (LOS)	D	3.6-8	

APPENDIX 3.7:

**EXISTING (2018) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS
WITH IMPROVEMENTS**

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Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

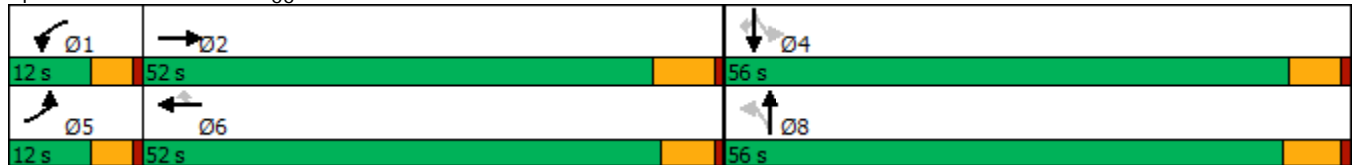


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	10	382	6	478	6	226	4	16	14	49
Future Volume (vph)	10	382	6	478	6	226	4	16	14	49
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		4		4
Detector Phase	5	2	1	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	52.0	12.0	52.0	52.0	56.0	56.0	56.0	56.0	56.0
Total Split (%)	10.0%	43.3%	10.0%	43.3%	43.3%	46.7%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	4.8	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
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	5.8	5.8	6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 83.3
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗			↖	↗
Traffic Volume (veh/h)	10	382	222	6	478	6	226	4	10	16	14	49
Future Volume (veh/h)	10	382	222	6	478	6	226	4	10	16	14	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	10	390	181	6	488	3	231	4	6	16	14	16
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	22	511	234	14	751	335	870	390	585	536	451	915
Arrive On Green	0.01	0.22	0.22	0.01	0.21	0.21	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	1781	2368	1084	1781	3554	1585	1380	675	1013	818	781	1585
Grp Volume(v), veh/h	10	291	280	6	488	3	231	0	10	30	0	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1675	1781	1777	1585	1380	0	1688	1599	0	1585
Q Serve(g_s), s	0.5	13.4	13.7	0.3	10.9	0.1	7.5	0.0	0.2	0.0	0.0	0.4
Cycle Q Clear(g_c), s	0.5	13.4	13.7	0.3	10.9	0.1	8.1	0.0	0.2	0.6	0.0	0.4
Prop In Lane	1.00		0.65	1.00		1.00	1.00		0.60	0.53		1.00
Lane Grp Cap(c), veh/h	22	384	362	14	751	335	870	0	975	987	0	915
V/C Ratio(X)	0.45	0.76	0.77	0.43	0.65	0.01	0.27	0.00	0.01	0.03	0.00	0.02
Avail Cap(c_a), veh/h	152	930	877	152	1888	842	870	0	975	987	0	915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	42.6	32.0	32.1	42.9	31.3	27.1	9.6	0.0	7.8	7.9	0.0	7.8
Incr Delay (d2), s/veh	5.4	3.1	3.5	7.8	1.0	0.0	0.7	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	0.2	5.5	5.4	0.1	4.3	0.0	2.0	0.0	0.1	0.2	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	35.1	35.6	50.7	32.3	27.1	10.4	0.0	7.8	7.9	0.0	7.9
LnGrp LOS	D	D	D	D	C	C	B	A	A	A	A	A
Approach Vol, veh/h		581			497			241				46
Approach Delay, s/veh		35.6			32.5			10.3				7.9
Approach LOS		D			C			B				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	25.3		56.4	5.7	24.9		56.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	7.4	45.5		* 50	7.4	* 46		49.8				
Max Q Clear Time (g_c+I1), s	2.3	15.7		2.6	2.5	12.9		10.1				
Green Ext Time (p_c), s	0.0	3.1		0.2	0.0	2.9		0.7				

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
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

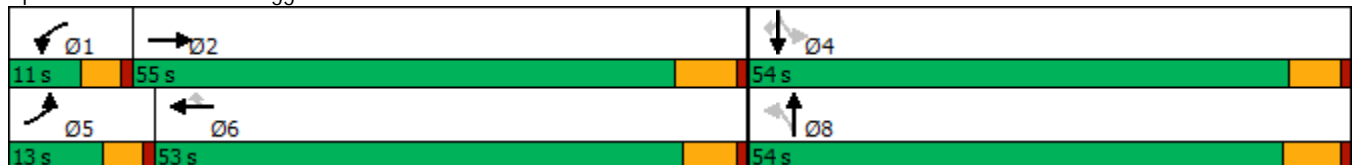


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	20	458	2	428	9	248	13	5	24
Future Volume (vph)	20	458	2	428	9	248	13	5	24
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	NA	Perm
Protected Phases	5	2	1	6			8	4	
Permitted Phases					6	8			4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8
Total Split (s)	13.0	55.0	11.0	53.0	53.0	54.0	54.0	54.0	54.0
Total Split (%)	10.8%	45.8%	9.2%	44.2%	44.2%	45.0%	45.0%	45.0%	45.0%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	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	5.8	5.8	6.2	6.2	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 86.3
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗			↖	↗
Traffic Volume (veh/h)	20	458	238	2	428	9	248	13	7	0	5	24
Future Volume (veh/h)	20	458	238	2	428	9	248	13	7	0	5	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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	492	224	2	460	6	267	14	5	0	5	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	42	623	282	5	857	382	838	712	254	0	1012	858
Arrive On Green	0.02	0.26	0.26	0.00	0.24	0.24	0.54	0.54	0.54	0.00	0.54	0.54
Sat Flow, veh/h	1781	2377	1076	1781	3554	1585	1404	1316	470	0	1870	1585
Grp Volume(v), veh/h	22	367	349	2	460	6	267	0	19	0	5	6
Grp Sat Flow(s),veh/h/ln	1781	1777	1677	1781	1777	1585	1404	0	1786	0	1870	1585
Q Serve(g_s), s	1.1	17.1	17.3	0.1	10.1	0.3	9.6	0.0	0.4	0.0	0.1	0.2
Cycle Q Clear(g_c), s	1.1	17.1	17.3	0.1	10.1	0.3	9.7	0.0	0.4	0.0	0.1	0.2
Prop In Lane	1.00		0.64	1.00		1.00	1.00		0.26	0.00		1.00
Lane Grp Cap(c), veh/h	42	466	439	5	857	382	838	0	966	0	1012	858
V/C Ratio(X)	0.52	0.79	0.79	0.41	0.54	0.02	0.32	0.00	0.02	0.00	0.00	0.01
Avail Cap(c_a), veh/h	168	967	913	128	1883	840	838	0	966	0	1012	858
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	0.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	30.6	30.6	44.4	29.5	25.7	11.7	0.0	9.5	0.0	9.4	9.4
Incr Delay (d2), s/veh	3.7	3.0	3.3	19.7	0.5	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	0.5	7.0	6.7	0.1	4.0	0.1	2.7	0.0	0.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	33.6	33.9	64.0	30.0	25.8	12.7	0.0	9.5	0.0	9.4	9.4
LnGrp LOS	D	C	C	E	C	C	B	A	A	A	A	A
Approach Vol, veh/h		738			468			286				11
Approach Delay, s/veh		34.1			30.1			12.4				9.4
Approach LOS		C			C			B				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.8	29.8		54.4	6.7	28.0		54.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	6.4	48.5		* 48	8.4	* 47		47.8				
Max Q Clear Time (g_c+I1), s	2.1	19.3		2.2	3.1	12.1		11.7				
Green Ext Time (p_c), s	0.0	4.1		0.0	0.0	2.8		0.8				

Intersection Summary

HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 5.1:

E+P (PHASE 1) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

01/31/2018

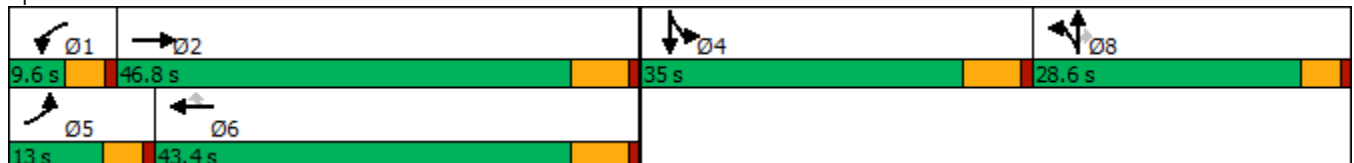


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	68	405	26	389	596	13	53	7	534	24
Future Volume (vph)	68	405	26	389	596	13	53	7	534	24
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	13.0	46.8	9.6	43.4	43.4	28.6	28.6	28.6	35.0	35.0
Total Split (%)	10.8%	39.0%	8.0%	36.2%	36.2%	23.8%	23.8%	23.8%	29.2%	29.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	405	12	26	389	596	13	53	7	534	24	40
Future Volume (veh/h)	68	405	12	26	389	596	13	53	7	534	24	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	76	450	12	29	432	370	14	59	5	647	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	534	14	48	499	423	390	409	347	936	491	0
Arrive On Green	0.05	0.29	0.29	0.03	0.27	0.27	0.22	0.22	0.22	0.26	0.00	0.00
Sat Flow, veh/h	1781	1813	48	1781	1870	1585	1781	1870	1585	3563	1870	0
Grp Volume(v), veh/h	76	0	462	29	432	370	14	59	5	647	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1862	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	4.6	0.0	25.5	1.8	24.1	24.5	0.7	2.8	0.3	17.9	0.0	0.0
Cycle Q Clear(g_c), s	4.6	0.0	25.5	1.8	24.1	24.5	0.7	2.8	0.3	17.9	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	97	0	549	48	499	423	390	409	347	936	491	0
V/C Ratio(X)	0.78	0.00	0.84	0.61	0.87	0.87	0.04	0.14	0.01	0.69	0.00	0.00
Avail Cap(c_a), veh/h	136	0	689	81	635	538	390	409	347	936	491	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	51.2	0.0	36.3	52.8	38.3	38.4	33.7	34.5	33.6	36.4	0.0	0.0
Incr Delay (d2), s/veh	11.1	0.0	7.6	4.6	9.9	12.4	0.2	0.7	0.1	4.2	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	2.3	0.0	12.0	0.8	11.8	10.4	0.3	1.4	0.1	7.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.3	0.0	43.9	57.4	48.3	50.9	33.9	35.3	33.6	40.6	0.0	0.0
LnGrp LOS	E	A	D	E	D	D	C	D	C	D	A	A
Approach Vol, veh/h		538			831			78			647	
Approach Delay, s/veh		46.5			49.7			34.9			40.6	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	38.5		35.0	10.6	35.5		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	40.6		28.8	8.4	37.2		24.0				
Max Q Clear Time (g_c+I1), s	3.8	27.5		19.9	6.6	26.5		4.8				
Green Ext Time (p_c), s	0.0	2.0		1.7	0.0	2.8		0.3				

Intersection Summary

HCM 6th Ctrl Delay	45.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

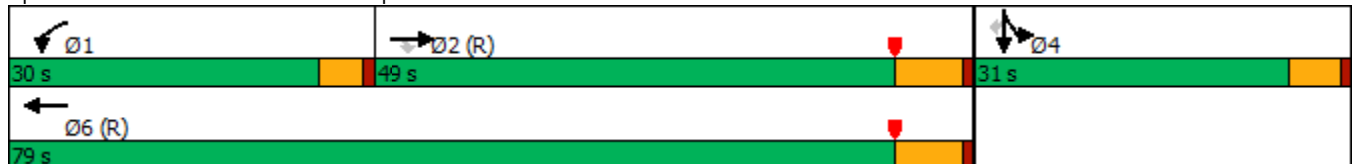


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	553	369	351	878	2	133
Future Volume (vph)	553	369	351	878	2	133
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	49.0	49.0	30.0	79.0	31.0	31.0
Total Split (%)	44.5%	44.5%	27.3%	71.8%	28.2%	28.2%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

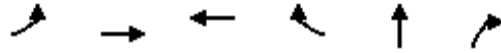


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	553	369	351	878	0	0	0	0	320	2	133
Future Volume (veh/h)	0	553	369	351	878	0	0	0	0	320	2	133
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		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	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	582	261	369	924	0				337	2	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	735	622	400	1233	0				414	2	370
Arrive On Green	0.00	0.39	0.39	0.07	0.22	0.00				0.23	0.23	0.23
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1771	11	1585
Grp Volume(v), veh/h	0	582	261	369	924	0				339	0	87
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1782	0	1585
Q Serve(g_s), s	0.0	30.2	13.2	22.6	50.8	0.0				19.8	0.0	4.9
Cycle Q Clear(g_c), s	0.0	30.2	13.2	22.6	50.8	0.0				19.8	0.0	4.9
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	735	622	400	1233	0				416	0	370
V/C Ratio(X)	0.00	0.79	0.42	0.92	0.75	0.00				0.81	0.00	0.23
Avail Cap(c_a), veh/h	0	735	622	411	1233	0				416	0	370
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.56	0.33	0.33	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.4	24.3	50.0	34.5	0.0				39.9	0.0	34.2
Incr Delay (d2), s/veh	0.0	5.0	1.2	10.9	1.4	0.0				15.9	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	13.5	4.8	11.9	25.4	0.0				10.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.4	25.4	60.9	36.0	0.0				55.8	0.0	35.7
LnGrp LOS	A	C	C	E	D	A				E	A	D
Approach Vol, veh/h		843			1293						426	
Approach Delay, s/veh		31.6			43.1						51.7	
Approach LOS		C			D						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	29.3	49.7		31.0		79.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	25.4	42.5		25.7		72.5						
Max Q Clear Time (g_c+I1), s	24.6	32.2		21.8		52.8						
Green Ext Time (p_c), s	0.1	2.0		0.5		3.6						
Intersection Summary												
HCM 6th Ctrl Delay				40.8								
HCM 6th LOS				D								

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

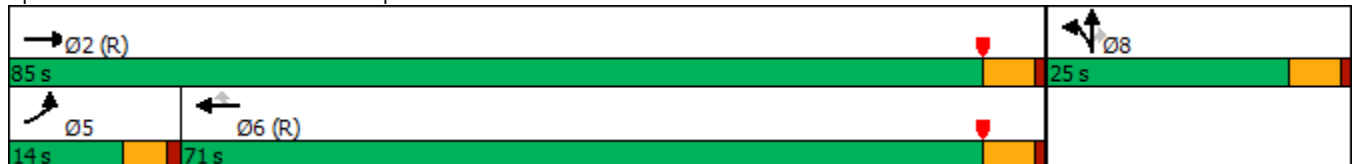


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	101	771	993	493	1	182
Future Volume (vph)	101	771	993	493	1	182
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0
Total Split (s)	14.0	85.0	71.0	71.0	25.0	25.0
Total Split (%)	12.7%	77.3%	64.5%	64.5%	22.7%	22.7%
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3
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	5.3	5.3	5.3	5.3	5.3
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	771	0	0	993	493	236	1	182	0	0	0
Future Volume (veh/h)	101	771	0	0	993	493	236	1	182	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		0.99			
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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	102	779	0	0	1003	474	238	1	67			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	127	1355	0	0	1143	949	318	1	280			
Arrive On Green	0.07	0.72	0.00	0.00	0.61	0.61	0.18	0.18	0.18			
Sat Flow, veh/h	1781	1870	0	0	1870	1552	1774	7	1564			
Grp Volume(v), veh/h	102	779	0	0	1003	474	239	0	67			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1552	1782	0	1564			
Q Serve(g_s), s	6.2	21.6	0.0	0.0	49.4	18.8	14.0	0.0	4.0			
Cycle Q Clear(g_c), s	6.2	21.6	0.0	0.0	49.4	18.8	14.0	0.0	4.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	127	1355	0	0	1143	949	319	0	280			
V/C Ratio(X)	0.80	0.57	0.00	0.00	0.88	0.50	0.75	0.00	0.24			
Avail Cap(c_a), veh/h	152	1355	0	0	1143	949	319	0	280			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.51	0.51	0.00	0.00	0.52	0.52	1.00	0.00	1.00			
Uniform Delay (d), s/veh	50.3	7.2	0.0	0.0	17.9	12.0	42.8	0.0	38.7			
Incr Delay (d2), s/veh	10.3	0.9	0.0	0.0	5.3	1.0	14.9	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	3.0	6.2	0.0	0.0	18.7	5.6	7.3	0.0	1.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	8.1	0.0	0.0	23.2	12.9	57.7	0.0	40.7			
LnGrp LOS	E	A	A	A	C	B	E	A	D			
Approach Vol, veh/h		881			1477			306				
Approach Delay, s/veh		14.1			19.9			54.0				
Approach LOS		B			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		85.0			12.5	72.5		25.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		79.7			9.4	65.7		19.7				
Max Q Clear Time (g_c+I1), s		23.6			8.2	51.4		16.0				
Green Ext Time (p_c), s		3.0			0.0	4.6		0.3				

Intersection Summary

HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

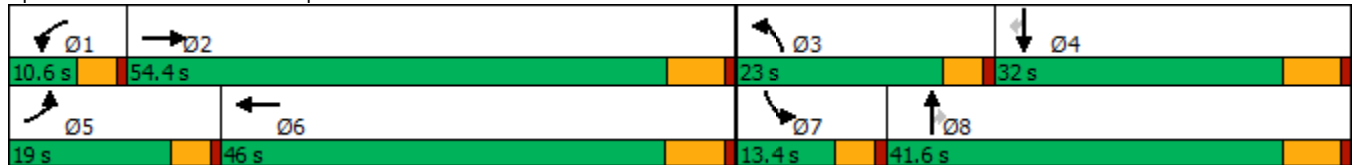


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↕	↙	↕	↙
Traffic Volume (vph)	108	552	34	851	329	69	67	42	124	306
Future Volume (vph)	108	552	34	851	329	69	67	42	124	306
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	19.0	54.4	10.6	46.0	23.0	41.6	41.6	13.4	32.0	32.0
Total Split (%)	15.8%	45.3%	8.8%	38.3%	19.2%	34.7%	34.7%	11.2%	26.7%	26.7%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 109.4
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	552	293	34	851	21	329	69	67	42	124	306
Future Volume (veh/h)	108	552	293	34	851	21	329	69	67	42	124	306
Initial Q (Qb), 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	117	600	231	37	925	20	358	75	32	46	135	311
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	146	894	344	57	1090	24	432	665	563	64	499	422
Arrive On Green	0.08	0.36	0.36	0.03	0.31	0.31	0.12	0.36	0.36	0.04	0.27	0.27
Sat Flow, veh/h	1781	2508	964	1781	3555	77	3456	1870	1585	1781	1870	1583
Grp Volume(v), veh/h	117	425	406	37	462	483	358	75	32	46	135	311
Grp Sat Flow(s),veh/h/ln	1781	1777	1695	1781	1777	1855	1728	1870	1585	1781	1870	1583
Q Serve(g_s), s	6.4	20.1	20.2	2.0	24.3	24.3	10.1	2.7	1.3	2.5	5.7	17.9
Cycle Q Clear(g_c), s	6.4	20.1	20.2	2.0	24.3	24.3	10.1	2.7	1.3	2.5	5.7	17.9
Prop In Lane	1.00		0.57	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	633	604	57	545	569	432	665	563	64	499	422
V/C Ratio(X)	0.80	0.67	0.67	0.65	0.85	0.85	0.83	0.11	0.06	0.71	0.27	0.74
Avail Cap(c_a), veh/h	258	860	820	107	705	735	638	665	563	157	499	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	27.1	27.1	47.6	32.4	32.4	42.5	21.6	21.1	47.5	28.9	33.3
Incr Delay (d2), s/veh	3.9	1.2	1.3	4.5	7.7	7.4	3.7	0.3	0.2	5.4	1.3	10.9
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	8.1	7.7	0.9	10.6	11.1	4.3	1.2	0.5	1.2	2.6	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	28.3	28.4	52.1	40.0	39.7	46.2	21.9	21.3	52.9	30.2	44.3
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	C	D
Approach Vol, veh/h		948			982			465			492	
Approach Delay, s/veh		30.9			40.3			40.6			41.2	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	42.0	17.1	32.7	12.8	37.1	8.2	41.6				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	6.0	* 48	18.4	25.8	14.4	39.5	8.8	35.4				
Max Q Clear Time (g_c+I1), s	4.0	22.2	12.1	19.9	8.4	26.3	4.5	4.7				
Green Ext Time (p_c), s	0.0	5.0	0.4	0.9	0.1	4.3	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	18.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↕↗		↵	↕↗	
Traffic Vol, veh/h	108	74	15	76	162	113	38	272	89	64	254	83
Future Vol, veh/h	108	74	15	76	162	113	38	272	89	64	254	83
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	137	94	19	96	205	143	48	344	113	81	322	105
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	16.3	17.4	20.3	18.9
HCM LOS	C	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	50%	0%	100%	62%	0%	100%	32%	0%	100%
Vol Right, %	0%	0%	50%	0%	0%	38%	0%	0%	68%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	181	180	108	49	40	76	108	167	64	169
LT Vol	38	0	0	108	0	0	76	0	0	64	0
Through Vol	0	181	91	0	49	25	0	108	54	0	169
RT Vol	0	0	89	0	0	15	0	0	113	0	0
Lane Flow Rate	48	230	227	137	62	50	96	137	211	81	214
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.123	0.556	0.529	0.376	0.163	0.128	0.251	0.338	0.495	0.207	0.519
Departure Headway (Hd)	9.216	8.716	8.37	9.909	9.409	9.144	9.403	8.903	8.429	9.211	8.711
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	389	413	432	364	382	392	382	405	427	390	414
Service Time	6.964	6.464	6.117	7.662	7.162	6.898	7.15	6.65	6.177	6.957	6.457
HCM Lane V/C Ratio	0.123	0.557	0.525	0.376	0.162	0.128	0.251	0.338	0.494	0.208	0.517
HCM Control Delay	13.3	21.9	20.2	18.5	14	13.2	15.3	16.2	19.2	14.4	20.5
HCM Lane LOS	B	C	C	C	B	B	C	C	C	B	C
HCM 95th-tile Q	0.4	3.3	3	1.7	0.6	0.4	1	1.5	2.7	0.8	2.9

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

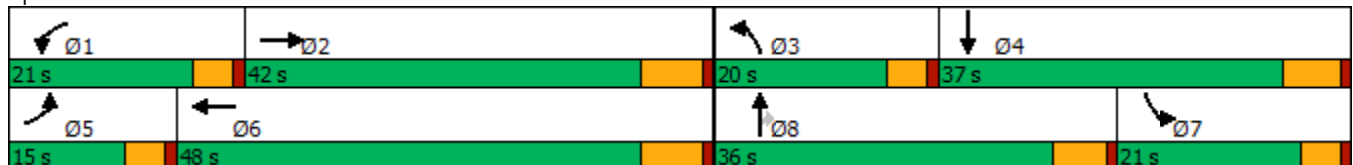


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	55	468	103	644	100	159	63	110	193
Future Volume (vph)	55	468	103	644	100	159	63	110	193
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	15.0	42.0	21.0	48.0	20.0	36.0	36.0	21.0	37.0
Total Split (%)	12.5%	35.0%	17.5%	40.0%	16.7%	30.0%	30.0%	17.5%	30.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 100.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Volume (veh/h)	55	468	109	103	644	141	100	159	63	110	193	81
Future Volume (veh/h)	55	468	109	103	644	141	100	159	63	110	193	81
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	58	493	103	108	678	133	105	167	35	116	203	71
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	76	725	150	137	838	164	134	628	525	146	470	164
Arrive On Green	0.04	0.25	0.25	0.08	0.28	0.28	0.08	0.34	0.34	0.08	0.36	0.36
Sat Flow, veh/h	1781	2917	606	1781	2962	581	1781	1870	1565	1781	1318	461
Grp Volume(v), veh/h	58	299	297	108	406	405	105	167	35	116	0	274
Grp Sat Flow(s),veh/h/ln	1781	1777	1746	1781	1777	1766	1781	1870	1565	1781	0	1780
Q Serve(g_s), s	2.9	13.7	13.9	5.4	19.1	19.2	5.2	5.9	1.0	5.8	0.0	10.5
Cycle Q Clear(g_c), s	2.9	13.7	13.9	5.4	19.1	19.2	5.2	5.9	1.0	5.8	0.0	10.5
Prop In Lane	1.00		0.35	1.00		0.33	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	76	441	434	137	503	500	134	628	525	146	0	634
V/C Ratio(X)	0.77	0.68	0.68	0.79	0.81	0.81	0.79	0.27	0.07	0.79	0.00	0.43
Avail Cap(c_a), veh/h	206	701	689	325	819	814	305	628	525	325	0	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	42.6	30.6	30.6	40.8	30.0	30.0	40.9	21.8	10.2	40.5	0.0	22.0
Incr Delay (d2), s/veh	5.9	1.8	1.9	3.8	3.1	3.2	3.8	1.0	0.2	3.6	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	1.3	5.5	5.5	2.3	7.8	7.7	2.3	2.6	0.5	2.5	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.5	32.4	32.5	44.6	33.1	33.2	44.7	22.8	10.5	44.2	0.0	24.2
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	A	C
Approach Vol, veh/h		654			919			307				390
Approach Delay, s/veh		33.9			34.5			28.9				30.1
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	28.9	11.4	38.2	8.4	32.0	13.6	36.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	6.2	* 5.8				
Max Green Setting (Gmax), s	16.4	35.5	15.4	30.8	10.4	41.5	16.4	* 30				
Max Q Clear Time (g_c+I1), s	7.4	15.9	7.2	12.5	4.9	21.2	7.8	7.9				
Green Ext Time (p_c), s	0.1	2.9	0.1	1.3	0.0	4.3	0.1	0.9				

Intersection Summary

HCM 6th Ctrl Delay	32.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	46	12	29	0	30	2	16	13	0	0	32	59
Future Vol, veh/h	46	12	29	0	30	2	16	13	0	0	32	59
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	57	57	57	57	57	57	57	57	57	57	57	57
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	81	21	51	0	53	4	28	23	0	0	56	104

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	216	187	108	223	239	23	160	0	0	23	0	0
Stage 1	108	108	-	79	79	-	-	-	-	-	-	-
Stage 2	108	79	-	144	160	-	-	-	-	-	-	-
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	740	708	946	733	662	1054	1419	-	-	1592	-	-
Stage 1	897	806	-	930	829	-	-	-	-	-	-	-
Stage 2	897	829	-	859	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	682	694	946	667	649	1054	1419	-	-	1592	-	-
Mov Cap-2 Maneuver	682	694	-	667	649	-	-	-	-	-	-	-
Stage 1	879	806	-	911	812	-	-	-	-	-	-	-
Stage 2	819	812	-	792	766	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11		10.9		4.2		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1419	-	-	754	665	1592	-
HCM Lane V/C Ratio	0.02	-	-	0.202	0.084	-	-
HCM Control Delay (s)	7.6	0	-	11	10.9	0	-
HCM Lane LOS	A	A	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.3	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

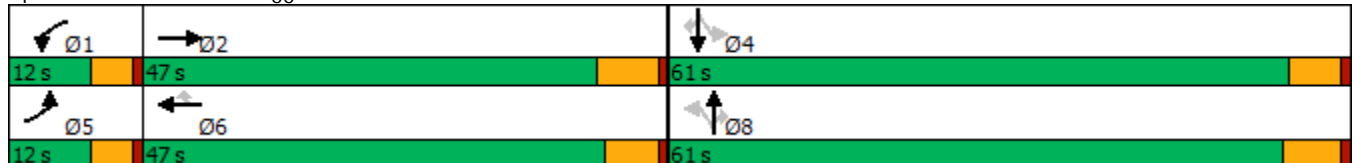


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↗		↕	↗		↕	↗
Traffic Volume (vph)	10	423	6	599	6	226	4	10	16	14	49
Future Volume (vph)	10	423	6	599	6	226	4	10	16	14	49
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6			8			4	
Permitted Phases					6	8		8	4		4
Detector Phase	5	2	1	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	47.0	12.0	47.0	47.0	61.0	61.0	61.0	61.0	61.0	61.0
Total Split (%)	10.0%	39.2%	10.0%	39.2%	39.2%	50.8%	50.8%	50.8%	50.8%	50.8%	50.8%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	4.8	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
Total Lost Time (s)	4.6	6.5	4.6	5.8	5.8		6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91.5
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖		↕	↖		↕	↖
Traffic Volume (veh/h)	10	423	222	6	599	6	226	4	10	16	14	49
Future Volume (veh/h)	10	423	222	6	599	6	226	4	10	16	14	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	10	432	181	6	611	3	231	4	6	16	14	16
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	22	552	229	14	785	350	76	1	926	58	35	926
Arrive On Green	0.01	0.23	0.23	0.01	0.22	0.22	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	1781	2448	1016	1781	3554	1585	0	1	1585	0	59	1585
Grp Volume(v), veh/h	10	312	301	6	611	3	235	0	6	30	0	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1687	1781	1777	1585	1	0	1585	59	0	1585
Q Serve(g_s), s	0.5	15.6	15.9	0.3	15.3	0.1	0.0	0.0	0.1	0.0	0.0	0.4
Cycle Q Clear(g_c), s	0.5	15.6	15.9	0.3	15.3	0.1	55.2	0.0	0.1	55.2	0.0	0.4
Prop In Lane	1.00		0.60	1.00		1.00	0.98		1.00	0.53		1.00
Lane Grp Cap(c), veh/h	22	400	380	14	785	350	76	0	926	93	0	926
V/C Ratio(X)	0.46	0.78	0.79	0.44	0.78	0.01	3.08	0.00	0.01	0.32	0.00	0.02
Avail Cap(c_a), veh/h	139	761	723	139	1549	691	76	0	926	93	0	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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.4	34.4	34.5	46.7	34.7	28.7	46.8	0.0	8.2	23.4	0.0	8.3
Incr Delay (d2), s/veh	5.5	3.3	3.7	7.9	1.7	0.0	971.5	0.0	0.0	8.9	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	6.6	6.4	0.2	6.3	0.1	22.3	0.0	0.0	0.6	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	37.7	38.2	54.6	36.4	28.8	1018.3	0.0	8.2	32.4	0.0	8.3
LnGrp LOS	D	D	D	D	D	C	F	A	A	C	A	A
Approach Vol, veh/h		623			620			241				46
Approach Delay, s/veh		38.2			36.5			993.1				24.0
Approach LOS		D			D			F				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	27.8		61.4	5.8	27.4		61.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	7.4	40.5		* 55	7.4	* 41		54.8				
Max Q Clear Time (g_c+I1), s	2.3	17.9		57.2	2.5	17.3		57.2				
Green Ext Time (p_c), s	0.0	3.2		0.0	0.0	3.6		0.0				

Intersection Summary

HCM 6th Ctrl Delay	187.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh 8.1

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	9	10	86	19	0	27	29	33	0	52	3
Future Vol, veh/h	3	9	10	86	19	0	27	29	33	0	52	3
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	12	13	112	25	0	35	38	43	0	68	4
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	7.4	8.5	7.9	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	14%	82%	0%
Vol Thru, %	33%	41%	18%	95%
Vol Right, %	37%	45%	0%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	89	22	105	55
LT Vol	27	3	86	0
Through Vol	29	9	19	52
RT Vol	33	10	0	3
Lane Flow Rate	116	29	136	71
Geometry Grp	1	1	1	1
Degree of Util (X)	0.136	0.034	0.172	0.088
Departure Headway (Hd)	4.24	4.263	4.547	4.414
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	848	841	791	814
Service Time	2.253	2.28	2.561	2.427
HCM Lane V/C Ratio	0.137	0.034	0.172	0.087
HCM Control Delay	7.9	7.4	8.5	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.6	0.3

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↔	↕
Traffic Vol, veh/h	62	9	80	21	3	145
Future Vol, veh/h	62	9	80	21	3	145
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	67	10	87	23	3	158

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	263	55	0	0	110
Stage 1	99	-	-	-	-
Stage 2	164	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13
Critical Hdwy Stg 1	5.83	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219
Pot Cap-1 Maneuver	715	1001	-	-	1479
Stage 1	914	-	-	-	-
Stage 2	865	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	714	1001	-	-	1479
Mov Cap-2 Maneuver	714	-	-	-	-
Stage 1	912	-	-	-	-
Stage 2	865	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	741	1479
HCM Lane V/C Ratio	-	-	0.104	0.002
HCM Control Delay (s)	-	-	10.4	7.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	1	0	0	0	101	0	0	207	0
Future Vol, veh/h	0	0	1	1	0	0	0	101	0	0	207	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	53	53	53	53	53	53	53	53	53	53	53	53
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	2	0	0	0	191	0	0	391	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	582	582	391	583	582	191	391	0	0	191	0	0
Stage 1	391	391	-	191	191	-	-	-	-	-	-	-
Stage 2	191	191	-	392	391	-	-	-	-	-	-	-
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	424	425	658	424	425	851	1168	-	-	1383	-	-
Stage 1	633	607	-	811	742	-	-	-	-	-	-	-
Stage 2	811	742	-	633	607	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	424	425	658	423	425	851	1168	-	-	1383	-	-
Mov Cap-2 Maneuver	424	425	-	423	425	-	-	-	-	-	-	-
Stage 1	633	607	-	811	742	-	-	-	-	-	-	-
Stage 2	811	742	-	631	607	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	10.5		13.5		0		0			
HCM LOS	B		B							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1168	-	-	658	423	1383	-
HCM Lane V/C Ratio	-	-	-	0.003	0.004	-	-
HCM Control Delay (s)	0	-	-	10.5	13.5	0	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-

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	0	0	53	1	3	1	36	62	3	0	153	5
Future Vol, veh/h	0	0	53	1	3	1	36	62	3	0	153	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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	64	1	4	1	43	75	4	0	184	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	353	352	187	382	353	77	190	0	0	79	0	0
Stage 1	187	187	-	163	163	-	-	-	-	-	-	-
Stage 2	166	165	-	219	190	-	-	-	-	-	-	-
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	602	573	855	576	572	984	1384	-	-	1519	-	-
Stage 1	815	745	-	839	763	-	-	-	-	-	-	-
Stage 2	836	762	-	783	743	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	584	555	855	520	554	984	1384	-	-	1519	-	-
Mov Cap-2 Maneuver	584	555	-	520	554	-	-	-	-	-	-	-
Stage 1	789	745	-	812	739	-	-	-	-	-	-	-
Stage 2	804	738	-	725	743	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.6		11.1		2.7		0	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1384	-	-	855	598	1519	-
HCM Lane V/C Ratio	0.031	-	-	0.075	0.01	-	-
HCM Control Delay (s)	7.7	0	-	9.6	11.1	0	-
HCM Lane LOS	A	A	-	A	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-

Intersection	
Intersection Delay, s/veh	28.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	46	258	173	13	262	12	226	40	6	35	70	124
Future Vol, veh/h	46	258	173	13	262	12	226	40	6	35	70	124
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	269	180	14	273	13	235	42	6	36	73	129
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	43.4	20.4	21.2	17.1
HCM LOS	E	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	83%	10%	5%	15%
Vol Thru, %	15%	54%	91%	31%
Vol Right, %	2%	36%	4%	54%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	272	477	287	229
LT Vol	226	46	13	35
Through Vol	40	258	262	70
RT Vol	6	173	12	124
Lane Flow Rate	283	497	299	239
Geometry Grp	1	1	1	1
Degree of Util (X)	0.594	0.9	0.596	0.484
Departure Headway (Hd)	7.546	6.523	7.177	7.299
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	476	552	502	491
Service Time	5.622	4.587	5.254	5.38
HCM Lane V/C Ratio	0.595	0.9	0.596	0.487
HCM Control Delay	21.2	43.4	20.4	17.1
HCM Lane LOS	C	E	C	C
HCM 95th-tile Q	3.8	10.6	3.8	2.6

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	34	9	0	79	26	0
Future Vol, veh/h	34	9	0	79	26	0
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	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	10	0	86	28	0

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	47	0	128
Stage 1	-	-	-	-	42
Stage 2	-	-	-	-	86
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1560	-	866
Stage 1	-	-	-	-	980
Stage 2	-	-	-	-	937
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1560	-	866
Mov Cap-2 Maneuver	-	-	-	-	866
Stage 1	-	-	-	-	980
Stage 2	-	-	-	-	937

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	866	-	-	1560	-
HCM Lane V/C Ratio	0.033	-	-	-	-
HCM Control Delay (s)	9.3	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖		↖	↖			↕				
Traffic Vol, veh/h	0	16	18	0	26	0	53	0	0	0	0	0
Future Vol, veh/h	0	16	18	0	26	0	53	0	0	0	0	0
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	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
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	0	17	20	0	28	0	58	0	0	0	0	0

Major/Minor	Major1	Major2	Minor1						
Conflicting Flow All	-	0	0	37	0	0	55	55	27
Stage 1	-	-	-	-	-	-	27	27	-
Stage 2	-	-	-	-	-	-	28	28	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1574	-	-	953	836	1048
Stage 1	0	-	-	-	-	-	996	873	-
Stage 2	0	-	-	-	-	-	995	872	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1574	-	-	953	0	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	953	0	-
Stage 1	-	-	-	-	-	-	996	0	-
Stage 2	-	-	-	-	-	-	995	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	953	-	-	1574	-	-
HCM Lane V/C Ratio	0.06	-	-	-	-	-
HCM Control Delay (s)	9	-	-	0	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-	-

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	0	7	9	0	0	0	26	0	0	0	0	0
Future Vol, veh/h	0	7	9	0	0	0	26	0	0	0	0	0
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	-	-	-	-	-	-	-	-	-	-	-	-
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	0	8	10	0	0	0	28	0	0	0	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	1	0	0	18
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1622	-	-	1599
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1599
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.7	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1002	1622	-	-	1599	-	-	-
HCM Lane V/C Ratio	0.028	-	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection						
Int Delay, s/veh	6.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	0	0	0	0	9
Future Vol, veh/h	26	0	0	0	0	9
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	-	-	-	-	-
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	28	0	0	0	0	10

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	5	5	10	0	-	0
Stage 1	5	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1017	1078	1610	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1017	1078	1610	-	-	-
Mov Cap-2 Maneuver	1017	-	-	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1610	-	1017	-	-
HCM Lane V/C Ratio	-	-	0.028	-	-
HCM Control Delay (s)	0	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

01/31/2018

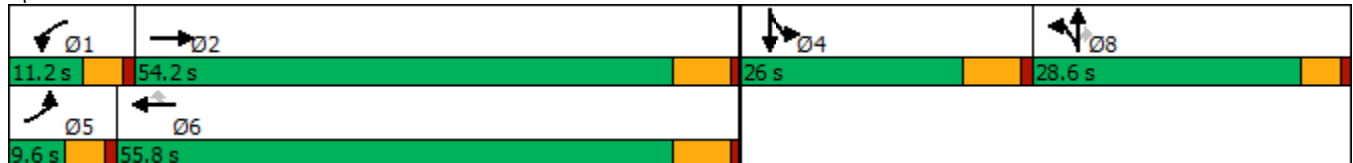


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	41	464	36	691	315	28	30	33	371	15
Future Volume (vph)	41	464	36	691	315	28	30	33	371	15
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	9.6	54.2	11.2	55.8	55.8	28.6	28.6	28.6	26.0	26.0
Total Split (%)	8.0%	45.2%	9.3%	46.5%	46.5%	23.8%	23.8%	23.8%	21.7%	21.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	464	13	36	691	315	28	30	33	371	15	61
Future Volume (veh/h)	41	464	13	36	691	315	28	30	33	371	15	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	42	473	10	37	705	105	29	31	8	446	0	0
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	57	734	16	54	748	634	371	390	330	612	322	0
Arrive On Green	0.03	0.40	0.40	0.03	0.40	0.40	0.21	0.21	0.21	0.17	0.00	0.00
Sat Flow, veh/h	1781	1825	39	1781	1870	1585	1781	1870	1585	3563	1870	0
Grp Volume(v), veh/h	42	0	483	37	705	105	29	31	8	446	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	2.7	0.0	24.1	2.4	41.8	4.9	1.5	1.5	0.5	13.7	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	24.1	2.4	41.8	4.9	1.5	1.5	0.5	13.7	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	57	0	749	54	748	634	371	390	330	612	322	0
V/C Ratio(X)	0.73	0.00	0.64	0.69	0.94	0.17	0.08	0.08	0.02	0.73	0.00	0.00
Avail Cap(c_a), veh/h	77	0	777	102	805	683	371	390	330	612	322	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	55.3	0.0	27.8	55.3	33.3	22.2	36.7	36.7	36.3	45.1	0.0	0.0
Incr Delay (d2), s/veh	12.6	0.0	1.8	5.7	18.4	0.1	0.4	0.4	0.1	7.4	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	1.4	0.0	10.4	1.1	21.3	1.8	0.7	0.8	0.2	6.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	0.0	29.5	61.1	51.7	22.3	37.1	37.1	36.4	52.6	0.0	0.0
LnGrp LOS	E	A	C	E	D	C	D	D	D	D	A	A
Approach Vol, veh/h		525			847			68			446	
Approach Delay, s/veh		32.6			48.5			37.0			52.6	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	52.5		26.0	8.3	52.3		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.6	48.0		19.8	5.0	49.6		24.0				
Max Q Clear Time (g_c+I1), s	4.4	26.1		15.7	4.7	43.8		3.5				
Green Ext Time (p_c), s	0.0	2.6		0.6	0.0	2.3		0.2				

Intersection Summary

HCM 6th Ctrl Delay	44.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

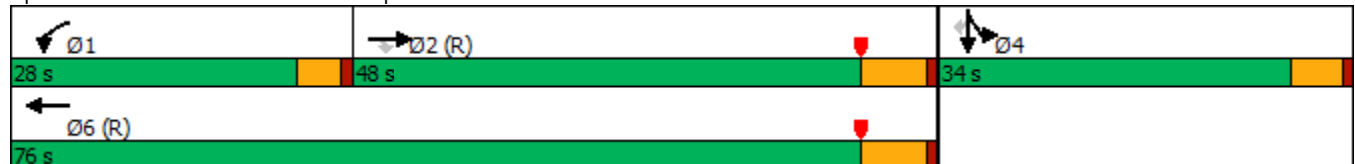


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	619	265	316	873	0	170
Future Volume (vph)	619	265	316	873	0	170
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	48.0	48.0	28.0	76.0	34.0	34.0
Total Split (%)	43.6%	43.6%	25.5%	69.1%	30.9%	30.9%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↖	↗
Traffic Volume (veh/h)	0	619	265	316	873	0	0	0	0	431	0	170
Future Volume (veh/h)	0	619	265	316	873	0	0	0	0	431	0	170
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	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	632	184	322	891	0				440	0	110
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	738	626	348	1182	0				465	0	414
Arrive On Green	0.00	0.39	0.39	0.26	0.84	0.00				0.26	0.00	0.26
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1781	0	1585
Grp Volume(v), veh/h	0	632	184	322	891	0				440	0	110
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1781	0	1585
Q Serve(g_s), s	0.0	34.0	8.7	19.4	22.8	0.0				26.7	0.0	6.1
Cycle Q Clear(g_c), s	0.0	34.0	8.7	19.4	22.8	0.0				26.7	0.0	6.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	738	626	348	1182	0				465	0	414
V/C Ratio(X)	0.00	0.86	0.29	0.93	0.75	0.00				0.95	0.00	0.27
Avail Cap(c_a), veh/h	0	738	626	379	1182	0				465	0	414
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.70	0.70	0.48	0.48	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	30.4	22.8	39.9	5.1	0.0				39.9	0.0	32.3
Incr Delay (d2), s/veh	0.0	8.9	0.8	15.3	2.2	0.0				30.4	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	15.9	3.2	8.8	4.2	0.0				15.0	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	39.4	23.6	55.2	7.3	0.0				70.3	0.0	33.9
LnGrp LOS	A	D	C	E	A	A				E	A	C
Approach Vol, veh/h		816			1213						550	
Approach Delay, s/veh		35.8			20.0						63.0	
Approach LOS		D			B						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	26.1	49.9		34.0		76.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	23.4	41.5		28.7		69.5						
Max Q Clear Time (g_c+I1), s	21.4	36.0		28.7		24.8						
Green Ext Time (p_c), s	0.1	1.4		0.0		3.7						

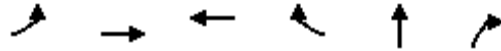
Intersection Summary

HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	82	967	810	476	0	421
Future Volume (vph)	82	967	810	476	0	421
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0
Total Split (s)	13.0	75.0	62.0	62.0	35.0	35.0
Total Split (%)	11.8%	68.2%	56.4%	56.4%	31.8%	31.8%
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3
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	5.3	5.3	5.3	5.3	5.3
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	967	0	0	810	476	379	0	421	0	0	0
Future Volume (veh/h)	82	967	0	0	810	476	379	0	421	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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	83	977	0	0	818	410	383	0	367			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	104	1185	0	0	997	845	481	0	428			
Arrive On Green	0.12	1.00	0.00	0.00	0.53	0.53	0.27	0.00	0.27			
Sat Flow, veh/h	1781	1870	0	0	1870	1585	1781	0	1585			
Grp Volume(v), veh/h	83	977	0	0	818	410	383	0	367			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	1781	0	1585			
Q Serve(g_s), s	5.0	0.0	0.0	0.0	39.9	17.9	22.0	0.0	24.2			
Cycle Q Clear(g_c), s	5.0	0.0	0.0	0.0	39.9	17.9	22.0	0.0	24.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	104	1185	0	0	997	845	481	0	428			
V/C Ratio(X)	0.80	0.82	0.00	0.00	0.82	0.49	0.80	0.00	0.86			
Avail Cap(c_a), veh/h	136	1185	0	0	997	845	481	0	428			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.37	0.37	0.00	0.00	0.65	0.65	1.00	0.00	1.00			
Uniform Delay (d), s/veh	47.9	0.0	0.0	0.0	21.3	16.2	37.3	0.0	38.1			
Incr Delay (d2), s/veh	6.5	2.6	0.0	0.0	5.0	1.3	12.8	0.0	19.4			
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	2.2	0.8	0.0	0.0	16.3	6.0	10.9	0.0	11.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.5	2.6	0.0	0.0	26.3	17.5	50.2	0.0	57.6			
LnGrp LOS	D	A	A	A	C	B	D	A	E			
Approach Vol, veh/h		1060			1228			750				
Approach Delay, s/veh		6.6			23.4			53.8				
Approach LOS		A			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		75.0			11.0	64.0		35.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		69.7			8.4	56.7		29.7				
Max Q Clear Time (g_c+I1), s		2.0			7.0	41.9		26.2				
Green Ext Time (p_c), s		4.4			0.0	3.4		0.8				
Intersection Summary												
HCM 6th Ctrl Delay					25.0							
HCM 6th LOS					C							

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	214	824	78	689	394	201	157	62	123	203
Future Volume (vph)	214	824	78	689	394	201	157	62	123	203
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	27.0	53.8	14.0	40.8	24.0	37.8	37.8	14.4	28.2	28.2
Total Split (%)	22.5%	44.8%	11.7%	34.0%	20.0%	31.5%	31.5%	12.0%	23.5%	23.5%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 110.5
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	824	350	78	689	36	394	201	157	62	123	203
Future Volume (veh/h)	214	824	350	78	689	36	394	201	157	62	123	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	218	841	254	80	703	33	402	205	68	63	126	160
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	988	298	102	981	46	475	585	496	81	413	350
Arrive On Green	0.14	0.37	0.37	0.06	0.28	0.28	0.14	0.31	0.31	0.05	0.22	0.22
Sat Flow, veh/h	1781	2689	812	1781	3456	162	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	218	555	540	80	361	375	402	205	68	63	126	160
Grp Sat Flow(s),veh/h/ln	1781	1777	1724	1781	1777	1841	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	12.1	29.1	29.1	4.5	18.5	18.5	11.5	8.5	3.1	3.5	5.7	8.8
Cycle Q Clear(g_c), s	12.1	29.1	29.1	4.5	18.5	18.5	11.5	8.5	3.1	3.5	5.7	8.8
Prop In Lane	1.00		0.47	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	251	653	633	102	504	522	475	585	496	81	413	350
V/C Ratio(X)	0.87	0.85	0.85	0.78	0.72	0.72	0.85	0.35	0.14	0.78	0.30	0.46
Avail Cap(c_a), veh/h	395	837	813	166	603	625	664	585	496	173	413	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	42.5	29.4	29.4	47.0	32.5	32.5	42.5	26.8	24.9	47.7	32.9	34.1
Incr Delay (d2), s/veh	7.4	6.8	7.0	4.8	3.3	3.2	5.3	1.6	0.6	5.8	1.9	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	5.6	12.5	12.2	2.0	7.8	8.0	5.0	3.8	1.2	1.6	2.7	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	36.2	36.4	51.8	35.8	35.7	47.8	28.4	25.5	53.5	34.8	38.4
LnGrp LOS	D	D	D	D	D	D	D	C	C	D	C	D
Approach Vol, veh/h		1313			816			675			349	
Approach Delay, s/veh		38.5			37.3			39.7			39.8	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	43.6	18.5	28.5	18.8	35.2	9.2	37.8				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.4	* 48	19.4	22.0	22.4	34.3	9.8	31.6				
Max Q Clear Time (g_c+I1), s	6.5	31.1	13.5	10.8	14.1	20.5	5.5	10.5				
Green Ext Time (p_c), s	0.0	6.0	0.4	0.8	0.2	3.3	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	38.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↕↗		↵	↕↗	
Traffic Vol, veh/h	51	111	45	24	78	49	31	288	48	84	218	59
Future Vol, veh/h	51	111	45	24	78	49	31	288	48	84	218	59
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	54	118	48	26	83	52	33	306	51	89	232	63
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	11.2	11	12.6	11.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	67%	0%	100%	45%	0%	100%	35%	0%	100%
Vol Right, %	0%	0%	33%	0%	0%	55%	0%	0%	65%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	192	144	51	74	82	24	52	75	84	145
LT Vol	31	0	0	51	0	0	24	0	0	84	0
Through Vol	0	192	96	0	74	37	0	52	26	0	145
RT Vol	0	0	48	0	0	45	0	0	49	0	0
Lane Flow Rate	33	204	153	54	79	87	26	55	80	89	155
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.066	0.381	0.276	0.116	0.157	0.165	0.056	0.113	0.153	0.18	0.289
Departure Headway (Hd)	7.222	6.722	6.489	7.702	7.202	6.818	7.851	7.351	6.894	7.238	6.738
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	493	533	550	463	494	523	453	485	516	493	530
Service Time	5.004	4.504	4.271	5.494	4.994	4.61	5.645	5.145	4.688	5.019	4.519
HCM Lane V/C Ratio	0.067	0.383	0.278	0.117	0.16	0.166	0.057	0.113	0.155	0.181	0.292
HCM Control Delay	10.5	13.6	11.8	11.5	11.3	11	11.1	11.1	10.9	11.6	12.3
HCM Lane LOS	B	B	B	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.2	1.8	1.1	0.4	0.6	0.6	0.2	0.4	0.5	0.7	1.2

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

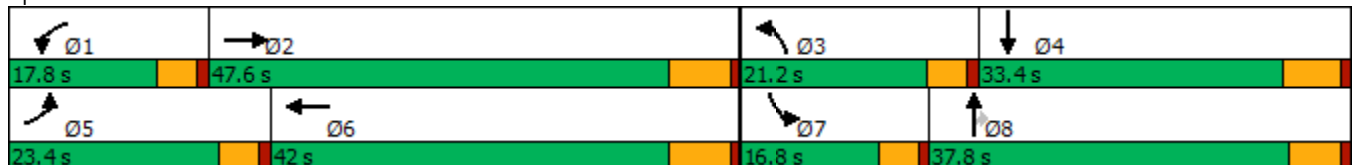


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	144	759	91	662	124	209	125	78	83
Future Volume (vph)	144	759	91	662	124	209	125	78	83
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	23.4	47.6	17.8	42.0	21.2	37.8	37.8	16.8	33.4
Total Split (%)	19.5%	39.7%	14.8%	35.0%	17.7%	31.5%	31.5%	14.0%	27.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
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	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 106.5
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↖
Traffic Volume (veh/h)	144	759	137	91	662	102	124	209	125	78	83	79
Future Volume (veh/h)	144	759	137	91	662	102	124	209	125	78	83	79
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	799	124	96	697	95	131	220	61	82	87	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	185	955	148	122	864	118	162	623	528	105	318	208
Arrive On Green	0.10	0.31	0.31	0.07	0.28	0.28	0.09	0.33	0.33	0.06	0.30	0.30
Sat Flow, veh/h	1781	3072	477	1781	3133	427	1781	1870	1585	1781	1055	691
Grp Volume(v), veh/h	152	462	461	96	395	397	131	220	61	82	0	144
Grp Sat Flow(s),veh/h/ln	1781	1777	1772	1781	1777	1783	1781	1870	1585	1781	0	1746
Q Serve(g_s), s	8.0	23.2	23.3	5.1	19.9	19.9	6.9	8.5	2.6	4.4	0.0	6.0
Cycle Q Clear(g_c), s	8.0	23.2	23.3	5.1	19.9	19.9	6.9	8.5	2.6	4.4	0.0	6.0
Prop In Lane	1.00		0.27	1.00		0.24	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	185	552	551	122	490	491	162	623	528	105	0	526
V/C Ratio(X)	0.82	0.84	0.84	0.79	0.81	0.81	0.81	0.35	0.12	0.78	0.00	0.27
Avail Cap(c_a), veh/h	349	761	759	245	657	659	308	623	528	226	0	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	42.2	30.8	30.8	44.0	32.4	32.4	42.8	24.2	22.2	44.5	0.0	25.5
Incr Delay (d2), s/veh	3.5	5.9	6.0	4.2	5.4	5.5	3.6	1.6	0.4	4.6	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	3.5	9.9	9.9	2.3	8.5	8.6	3.1	3.8	1.0	2.0	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	36.7	36.8	48.2	37.8	37.8	46.4	25.7	22.6	49.2	0.0	26.8
LnGrp LOS	D	D	D	D	D	D	D	C	C	D	A	C
Approach Vol, veh/h		1075			888			412				226
Approach Delay, s/veh		38.0			38.9			31.9				34.9
Approach LOS		D			D			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	36.3	13.3	35.1	14.6	33.0	10.3	38.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	* 6.2				
Max Green Setting (Gmax), s	13.2	41.1	16.6	27.2	18.8	35.5	12.2	* 32				
Max Q Clear Time (g_c+I1), s	7.1	25.3	8.9	8.0	10.0	21.9	6.4	10.5				
Green Ext Time (p_c), s	0.0	4.6	0.1	0.6	0.1	3.6	0.0	1.2				

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.

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	38	5	1	27	3	8	40	0	1	36	5
Future Vol, veh/h	8	38	5	1	27	3	8	40	0	1	36	5
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	1	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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	49	6	1	35	4	10	51	0	1	46	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	146	123	49	151	126	56	52	0	0	52	0	0
Stage 1	51	51	-	72	72	-	-	-	-	-	-	-
Stage 2	95	72	-	79	54	-	-	-	-	-	-	-
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	823	767	1020	816	764	1011	1554	-	-	1554	-	-
Stage 1	962	852	-	938	835	-	-	-	-	-	-	-
Stage 2	912	835	-	930	850	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	783	760	1020	765	757	1006	1554	-	-	1553	-	-
Mov Cap-2 Maneuver	783	760	-	765	757	-	-	-	-	-	-	-
Stage 1	955	851	-	930	828	-	-	-	-	-	-	-
Stage 2	861	828	-	870	849	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	9.9	1.2	0.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1554	-	-	783	776	1553	-
HCM Lane V/C Ratio	0.007	-	-	0.084	0.051	0.001	-
HCM Control Delay (s)	7.3	0	-	10	9.9	7.3	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

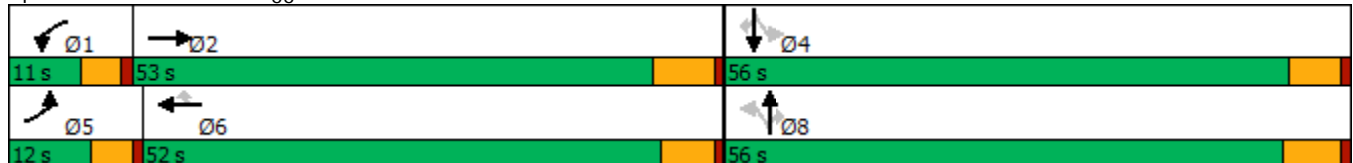


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	20	595	2	508	9	248	13	7	5	24
Future Volume (vph)	20	595	2	508	9	248	13	7	5	24
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		8		4
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8
Total Split (s)	12.0	53.0	11.0	52.0	52.0	56.0	56.0	56.0	56.0	56.0
Total Split (%)	10.0%	44.2%	9.2%	43.3%	43.3%	46.7%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	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
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	5.8	5.8		6.2	6.2	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 95
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

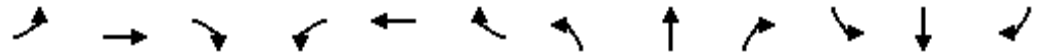
Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗		↖	↗		↖	↗
Traffic Volume (veh/h)	20	595	238	2	508	9	248	13	7	0	5	24
Future Volume (veh/h)	20	595	238	2	508	9	248	13	7	0	5	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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	640	224	2	546	6	267	14	5	0	5	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	41	777	272	5	997	445	770	37	821	0	969	821
Arrive On Green	0.02	0.30	0.30	0.00	0.28	0.28	0.52	0.52	0.52	0.00	0.52	0.52
Sat Flow, veh/h	1781	2582	903	1781	3554	1585	1347	71	1585	0	1870	1585
Grp Volume(v), veh/h	22	440	424	2	546	6	281	0	5	0	5	6
Grp Sat Flow(s),veh/h/ln	1781	1777	1708	1781	1777	1585	1418	0	1585	0	1870	1585
Q Serve(g_s), s	1.2	22.3	22.4	0.1	12.7	0.3	11.5	0.0	0.1	0.0	0.1	0.2
Cycle Q Clear(g_c), s	1.2	22.3	22.4	0.1	12.7	0.3	11.7	0.0	0.1	0.0	0.1	0.2
Prop In Lane	1.00		0.53	1.00		1.00	0.95		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	41	535	514	5	997	445	807	0	821	0	969	821
V/C Ratio(X)	0.54	0.82	0.82	0.42	0.55	0.01	0.35	0.00	0.01	0.00	0.01	0.01
Avail Cap(c_a), veh/h	136	852	819	118	1694	755	807	0	821	0	969	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	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	31.5	31.5	48.3	29.6	25.2	14.1	0.0	11.3	0.0	11.3	11.3
Incr Delay (d2), s/veh	4.0	3.6	3.8	19.8	0.5	0.0	1.2	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	9.2	8.9	0.1	5.0	0.1	3.5	0.0	0.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	35.1	35.3	68.1	30.1	25.2	15.3	0.0	11.3	0.0	11.3	11.3
LnGrp LOS	D	D	D	E	C	C	B	A	B	A	B	B
Approach Vol, veh/h		886			554			286				11
Approach Delay, s/veh		35.6			30.2			15.2				11.3
Approach LOS		D			C			B				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	35.7		56.4	6.8	33.7		56.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	6.4	46.5		* 50	7.4	* 46		49.8				
Max Q Clear Time (g_c+I1), s	2.1	24.4		2.2	3.2	14.7		13.7				
Green Ext Time (p_c), s	0.0	4.8		0.0	0.0	3.3		1.5				

Intersection Summary

HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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	4	22	31	58	13	0	9	36	98	0	23	1
Future Vol, veh/h	4	22	31	58	13	0	9	36	98	0	23	1
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	35	50	94	21	0	15	58	158	0	37	2
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	7.9	8.7	8.5	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	7%	82%	0%
Vol Thru, %	25%	39%	18%	96%
Vol Right, %	69%	54%	0%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	143	57	71	24
LT Vol	9	4	58	0
Through Vol	36	22	13	23
RT Vol	98	31	0	1
Lane Flow Rate	231	92	115	39
Geometry Grp	1	1	1	1
Degree of Util (X)	0.261	0.111	0.152	0.05
Departure Headway (Hd)	4.069	4.342	4.781	4.639
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	883	826	750	772
Service Time	2.086	2.369	2.808	2.664
HCM Lane V/C Ratio	0.262	0.111	0.153	0.051
HCM Control Delay	8.5	7.9	8.7	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.4	0.5	0.2

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↔	↕
Traffic Vol, veh/h	41	6	137	69	10	102
Future Vol, veh/h	41	6	137	69	10	102
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	45	7	149	75	11	111

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	320	112	0	0	224
Stage 1	187	-	-	-	-
Stage 2	133	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13
Critical Hdwy Stg 1	5.83	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219
Pot Cap-1 Maneuver	661	920	-	-	1343
Stage 1	827	-	-	-	-
Stage 2	893	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	656	920	-	-	1343
Mov Cap-2 Maneuver	656	-	-	-	-
Stage 1	820	-	-	-	-
Stage 2	893	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	681	1343
HCM Lane V/C Ratio	-	-	0.075	0.008
HCM Control Delay (s)	-	-	10.7	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	1	0	2	1	203	2	1	141	0
Future Vol, veh/h	1	0	0	1	0	2	1	203	2	1	141	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	1	0	3	1	299	3	1	207	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	513	514	207	513	513	302	207	0	0	303	0	0
Stage 1	209	209	-	304	304	-	-	-	-	-	-	-
Stage 2	304	305	-	209	209	-	-	-	-	-	-	-
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	472	464	833	472	465	738	1364	-	-	1258	-	-
Stage 1	793	729	-	705	663	-	-	-	-	-	-	-
Stage 2	705	662	-	793	729	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	469	463	833	471	464	737	1364	-	-	1257	-	-
Mov Cap-2 Maneuver	469	463	-	471	464	-	-	-	-	-	-	-
Stage 1	792	728	-	704	662	-	-	-	-	-	-	-
Stage 2	701	661	-	792	728	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	12.7		10.8		0		0.1			
HCM LOS	B		B							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1364	-	-	469	620	1257	-
HCM Lane V/C Ratio	0.001	-	-	0.003	0.007	0.001	-
HCM Control Delay (s)	7.6	0	-	12.7	10.8	7.9	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	2	27	1	1	0	20	186	0	0	114	2
Future Vol, veh/h	5	2	27	1	1	0	20	186	0	0	114	2
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	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	3	36	1	1	0	27	251	0	0	154	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	462	461	156	480	462	251	157	0	0	251	0	0
Stage 1	156	156	-	305	305	-	-	-	-	-	-	-
Stage 2	306	305	-	175	157	-	-	-	-	-	-	-
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	510	497	890	496	497	788	1423	-	-	1314	-	-
Stage 1	846	769	-	705	662	-	-	-	-	-	-	-
Stage 2	704	662	-	827	768	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	500	486	890	466	486	788	1423	-	-	1314	-	-
Mov Cap-2 Maneuver	500	486	-	466	486	-	-	-	-	-	-	-
Stage 1	827	769	-	689	647	-	-	-	-	-	-	-
Stage 2	687	647	-	790	768	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	12.6	0.7	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1423	-	-	765	476	1314	-
HCM Lane V/C Ratio	0.019	-	-	0.06	0.006	-	-
HCM Control Delay (s)	7.6	0	-	10	12.6	0	-
HCM Lane LOS	A	A	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-

Intersection	
Intersection Delay, s/veh	37.3
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	148	283	134	13	297	26	126	34	9	14	40	94
Future Vol, veh/h	148	283	134	13	297	26	126	34	9	14	40	94
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	161	308	146	14	323	28	137	37	10	15	43	102
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	60.6	20.1	14.8	13.3
HCM LOS	F	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	75%	26%	4%	9%
Vol Thru, %	20%	50%	88%	27%
Vol Right, %	5%	24%	8%	64%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	169	565	336	148
LT Vol	126	148	13	14
Through Vol	34	283	297	40
RT Vol	9	134	26	94
Lane Flow Rate	184	614	365	161
Geometry Grp	1	1	1	1
Degree of Util (X)	0.379	1	0.644	0.316
Departure Headway (Hd)	7.425	5.863	6.347	7.064
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	490	614	573	513
Service Time	5.385	3.928	4.333	5.039
HCM Lane V/C Ratio	0.376	1	0.637	0.314
HCM Control Delay	14.8	60.6	20.1	13.3
HCM Lane LOS	B	F	C	B
HCM 95th-tile Q	1.7	15.1	4.6	1.3

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	90	30	0	53	17	0
Future Vol, veh/h	90	30	0	53	17	0
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	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	33	0	58	18	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	131	0	173
Stage 1	-	-	-	-	115
Stage 2	-	-	-	-	58
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1454	-	817
Stage 1	-	-	-	-	910
Stage 2	-	-	-	-	965
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1454	-	817
Mov Cap-2 Maneuver	-	-	-	-	817
Stage 1	-	-	-	-	910
Stage 2	-	-	-	-	965

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	817	-	-	1454	-
HCM Lane V/C Ratio	0.023	-	-	-	-
HCM Control Delay (s)	9.5	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

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	0	31	59	0	18	0	35	0	0	0	0	0
Future Vol, veh/h	0	31	59	0	18	0	35	0	0	0	0	0
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	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
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	0	34	64	0	20	0	38	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	98	0	0	86	86	66
Stage 1	-	-	-	-	-	-	66	66	-
Stage 2	-	-	-	-	-	-	20	20	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1495	-	-	915	804	998
Stage 1	0	-	-	-	-	-	957	840	-
Stage 2	0	-	-	-	-	-	1003	879	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1495	-	-	915	0	998
Mov Cap-2 Maneuver	-	-	-	-	-	-	915	0	-
Stage 1	-	-	-	-	-	-	957	0	-
Stage 2	-	-	-	-	-	-	1003	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	915	-	-	1495	-	-
HCM Lane V/C Ratio	0.042	-	-	-	-	-
HCM Control Delay (s)	9.1	-	-	0	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-	-

Intersection

Int Delay, s/veh 3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	30	0	1	0	17	0	0	0	0	0
Future Vol, veh/h	0	1	30	0	1	0	17	0	0	0	0	0
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	-	-	-	-	-	-	-	-	-	-	-	-
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	0	1	33	0	1	0	18	0	0	0	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	1	0	0	34
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1622	-	-	1578
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1578
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.7	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	995	1622	-	-	1578	-	-	-
HCM Lane V/C Ratio	0.019	-	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	17	0	0	0	0	30
Future Vol, veh/h	17	0	0	0	0	30
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	-	-	-	-	-
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	18	0	0	0	0	33

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	17	17	33	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1001	1062	1579	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1001	1062	1579	-	-	-
Mov Cap-2 Maneuver	1001	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1579	-	1001	-	-
HCM Lane V/C Ratio	-	-	0.018	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

APPENDIX 5.2:

**E+P (PROJECT BUILDOUT) CONDITIONS INTERSECTION OPERATIONS ANALYSIS
WORKSHEETS**

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Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

01/31/2018

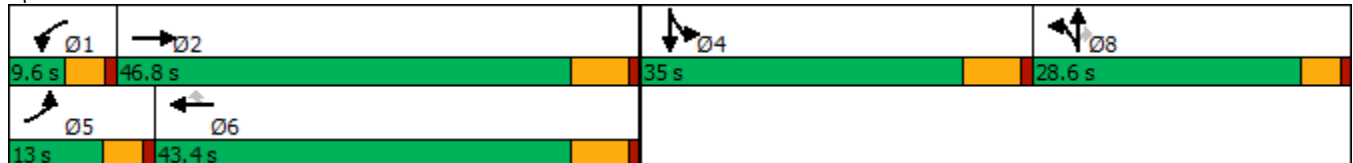


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	68	408	28	401	608	13	53	8	537	24
Future Volume (vph)	68	408	28	401	608	13	53	8	537	24
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	13.0	46.8	9.6	43.4	43.4	28.6	28.6	28.6	35.0	35.0
Total Split (%)	10.8%	39.0%	8.0%	36.2%	36.2%	23.8%	23.8%	23.8%	29.2%	29.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.8
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	408	12	28	401	608	13	53	8	537	24	40
Future Volume (veh/h)	68	408	12	28	401	608	13	53	8	537	24	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	76	453	12	31	446	384	14	59	6	651	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	546	14	49	513	435	386	405	343	925	486	0
Arrive On Green	0.05	0.30	0.30	0.03	0.27	0.27	0.22	0.22	0.22	0.26	0.00	0.00
Sat Flow, veh/h	1781	1814	48	1781	1870	1585	1781	1870	1585	3563	1870	0
Grp Volume(v), veh/h	76	0	465	31	446	384	14	59	6	651	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1862	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	4.7	0.0	25.8	1.9	25.2	25.7	0.7	2.8	0.3	18.4	0.0	0.0
Cycle Q Clear(g_c), s	4.7	0.0	25.8	1.9	25.2	25.7	0.7	2.8	0.3	18.4	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	97	0	561	49	513	435	386	405	343	925	486	0
V/C Ratio(X)	0.78	0.00	0.83	0.63	0.87	0.88	0.04	0.15	0.02	0.70	0.00	0.00
Avail Cap(c_a), veh/h	135	0	682	80	628	532	386	405	343	925	486	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	51.8	0.0	36.1	53.3	38.3	38.5	34.3	35.1	34.2	37.2	0.0	0.0
Incr Delay (d2), s/veh	11.8	0.0	7.2	4.8	10.7	13.9	0.2	0.8	0.1	4.5	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	2.3	0.0	12.1	0.9	12.4	11.1	0.3	1.4	0.1	8.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.5	0.0	43.2	58.1	49.0	52.4	34.5	35.9	34.3	41.6	0.0	0.0
LnGrp LOS	E	A	D	E	D	D	C	D	C	D	A	A
Approach Vol, veh/h		541			861			79			651	
Approach Delay, s/veh		46.1			50.9			35.5			41.6	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	39.6		35.0	10.6	36.6		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	40.6		28.8	8.4	37.2		24.0				
Max Q Clear Time (g_c+I1), s	3.9	27.8		20.4	6.7	27.7		4.8				
Green Ext Time (p_c), s	0.0	2.0		1.6	0.0	2.7		0.3				

Intersection Summary

HCM 6th Ctrl Delay	46.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

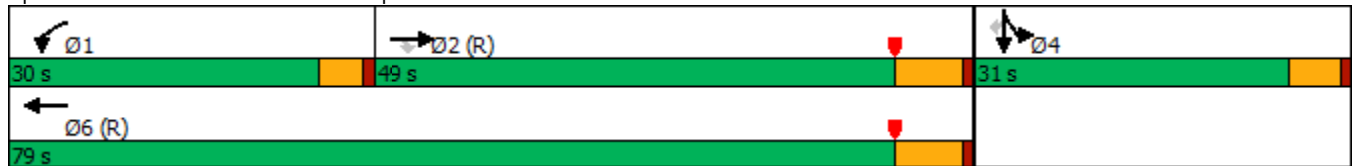


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	561	369	380	903	2	133
Future Volume (vph)	561	369	380	903	2	133
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	49.0	49.0	30.0	79.0	31.0	31.0
Total Split (%)	44.5%	44.5%	27.3%	71.8%	28.2%	28.2%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	561	369	380	903	0	0	0	0	332	2	133
Future Volume (veh/h)	0	561	369	380	903	0	0	0	0	332	2	133
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	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	591	261	400	951	0				349	2	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	723	612	411	1233	0				414	2	370
Arrive On Green	0.00	0.39	0.39	0.08	0.22	0.00				0.23	0.23	0.23
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1772	10	1585
Grp Volume(v), veh/h	0	591	261	400	951	0				351	0	87
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1782	0	1585
Q Serve(g_s), s	0.0	31.2	13.3	24.6	52.6	0.0				20.7	0.0	4.9
Cycle Q Clear(g_c), s	0.0	31.2	13.3	24.6	52.6	0.0				20.7	0.0	4.9
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	723	612	411	1233	0				416	0	370
V/C Ratio(X)	0.00	0.82	0.43	0.97	0.77	0.00				0.84	0.00	0.23
Avail Cap(c_a), veh/h	0	723	612	411	1233	0				416	0	370
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.56	0.22	0.22	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	30.3	24.8	50.5	35.2	0.0				40.2	0.0	34.2
Incr Delay (d2), s/veh	0.0	5.8	1.2	14.7	1.1	0.0				18.4	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	14.1	4.9	13.3	26.1	0.0				10.8	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	36.1	26.0	65.2	36.3	0.0				58.7	0.0	35.7
LnGrp LOS	A	D	C	E	D	A				E	A	D
Approach Vol, veh/h		852			1351						438	
Approach Delay, s/veh		33.0			44.9						54.1	
Approach LOS		C			D						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.0	49.0		31.0		79.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	25.4	42.5		25.7		72.5						
Max Q Clear Time (g_c+I1), s	26.6	33.2		22.7		54.6						
Green Ext Time (p_c), s	0.0	1.9		0.5		3.7						

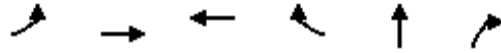
Intersection Summary

HCM 6th Ctrl Delay	42.6
HCM 6th LOS	D

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

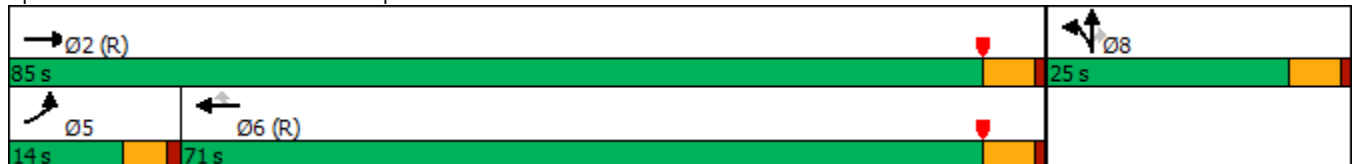


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	101	792	1047	529	1	191
Future Volume (vph)	101	792	1047	529	1	191
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0
Total Split (s)	14.0	85.0	71.0	71.0	25.0	25.0
Total Split (%)	12.7%	77.3%	64.5%	64.5%	22.7%	22.7%
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3
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	5.3	5.3	5.3	5.3	5.3
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	792	0	0	1047	529	236	1	191	0	0	0
Future Volume (veh/h)	101	792	0	0	1047	529	236	1	191	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		0.99			
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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	102	800	0	0	1058	510	238	1	76			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	127	1355	0	0	1143	949	318	1	280			
Arrive On Green	0.07	0.72	0.00	0.00	0.61	0.61	0.18	0.18	0.18			
Sat Flow, veh/h	1781	1870	0	0	1870	1552	1774	7	1564			
Grp Volume(v), veh/h	102	800	0	0	1058	510	239	0	76			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1552	1782	0	1564			
Q Serve(g_s), s	6.2	22.6	0.0	0.0	55.7	20.9	14.0	0.0	4.6			
Cycle Q Clear(g_c), s	6.2	22.6	0.0	0.0	55.7	20.9	14.0	0.0	4.6			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	127	1355	0	0	1143	949	319	0	280			
V/C Ratio(X)	0.80	0.59	0.00	0.00	0.93	0.54	0.75	0.00	0.27			
Avail Cap(c_a), veh/h	152	1355	0	0	1143	949	319	0	280			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.46	0.46	0.00	0.00	0.46	0.46	1.00	0.00	1.00			
Uniform Delay (d), s/veh	50.3	7.3	0.0	0.0	19.1	12.4	42.8	0.0	39.0			
Incr Delay (d2), s/veh	9.4	0.9	0.0	0.0	7.4	1.0	14.9	0.0	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			
%ile BackOfQ(50%),veh/ln	3.0	6.5	0.0	0.0	21.5	6.2	7.3	0.0	1.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.7	8.2	0.0	0.0	26.5	13.4	57.7	0.0	41.3			
LnGrp LOS	E	A	A	A	C	B	E	A	D			
Approach Vol, veh/h		902			1568			315				
Approach Delay, s/veh		14.0			22.2			53.7				
Approach LOS		B			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		85.0			12.5	72.5		25.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		79.7			9.4	65.7		19.7				
Max Q Clear Time (g_c+I1), s		24.6			8.2	57.7		16.0				
Green Ext Time (p_c), s		3.1			0.0	3.7		0.3				

Intersection Summary

HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

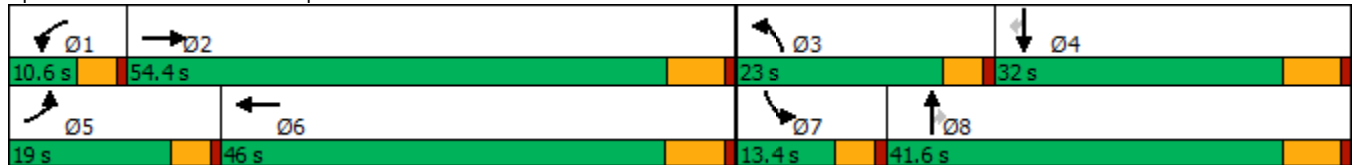


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	108	582	42	941	329	69	69	42	124	306
Future Volume (vph)	108	582	42	941	329	69	69	42	124	306
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	19.0	54.4	10.6	46.0	23.0	41.6	41.6	13.4	32.0	32.0
Total Split (%)	15.8%	45.3%	8.8%	38.3%	19.2%	34.7%	34.7%	11.2%	26.7%	26.7%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.2
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	582	293	42	941	21	329	69	69	42	124	306
Future Volume (veh/h)	108	582	293	42	941	21	329	69	69	42	124	306
Initial Q (Qb), 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	117	633	231	46	1023	20	358	75	34	46	135	311
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	145	954	348	63	1170	23	429	641	543	63	475	402
Arrive On Green	0.08	0.37	0.37	0.04	0.33	0.33	0.12	0.34	0.34	0.04	0.25	0.25
Sat Flow, veh/h	1781	2549	929	1781	3563	70	3456	1870	1585	1781	1870	1583
Grp Volume(v), veh/h	117	441	423	46	510	533	358	75	34	46	135	311
Grp Sat Flow(s),veh/h/ln	1781	1777	1702	1781	1777	1856	1728	1870	1585	1781	1870	1583
Q Serve(g_s), s	6.7	21.3	21.4	2.6	27.9	27.9	10.5	2.8	1.5	2.6	6.0	18.8
Cycle Q Clear(g_c), s	6.7	21.3	21.4	2.6	27.9	27.9	10.5	2.8	1.5	2.6	6.0	18.8
Prop In Lane	1.00		0.55	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	665	637	63	583	609	429	641	543	63	475	402
V/C Ratio(X)	0.81	0.66	0.66	0.73	0.87	0.87	0.83	0.12	0.06	0.73	0.28	0.77
Avail Cap(c_a), veh/h	248	829	794	103	679	710	616	641	543	152	475	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	26.9	26.9	49.3	32.7	32.7	44.2	23.3	22.8	49.3	31.0	35.8
Incr Delay (d2), s/veh	3.9	1.4	1.5	5.8	11.0	10.6	4.6	0.4	0.2	5.8	1.5	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	3.0	8.6	8.2	1.2	12.7	13.2	4.5	1.2	0.6	1.2	2.8	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	28.3	28.4	55.2	43.7	43.2	48.8	23.6	23.0	55.2	32.5	49.3
LnGrp LOS	D	C	C	E	D	D	D	C	C	E	C	D
Approach Vol, veh/h		981			1089			467			492	
Approach Delay, s/veh		31.0			43.9			42.9			45.2	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	45.2	17.4	32.4	13.0	40.4	8.3	41.6				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	6.0	* 48	18.4	25.8	14.4	39.5	8.8	35.4				
Max Q Clear Time (g_c+I1), s	4.6	23.4	12.5	20.8	8.7	29.9	4.6	4.8				
Green Ext Time (p_c), s	0.0	5.2	0.4	0.8	0.1	4.0	0.0	0.4				

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.

Intersection	
Intersection Delay, s/veh	19.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↔		↵	↕↔		↵	↕↔		↵	↕↔	
Traffic Vol, veh/h	108	75	15	82	164	125	38	272	91	67	254	83
Future Vol, veh/h	108	75	15	82	164	125	38	272	91	67	254	83
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	137	95	19	104	208	158	48	344	115	85	322	105
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	16.6	18.3	20.9	19.3
HCM LOS	C	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	50%	0%	100%	62%	0%	100%	30%	0%	100%
Vol Right, %	0%	0%	50%	0%	0%	38%	0%	0%	70%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	181	182	108	50	40	82	109	180	67	169
LT Vol	38	0	0	108	0	0	82	0	0	67	0
Through Vol	0	181	91	0	50	25	0	109	55	0	169
RT Vol	0	0	91	0	0	15	0	0	125	0	0
Lane Flow Rate	48	230	230	137	63	51	104	138	227	85	214
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.125	0.564	0.543	0.381	0.168	0.131	0.273	0.345	0.536	0.22	0.526
Departure Headway (Hd)	9.346	8.846	8.496	10.045	9.545	9.282	9.472	8.972	8.485	9.335	8.835
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	384	409	425	358	376	386	380	401	425	385	407
Service Time	7.099	6.599	6.248	7.805	7.305	7.042	7.225	6.725	6.238	7.089	6.589
HCM Lane V/C Ratio	0.125	0.562	0.541	0.383	0.168	0.132	0.274	0.344	0.534	0.221	0.526
HCM Control Delay	13.4	22.5	20.9	18.9	14.2	13.4	15.8	16.4	20.7	14.7	21
HCM Lane LOS	B	C	C	C	B	B	C	C	C	B	C
HCM 95th-tile Q	0.4	3.4	3.2	1.7	0.6	0.4	1.1	1.5	3.1	0.8	3

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

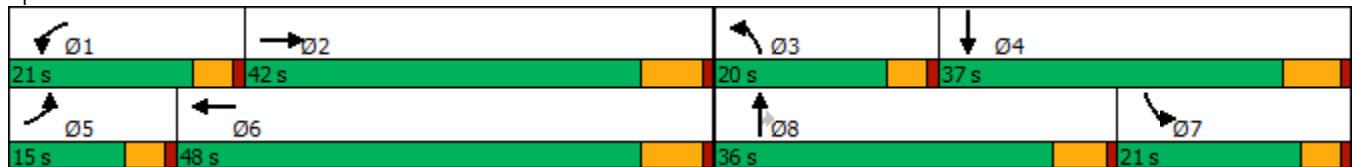


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	55	500	103	743	100	159	63	110	193
Future Volume (vph)	55	500	103	743	100	159	63	110	193
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	15.0	42.0	21.0	48.0	20.0	36.0	36.0	21.0	37.0
Total Split (%)	12.5%	35.0%	17.5%	40.0%	16.7%	30.0%	30.0%	17.5%	30.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 104
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Volume (veh/h)	55	500	109	103	743	141	100	159	63	110	193	81
Future Volume (veh/h)	55	500	109	103	743	141	100	159	63	110	193	81
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	58	526	103	108	782	133	105	167	35	116	203	71
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	75	813	158	137	942	160	133	600	502	146	449	157
Arrive On Green	0.04	0.28	0.28	0.08	0.31	0.31	0.07	0.32	0.32	0.08	0.34	0.34
Sat Flow, veh/h	1781	2953	576	1781	3038	517	1781	1870	1565	1781	1318	461
Grp Volume(v), veh/h	58	315	314	108	457	458	105	167	35	116	0	274
Grp Sat Flow(s),veh/h/ln	1781	1777	1752	1781	1777	1777	1781	1870	1565	1781	0	1780
Q Serve(g_s), s	3.0	14.7	14.9	5.6	22.5	22.5	5.5	6.3	1.1	6.0	0.0	11.3
Cycle Q Clear(g_c), s	3.0	14.7	14.9	5.6	22.5	22.5	5.5	6.3	1.1	6.0	0.0	11.3
Prop In Lane	1.00		0.33	1.00		0.29	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	75	489	482	137	551	551	133	600	502	146	0	606
V/C Ratio(X)	0.78	0.65	0.65	0.79	0.83	0.83	0.79	0.28	0.07	0.80	0.00	0.45
Avail Cap(c_a), veh/h	197	670	661	310	783	784	291	600	502	310	0	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	44.7	30.1	30.1	42.7	30.2	30.2	42.8	23.8	11.7	42.4	0.0	24.2
Incr Delay (d2), s/veh	6.3	1.4	1.5	3.8	5.2	5.2	3.9	1.2	0.3	3.7	0.0	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	1.4	5.9	5.9	2.5	9.4	9.4	2.4	2.8	0.5	2.7	0.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	31.5	31.6	46.5	35.4	35.4	46.7	25.0	11.9	46.1	0.0	26.6
LnGrp LOS	D	C	C	D	D	D	D	C	B	D	A	C
Approach Vol, veh/h		687			1023			307				390
Approach Delay, s/veh		33.2			36.6			30.9				32.4
Approach LOS		C			D			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	32.4	11.6	38.3	8.5	35.7	13.9	36.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	6.2	* 5.8				
Max Green Setting (Gmax), s	16.4	35.5	15.4	30.8	10.4	41.5	16.4	* 30				
Max Q Clear Time (g_c+I1), s	7.6	16.9	7.5	13.3	5.0	24.5	8.0	8.3				
Green Ext Time (p_c), s	0.1	3.1	0.1	1.3	0.0	4.7	0.1	0.9				

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.

Intersection												
Int Delay, s/veh	6.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	46	20	29	0	53	2	16	13	0	0	32	59
Future Vol, veh/h	46	20	29	0	53	2	16	13	0	0	32	59
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	57	57	57	57	57	57	57	57	57	57	57	57
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	81	35	51	0	93	4	28	23	0	0	56	104

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	236	187	108	230	239	23	160	0	0	23	0	0
Stage 1	108	108	-	79	79	-	-	-	-	-	-	-
Stage 2	128	79	-	151	160	-	-	-	-	-	-	-
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	718	708	946	725	662	1054	1419	-	-	1592	-	-
Stage 1	897	806	-	930	829	-	-	-	-	-	-	-
Stage 2	876	829	-	851	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	628	694	946	650	649	1054	1419	-	-	1592	-	-
Mov Cap-2 Maneuver	628	694	-	650	649	-	-	-	-	-	-	-
Stage 1	879	806	-	911	812	-	-	-	-	-	-	-
Stage 2	758	812	-	770	766	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.5		11.4		4.2		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1419	-	-	716	658	1592	-
HCM Lane V/C Ratio	0.02	-	-	0.233	0.147	-	-
HCM Control Delay (s)	7.6	0	-	11.5	11.4	0	-
HCM Lane LOS	A	A	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.5	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

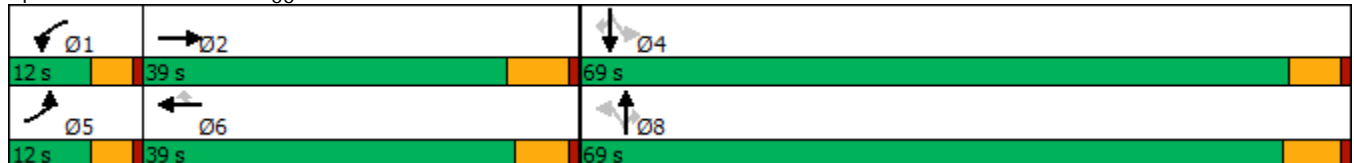


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	10	455	6	698	6	226	4	10	16	14	49
Future Volume (vph)	10	455	6	698	6	226	4	10	16	14	49
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6			8			4	
Permitted Phases					6	8		8	4		4
Detector Phase	5	2	1	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	39.0	12.0	39.0	39.0	69.0	69.0	69.0	69.0	69.0	69.0
Total Split (%)	10.0%	32.5%	10.0%	32.5%	32.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	4.8	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)	-0.6	-2.5	-0.6	-1.8	-1.8		-2.2	-2.2		-1.8	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗		↖	↗		↖	↗
Traffic Volume (veh/h)	10	455	222	6	698	6	226	4	10	16	14	49
Future Volume (veh/h)	10	455	222	6	698	6	226	4	10	16	14	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	10	464	181	6	712	3	231	4	6	16	14	16
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	31	659	255	24	897	400	72	0	969	52	31	963
Arrive On Green	0.02	0.26	0.24	0.01	0.25	0.25	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	1781	2504	969	1781	3554	1585	8	0	1585	0	50	1585
Grp Volume(v), veh/h	10	328	317	6	712	3	235	0	6	30	0	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1696	1781	1777	1585	8	0	1585	50	0	1585
Q Serve(g_s), s	0.6	17.9	18.2	0.4	20.0	0.2	0.4	0.0	0.2	0.0	0.0	0.4
Cycle Q Clear(g_c), s	0.6	17.9	18.2	0.4	20.0	0.2	65.4	0.0	0.2	65.0	0.0	0.4
Prop In Lane	1.00		0.57	1.00		1.00	0.98		1.00	0.53		1.00
Lane Grp Cap(c), veh/h	31	468	447	24	897	400	72	0	969	82	0	963
V/C Ratio(X)	0.32	0.70	0.71	0.25	0.79	0.01	3.27	0.00	0.01	0.37	0.00	0.02
Avail Cap(c_a), veh/h	133	581	555	133	1162	519	72	0	969	82	0	963
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	51.9	35.6	36.4	52.3	37.4	30.0	53.5	0.0	8.1	27.1	0.0	8.3
Incr Delay (d2), s/veh	2.1	2.8	3.1	2.1	2.9	0.0	1055.6	0.0	0.0	12.1	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	0.3	7.6	7.5	0.2	8.5	0.1	22.9	0.0	0.0	0.7	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.1	38.4	39.5	54.3	40.3	30.0	1109.1	0.0	8.1	39.2	0.0	8.4
LnGrp LOS	D	D	D	D	D	C	F	A	A	D	A	A
Approach Vol, veh/h		655			721			241				46
Approach Delay, s/veh		39.2			40.4			1081.7				28.4
Approach LOS		D			D			F				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.4	32.2		69.4	5.9	31.7		69.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	7.4	32.5		* 63	7.4	* 33		62.8				
Max Q Clear Time (g_c+I1), s	2.4	20.2		67.0	2.6	22.0		67.4				
Green Ext Time (p_c), s	0.0	2.7		0.0	0.0	3.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay	190.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh 8.6

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	11	15	118	26	0	44	29	43	0	52	3
Future Vol, veh/h	3	11	15	118	26	0	44	29	43	0	52	3
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	14	19	153	34	0	57	38	56	0	68	4
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	7.6	9.2	8.4	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	38%	10%	82%	0%
Vol Thru, %	25%	38%	18%	95%
Vol Right, %	37%	52%	0%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	116	29	144	55
LT Vol	44	3	118	0
Through Vol	29	11	26	52
RT Vol	43	15	0	3
Lane Flow Rate	151	38	187	71
Geometry Grp	1	1	1	1
Degree of Util (X)	0.185	0.046	0.242	0.091
Departure Headway (Hd)	4.409	4.377	4.65	4.61
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	815	818	772	777
Service Time	2.432	2.406	2.673	2.637
HCM Lane V/C Ratio	0.185	0.046	0.242	0.091
HCM Control Delay	8.4	7.6	9.2	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.9	0.3

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↕	↕
Traffic Vol, veh/h	67	13	103	22	4	181
Future Vol, veh/h	67	13	103	22	4	181
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	73	14	112	24	4	197

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	329	68	0	0	136
Stage 1	124	-	-	-	-
Stage 2	205	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13
Critical Hdwy Stg 1	5.83	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219
Pot Cap-1 Maneuver	653	982	-	-	1447
Stage 1	889	-	-	-	-
Stage 2	829	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	651	982	-	-	1447
Mov Cap-2 Maneuver	651	-	-	-	-
Stage 1	886	-	-	-	-
Stage 2	829	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	689	1447
HCM Lane V/C Ratio	-	-	0.126	0.003
HCM Control Delay (s)	-	-	11	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0

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	0	0	1	84	0	13	0	113	28	4	244	0
Future Vol, veh/h	0	0	1	84	0	13	0	113	28	4	244	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	53	53	53	53	53	53	53	53	53	53	53	53
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	158	0	25	0	213	53	8	460	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	728	742	460	717	716	240	460	0	0	266	0	0
Stage 1	476	476	-	240	240	-	-	-	-	-	-	-
Stage 2	252	266	-	477	476	-	-	-	-	-	-	-
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	339	344	601	345	356	799	1101	-	-	1298	-	-
Stage 1	570	557	-	763	707	-	-	-	-	-	-	-
Stage 2	752	689	-	569	557	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	326	341	601	342	353	799	1101	-	-	1298	-	-
Mov Cap-2 Maneuver	326	341	-	342	353	-	-	-	-	-	-	-
Stage 1	570	553	-	763	707	-	-	-	-	-	-	-
Stage 2	729	689	-	563	553	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11		23.9		0		0.1	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1101	-	-	601	370	1298	-
HCM Lane V/C Ratio	-	-	-	0.003	0.495	0.006	-
HCM Control Delay (s)	0	-	-	11	23.9	7.8	0
HCM Lane LOS	A	-	-	B	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0	2.6	0	-

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	0	0	53	1	3	1	36	101	3	0	273	5
Future Vol, veh/h	0	0	53	1	3	1	36	101	3	0	273	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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	64	1	4	1	43	122	4	0	329	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	545	544	332	574	545	124	335	0	0	126	0	0
Stage 1	332	332	-	210	210	-	-	-	-	-	-	-
Stage 2	213	212	-	364	335	-	-	-	-	-	-	-
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	449	446	710	430	446	927	1224	-	-	1460	-	-
Stage 1	681	644	-	792	728	-	-	-	-	-	-	-
Stage 2	789	727	-	655	643	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	433	429	710	380	429	927	1224	-	-	1460	-	-
Mov Cap-2 Maneuver	433	429	-	380	429	-	-	-	-	-	-	-
Stage 1	655	644	-	762	700	-	-	-	-	-	-	-
Stage 2	754	699	-	596	643	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.6		12.8		2.1		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1224	-	-	710	467	1460	-
HCM Lane V/C Ratio	0.035	-	-	0.09	0.013	-	-
HCM Control Delay (s)	8	0	-	10.6	12.8	0	-
HCM Lane LOS	A	A	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0	0	-

Intersection	
Intersection Delay, s/veh	55.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	78	258	173	13	262	15	226	43	6	45	82	223
Future Vol, veh/h	78	258	173	13	262	15	226	43	6	45	82	223
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	81	269	180	14	273	16	235	45	6	47	85	232
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	100.3	28.2	28.3	34.4
HCM LOS	F	D	D	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	82%	15%	4%	13%
Vol Thru, %	16%	51%	90%	23%
Vol Right, %	2%	34%	5%	64%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	275	509	290	350
LT Vol	226	78	13	45
Through Vol	43	258	262	82
RT Vol	6	173	15	223
Lane Flow Rate	286	530	302	365
Geometry Grp	1	1	1	1
Degree of Util (X)	0.671	1.106	0.685	0.78
Departure Headway (Hd)	8.905	7.512	8.57	8.122
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	410	482	426	448
Service Time	6.905	5.586	6.57	6.122
HCM Lane V/C Ratio	0.698	1.1	0.709	0.815
HCM Control Delay	28.3	100.3	28.2	34.4
HCM Lane LOS	D	F	D	D
HCM 95th-tile Q	4.8	17.5	5	6.8

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	16	16	49	0	0	48
Future Vol, veh/h	16	16	49	0	0	48
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	17	17	53	0	0	52

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	53	0	104
Stage 1	-	-	53
Stage 2	-	-	51
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1553	-	894
Stage 1	-	-	970
Stage 2	-	-	971
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1553	-	884
Mov Cap-2 Maneuver	-	-	884
Stage 1	-	-	959
Stage 2	-	-	971

Approach

	EB	WB	SB
HCM Control Delay, s	3.7	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1553	-	-	-	1014
HCM Lane V/C Ratio	0.011	-	-	-	0.051
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection

Int Delay, s/veh 1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	44	11	0	112	32	0
Future Vol, veh/h	44	11	0	112	32	0
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	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	12	0	122	35	0

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	60	0	176
Stage 1	-	-	-	-	54
Stage 2	-	-	-	-	122
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1544	-	814
Stage 1	-	-	-	-	969
Stage 2	-	-	-	-	903
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1544	-	814
Mov Cap-2 Maneuver	-	-	-	-	814
Stage 1	-	-	-	-	969
Stage 2	-	-	-	-	903

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	814	-	-	1544	-
HCM Lane V/C Ratio	0.043	-	-	-	-
HCM Control Delay (s)	9.6	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻		↻	↻			↻				
Traffic Vol, veh/h	0	18	27	0	32	0	80	0	0	0	0	0
Future Vol, veh/h	0	18	27	0	32	0	80	0	0	0	0	0
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	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
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	0	20	29	0	35	0	87	0	0	0	0	0

Major/Minor	Major1	Major2	Minor1						
Conflicting Flow All	-	0	0	49	0	0	70	70	35
Stage 1	-	-	-	-	-	-	35	35	-
Stage 2	-	-	-	-	-	-	35	35	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1558	-	-	934	821	1038
Stage 1	0	-	-	-	-	-	987	866	-
Stage 2	0	-	-	-	-	-	987	866	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1558	-	-	934	0	1038
Mov Cap-2 Maneuver	-	-	-	-	-	-	934	0	-
Stage 1	-	-	-	-	-	-	987	0	-
Stage 2	-	-	-	-	-	-	987	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	934	-	-	1558	-	-
HCM Lane V/C Ratio	0.093	-	-	-	-	-
HCM Control Delay (s)	9.3	-	-	0	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-	-

Intersection

Int Delay, s/veh 8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	16	0	1	0	0	48
Future Vol, veh/h	16	0	1	0	0	48
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	17	0	1	0	0	52

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	35
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	34
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1622	-	-	-	978
Stage 1	-	-	-	-	1022
Stage 2	-	-	-	-	988
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1622	-	-	-	968
Mov Cap-2 Maneuver	-	-	-	-	968
Stage 1	-	-	-	-	1012
Stage 2	-	-	-	-	988

Approach

	EB	WB	SB
HCM Control Delay, s	7.2	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	1084
HCM Lane V/C Ratio	0.011	-	-	-	0.048
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	7	11	0	0	0	32	0	0	0	0	0
Future Vol, veh/h	0	7	11	0	0	0	32	0	0	0	0	0
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	-	-	-	-	-	-	-	-	-	-	-	-
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	0	8	12	0	0	0	35	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	20	0	0	15	15	14	15	21	1
Stage 1	-	-	-	-	-	-	14	14	-	1	1	-
Stage 2	-	-	-	-	-	-	1	1	-	14	20	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1622	-	-	1596	-	-	1001	879	1066	1001	873	1084
Stage 1	-	-	-	-	-	-	1006	884	-	1022	895	-
Stage 2	-	-	-	-	-	-	1022	895	-	1006	879	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1596	-	-	1001	879	1066	1001	873	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	1001	879	-	1001	873	-
Stage 1	-	-	-	-	-	-	1006	884	-	1022	895	-
Stage 2	-	-	-	-	-	-	1022	895	-	1006	879	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			8.7			0		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1001	1622	-	-	1596	-	-	-
HCM Lane V/C Ratio	0.035	-	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection						
Int Delay, s/veh	6.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	0	0	0	0	11
Future Vol, veh/h	32	0	0	0	0	11
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	-	-	-	-	-
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	35	0	0	0	0	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	6	6	12	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1015	1077	1607	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1015	1077	1607	-	-	-
Mov Cap-2 Maneuver	1015	-	-	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1607	-	1015	-	-
HCM Lane V/C Ratio	-	-	0.034	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

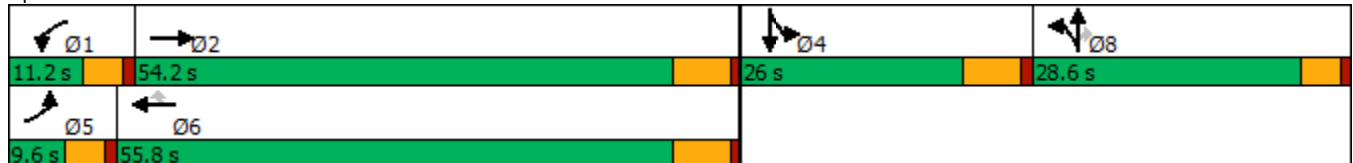


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	41	477	38	699	323	28	30	36	384	15
Future Volume (vph)	41	477	38	699	323	28	30	36	384	15
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	9.6	54.2	11.2	55.8	55.8	28.6	28.6	28.6	26.0	26.0
Total Split (%)	8.0%	45.2%	9.3%	46.5%	46.5%	23.8%	23.8%	23.8%	21.7%	21.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.3
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	477	13	38	699	323	28	30	36	384	15	61
Future Volume (veh/h)	41	477	13	38	699	323	28	30	36	384	15	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	42	487	10	39	713	114	29	31	11	459	0	0
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	57	738	15	55	754	639	369	388	329	609	320	0
Arrive On Green	0.03	0.40	0.40	0.03	0.40	0.40	0.21	0.21	0.21	0.17	0.00	0.00
Sat Flow, veh/h	1781	1826	37	1781	1870	1585	1781	1870	1585	3563	1870	0
Grp Volume(v), veh/h	42	0	497	39	713	114	29	31	11	459	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1864	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	2.7	0.0	25.1	2.5	42.6	5.4	1.5	1.5	0.6	14.2	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	25.1	2.5	42.6	5.4	1.5	1.5	0.6	14.2	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	57	0	753	55	754	639	369	388	329	609	320	0
V/C Ratio(X)	0.74	0.00	0.66	0.71	0.95	0.18	0.08	0.08	0.03	0.75	0.00	0.00
Avail Cap(c_a), veh/h	77	0	773	102	801	679	369	388	329	609	320	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	55.6	0.0	28.0	55.6	33.3	22.2	37.0	37.0	36.6	45.7	0.0	0.0
Incr Delay (d2), s/veh	13.1	0.0	2.0	6.1	19.2	0.1	0.4	0.4	0.2	8.4	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	1.4	0.0	10.8	1.2	21.8	1.9	0.7	0.8	0.3	6.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.7	0.0	30.0	61.7	52.6	22.4	37.4	37.4	36.8	54.1	0.0	0.0
LnGrp LOS	E	A	C	E	D	C	D	D	D	D	A	A
Approach Vol, veh/h		539			866			71			459	
Approach Delay, s/veh		33.0			49.0			37.3			54.1	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	53.0		26.0	8.3	52.9		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.6	48.0		19.8	5.0	49.6		24.0				
Max Q Clear Time (g_c+I1), s	4.5	27.1		16.2	4.7	44.6		3.5				
Green Ext Time (p_c), s	0.0	2.7		0.6	0.0	2.1		0.2				

Intersection Summary

HCM 6th Ctrl Delay	45.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

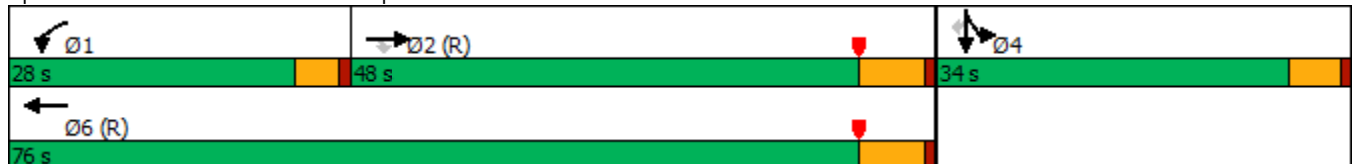


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	647	265	335	890	0	170
Future Volume (vph)	647	265	335	890	0	170
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	48.0	48.0	28.0	76.0	34.0	34.0
Total Split (%)	43.6%	43.6%	25.5%	69.1%	30.9%	30.9%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↖	↗
Traffic Volume (veh/h)	0	647	265	335	890	0	0	0	0	471	0	170
Future Volume (veh/h)	0	647	265	335	890	0	0	0	0	471	0	170
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	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	660	184	342	908	0				481	0	110
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	718	609	367	1182	0				465	0	414
Arrive On Green	0.00	0.38	0.38	0.27	0.84	0.00				0.26	0.00	0.26
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1781	0	1585
Grp Volume(v), veh/h	0	660	184	342	908	0				481	0	110
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1781	0	1585
Q Serve(g_s), s	0.0	36.9	8.9	20.6	24.1	0.0				28.7	0.0	6.1
Cycle Q Clear(g_c), s	0.0	36.9	8.9	20.6	24.1	0.0				28.7	0.0	6.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	718	609	367	1182	0				465	0	414
V/C Ratio(X)	0.00	0.92	0.30	0.93	0.77	0.00				1.03	0.00	0.27
Avail Cap(c_a), veh/h	0	718	609	379	1182	0				465	0	414
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.68	0.68	0.41	0.41	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	32.2	23.6	39.2	5.2	0.0				40.7	0.0	32.3
Incr Delay (d2), s/veh	0.0	13.9	0.9	15.2	2.0	0.0				51.1	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	18.1	3.3	9.3	4.3	0.0				18.5	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	46.2	24.5	54.4	7.2	0.0				91.7	0.0	33.9
LnGrp LOS	A	D	C	D	A	A				F	A	C
Approach Vol, veh/h		844			1250						591	
Approach Delay, s/veh		41.4			20.1						80.9	
Approach LOS		D			C						F	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.2	48.8		34.0		76.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	23.4	41.5		28.7		69.5						
Max Q Clear Time (g_c+I1), s	22.6	38.9		30.7		26.1						
Green Ext Time (p_c), s	0.1	0.8		0.0		3.8						

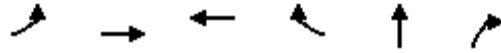
Intersection Summary

HCM 6th Ctrl Delay	40.2
HCM 6th LOS	D

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

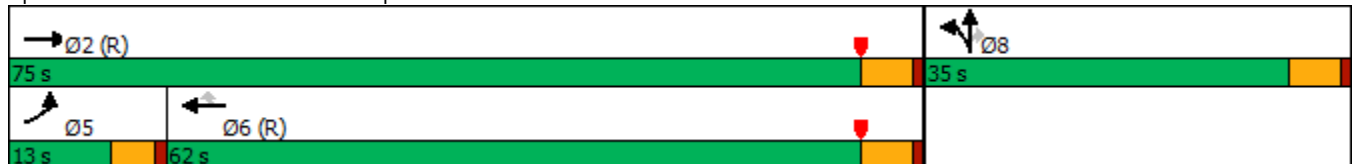


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	82	1036	846	500	0	453
Future Volume (vph)	82	1036	846	500	0	453
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0
Total Split (s)	13.0	75.0	62.0	62.0	35.0	35.0
Total Split (%)	11.8%	68.2%	56.4%	56.4%	31.8%	31.8%
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3
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	5.3	5.3	5.3	5.3	5.3
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	1036	0	0	846	500	379	0	453	0	0	0
Future Volume (veh/h)	82	1036	0	0	846	500	379	0	453	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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	83	1046	0	0	855	434	383	0	400			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	104	1185	0	0	997	845	481	0	428			
Arrive On Green	0.12	1.00	0.00	0.00	0.53	0.53	0.27	0.00	0.27			
Sat Flow, veh/h	1781	1870	0	0	1870	1585	1781	0	1585			
Grp Volume(v), veh/h	83	1046	0	0	855	434	383	0	400			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	1781	0	1585			
Q Serve(g_s), s	5.0	0.0	0.0	0.0	43.2	19.4	22.0	0.0	27.1			
Cycle Q Clear(g_c), s	5.0	0.0	0.0	0.0	43.2	19.4	22.0	0.0	27.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	104	1185	0	0	997	845	481	0	428			
V/C Ratio(X)	0.80	0.88	0.00	0.00	0.86	0.51	0.80	0.00	0.93			
Avail Cap(c_a), veh/h	136	1185	0	0	997	845	481	0	428			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.26	0.26	0.00	0.00	0.65	0.65	1.00	0.00	1.00			
Uniform Delay (d), s/veh	47.9	0.0	0.0	0.0	22.1	16.5	37.3	0.0	39.2			
Incr Delay (d2), s/veh	4.7	2.8	0.0	0.0	6.4	1.5	12.8	0.0	29.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.1	0.9	0.0	0.0	17.9	6.5	10.9	0.0	13.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	2.8	0.0	0.0	28.5	18.0	50.2	0.0	69.1			
LnGrp LOS	D	A	A	A	C	B	D	A	E			
Approach Vol, veh/h		1129			1289			783				
Approach Delay, s/veh		6.5			24.9			59.8				
Approach LOS		A			C			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		75.0			11.0	64.0		35.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		69.7			8.4	56.7		29.7				
Max Q Clear Time (g_c+I1), s		2.0			7.0	45.2		29.1				
Green Ext Time (p_c), s		5.0			0.0	3.3		0.2				

Intersection Summary

HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

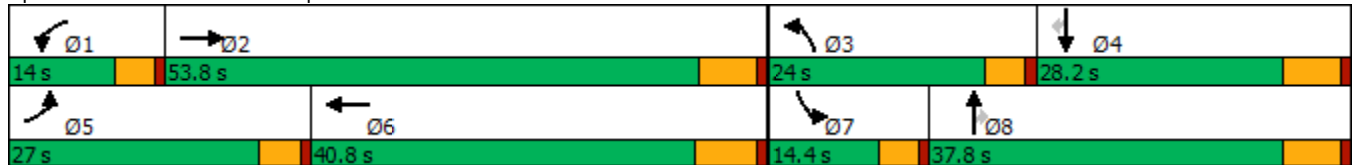


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	214	925	84	748	394	201	166	62	123	203
Future Volume (vph)	214	925	84	748	394	201	166	62	123	203
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	27.0	53.8	14.0	40.8	24.0	37.8	37.8	14.4	28.2	28.2
Total Split (%)	22.5%	44.8%	11.7%	34.0%	20.0%	31.5%	31.5%	12.0%	23.5%	23.5%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.3
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	925	350	84	748	36	394	201	166	62	123	203
Future Volume (veh/h)	214	925	350	84	748	36	394	201	166	62	123	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	218	944	254	86	763	33	402	205	77	63	126	160
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	1076	289	109	1075	46	471	558	472	81	388	329
Arrive On Green	0.14	0.39	0.39	0.06	0.31	0.31	0.14	0.30	0.30	0.05	0.21	0.21
Sat Flow, veh/h	1781	2770	743	1781	3470	150	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	218	605	593	86	391	405	402	205	77	63	126	160
Grp Sat Flow(s),veh/h/ln	1781	1777	1737	1781	1777	1843	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	12.7	33.5	33.7	5.1	20.6	20.6	12.1	9.2	3.8	3.7	6.1	9.4
Cycle Q Clear(g_c), s	12.7	33.5	33.7	5.1	20.6	20.6	12.1	9.2	3.8	3.7	6.1	9.4
Prop In Lane	1.00		0.43	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	250	691	675	109	550	571	471	558	472	81	388	329
V/C Ratio(X)	0.87	0.88	0.88	0.79	0.71	0.71	0.85	0.37	0.16	0.78	0.32	0.49
Avail Cap(c_a), veh/h	376	797	779	158	574	596	632	558	472	165	388	329
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	30.1	30.1	49.1	32.4	32.4	44.8	29.4	27.5	50.1	35.7	37.1
Incr Delay (d2), s/veh	9.6	9.7	10.2	9.1	3.9	3.7	6.7	1.9	0.7	5.8	2.2	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	6.0	14.9	14.7	2.4	8.8	9.1	5.4	4.2	1.5	1.7	2.9	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	39.8	40.3	58.2	36.3	36.1	51.5	31.2	28.2	55.9	38.0	42.2
LnGrp LOS	D	D	D	E	D	D	D	C	C	E	D	D
Approach Vol, veh/h		1416			882			684			349	
Approach Delay, s/veh		42.3			38.3			42.8			43.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.1	47.7	19.1	28.2	19.5	39.4	9.4	37.8				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.4	* 48	19.4	22.0	22.4	34.3	9.8	31.6				
Max Q Clear Time (g_c+I1), s	7.1	35.7	14.1	11.4	14.7	22.6	5.7	11.2				
Green Ext Time (p_c), s	0.0	5.6	0.4	0.8	0.2	3.3	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↕↗		↵	↕↗	
Traffic Vol, veh/h	51	114	45	27	80	57	31	288	54	97	218	59
Future Vol, veh/h	51	114	45	27	80	57	31	288	54	97	218	59
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	54	121	48	29	85	61	33	306	57	103	232	63
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	11.5	11.3	12.9	12
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	64%	0%	100%	46%	0%	100%	32%	0%	100%
Vol Right, %	0%	0%	36%	0%	0%	54%	0%	0%	68%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	192	150	51	76	83	27	53	84	97	145
LT Vol	31	0	0	51	0	0	27	0	0	97	0
Through Vol	0	192	96	0	76	38	0	53	27	0	145
RT Vol	0	0	54	0	0	45	0	0	57	0	0
Lane Flow Rate	33	204	160	54	81	88	29	57	89	103	155
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.067	0.387	0.291	0.119	0.167	0.173	0.064	0.119	0.175	0.21	0.293
Departure Headway (Hd)	7.435	6.935	6.683	7.917	7.417	7.038	8.039	7.539	7.062	7.433	6.933
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	485	523	541	456	487	513	448	478	511	486	521
Service Time	5.135	4.635	4.383	5.617	5.117	4.738	5.748	5.248	4.771	5.133	4.633
HCM Lane V/C Ratio	0.068	0.39	0.296	0.118	0.166	0.172	0.065	0.119	0.174	0.212	0.298
HCM Control Delay	10.7	13.9	12.1	11.7	11.6	11.2	11.3	11.3	11.3	12.1	12.5
HCM Lane LOS	B	B	B	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.2	1.8	1.2	0.4	0.6	0.6	0.2	0.4	0.6	0.8	1.2

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

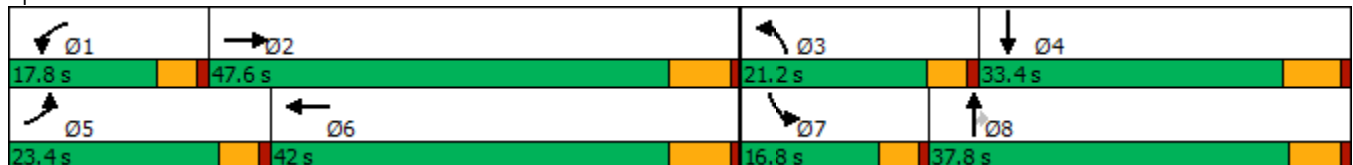


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	144	869	91	727	124	209	125	78	83
Future Volume (vph)	144	869	91	727	124	209	125	78	83
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	23.4	47.6	17.8	42.0	21.2	37.8	37.8	16.8	33.4
Total Split (%)	19.5%	39.7%	14.8%	35.0%	17.7%	31.5%	31.5%	14.0%	27.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
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	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 109.4
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	869	137	91	727	102	124	209	125	78	83	79
Future Volume (veh/h)	144	869	137	91	727	102	124	209	125	78	83	79
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	915	124	96	765	95	131	220	61	82	87	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	184	1058	143	122	961	119	161	594	504	105	302	198
Arrive On Green	0.10	0.34	0.34	0.07	0.30	0.30	0.09	0.32	0.32	0.06	0.29	0.29
Sat Flow, veh/h	1781	3135	425	1781	3172	394	1781	1870	1585	1781	1055	691
Grp Volume(v), veh/h	152	519	520	96	428	432	131	220	61	82	0	144
Grp Sat Flow(s),veh/h/ln	1781	1777	1783	1781	1777	1789	1781	1870	1585	1781	0	1746
Q Serve(g_s), s	8.4	27.5	27.5	5.3	22.3	22.3	7.3	9.2	2.8	4.6	0.0	6.5
Cycle Q Clear(g_c), s	8.4	27.5	27.5	5.3	22.3	22.3	7.3	9.2	2.8	4.6	0.0	6.5
Prop In Lane	1.00		0.24	1.00		0.22	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	184	600	602	122	538	542	161	594	504	105	0	500
V/C Ratio(X)	0.83	0.86	0.86	0.79	0.80	0.80	0.81	0.37	0.12	0.78	0.00	0.29
Avail Cap(c_a), veh/h	332	725	728	233	626	631	294	594	504	216	0	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	31.2	31.2	46.2	32.3	32.3	45.0	26.6	24.4	46.8	0.0	28.0
Incr Delay (d2), s/veh	3.6	9.2	9.2	4.2	6.2	6.2	3.7	1.8	0.5	4.7	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	3.7	12.2	12.2	2.4	9.7	9.7	3.3	4.2	1.1	2.1	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	40.4	40.4	50.4	38.4	38.4	48.7	28.3	24.9	51.4	0.0	29.4
LnGrp LOS	D	D	D	D	D	D	D	C	C	D	A	C
Approach Vol, veh/h		1191			956			412				226
Approach Delay, s/veh		41.4			39.6			34.3				37.4
Approach LOS		D			D			C				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	40.5	13.7	35.0	15.0	37.0	10.5	38.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	* 6.2				
Max Green Setting (Gmax), s	13.2	41.1	16.6	27.2	18.8	35.5	12.2	* 32				
Max Q Clear Time (g_c+I1), s	7.3	29.5	9.3	8.5	10.4	24.3	6.6	11.2				
Green Ext Time (p_c), s	0.0	4.5	0.1	0.6	0.1	3.6	0.0	1.2				

Intersection Summary

HCM 6th Ctrl Delay	39.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	6.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	63	5	1	42	3	8	40	0	1	36	5
Future Vol, veh/h	8	63	5	1	42	3	8	40	0	1	36	5
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	1	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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	81	6	1	54	4	10	51	0	1	46	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	155	123	49	167	126	56	52	0	0	52	0	0
Stage 1	51	51	-	72	72	-	-	-	-	-	-	-
Stage 2	104	72	-	95	54	-	-	-	-	-	-	-
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	812	767	1020	797	764	1011	1554	-	-	1554	-	-
Stage 1	962	852	-	938	835	-	-	-	-	-	-	-
Stage 2	902	835	-	912	850	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	758	760	1020	723	757	1006	1554	-	-	1553	-	-
Mov Cap-2 Maneuver	758	760	-	723	757	-	-	-	-	-	-	-
Stage 1	955	851	-	930	828	-	-	-	-	-	-	-
Stage 2	831	828	-	819	849	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.3		10.1		1.2		0.2	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1554	-	-	773	769	1553	-
HCM Lane V/C Ratio	0.007	-	-	0.126	0.077	0.001	-
HCM Control Delay (s)	7.3	0	-	10.3	10.1	7.3	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.4	0.2	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

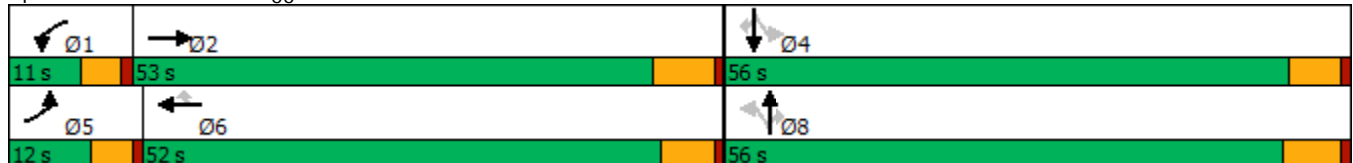


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	20	705	2	573	9	248	13	7	5	24
Future Volume (vph)	20	705	2	573	9	248	13	7	5	24
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		8		4
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8
Total Split (s)	12.0	53.0	11.0	52.0	52.0	56.0	56.0	56.0	56.0	56.0
Total Split (%)	10.0%	44.2%	9.2%	43.3%	43.3%	46.7%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	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
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	5.8	5.8		6.2	6.2	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99.5
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	705	238	2	573	9	248	13	7	0	5	24
Future Volume (veh/h)	20	705	238	2	573	9	248	13	7	0	5	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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	758	224	2	616	6	267	14	5	0	5	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	41	898	265	5	1108	494	736	35	784	0	926	784
Arrive On Green	0.02	0.33	0.33	0.00	0.31	0.31	0.49	0.49	0.49	0.00	0.49	0.49
Sat Flow, veh/h	1781	2704	799	1781	3554	1585	1347	71	1585	0	1870	1585
Grp Volume(v), veh/h	22	498	484	2	616	6	281	0	5	0	5	6
Grp Sat Flow(s),veh/h/ln	1781	1777	1727	1781	1777	1585	1417	0	1585	0	1870	1585
Q Serve(g_s), s	1.2	26.4	26.4	0.1	14.6	0.3	12.7	0.0	0.2	0.0	0.1	0.2
Cycle Q Clear(g_c), s	1.2	26.4	26.4	0.1	14.6	0.3	12.8	0.0	0.2	0.0	0.1	0.2
Prop In Lane	1.00		0.46	1.00		1.00	0.95		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	41	590	573	5	1108	494	771	0	784	0	926	784
V/C Ratio(X)	0.54	0.84	0.84	0.42	0.56	0.01	0.36	0.00	0.01	0.00	0.01	0.01
Avail Cap(c_a), veh/h	130	814	791	112	1618	722	771	0	784	0	926	784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	0.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	31.5	31.5	50.5	29.1	24.1	16.2	0.0	13.0	0.0	13.0	13.0
Incr Delay (d2), s/veh	4.1	6.0	6.1	19.9	0.4	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	0.6	11.2	10.9	0.1	5.8	0.1	4.0	0.0	0.1	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	37.4	37.6	70.4	29.5	24.1	17.6	0.0	13.0	0.0	13.0	13.0
LnGrp LOS	D	D	D	E	C	C	B	A	B	A	B	B
Approach Vol, veh/h		1004			624			286				11
Approach Delay, s/veh		37.9			29.6			17.5				13.0
Approach LOS		D			C			B				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	40.2		56.4	6.9	38.1		56.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	6.4	46.5		* 50	7.4	* 46		49.8				
Max Q Clear Time (g_c+I1), s	2.1	28.4		2.2	3.2	16.6		14.8				
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	3.8		1.5				

Intersection Summary

HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	29	50	79	17	0	20	36	133	0	23	1
Future Vol, veh/h	4	29	50	79	17	0	20	36	133	0	23	1
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	47	81	127	27	0	32	58	215	0	37	2
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	8.5	9.5	9.7	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	5%	82%	0%
Vol Thru, %	19%	35%	18%	96%
Vol Right, %	70%	60%	0%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	83	96	24
LT Vol	20	4	79	0
Through Vol	36	29	17	23
RT Vol	133	50	0	1
Lane Flow Rate	305	134	155	39
Geometry Grp	1	1	1	1
Degree of Util (X)	0.362	0.169	0.216	0.053
Departure Headway (Hd)	4.278	4.549	5.022	4.957
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	838	784	712	719
Service Time	2.315	2.602	3.075	3.013
HCM Lane V/C Ratio	0.364	0.171	0.218	0.054
HCM Control Delay	9.7	8.5	9.5	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.7	0.6	0.8	0.2

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑		Y	↑
Traffic Vol, veh/h	44	8	181	75	14	137
Future Vol, veh/h	44	8	181	75	14	137
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	48	9	197	82	15	149

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	417	140	0	0	279
Stage 1	238	-	-	-	-
Stage 2	179	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13
Critical Hdwy Stg 1	5.83	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219
Pot Cap-1 Maneuver	578	883	-	-	1282
Stage 1	780	-	-	-	-
Stage 2	851	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	571	883	-	-	1282
Mov Cap-2 Maneuver	571	-	-	-	-
Stage 1	771	-	-	-	-
Stage 2	851	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	604	1282
HCM Lane V/C Ratio	-	-	0.094	0.012
HCM Control Delay (s)	-	-	11.6	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	56	0	10	1	245	95	15	166	0
Future Vol, veh/h	1	0	0	56	0	10	1	245	95	15	166	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	82	0	15	1	360	140	22	244	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	728	791	244	721	721	431	244	0	0	501	0	0
Stage 1	288	288	-	433	433	-	-	-	-	-	-	-
Stage 2	440	503	-	288	288	-	-	-	-	-	-	-
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	339	322	795	343	353	624	1322	-	-	1063	-	-
Stage 1	720	674	-	601	582	-	-	-	-	-	-	-
Stage 2	596	541	-	720	674	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	325	314	795	336	344	623	1322	-	-	1062	-	-
Mov Cap-2 Maneuver	325	314	-	336	344	-	-	-	-	-	-	-
Stage 1	719	658	-	600	581	-	-	-	-	-	-	-
Stage 2	581	540	-	703	658	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.1		18.6		0		0.7	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1322	-	-	325	361	1062	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.269	0.021	-
HCM Control Delay (s)	7.7	0	-	16.1	18.6	8.5	0
HCM Lane LOS	A	A	-	C	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0	1.1	0.1	-

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	5	2	27	1	1	0	20	321	0	0	193	2
Future Vol, veh/h	5	2	27	1	1	0	20	321	0	0	193	2
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	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	3	36	1	1	0	27	434	0	0	261	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	752	751	263	770	752	434	264	0	0	434	0	0
Stage 1	263	263	-	488	488	-	-	-	-	-	-	-
Stage 2	489	488	-	282	264	-	-	-	-	-	-	-
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	327	340	776	318	339	622	1300	-	-	1126	-	-
Stage 1	742	691	-	561	550	-	-	-	-	-	-	-
Stage 2	561	550	-	725	690	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	319	331	776	295	330	622	1300	-	-	1126	-	-
Mov Cap-2 Maneuver	319	331	-	295	330	-	-	-	-	-	-	-
Stage 1	722	691	-	546	535	-	-	-	-	-	-	-
Stage 2	544	535	-	688	690	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.5		16.6		0.5		0	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1300	-	-	602	312	1126	-
HCM Lane V/C Ratio	0.021	-	-	0.076	0.009	-	-
HCM Control Delay (s)	7.8	0	-	11.5	16.6	0	-
HCM Lane LOS	A	A	-	B	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-

Intersection	
Intersection Delay, s/veh	98.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	258	283	134	13	297	37	126	47	9	21	48	159
Future Vol, veh/h	258	283	134	13	297	37	126	47	9	21	48	159
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	280	308	146	14	323	40	137	51	10	23	52	173
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	183.2	27.2	18.2	18.7
HCM LOS	F	D	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	69%	38%	4%	9%
Vol Thru, %	26%	42%	86%	21%
Vol Right, %	5%	20%	11%	70%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	675	347	228
LT Vol	126	258	13	21
Through Vol	47	283	297	48
RT Vol	9	134	37	159
Lane Flow Rate	198	734	377	248
Geometry Grp	1	1	1	1
Degree of Util (X)	0.432	1.335	0.717	0.496
Departure Headway (Hd)	8.721	6.549	7.474	8.023
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	415	558	487	454
Service Time	6.721	4.597	5.474	6.023
HCM Lane V/C Ratio	0.477	1.315	0.774	0.546
HCM Control Delay	18.2	183.2	27.2	18.7
HCM Lane LOS	C	F	D	C
HCM 95th-tile Q	2.1	31.5	5.7	2.7

Intersection

Int Delay, s/veh 3.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	54	57	35	0	0	31
Future Vol, veh/h	54	57	35	0	0	31
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	59	62	38	0	0	34

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	38	0	-	0	218	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1572	-	-	-	770	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1572	-	-	-	740	1034
Mov Cap-2 Maneuver	-	-	-	-	740	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	851	-

Approach EB WB SB

HCM Control Delay, s	3.6	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1572	-	-	-	1034
HCM Lane V/C Ratio	0.037	-	-	-	0.033
HCM Control Delay (s)	7.4	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection

Int Delay, s/veh 0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	126	36	0	75	21	0
Future Vol, veh/h	126	36	0	75	21	0
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	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	39	0	82	23	0

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	176	0	239
Stage 1	-	-	-	-	157
Stage 2	-	-	-	-	82
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1400	-	749
Stage 1	-	-	-	-	871
Stage 2	-	-	-	-	941
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1400	-	749
Mov Cap-2 Maneuver	-	-	-	-	749
Stage 1	-	-	-	-	871
Stage 2	-	-	-	-	941

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	749	-	-	1400	-
HCM Lane V/C Ratio	0.03	-	-	-	-
HCM Control Delay (s)	10	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻		↻	↻			↻				
Traffic Vol, veh/h	0	37	90	0	22	0	53	0	0	0	0	0
Future Vol, veh/h	0	37	90	0	22	0	53	0	0	0	0	0
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	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
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	0	40	98	0	24	0	58	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	138	0	0	113	113	89
Stage 1	-	-	-	-	-	-	89	89	-
Stage 2	-	-	-	-	-	-	24	24	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1446	-	-	884	777	969
Stage 1	0	-	-	-	-	-	934	821	-
Stage 2	0	-	-	-	-	-	999	875	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1446	-	-	884	0	969
Mov Cap-2 Maneuver	-	-	-	-	-	-	884	0	-
Stage 1	-	-	-	-	-	-	934	0	-
Stage 2	-	-	-	-	-	-	999	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	884	-	-	1446	-	-
HCM Lane V/C Ratio	0.065	-	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-	-

Intersection

Int Delay, s/veh 7.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	54	3	3	0	0	32
Future Vol, veh/h	54	3	3	0	0	32
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	59	3	3	0	0	35

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	3	0	-	0	124 3
Stage 1	-	-	-	-	3 -
Stage 2	-	-	-	-	121 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1619	-	-	-	871 1081
Stage 1	-	-	-	-	1020 -
Stage 2	-	-	-	-	904 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1619	-	-	-	839 1081
Mov Cap-2 Maneuver	-	-	-	-	839 -
Stage 1	-	-	-	-	982 -
Stage 2	-	-	-	-	904 -

Approach

	EB	WB	SB
HCM Control Delay, s	6.9	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1619	-	-	-	1081
HCM Lane V/C Ratio	0.036	-	-	-	0.032
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

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	0	1	36	0	1	0	21	0	0	0	0	0
Future Vol, veh/h	0	1	36	0	1	0	21	0	0	0	0	0
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	-	-	-	-	-	-	-	-	-	-	-	-
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	0	1	39	0	1	0	23	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	40	0	0	22	22	21	22	41	1
Stage 1	-	-	-	-	-	-	21	21	-	1	1	-
Stage 2	-	-	-	-	-	-	1	1	-	21	40	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1622	-	-	1570	-	-	990	872	1056	990	851	1084
Stage 1	-	-	-	-	-	-	998	878	-	1022	895	-
Stage 2	-	-	-	-	-	-	1022	895	-	998	862	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1570	-	-	990	872	1056	990	851	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	990	872	-	990	851	-
Stage 1	-	-	-	-	-	-	998	878	-	1022	895	-
Stage 2	-	-	-	-	-	-	1022	895	-	998	862	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			8.7			0		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	990	1622	-	-	1570	-	-	-
HCM Lane V/C Ratio	0.023	-	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	0	0	0	0	36
Future Vol, veh/h	21	0	0	0	0	36
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	-	-	-	-	-
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	23	0	0	0	0	39

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	20	20	39	0	-	0
Stage 1	20	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	997	1058	1571	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	997	1058	1571	-	-	-
Mov Cap-2 Maneuver	997	-	-	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1571	-	997	-	-
HCM Lane V/C Ratio	-	-	0.023	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

APPENDIX 5.3:

E+P (PHASE 1) CONDITIONS FREEWAY OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	582	388	369	924	339	140
v/c Ratio	0.79	0.45	0.94	0.75	0.82	0.29
Control Delay	39.2	4.1	59.4	10.4	57.2	7.5
Queue Delay	0.0	0.0	0.0	2.7	7.4	0.0
Total Delay	39.2	4.1	59.4	13.1	64.7	7.5
Queue Length 50th (ft)	362	0	236	369	228	0
Queue Length 95th (ft)	#520	60	m#330	m482	#374	49
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	734	859	408	1227	414	477
Starvation Cap Reductn	0	0	0	192	0	0
Spillback Cap Reductn	0	0	0	0	47	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.45	0.90	0.89	0.92	0.29

Intersection Summary

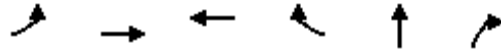
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	102	779	1003	498	239	184
v/c Ratio	0.72	0.58	0.89	0.45	0.75	0.43
Control Delay	61.1	19.8	31.1	3.0	59.0	9.1
Queue Delay	0.0	4.9	37.8	0.3	0.0	0.0
Total Delay	61.1	24.6	68.9	3.2	59.0	9.1
Queue Length 50th (ft)	74	555	579	15	162	0
Queue Length 95th (ft)	m86	686	#905	59	#276	61
Internal Link Dist (ft)		633	514		1324	
Turn Bay Length (ft)	240					400
Base Capacity (vph)	151	1349	1123	1111	317	430
Starvation Cap Reductn	0	490	192	174	0	0
Spillback Cap Reductn	0	0	44	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.91	1.08	0.53	0.75	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	632	270	322	891	440	173
v/c Ratio	0.87	0.35	0.91	0.76	0.95	0.32
Control Delay	46.1	5.4	60.7	13.1	72.9	6.8
Queue Delay	0.0	0.0	0.0	2.3	48.3	0.0
Total Delay	46.1	5.4	60.7	15.4	121.3	6.8
Queue Length 50th (ft)	415	10	201	373	306	1
Queue Length 95th (ft)	#634	65	m#306	572	#504	53
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	725	767	376	1177	461	539
Starvation Cap Reductn	0	0	0	166	0	0
Spillback Cap Reductn	0	0	0	0	221	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.35	0.86	0.88	1.83	0.32

Intersection Summary

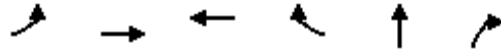
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	83	977	818	481	383	425
v/c Ratio	0.66	0.83	0.81	0.46	0.80	0.80
Control Delay	61.1	34.1	30.0	3.7	51.7	37.2
Queue Delay	0.0	49.0	8.7	0.2	0.0	0.0
Total Delay	61.1	83.1	38.7	3.8	51.7	37.2
Queue Length 50th (ft)	61	725	480	15	252	191
Queue Length 95th (ft)	m68	m806	#704	68	#399	#350
Internal Link Dist (ft)		633	514		1324	
Turn Bay Length (ft)	240					400
Base Capacity (vph)	135	1180	1005	1055	477	531
Starvation Cap Reductn	0	333	160	106	0	0
Spillback Cap Reductn	0	0	39	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	1.15	0.97	0.51	0.80	0.80

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 5.4:

**E+P (PROJECT BUILDOUT) CONDITIONS FREEWAY OFF-RAMP QUEUING ANALYSIS
WORKSHEETS**

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Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	591	388	400	951	351	140
v/c Ratio	0.82	0.46	0.98	0.78	0.85	0.29
Control Delay	41.5	4.3	65.9	10.6	60.2	7.5
Queue Delay	0.0	0.0	0.0	3.8	14.0	0.0
Total Delay	41.5	4.3	65.9	14.4	74.2	7.5
Queue Length 50th (ft)	370	1	268	351	238	0
Queue Length 95th (ft)	#557	61	m#356	m467	#393	49
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	719	847	408	1227	414	477
Starvation Cap Reductn	0	0	0	195	0	0
Spillback Cap Reductn	0	0	0	0	54	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.46	0.98	0.92	0.97	0.29

Intersection Summary

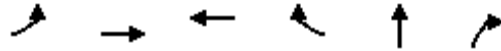
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	102	800	1058	534	239	193
v/c Ratio	0.72	0.59	0.94	0.48	0.75	0.44
Control Delay	60.0	20.7	37.6	3.5	59.0	9.1
Queue Delay	0.0	6.4	44.3	0.3	0.0	0.0
Total Delay	60.0	27.1	81.9	3.8	59.0	9.1
Queue Length 50th (ft)	74	573	652	23	162	0
Queue Length 95th (ft)	m82	m698	#989	73	#276	62
Internal Link Dist (ft)		633	514		1324	
Turn Bay Length (ft)	240					400
Base Capacity (vph)	151	1349	1123	1114	317	438
Starvation Cap Reductn	0	490	178	168	0	0
Spillback Cap Reductn	0	0	55	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.93	1.12	0.56	0.75	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



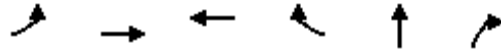
Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	660	270	342	908	481	173
v/c Ratio	0.92	0.36	0.94	0.77	1.04	0.32
Control Delay	53.2	6.0	64.2	13.1	94.1	7.5
Queue Delay	0.0	0.0	0.0	2.9	30.2	0.0
Total Delay	53.2	6.0	64.2	16.0	124.3	7.5
Queue Length 50th (ft)	444	15	220	358	-368	4
Queue Length 95th (ft)	#678	71	m#325	m619	#570	57
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	714	753	376	1177	461	534
Starvation Cap Reductn	0	0	0	169	0	0
Spillback Cap Reductn	0	0	0	0	260	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.36	0.91	0.90	2.39	0.32

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.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	83	1046	855	505	383	458
v/c Ratio	0.66	0.89	0.85	0.48	0.80	0.89
Control Delay	58.3	36.0	32.6	4.2	51.7	48.5
Queue Delay	0.0	47.8	15.1	0.2	0.0	0.0
Total Delay	58.3	83.9	47.7	4.3	51.7	48.5
Queue Length 50th (ft)	61	777	520	23	252	236
Queue Length 95th (ft)	m63	m803	#791	83	#399	#426
Internal Link Dist (ft)		633	514		1324	
Turn Bay Length (ft)	240					400
Base Capacity (vph)	135	1180	1005	1056	477	517
Starvation Cap Reductn	0	333	154	103	0	0
Spillback Cap Reductn	0	0	47	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	1.23	1.00	0.53	0.80	0.89

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 5.5:

E+P (PHASE 1) 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 = **E+P Phase 1 Conditions - Weekday AM Peak Hour**

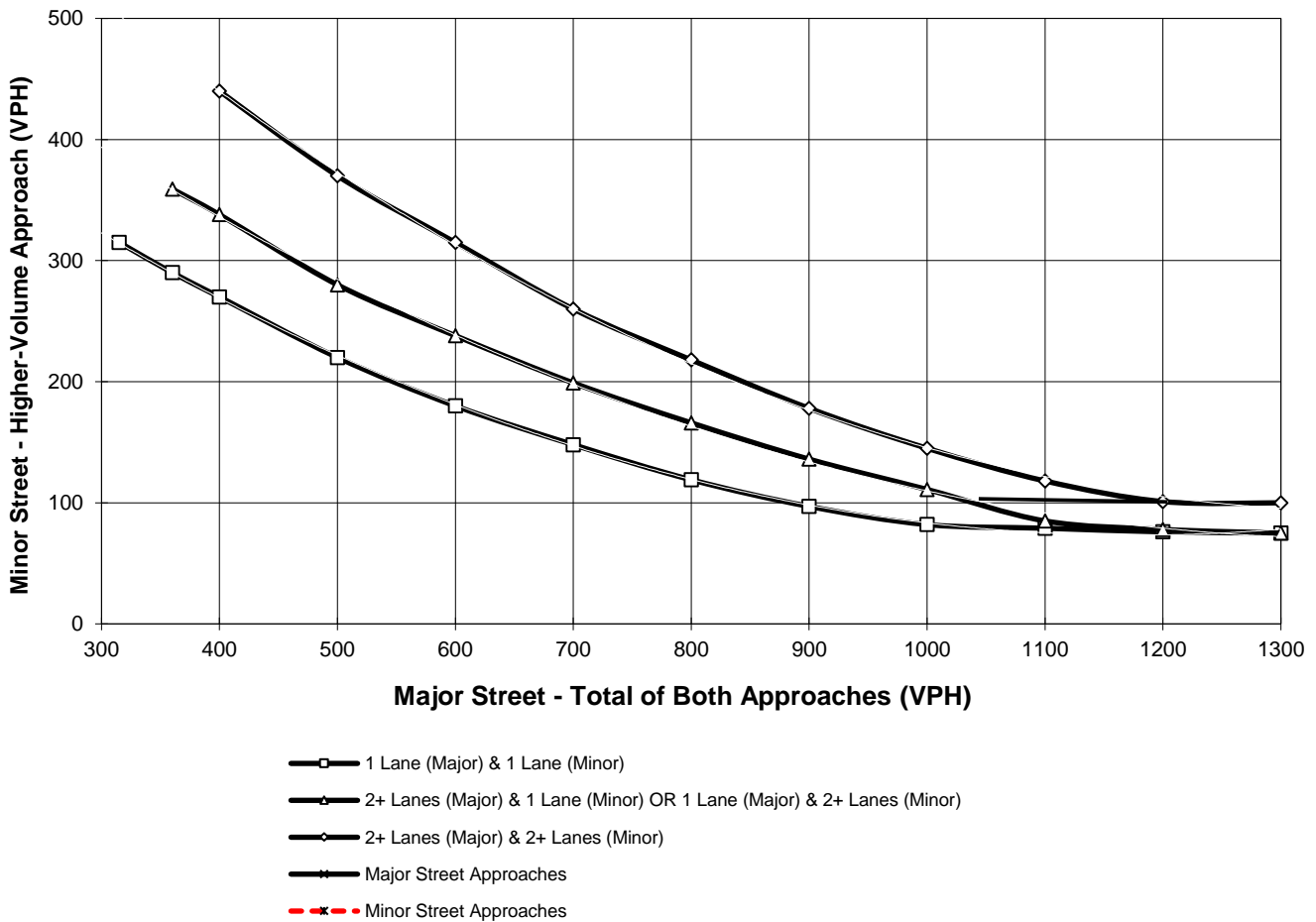
Major Street Name = **Briggs Rd.**

Total of Both Approaches (VPH) = **120**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **87**
 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-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P Phase 1 Conditions - Weekday PM Peak Hour**

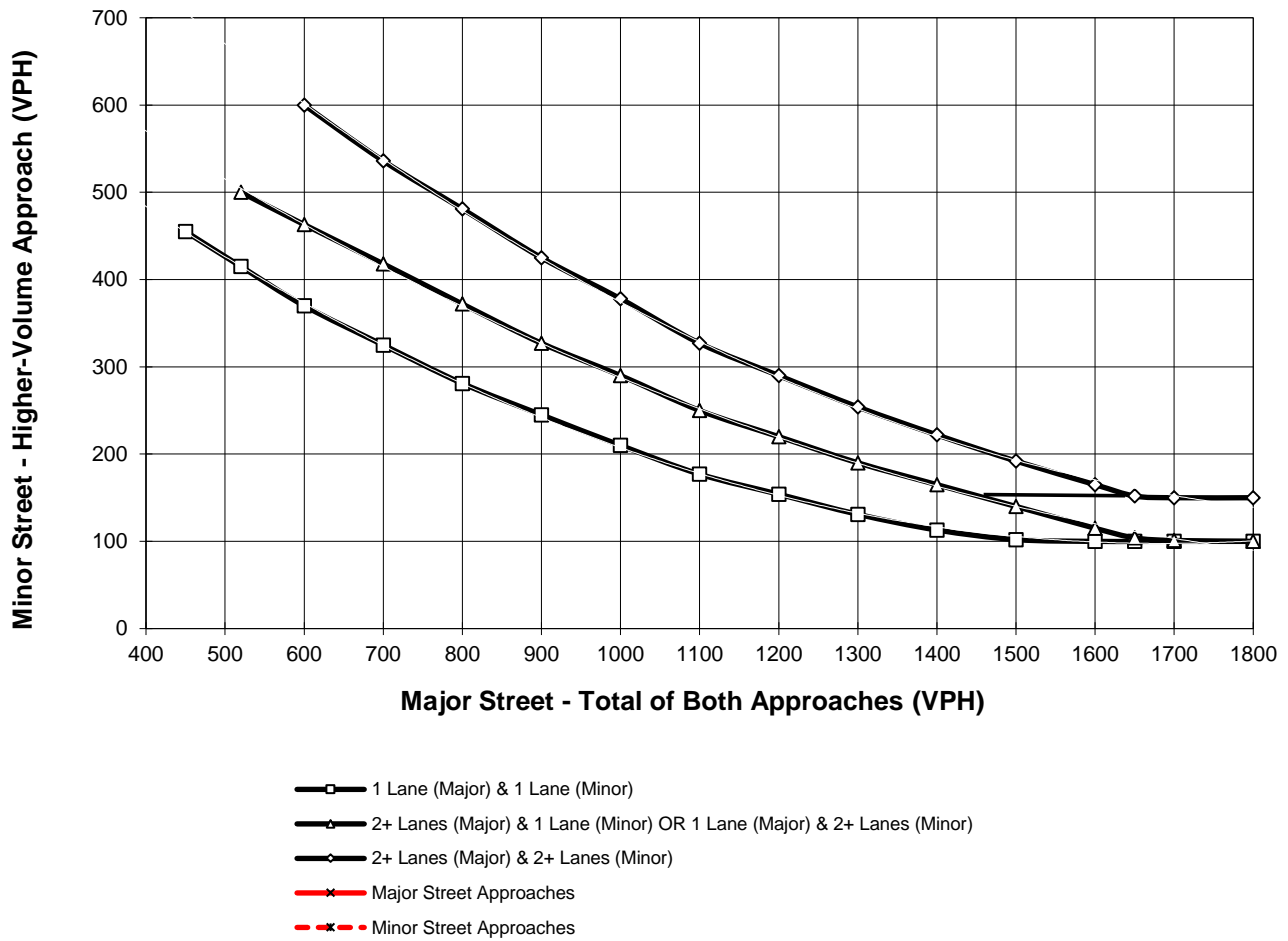
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **167**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **71**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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>	CALC <u>BA</u>	TRAFFIC CONDITIONS	<u>E+P Phase 1</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>01/31/18</u>
Major Street: <u>Leon Rd.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Canterwood Dr.</u>					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 2,774 vpd Minor Street Future ADT = 600 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX					
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 2,774	1 600	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 2,774	1 600	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>				
	25%				
	<u>B</u>				
	23%				

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-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P Phase 1 Conditions - Weekday PM Peak Hour**

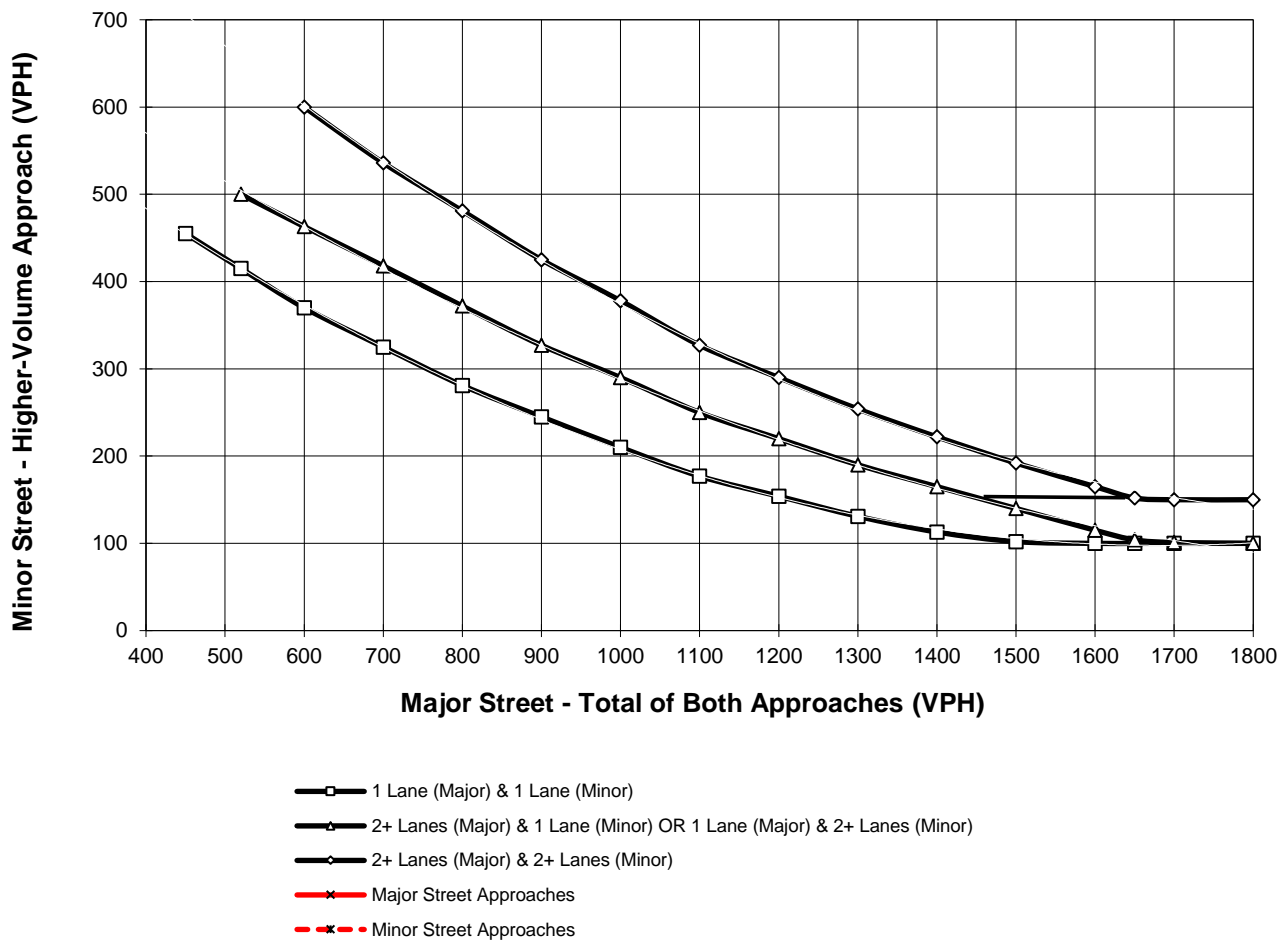
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **348**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Craig Av.**

High Volume Approach (VPH) = **3**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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 = **E+P Phase 1 Conditions - Weekday PM Peak Hour**

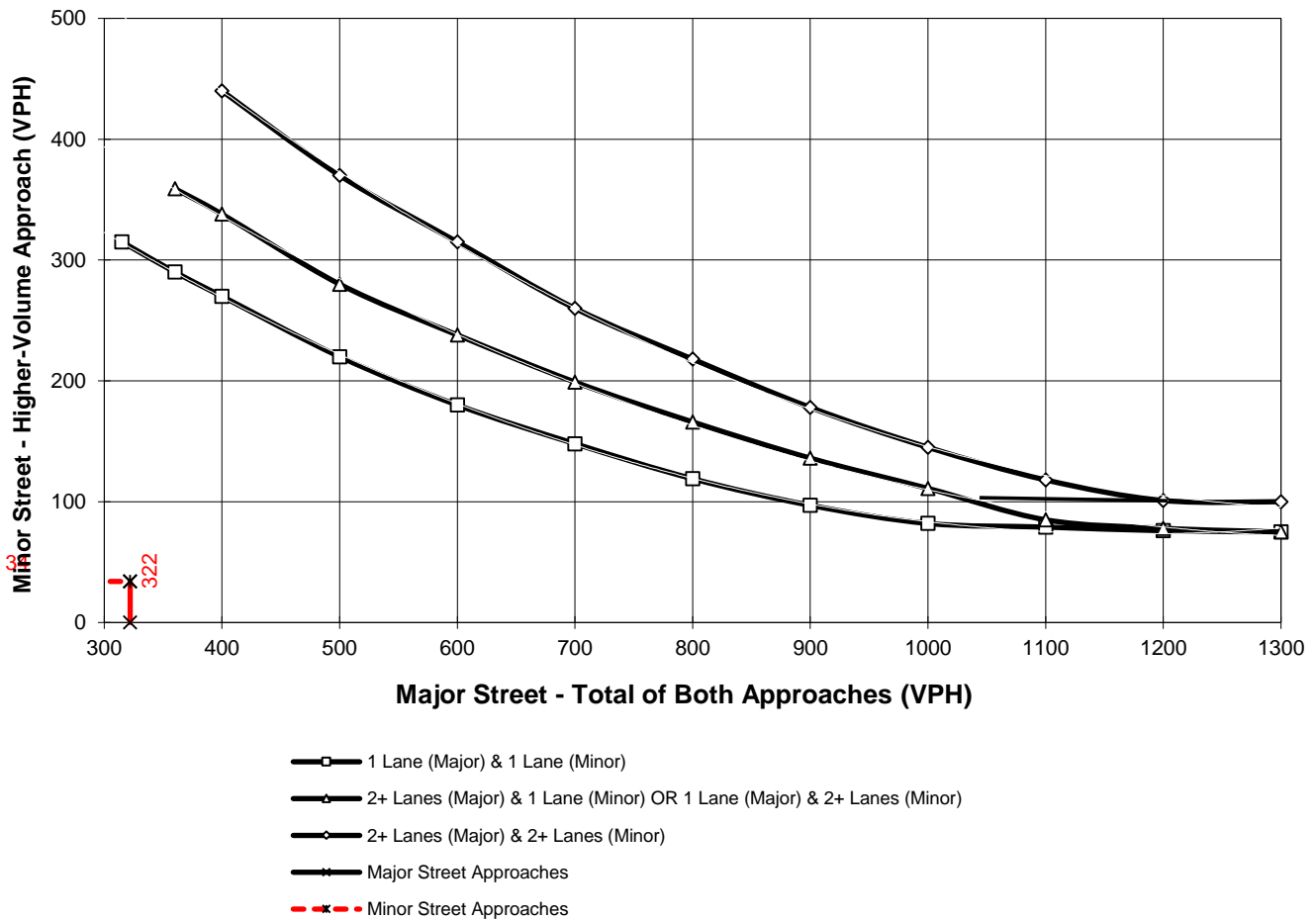
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **322**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Garbani Rd.**

High Volume Approach (VPH) = **34**
 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>E+P Phase 1</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>01/31/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major) <u>25</u> mph	DATE <u>01/31/18</u>
Minor Street: <u>St. B</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>1,592</u>	vpd	Minor Street Future ADT = <u>225</u>	vpd			
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX					
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 1,592	1 225	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 1,592	1 225	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>				
	9%				
	<u>B</u>				
	13%				

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>E+P Phase 1</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>01/31/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Canterwood Dr.</u>					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 917 vpd Minor Street Future ADT = 450 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 917	1 450	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 917	1 450	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	11%				
	<u>B</u>				
	8%				

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> </u>	<u> </u>	<u> </u>		TRAFFIC CONDITIONS	E+P Phase 1	
	DIST	CO	RTE	PM	CALC <u>BA</u>	DATE <u>01/31/18</u>	
Jurisdiction:	<u>County of Riverside</u>				CHK <u>BA</u>	DATE <u>01/31/18</u>	
Major Street:	<u>Holland Rd.</u>				Critical Approach Speed (Major)	<u>25</u> mph	
Minor Street:	<u>Eucalyptus Rd.</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>242</u>			vpd	Minor Street Future ADT =	<u>225</u> vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>	URBAN (U)
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			
XX							
CONDITION A - Minimum Vehicular Volume				Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
		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>					
1 242		1 225		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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
		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>					
1 242		1 225		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%	
		XX					
No one condition satisfied, but following conditions fulfilled 80% of more							
		<u>A</u>	<u>B</u>				
		3%	2%				

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> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
	DIST	CO	RTE	PM	CALC	TRAFFIC CONDITIONS	E+P Phase 1
Jurisdiction:	<u>County of Riverside</u>				CHK	<u>BA</u>	DATE <u>01/31/18</u>
Major Street:	<u>Eucalyptus Rd.</u>						DATE <u>01/31/18</u>
Minor Street:	<u>St. D</u>					Critical Approach Speed (Major)	<u>25</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>225</u> vpd				Minor Street Future ADT =	<u>225</u> vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);	<input type="checkbox"/>						or
In built up area of isolated community of < 10,000 population	<input type="checkbox"/>						URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 225	1 225	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 225	1 225	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	3%				
	<u>B</u>				
	2%				

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 5.6:

**E+P (PROJECT BUILDOUT) 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 = **E+P Project Buildout Conditions - Weekday AM Peak Hour**

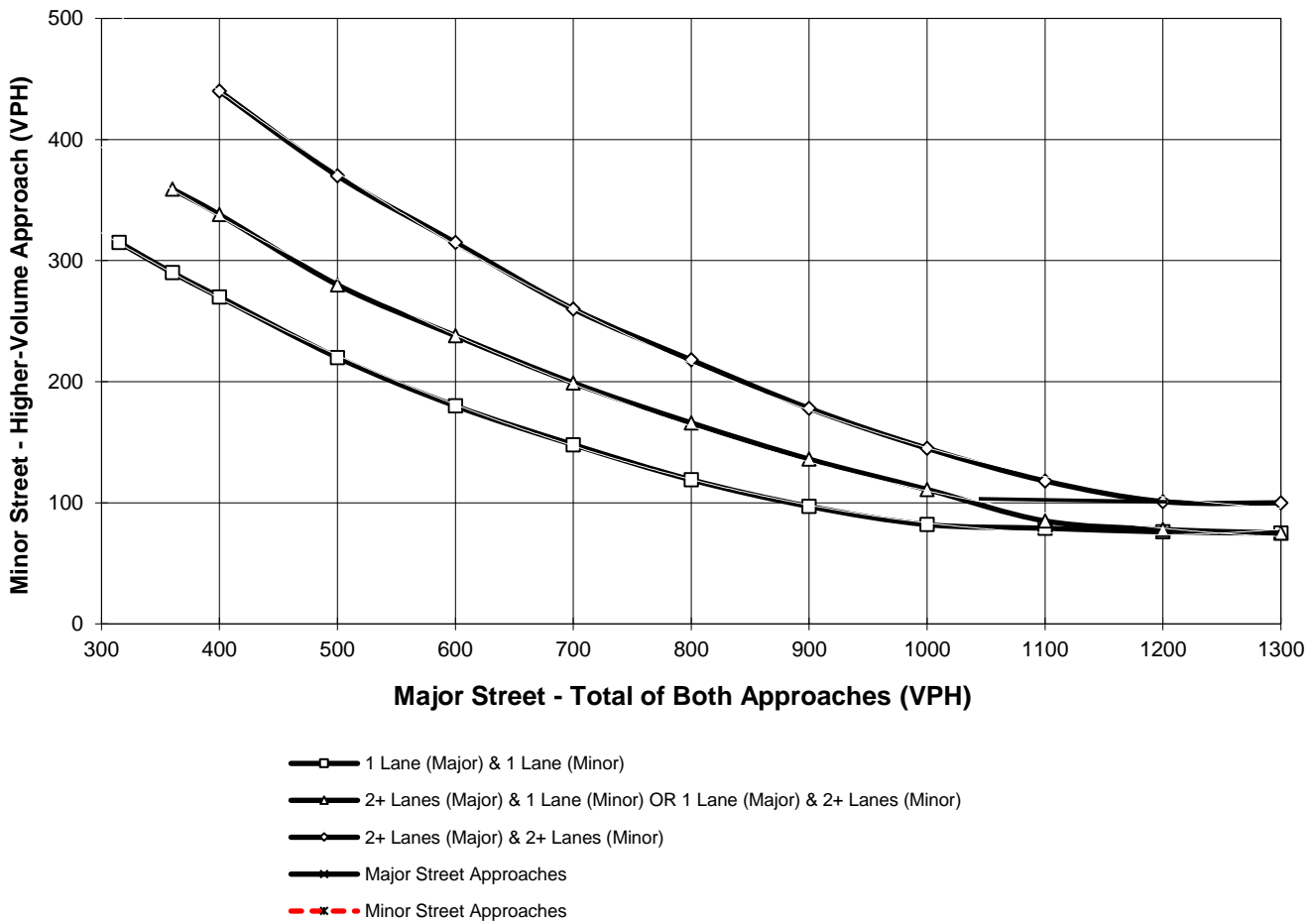
Major Street Name = **Briggs Rd.**

Total of Both Approaches (VPH) = **120**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **95**
 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-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P Project Buildout Conditions - Weekday PM Peak Hour**

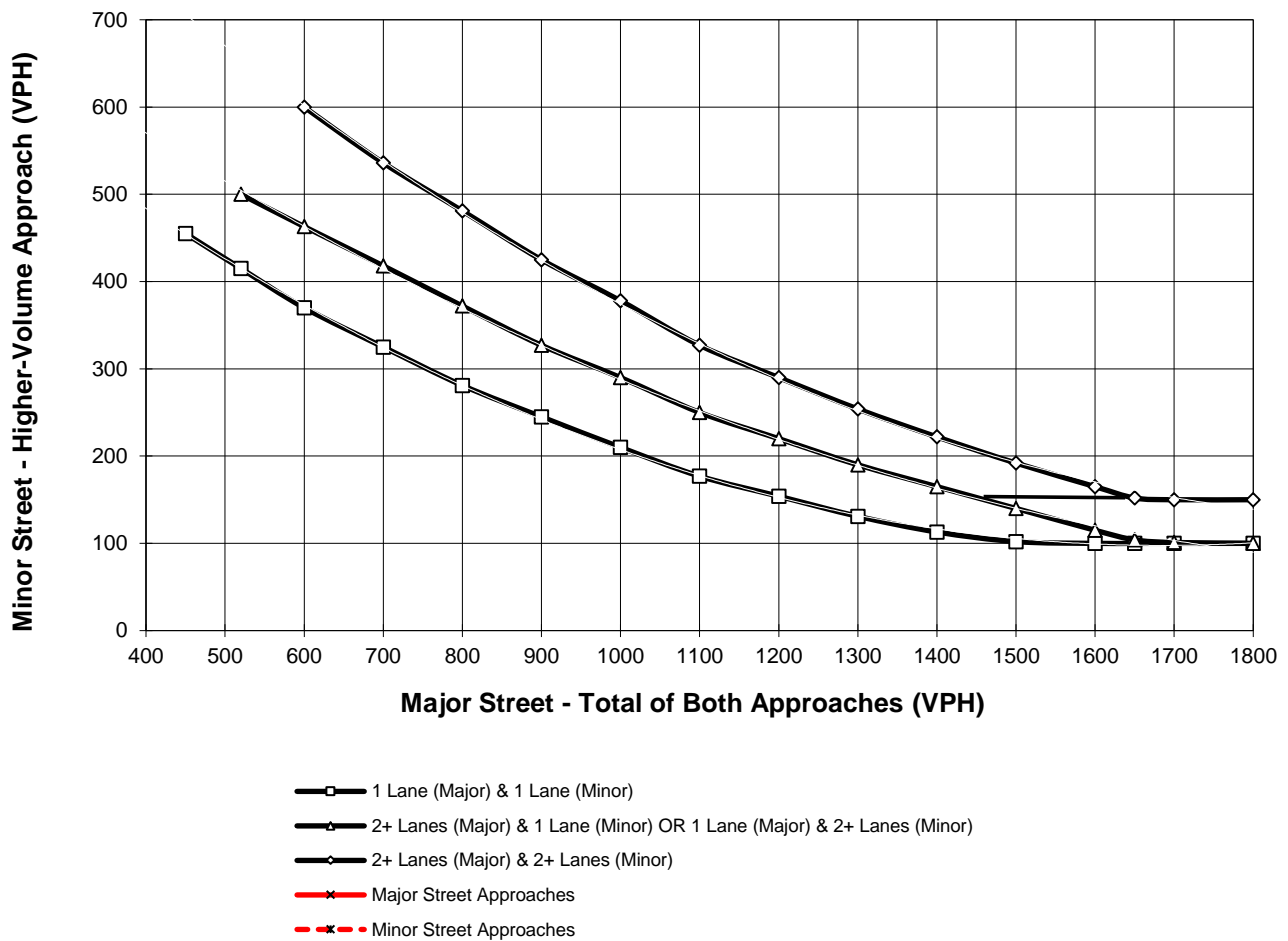
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **213**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **96**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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	+P Project Buildo
DIST	CO	RTE	PM	CALC	<u>BA</u>	DATE <u>02/01/18</u>
Jurisdiction: <u>County of Riverside</u>				CHK	<u>BA</u>	DATE <u>02/01/18</u>
Major Street: <u>Leon Rd.</u>				Critical Approach Speed (Major) <u>25</u> mph		
Minor Street: <u>Canterwood Dr.</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>3,607</u> vpd				Minor Street Future ADT = <u>679</u> vpd		
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
XX							
CONDITION A - Minimum Vehicular Volume				Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
		XX					
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>		<u>Urban</u>		<u>Rural</u>	
				<u>Urban</u>		<u>Rural</u>	
1 3,607		1 679		8,000		2,400	
2 +		1		9,600		2,400	
2 +		2 +		9,600		3,200	
1		2 +		8,000		2,240	
CONDITION B - Interruption of Continuous Traffic				Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
		XX					
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>		<u>Urban</u>		<u>Rural</u>	
				<u>Urban</u>		<u>Rural</u>	
1 3,607		1 679		12,000		1,200	
2 +		1		14,400		1,200	
2 +		2 +		14,400		1,600	
1		2 +		12,000		1,600	
Combination of CONDITIONS A + B				2 CONDITIONS		2 CONDITIONS	
<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>			
		28%		30%			

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-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P Project Buildout Conditions - Weekday PM Peak Hour**

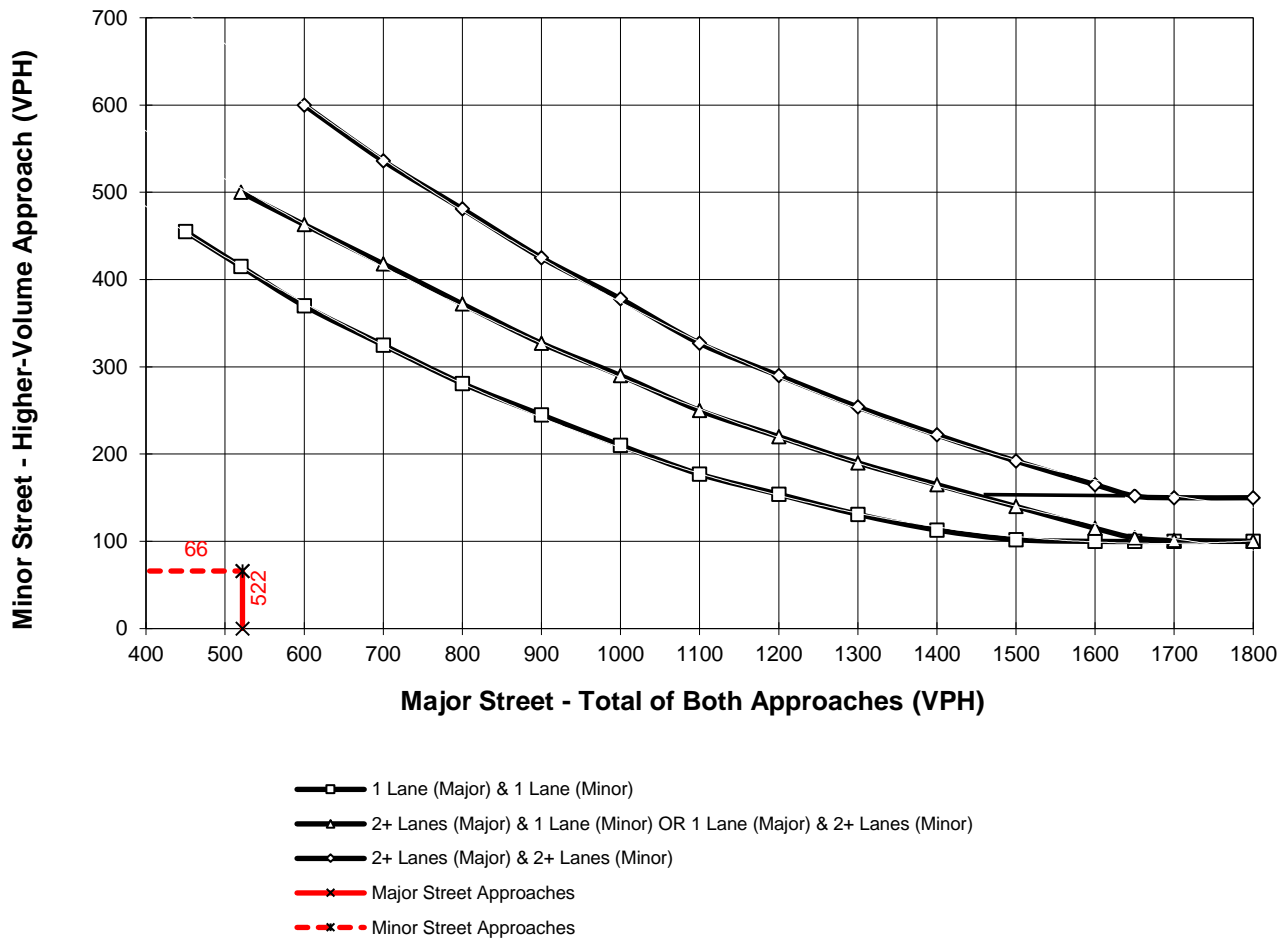
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **522**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Craig Av.**

High Volume Approach (VPH) = **66**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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 = **E+P Project Buildout Conditions - Weekday PM Peak Hour**

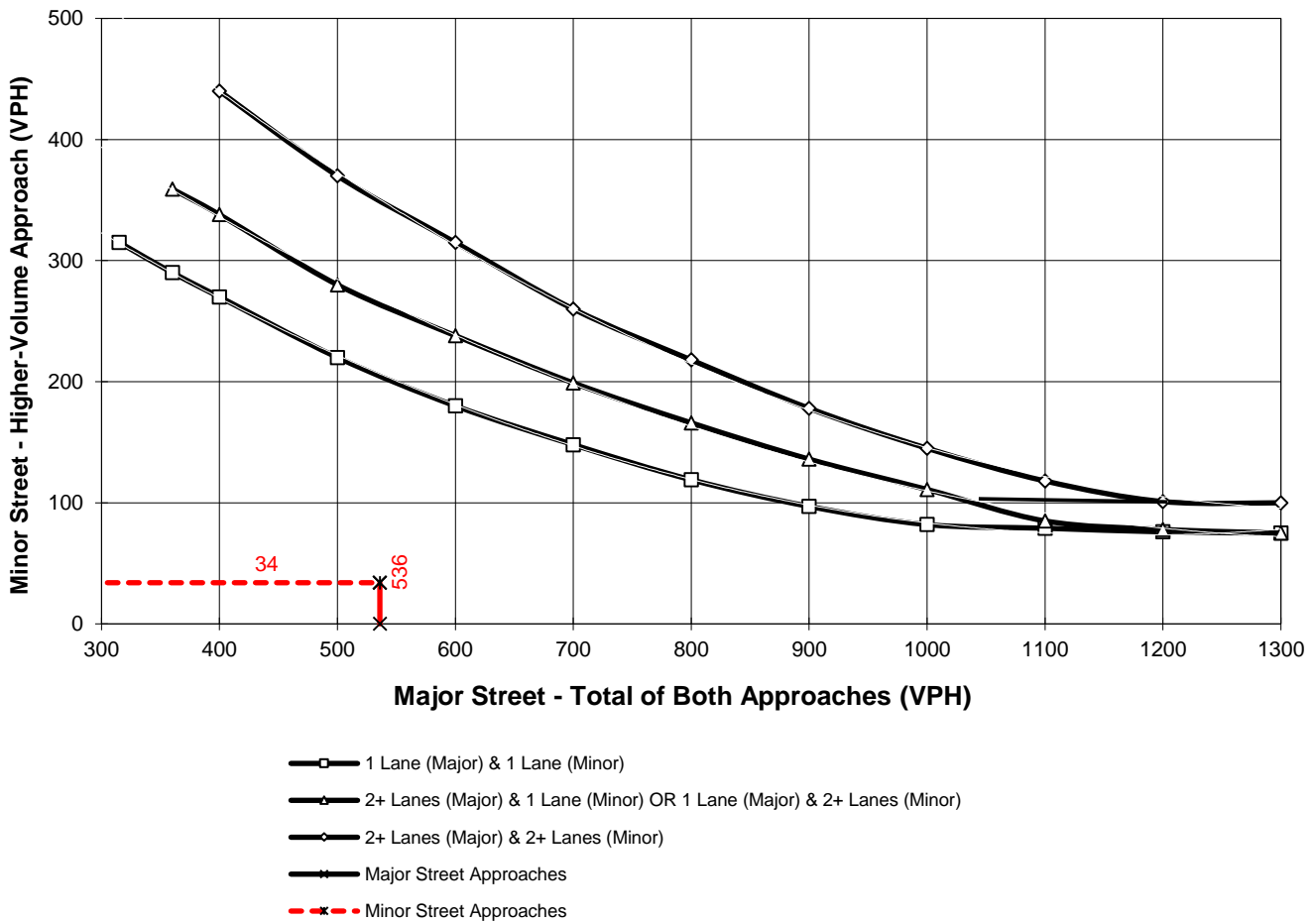
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **536**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Garbani Rd.**

High Volume Approach (VPH) = **34**
 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>	CALC <u>BA</u>	TRAFFIC CONDITIONS	+P Project Buildo	
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>	
Major Street: <u>Craig Av.</u>					Critical Approach Speed (Major)	<u>25</u> mph	
Minor Street: <u>St. 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>1,270</u>	vpd	Minor Street Future ADT =	<u>406</u>	vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>	
						or	URBAN (U)
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			
XX					
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>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 1,270	1 406				
2 +	1				
2 +	2 +				
1	2 +				
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>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 1,270	1 406				
2 +	1				
2 +	2 +				
1	2 +				
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				
	<u>A</u>				
	16%				
	<u>B</u>				
	11%				

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> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
	DIST	CO	RTE	PM	CALC	TRAFFIC CONDITIONS
Jurisdiction:	<u>County of Riverside</u>				BA	+P Project Buildo
Major Street:	<u>Holland Rd.</u>				CHK	DATE <u>02/01/18</u>
Minor Street:	<u>St. B</u>				BA	DATE <u>02/01/18</u>
						Critical Approach Speed (Major) <u>25</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>2,187</u>	vpd	Minor Street Future ADT = <u>271</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

URBAN (U)

(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>	
					XX	
Number of lanes for moving traffic on each approach			<u>Major Street</u>		<u>Minor Street</u>	
	<u>1</u>	<u>1</u>	<u>2,187</u>	<u>271</u>		
	<u>2+</u>	<u>1</u>				
	<u>2+</u>	<u>2+</u>				
	<u>1</u>	<u>2+</u>				
CONDITION B - Interruption of Continuous Traffic	<u>Satisfied</u>		<u>Satisfied</u>		<u>Not Satisfied</u>	
					XX	
Number of lanes for moving traffic on each approach			<u>Major Street</u>		<u>Minor Street</u>	
	<u>1</u>	<u>1</u>	<u>2,187</u>	<u>271</u>		
	<u>2+</u>	<u>1</u>				
	<u>2+</u>	<u>2+</u>				
	<u>1</u>	<u>2+</u>				
Combination of CONDITIONS A + B	<u>Satisfied</u>		<u>Satisfied</u>		<u>Not Satisfied</u>	
					XX	
No one condition satisfied, but following conditions fulfilled 80% of more						
			<u>A</u>	<u>B</u>		
			11%	18%		
			2 CONDITIONS 80%		2 CONDITIONS 80%	

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>	CALC <u>BA</u>	TRAFFIC CONDITIONS	+P Project Buildo	
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>	
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major)	<u>25</u> mph	
Minor Street: <u>Canterwood Dr.</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>1,237</u>	vpd	Minor Street Future ADT =	<u>678</u>	vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>	
						or	URBAN (U)
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> XX	<u>RURAL</u>	Minimum Requirements EADT			
<u>CONDITION A - Minimum Vehicular Volume 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)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 1,237	1 678	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
<u>CONDITION B - Interruption of Continuous Traffic 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)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 1,237	1 678	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
<u>Combination of CONDITIONS A + B Satisfied</u>	<u>Not Satisfied</u> XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more	A 15%	B 10%			

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>	CALC <u>BA</u>	TRAFFIC CONDITIONS	+P Project Buildo
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Craig Av.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>St. C</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>457</u>	vpd	Minor Street Future ADT =	<u>407</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						
						or
In built up area of isolated community of < 10,000 population						
URBAN (U)						

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u> XX	<u>RURAL</u>	Minimum Requirements EADT			
<u>CONDITION A - Minimum Vehicular Volume 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)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 457	1 407	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
<u>CONDITION B - Interruption of Continuous Traffic 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)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 457	1 407	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
<u>Combination of CONDITIONS A + B Satisfied</u>	<u>Not Satisfied</u> XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more	A 6%	B 4%			

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>	CALC <u>BA</u>	TRAFFIC CONDITIONS	+P Project Buildo
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Eucalyptus Rd.</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>288</u>	vpd	Minor Street Future ADT =	<u>271</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 288	1 271	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 288	1 271	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>	<u>B</u>			
	4%	2%			

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>	CALC <u>BA</u>	TRAFFIC CONDITIONS	+P Project Buildo
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Eucalyptus Rd.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>St. D</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>271</u> vpd		Minor Street Future ADT =	<u>271</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX					
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>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 271	1 271	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>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 271	1 271	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>				
	3%				
	<u>B</u>				
	2%				

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 5.7:

E+P (PHASE 1) CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6235	Heavy Vehicle Adjustment Factor (f _{HV})	0.971
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2327
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	55.3
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	42.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6502	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _P), pc/h/ln	2404
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	3431	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1292
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	69.9
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	18.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	3255	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1226
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	17.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5352	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2016
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.84
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	62.3
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	32.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5332	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _P), pc/h/ln	2008
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.84
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	62.4
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	32.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5176	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v_p), pc/h/ln	1914
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	64.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5418	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _P), pc/h/ln	2003
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.83
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	62.5
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	32.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

APPENDIX 5.8:

**E+P (PROJECT BUILDOUT) CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS
WORKSHEETS**

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HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6247	Heavy Vehicle Adjustment Factor (f _{HV})	0.971
Peak Hour Factor (PHF)	0.92	Flow Rate (v _P), pc/h/ln	2331
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	55.2
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	42.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6531	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _P), pc/h/ln	2415
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.01
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	3467	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _P), pc/h/ln	1306
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	69.9
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	18.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	3264	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1229
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	17.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5392	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _P), pc/h/ln	2031
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	62.0
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	32.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5351	Heavy Vehicle Adjustment Factor (f_{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v_p), pc/h/ln	2015
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.84
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	62.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	32.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5200	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v_p), pc/h/ln	1923
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	63.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	30.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5450	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _P), pc/h/ln	2015
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.84
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	62.3
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	32.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

APPENDIX 5.9:

E+P (PHASE 1) CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	165
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6235	455
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	3.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.971	0.926
Flow Rate (v _i), pc/h	6980	534
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.97	0.25

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	39.6
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.346
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	2000	Off-Ramp Influence Area Speed (S _R), mi/h	60.3
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.561	Outer Lanes Freeway Speed (S _O), mi/h	70.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4280	Ramp Junction Speed (S), mi/h	63.8
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	36.5
Level of Service (LOS)	E	5.9-1	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	5780	722
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.980
Flow Rate (vi), pc/h	6411	801
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.00	0.38

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	1765.6	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	2000	Speed Index (M _s)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2596
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.595	Outer Lanes Freeway Speed (S _O), mi/h	61.7
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3815	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4616	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	5.9-2	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	2836	595
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	5.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.952	0.971
Flow Rate (v _i), pc/h	3238	666
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.54	0.32

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	991.1	Density in Ramp Influence Area (D _R), pc/mi/ln	22.4
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.331
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1328
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	60.7
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	67.0
Flow in Lanes 1 and 2 (v ₁₂), pc/h	1910	Ramp Junction Speed (S), mi/h	62.7
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	2576	Average Density (D), pc/mi/ln	20.8
Level of Service (LOS)	C	5.9-3	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	3255	419
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.980
Flow Rate (v _i), pc/h	3678	465
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.51	0.22

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	24.3
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.340
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1134
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	60.5
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.647	Outer Lanes Freeway Speed (S _O), mi/h	76.3
Flow in Lanes 1 and 2 (v ₁₂), pc/h	2544	Ramp Junction Speed (S), mi/h	64.6
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	19.0
Level of Service (LOS)	C	5.9-4	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	165
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5352	601
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.980
Flow Rate (v _i), pc/h	6047	667
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.84	0.32

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	35.2
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.358
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2270
Distance to Downstream Ramp (L _{DOWN}), ft	2000	Off-Ramp Influence Area Speed (S _R), mi/h	60.0
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.578	Outer Lanes Freeway Speed (S _O), mi/h	71.8
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3777	Ramp Junction Speed (S), mi/h	63.9
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	31.5
Level of Service (LOS)	E	5.9-5	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (L _A), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	4751	581
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.990
Flow Rate (v _i), pc/h	5368	638
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.83	0.30

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1507.5	Density in Ramp Influence Area (D _R), pc/mi/ln	31.3
Distance to Upstream Ramp (L _{UP}), ft	2000	Speed Index (M _s)	0.446
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2174
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	57.5
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.595	Outer Lanes Freeway Speed (S _O), mi/h	64.0
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3194	Ramp Junction Speed (S), mi/h	59.7
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3832	Average Density (D), pc/mi/ln	33.5
Level of Service (LOS)	D 5.9-6		

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	4618	558
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.962
Flow Rate (v _i), pc/h	5122	630
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.80	0.30

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1386.6	Density in Ramp Influence Area (D _R), pc/mi/ln	30.9
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.430
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2100
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	58.0
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	64.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3022	Ramp Junction Speed (S), mi/h	60.1
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3652	Average Density (D), pc/mi/ln	31.9
Level of Service (LOS)	D 5.9-7		

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Phase 1)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	Mostly Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	1.000
Final Capacity Adjustment Factor (CAF)	0.968	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5418	800
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (v _i), pc/h	6009	878
Capacity (c), pc/h	6824	2100
Volume-to-Capacity Ratio (v/c)	0.88	0.42

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	35.1
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.377
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2211
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	58.3
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.569	Outer Lanes Freeway Speed (S _O), mi/h	70.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3798	Ramp Junction Speed (S), mi/h	62.1
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	32.3
Level of Service (LOS)	E	5.9-8	

APPENDIX 5.10:

**E+P (PROJECT BUILDOUT) CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS
WORKSHEETS**

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HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	165
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6247	467
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	3.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.971	0.926
Flow Rate (v _i), pc/h	6993	548
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.97	0.26

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	39.7
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.347
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	2000	Off-Ramp Influence Area Speed (S _R), mi/h	60.3
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.560	Outer Lanes Freeway Speed (S _O), mi/h	70.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4293	Ramp Junction Speed (S), mi/h	63.8
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	36.5
Level of Service (LOS)	E		

5.10-1

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	5780	751
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.980
Flow Rate (vi), pc/h	6411	833
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.01	0.40

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1772.5	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	2000	Speed Index (M _s)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2596
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.595	Outer Lanes Freeway Speed (S _O), mi/h	61.7
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3815	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4648	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

5.10-2

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	2836	631
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	5.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.952	0.971
Flow Rate (vi), pc/h	3238	706
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.55	0.34

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	999.7	Density in Ramp Influence Area (D _R), pc/mi/ln	22.7
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.333
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1328
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	60.7
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	67.0
Flow in Lanes 1 and 2 (v ₁₂), pc/h	1910	Ramp Junction Speed (S), mi/h	62.7
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	2616	Average Density (D), pc/mi/ln	21.0
Level of Service (LOS)	C	5.10-3	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	3264	428
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.980
Flow Rate (v _i), pc/h	3688	475
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.51	0.23

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	24.4
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.341
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1137
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	60.5
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.646	Outer Lanes Freeway Speed (S _O), mi/h	76.3
Flow in Lanes 1 and 2 (v ₁₂), pc/h	2551	Ramp Junction Speed (S), mi/h	64.6
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	19.0
Level of Service (LOS)	C		

5.10-4

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	165
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5392	641
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.980
Flow Rate (v _i), pc/h	6092	711
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.85	0.34

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	35.5
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.362
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2287
Distance to Downstream Ramp (L _{DOWN}), ft	2000	Off-Ramp Influence Area Speed (S _R), mi/h	59.9
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.575	Outer Lanes Freeway Speed (S _O), mi/h	71.8
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3805	Ramp Junction Speed (S), mi/h	63.9
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	31.8
Level of Service (LOS)	E	5.10-5	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	4751	600
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.990
Flow Rate (vi), pc/h	5368	659
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.84	0.31

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1512.0	Density in Ramp Influence Area (D _R), pc/mi/ln	31.5
Distance to Upstream Ramp (L _{UP}), ft	2000	Speed Index (M _s)	0.450
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2174
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	57.4
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.595	Outer Lanes Freeway Speed (S _O), mi/h	64.0
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3194	Ramp Junction Speed (S), mi/h	59.6
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3853	Average Density (D), pc/mi/ln	33.7
Level of Service (LOS)	D 5.10-6		

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	4618	582
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.971
Flow Rate (vi), pc/h	5122	652
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.80	0.31

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1391.3	Density in Ramp Influence Area (D _R), pc/mi/ln	31.0
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.433
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2100
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	57.9
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	64.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3022	Ramp Junction Speed (S), mi/h	60.0
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3674	Average Density (D), pc/mi/ln	32.1
Level of Service (LOS)	D 5.10-7		

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	E+P (Project Buildout)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	Mostly Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	1.000
Final Capacity Adjustment Factor (CAF)	0.968	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5450	832
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (v _i), pc/h	6045	913
Capacity (c), pc/h	6824	2100
Volume-to-Capacity Ratio (v/c)	0.89	0.43

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	35.3
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.380
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2222
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.567	Outer Lanes Freeway Speed (S _O), mi/h	70.0
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3823	Ramp Junction Speed (S), mi/h	62.0
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	32.5
Level of Service (LOS)	E	5.10-8	

APPENDIX 5.11:

**E+P (PHASE 1) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS
WITH IMPROVEMENTS**

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Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

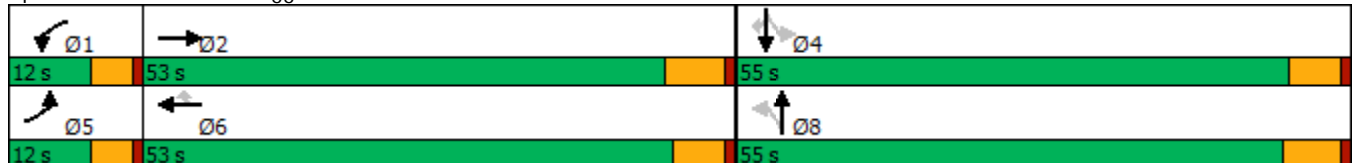


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↗	↙	↗		↕	↗
Traffic Volume (vph)	10	423	6	599	6	226	4	16	14	49
Future Volume (vph)	10	423	6	599	6	226	4	16	14	49
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		4		4
Detector Phase	5	2	1	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	53.0	12.0	53.0	53.0	55.0	55.0	55.0	55.0	55.0
Total Split (%)	10.0%	44.2%	10.0%	44.2%	44.2%	45.8%	45.8%	45.8%	45.8%	45.8%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	4.8	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
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	5.8	5.8	6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 84
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗			↖	↗
Traffic Volume (veh/h)	10	423	222	6	599	6	226	4	10	16	14	49
Future Volume (veh/h)	10	423	222	6	599	6	226	4	10	16	14	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	10	432	181	6	611	3	231	4	6	16	14	16
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	22	566	235	14	805	359	849	380	570	524	440	893
Arrive On Green	0.01	0.23	0.23	0.01	0.23	0.23	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1781	2448	1016	1781	3554	1585	1380	675	1013	818	782	1585
Grp Volume(v), veh/h	10	312	301	6	611	3	231	0	10	30	0	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1687	1781	1777	1585	1380	0	1688	1599	0	1585
Q Serve(g_s), s	0.5	14.3	14.6	0.3	14.0	0.1	7.8	0.0	0.2	0.0	0.0	0.4
Cycle Q Clear(g_c), s	0.5	14.3	14.6	0.3	14.0	0.1	8.4	0.0	0.2	0.6	0.0	0.4
Prop In Lane	1.00		0.60	1.00		1.00	1.00		0.60	0.53		1.00
Lane Grp Cap(c), veh/h	22	411	390	14	805	359	849	0	951	964	0	893
V/C Ratio(X)	0.46	0.76	0.77	0.43	0.76	0.01	0.27	0.00	0.01	0.03	0.00	0.02
Avail Cap(c_a), veh/h	151	946	898	151	1920	856	849	0	951	964	0	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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.9	31.3	31.4	43.2	31.6	26.2	10.3	0.0	8.4	8.5	0.0	8.4
Incr Delay (d2), s/veh	5.4	2.9	3.3	7.8	1.5	0.0	0.8	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	0.2	5.9	5.7	0.2	5.6	0.0	2.1	0.0	0.1	0.2	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	34.3	34.7	50.9	33.1	26.2	11.1	0.0	8.4	8.5	0.0	8.5
LnGrp LOS	D	C	C	D	C	C	B	A	A	A	A	A
Approach Vol, veh/h		623			620			241				46
Approach Delay, s/veh		34.7			33.2			11.0				8.5
Approach LOS		C			C			B				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	26.7		55.4	5.7	26.3		55.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	7.4	46.5		* 49	7.4	* 47		48.8				
Max Q Clear Time (g_c+I1), s	2.3	16.6		2.6	2.5	16.0		10.4				
Green Ext Time (p_c), s	0.0	3.4		0.2	0.0	3.8		0.7				

Intersection Summary

HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

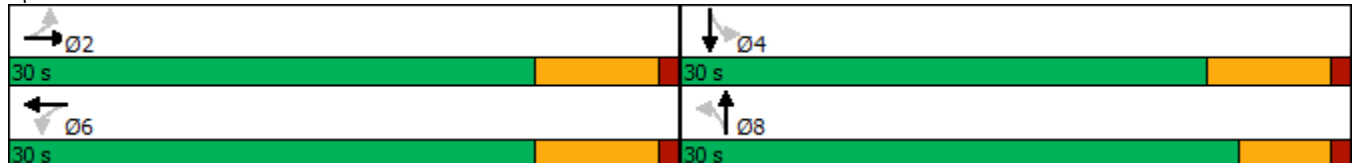


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	46	258	13	262	226	40	35	70
Future Volume (vph)	46	258	13	262	226	40	35	70
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.5	28.5	28.5	28.5	27.1	27.1	28.5	28.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	5.5	5.5	5.5	5.5	4.1	4.1	5.5	5.5
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
Total Lost Time (s)		6.5		6.5		5.1		6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 46.5
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	46	258	173	13	262	12	226	40	6	35	70	124
Future Volume (veh/h)	46	258	173	13	262	12	226	40	6	35	70	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	269	180	14	273	12	235	42	6	36	73	129
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	141	370	229	114	645	27	497	70	8	152	172	250
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	90	990	613	31	1727	74	1164	255	31	144	630	915
Grp Volume(v), veh/h	497	0	0	299	0	0	283	0	0	238	0	0
Grp Sat Flow(s),veh/h/ln	1694	0	0	1832	0	0	1450	0	0	1688	0	0
Q Serve(g_s), s	3.5	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.4	0.0	0.0	4.4	0.0	0.0	5.8	0.0	0.0	4.3	0.0	0.0
Prop In Lane	0.10		0.36	0.05		0.04	0.83		0.02	0.15		0.54
Lane Grp Cap(c), veh/h	740	0	0	786	0	0	576	0	0	574	0	0
V/C Ratio(X)	0.67	0.00	0.00	0.38	0.00	0.00	0.49	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	1177	0	0	1257	0	0	1081	0	0	1165	0	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	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.1	0.0	0.0	8.6	0.0	0.0	11.7	0.0	0.0	11.3	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.3	0.0	0.0	0.7	0.0	0.0	0.5	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	1.9	0.0	0.0	0.9	0.0	0.0	1.6	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.2	0.0	0.0	8.9	0.0	0.0	12.3	0.0	0.0	11.8	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		497			299			283				238
Approach Delay, s/veh		11.2			8.9			12.3				11.8
Approach LOS		B			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.2		16.6		20.2		16.6				
Change Period (Y+Rc), s		6.5		6.5		6.5		* 6.5				
Max Green Setting (Gmax), s		23.5		23.5		23.5		* 25				
Max Q Clear Time (g_c+I1), s		11.4		6.3		6.4		7.8				
Green Ext Time (p_c), s		2.3		1.1		1.3		1.6				

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
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

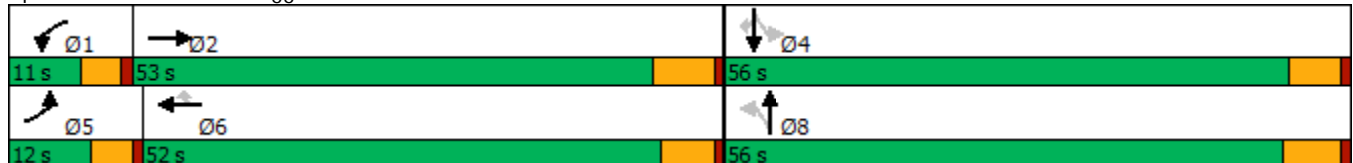


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	20	595	2	508	9	248	13	5	24
Future Volume (vph)	20	595	2	508	9	248	13	5	24
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	NA	Perm
Protected Phases	5	2	1	6			8	4	
Permitted Phases					6	8			4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8
Total Split (s)	12.0	53.0	11.0	52.0	52.0	56.0	56.0	56.0	56.0
Total Split (%)	10.0%	44.2%	9.2%	43.3%	43.3%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	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	5.8	5.8	6.2	6.2	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 95
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↗	↖	↗			↕	↗
Traffic Volume (veh/h)	20	595	238	2	508	9	248	13	7	0	5	24
Future Volume (veh/h)	20	595	238	2	508	9	248	13	7	0	5	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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	640	224	2	546	6	267	14	5	0	5	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	41	777	272	5	997	445	799	681	243	0	969	821
Arrive On Green	0.02	0.30	0.30	0.00	0.28	0.28	0.52	0.52	0.52	0.00	0.52	0.52
Sat Flow, veh/h	1781	2582	903	1781	3554	1585	1404	1316	470	0	1870	1585
Grp Volume(v), veh/h	22	440	424	2	546	6	267	0	19	0	5	6
Grp Sat Flow(s),veh/h/ln	1781	1777	1708	1781	1777	1585	1404	0	1786	0	1870	1585
Q Serve(g_s), s	1.2	22.3	22.4	0.1	12.7	0.3	11.0	0.0	0.5	0.0	0.1	0.2
Cycle Q Clear(g_c), s	1.2	22.3	22.4	0.1	12.7	0.3	11.1	0.0	0.5	0.0	0.1	0.2
Prop In Lane	1.00		0.53	1.00		1.00	1.00		0.26	0.00		1.00
Lane Grp Cap(c), veh/h	41	535	514	5	997	445	799	0	925	0	969	821
V/C Ratio(X)	0.54	0.82	0.82	0.42	0.55	0.01	0.33	0.00	0.02	0.00	0.01	0.01
Avail Cap(c_a), veh/h	136	852	819	118	1694	755	799	0	925	0	969	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	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	31.5	31.5	48.3	29.6	25.2	14.0	0.0	11.4	0.0	11.3	11.3
Incr Delay (d2), s/veh	4.0	3.6	3.8	19.8	0.5	0.0	1.1	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	9.2	8.9	0.1	5.0	0.1	3.3	0.0	0.2	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	35.1	35.3	68.1	30.1	25.2	15.1	0.0	11.4	0.0	11.3	11.3
LnGrp LOS	D	D	D	E	C	C	B	A	B	A	B	B
Approach Vol, veh/h		886			554			286			11	
Approach Delay, s/veh		35.6			30.2			14.9			11.3	
Approach LOS		D			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	35.7		56.4	6.8	33.7		56.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	6.4	46.5		* 50	7.4	* 46		49.8				
Max Q Clear Time (g_c+I1), s	2.1	24.4		2.2	3.2	14.7		13.1				
Green Ext Time (p_c), s	0.0	4.8		0.0	0.0	3.3		0.8				

Intersection Summary

HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

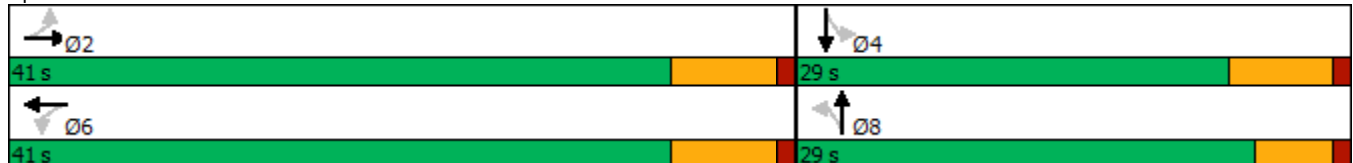


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	148	283	13	297	126	34	14	40
Future Volume (vph)	148	283	13	297	126	34	14	40
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.5	28.5	28.5	28.5	27.1	27.1	28.5	28.5
Total Split (s)	41.0	41.0	41.0	41.0	29.0	29.0	29.0	29.0
Total Split (%)	58.6%	58.6%	58.6%	58.6%	41.4%	41.4%	41.4%	41.4%
Yellow Time (s)	5.5	5.5	5.5	5.5	4.1	4.1	5.5	5.5
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
Total Lost Time (s)		6.5		6.5		5.1		6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 54.1
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	148	283	134	13	297	26	126	34	9	14	40	94
Future Volume (veh/h)	148	283	134	13	297	26	126	34	9	14	40	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	161	308	146	14	323	28	137	37	10	15	43	102
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	260	404	174	98	770	65	387	93	19	108	124	246
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	333	874	376	24	1663	140	1030	398	82	69	531	1055
Grp Volume(v), veh/h	615	0	0	365	0	0	184	0	0	160	0	0
Grp Sat Flow(s),veh/h/ln	1582	0	0	1827	0	0	1510	0	0	1655	0	0
Q Serve(g_s), s	8.4	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.1	0.0	0.0	5.7	0.0	0.0	3.8	0.0	0.0	3.5	0.0	0.0
Prop In Lane	0.26		0.24	0.04		0.08	0.74		0.05	0.09		0.64
Lane Grp Cap(c), veh/h	838	0	0	933	0	0	499	0	0	478	0	0
V/C Ratio(X)	0.73	0.00	0.00	0.39	0.00	0.00	0.37	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	1349	0	0	1542	0	0	938	0	0	953	0	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	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	7.7	0.0	0.0	14.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.3	0.0	0.0	0.5	0.0	0.0	0.4	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	2.5	0.0	0.0	1.1	0.0	0.0	1.3	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.9	0.0	0.0	8.0	0.0	0.0	14.4	0.0	0.0	14.3	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		615			365			184				160
Approach Delay, s/veh		10.9			8.0			14.4				14.3
Approach LOS		B			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.3		16.5		26.3		16.5				
Change Period (Y+Rc), s		6.5		6.5		6.5		* 6.5				
Max Green Setting (Gmax), s		34.5		22.5		34.5		* 24				
Max Q Clear Time (g_c+I1), s		16.1		5.5		7.7		5.8				
Green Ext Time (p_c), s		3.7		0.6		1.9		0.9				

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.

APPENDIX 5.12:

**E+P (PROJECT BUILDOUT) CONDITIONS INTERSECTION OPERATIONS ANALYSIS
WORKSHEETS WITH IMPROVEMENTS**

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Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

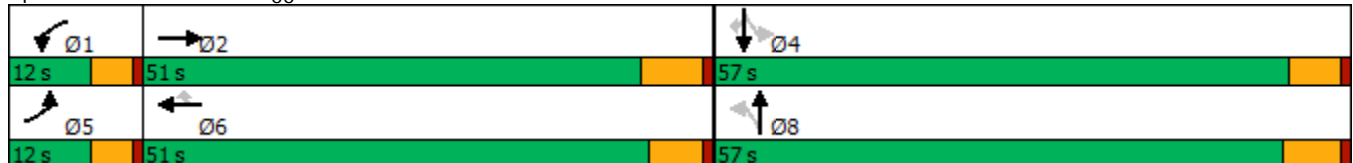


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	10	455	6	698	6	226	4	16	14	49
Future Volume (vph)	10	455	6	698	6	226	4	16	14	49
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		4		4
Detector Phase	5	2	1	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	51.0	12.0	51.0	51.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	10.0%	42.5%	10.0%	42.5%	42.5%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	4.8	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
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	5.8	5.8	6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 88.8
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗			↖	↗
Traffic Volume (veh/h)	10	455	222	6	698	6	226	4	10	16	14	49
Future Volume (veh/h)	10	455	222	6	698	6	226	4	10	16	14	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	10	464	181	6	712	3	231	4	6	16	14	16
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	22	649	251	14	906	404	823	370	555	508	427	868
Arrive On Green	0.01	0.26	0.26	0.01	0.25	0.25	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1781	2504	969	1781	3554	1585	1380	675	1013	819	780	1585
Grp Volume(v), veh/h	10	328	317	6	712	3	231	0	10	30	0	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1696	1781	1777	1585	1380	0	1688	1599	0	1585
Q Serve(g_s), s	0.5	15.7	15.9	0.3	17.4	0.1	8.6	0.0	0.3	0.0	0.0	0.4
Cycle Q Clear(g_c), s	0.5	15.7	15.9	0.3	17.4	0.1	9.3	0.0	0.3	0.7	0.0	0.4
Prop In Lane	1.00		0.57	1.00		1.00	1.00		0.60	0.53		1.00
Lane Grp Cap(c), veh/h	22	461	440	14	906	404	823	0	925	935	0	868
V/C Ratio(X)	0.46	0.71	0.72	0.44	0.79	0.01	0.28	0.00	0.01	0.03	0.00	0.02
Avail Cap(c_a), veh/h	141	846	807	141	1719	767	823	0	925	935	0	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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.9	31.4	31.5	46.2	32.4	26.0	11.9	0.0	9.6	9.7	0.0	9.7
Incr Delay (d2), s/veh	5.5	2.1	2.2	7.9	1.6	0.0	0.9	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	0.3	6.4	6.2	0.2	7.0	0.0	2.5	0.0	0.1	0.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	33.5	33.8	54.1	34.0	26.0	12.7	0.0	9.6	9.8	0.0	9.7
LnGrp LOS	D	C	C	D	C	C	B	A	A	A	A	A
Approach Vol, veh/h		655			721			241				46
Approach Delay, s/veh		33.9			34.1			12.6				9.7
Approach LOS		C			C			B				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	30.7		57.4	5.7	30.3		57.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	7.4	44.5		* 51	7.4	* 45		50.8				
Max Q Clear Time (g_c+I1), s	2.3	17.9		2.7	2.5	19.4		11.3				
Green Ext Time (p_c), s	0.0	3.5		0.2	0.0	4.4		0.7				

Intersection Summary

HCM 6th Ctrl Delay	30.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

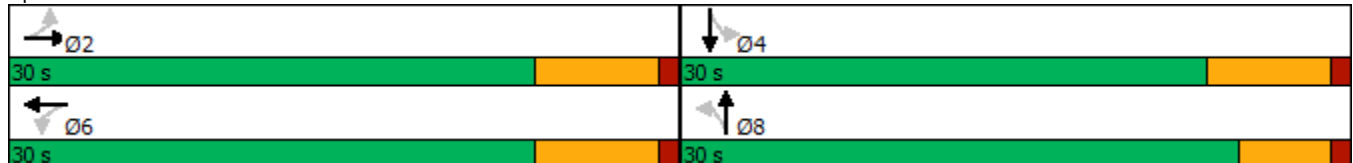


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	78	258	13	262	226	43	45	82
Future Volume (vph)	78	258	13	262	226	43	45	82
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.5	28.5	28.5	28.5	27.1	27.1	28.5	28.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	5.5	5.5	5.5	5.5	4.1	4.1	5.5	5.5
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
Total Lost Time (s)		6.5		6.5		5.1		6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 48.2
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	78	258	173	13	262	15	226	43	6	45	82	223
Future Volume (veh/h)	78	258	173	13	262	15	226	43	6	45	82	223
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	269	180	14	273	16	235	45	6	47	85	232
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	160	352	214	98	654	37	429	71	7	136	156	349
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	169	920	560	30	1707	97	873	224	24	134	488	1094
Grp Volume(v), veh/h	530	0	0	303	0	0	286	0	0	364	0	0
Grp Sat Flow(s),veh/h/ln	1649	0	0	1834	0	0	1121	0	0	1717	0	0
Q Serve(g_s), s	7.3	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.5	0.0	0.0	5.3	0.0	0.0	10.3	0.0	0.0	7.9	0.0	0.0
Prop In Lane	0.15		0.34	0.05		0.05	0.82		0.02	0.13		0.64
Lane Grp Cap(c), veh/h	727	0	0	789	0	0	508	0	0	640	0	0
V/C Ratio(X)	0.73	0.00	0.00	0.38	0.00	0.00	0.56	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	976	0	0	1066	0	0	798	0	0	994	0	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	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	0.0	0.0	9.9	0.0	0.0	13.6	0.0	0.0	12.9	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.3	0.0	0.0	1.0	0.0	0.0	0.8	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	3.0	0.0	0.0	1.3	0.0	0.0	2.1	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.9	0.0	0.0	10.2	0.0	0.0	14.5	0.0	0.0	13.7	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		530			303			286				364
Approach Delay, s/veh		13.9			10.2			14.5				13.7
Approach LOS		B			B			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.2		20.4		23.2		20.4				
Change Period (Y+Rc), s		6.5		6.5		6.5		* 6.5				
Max Green Setting (Gmax), s		23.5		23.5		23.5		* 25				
Max Q Clear Time (g_c+I1), s		14.5		9.9		7.3		12.3				
Green Ext Time (p_c), s		2.1		1.6		1.3		1.6				

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

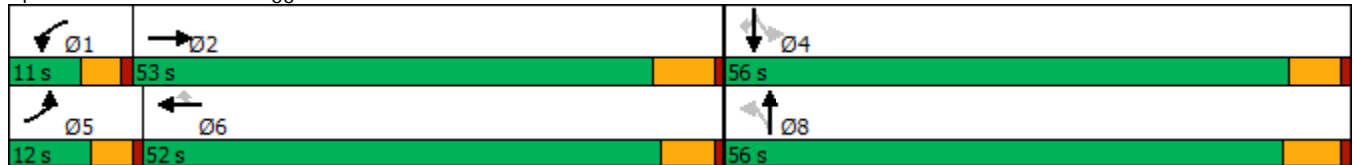


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	20	705	2	573	9	248	13	5	24
Future Volume (vph)	20	705	2	573	9	248	13	5	24
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	NA	Perm
Protected Phases	5	2	1	6			8	4	
Permitted Phases					6	8			4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8
Total Split (s)	12.0	53.0	11.0	52.0	52.0	56.0	56.0	56.0	56.0
Total Split (%)	10.0%	44.2%	9.2%	43.3%	43.3%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	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	5.8	5.8	6.2	6.2	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99.5
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	705	238	2	573	9	248	13	7	0	5	24
Future Volume (veh/h)	20	705	238	2	573	9	248	13	7	0	5	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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	758	224	2	616	6	267	14	5	0	5	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	41	898	265	5	1108	494	764	651	233	0	926	784
Arrive On Green	0.02	0.33	0.33	0.00	0.31	0.31	0.49	0.49	0.49	0.00	0.49	0.49
Sat Flow, veh/h	1781	2704	799	1781	3554	1585	1404	1316	470	0	1870	1585
Grp Volume(v), veh/h	22	498	484	2	616	6	267	0	19	0	5	6
Grp Sat Flow(s),veh/h/ln	1781	1777	1727	1781	1777	1585	1404	0	1786	0	1870	1585
Q Serve(g_s), s	1.2	26.4	26.4	0.1	14.6	0.3	12.1	0.0	0.6	0.0	0.1	0.2
Cycle Q Clear(g_c), s	1.2	26.4	26.4	0.1	14.6	0.3	12.2	0.0	0.6	0.0	0.1	0.2
Prop In Lane	1.00		0.46	1.00		1.00	1.00		0.26	0.00		1.00
Lane Grp Cap(c), veh/h	41	590	573	5	1108	494	764	0	884	0	926	784
V/C Ratio(X)	0.54	0.84	0.84	0.42	0.56	0.01	0.35	0.00	0.02	0.00	0.01	0.01
Avail Cap(c_a), veh/h	130	814	791	112	1618	722	764	0	884	0	926	784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	0.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	31.5	31.5	50.5	29.1	24.1	16.1	0.0	13.1	0.0	13.0	13.0
Incr Delay (d2), s/veh	4.1	6.0	6.1	19.9	0.4	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	0.6	11.2	10.9	0.1	5.8	0.1	3.7	0.0	0.2	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	37.4	37.6	70.4	29.5	24.1	17.3	0.0	13.1	0.0	13.0	13.0
LnGrp LOS	D	D	D	E	C	C	B	A	B	A	B	B
Approach Vol, veh/h		1004			624			286			11	
Approach Delay, s/veh		37.9			29.6			17.1			13.0	
Approach LOS		D			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	40.2		56.4	6.9	38.1		56.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	6.4	46.5		* 50	7.4	* 46		49.8				
Max Q Clear Time (g_c+I1), s	2.1	28.4		2.2	3.2	16.6		14.2				
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	3.8		0.8				

Intersection Summary

HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

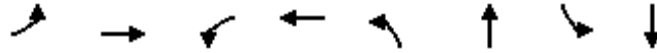
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

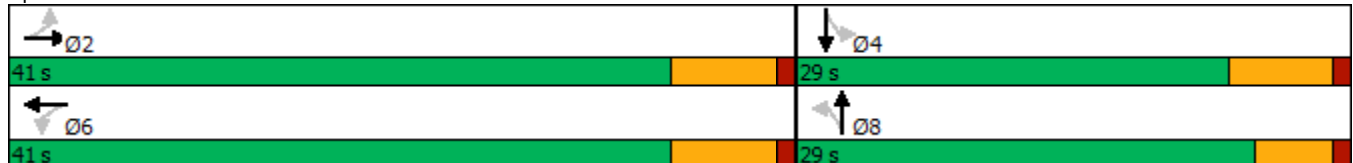


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	258	283	13	297	126	47	21	48
Future Volume (vph)	258	283	13	297	126	47	21	48
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.5	28.5	28.5	28.5	27.1	27.1	28.5	28.5
Total Split (s)	41.0	41.0	41.0	41.0	29.0	29.0	29.0	29.0
Total Split (%)	58.6%	58.6%	58.6%	58.6%	41.4%	41.4%	41.4%	41.4%
Yellow Time (s)	5.5	5.5	5.5	5.5	4.1	4.1	5.5	5.5
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
Total Lost Time (s)		6.5		6.5		5.1		6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 61.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	258	283	134	13	297	37	126	47	9	21	48	159
Future Volume (veh/h)	258	283	134	13	297	37	126	47	9	21	48	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	280	308	146	14	323	40	137	51	10	23	52	173
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	381	359	160	85	887	107	281	86	13	94	84	233
Arrive On Green	0.55	0.55	0.55	0.55	0.55	0.55	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	517	652	290	23	1610	194	828	434	67	87	426	1184
Grp Volume(v), veh/h	734	0	0	377	0	0	198	0	0	248	0	0
Grp Sat Flow(s),veh/h/ln	1459	0	0	1827	0	0	1329	0	0	1697	0	0
Q Serve(g_s), s	16.8	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	22.8	0.0	0.0	6.0	0.0	0.0	7.2	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.38		0.20	0.04		0.11	0.69		0.05	0.09		0.70
Lane Grp Cap(c), veh/h	900	0	0	1078	0	0	380	0	0	411	0	0
V/C Ratio(X)	0.82	0.00	0.00	0.35	0.00	0.00	0.52	0.00	0.00	0.60	0.00	0.00
Avail Cap(c_a), veh/h	1065	0	0	1290	0	0	728	0	0	797	0	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	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.8	0.0	0.0	6.5	0.0	0.0	19.3	0.0	0.0	19.5	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.0	0.0	0.2	0.0	0.0	1.1	0.0	0.0	1.4	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	4.2	0.0	0.0	1.2	0.0	0.0	2.1	0.0	0.0	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	0.0	0.0	6.7	0.0	0.0	20.5	0.0	0.0	20.9	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		734			377			198				248
Approach Delay, s/veh		14.1			6.7			20.5				20.9
Approach LOS		B			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.8		16.6		34.8		16.6				
Change Period (Y+Rc), s		6.5		6.5		6.5		* 6.5				
Max Green Setting (Gmax), s		34.5		22.5		34.5		* 24				
Max Q Clear Time (g_c+I1), s		24.8		8.9		8.0		9.2				
Green Ext Time (p_c), s		3.5		1.0		2.0		1.0				

Intersection Summary

HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 6.1:

EAP (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

01/31/2018

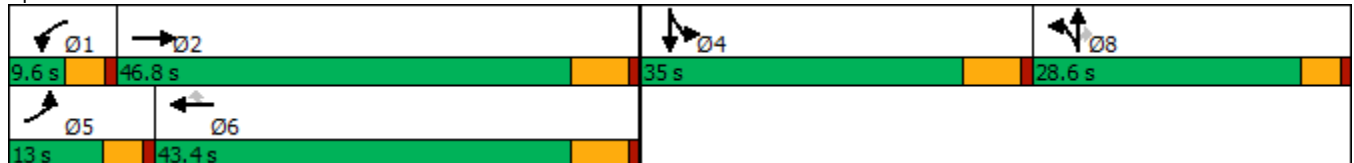


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	72	429	27	412	632	14	56	7	566	25
Future Volume (vph)	72	429	27	412	632	14	56	7	566	25
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	13.0	46.8	9.6	43.4	43.4	28.6	28.6	28.6	35.0	35.0
Total Split (%)	10.8%	39.0%	8.0%	36.2%	36.2%	23.8%	23.8%	23.8%	29.2%	29.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113.8
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	429	13	27	412	632	14	56	7	566	25	42
Future Volume (veh/h)	72	429	13	27	412	632	14	56	7	566	25	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	477	13	30	458	410	16	62	5	687	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	575	16	48	537	455	377	396	335	904	475	0
Arrive On Green	0.06	0.32	0.32	0.03	0.29	0.29	0.21	0.21	0.21	0.25	0.00	0.00
Sat Flow, veh/h	1781	1812	49	1781	1870	1585	1781	1870	1585	3563	1870	0
Grp Volume(v), veh/h	80	0	490	30	458	410	16	62	5	687	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1861	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	5.0	0.0	27.7	1.9	26.2	28.2	0.8	3.1	0.3	20.2	0.0	0.0
Cycle Q Clear(g_c), s	5.0	0.0	27.7	1.9	26.2	28.2	0.8	3.1	0.3	20.2	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	102	0	591	48	537	455	377	396	335	904	475	0
V/C Ratio(X)	0.79	0.00	0.83	0.62	0.85	0.90	0.04	0.16	0.01	0.76	0.00	0.00
Avail Cap(c_a), veh/h	132	0	666	79	613	520	377	396	335	904	475	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	52.8	0.0	35.9	54.6	38.2	38.9	35.6	36.5	35.4	39.1	0.0	0.0
Incr Delay (d2), s/veh	15.6	0.0	7.9	4.9	10.1	17.3	0.2	0.8	0.1	6.0	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	2.6	0.0	13.1	0.9	12.8	12.5	0.4	1.5	0.1	9.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.4	0.0	43.8	59.5	48.3	56.2	35.8	37.3	35.5	45.1	0.0	0.0
LnGrp LOS	E	A	D	E	D	E	D	D	D	D	A	A
Approach Vol, veh/h		570			898			83			687	
Approach Delay, s/veh		47.2			52.3			36.9			45.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	42.2		35.0	11.1	38.8		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	40.6		28.8	8.4	37.2		24.0				
Max Q Clear Time (g_c+I1), s	3.9	29.7		22.2	7.0	30.2		5.1				
Green Ext Time (p_c), s	0.0	2.0		1.5	0.0	2.4		0.3				

Intersection Summary

HCM 6th Ctrl Delay	48.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

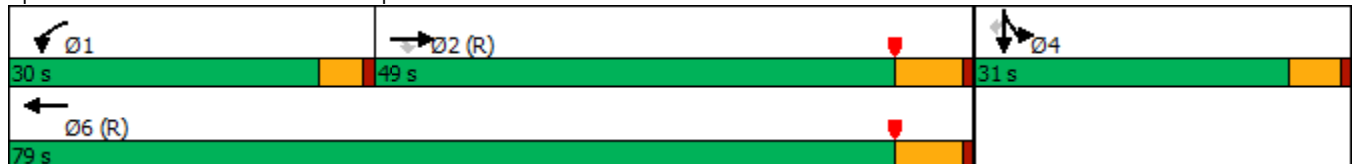


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	586	392	370	930	2	141
Future Volume (vph)	586	392	370	930	2	141
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	49.0	49.0	30.0	79.0	31.0	31.0
Total Split (%)	44.5%	44.5%	27.3%	71.8%	28.2%	28.2%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	586	392	370	930	0	0	0	0	339	2	141
Future Volume (veh/h)	0	586	392	370	930	0	0	0	0	339	2	141
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	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	617	286	389	979	0				357	2	95
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	723	612	411	1233	0				414	2	370
Arrive On Green	0.00	0.39	0.39	0.15	0.44	0.00				0.23	0.23	0.23
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1772	10	1585
Grp Volume(v), veh/h	0	617	286	389	979	0				359	0	95
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1782	0	1585
Q Serve(g_s), s	0.0	33.2	14.9	23.8	49.5	0.0				21.3	0.0	5.4
Cycle Q Clear(g_c), s	0.0	33.2	14.9	23.8	49.5	0.0				21.3	0.0	5.4
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	723	612	411	1233	0				416	0	370
V/C Ratio(X)	0.00	0.85	0.47	0.95	0.79	0.00				0.86	0.00	0.26
Avail Cap(c_a), veh/h	0	723	612	411	1233	0				416	0	370
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.50	0.50	0.21	0.21	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	30.9	25.3	45.8	24.3	0.0				40.5	0.0	34.4
Incr Delay (d2), s/veh	0.0	6.6	1.3	10.2	1.2	0.0				20.4	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
%ile BackOfQ(50%),veh/ln	0.0	15.1	5.4	11.7	22.1	0.0				11.3	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	37.5	26.6	56.0	25.5	0.0				60.8	0.0	36.0
LnGrp LOS	A	D	C	E	C	A				E	A	D
Approach Vol, veh/h		903			1368						454	
Approach Delay, s/veh		34.0			34.1						55.6	
Approach LOS		C			C						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.0	49.0		31.0		79.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	25.4	42.5		25.7		72.5						
Max Q Clear Time (g_c+I1), s	25.8	35.2		23.3		51.5						
Green Ext Time (p_c), s	0.0	1.8		0.4		4.0						

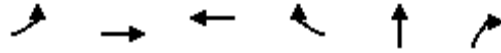
Intersection Summary

HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

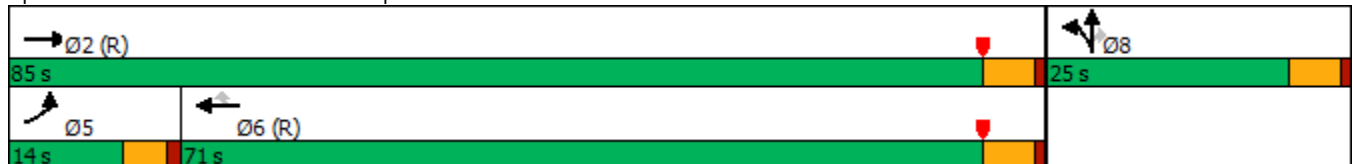


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	107	817	1050	520	1	192
Future Volume (vph)	107	817	1050	520	1	192
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0
Total Split (s)	14.0	85.0	71.0	71.0	25.0	25.0
Total Split (%)	12.7%	77.3%	64.5%	64.5%	22.7%	22.7%
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3
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	5.3	5.3	5.3	5.3	5.3
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	817	0	0	1050	520	250	1	192	0	0	0
Future Volume (veh/h)	107	817	0	0	1050	520	250	1	192	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		0.99			
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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	108	825	0	0	1061	501	253	1	77			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	134	1355	0	0	1137	943	318	1	280			
Arrive On Green	0.08	0.72	0.00	0.00	0.61	0.61	0.18	0.18	0.18			
Sat Flow, veh/h	1781	1870	0	0	1870	1552	1775	7	1564			
Grp Volume(v), veh/h	108	825	0	0	1061	501	254	0	77			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1552	1782	0	1564			
Q Serve(g_s), s	6.6	23.9	0.0	0.0	56.6	20.6	15.0	0.0	4.7			
Cycle Q Clear(g_c), s	6.6	23.9	0.0	0.0	56.6	20.6	15.0	0.0	4.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	134	1355	0	0	1137	943	319	0	280			
V/C Ratio(X)	0.81	0.61	0.00	0.00	0.93	0.53	0.80	0.00	0.27			
Avail Cap(c_a), veh/h	152	1355	0	0	1137	943	319	0	280			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.41	0.41	0.00	0.00	0.47	0.47	1.00	0.00	1.00			
Uniform Delay (d), s/veh	50.1	7.5	0.0	0.0	19.6	12.5	43.2	0.0	39.0			
Incr Delay (d2), s/veh	9.7	0.8	0.0	0.0	8.2	1.0	18.4	0.0	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			
%ile BackOfQ(50%),veh/ln	3.2	6.8	0.0	0.0	22.2	6.2	8.0	0.0	1.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	8.3	0.0	0.0	27.8	13.5	61.6	0.0	41.4			
LnGrp LOS	E	A	A	A	C	B	E	A	D			
Approach Vol, veh/h		933			1562			331				
Approach Delay, s/veh		14.3			23.2			56.9				
Approach LOS		B			C			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		85.0			12.9	72.1		25.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		79.7			9.4	65.7		19.7				
Max Q Clear Time (g_c+I1), s		25.9			8.6	58.6		17.0				
Green Ext Time (p_c), s		3.3			0.0	3.4		0.3				

Intersection Summary

HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

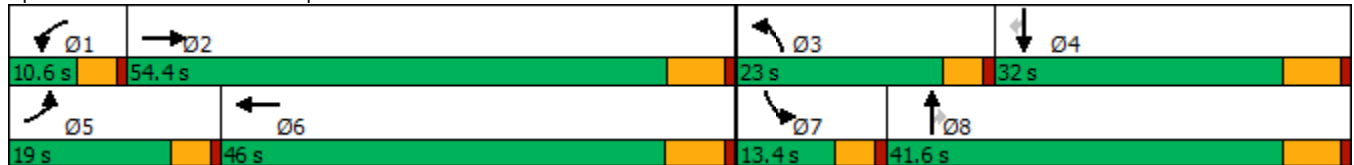


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	115	584	35	896	349	73	71	45	132	325
Future Volume (vph)	115	584	35	896	349	73	71	45	132	325
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	19.0	54.4	10.6	46.0	23.0	41.6	41.6	13.4	32.0	32.0
Total Split (%)	15.8%	45.3%	8.8%	38.3%	19.2%	34.7%	34.7%	11.2%	26.7%	26.7%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 111.6
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	584	311	35	896	22	349	73	71	45	132	325
Future Volume (veh/h)	115	584	311	35	896	22	349	73	71	45	132	325
Initial Q (Qb), 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	125	635	251	38	974	21	379	79	36	49	143	331
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	154	924	365	57	1128	24	450	646	548	65	471	399
Arrive On Green	0.09	0.37	0.37	0.03	0.32	0.32	0.13	0.35	0.35	0.04	0.25	0.25
Sat Flow, veh/h	1781	2487	982	1781	3555	77	3456	1870	1585	1781	1870	1583
Grp Volume(v), veh/h	125	454	432	38	487	508	379	79	36	49	143	331
Grp Sat Flow(s),veh/h/ln	1781	1777	1692	1781	1777	1855	1728	1870	1585	1781	1870	1583
Q Serve(g_s), s	7.1	22.1	22.1	2.2	26.4	26.4	11.0	3.0	1.6	2.8	6.3	20.3
Cycle Q Clear(g_c), s	7.1	22.1	22.1	2.2	26.4	26.4	11.0	3.0	1.6	2.8	6.3	20.3
Prop In Lane	1.00		0.58	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	660	629	57	564	589	450	646	548	65	471	399
V/C Ratio(X)	0.81	0.69	0.69	0.66	0.86	0.86	0.84	0.12	0.07	0.75	0.30	0.83
Avail Cap(c_a), veh/h	250	836	796	104	685	715	621	646	548	153	471	399
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	27.2	27.2	49.0	32.9	32.9	43.5	22.9	22.4	48.9	31.0	36.2
Incr Delay (d2), s/veh	3.9	1.7	1.8	4.8	9.5	9.2	5.6	0.4	0.2	6.3	1.7	17.8
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	3.1	8.9	8.5	1.0	11.8	12.3	4.8	1.3	0.6	1.3	2.9	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	28.8	28.9	53.8	42.4	42.0	49.1	23.3	22.7	55.1	32.7	54.1
LnGrp LOS	D	C	C	D	D	D	D	C	C	E	C	D
Approach Vol, veh/h		1011			1033			494			523	
Approach Delay, s/veh		31.5			42.6			43.1			48.3	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	44.6	17.9	32.0	13.5	39.0	8.4	41.6				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	6.0	* 48	18.4	25.8	14.4	39.5	8.8	35.4				
Max Q Clear Time (g_c+I1), s	4.2	24.1	13.0	22.3	9.1	28.4	4.8	5.0				
Green Ext Time (p_c), s	0.0	5.3	0.4	0.7	0.1	4.1	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	20.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↔		↵	↕↔		↵	↕↔		↵	↕↔	
Traffic Vol, veh/h	115	78	16	80	172	119	40	289	94	68	270	88
Future Vol, veh/h	115	78	16	80	172	119	40	289	94	68	270	88
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	146	99	20	101	218	151	51	366	119	86	342	111
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	17.6	19.2	23.3	21.3
HCM LOS	C	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	51%	0%	100%	62%	0%	100%	33%	0%	100%
Vol Right, %	0%	0%	49%	0%	0%	38%	0%	0%	67%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	193	190	115	52	42	80	115	176	68	180
LT Vol	40	0	0	115	0	0	80	0	0	68	0
Through Vol	0	193	96	0	52	26	0	115	57	0	180
RT Vol	0	0	94	0	0	16	0	0	119	0	0
Lane Flow Rate	51	244	241	146	66	53	101	145	223	86	228
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.135	0.615	0.585	0.417	0.18	0.141	0.275	0.374	0.546	0.229	0.574
Departure Headway (Hd)	9.58	9.08	8.734	10.32	9.82	9.554	9.774	9.274	8.802	9.571	9.071
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	374	398	412	348	365	375	368	388	408	375	399
Service Time	7.343	6.843	6.497	8.092	7.592	7.325	7.537	7.037	6.565	7.332	6.832
HCM Lane V/C Ratio	0.136	0.613	0.585	0.42	0.181	0.141	0.274	0.374	0.547	0.229	0.571
HCM Control Delay	13.8	25.4	23.2	20.3	14.8	13.9	16.2	17.5	21.7	15.2	23.4
HCM Lane LOS	B	D	C	C	B	B	C	C	C	C	C
HCM 95th-tile Q	0.5	4	3.6	2	0.6	0.5	1.1	1.7	3.2	0.9	3.5

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

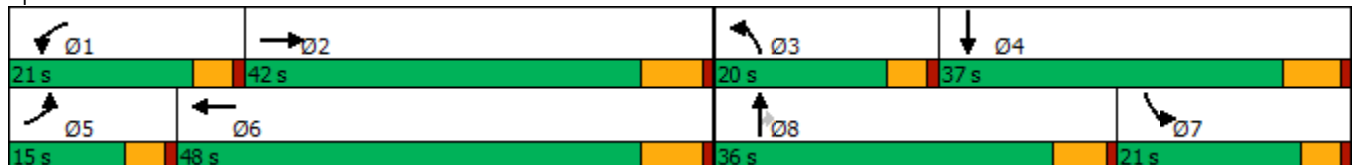


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	58	494	109	676	106	169	67	117	205
Future Volume (vph)	58	494	109	676	106	169	67	117	205
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	15.0	42.0	21.0	48.0	20.0	36.0	36.0	21.0	37.0
Total Split (%)	12.5%	35.0%	17.5%	40.0%	16.7%	30.0%	30.0%	17.5%	30.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 102.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Volume (veh/h)	58	494	116	109	676	150	106	169	67	117	205	86
Future Volume (veh/h)	58	494	116	109	676	150	106	169	67	117	205	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	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	61	520	110	115	712	143	112	178	40	123	216	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	79	748	157	145	868	174	141	609	510	154	453	162
Arrive On Green	0.04	0.26	0.26	0.08	0.29	0.29	0.08	0.33	0.33	0.09	0.35	0.35
Sat Flow, veh/h	1781	2909	612	1781	2949	592	1781	1870	1565	1781	1311	467
Grp Volume(v), veh/h	61	317	313	115	429	426	112	178	40	123	0	293
Grp Sat Flow(s),veh/h/ln	1781	1777	1744	1781	1777	1764	1781	1870	1565	1781	0	1778
Q Serve(g_s), s	3.1	14.9	15.1	5.9	20.8	20.8	5.7	6.6	1.2	6.3	0.0	12.0
Cycle Q Clear(g_c), s	3.1	14.9	15.1	5.9	20.8	20.8	5.7	6.6	1.2	6.3	0.0	12.0
Prop In Lane	1.00		0.35	1.00		0.34	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	79	457	449	145	523	519	141	609	510	154	0	615
V/C Ratio(X)	0.78	0.69	0.70	0.79	0.82	0.82	0.79	0.29	0.08	0.80	0.00	0.48
Avail Cap(c_a), veh/h	200	681	668	315	796	790	296	609	510	315	0	615
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	43.8	31.1	31.2	41.8	30.4	30.4	41.9	23.3	11.0	41.5	0.0	23.7
Incr Delay (d2), s/veh	6.0	1.9	2.0	3.7	4.1	4.2	3.7	1.2	0.3	3.6	0.0	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	1.4	6.1	6.0	2.6	8.6	8.5	2.6	2.9	0.6	2.8	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	33.0	33.2	45.5	34.5	34.6	45.7	24.5	11.3	45.1	0.0	26.4
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	A	C
Approach Vol, veh/h		691			970			330				416
Approach Delay, s/veh		34.6			35.9			30.1				31.9
Approach LOS		C			D			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	30.3	12.0	38.3	8.7	33.8	14.2	36.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	6.2	* 5.8				
Max Green Setting (Gmax), s	16.4	35.5	15.4	30.8	10.4	41.5	16.4	* 30				
Max Q Clear Time (g_c+I1), s	7.9	17.1	7.7	14.0	5.1	22.8	8.3	8.6				
Green Ext Time (p_c), s	0.1	3.1	0.1	1.3	0.0	4.5	0.1	0.9				

Intersection Summary

HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	49	12	31	0	30	2	17	14	0	0	34	63
Future Vol, veh/h	49	12	31	0	30	2	17	14	0	0	34	63
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	57	57	57	57	57	57	57	57	57	57	57	57
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	21	54	0	53	4	30	25	0	0	60	111

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	230	201	116	238	256	25	171	0	0	25	0	0
Stage 1	116	116	-	85	85	-	-	-	-	-	-	-
Stage 2	114	85	-	153	171	-	-	-	-	-	-	-
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	725	695	936	716	648	1051	1406	-	-	1589	-	-
Stage 1	889	800	-	923	824	-	-	-	-	-	-	-
Stage 2	891	824	-	849	757	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	666	680	936	647	634	1051	1406	-	-	1589	-	-
Mov Cap-2 Maneuver	666	680	-	647	634	-	-	-	-	-	-	-
Stage 1	869	800	-	903	806	-	-	-	-	-	-	-
Stage 2	812	806	-	779	757	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.2		11.1		4.2		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1406	-	-	740	650	1589	-
HCM Lane V/C Ratio	0.021	-	-	0.218	0.086	-	-
HCM Control Delay (s)	7.6	0	-	11.2	11.1	0	-
HCM Lane LOS	A	A	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.3	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

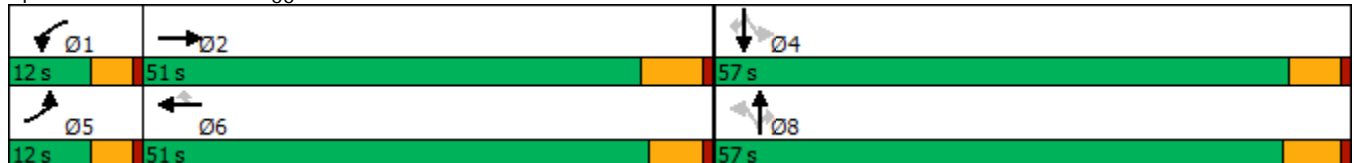


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	11	446	6	628	6	240	4	11	17	15	52
Future Volume (vph)	11	446	6	628	6	240	4	11	17	15	52
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6			8			4	
Permitted Phases					6	8		8	4		4
Detector Phase	5	2	1	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	51.0	12.0	51.0	51.0	57.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	10.0%	42.5%	10.0%	42.5%	42.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	4.8	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
Total Lost Time (s)	4.6	6.5	4.6	5.8	5.8		6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 87.9
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗		↖	↗		↖	↗
Traffic Volume (veh/h)	11	446	236	6	628	6	240	4	11	17	15	52
Future Volume (veh/h)	11	446	236	6	628	6	240	4	11	17	15	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	11	455	195	6	641	3	245	4	7	17	15	19
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	24	581	247	14	830	370	79	0	892	61	36	892
Arrive On Green	0.01	0.24	0.24	0.01	0.23	0.23	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1781	2429	1033	1781	3554	1585	0	0	1585	0	64	1585
Grp Volume(v), veh/h	11	332	318	6	641	3	249	0	7	32	0	19
Grp Sat Flow(s),veh/h/ln	1781	1777	1684	1781	1777	1585	0	0	1585	64	0	1585
Q Serve(g_s), s	0.6	15.9	16.1	0.3	15.3	0.1	0.0	0.0	0.2	0.0	0.0	0.5
Cycle Q Clear(g_c), s	0.6	15.9	16.1	0.3	15.3	0.1	51.2	0.0	0.2	51.2	0.0	0.5
Prop In Lane	1.00		0.61	1.00		1.00	0.98		1.00	0.53		1.00
Lane Grp Cap(c), veh/h	24	425	403	14	830	370	79	0	892	97	0	892
V/C Ratio(X)	0.46	0.78	0.79	0.44	0.77	0.01	3.17	0.00	0.01	0.33	0.00	0.02
Avail Cap(c_a), veh/h	145	869	824	145	1766	788	79	0	892	97	0	892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	44.6	32.4	32.5	44.9	32.6	26.8	45.5	0.0	8.7	22.3	0.0	8.8
Incr Delay (d2), s/veh	5.1	3.2	3.5	7.9	1.6	0.0	1009.5	0.0	0.0	8.9	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	6.6	6.4	0.2	6.2	0.0	23.7	0.0	0.1	0.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	35.5	35.9	52.8	34.2	26.8	1055.0	0.0	8.7	31.2	0.0	8.8
LnGrp LOS	D	D	D	D	C	C	F	A	A	C	A	A
Approach Vol, veh/h		661			650			256				51
Approach Delay, s/veh		36.0			34.3			1026.4				22.9
Approach LOS		D			C			F				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	28.3		57.4	5.8	27.8		57.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	7.4	44.5		* 51	7.4	* 45		50.8				
Max Q Clear Time (g_c+I1), s	2.3	18.1		53.2	2.6	17.3		53.2				
Green Ext Time (p_c), s	0.0	3.6		0.0	0.0	3.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	191.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh 8.1

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	9	10	86	19	0	28	31	33	0	55	3
Future Vol, veh/h	3	9	10	86	19	0	28	31	33	0	55	3
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	12	13	112	25	0	36	40	43	0	71	4
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	7.5	8.5	8	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	14%	82%	0%
Vol Thru, %	34%	41%	18%	95%
Vol Right, %	36%	45%	0%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	22	105	58
LT Vol	28	3	86	0
Through Vol	31	9	19	55
RT Vol	33	10	0	3
Lane Flow Rate	119	29	136	75
Geometry Grp	1	1	1	1
Degree of Util (X)	0.141	0.034	0.173	0.093
Departure Headway (Hd)	4.255	4.283	4.566	4.422
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	846	837	788	813
Service Time	2.267	2.301	2.58	2.436
HCM Lane V/C Ratio	0.141	0.035	0.173	0.092
HCM Control Delay	8	7.5	8.5	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.6	0.3

Intersection						
Int Delay, s/veh	2.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↔	↕
Traffic Vol, veh/h	62	9	83	21	3	149
Future Vol, veh/h	62	9	83	21	3	149
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	67	10	90	23	3	162

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	270	57	0	0	113
Stage 1	102	-	-	-	-
Stage 2	168	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13
Critical Hdwy Stg 1	5.83	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219
Pot Cap-1 Maneuver	708	998	-	-	1475
Stage 1	911	-	-	-	-
Stage 2	861	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	707	998	-	-	1475
Mov Cap-2 Maneuver	707	-	-	-	-
Stage 1	909	-	-	-	-
Stage 2	861	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	734	1475
HCM Lane V/C Ratio	-	-	0.105	0.002
HCM Control Delay (s)	-	-	10.5	7.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0

Intersection

Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	1	0	0	0	104	0	0	211	0
Future Vol, veh/h	0	0	1	1	0	0	0	104	0	0	211	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	53	53	53	53	53	53	53	53	53	53	53	53
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	2	0	0	0	196	0	0	398	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	594	594	398	595	594	196	398	0	0	196	0	0
Stage 1	398	398	-	196	196	-	-	-	-	-	-	-
Stage 2	196	196	-	399	398	-	-	-	-	-	-	-
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	417	418	652	416	418	845	1161	-	-	1377	-	-
Stage 1	628	603	-	806	739	-	-	-	-	-	-	-
Stage 2	806	739	-	627	603	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	417	418	652	415	418	845	1161	-	-	1377	-	-
Mov Cap-2 Maneuver	417	418	-	415	418	-	-	-	-	-	-	-
Stage 1	628	603	-	806	739	-	-	-	-	-	-	-
Stage 2	806	739	-	625	603	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.5		13.7		0		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1161	-	-	652	415	1377	-
HCM Lane V/C Ratio	-	-	-	0.003	0.005	-	-
HCM Control Delay (s)	0	-	-	10.5	13.7	0	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-

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	0	0	56	1	3	1	38	63	3	0	153	5
Future Vol, veh/h	0	0	56	1	3	1	38	63	3	0	153	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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	67	1	4	1	46	76	4	0	184	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	360	359	187	391	360	78	190	0	0	80	0	0
Stage 1	187	187	-	170	170	-	-	-	-	-	-	-
Stage 2	173	172	-	221	190	-	-	-	-	-	-	-
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	596	568	855	568	567	983	1384	-	-	1518	-	-
Stage 1	815	745	-	832	758	-	-	-	-	-	-	-
Stage 2	829	756	-	781	743	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	576	548	855	509	547	983	1384	-	-	1518	-	-
Mov Cap-2 Maneuver	576	548	-	509	547	-	-	-	-	-	-	-
Stage 1	786	745	-	803	731	-	-	-	-	-	-	-
Stage 2	795	730	-	719	743	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.6		11.2		2.8		0	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1384	-	-	855	591	1518	-
HCM Lane V/C Ratio	0.033	-	-	0.079	0.01	-	-
HCM Control Delay (s)	7.7	0	-	9.6	11.2	0	-
HCM Lane LOS	A	A	-	A	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0	0	-

Intersection	
Intersection Delay, s/veh	41.7
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	46	274	184	14	278	12	240	42	6	36	73	124
Future Vol, veh/h	46	274	184	14	278	12	240	42	6	36	73	124
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	285	192	15	290	13	250	44	6	38	76	129
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	70.7	25.4	26.1	19.6
HCM LOS	F	D	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	83%	9%	5%	15%
Vol Thru, %	15%	54%	91%	31%
Vol Right, %	2%	37%	4%	53%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	288	504	304	233
LT Vol	240	46	14	36
Through Vol	42	274	278	73
RT Vol	6	184	12	124
Lane Flow Rate	300	525	317	243
Geometry Grp	1	1	1	1
Degree of Util (X)	0.67	1.018	0.675	0.531
Departure Headway (Hd)	8.039	6.982	7.676	7.883
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	447	525	469	456
Service Time	6.123	4.982	5.757	5.973
HCM Lane V/C Ratio	0.671	1	0.676	0.533
HCM Control Delay	26.1	70.7	25.4	19.6
HCM Lane LOS	D	F	D	C
HCM 95th-tile Q	4.8	14.6	4.9	3

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	34	9	0	79	26	0
Future Vol, veh/h	34	9	0	79	26	0
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	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	10	0	86	28	0

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	47	0	128
Stage 1	-	-	-	-	42
Stage 2	-	-	-	-	86
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1560	-	866
Stage 1	-	-	-	-	980
Stage 2	-	-	-	-	937
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1560	-	866
Mov Cap-2 Maneuver	-	-	-	-	866
Stage 1	-	-	-	-	980
Stage 2	-	-	-	-	937

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	866	-	-	1560	-
HCM Lane V/C Ratio	0.033	-	-	-	-
HCM Control Delay (s)	9.3	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗		↖	↗			↔				
Traffic Vol, veh/h	0	16	18	0	26	0	53	0	0	0	0	0
Future Vol, veh/h	0	16	18	0	26	0	53	0	0	0	0	0
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	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
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	0	17	20	0	28	0	58	0	0	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	- 0 0	37	0 0 55 55 27
Stage 1	- - -	-	- 27 27 -
Stage 2	- - -	-	- 28 28 -
Critical Hdwy	- - -	4.12	- 6.42 6.52 6.22
Critical Hdwy Stg 1	- - -	-	- 5.42 5.52 -
Critical Hdwy Stg 2	- - -	-	- 5.42 5.52 -
Follow-up Hdwy	- - -	2.218	- 3.518 4.018 3.318
Pot Cap-1 Maneuver	0 - -	1574	- 953 836 1048
Stage 1	0 - -	-	- 996 873 -
Stage 2	0 - -	-	- 995 872 -
Platoon blocked, %	- - -	-	- - -
Mov Cap-1 Maneuver	- - -	1574	- 953 0 1048
Mov Cap-2 Maneuver	- - -	-	- 953 0 -
Stage 1	- - -	-	- 996 0 -
Stage 2	- - -	-	- 995 0 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	953	-	-	1574	-	-
HCM Lane V/C Ratio	0.06	-	-	-	-	-
HCM Control Delay (s)	9	-	-	0	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-	-

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	0	7	9	0	0	0	26	0	0	0	0	0
Future Vol, veh/h	0	7	9	0	0	0	26	0	0	0	0	0
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	-	-	-	-	-	-	-	-	-	-	-	-
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	0	8	10	0	0	0	28	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	18	0	0	14	14	13	14	19	1
Stage 1	-	-	-	-	-	-	13	13	-	1	1	-
Stage 2	-	-	-	-	-	-	1	1	-	13	18	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1622	-	-	1599	-	-	1002	880	1067	1002	875	1084
Stage 1	-	-	-	-	-	-	1007	885	-	1022	895	-
Stage 2	-	-	-	-	-	-	1022	895	-	1007	880	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1599	-	-	1002	880	1067	1002	875	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	1002	880	-	1002	875	-
Stage 1	-	-	-	-	-	-	1007	885	-	1022	895	-
Stage 2	-	-	-	-	-	-	1022	895	-	1007	880	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			8.7			0		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1002	1622	-	-	1599	-	-	-
HCM Lane V/C Ratio	0.028	-	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection

Int Delay, s/veh	6.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	0	0	0	0	9
Future Vol, veh/h	26	0	0	0	0	9
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	-	-	-	-	-
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	28	0	0	0	0	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	5	5	10	0	0
Stage 1	5	-	-	-	-
Stage 2	0	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	1017	1078	1610	-	-
Stage 1	1018	-	-	-	-
Stage 2	-	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	1017	1078	1610	-	-
Mov Cap-2 Maneuver	1017	-	-	-	-
Stage 1	1018	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1610	-	1017	-	-
HCM Lane V/C Ratio	-	-	0.028	-	-
HCM Control Delay (s)	0	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

01/31/2018

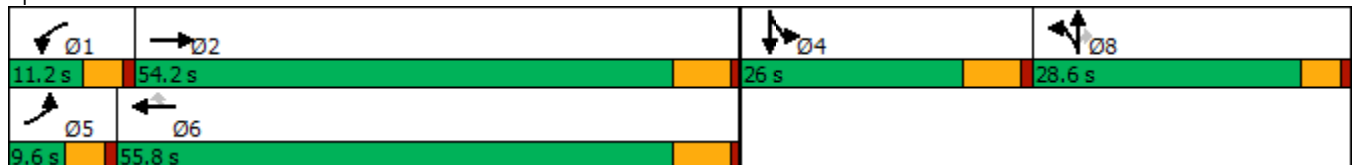


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	44	491	38	733	334	30	32	35	393	16
Future Volume (vph)	44	491	38	733	334	30	32	35	393	16
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	9.6	54.2	11.2	55.8	55.8	28.6	28.6	28.6	26.0	26.0
Total Split (%)	8.0%	45.2%	9.3%	46.5%	46.5%	23.8%	23.8%	23.8%	21.7%	21.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.7
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	491	14	38	733	334	30	32	35	393	16	65
Future Volume (veh/h)	44	491	14	38	733	334	30	32	35	393	16	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	501	11	39	748	125	31	33	10	472	0	0
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	58	758	17	54	774	656	362	380	322	597	313	0
Arrive On Green	0.03	0.42	0.42	0.03	0.41	0.41	0.20	0.20	0.20	0.17	0.00	0.00
Sat Flow, veh/h	1781	1823	40	1781	1870	1585	1781	1870	1585	3563	1870	0
Grp Volume(v), veh/h	45	0	512	39	748	125	31	33	10	472	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	3.0	0.0	26.2	2.6	46.2	5.9	1.7	1.7	0.6	15.0	0.0	0.0
Cycle Q Clear(g_c), s	3.0	0.0	26.2	2.6	46.2	5.9	1.7	1.7	0.6	15.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	58	0	775	54	774	656	362	380	322	597	313	0
V/C Ratio(X)	0.77	0.00	0.66	0.72	0.97	0.19	0.09	0.09	0.03	0.79	0.00	0.00
Avail Cap(c_a), veh/h	75	0	775	99	785	665	362	380	322	597	313	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.7	0.0	27.8	56.8	33.8	22.0	38.2	38.2	37.8	47.2	0.0	0.0
Incr Delay (d2), s/veh	22.4	0.0	2.1	6.4	23.9	0.1	0.5	0.5	0.2	10.3	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	1.7	0.0	11.3	1.2	24.4	2.1	0.8	0.8	0.3	7.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.1	0.0	29.9	63.2	57.8	22.2	38.6	38.6	37.9	57.5	0.0	0.0
LnGrp LOS	E	A	C	E	E	C	D	D	D	E	A	A
Approach Vol, veh/h		557			912			74			472	
Approach Delay, s/veh		33.9			53.1			38.6			57.5	
Approach LOS		C			D			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	55.4		26.0	8.5	55.1		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.6	48.0		19.8	5.0	49.6		24.0				
Max Q Clear Time (g_c+I1), s	4.6	28.2		17.0	5.0	48.2		3.7				
Green Ext Time (p_c), s	0.0	2.7		0.5	0.0	0.7		0.2				

Intersection Summary

HCM 6th Ctrl Delay	48.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

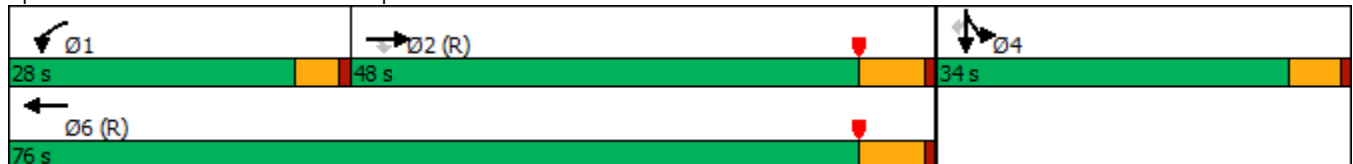


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	655	281	334	925	0	180
Future Volume (vph)	655	281	334	925	0	180
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	48.0	48.0	28.0	76.0	34.0	34.0
Total Split (%)	43.6%	43.6%	25.5%	69.1%	30.9%	30.9%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↖	↗
Traffic Volume (veh/h)	0	655	281	334	925	0	0	0	0	454	0	180
Future Volume (veh/h)	0	655	281	334	925	0	0	0	0	454	0	180
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	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	668	201	341	944	0				463	0	121
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	719	610	366	1182	0				465	0	414
Arrive On Green	0.00	0.38	0.38	0.27	0.84	0.00				0.26	0.00	0.26
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1781	0	1585
Grp Volume(v), veh/h	0	668	201	341	944	0				463	0	121
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1781	0	1585
Q Serve(g_s), s	0.0	37.6	9.8	20.5	27.0	0.0				28.6	0.0	6.7
Cycle Q Clear(g_c), s	0.0	37.6	9.8	20.5	27.0	0.0				28.6	0.0	6.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	719	610	366	1182	0				465	0	414
V/C Ratio(X)	0.00	0.93	0.33	0.93	0.80	0.00				1.00	0.00	0.29
Avail Cap(c_a), veh/h	0	719	610	379	1182	0				465	0	414
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.66	0.66	0.32	0.32	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	32.4	23.9	39.2	5.4	0.0				40.6	0.0	32.5
Incr Delay (d2), s/veh	0.0	14.7	1.0	12.5	1.9	0.0				40.8	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	18.5	3.6	9.0	4.4	0.0				17.2	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	47.1	24.8	51.8	7.3	0.0				81.4	0.0	34.3
LnGrp LOS	A	D	C	D	A	A				F	A	C
Approach Vol, veh/h		869			1285						584	
Approach Delay, s/veh		42.0			19.1						71.7	
Approach LOS		D			B						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.2	48.8		34.0		76.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	23.4	41.5		28.7		69.5						
Max Q Clear Time (g_c+I1), s	22.5	39.6		30.6		29.0						
Green Ext Time (p_c), s	0.1	0.7		0.0		4.1						

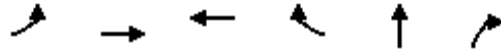
Intersection Summary

HCM 6th Ctrl Delay	37.6
HCM 6th LOS	D

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

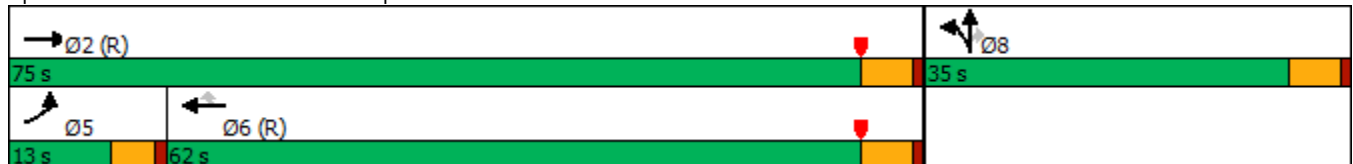


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	87	1021	857	503	0	444
Future Volume (vph)	87	1021	857	503	0	444
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0
Total Split (s)	13.0	75.0	62.0	62.0	35.0	35.0
Total Split (%)	11.8%	68.2%	56.4%	56.4%	31.8%	31.8%
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3
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	5.3	5.3	5.3	5.3	5.3
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	1021	0	0	857	503	402	0	444	0	0	0
Future Volume (veh/h)	87	1021	0	0	857	503	402	0	444	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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	88	1031	0	0	866	437	406	0	390			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	110	1185	0	0	991	840	481	0	428			
Arrive On Green	0.12	1.00	0.00	0.00	0.53	0.53	0.27	0.00	0.27			
Sat Flow, veh/h	1781	1870	0	0	1870	1585	1781	0	1585			
Grp Volume(v), veh/h	88	1031	0	0	866	437	406	0	390			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	1781	0	1585			
Q Serve(g_s), s	5.3	0.0	0.0	0.0	44.6	19.7	23.7	0.0	26.2			
Cycle Q Clear(g_c), s	5.3	0.0	0.0	0.0	44.6	19.7	23.7	0.0	26.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	110	1185	0	0	991	840	481	0	428			
V/C Ratio(X)	0.80	0.87	0.00	0.00	0.87	0.52	0.84	0.00	0.91			
Avail Cap(c_a), veh/h	136	1185	0	0	991	840	481	0	428			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.24	0.24	0.00	0.00	0.61	0.61	1.00	0.00	1.00			
Uniform Delay (d), s/veh	47.5	0.0	0.0	0.0	22.6	16.8	38.0	0.0	38.9			
Incr Delay (d2), s/veh	5.2	2.3	0.0	0.0	6.8	1.4	16.4	0.0	26.1			
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	2.3	0.8	0.0	0.0	18.6	6.6	12.1	0.0	12.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	2.3	0.0	0.0	29.5	18.2	54.4	0.0	65.0			
LnGrp LOS	D	A	A	A	C	B	D	A	E			
Approach Vol, veh/h		1119			1303			796				
Approach Delay, s/veh		6.3			25.7			59.6				
Approach LOS		A			C			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		75.0			11.4	63.6		35.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		69.7			8.4	56.7		29.7				
Max Q Clear Time (g_c+I1), s		2.0			7.3	46.6		28.2				
Green Ext Time (p_c), s		4.9			0.0	3.2		0.4				
Intersection Summary												
HCM 6th Ctrl Delay					27.3							
HCM 6th LOS					C							

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

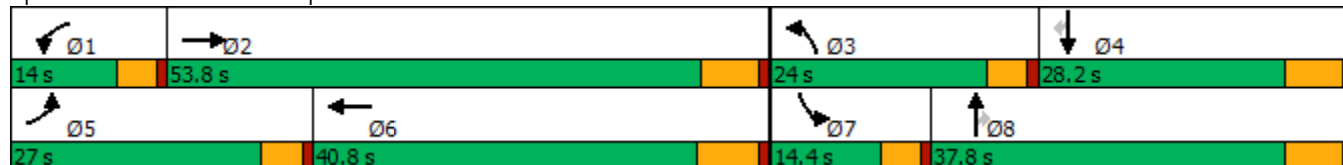


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕	↘	↕	↘↗	↕	↗	↘	↕	↗
Traffic Volume (vph)	227	867	82	727	418	213	166	66	131	215
Future Volume (vph)	227	867	82	727	418	213	166	66	131	215
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	27.0	53.8	14.0	40.8	24.0	37.8	37.8	14.4	28.2	28.2
Total Split (%)	22.5%	44.8%	11.7%	34.0%	20.0%	31.5%	31.5%	12.0%	23.5%	23.5%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.9
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	227	867	371	82	727	38	418	213	166	66	131	215
Future Volume (veh/h)	227	867	371	82	727	38	418	213	166	66	131	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	232	885	276	84	742	35	427	217	77	67	134	172
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	264	1016	316	107	1012	48	496	567	481	86	390	330
Arrive On Green	0.15	0.38	0.38	0.06	0.29	0.29	0.14	0.30	0.30	0.05	0.21	0.21
Sat Flow, veh/h	1781	2668	830	1781	3455	163	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	232	589	572	84	381	396	427	217	77	67	134	172
Grp Sat Flow(s),veh/h/ln	1781	1777	1721	1781	1777	1841	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	13.5	32.4	32.6	4.9	20.4	20.4	12.8	9.7	3.8	3.9	6.5	10.2
Cycle Q Clear(g_c), s	13.5	32.4	32.6	4.9	20.4	20.4	12.8	9.7	3.8	3.9	6.5	10.2
Prop In Lane	1.00		0.48	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	264	677	656	107	521	539	496	567	481	86	390	330
V/C Ratio(X)	0.88	0.87	0.87	0.79	0.73	0.73	0.86	0.38	0.16	0.78	0.34	0.52
Avail Cap(c_a), veh/h	378	801	775	159	577	598	635	567	481	165	390	330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	30.3	30.3	49.0	33.6	33.6	44.2	29.0	26.9	49.7	35.7	37.1
Incr Delay (d2), s/veh	11.9	9.0	9.5	7.7	4.3	4.2	8.0	2.0	0.7	5.5	2.4	5.8
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	6.5	14.3	14.0	2.3	8.7	9.0	5.7	4.4	1.4	1.8	3.1	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	39.3	39.8	56.7	37.9	37.8	52.2	31.0	27.7	55.2	38.1	42.9
LnGrp LOS	E	D	D	E	D	D	D	C	C	E	D	D
Approach Vol, veh/h		1393			861			721			373	
Approach Delay, s/veh		42.3			39.7			43.2			43.4	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	46.7	19.7	28.2	20.2	37.5	9.7	38.2				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.4	* 48	19.4	22.0	22.4	34.3	9.8	31.6				
Max Q Clear Time (g_c+I1), s	6.9	34.6	14.8	12.2	15.5	22.4	5.9	11.7				
Green Ext Time (p_c), s	0.0	5.7	0.4	0.8	0.2	3.2	0.0	1.2				

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.

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↕↗		↵	↕↗	
Traffic Vol, veh/h	54	118	48	25	83	51	33	306	50	88	231	63
Future Vol, veh/h	54	118	48	25	83	51	33	306	50	88	231	63
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	57	126	51	27	88	54	35	326	53	94	246	67
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	11.7	11.4	13.5	12.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	67%	0%	100%	45%	0%	100%	35%	0%	100%
Vol Right, %	0%	0%	33%	0%	0%	55%	0%	0%	65%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	204	152	54	79	87	25	55	79	88	154
LT Vol	33	0	0	54	0	0	25	0	0	88	0
Through Vol	0	204	102	0	79	39	0	55	28	0	154
RT Vol	0	0	50	0	0	48	0	0	51	0	0
Lane Flow Rate	35	217	162	57	84	93	27	59	84	94	164
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.073	0.421	0.304	0.127	0.174	0.183	0.06	0.125	0.167	0.195	0.319
Departure Headway (Hd)	7.489	6.989	6.758	7.985	7.485	7.1	8.155	7.655	7.202	7.509	7.009
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	480	517	534	450	480	505	440	469	499	480	514
Service Time	5.203	4.703	4.473	5.723	5.223	4.839	5.895	5.395	4.941	5.223	4.723
HCM Lane V/C Ratio	0.073	0.42	0.303	0.127	0.175	0.184	0.061	0.126	0.168	0.196	0.319
HCM Control Delay	10.8	14.7	12.4	11.9	11.8	11.4	11.4	11.5	11.4	12	13
HCM Lane LOS	B	B	B	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.2	2.1	1.3	0.4	0.6	0.7	0.2	0.4	0.6	0.7	1.4

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

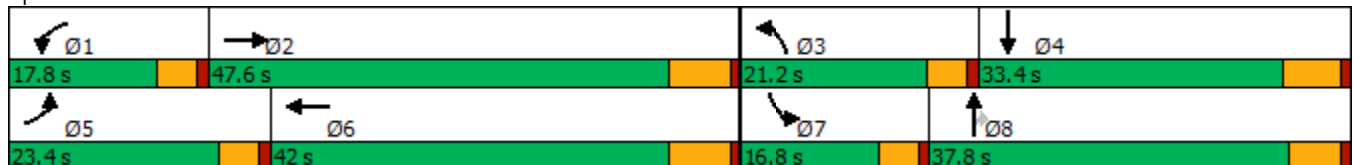


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	153	797	97	698	132	222	133	83	88
Future Volume (vph)	153	797	97	698	132	222	133	83	88
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	23.4	47.6	17.8	42.0	21.2	37.8	37.8	16.8	33.4
Total Split (%)	19.5%	39.7%	14.8%	35.0%	17.7%	31.5%	31.5%	14.0%	27.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
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	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 108.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	↖
Traffic Volume (veh/h)	153	797	145	97	698	108	132	222	133	83	88	84
Future Volume (veh/h)	153	797	145	97	698	108	132	222	133	83	88	84
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	839	133	102	735	102	139	234	69	87	93	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	193	986	156	129	893	124	170	603	511	111	303	202
Arrive On Green	0.11	0.32	0.32	0.07	0.29	0.29	0.10	0.32	0.32	0.06	0.29	0.29
Sat Flow, veh/h	1781	3062	485	1781	3125	433	1781	1870	1585	1781	1047	698
Grp Volume(v), veh/h	161	487	485	102	418	419	139	234	69	87	0	155
Grp Sat Flow(s),veh/h/ln	1781	1777	1771	1781	1777	1781	1781	1870	1585	1781	0	1745
Q Serve(g_s), s	8.8	25.4	25.4	5.6	21.8	21.8	7.6	9.6	3.1	4.8	0.0	6.9
Cycle Q Clear(g_c), s	8.8	25.4	25.4	5.6	21.8	21.8	7.6	9.6	3.1	4.8	0.0	6.9
Prop In Lane	1.00		0.27	1.00		0.24	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	193	572	570	129	508	509	170	603	511	111	0	505
V/C Ratio(X)	0.83	0.85	0.85	0.79	0.82	0.82	0.82	0.39	0.13	0.78	0.00	0.31
Avail Cap(c_a), veh/h	338	736	733	237	636	637	298	603	511	219	0	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	43.3	31.4	31.4	45.3	33.1	33.1	44.0	26.0	23.8	45.9	0.0	27.5
Incr Delay (d2), s/veh	3.5	7.6	7.6	4.1	7.0	7.0	3.6	1.9	0.5	4.5	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	3.8	11.0	11.0	2.5	9.5	9.6	3.4	4.4	1.2	2.2	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	39.0	39.0	49.4	40.1	40.1	47.7	27.9	24.4	50.3	0.0	29.1
LnGrp LOS	D	D	D	D	D	D	D	C	C	D	A	C
Approach Vol, veh/h		1133			939			442				242
Approach Delay, s/veh		40.1			41.1			33.6				36.7
Approach LOS		D			D			C				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	38.5	14.1	34.9	15.4	34.9	10.8	38.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	* 6.2				
Max Green Setting (Gmax), s	13.2	41.1	16.6	27.2	18.8	35.5	12.2	* 32				
Max Q Clear Time (g_c+I1), s	7.6	27.4	9.6	8.9	10.8	23.8	6.8	11.6				
Green Ext Time (p_c), s	0.0	4.6	0.1	0.6	0.1	3.5	0.0	1.3				

Intersection Summary

HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	38	5	1	27	3	8	42	0	1	38	5
Future Vol, veh/h	8	38	5	1	27	3	8	42	0	1	38	5
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	1	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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	49	6	1	35	4	10	54	0	1	49	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	152	129	52	157	132	59	55	0	0	55	0	0
Stage 1	54	54	-	75	75	-	-	-	-	-	-	-
Stage 2	98	75	-	82	57	-	-	-	-	-	-	-
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	815	762	1016	809	759	1007	1550	-	-	1550	-	-
Stage 1	958	850	-	934	833	-	-	-	-	-	-	-
Stage 2	908	833	-	926	847	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	776	755	1016	759	752	1002	1550	-	-	1549	-	-
Mov Cap-2 Maneuver	776	755	-	759	752	-	-	-	-	-	-	-
Stage 1	951	849	-	927	826	-	-	-	-	-	-	-
Stage 2	857	826	-	866	846	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.1		9.9		1.2		0.2	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1550	-	-	778	771	1549	-
HCM Lane V/C Ratio	0.007	-	-	0.084	0.052	0.001	-
HCM Control Delay (s)	7.3	0	-	10.1	9.9	7.3	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

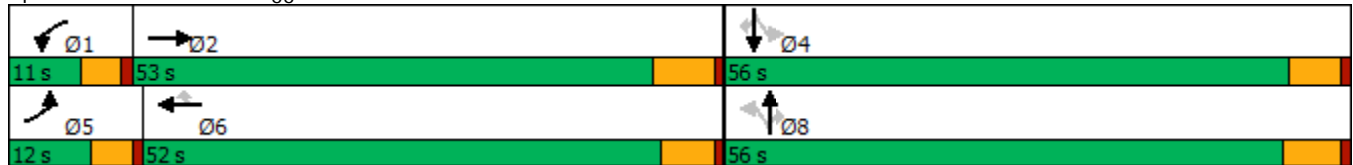


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖		↖	↗	↖	↗
Traffic Volume (vph)	21	623	2	534	10	263	14	7	5	25
Future Volume (vph)	21	623	2	534	10	263	14	7	5	25
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		8		4
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8
Total Split (s)	12.0	53.0	11.0	52.0	52.0	56.0	56.0	56.0	56.0	56.0
Total Split (%)	10.0%	44.2%	9.2%	43.3%	43.3%	46.7%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	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
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	5.8	5.8		6.2	6.2	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.1
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖		↖	↗		↖	↗
Traffic Volume (veh/h)	21	623	253	2	534	10	263	14	7	0	5	25
Future Volume (veh/h)	21	623	253	2	534	10	263	14	7	0	5	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	670	240	2	574	7	283	15	5	0	5	7
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	42	805	288	5	1041	464	755	36	805	0	950	805
Arrive On Green	0.02	0.31	0.31	0.00	0.29	0.29	0.51	0.51	0.51	0.00	0.51	0.51
Sat Flow, veh/h	1781	2564	918	1781	3554	1585	1345	71	1585	0	1870	1585
Grp Volume(v), veh/h	23	464	446	2	574	7	298	0	5	0	5	7
Grp Sat Flow(s),veh/h/ln	1781	1777	1705	1781	1777	1585	1416	0	1585	0	1870	1585
Q Serve(g_s), s	1.3	24.0	24.0	0.1	13.5	0.3	12.9	0.0	0.2	0.0	0.1	0.2
Cycle Q Clear(g_c), s	1.3	24.0	24.0	0.1	13.5	0.3	13.1	0.0	0.2	0.0	0.1	0.2
Prop In Lane	1.00		0.54	1.00		1.00	0.95		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	42	558	535	5	1041	464	791	0	805	0	950	805
V/C Ratio(X)	0.55	0.83	0.83	0.42	0.55	0.02	0.38	0.00	0.01	0.00	0.01	0.01
Avail Cap(c_a), veh/h	133	836	803	115	1662	741	791	0	805	0	950	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	0.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	31.5	31.5	49.2	29.4	24.8	15.2	0.0	12.0	0.0	12.0	12.0
Incr Delay (d2), s/veh	4.0	4.6	4.8	19.8	0.5	0.0	1.4	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	0.6	10.0	9.6	0.1	5.3	0.1	4.0	0.0	0.1	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	36.0	36.2	69.0	29.9	24.8	16.6	0.0	12.0	0.0	12.0	12.0
LnGrp LOS	D	D	D	E	C	C	B	A	B	A	B	B
Approach Vol, veh/h		933			583			303			12	
Approach Delay, s/veh		36.5			30.0			16.5			12.0	
Approach LOS		D			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	37.5		56.4	6.9	35.4		56.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	6.4	46.5		* 50	7.4	* 46		49.8				
Max Q Clear Time (g_c+I1), s	2.1	26.0		2.2	3.3	15.5		15.1				
Green Ext Time (p_c), s	0.0	5.0		0.0	0.0	3.5		1.6				

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.

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	4	22	32	58	13	0	9	38	98	0	24	1
Future Vol, veh/h	4	22	32	58	13	0	9	38	98	0	24	1
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	35	52	94	21	0	15	61	158	0	39	2
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	7.9	8.7	8.6	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	7%	82%	0%
Vol Thru, %	26%	38%	18%	96%
Vol Right, %	68%	55%	0%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	145	58	71	25
LT Vol	9	4	58	0
Through Vol	38	22	13	24
RT Vol	98	32	0	1
Lane Flow Rate	234	94	115	40
Geometry Grp	1	1	1	1
Degree of Util (X)	0.265	0.113	0.152	0.052
Departure Headway (Hd)	4.08	4.349	4.794	4.647
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	882	824	748	771
Service Time	2.097	2.376	2.822	2.673
HCM Lane V/C Ratio	0.265	0.114	0.154	0.052
HCM Control Delay	8.6	7.9	8.7	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.4	0.5	0.2

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↔	↕
Traffic Vol, veh/h	41	6	139	69	10	105
Future Vol, veh/h	41	6	139	69	10	105
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	45	7	151	75	11	114

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	325	113	0	0	226	0
Stage 1	189	-	-	-	-	-
Stage 2	136	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	656	919	-	-	1341	-
Stage 1	825	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	651	919	-	-	1341	-
Mov Cap-2 Maneuver	651	-	-	-	-	-
Stage 1	818	-	-	-	-	-
Stage 2	890	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	676	1341
HCM Lane V/C Ratio	-	-	0.076	0.008
HCM Control Delay (s)	-	-	10.8	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	1	0	2	1	205	2	1	144	0
Future Vol, veh/h	1	0	0	1	0	2	1	205	2	1	144	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	1	0	3	1	301	3	1	212	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	520	521	212	520	520	304	212	0	0	305	0	0
Stage 1	214	214	-	306	306	-	-	-	-	-	-	-
Stage 2	306	307	-	214	214	-	-	-	-	-	-	-
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	467	460	828	467	461	736	1358	-	-	1256	-	-
Stage 1	788	725	-	704	662	-	-	-	-	-	-	-
Stage 2	704	661	-	788	725	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	464	459	828	466	460	735	1358	-	-	1255	-	-
Mov Cap-2 Maneuver	464	459	-	466	460	-	-	-	-	-	-	-
Stage 1	787	724	-	703	661	-	-	-	-	-	-	-
Stage 2	700	660	-	787	724	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.8		10.9		0		0.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1358	-	-	464	616	1255	-
HCM Lane V/C Ratio	0.001	-	-	0.003	0.007	0.001	-
HCM Control Delay (s)	7.7	0	-	12.8	10.9	7.9	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-

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	5	2	29	1	1	0	21	187	0	0	115	2
Future Vol, veh/h	5	2	29	1	1	0	21	187	0	0	115	2
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	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	3	39	1	1	0	28	253	0	0	155	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	467	466	157	487	467	253	158	0	0	253	0	0
Stage 1	157	157	-	309	309	-	-	-	-	-	-	-
Stage 2	310	309	-	178	158	-	-	-	-	-	-	-
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	506	494	889	491	493	786	1422	-	-	1312	-	-
Stage 1	845	768	-	701	660	-	-	-	-	-	-	-
Stage 2	700	660	-	824	767	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	496	483	889	459	482	786	1422	-	-	1312	-	-
Mov Cap-2 Maneuver	496	483	-	459	482	-	-	-	-	-	-	-
Stage 1	826	768	-	685	645	-	-	-	-	-	-	-
Stage 2	682	645	-	785	767	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10		12.7		0.8		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1422	-	-	769	470	1312	-
HCM Lane V/C Ratio	0.02	-	-	0.063	0.006	-	-
HCM Control Delay (s)	7.6	0	-	10	12.7	0	-
HCM Lane LOS	A	A	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-

Intersection	
Intersection Delay, s/veh	49
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	149	300	142	14	315	27	134	35	10	14	42	95
Future Vol, veh/h	149	300	142	14	315	27	134	35	10	14	42	95
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	162	326	154	15	342	29	146	38	11	15	46	103
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	83.9	22.7	15.9	14
HCM LOS	F	C	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	75%	25%	4%	9%
Vol Thru, %	20%	51%	88%	28%
Vol Right, %	6%	24%	8%	63%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	179	591	356	151
LT Vol	134	149	14	14
Through Vol	35	300	315	42
RT Vol	10	142	27	95
Lane Flow Rate	195	642	387	164
Geometry Grp	1	1	1	1
Degree of Util (X)	0.403	1.079	0.684	0.325
Departure Headway (Hd)	7.752	6.048	6.609	7.44
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	467	604	549	486
Service Time	5.752	4.048	4.609	5.44
HCM Lane V/C Ratio	0.418	1.063	0.705	0.337
HCM Control Delay	15.9	83.9	22.7	14
HCM Lane LOS	C	F	C	B
HCM 95th-tile Q	1.9	18.7	5.2	1.4

Intersection

Int Delay, s/veh 0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	90	30	0	53	17	0
Future Vol, veh/h	90	30	0	53	17	0
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	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	33	0	58	18	0

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	131	0	173
Stage 1	-	-	-	-	115
Stage 2	-	-	-	-	58
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1454	-	817
Stage 1	-	-	-	-	910
Stage 2	-	-	-	-	965
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1454	-	817
Mov Cap-2 Maneuver	-	-	-	-	817
Stage 1	-	-	-	-	910
Stage 2	-	-	-	-	965

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	817	-	-	1454	-
HCM Lane V/C Ratio	0.023	-	-	-	-
HCM Control Delay (s)	9.5	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

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	0	31	59	0	18	0	35	0	0	0	0	0
Future Vol, veh/h	0	31	59	0	18	0	35	0	0	0	0	0
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	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
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	0	34	64	0	20	0	38	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	98	0	0	86	86	66
Stage 1	-	-	-	-	-	-	66	66	-
Stage 2	-	-	-	-	-	-	20	20	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1495	-	-	915	804	998
Stage 1	0	-	-	-	-	-	957	840	-
Stage 2	0	-	-	-	-	-	1003	879	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1495	-	-	915	0	998
Mov Cap-2 Maneuver	-	-	-	-	-	-	915	0	-
Stage 1	-	-	-	-	-	-	957	0	-
Stage 2	-	-	-	-	-	-	1003	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	915	-	-	1495	-	-
HCM Lane V/C Ratio	0.042	-	-	-	-	-
HCM Control Delay (s)	9.1	-	-	0	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-	-

Intersection

Int Delay, s/veh 3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	30	0	1	0	17	0	0	0	0	0
Future Vol, veh/h	0	1	30	0	1	0	17	0	0	0	0	0
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	-	-	-	-	-	-	-	-	-	-	-	-
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	0	1	33	0	1	0	18	0	0	0	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	1	0	0	34
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1622	-	-	1578
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1578
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.7	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	995	1622	-	-	1578	-	-	-
HCM Lane V/C Ratio	0.019	-	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	17	0	0	0	0	30
Future Vol, veh/h	17	0	0	0	0	30
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	-	-	-	-	-
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	18	0	0	0	0	33

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	17	17	33	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1001	1062	1579	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1001	1062	1579	-	-	-
Mov Cap-2 Maneuver	1001	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1579	-	1001	-	-
HCM Lane V/C Ratio	-	-	0.018	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

APPENDIX 6.2:

EAP (2025) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

01/31/2018

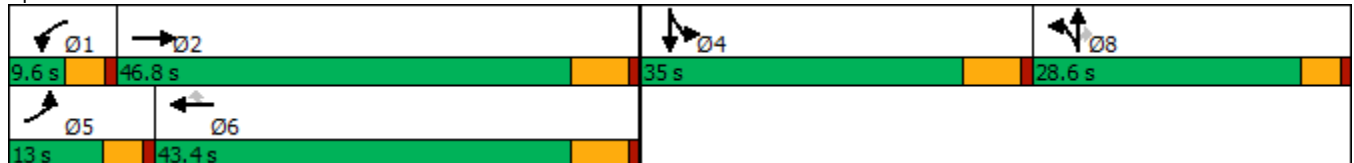


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	78	467	31	457	695	15	61	9	616	28
Future Volume (vph)	78	467	31	457	695	15	61	9	616	28
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	13.0	46.8	9.6	43.4	43.4	28.6	28.6	28.6	35.0	35.0
Total Split (%)	10.8%	39.0%	8.0%	36.2%	36.2%	23.8%	23.8%	23.8%	29.2%	29.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	467	14	31	457	695	15	61	9	616	28	46
Future Volume (veh/h)	78	467	14	31	457	695	15	61	9	616	28	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	519	15	34	508	480	17	68	7	748	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	626	18	51	585	496	360	378	320	863	453	0
Arrive On Green	0.06	0.35	0.35	0.03	0.31	0.31	0.20	0.20	0.20	0.24	0.00	0.00
Sat Flow, veh/h	1781	1809	52	1781	1870	1585	1781	1870	1585	3563	1870	0
Grp Volume(v), veh/h	87	0	534	34	508	480	17	68	7	748	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1861	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	5.7	0.0	31.3	2.2	30.5	35.5	0.9	3.6	0.4	23.9	0.0	0.0
Cycle Q Clear(g_c), s	5.7	0.0	31.3	2.2	30.5	35.5	0.9	3.6	0.4	23.9	0.0	0.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	109	0	644	51	585	496	360	378	320	863	453	0
V/C Ratio(X)	0.80	0.00	0.83	0.67	0.87	0.97	0.05	0.18	0.02	0.87	0.00	0.00
Avail Cap(c_a), veh/h	126	0	644	75	585	496	360	378	320	863	453	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	55.1	0.0	35.7	57.2	38.5	40.3	38.2	39.3	38.0	43.2	0.0	0.0
Incr Delay (d2), s/veh	22.3	0.0	8.9	5.7	13.1	32.2	0.2	1.0	0.1	11.4	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	3.2	0.0	14.9	1.1	15.3	17.4	0.4	1.8	0.2	11.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.4	0.0	44.6	62.9	51.7	72.5	38.5	40.3	38.2	54.6	0.0	0.0
LnGrp LOS	E	A	D	E	D	E	D	D	D	D	A	A
Approach Vol, veh/h		621			1022			92			748	
Approach Delay, s/veh		49.2			61.8			39.8			54.6	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	47.3		35.0	11.9	43.4		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	40.6		28.8	8.4	37.2		24.0				
Max Q Clear Time (g_c+I1), s	4.2	33.3		25.9	7.7	37.5		5.6				
Green Ext Time (p_c), s	0.0	1.8		0.9	0.0	0.0		0.3				

Intersection Summary

HCM 6th Ctrl Delay	55.7
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

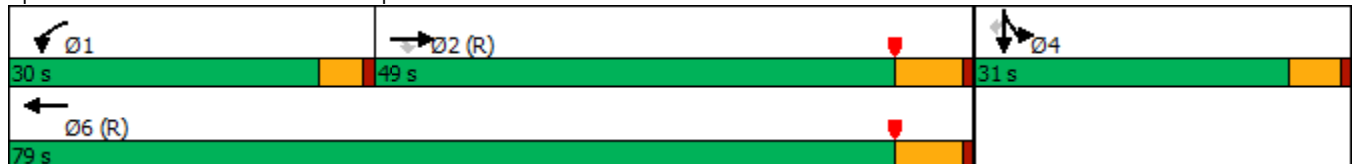


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	642	424	427	1029	2	153
Future Volume (vph)	642	424	427	1029	2	153
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	49.0	49.0	30.0	79.0	31.0	31.0
Total Split (%)	44.5%	44.5%	27.3%	71.8%	28.2%	28.2%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 110
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	642	424	427	1029	0	0	0	0	377	2	153
Future Volume (veh/h)	0	642	424	427	1029	0	0	0	0	377	2	153
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	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	676	319	449	1083	0				397	2	108
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	723	612	411	1233	0				414	2	370
Arrive On Green	0.00	0.39	0.39	0.15	0.44	0.00				0.23	0.23	0.23
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1773	9	1585
Grp Volume(v), veh/h	0	676	319	449	1083	0				399	0	108
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1782	0	1585
Q Serve(g_s), s	0.0	38.2	17.0	25.4	58.1	0.0				24.3	0.0	6.2
Cycle Q Clear(g_c), s	0.0	38.2	17.0	25.4	58.1	0.0				24.3	0.0	6.2
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	723	612	411	1233	0				416	0	370
V/C Ratio(X)	0.00	0.94	0.52	1.09	0.88	0.00				0.96	0.00	0.29
Avail Cap(c_a), veh/h	0	723	612	411	1233	0				416	0	370
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.42	0.42	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	32.4	25.9	46.5	26.7	0.0				41.6	0.0	34.7
Incr Delay (d2), s/veh	0.0	11.0	1.3	45.5	0.9	0.0				34.8	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	18.1	6.2	16.4	25.7	0.0				14.2	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	43.4	27.3	92.0	27.6	0.0				76.5	0.0	36.7
LnGrp LOS	A	D	C	F	C	A				E	A	D
Approach Vol, veh/h		995			1532						507	
Approach Delay, s/veh		38.2			46.5						68.0	
Approach LOS		D			D						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.0	49.0		31.0		79.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	25.4	42.5		25.7		72.5						
Max Q Clear Time (g_c+I1), s	27.4	40.2		26.3		60.1						
Green Ext Time (p_c), s	0.0	0.9		0.0		4.0						

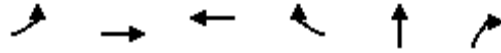
Intersection Summary

HCM 6th Ctrl Delay	47.4
HCM 6th LOS	D

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

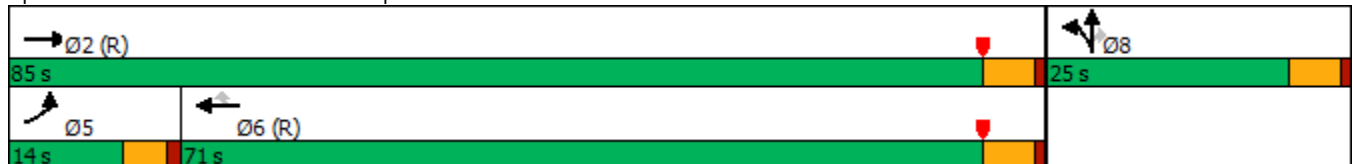


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	116	903	1185	596	1	216
Future Volume (vph)	116	903	1185	596	1	216
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0
Total Split (s)	14.0	85.0	71.0	71.0	25.0	25.0
Total Split (%)	12.7%	77.3%	64.5%	64.5%	22.7%	22.7%
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3
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	5.3	5.3	5.3	5.3	5.3
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗		↖	↗			
Traffic Volume (veh/h)	116	903	0	0	1185	596	271	1	216	0	0	0
Future Volume (veh/h)	116	903	0	0	1185	596	271	1	216	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		0.99			
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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	117	912	0	0	1197	578	274	1	101			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	143	1355	0	0	1126	935	318	1	280			
Arrive On Green	0.08	0.72	0.00	0.00	0.60	0.60	0.18	0.18	0.18			
Sat Flow, veh/h	1781	1870	0	0	1870	1552	1775	6	1564			
Grp Volume(v), veh/h	117	912	0	0	1197	578	275	0	101			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1552	1782	0	1564			
Q Serve(g_s), s	7.1	28.8	0.0	0.0	66.2	26.0	16.5	0.0	6.2			
Cycle Q Clear(g_c), s	7.1	28.8	0.0	0.0	66.2	26.0	16.5	0.0	6.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	143	1355	0	0	1126	935	319	0	280			
V/C Ratio(X)	0.82	0.67	0.00	0.00	1.06	0.62	0.86	0.00	0.36			
Avail Cap(c_a), veh/h	152	1355	0	0	1126	935	319	0	280			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.23	0.23	0.00	0.00	0.31	0.31	1.00	0.00	1.00			
Uniform Delay (d), s/veh	49.8	8.1	0.0	0.0	21.9	13.9	43.8	0.0	39.6			
Incr Delay (d2), s/veh	6.8	0.6	0.0	0.0	35.0	1.0	25.1	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			
%ile BackOfQ(50%),veh/ln	3.3	8.1	0.0	0.0	34.0	7.7	9.2	0.0	2.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	8.8	0.0	0.0	56.9	14.8	68.9	0.0	43.2			
LnGrp LOS	E	A	A	A	F	B	E	A	D			
Approach Vol, veh/h		1029			1775			376				
Approach Delay, s/veh		14.2			43.2			62.0				
Approach LOS		B			D			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		85.0			13.5	71.5		25.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		79.7			9.4	65.7		19.7				
Max Q Clear Time (g_c+I1), s		30.8			9.1	68.2		18.5				
Green Ext Time (p_c), s		3.9			0.0	0.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	36.0
HCM 6th LOS	D

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

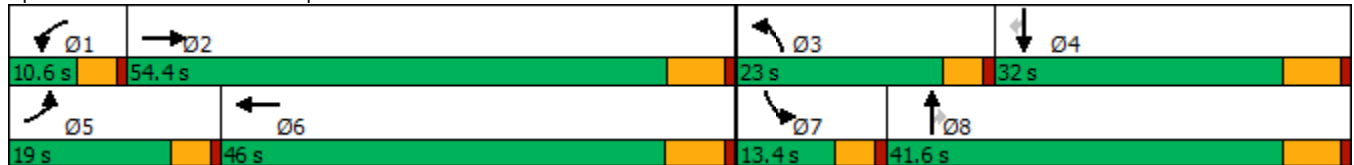


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	124	659	45	1051	378	79	78	48	142	351
Future Volume (vph)	124	659	45	1051	378	79	78	48	142	351
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	19.0	54.4	10.6	46.0	23.0	41.6	41.6	13.4	32.0	32.0
Total Split (%)	15.8%	45.3%	8.8%	38.3%	19.2%	34.7%	34.7%	11.2%	26.7%	26.7%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.3
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	659	337	45	1051	24	378	79	78	48	142	351
Future Volume (veh/h)	124	659	337	45	1051	24	378	79	78	48	142	351
Initial Q (Qb), 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	135	716	279	49	1142	23	411	86	44	52	154	360
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	163	999	389	63	1224	25	474	619	524	67	433	366
Arrive On Green	0.09	0.40	0.40	0.04	0.34	0.34	0.14	0.33	0.33	0.04	0.23	0.23
Sat Flow, veh/h	1781	2497	973	1781	3561	72	3456	1870	1585	1781	1870	1583
Grp Volume(v), veh/h	135	509	486	49	570	595	411	86	44	52	154	360
Grp Sat Flow(s),veh/h/ln	1781	1777	1694	1781	1777	1856	1728	1870	1585	1781	1870	1583
Q Serve(g_s), s	8.3	26.9	26.9	3.0	34.6	34.6	13.0	3.6	2.1	3.2	7.7	25.2
Cycle Q Clear(g_c), s	8.3	26.9	26.9	3.0	34.6	34.6	13.0	3.6	2.1	3.2	7.7	25.2
Prop In Lane	1.00		0.57	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	163	711	677	63	611	638	474	619	524	67	433	366
V/C Ratio(X)	0.83	0.72	0.72	0.78	0.93	0.93	0.87	0.14	0.08	0.78	0.36	0.98
Avail Cap(c_a), veh/h	230	768	732	96	629	657	570	619	524	141	433	366
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	28.2	28.2	53.4	35.4	35.4	47.1	26.2	25.7	53.2	35.9	42.6
Incr Delay (d2), s/veh	11.2	3.0	3.1	9.3	20.7	20.1	10.3	0.5	0.3	7.0	2.3	43.0
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	4.1	11.2	10.7	1.5	17.2	17.9	6.0	1.6	0.8	1.5	3.6	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.0	31.1	31.3	62.7	56.1	55.5	57.4	26.6	26.0	60.2	38.2	85.6
LnGrp LOS	E	C	C	E	E	E	E	C	C	E	D	F
Approach Vol, veh/h		1130			1214			541			566	
Approach Delay, s/veh		34.7			56.0			50.0			70.4	
Approach LOS		C			E			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	51.1	19.9	32.0	14.8	44.8	8.8	43.1				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	6.0	* 48	18.4	25.8	14.4	39.5	8.8	35.4				
Max Q Clear Time (g_c+I1), s	5.0	28.9	15.0	27.2	10.3	36.6	5.2	5.6				
Green Ext Time (p_c), s	0.0	5.7	0.3	0.0	0.1	1.8	0.0	0.5				

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.

Intersection	
Intersection Delay, s/veh	26.8
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↕↗		↵	↕↗	
Traffic Vol, veh/h	124	86	17	92	187	140	44	312	104	76	292	95
Future Vol, veh/h	124	86	17	92	187	140	44	312	104	76	292	95
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	157	109	22	116	237	177	56	395	132	96	370	120
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	20.4	24.7	31.2	27.3
HCM LOS	C	C	D	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	50%	0%	100%	63%	0%	100%	31%	0%	100%
Vol Right, %	0%	0%	50%	0%	0%	37%	0%	0%	69%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	44	208	208	124	57	46	92	125	202	76	195
LT Vol	44	0	0	124	0	0	92	0	0	76	0
Through Vol	0	208	104	0	57	29	0	125	62	0	195
RT Vol	0	0	104	0	0	17	0	0	140	0	0
Lane Flow Rate	56	263	263	157	73	58	116	158	256	96	246
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.16	0.722	0.696	0.488	0.215	0.167	0.34	0.439	0.678	0.277	0.674
Departure Headway (Hd)	10.368	9.868	9.518	11.184	10.684	10.423	10.519	10.019	9.534	10.354	9.854
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	347	369	382	323	337	345	342	360	379	348	367
Service Time	8.102	7.602	7.252	8.934	8.434	8.173	8.254	7.754	7.27	8.087	7.587
HCM Lane V/C Ratio	0.161	0.713	0.688	0.486	0.217	0.168	0.339	0.439	0.675	0.276	0.67
HCM Control Delay	15.1	34.5	31.4	24.2	16.3	15.3	18.6	20.4	30.2	17	30.8
HCM Lane LOS	C	D	D	C	C	C	C	C	D	C	D
HCM 95th-tile Q	0.6	5.4	5.1	2.5	0.8	0.6	1.5	2.2	4.8	1.1	4.7

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

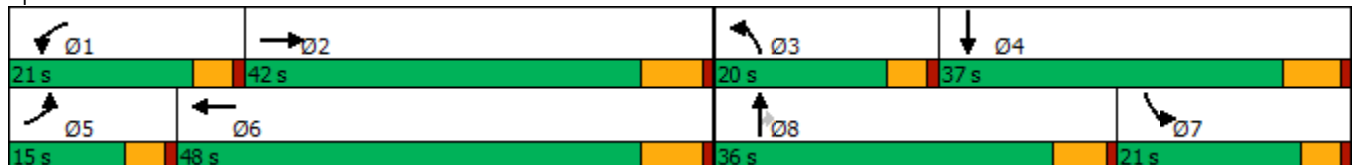


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	63	563	118	821	115	183	72	126	222
Future Volume (vph)	63	563	118	821	115	183	72	126	222
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	15.0	42.0	21.0	48.0	20.0	36.0	36.0	21.0	37.0
Total Split (%)	12.5%	35.0%	17.5%	40.0%	16.7%	30.0%	30.0%	17.5%	30.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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)	-0.6	-2.5	-0.6	-2.5	-0.6	-1.8	-1.8	-0.6	-2.2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 108.1
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Volume (veh/h)	63	563	125	118	821	162	115	183	72	126	222	93
Future Volume (veh/h)	63	563	125	118	821	162	115	183	72	126	222	93
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	66	593	120	124	864	156	121	193	45	133	234	84
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	95	926	187	164	1064	192	160	598	500	173	449	161
Arrive On Green	0.05	0.32	0.29	0.09	0.35	0.33	0.09	0.32	0.32	0.10	0.34	0.32
Sat Flow, veh/h	1781	2934	592	1781	3007	543	1781	1870	1565	1781	1308	470
Grp Volume(v), veh/h	66	359	354	124	511	509	121	193	45	133	0	318
Grp Sat Flow(s),veh/h/ln	1781	1777	1749	1781	1777	1773	1781	1870	1565	1781	0	1778
Q Serve(g_s), s	3.6	17.3	17.5	6.8	26.1	26.2	6.6	7.8	1.4	7.3	0.0	14.4
Cycle Q Clear(g_c), s	3.6	17.3	17.5	6.8	26.1	26.2	6.6	7.8	1.4	7.3	0.0	14.4
Prop In Lane	1.00		0.34	1.00		0.31	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	95	561	552	164	629	627	160	598	500	173	0	610
V/C Ratio(X)	0.69	0.64	0.64	0.76	0.81	0.81	0.75	0.32	0.09	0.77	0.00	0.52
Avail Cap(c_a), veh/h	196	674	664	302	781	779	285	598	500	302	0	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	46.6	29.4	29.8	44.4	29.3	29.7	44.5	25.9	11.5	44.1	0.0	26.6
Incr Delay (d2), s/veh	3.3	1.5	1.6	2.7	5.3	5.3	2.7	1.4	0.4	2.7	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	1.6	7.0	7.0	3.0	10.9	11.0	2.9	3.5	0.8	3.2	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	30.9	31.4	47.1	34.7	35.0	47.2	27.3	11.9	46.8	0.0	29.8
LnGrp LOS	D	C	C	D	C	D	D	C	B	D	A	C
Approach Vol, veh/h		779			1144			359				451
Approach Delay, s/veh		32.7			36.2			32.1				34.8
Approach LOS		C			D			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.2	35.6	13.0	38.3	9.4	39.4	15.3	36.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	6.2	* 5.8				
Max Green Setting (Gmax), s	16.4	35.5	15.4	30.8	10.4	41.5	16.4	* 30				
Max Q Clear Time (g_c+I1), s	8.8	19.5	8.6	16.4	5.6	28.2	9.3	9.8				
Green Ext Time (p_c), s	0.1	3.4	0.1	1.4	0.0	4.8	0.1	1.0				

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.

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	53	20	33	0	53	2	18	15	0	0	37	68
Future Vol, veh/h	53	20	33	0	53	2	18	15	0	0	37	68
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	57	57	57	57	57	57	57	57	57	57	57	57
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	93	35	58	0	93	4	32	26	0	0	65	119

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	264	215	125	261	274	26	184	0	0	26	0	0
Stage 1	125	125	-	90	90	-	-	-	-	-	-	-
Stage 2	139	90	-	171	184	-	-	-	-	-	-	-
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	689	683	926	692	633	1050	1391	-	-	1588	-	-
Stage 1	879	792	-	917	820	-	-	-	-	-	-	-
Stage 2	864	820	-	831	747	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	597	667	926	612	618	1050	1391	-	-	1588	-	-
Mov Cap-2 Maneuver	597	667	-	612	618	-	-	-	-	-	-	-
Stage 1	859	792	-	896	801	-	-	-	-	-	-	-
Stage 2	744	801	-	745	747	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.2		11.8		4.2		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1391	-	-	687	627	1588	-
HCM Lane V/C Ratio	0.023	-	-	0.271	0.154	-	-
HCM Control Delay (s)	7.6	0	-	12.2	11.8	0	-
HCM Lane LOS	A	A	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.1	0.5	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

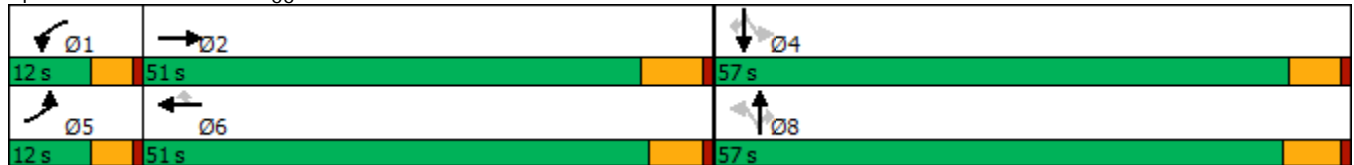


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	11	512	7	769	7	260	5	11	18	16	56
Future Volume (vph)	11	512	7	769	7	260	5	11	18	16	56
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6			8			4	
Permitted Phases					6	8		8	4		4
Detector Phase	5	2	1	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	51.0	12.0	51.0	51.0	57.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	10.0%	42.5%	10.0%	42.5%	42.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	4.8	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)	-0.6	-2.5	-0.6	-1.8	-1.8		-2.2	-2.2		-1.8	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 91.6
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖		↖	↗		↖	↗
Traffic Volume (veh/h)	11	512	255	7	769	7	260	5	11	18	16	56
Future Volume (veh/h)	11	512	255	7	769	7	260	5	11	18	16	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	11	522	214	7	785	4	265	5	7	18	16	23
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	35	745	304	27	1034	461	80	0	883	57	35	876
Arrive On Green	0.02	0.30	0.28	0.02	0.29	0.29	0.56	0.56	0.56	0.55	0.55	0.55
Sat Flow, veh/h	1781	2461	1005	1781	3554	1585	10	0	1585	0	63	1585
Grp Volume(v), veh/h	11	376	360	7	785	4	270	0	7	34	0	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1689	1781	1777	1585	10	0	1585	63	0	1585
Q Serve(g_s), s	0.6	18.0	18.2	0.4	19.3	0.2	0.4	0.0	0.2	0.0	0.0	0.6
Cycle Q Clear(g_c), s	0.6	18.0	18.2	0.4	19.3	0.2	53.4	0.0	0.2	53.0	0.0	0.6
Prop In Lane	1.00		0.59	1.00		1.00	0.98		1.00	0.53		1.00
Lane Grp Cap(c), veh/h	35	538	511	27	1034	461	80	0	883	92	0	876
V/C Ratio(X)	0.32	0.70	0.70	0.26	0.76	0.01	3.37	0.00	0.01	0.37	0.00	0.03
Avail Cap(c_a), veh/h	149	871	828	149	1742	777	80	0	883	92	0	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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.4	29.6	30.3	46.7	30.9	24.2	47.9	0.0	9.5	23.4	0.0	9.7
Incr Delay (d2), s/veh	1.9	1.7	1.8	1.9	1.2	0.0	1097.1	0.0	0.0	11.0	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	7.2	7.1	0.2	7.6	0.1	26.3	0.0	0.1	0.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	31.2	32.1	48.6	32.1	24.2	1145.0	0.0	9.5	34.5	0.0	9.8
LnGrp LOS	D	C	C	D	C	C	F	A	A	C	A	A
Approach Vol, veh/h		747			796			277				57
Approach Delay, s/veh		31.9			32.2			1116.3				24.5
Approach LOS		C			C			F				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	33.0		57.4	5.9	32.6		57.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	7.4	44.5		* 51	7.4	* 45		50.8				
Max Q Clear Time (g_c+I1), s	2.4	20.2		55.0	2.6	21.3		55.4				
Green Ext Time (p_c), s	0.0	4.1		0.0	0.0	4.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	191.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh 8.7
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	11	16	118	26	0	47	33	44	0	60	3
Future Vol, veh/h	3	11	16	118	26	0	47	33	44	0	60	3
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	14	21	153	34	0	61	43	57	0	78	4
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	7.7	9.2	8.6	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	38%	10%	82%	0%
Vol Thru, %	27%	37%	18%	95%
Vol Right, %	35%	53%	0%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	30	144	63
LT Vol	47	3	118	0
Through Vol	33	11	26	60
RT Vol	44	16	0	3
Lane Flow Rate	161	39	187	82
Geometry Grp	1	1	1	1
Degree of Util (X)	0.198	0.048	0.244	0.105
Departure Headway (Hd)	4.437	4.42	4.7	4.632
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	810	809	765	773
Service Time	2.462	2.452	2.726	2.662
HCM Lane V/C Ratio	0.199	0.048	0.244	0.106
HCM Control Delay	8.6	7.7	9.2	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.2	1	0.4

Intersection						
Int Delay, s/veh	2.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↔	↕
Traffic Vol, veh/h	67	13	111	22	4	190
Future Vol, veh/h	67	13	111	22	4	190
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	73	14	121	24	4	207

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	348	73	0	0	145	0
Stage 1	133	-	-	-	-	-
Stage 2	215	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	636	975	-	-	1436	-
Stage 1	880	-	-	-	-	-
Stage 2	820	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	634	975	-	-	1436	-
Mov Cap-2 Maneuver	634	-	-	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	820	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	672	1436
HCM Lane V/C Ratio	-	-	0.129	0.003
HCM Control Delay (s)	-	-	11.2	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	84	0	13	0	121	28	4	253	0
Future Vol, veh/h	0	0	1	84	0	13	0	121	28	4	253	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	53	53	53	53	53	53	53	53	53	53	53	53
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	158	0	25	0	228	53	8	477	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	760	774	477	749	748	255	477	0	0	281	0	0
Stage 1	493	493	-	255	255	-	-	-	-	-	-	-
Stage 2	267	281	-	494	493	-	-	-	-	-	-	-
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	323	329	588	328	341	784	1085	-	-	1282	-	-
Stage 1	558	547	-	749	696	-	-	-	-	-	-	-
Stage 2	738	678	-	557	547	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	311	326	588	325	338	784	1085	-	-	1282	-	-
Mov Cap-2 Maneuver	311	326	-	325	338	-	-	-	-	-	-	-
Stage 1	558	543	-	749	696	-	-	-	-	-	-	-
Stage 2	715	678	-	551	543	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.1		25.7		0		0.1	
HCM LOS	B		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1085	-	-	588	353	1282	-
HCM Lane V/C Ratio	-	-	-	0.003	0.518	0.006	-
HCM Control Delay (s)	0	-	-	11.1	25.7	7.8	0
HCM Lane LOS	A	-	-	B	D	A	A
HCM 95th %tile Q(veh)	0	-	-	0	2.8	0	-

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	61	1	3	1	41	103	3	0	274	6
Future Vol, veh/h	0	0	61	1	3	1	41	103	3	0	274	6
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	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	73	1	4	1	49	124	4	0	330	7

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	561	560	334	594	561	126	337	0	0	128	0	0
Stage 1	334	334	-	224	224	-	-	-	-	-	-	-
Stage 2	227	226	-	370	337	-	-	-	-	-	-	-
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	438	437	708	417	436	924	1222	-	-	1458	-	-
Stage 1	680	643	-	779	718	-	-	-	-	-	-	-
Stage 2	776	717	-	650	641	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	420	418	708	362	417	924	1222	-	-	1458	-	-
Mov Cap-2 Maneuver	420	418	-	362	417	-	-	-	-	-	-	-
Stage 1	651	643	-	746	687	-	-	-	-	-	-	-
Stage 2	738	686	-	583	641	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.7		13.1		2.3		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1222	-	-	708	453	1458	-
HCM Lane V/C Ratio	0.04	-	-	0.104	0.013	-	-
HCM Control Delay (s)	8.1	0	-	10.7	13.1	0	-
HCM Lane LOS	A	A	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0	0	-

Intersection

Intersection Delay, s/veh	111.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	79	296	199	15	301	16	260	48	7	48	90	223
Future Vol, veh/h	79	296	199	15	301	16	260	48	7	48	90	223
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	82	308	207	16	314	17	271	50	7	50	94	232
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	220.3	48.1	46.4	52
HCM LOS	F	E	E	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	83%	14%	5%	13%
Vol Thru, %	15%	52%	91%	25%
Vol Right, %	2%	35%	5%	62%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	315	574	332	361
LT Vol	260	79	15	48
Through Vol	48	296	301	90
RT Vol	7	199	16	223
Lane Flow Rate	328	598	346	376
Geometry Grp	1	1	1	1
Degree of Util (X)	0.82	1.407	0.841	0.875
Departure Headway (Hd)	10.261	8.474	9.92	9.579
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	354	436	367	380
Service Time	8.261	6.474	7.92	7.579
HCM Lane V/C Ratio	0.927	1.372	0.943	0.989
HCM Control Delay	46.4	220.3	48.1	52
HCM Lane LOS	E	F	E	F
HCM 95th-tile Q	7.2	29.3	7.7	8.6

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	16	16	49	0	0	48
Future Vol, veh/h	16	16	49	0	0	48
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	17	17	53	0	0	52

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	53	0	104
Stage 1	-	-	53
Stage 2	-	-	51
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1553	-	894
Stage 1	-	-	970
Stage 2	-	-	971
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1553	-	884
Mov Cap-2 Maneuver	-	-	884
Stage 1	-	-	959
Stage 2	-	-	971

Approach

	EB	WB	SB
HCM Control Delay, s	3.7	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1553	-	-	-	1014
HCM Lane V/C Ratio	0.011	-	-	-	0.051
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	45	11	0	112	32	0
Future Vol, veh/h	45	11	0	112	32	0
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	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	12	0	122	35	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	61	0	177
Stage 1	-	-	-	-	55
Stage 2	-	-	-	-	122
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1542	-	813
Stage 1	-	-	-	-	968
Stage 2	-	-	-	-	903
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1542	-	813
Mov Cap-2 Maneuver	-	-	-	-	813
Stage 1	-	-	-	-	968
Stage 2	-	-	-	-	903

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	813	-	-	1542	-
HCM Lane V/C Ratio	0.043	-	-	-	-
HCM Control Delay (s)	9.6	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻		↻	↻			↻				
Traffic Vol, veh/h	0	19	27	0	32	0	80	0	0	0	0	0
Future Vol, veh/h	0	19	27	0	32	0	80	0	0	0	0	0
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	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
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	0	21	29	0	35	0	87	0	0	0	0	0

Major/Minor

	Major1	Major2	Minor1
Conflicting Flow All	- 0 0	50	0 0 71 71 36
Stage 1	- - -	-	- 36 36 -
Stage 2	- - -	-	- 35 35 -
Critical Hdwy	- - -	4.12	- 6.42 6.52 6.22
Critical Hdwy Stg 1	- - -	-	- 5.42 5.52 -
Critical Hdwy Stg 2	- - -	-	- 5.42 5.52 -
Follow-up Hdwy	- - -	2.218	- 3.518 4.018 3.318
Pot Cap-1 Maneuver	0 - -	1557	- 933 819 1037
Stage 1	0 - -	-	- 986 865 -
Stage 2	0 - -	-	- 987 866 -
Platoon blocked, %	- - -	-	- - -
Mov Cap-1 Maneuver	- - -	1557	- 933 0 1037
Mov Cap-2 Maneuver	- - -	-	- 933 0 -
Stage 1	- - -	-	- 986 0 -
Stage 2	- - -	-	- 987 0 -

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	933	-	-	1557	-	-
HCM Lane V/C Ratio	0.093	-	-	-	-	-
HCM Control Delay (s)	9.3	-	-	0	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-	-

Intersection

Int Delay, s/veh 8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	16	0	1	0	0	48
Future Vol, veh/h	16	0	1	0	0	48
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	17	0	1	0	0	52

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0 35 1
Stage 1	-	-	- - 1 -
Stage 2	-	-	- - 34 -
Critical Hdwy	4.12	-	- - 6.42 6.22
Critical Hdwy Stg 1	-	-	- - 5.42 -
Critical Hdwy Stg 2	-	-	- - 5.42 -
Follow-up Hdwy	2.218	-	- - 3.518 3.318
Pot Cap-1 Maneuver	1622	-	- - 978 1084
Stage 1	-	-	- - 1022 -
Stage 2	-	-	- - 988 -
Platoon blocked, %		-	- - -
Mov Cap-1 Maneuver	1622	-	- - 968 1084
Mov Cap-2 Maneuver	-	-	- - 968 -
Stage 1	-	-	- - 1012 -
Stage 2	-	-	- - 988 -

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	1084
HCM Lane V/C Ratio	0.011	-	-	-	0.048
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection

Int Delay, s/veh 5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	8	11	0	0	0	32	0	0	0	0	0
Future Vol, veh/h	0	8	11	0	0	0	32	0	0	0	0	0
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	-	-	-	-	-	-	-	-	-	-	-	-
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	0	9	12	0	0	0	35	0	0	0	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	1	0	0	21
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1622	-	-	1595
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1595
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.7	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	999	1622	-	-	1595	-	-	-
HCM Lane V/C Ratio	0.035	-	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection						
Int Delay, s/veh	6.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	0	0	0	0	11
Future Vol, veh/h	32	0	0	0	0	11
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	-	-	-	-	-
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	35	0	0	0	0	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	6	6	12	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1015	1077	1607	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1015	1077	1607	-	-	-
Mov Cap-2 Maneuver	1015	-	-	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1607	-	1015	-	-
HCM Lane V/C Ratio	-	-	0.034	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

01/31/2018

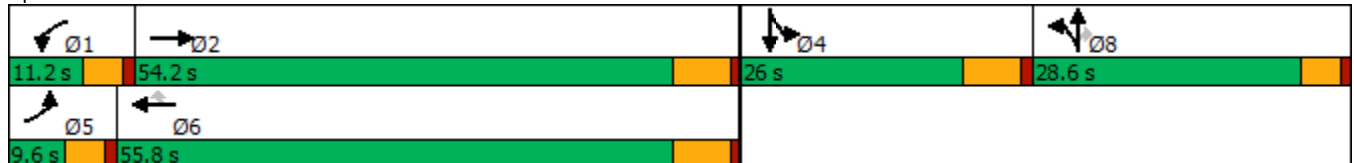


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	47	544	43	800	368	32	34	40	437	17
Future Volume (vph)	47	544	43	800	368	32	34	40	437	17
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	9.6	54.2	11.2	55.8	55.8	28.6	28.6	28.6	26.0	26.0
Total Split (%)	8.0%	45.2%	9.3%	46.5%	46.5%	23.8%	23.8%	23.8%	21.7%	21.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.1
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	544	15	43	800	368	32	34	40	437	17	70
Future Volume (veh/h)	47	544	15	43	800	368	32	34	40	437	17	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	555	12	44	816	160	33	35	15	523	0	0
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	62	764	17	57	779	660	359	377	319	592	311	0
Arrive On Green	0.03	0.42	0.42	0.03	0.42	0.42	0.20	0.20	0.20	0.17	0.00	0.00
Sat Flow, veh/h	1781	1824	39	1781	1870	1585	1781	1870	1585	3563	1870	0
Grp Volume(v), veh/h	48	0	567	44	816	160	33	35	15	523	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	3.2	0.0	30.3	2.9	49.6	7.8	1.8	1.8	0.9	17.1	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	30.3	2.9	49.6	7.8	1.8	1.8	0.9	17.1	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	62	0	780	57	779	660	359	377	319	592	311	0
V/C Ratio(X)	0.78	0.00	0.73	0.77	1.05	0.24	0.09	0.09	0.05	0.88	0.00	0.00
Avail Cap(c_a), veh/h	75	0	780	99	779	660	359	377	319	592	311	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	57.0	0.0	28.9	57.2	34.8	22.6	38.7	38.7	38.3	48.5	0.0	0.0
Incr Delay (d2), s/veh	27.4	0.0	3.4	7.7	45.5	0.2	0.5	0.5	0.3	17.3	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	1.9	0.0	13.3	1.4	30.6	2.8	0.8	0.9	0.4	8.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.5	0.0	32.3	64.9	80.2	22.8	39.2	39.2	38.6	65.8	0.0	0.0
LnGrp LOS	F	A	C	E	F	C	D	D	D	E	A	A
Approach Vol, veh/h		615			1020			83			523	
Approach Delay, s/veh		36.4			70.6			39.1			65.8	
Approach LOS		D			E			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	56.1		26.0	8.7	55.8		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.6	48.0		19.8	5.0	49.6		24.0				
Max Q Clear Time (g_c+I1), s	4.9	32.3		19.1	5.2	51.6		3.8				
Green Ext Time (p_c), s	0.0	2.9		0.2	0.0	0.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	58.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

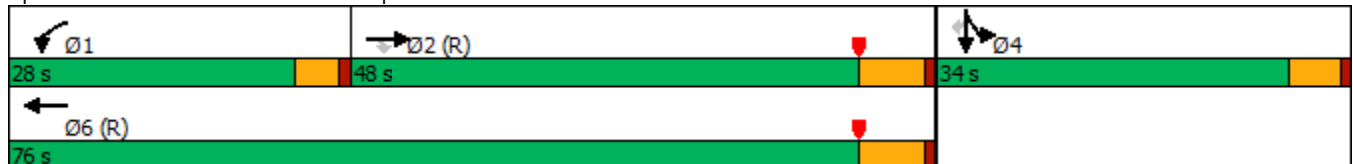


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	734	304	379	1017	0	195
Future Volume (vph)	734	304	379	1017	0	195
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	48.0	48.0	28.0	76.0	34.0	34.0
Total Split (%)	43.6%	43.6%	25.5%	69.1%	30.9%	30.9%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	734	304	379	1017	0	0	0	0	528	0	195
Future Volume (veh/h)	0	734	304	379	1017	0	0	0	0	528	0	195
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	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	749	224	387	1038	0				539	0	136
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	706	598	379	1182	0				465	0	414
Arrive On Green	0.00	0.38	0.38	0.43	1.00	0.00				0.26	0.00	0.26
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1781	0	1585
Grp Volume(v), veh/h	0	749	224	387	1038	0				539	0	136
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1781	0	1585
Q Serve(g_s), s	0.0	41.5	11.3	23.4	0.0	0.0				28.7	0.0	7.6
Cycle Q Clear(g_c), s	0.0	41.5	11.3	23.4	0.0	0.0				28.7	0.0	7.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	706	598	379	1182	0				465	0	414
V/C Ratio(X)	0.00	1.06	0.37	1.02	0.88	0.00				1.16	0.00	0.33
Avail Cap(c_a), veh/h	0	706	598	379	1182	0				465	0	414
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.53	0.53	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	34.3	24.8	31.6	0.0	0.0				40.7	0.0	32.9
Incr Delay (d2), s/veh	0.0	42.8	1.0	19.6	1.0	0.0				93.5	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	25.6	4.1	8.6	0.3	0.0				24.0	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	77.0	25.8	51.2	1.0	0.0				134.2	0.0	35.0
LnGrp LOS	A	F	C	F	A	A				F	A	C
Approach Vol, veh/h		973			1425						675	
Approach Delay, s/veh		65.2			14.6						114.2	
Approach LOS		E			B						F	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	28.0	48.0		34.0		76.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	23.4	41.5		28.7		69.5						
Max Q Clear Time (g_c+I1), s	25.4	43.5		30.7		2.0						
Green Ext Time (p_c), s	0.0	0.0		0.0		4.9						

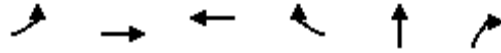
Intersection Summary

HCM 6th Ctrl Delay	52.5
HCM 6th LOS	D

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	94	1167	960	566	0	510
Future Volume (vph)	94	1167	960	566	0	510
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		8
Detector Phase	5	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0
Total Split (s)	13.0	75.0	62.0	62.0	35.0	35.0
Total Split (%)	11.8%	68.2%	56.4%	56.4%	31.8%	31.8%
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3
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	5.3	5.3	5.3	5.3	5.3
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	1167	0	0	960	566	435	0	510	0	0	0
Future Volume (veh/h)	94	1167	0	0	960	566	435	0	510	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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	95	1179	0	0	970	501	439	0	457			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	119	1185	0	0	982	832	481	0	428			
Arrive On Green	0.09	0.84	0.00	0.00	0.53	0.53	0.27	0.00	0.27			
Sat Flow, veh/h	1781	1870	0	0	1870	1585	1781	0	1585			
Grp Volume(v), veh/h	95	1179	0	0	970	501	439	0	457			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	1781	0	1585			
Q Serve(g_s), s	5.8	67.5	0.0	0.0	56.3	24.1	26.3	0.0	29.7			
Cycle Q Clear(g_c), s	5.8	67.5	0.0	0.0	56.3	24.1	26.3	0.0	29.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	119	1185	0	0	982	832	481	0	428			
V/C Ratio(X)	0.80	0.99	0.00	0.00	0.99	0.60	0.91	0.00	1.07			
Avail Cap(c_a), veh/h	136	1185	0	0	982	832	481	0	428			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.52	0.52	1.00	0.00	1.00			
Uniform Delay (d), s/veh	49.4	8.5	0.0	0.0	25.8	18.1	38.9	0.0	40.2			
Incr Delay (d2), s/veh	2.4	6.7	0.0	0.0	18.0	1.7	24.2	0.0	62.7			
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	2.5	7.2	0.0	0.0	26.1	8.1	14.1	0.0	18.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	15.2	0.0	0.0	43.7	19.8	63.1	0.0	102.9			
LnGrp LOS	D	B	A	A	D	B	E	A	F			
Approach Vol, veh/h		1274			1471			896				
Approach Delay, s/veh		17.9			35.6			83.4				
Approach LOS		B			D			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		75.0			11.9	63.1		35.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		69.7			8.4	56.7		29.7				
Max Q Clear Time (g_c+I1), s		69.5			7.8	58.3		31.7				
Green Ext Time (p_c), s		0.1			0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	41.2
HCM 6th LOS	D

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙↕	↕	↙	↙	↕	↙
Traffic Volume (vph)	246	1029	95	840	453	231	188	71	141	233
Future Volume (vph)	246	1029	95	840	453	231	188	71	141	233
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	27.0	53.8	14.0	40.8	24.0	37.8	37.8	14.4	28.2	28.2
Total Split (%)	22.5%	44.8%	11.7%	34.0%	20.0%	31.5%	31.5%	12.0%	23.5%	23.5%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.4
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	1029	402	95	840	41	453	231	188	71	141	233
Future Volume (veh/h)	246	1029	402	95	840	41	453	231	188	71	141	233
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	251	1050	307	97	857	38	462	236	100	72	144	191
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	279	1101	319	121	1097	49	519	537	455	92	353	299
Arrive On Green	0.16	0.41	0.41	0.07	0.32	0.32	0.15	0.29	0.29	0.05	0.19	0.19
Sat Flow, veh/h	1781	2717	788	1781	3466	154	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	251	684	673	97	439	456	462	236	100	72	144	191
Grp Sat Flow(s),veh/h/ln	1781	1777	1728	1781	1777	1843	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	16.1	43.4	44.2	6.3	26.2	26.2	15.3	12.0	5.6	4.7	7.9	13.0
Cycle Q Clear(g_c), s	16.1	43.4	44.2	6.3	26.2	26.2	15.3	12.0	5.6	4.7	7.9	13.0
Prop In Lane	1.00		0.46	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	279	720	700	121	562	583	519	537	455	92	353	299
V/C Ratio(X)	0.90	0.95	0.96	0.80	0.78	0.78	0.89	0.44	0.22	0.78	0.41	0.64
Avail Cap(c_a), veh/h	342	726	706	144	562	583	575	537	455	150	353	299
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	33.5	33.8	53.6	36.2	36.2	48.6	33.9	31.6	54.6	41.6	43.6
Incr Delay (d2), s/veh	20.3	21.9	24.5	19.9	7.0	6.8	13.9	2.6	1.1	5.3	3.5	10.0
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	8.4	21.6	21.8	3.4	11.7	12.1	7.3	5.6	2.2	2.2	3.8	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.6	55.4	58.3	73.5	43.2	43.0	62.5	36.5	32.7	60.0	45.0	53.6
LnGrp LOS	E	E	E	E	D	D	E	D	C	E	D	D
Approach Vol, veh/h		1608			992			798			407	
Approach Delay, s/veh		58.7			46.1			51.0			51.7	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	53.7	22.1	28.2	22.9	43.4	10.6	39.7				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.4	* 48	19.4	22.0	22.4	34.3	9.8	31.6				
Max Q Clear Time (g_c+I1), s	8.3	46.2	17.3	15.0	18.1	28.2	6.7	14.0				
Green Ext Time (p_c), s	0.0	1.0	0.2	0.7	0.1	2.5	0.0	1.3				

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.

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↕↗		↵	↕↗	
Traffic Vol, veh/h	59	130	52	30	91	63	36	331	60	107	250	68
Future Vol, veh/h	59	130	52	30	91	63	36	331	60	107	250	68
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	63	138	55	32	97	67	38	352	64	114	266	72
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	12.5	12.2	15	13.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	65%	0%	100%	45%	0%	100%	32%	0%	100%
Vol Right, %	0%	0%	35%	0%	0%	55%	0%	0%	68%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	221	170	59	87	95	30	61	93	107	167
LT Vol	36	0	0	59	0	0	30	0	0	107	0
Through Vol	0	221	110	0	87	43	0	61	30	0	167
RT Vol	0	0	60	0	0	52	0	0	63	0	0
Lane Flow Rate	38	235	181	63	92	101	32	65	99	114	177
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.083	0.478	0.357	0.146	0.202	0.211	0.076	0.144	0.209	0.248	0.362
Departure Headway (Hd)	7.835	7.335	7.089	8.389	7.889	7.507	8.554	8.054	7.582	7.843	7.343
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	457	491	507	427	455	478	419	445	473	458	489
Service Time	5.58	5.08	4.833	6.138	5.638	5.256	6.307	5.807	5.334	5.587	5.087
HCM Lane V/C Ratio	0.083	0.479	0.357	0.148	0.202	0.211	0.076	0.146	0.209	0.249	0.362
HCM Control Delay	11.3	16.7	13.7	12.6	12.6	12.3	12	12.2	12.3	13.2	14.2
HCM Lane LOS	B	C	B	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.3	2.5	1.6	0.5	0.7	0.8	0.2	0.5	0.8	1	1.6

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

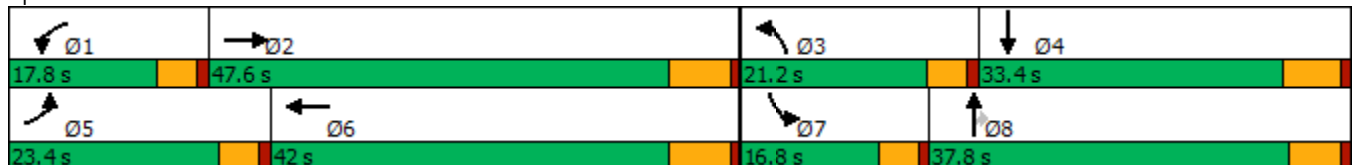


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	165	961	105	814	142	240	144	90	95
Future Volume (vph)	165	961	105	814	142	240	144	90	95
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	23.4	47.6	17.8	42.0	21.2	37.8	37.8	16.8	33.4
Total Split (%)	19.5%	39.7%	14.8%	35.0%	17.7%	31.5%	31.5%	14.0%	27.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
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	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.4
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	
Traffic Volume (veh/h)	165	961	157	105	814	117	142	240	144	90	95	91
Future Volume (veh/h)	165	961	157	105	814	117	142	240	144	90	95	91
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	174	1012	145	111	857	111	149	253	81	95	100	70
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	1110	159	138	1008	131	179	553	469	120	269	189
Arrive On Green	0.11	0.36	0.36	0.08	0.32	0.32	0.10	0.30	0.30	0.07	0.26	0.26
Sat Flow, veh/h	1781	3111	445	1781	3155	409	1781	1870	1585	1781	1024	717
Grp Volume(v), veh/h	174	578	579	111	483	485	149	253	81	95	0	170
Grp Sat Flow(s),veh/h/ln	1781	1777	1779	1781	1777	1786	1781	1870	1585	1781	0	1741
Q Serve(g_s), s	10.4	33.5	33.6	6.6	27.4	27.4	8.9	11.9	4.1	5.7	0.0	8.6
Cycle Q Clear(g_c), s	10.4	33.5	33.6	6.6	27.4	27.4	8.9	11.9	4.1	5.7	0.0	8.6
Prop In Lane	1.00		0.25	1.00		0.23	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	204	634	635	138	568	571	179	553	469	120	0	458
V/C Ratio(X)	0.85	0.91	0.91	0.81	0.85	0.85	0.83	0.46	0.17	0.79	0.00	0.37
Avail Cap(c_a), veh/h	310	675	676	217	583	586	273	553	469	201	0	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	47.0	33.1	33.2	49.1	34.4	34.4	47.8	31.0	28.2	49.7	0.0	32.6
Incr Delay (d2), s/veh	8.7	16.0	16.2	5.1	11.2	11.2	7.5	2.7	0.8	4.4	0.0	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	4.8	15.9	16.0	3.0	12.6	12.7	4.2	5.6	1.6	2.6	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	49.1	49.4	54.2	45.6	45.6	55.3	33.7	29.0	54.1	0.0	34.9
LnGrp LOS	E	D	D	D	D	D	E	C	C	D	A	C
Approach Vol, veh/h		1331			1079			483				265
Approach Delay, s/veh		50.1			46.5			39.6				41.8
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	45.1	15.4	34.6	17.0	41.1	11.9	38.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	* 6.2				
Max Green Setting (Gmax), s	13.2	41.1	16.6	27.2	18.8	35.5	12.2	* 32				
Max Q Clear Time (g_c+I1), s	8.6	35.6	10.9	10.6	12.4	29.4	7.7	13.9				
Green Ext Time (p_c), s	0.0	3.0	0.1	0.7	0.1	2.7	0.0	1.4				

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.

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	64	6	1	43	3	9	46	0	1	41	6
Future Vol, veh/h	9	64	6	1	43	3	9	46	0	1	41	6
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	1	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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	82	8	1	55	4	12	59	0	1	53	8

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	176	143	57	188	147	64	61	0	0	60	0	0
Stage 1	59	59	-	84	84	-	-	-	-	-	-	-
Stage 2	117	84	-	104	63	-	-	-	-	-	-	-
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	786	748	1009	772	744	1000	1542	-	-	1544	-	-
Stage 1	953	846	-	924	825	-	-	-	-	-	-	-
Stage 2	888	825	-	902	842	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	730	741	1009	696	737	995	1542	-	-	1543	-	-
Mov Cap-2 Maneuver	730	741	-	696	737	-	-	-	-	-	-	-
Stage 1	945	845	-	916	818	-	-	-	-	-	-	-
Stage 2	815	818	-	807	841	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.5		10.2		1.2		0.2	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1542	-	-	755	748	1543	-
HCM Lane V/C Ratio	0.007	-	-	0.134	0.081	0.001	-
HCM Control Delay (s)	7.4	0	-	10.5	10.2	7.3	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.5	0.3	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

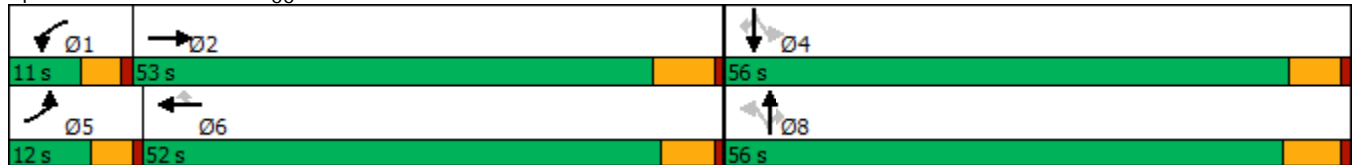


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	23	773	2	637	10	285	15	8	6	28
Future Volume (vph)	23	773	2	637	10	285	15	8	6	28
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		8		4
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8
Total Split (s)	12.0	53.0	11.0	52.0	52.0	56.0	56.0	56.0	56.0	56.0
Total Split (%)	10.0%	44.2%	9.2%	43.3%	43.3%	46.7%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	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
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	5.8	5.8		6.2	6.2	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.5
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↗		↕	↗		↕	↗
Traffic Volume (veh/h)	23	773	273	2	637	10	285	15	8	0	6	28
Future Volume (veh/h)	23	773	273	2	637	10	285	15	8	0	6	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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	831	262	2	685	7	306	16	6	0	6	10
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	957	302	5	1202	536	701	33	751	0	886	751
Arrive On Green	0.02	0.36	0.36	0.00	0.34	0.34	0.47	0.47	0.47	0.00	0.47	0.47
Sat Flow, veh/h	1781	2659	838	1781	3554	1585	1340	70	1585	0	1870	1585
Grp Volume(v), veh/h	25	555	538	2	685	7	322	0	6	0	6	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1720	1781	1777	1585	1410	0	1585	0	1870	1585
Q Serve(g_s), s	1.5	30.8	30.9	0.1	16.7	0.3	16.5	0.0	0.2	0.0	0.2	0.4
Cycle Q Clear(g_c), s	1.5	30.8	30.9	0.1	16.7	0.3	16.6	0.0	0.2	0.0	0.2	0.4
Prop In Lane	1.00		0.49	1.00		1.00	0.95		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	44	640	619	5	1202	536	734	0	751	0	886	751
V/C Ratio(X)	0.57	0.87	0.87	0.42	0.57	0.01	0.44	0.00	0.01	0.00	0.01	0.01
Avail Cap(c_a), veh/h	124	780	755	108	1550	691	734	0	751	0	886	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	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	31.5	31.6	52.7	28.7	23.3	19.1	0.0	14.7	0.0	14.7	14.7
Incr Delay (d2), s/veh	4.3	8.8	9.2	19.9	0.4	0.0	1.9	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	0.7	13.5	13.2	0.1	6.6	0.1	5.3	0.0	0.1	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.4	40.4	40.7	72.7	29.2	23.3	21.0	0.0	14.7	0.0	14.7	14.8
LnGrp LOS	E	D	D	E	C	C	C	A	B	A	B	B
Approach Vol, veh/h		1118			694			328				16
Approach Delay, s/veh		40.9			29.2			20.9				14.8
Approach LOS		D			C			C				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	44.6		56.4	7.2	42.3		56.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	6.4	46.5		* 50	7.4	* 46		49.8				
Max Q Clear Time (g_c+I1), s	2.1	32.9		2.4	3.5	18.7		18.6				
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	4.2		1.7				

Intersection Summary

HCM 6th Ctrl Delay	33.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh 9.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	29	53	79	17	0	20	41	133	0	26	1
Future Vol, veh/h	5	29	53	79	17	0	20	41	133	0	26	1
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	47	85	127	27	0	32	66	215	0	42	2
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	9.5	9.9	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	6%	82%	0%
Vol Thru, %	21%	33%	18%	96%
Vol Right, %	69%	61%	0%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	194	87	96	27
LT Vol	20	5	79	0
Through Vol	41	29	17	26
RT Vol	133	53	0	1
Lane Flow Rate	313	140	155	44
Geometry Grp	1	1	1	1
Degree of Util (X)	0.375	0.179	0.218	0.06
Departure Headway (Hd)	4.314	4.585	5.068	4.992
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	832	777	705	713
Service Time	2.354	2.641	3.124	3.054
HCM Lane V/C Ratio	0.376	0.18	0.22	0.062
HCM Control Delay	9.9	8.7	9.5	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.8	0.6	0.8	0.2

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↔	↕
Traffic Vol, veh/h	44	8	187	75	14	144
Future Vol, veh/h	44	8	187	75	14	144
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	48	9	203	82	15	157

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	431	143	0	0	285
Stage 1	244	-	-	-	-
Stage 2	187	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13
Critical Hdwy Stg 1	5.83	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219
Pot Cap-1 Maneuver	567	879	-	-	1276
Stage 1	775	-	-	-	-
Stage 2	844	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	560	879	-	-	1276
Mov Cap-2 Maneuver	560	-	-	-	-
Stage 1	766	-	-	-	-
Stage 2	844	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	593	1276
HCM Lane V/C Ratio	-	-	0.095	0.012
HCM Control Delay (s)	-	-	11.7	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	56	0	10	1	251	95	15	173	0
Future Vol, veh/h	1	0	0	56	0	10	1	251	95	15	173	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	82	0	15	1	369	140	22	254	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	747	810	254	740	740	440	254	0	0	510	0	0
Stage 1	298	298	-	442	442	-	-	-	-	-	-	-
Stage 2	449	512	-	298	298	-	-	-	-	-	-	-
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	329	314	785	333	345	617	1311	-	-	1055	-	-
Stage 1	711	667	-	594	576	-	-	-	-	-	-	-
Stage 2	589	536	-	711	667	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	315	306	785	326	336	616	1311	-	-	1054	-	-
Mov Cap-2 Maneuver	315	306	-	326	336	-	-	-	-	-	-	-
Stage 1	710	651	-	593	575	-	-	-	-	-	-	-
Stage 2	574	535	-	694	651	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.5		19.1		0		0.7	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1311	-	-	315	351	1054	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.277	0.021	-
HCM Control Delay (s)	7.7	0	-	16.5	19.1	8.5	0
HCM Lane LOS	A	A	-	C	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0	1.1	0.1	-

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	2	31	1	1	0	23	324	0	0	196	2
Future Vol, veh/h	6	2	31	1	1	0	23	324	0	0	196	2
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	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	3	42	1	1	0	31	438	0	0	265	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	768	767	267	789	768	438	268	0	0	438	0	0
Stage 1	267	267	-	500	500	-	-	-	-	-	-	-
Stage 2	501	500	-	289	268	-	-	-	-	-	-	-
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	319	332	772	308	332	619	1296	-	-	1122	-	-
Stage 1	738	688	-	553	543	-	-	-	-	-	-	-
Stage 2	552	543	-	719	687	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	310	321	772	282	321	619	1296	-	-	1122	-	-
Mov Cap-2 Maneuver	310	321	-	282	321	-	-	-	-	-	-	-
Stage 1	714	688	-	535	526	-	-	-	-	-	-	-
Stage 2	533	526	-	677	687	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.7		17.1		0.5		0	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1296	-	-	593	300	1122	-
HCM Lane V/C Ratio	0.024	-	-	0.089	0.009	-	-
HCM Control Delay (s)	7.8	0	-	11.7	17.1	0	-
HCM Lane LOS	A	A	-	B	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0	0	-

Intersection	
Intersection Delay, s/veh	148.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	260	325	154	15	341	39	145	50	10	22	53	161
Future Vol, veh/h	260	325	154	15	341	39	145	50	10	22	53	161
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	283	353	167	16	371	42	158	54	11	24	58	175
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	280.9	42.9	22.1	22.1
HCM LOS	F	E	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	71%	35%	4%	9%
Vol Thru, %	24%	44%	86%	22%
Vol Right, %	5%	21%	10%	68%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	205	739	395	236
LT Vol	145	260	15	22
Through Vol	50	325	341	53
RT Vol	10	154	39	161
Lane Flow Rate	223	803	429	257
Geometry Grp	1	1	1	1
Degree of Util (X)	0.508	1.561	0.851	0.543
Departure Headway (Hd)	9.577	6.996	8.179	8.94
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	379	522	447	405
Service Time	7.577	5.072	6.179	6.94
HCM Lane V/C Ratio	0.588	1.538	0.96	0.635
HCM Control Delay	22.1	280.9	42.9	22.1
HCM Lane LOS	C	F	E	C
HCM 95th-tile Q	2.8	42.7	8.4	3.1

Intersection

Int Delay, s/veh 3.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	54	57	35	0	0	31
Future Vol, veh/h	54	57	35	0	0	31
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	59	62	38	0	0	34

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	38	0	-	0	218	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1572	-	-	-	770	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1572	-	-	-	740	1034
Mov Cap-2 Maneuver	-	-	-	-	740	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	851	-

Approach EB WB SB

HCM Control Delay, s	3.6	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1572	-	-	-	1034
HCM Lane V/C Ratio	0.037	-	-	-	0.033
HCM Control Delay (s)	7.4	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection

Int Delay, s/veh 0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	126	36	0	75	21	0
Future Vol, veh/h	126	36	0	75	21	0
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	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	39	0	82	23	0

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	176	0	239
Stage 1	-	-	-	-	157
Stage 2	-	-	-	-	82
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1400	-	749
Stage 1	-	-	-	-	871
Stage 2	-	-	-	-	941
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1400	-	749
Mov Cap-2 Maneuver	-	-	-	-	749
Stage 1	-	-	-	-	871
Stage 2	-	-	-	-	941

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	749	-	-	1400	-
HCM Lane V/C Ratio	0.03	-	-	-	-
HCM Control Delay (s)	10	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶		↷	↶			↷				
Traffic Vol, veh/h	0	37	90	0	22	0	53	0	0	0	0	0
Future Vol, veh/h	0	37	90	0	22	0	53	0	0	0	0	0
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	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
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	0	40	98	0	24	0	58	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	138	0	0	113	113	89
Stage 1	-	-	-	-	-	-	89	89	-
Stage 2	-	-	-	-	-	-	24	24	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1446	-	-	884	777	969
Stage 1	0	-	-	-	-	-	934	821	-
Stage 2	0	-	-	-	-	-	999	875	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1446	-	-	884	0	969
Mov Cap-2 Maneuver	-	-	-	-	-	-	884	0	-
Stage 1	-	-	-	-	-	-	934	0	-
Stage 2	-	-	-	-	-	-	999	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	884	-	-	1446	-	-
HCM Lane V/C Ratio	0.065	-	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-	-

Intersection

Int Delay, s/veh 7.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	54	3	3	0	0	32
Future Vol, veh/h	54	3	3	0	0	32
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	59	3	3	0	0	35

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	3	0	-	0	124 3
Stage 1	-	-	-	-	3 -
Stage 2	-	-	-	-	121 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1619	-	-	-	871 1081
Stage 1	-	-	-	-	1020 -
Stage 2	-	-	-	-	904 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1619	-	-	-	839 1081
Mov Cap-2 Maneuver	-	-	-	-	839 -
Stage 1	-	-	-	-	982 -
Stage 2	-	-	-	-	904 -

Approach

	EB	WB	SB
HCM Control Delay, s	6.9	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1619	-	-	-	1081
HCM Lane V/C Ratio	0.036	-	-	-	0.032
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

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	0	1	36	0	1	0	21	0	0	0	0	0
Future Vol, veh/h	0	1	36	0	1	0	21	0	0	0	0	0
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	-	-	-	-	-	-	-	-	-	-	-	-
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	0	1	39	0	1	0	23	0	0	0	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	1	0	0	40
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1622	-	-	1570
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1570
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	8.7	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	990	1622	-	-	1570	-	-	-
HCM Lane V/C Ratio	0.023	-	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	0	0	0	0	36
Future Vol, veh/h	21	0	0	0	0	36
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	-	-	-	-	-
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	23	0	0	0	0	39

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	20	20	39	0	0
Stage 1	20	-	-	-	-
Stage 2	0	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	997	1058	1571	-	-
Stage 1	1003	-	-	-	-
Stage 2	-	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	997	1058	1571	-	-
Mov Cap-2 Maneuver	997	-	-	-	-
Stage 1	1003	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1571	-	997	-	-
HCM Lane V/C Ratio	-	-	0.023	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

APPENDIX 6.3:

EAP (2021) CONDITIONS FREEWAY OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	617	413	389	979	359	148
v/c Ratio	0.85	0.48	0.97	0.80	0.87	0.31
Control Delay	43.9	5.0	62.4	11.2	62.5	7.4
Queue Delay	0.0	0.0	0.0	5.3	24.7	0.0
Total Delay	43.9	5.0	62.4	16.5	87.1	7.4
Queue Length 50th (ft)	394	9	258	373	245	0
Queue Length 95th (ft)	#598	74	m#328	m505	#406	51
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	724	855	408	1227	414	483
Starvation Cap Reductn	0	0	0	191	0	0
Spillback Cap Reductn	0	0	0	0	63	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.48	0.95	0.94	1.02	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

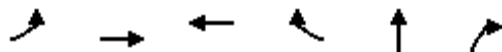
m Volume for 95th percentile queue is metered by upstream signal.

Queues

Canterwood (TTM No. 37439) (JN 11302)

3: I-215 NB Ramps & Scott Rd.

01/31/2018



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	108	825	1061	525	254	194
v/c Ratio	0.76	0.61	0.95	0.47	0.80	0.44
Control Delay	60.6	21.1	38.4	3.5	63.1	9.1
Queue Delay	0.0	9.2	43.9	0.3	0.0	0.0
Total Delay	60.6	30.3	82.4	3.8	63.1	9.1
Queue Length 50th (ft)	78	596	657	23	174	0
Queue Length 95th (ft)	m84	m705	#994	73	#302	62
Internal Link Dist (ft)		633	514		1324	
Turn Bay Length (ft)	240					400
Base Capacity (vph)	151	1349	1121	1109	317	438
Starvation Cap Reductn	0	490	177	170	0	0
Spillback Cap Reductn	0	0	61	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.96	1.12	0.56	0.80	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



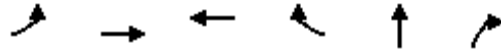
Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	668	287	341	944	463	184
v/c Ratio	0.93	0.38	0.94	0.80	1.00	0.35
Control Delay	54.8	6.2	61.8	13.5	84.5	10.0
Queue Delay	0.0	0.0	0.0	4.4	41.1	0.0
Total Delay	54.8	6.2	61.8	17.9	125.6	10.0
Queue Length 50th (ft)	452	17	221	427	-329	17
Queue Length 95th (ft)	#690	75	m#293	m615	#542	74
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	715	760	376	1177	461	526
Starvation Cap Reductn	0	0	0	166	0	0
Spillback Cap Reductn	0	0	0	0	257	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.38	0.91	0.93	2.27	0.35

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.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	88	1031	866	508	406	448
v/c Ratio	0.69	0.87	0.89	0.49	0.85	0.86
Control Delay	59.3	36.0	37.4	4.4	56.2	45.0
Queue Delay	0.0	48.2	31.9	0.2	0.0	0.0
Total Delay	59.3	84.1	69.4	4.6	56.2	45.0
Queue Length 50th (ft)	65	766	532	25	272	224
Queue Length 95th (ft)	m68	m799	#808	87	#438	#405
Internal Link Dist (ft)		633	514		1324	
Turn Bay Length (ft)	240					400
Base Capacity (vph)	135	1180	968	1032	477	520
Starvation Cap Reductn	0	333	152	104	0	0
Spillback Cap Reductn	0	0	57	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	1.22	1.06	0.55	0.85	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 6.4:

EAP (2025) CONDITIONS FREEWAY OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	676	446	449	1083	399	161
v/c Ratio	0.94	0.53	1.10	0.88	0.96	0.35
Control Delay	55.3	6.6	93.4	13.0	78.7	12.5
Queue Delay	0.0	0.0	0.0	26.5	44.0	0.0
Total Delay	55.3	6.6	93.4	39.5	122.7	12.5
Queue Length 50th (ft)	453	26	~358	482	280	21
Queue Length 95th (ft)	#691	106	m#351	m525	#472	77
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	719	849	408	1227	414	464
Starvation Cap Reductn	0	0	0	193	0	0
Spillback Cap Reductn	0	0	0	0	140	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.53	1.10	1.05	1.46	0.35

Intersection Summary

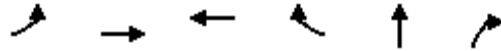
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	117	912	1197	602	275	218
v/c Ratio	0.81	0.68	1.07	0.54	0.87	0.48
Control Delay	58.5	23.0	71.4	4.9	70.8	10.1
Queue Delay	0.0	35.3	12.5	0.4	0.0	0.0
Total Delay	58.5	58.2	83.9	5.3	70.8	10.1
Queue Length 50th (ft)	81	665	~944	45	191	5
Queue Length 95th (ft)	m83	m705	#1200	119	#337	71
Internal Link Dist (ft)		633	514		1324	
Turn Bay Length (ft)	240					400
Base Capacity (vph)	151	1349	1118	1110	317	452
Starvation Cap Reductn	0	490	143	156	0	0
Spillback Cap Reductn	0	0	122	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.77	1.06	1.23	0.63	0.87	0.48

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.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	749	310	387	1038	539	199
v/c Ratio	1.07	0.42	1.03	0.88	1.17	0.39
Control Delay	87.3	8.1	75.5	15.7	134.7	15.5
Queue Delay	0.0	0.0	0.0	19.9	21.6	0.0
Total Delay	87.3	8.1	75.5	35.6	156.3	15.5
Queue Length 50th (ft)	~586	32	~290	501	-454	41
Queue Length 95th (ft)	#817	99	m#307	m613	#663	106
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	702	746	376	1177	461	505
Starvation Cap Reductn	0	0	0	167	0	0
Spillback Cap Reductn	0	0	0	0	353	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.42	1.03	1.03	4.99	0.39

Intersection Summary

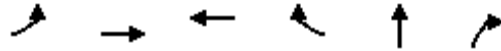
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	95	1179	970	572	439	515
v/c Ratio	0.74	1.00	1.00	0.55	0.92	1.04
Control Delay	54.1	44.0	57.3	6.2	65.5	85.1
Queue Delay	0.0	37.0	34.7	0.3	0.0	0.0
Total Delay	54.1	81.0	91.9	6.4	65.5	85.1
Queue Length 50th (ft)	70	878	~680	48	301	~344
Queue Length 95th (ft)	m63	m794	#968	134	#491	#555
Internal Link Dist (ft)		633	514		1324	
Turn Bay Length (ft)	240					400
Base Capacity (vph)	135	1180	967	1032	477	494
Starvation Cap Reductn	0	333	134	97	0	0
Spillback Cap Reductn	0	0	105	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	1.39	1.16	0.61	0.92	1.04

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.
- m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 6.5:

EAP (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 = **EAP (2021) Conditions - Weekday AM Peak Hour**

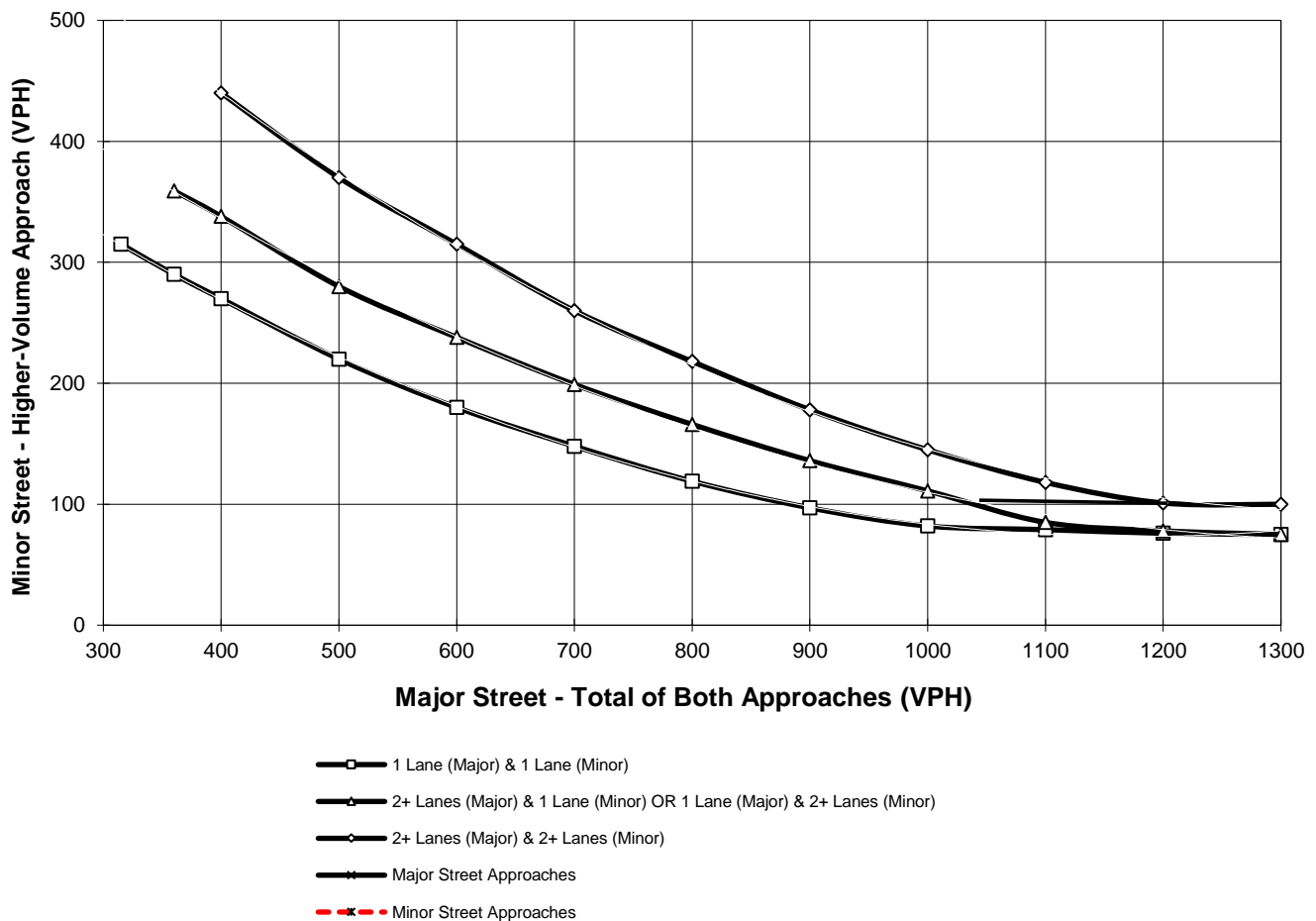
Major Street Name = **Briggs Rd.**

Total of Both Approaches (VPH) = **128**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **92**
 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-3. Warrant 3, Peak Hour

Traffic Conditions = **EAP (2021) Conditions - Weekday PM Peak Hour**

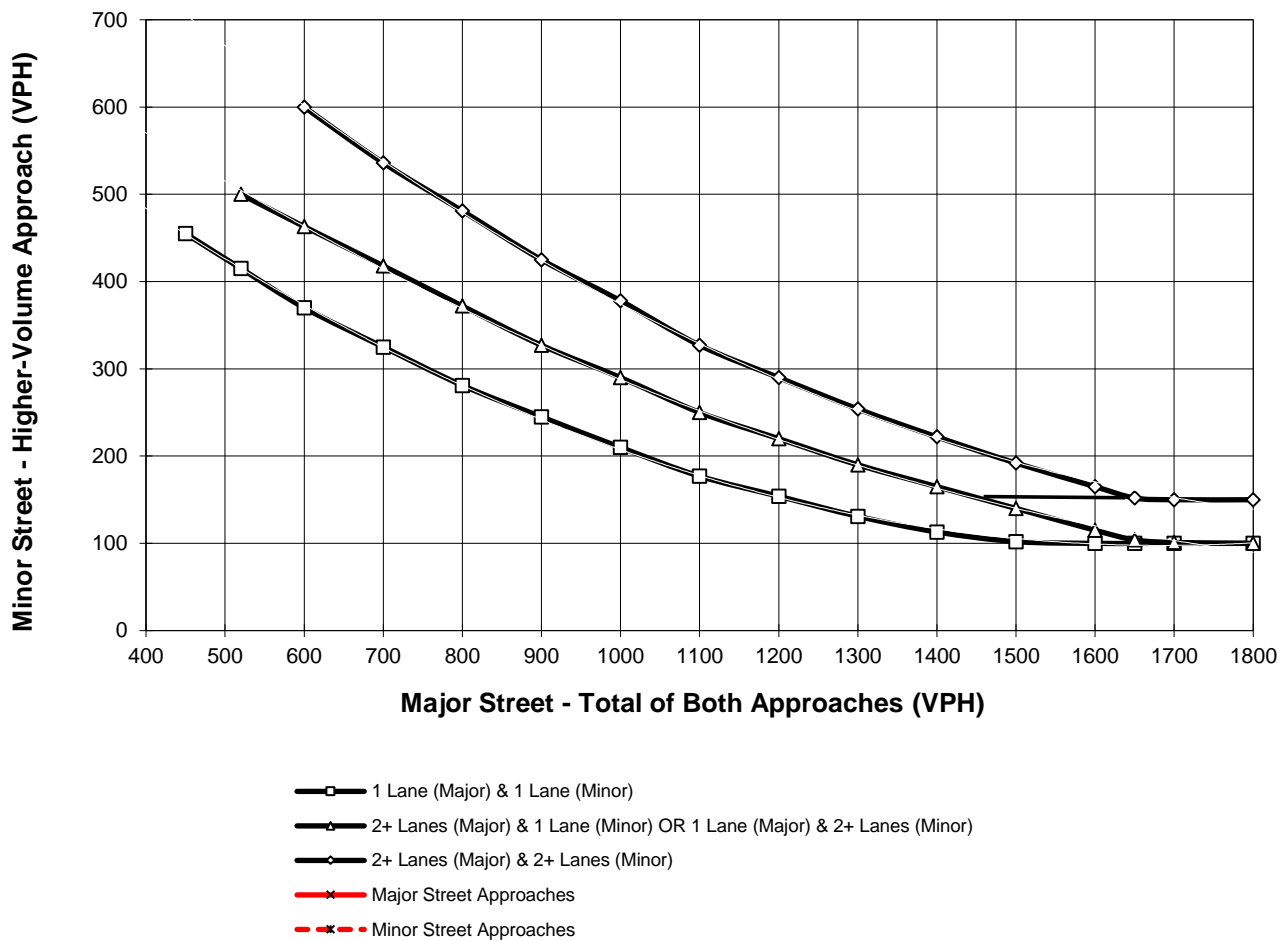
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **170**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **71**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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 (2021)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Leon Rd.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Canterwood Dr.</u>					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 2,817 vpd Minor Street Future ADT = 600 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	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 2,817	1 600	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	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 2,817	1 600	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				
	A				
	25%				
	B				
	23%				

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-3. Warrant 3, Peak Hour

Traffic Conditions = **EAP (2021) Conditions - Weekday PM Peak Hour**

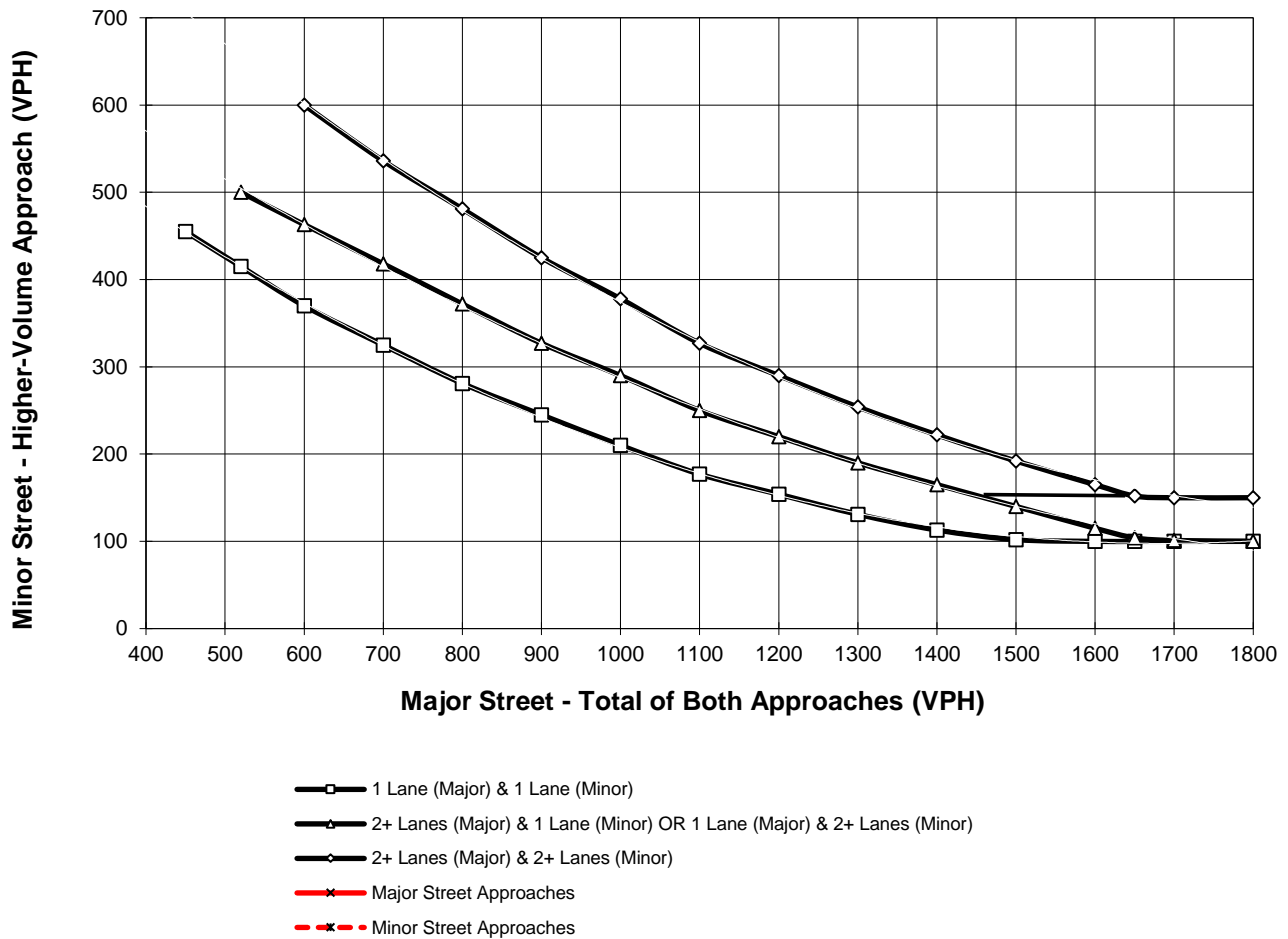
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **353**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Craig Av.**

High Volume Approach (VPH) = **3**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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 (2021) Conditions - Weekday PM Peak Hour**

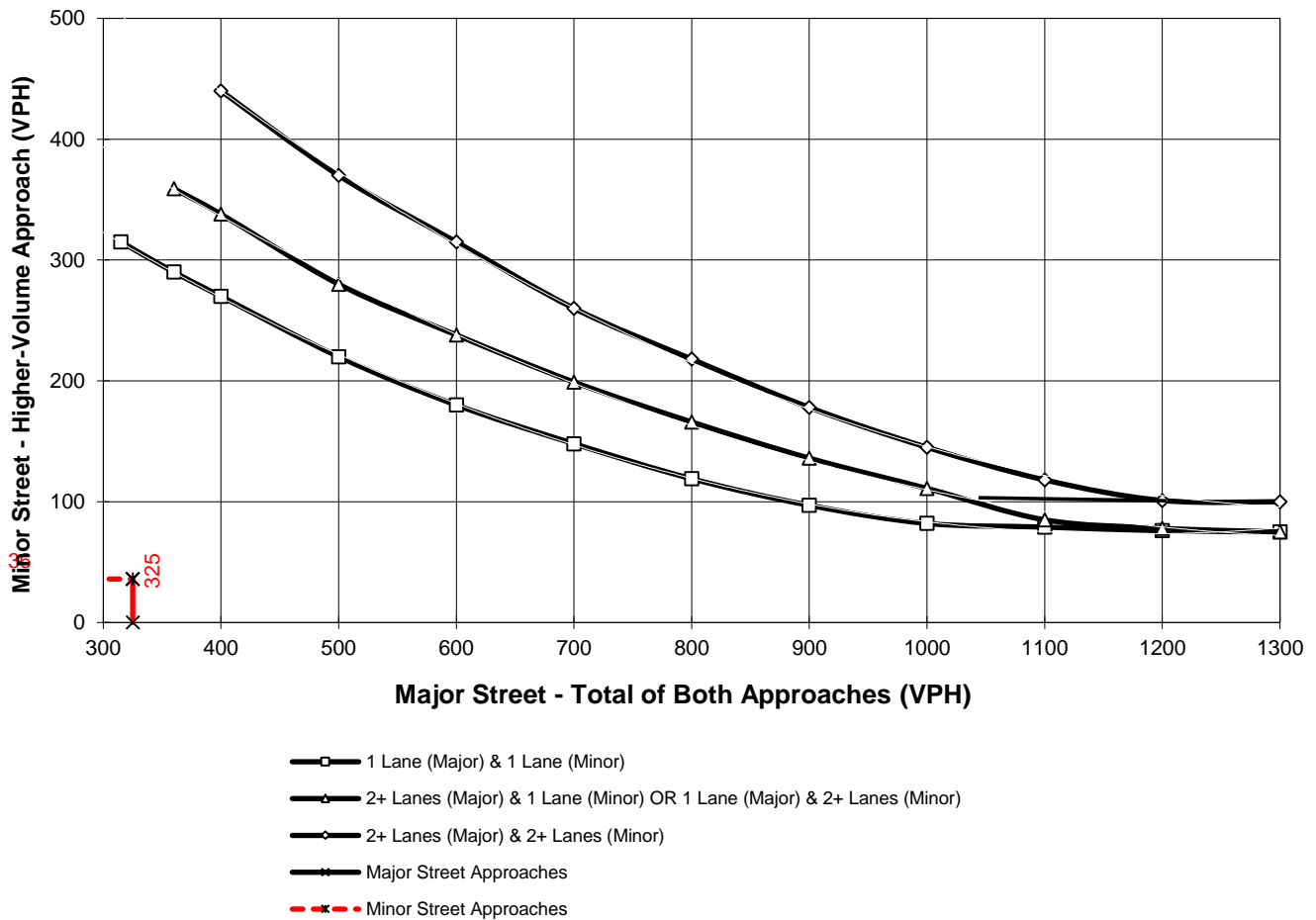
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **325**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Garbani Rd.**

High Volume Approach (VPH) = **36**
 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 (2021)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>	DATE <u>02/01/18</u>	DATE <u>02/01/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>St. B</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 1,593 vpd Minor Street Future ADT = 225 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX					
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>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 1,593	1 225	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>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 1,593	1 225	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>				
	9%				
	<u>B</u>				
	13%				

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>EAP (2021)</u>
Jurisdiction: <u>County of Riverside</u>				<u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Holland Rd.</u>				<u>BA</u>		DATE <u>02/01/18</u>
Minor Street: <u>Canterwood Dr.</u>					Critical Approach Speed (Major) <u>25</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>918</u>	vpd	Minor Street Future ADT =		<u>450</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input type="checkbox"/>	
					or	URBAN (U)
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			
XX					
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		Urban	Rural	Urban	Rural
<u>Major Street</u>	<u>Minor Street</u>				
1 918	1 450	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		Urban	Rural	Urban	Rural
<u>Major Street</u>	<u>Minor Street</u>				
1 918	1 450	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>				
	11%				
	<u>B</u>				
	8%				

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> </u>	<u> </u>	<u> </u>		TRAFFIC CONDITIONS	<u> </u>	EAP (2021)	
	DIST	CO	RTE	PM	CALC	<u>BA</u>	DATE	<u>02/01/18</u>
Jurisdiction:	<u>County of Riverside</u>				CHK	<u>BA</u>	DATE	<u>02/01/18</u>
Major Street:	<u>Holland Rd.</u>				Critical Approach Speed (Major)		<u>25</u>	mph
Minor Street:	<u>Eucalyptus Rd.</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>243</u>			vpd	Minor Street Future ADT =	<u>225</u> vpd		
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);	<input style="width: 50px; height: 20px;" type="text"/>						or	URBAN (U)
In built up area of isolated community of < 10,000 population	<input style="width: 50px; height: 20px;" type="text"/>							

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 243	1 225	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 243	1 225	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>	<u>B</u>			
	3%	2%			

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> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
	DIST	CO	RTE	PM	CALC	TRAFFIC CONDITIONS	EAP (2021)
Jurisdiction:	<u>County of Riverside</u>				CHK	<u>BA</u>	DATE <u>02/01/18</u>
Major Street:	<u>Eucalyptus Rd.</u>						DATE <u>02/01/18</u>
Minor Street:	<u>St. D</u>					Critical Approach Speed (Major)	<u>25</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>225</u>	vpd	Minor Street Future ADT =	<u>225</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);							<input type="checkbox"/>
							or
In built up area of isolated community of < 10,000 population							<input type="checkbox"/>
							URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	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>				
1 225	1 225	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	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>				
1 225	1 225	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				
	A				
	3%				
	B				
	2%				

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 6.6:

EAP (2025) 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 (2025) Conditions - Weekday AM Peak Hour**

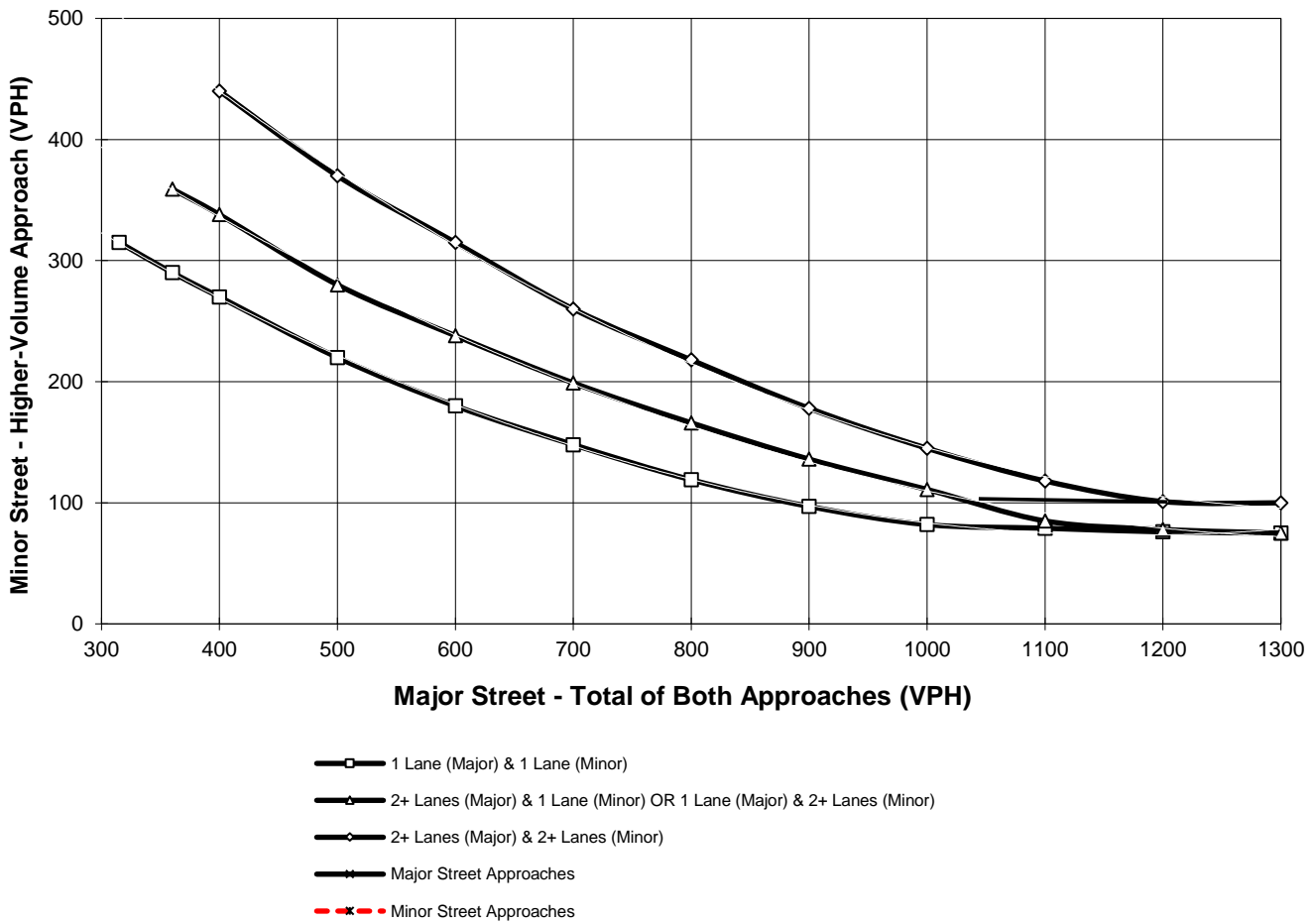
Major Street Name = **Briggs Rd.**

Total of Both Approaches (VPH) = **138**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **106**
 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-3. Warrant 3, Peak Hour

Traffic Conditions = **EAP (2025) Conditions - Weekday PM Peak Hour**

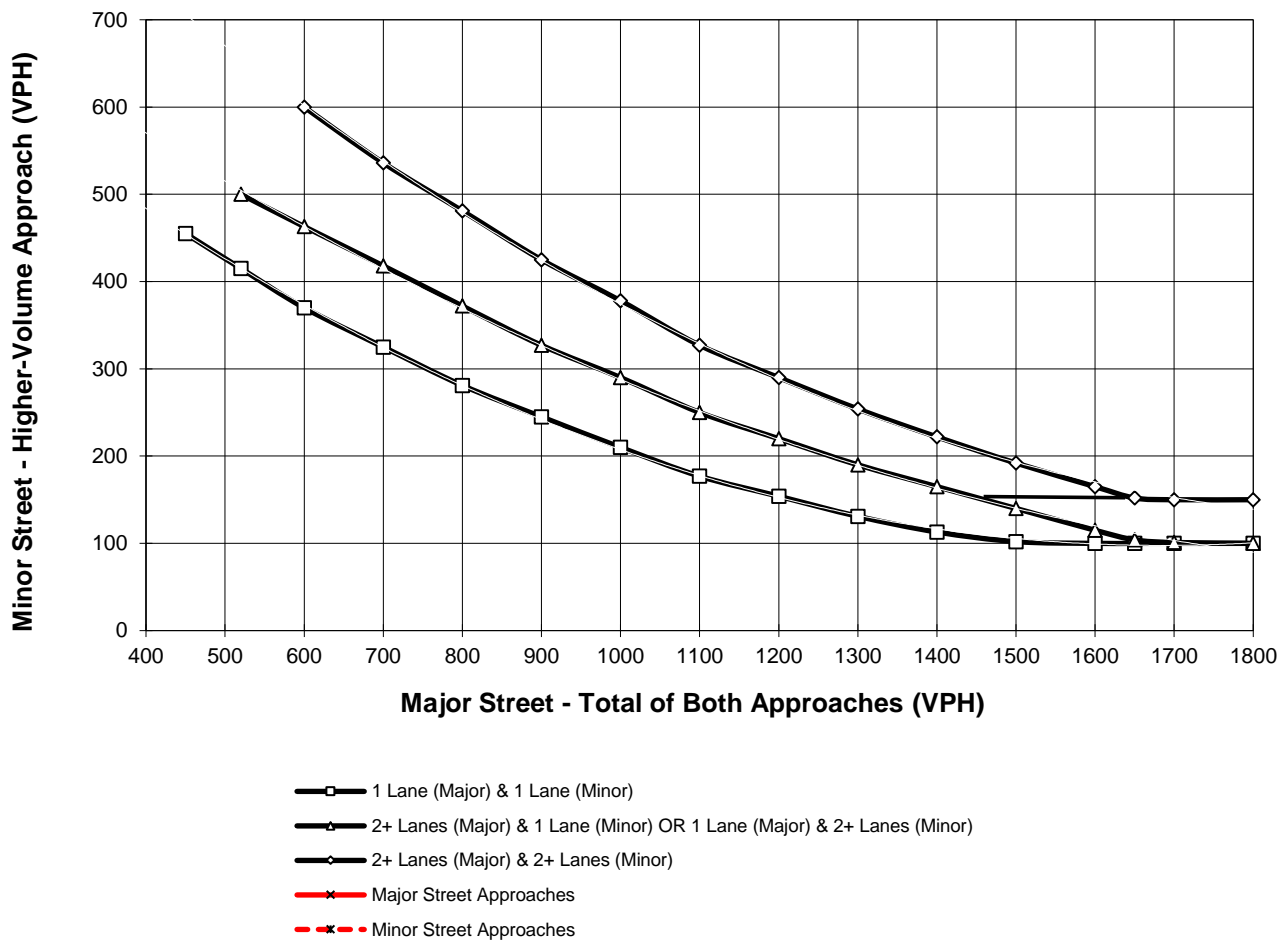
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **221**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **96**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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 (2025)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Leon Rd.</u>					Critical Approach Speed (Major) <u>25</u> mph	DATE <u>02/01/18</u>
Minor Street: <u>Canterwood Dr.</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 3,712 vpd Minor Street Future ADT = 679 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 3,712	1 679	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 3,712	1 679	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	28%				
	<u>B</u>				
	31%				

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-3. Warrant 3, Peak Hour

Traffic Conditions = **EAP (2025) Conditions - Weekday PM Peak Hour**

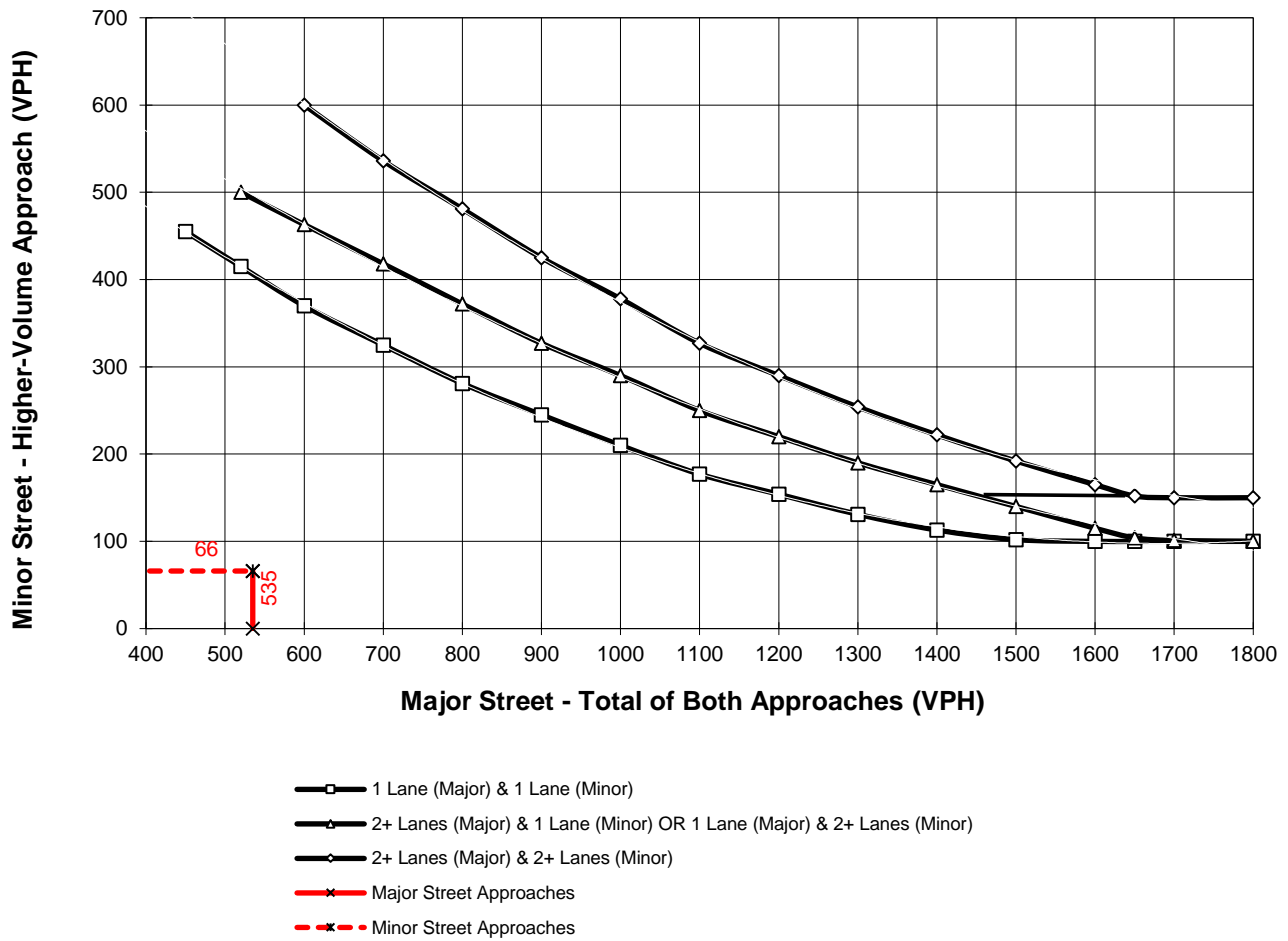
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **535**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Craig Av.**

High Volume Approach (VPH) = **66**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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 (2025) Conditions - Weekday PM Peak Hour**

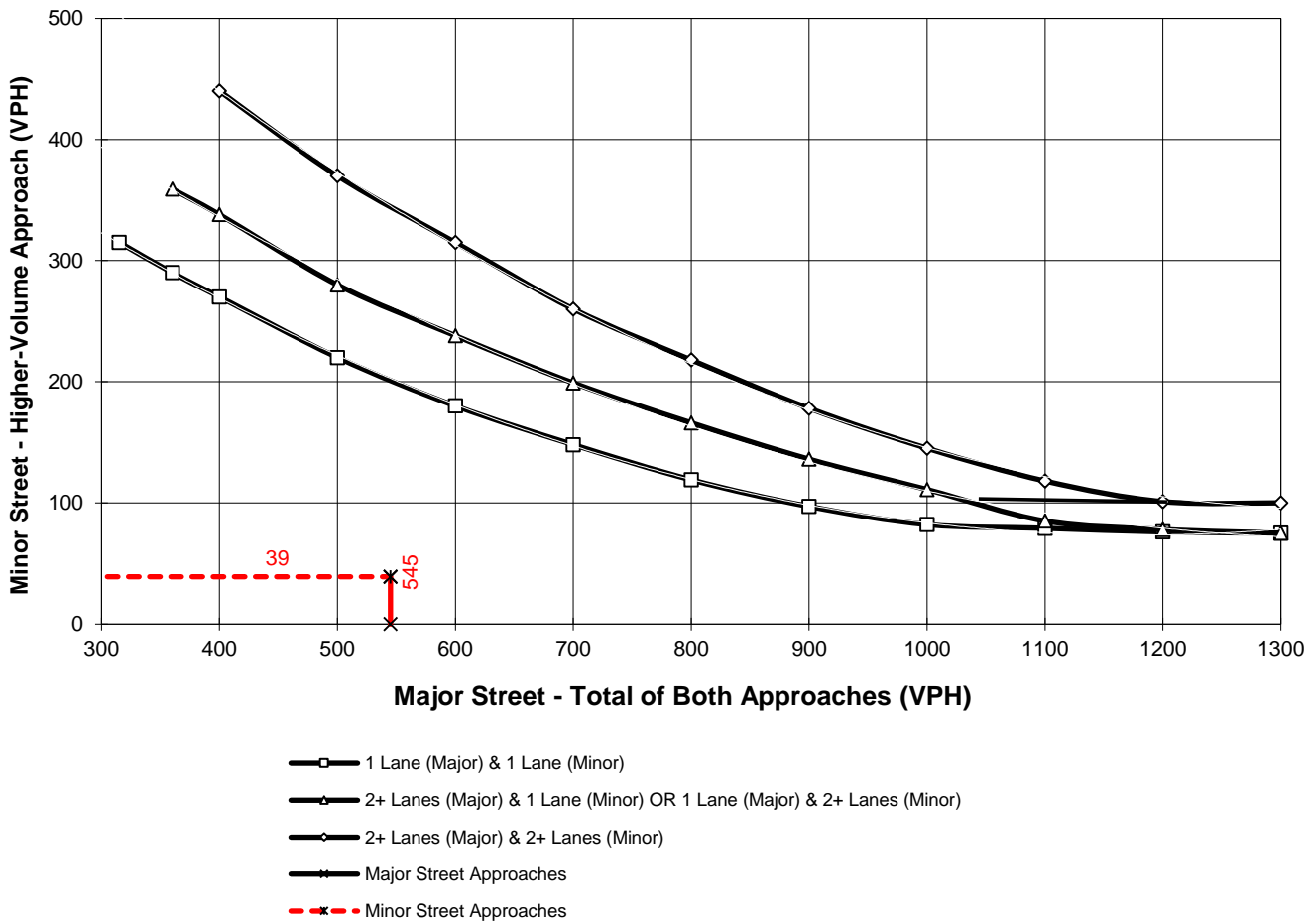
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **545**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Garbani 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-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 (2025)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Craig Av.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>St. A</u>					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 1,277 vpd Minor Street Future ADT = 406 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 1,277	1 406	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 1,277	1 406	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	16%				
	<u>B</u>				
	11%				

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>EAP (2025)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>St. B</u>					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 2,189 vpd Minor Street Future ADT = 271 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	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 2,189	1 271	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	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 2,189	1 271	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				
	A				
	11%				
	B				
	18%				

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>EAP (2025)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>	DATE <u>02/01/18</u>	DATE <u>02/01/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>Canterwood Dr.</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 1,239 vpd Minor Street Future ADT = 678 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX					
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>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 1,239	1 678	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>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 1,239	1 678	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>				
	15%				
	<u>B</u>				
	10%				

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>EAP (2025)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>	DATE <u>02/01/18</u>	DATE <u>02/01/18</u>
Major Street: <u>Craig Av.</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>St. C</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 464 vpd Minor Street Future ADT = 407 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	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>				
1 464	1 407	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	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>				
1 464	1 407	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				
	A				
	6%				
	B				
	4%				

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>EAP (2025)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>	DATE <u>02/01/18</u>	DATE <u>02/01/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>Eucalyptus Rd.</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 290 vpd Minor Street Future ADT = 271 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 290	1 271	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 290	1 271	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	4%				
	<u>B</u>				
	2%				

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 (2025)</u>
Jurisdiction: <u>County of Riverside</u>				CALC <u>BA</u>	DATE <u>02/01/18</u>
Major Street: <u>Eucalyptus Rd.</u>				CHK <u>BA</u>	DATE <u>02/01/18</u>
Minor Street: <u>St. D</u>				Critical Approach Speed (Major)	<u>25</u> mph
				Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 271 vpd Minor Street Future ADT = 271 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
CONDITION A - Minimum Vehicular Volume					
<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>				
1 271	1 271	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>				
1 271	1 271	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				
	A				
	3%				
	B				
	2%				

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 6.7:

EAP (2021) CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6616	Heavy Vehicle Adjustment Factor (f _{HV})	0.971
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2469
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6898	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v_p), pc/h/ln	2550
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.06
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	3639	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1371
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	69.7
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	19.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	3454	Heavy Vehicle Adjustment Factor (f_{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v_p), pc/h/ln	1301
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5676	Heavy Vehicle Adjustment Factor (f_{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v_p), pc/h/ln	2138
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	59.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	35.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5657	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2131
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	35.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5491	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2030
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	62.0
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	32.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5747	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2125
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	60.1
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	35.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

APPENDIX 6.8:

EAP (2025) CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	7172	Heavy Vehicle Adjustment Factor (f _{HV})	0.971
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2676
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.12
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	7493	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2770
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.15
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	3971	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1496
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	69.0
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	21.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	3747	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1411
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	69.5
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	20.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6180	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2328
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	55.3
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	42.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6140	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2313
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.96
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	55.7
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	41.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5965	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2205
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	58.3
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	37.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6250	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v_p), pc/h/ln	2311
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.96
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	55.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	41.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

APPENDIX 6.9:

EAP (2021) CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	165
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6616	482
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	3.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.971	0.926
Flow Rate (v _i), pc/h	7406	566
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.03	0.27

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	2000	Off-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.549	Outer Lanes Freeway Speed (S _O), mi/h	70.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4706	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	6.9-1	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6134	764
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.980
Flow Rate (v _i), pc/h	6803	847
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.06	0.40

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1859.3	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	2000	Speed Index (M _s)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.595	Outer Lanes Freeway Speed (S _O), mi/h	61.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4103	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4950	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	6.9-2	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	3010	629
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	5.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.952	0.971
Flow Rate (v _i), pc/h	3437	704
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.58	0.34

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1041.8	Density in Ramp Influence Area (D _R), pc/mi/ln	23.6
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.340
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1409
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	60.5
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	66.7
Flow in Lanes 1 and 2 (v ₁₂), pc/h	2028	Ramp Junction Speed (S), mi/h	62.5
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	2732	Average Density (D), pc/mi/ln	22.1
Level of Service (LOS)	C	6.9-3	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	3454	444
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.980
Flow Rate (v _i), pc/h	3903	492
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.54	0.23

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	25.5
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.342
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1228
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	60.4
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.640	Outer Lanes Freeway Speed (S _O), mi/h	75.9
Flow in Lanes 1 and 2 (v ₁₂), pc/h	2675	Ramp Junction Speed (S), mi/h	64.5
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	20.2
Level of Service (LOS)	C	6.9-4	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	165
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5676	635
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.971
Flow Rate (v _i), pc/h	6413	711
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.89	0.34

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	36.7
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.362
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2469
Distance to Downstream Ramp (L _{DOWN}), ft	2000	Off-Ramp Influence Area Speed (S _R), mi/h	59.9
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.567	Outer Lanes Freeway Speed (S _O), mi/h	71.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3944	Ramp Junction Speed (S), mi/h	63.8
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	33.5
Level of Service (LOS)	E	6.9-5	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	5042	615
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.990
Flow Rate (vi), pc/h	5697	675
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.89	0.32

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1585.9	Density in Ramp Influence Area (D _R), pc/mi/ln	33.1
Distance to Upstream Ramp (L _{UP}), ft	2000	Speed Index (M _s)	0.493
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2307
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	56.2
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.595	Outer Lanes Freeway Speed (S _O), mi/h	63.4
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3390	Ramp Junction Speed (S), mi/h	58.6
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4065	Average Density (D), pc/mi/ln	36.2
Level of Service (LOS)	D	6.9-6	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	4901	590
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.962
Flow Rate (v _i), pc/h	5436	667
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.85	0.32

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1461.7	Density in Ramp Influence Area (D _R), pc/mi/ln	32.6
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.467
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2229
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	56.9
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	63.8
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3207	Ramp Junction Speed (S), mi/h	59.2
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3874	Average Density (D), pc/mi/ln	34.4
Level of Service (LOS)	D 6.9-7		

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	Mostly Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	1.000
Final Capacity Adjustment Factor (CAF)	0.968	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5747	847
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (v _i), pc/h	6374	930
Capacity (c), pc/h	6824	2100
Volume-to-Capacity Ratio (v/c)	0.93	0.44

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	36.6
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.382
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2406
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.558	Outer Lanes Freeway Speed (S _O), mi/h	69.3
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3968	Ramp Junction Speed (S), mi/h	61.9
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	34.3
Level of Service (LOS)	E		

APPENDIX 6.10:

EAP (2025) CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	165
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	7172	532
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	3.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.971	0.926
Flow Rate (v _i), pc/h	8028	624
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.12	0.30

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	2000	Off-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.531	Outer Lanes Freeway Speed (S _O), mi/h	70.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	5328	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

6.10-1

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6639	853
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.980
Flow Rate (v _i), pc/h	7364	946
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.15	0.45

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	2000.6	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	2000	Speed Index (M _s)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.594	Outer Lanes Freeway Speed (S _O), mi/h	61.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4664	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	5610	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

6.10-2

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	3258	713
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	5.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.952	0.971
Flow Rate (v _i), pc/h	3720	798
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.63	0.38

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1122.5	Density in Ramp Influence Area (D _R), pc/mi/ln	25.6
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.357
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1525
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	60.0
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	66.3
Flow in Lanes 1 and 2 (v ₁₂), pc/h	2195	Ramp Junction Speed (S), mi/h	62.0
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	2993	Average Density (D), pc/mi/ln	24.3
Level of Service (LOS)	C	6.10-3	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	3747	489
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.980
Flow Rate (v _i), pc/h	4234	542
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.59	0.26

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	27.1
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.347
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1370
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	60.3
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.629	Outer Lanes Freeway Speed (S _O), mi/h	75.3
Flow in Lanes 1 and 2 (v ₁₂), pc/h	2864	Ramp Junction Speed (S), mi/h	64.5
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	21.9
Level of Service (LOS)	C		

6.10-4

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	165
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6180	723
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.980
Flow Rate (v _i), pc/h	6983	802
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.97	0.38

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	39.6
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.370
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	2000	Off-Ramp Influence Area Speed (S _R), mi/h	59.6
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.549	Outer Lanes Freeway Speed (S _O), mi/h	70.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4283	Ramp Junction Speed (S), mi/h	63.3
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	36.8
Level of Service (LOS)	E		

6.10-5

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	610
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	5457	683
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.990
Flow Rate (vi), pc/h	6166	750
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.96	0.36

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1702.3	Density in Ramp Influence Area (D _R), pc/mi/ln	35.8
Distance to Upstream Ramp (L _{UP}), ft	2000	Speed Index (M _s)	0.590
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2497
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	53.5
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.595	Outer Lanes Freeway Speed (S _O), mi/h	62.3
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3669	Ramp Junction Speed (S), mi/h	56.4
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4419	Average Density (D), pc/mi/ln	40.9
Level of Service (LOS)	E		

6.10-6

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	5305	661
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.971
Flow Rate (vi), pc/h	5884	740
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.92	0.35

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1573.2	Density in Ramp Influence Area (D _R), pc/mi/ln	35.2
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.543
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2412
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	54.8
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	62.8
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3472	Ramp Junction Speed (S), mi/h	57.5
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4212	Average Density (D), pc/mi/ln	38.4
Level of Service (LOS)	E	6.10-7	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	Mostly Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	1.000
Final Capacity Adjustment Factor (CAF)	0.968	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6250	945
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (v _i), pc/h	6932	1038
Capacity (c), pc/h	6824	2100
Volume-to-Capacity Ratio (v/c)	1.02	0.49

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.539	Outer Lanes Freeway Speed (S _O), mi/h	68.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4232	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

6.10-8

APPENDIX 6.11:

**EAP (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH
IMPROVEMENTS**

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Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

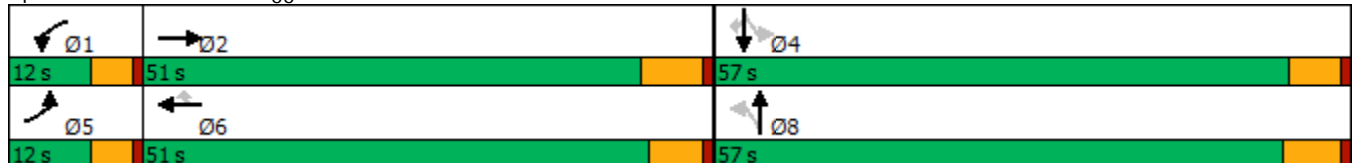


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	11	446	6	628	6	240	4	17	15	52
Future Volume (vph)	11	446	6	628	6	240	4	17	15	52
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		4		4
Detector Phase	5	2	1	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	51.0	12.0	51.0	51.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	10.0%	42.5%	10.0%	42.5%	42.5%	47.5%	47.5%	47.5%	47.5%	47.5%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	4.8	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
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	5.8	5.8	6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 87.9
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗			↖	↗
Traffic Volume (veh/h)	11	446	236	6	628	6	240	4	11	17	15	52
Future Volume (veh/h)	11	446	236	6	628	6	240	4	11	17	15	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	11	455	195	6	641	3	245	4	7	17	15	19
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	24	581	247	14	830	370	842	343	601	519	441	892
Arrive On Green	0.01	0.24	0.24	0.01	0.23	0.23	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1781	2429	1033	1781	3554	1585	1375	610	1068	815	784	1585
Grp Volume(v), veh/h	11	332	318	6	641	3	245	0	11	32	0	19
Grp Sat Flow(s),veh/h/ln	1781	1777	1684	1781	1777	1585	1375	0	1678	1599	0	1585
Q Serve(g_s), s	0.6	15.9	16.1	0.3	15.3	0.1	8.8	0.0	0.3	0.0	0.0	0.5
Cycle Q Clear(g_c), s	0.6	15.9	16.1	0.3	15.3	0.1	9.5	0.0	0.3	0.7	0.0	0.5
Prop In Lane	1.00		0.61	1.00		1.00	1.00		0.64	0.53		1.00
Lane Grp Cap(c), veh/h	24	425	403	14	830	370	842	0	945	961	0	892
V/C Ratio(X)	0.46	0.78	0.79	0.44	0.77	0.01	0.29	0.00	0.01	0.03	0.00	0.02
Avail Cap(c_a), veh/h	145	869	824	145	1766	788	842	0	945	961	0	892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	44.6	32.4	32.5	44.9	32.6	26.8	10.9	0.0	8.8	8.8	0.0	8.8
Incr Delay (d2), s/veh	5.1	3.2	3.5	7.9	1.6	0.0	0.9	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	0.3	6.6	6.4	0.2	6.2	0.0	2.4	0.0	0.1	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	35.5	35.9	52.8	34.2	26.8	11.8	0.0	8.8	8.9	0.0	8.8
LnGrp LOS	D	D	D	D	C	C	B	A	A	A	A	A
Approach Vol, veh/h		661			650			256				51
Approach Delay, s/veh		36.0			34.3			11.7				8.9
Approach LOS		D			C			B				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	28.3		57.4	5.8	27.8		57.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	7.4	44.5		* 51	7.4	* 45		50.8				
Max Q Clear Time (g_c+I1), s	2.3	18.1		2.7	2.6	17.3		11.5				
Green Ext Time (p_c), s	0.0	3.6		0.2	0.0	3.9		0.7				

Intersection Summary

HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

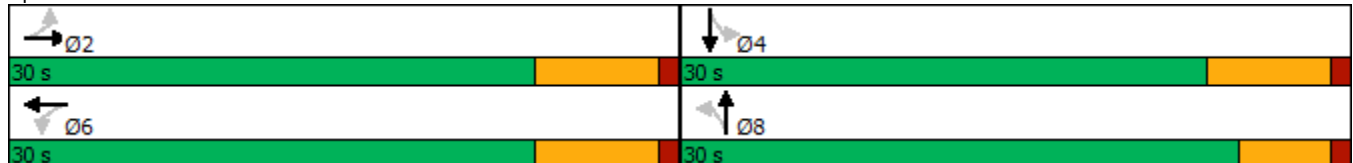


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	46	274	14	278	240	42	36	73
Future Volume (vph)	46	274	14	278	240	42	36	73
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.5	28.5	28.5	28.5	27.1	27.1	28.5	28.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	5.5	5.5	5.5	5.5	4.1	4.1	5.5	5.5
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
Total Lost Time (s)		6.5		6.5		5.1		6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 50.9
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	46	274	184	14	278	12	240	42	6	36	73	124
Future Volume (veh/h)	46	274	184	14	278	12	240	42	6	36	73	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	285	192	15	290	12	250	44	6	38	76	129
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	134	380	238	109	666	27	490	65	8	150	182	254
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	86	989	620	32	1732	69	1139	232	28	153	649	907
Grp Volume(v), veh/h	525	0	0	317	0	0	300	0	0	243	0	0
Grp Sat Flow(s),veh/h/ln	1694	0	0	1833	0	0	1399	0	0	1709	0	0
Q Serve(g_s), s	4.1	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.6	0.0	0.0	4.9	0.0	0.0	7.1	0.0	0.0	4.6	0.0	0.0
Prop In Lane	0.09		0.37	0.05		0.04	0.83		0.02	0.16		0.53
Lane Grp Cap(c), veh/h	753	0	0	802	0	0	562	0	0	587	0	0
V/C Ratio(X)	0.70	0.00	0.00	0.40	0.00	0.00	0.53	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	1117	0	0	1194	0	0	1014	0	0	1113	0	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	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.5	0.0	0.0	8.9	0.0	0.0	12.4	0.0	0.0	11.7	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.3	0.0	0.0	0.8	0.0	0.0	0.5	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	2.2	0.0	0.0	1.1	0.0	0.0	1.8	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.7	0.0	0.0	9.2	0.0	0.0	13.2	0.0	0.0	12.2	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		525			317			300				243
Approach Delay, s/veh		11.7			9.2			13.2				12.2
Approach LOS		B			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.4		17.4		21.4		17.4				
Change Period (Y+Rc), s		6.5		6.5		6.5		* 6.5				
Max Green Setting (Gmax), s		23.5		23.5		23.5		* 25				
Max Q Clear Time (g_c+I1), s		12.6		6.6		6.9		9.1				
Green Ext Time (p_c), s		2.3		1.1		1.4		1.7				

Intersection Summary

HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

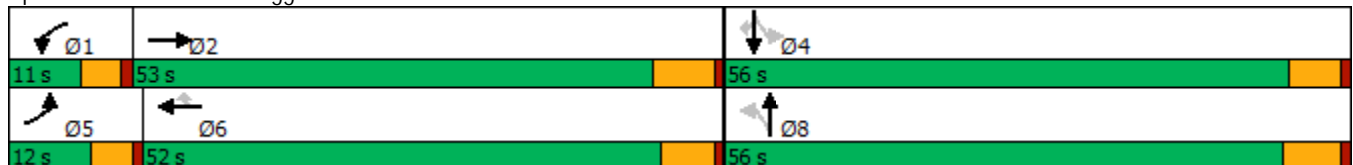


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	21	623	2	534	10	263	14	5	25
Future Volume (vph)	21	623	2	534	10	263	14	5	25
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	NA	Perm
Protected Phases	5	2	1	6			8	4	
Permitted Phases					6	8			4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8
Total Split (s)	12.0	53.0	11.0	52.0	52.0	56.0	56.0	56.0	56.0
Total Split (%)	10.0%	44.2%	9.2%	43.3%	43.3%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	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	5.8	5.8	6.2	6.2	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 97.1
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕	↔	↔	↕			↕	↔
Traffic Volume (veh/h)	21	623	253	2	534	10	263	14	7	0	5	25
Future Volume (veh/h)	21	623	253	2	534	10	263	14	7	0	5	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	670	240	2	574	7	283	15	5	0	5	7
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	42	805	288	5	1041	464	784	682	227	0	950	805
Arrive On Green	0.02	0.31	0.31	0.00	0.29	0.29	0.51	0.51	0.51	0.00	0.51	0.51
Sat Flow, veh/h	1781	2564	918	1781	3554	1585	1402	1342	447	0	1870	1585
Grp Volume(v), veh/h	23	464	446	2	574	7	283	0	20	0	5	7
Grp Sat Flow(s),veh/h/ln	1781	1777	1705	1781	1777	1585	1402	0	1790	0	1870	1585
Q Serve(g_s), s	1.3	24.0	24.0	0.1	13.5	0.3	12.3	0.0	0.5	0.0	0.1	0.2
Cycle Q Clear(g_c), s	1.3	24.0	24.0	0.1	13.5	0.3	12.4	0.0	0.5	0.0	0.1	0.2
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.25	0.00		1.00
Lane Grp Cap(c), veh/h	42	558	535	5	1041	464	784	0	910	0	950	805
V/C Ratio(X)	0.55	0.83	0.83	0.42	0.55	0.02	0.36	0.00	0.02	0.00	0.01	0.01
Avail Cap(c_a), veh/h	133	836	803	115	1662	741	784	0	910	0	950	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	0.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	31.5	31.5	49.2	29.4	24.8	15.0	0.0	12.1	0.0	12.0	12.0
Incr Delay (d2), s/veh	4.0	4.6	4.8	19.8	0.5	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	0.6	10.0	9.6	0.1	5.3	0.1	3.7	0.0	0.2	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	36.0	36.2	69.0	29.9	24.8	16.3	0.0	12.1	0.0	12.0	12.0
LnGrp LOS	D	D	D	E	C	C	B	A	B	A	B	B
Approach Vol, veh/h		933			583			303			12	
Approach Delay, s/veh		36.5			30.0			16.1			12.0	
Approach LOS		D			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	37.5		56.4	6.9	35.4		56.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	6.4	46.5		* 50	7.4	* 46		49.8				
Max Q Clear Time (g_c+I1), s	2.1	26.0		2.2	3.3	15.5		14.4				
Green Ext Time (p_c), s	0.0	5.0		0.0	0.0	3.5		0.9				

Intersection Summary

HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

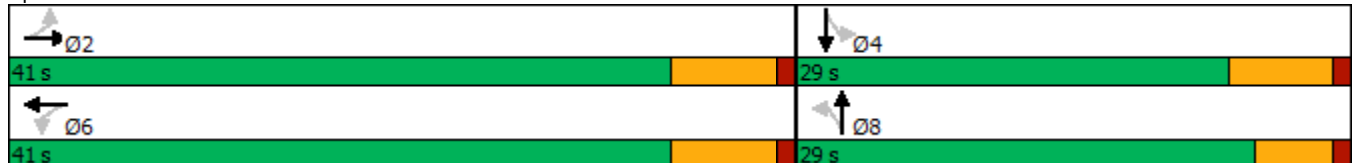


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	149	300	14	315	134	35	14	42
Future Volume (vph)	149	300	14	315	134	35	14	42
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.5	28.5	28.5	28.5	27.1	27.1	28.5	28.5
Total Split (s)	41.0	41.0	41.0	41.0	29.0	29.0	29.0	29.0
Total Split (%)	58.6%	58.6%	58.6%	58.6%	41.4%	41.4%	41.4%	41.4%
Yellow Time (s)	5.5	5.5	5.5	5.5	4.1	4.1	5.5	5.5
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
Total Lost Time (s)		6.5		6.5		5.1		6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 57.4
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	149	300	142	14	315	27	134	35	10	14	42	95
Future Volume (veh/h)	149	300	142	14	315	27	134	35	10	14	42	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	162	326	154	15	342	29	146	38	11	15	46	103
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	256	420	181	97	795	66	380	88	19	105	125	237
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	322	881	380	24	1665	137	1042	388	86	68	548	1041
Grp Volume(v), veh/h	642	0	0	386	0	0	195	0	0	164	0	0
Grp Sat Flow(s),veh/h/ln	1582	0	0	1827	0	0	1516	0	0	1657	0	0
Q Serve(g_s), s	9.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.1	0.0	0.0	6.1	0.0	0.0	4.3	0.0	0.0	3.7	0.0	0.0
Prop In Lane	0.25		0.24	0.04		0.08	0.75		0.06	0.09		0.63
Lane Grp Cap(c), veh/h	858	0	0	957	0	0	488	0	0	466	0	0
V/C Ratio(X)	0.75	0.00	0.00	0.40	0.00	0.00	0.40	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	1314	0	0	1501	0	0	912	0	0	929	0	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	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	7.6	0.0	0.0	14.7	0.0	0.0	14.6	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.3	0.0	0.0	0.5	0.0	0.0	0.5	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	2.7	0.0	0.0	1.2	0.0	0.0	1.5	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.0	0.0	0.0	7.9	0.0	0.0	15.3	0.0	0.0	15.0	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		642			386			195				164
Approach Delay, s/veh		11.0			7.9			15.3				15.0
Approach LOS		B			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.5		16.5		27.5		16.5				
Change Period (Y+Rc), s		6.5		6.5		6.5		* 6.5				
Max Green Setting (Gmax), s		34.5		22.5		34.5		* 24				
Max Q Clear Time (g_c+I1), s		17.1		5.7		8.1		6.3				
Green Ext Time (p_c), s		3.9		0.7		2.0		1.0				

Intersection Summary

HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 6.12:

**EAP (2025) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH
IMPROVEMENTS**

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Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

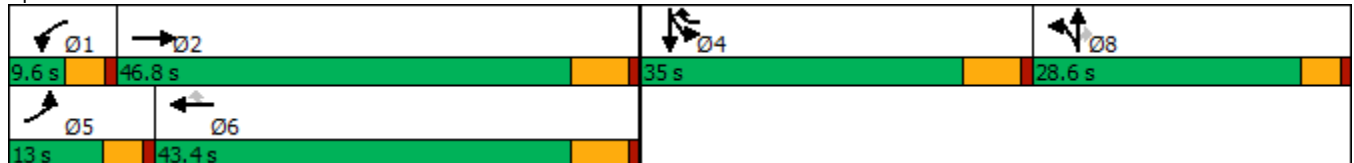


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	78	467	31	457	695	15	61	9	616	28
Future Volume (vph)	78	467	31	457	695	15	61	9	616	28
Turn Type	Prot	NA	Prot	NA	pm+ov	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6	4	8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	4	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	25.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	13.0	46.8	9.6	43.4	35.0	28.6	28.6	28.6	35.0	35.0
Total Split (%)	10.8%	39.0%	8.0%	36.2%	29.2%	23.8%	23.8%	23.8%	29.2%	29.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 117
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	467	14	31	457	695	15	61	9	616	28	46
Future Volume (veh/h)	78	467	14	31	457	695	15	61	9	616	28	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	519	15	34	508	480	17	68	7	684	31	44
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	110	597	17	51	556	865	369	387	328	858	174	246
Arrive On Green	0.06	0.33	0.33	0.03	0.30	0.30	0.21	0.21	0.21	0.25	0.25	0.25
Sat Flow, veh/h	1781	1809	52	1781	1870	1585	1781	1870	1585	3456	699	992
Grp Volume(v), veh/h	87	0	534	34	508	480	17	68	7	684	0	75
Grp Sat Flow(s),veh/h/ln	1781	0	1861	1781	1870	1585	1781	1870	1585	1728	0	1692
Q Serve(g_s), s	5.6	0.0	31.3	2.2	30.4	22.9	0.9	3.5	0.4	21.5	0.0	4.0
Cycle Q Clear(g_c), s	5.6	0.0	31.3	2.2	30.4	22.9	0.9	3.5	0.4	21.5	0.0	4.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.59
Lane Grp Cap(c), veh/h	110	0	614	51	556	865	369	387	328	858	0	420
V/C Ratio(X)	0.79	0.00	0.87	0.67	0.91	0.56	0.05	0.18	0.02	0.80	0.00	0.18
Avail Cap(c_a), veh/h	129	0	651	77	600	902	369	387	328	858	0	420
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00
Uniform Delay (d), s/veh	53.7	0.0	36.5	55.8	39.3	17.2	36.8	37.9	36.6	40.9	0.0	34.3
Incr Delay (d2), s/veh	20.8	0.0	11.7	5.4	17.9	0.7	0.2	1.0	0.1	7.6	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	3.0	0.0	15.3	1.0	15.9	13.2	0.4	1.7	0.2	9.6	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.5	0.0	48.2	61.2	57.2	17.9	37.1	38.9	36.8	48.5	0.0	35.2
LnGrp LOS	E	A	D	E	E	B	D	D	D	D	A	D
Approach Vol, veh/h		621			1022			92			759	
Approach Delay, s/veh		51.9			38.9			38.4			47.2	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	44.5		35.0	11.7	40.7		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	40.6		28.8	8.4	37.2		24.0				
Max Q Clear Time (g_c+I1), s	4.2	33.3		23.5	7.6	32.4		5.5				
Green Ext Time (p_c), s	0.0	1.8		1.5	0.0	2.1		0.3				

Intersection Summary

HCM 6th Ctrl Delay	44.6
HCM 6th LOS	D

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

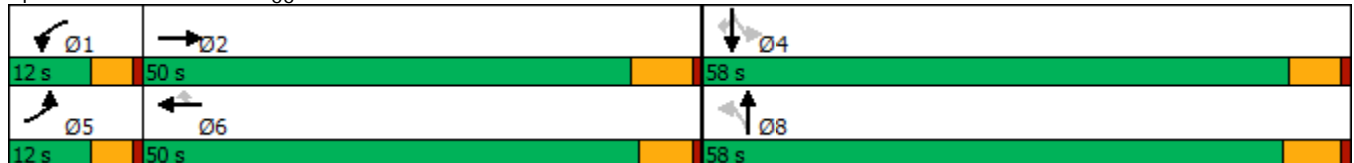


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	11	512	7	769	7	260	5	18	16	56
Future Volume (vph)	11	512	7	769	7	260	5	18	16	56
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		4		4
Detector Phase	5	2	1	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	50.0	12.0	50.0	50.0	58.0	58.0	58.0	58.0	58.0
Total Split (%)	10.0%	41.7%	10.0%	41.7%	41.7%	48.3%	48.3%	48.3%	48.3%	48.3%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	4.8	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
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	5.8	5.8	6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92.9
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗			↖	↗
Traffic Volume (veh/h)	11	512	255	7	769	7	260	5	11	18	16	56
Future Volume (veh/h)	11	512	255	7	769	7	260	5	11	18	16	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	11	522	214	7	785	4	265	5	7	18	16	23
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	24	687	280	16	976	435	794	377	528	491	421	848
Arrive On Green	0.01	0.28	0.28	0.01	0.27	0.27	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	1781	2461	1005	1781	3554	1585	1368	705	987	813	786	1585
Grp Volume(v), veh/h	11	376	360	7	785	4	265	0	12	34	0	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1689	1781	1777	1585	1368	0	1693	1599	0	1585
Q Serve(g_s), s	0.6	18.9	19.0	0.4	20.1	0.2	11.1	0.0	0.3	0.0	0.0	0.7
Cycle Q Clear(g_c), s	0.6	18.9	19.0	0.4	20.1	0.2	11.9	0.0	0.3	0.8	0.0	0.7
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.58	0.53		1.00
Lane Grp Cap(c), veh/h	24	496	471	16	976	435	794	0	905	912	0	848
V/C Ratio(X)	0.47	0.76	0.76	0.44	0.80	0.01	0.33	0.00	0.01	0.04	0.00	0.03
Avail Cap(c_a), veh/h	135	792	753	135	1610	718	794	0	905	912	0	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	47.8	32.2	32.2	48.1	33.0	25.7	13.6	0.0	10.6	10.8	0.0	10.7
Incr Delay (d2), s/veh	5.3	2.4	2.6	7.1	1.6	0.0	1.1	0.0	0.0	0.1	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	7.8	7.4	0.2	8.1	0.1	3.2	0.0	0.1	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.1	34.6	34.8	55.2	34.6	25.7	14.7	0.0	10.7	10.8	0.0	10.8
LnGrp LOS	D	C	C	E	C	C	B	A	B	B	A	B
Approach Vol, veh/h		747			796			277				57
Approach Delay, s/veh		35.0			34.7			14.5				10.8
Approach LOS		C			C			B				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	33.7		58.4	5.9	33.3		58.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	7.4	43.5		* 52	7.4	* 44		51.8				
Max Q Clear Time (g_c+I1), s	2.4	21.0		2.8	2.6	22.1		13.9				
Green Ext Time (p_c), s	0.0	4.0		0.2	0.0	4.7		0.8				

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: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

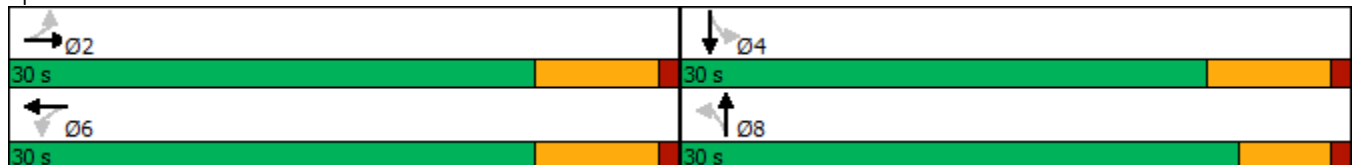


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	79	296	15	301	260	48	48	90
Future Volume (vph)	79	296	15	301	260	48	48	90
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.5	28.5	28.5	28.5	27.1	27.1	28.5	28.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	5.5	5.5	5.5	5.5	4.1	4.1	5.5	5.5
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
Total Lost Time (s)		6.5		6.5		5.1		6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 52.6
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	79	296	199	15	301	16	260	48	7	48	90	223
Future Volume (veh/h)	79	296	199	15	301	16	260	48	7	48	90	223
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	308	207	16	314	17	271	50	7	50	94	232
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	140	366	228	83	678	36	422	70	8	128	188	387
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	160	925	576	32	1715	90	827	192	22	144	520	1069
Grp Volume(v), veh/h	597	0	0	347	0	0	328	0	0	376	0	0
Grp Sat Flow(s),veh/h/ln	1661	0	0	1837	0	0	1042	0	0	1733	0	0
Q Serve(g_s), s	10.5	0.0	0.0	0.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.0	0.0	0.0	7.5	0.0	0.0	16.2	0.0	0.0	9.6	0.0	0.0
Prop In Lane	0.14		0.35	0.05		0.05	0.83		0.02	0.13		0.62
Lane Grp Cap(c), veh/h	733	0	0	797	0	0	500	0	0	703	0	0
V/C Ratio(X)	0.81	0.00	0.00	0.44	0.00	0.00	0.66	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	801	0	0	872	0	0	616	0	0	826	0	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	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.0	0.0	0.0	12.1	0.0	0.0	16.3	0.0	0.0	14.0	0.0	0.0
Incr Delay (d2), s/veh	6.0	0.0	0.0	0.4	0.0	0.0	1.8	0.0	0.0	0.6	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	5.8	0.0	0.0	2.2	0.0	0.0	3.4	0.0	0.0	2.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.0	0.0	0.0	12.4	0.0	0.0	18.1	0.0	0.0	14.7	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		597			347			328				376
Approach Delay, s/veh		21.0			12.4			18.1				14.7
Approach LOS		C			B			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.7		25.9		27.7		25.9				
Change Period (Y+Rc), s		6.5		6.5		6.5		* 6.5				
Max Green Setting (Gmax), s		23.5		23.5		23.5		* 25				
Max Q Clear Time (g_c+I1), s		20.0		11.6		9.5		18.2				
Green Ext Time (p_c), s		1.2		1.6		1.5		1.2				

Intersection Summary

HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	47	544	43	800	368	32	34	40	437	17
Future Volume (vph)	47	544	43	800	368	32	34	40	437	17
Turn Type	Prot	NA	Prot	NA	pm+ov	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6	4	8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	4	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	25.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	9.6	56.3	9.9	56.6	25.2	28.6	28.6	28.6	25.2	25.2
Total Split (%)	8.0%	46.9%	8.3%	47.2%	21.0%	23.8%	23.8%	23.8%	21.0%	21.0%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.1
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.

Ø1	Ø2	Ø4	Ø8
9.9 s	56.3 s	25.2 s	28.6 s
Ø5	Ø6		
9.6 s	56.6 s		

HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	544	15	43	800	368	32	34	40	437	17	70
Future Volume (veh/h)	47	544	15	43	800	368	32	34	40	437	17	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	555	12	44	816	160	33	35	15	446	17	69
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	62	776	17	57	791	923	359	377	319	551	52	209
Arrive On Green	0.03	0.43	0.43	0.03	0.42	0.42	0.20	0.20	0.20	0.16	0.16	0.16
Sat Flow, veh/h	1781	1824	39	1781	1870	1585	1781	1870	1585	3456	323	1311
Grp Volume(v), veh/h	48	0	567	44	816	160	33	35	15	446	0	86
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	1870	1585	1781	1870	1585	1728	0	1634
Q Serve(g_s), s	3.2	0.0	29.9	2.9	50.4	5.6	1.8	1.8	0.9	14.8	0.0	5.6
Cycle Q Clear(g_c), s	3.2	0.0	29.9	2.9	50.4	5.6	1.8	1.8	0.9	14.8	0.0	5.6
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.80
Lane Grp Cap(c), veh/h	62	0	793	57	791	923	359	377	319	551	0	261
V/C Ratio(X)	0.78	0.00	0.72	0.77	1.03	0.17	0.09	0.09	0.05	0.81	0.00	0.33
Avail Cap(c_a), veh/h	75	0	793	79	791	923	359	377	319	551	0	261
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	28.3	57.2	34.4	11.5	38.7	38.7	38.3	48.3	0.0	44.4
Incr Delay (d2), s/veh	27.4	0.0	3.1	16.3	40.3	0.1	0.5	0.5	0.3	12.1	0.0	3.4
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	0.0	13.1	1.5	29.8	2.7	0.8	0.9	0.4	7.1	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.5	0.0	31.3	73.5	74.6	11.6	39.2	39.2	38.6	60.4	0.0	47.8
LnGrp LOS	F	A	C	E	F	B	D	D	D	E	A	D
Approach Vol, veh/h		615			1020			83			532	
Approach Delay, s/veh		35.5			64.7			39.1			58.4	
Approach LOS		D			E			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	56.9		25.2	8.7	56.6		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.3	50.1		19.0	5.0	50.4		24.0				
Max Q Clear Time (g_c+I1), s	4.9	31.9		16.8	5.2	52.4		3.8				
Green Ext Time (p_c), s	0.0	3.0		0.5	0.0	0.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	54.3
HCM 6th LOS	D

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

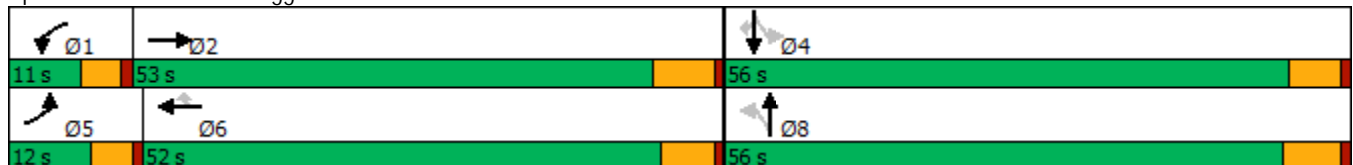


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	23	773	2	637	10	285	15	6	28
Future Volume (vph)	23	773	2	637	10	285	15	6	28
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	NA	Perm
Protected Phases	5	2	1	6			8	4	
Permitted Phases					6	8			4
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8
Total Split (s)	12.0	53.0	11.0	52.0	52.0	56.0	56.0	56.0	56.0
Total Split (%)	10.0%	44.2%	9.2%	43.3%	43.3%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	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	5.8	5.8	6.2	6.2	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.5
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗			↖	↗
Traffic Volume (veh/h)	23	773	273	2	637	10	285	15	8	0	6	28
Future Volume (veh/h)	23	773	273	2	637	10	285	15	8	0	6	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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	831	262	2	685	7	306	16	6	0	6	10
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	957	302	5	1202	536	728	615	230	0	886	751
Arrive On Green	0.02	0.36	0.36	0.00	0.34	0.34	0.47	0.47	0.47	0.00	0.47	0.47
Sat Flow, veh/h	1781	2659	838	1781	3554	1585	1397	1297	486	0	1870	1585
Grp Volume(v), veh/h	25	555	538	2	685	7	306	0	22	0	6	10
Grp Sat Flow(s),veh/h/ln	1781	1777	1720	1781	1777	1585	1397	0	1783	0	1870	1585
Q Serve(g_s), s	1.5	30.8	30.9	0.1	16.7	0.3	15.7	0.0	0.7	0.0	0.2	0.4
Cycle Q Clear(g_c), s	1.5	30.8	30.9	0.1	16.7	0.3	15.9	0.0	0.7	0.0	0.2	0.4
Prop In Lane	1.00		0.49	1.00		1.00	1.00		0.27	0.00		1.00
Lane Grp Cap(c), veh/h	44	640	619	5	1202	536	728	0	845	0	886	751
V/C Ratio(X)	0.57	0.87	0.87	0.42	0.57	0.01	0.42	0.00	0.03	0.00	0.01	0.01
Avail Cap(c_a), veh/h	124	780	755	108	1550	691	728	0	845	0	886	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	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	31.5	31.6	52.7	28.7	23.3	18.9	0.0	14.8	0.0	14.7	14.7
Incr Delay (d2), s/veh	4.3	8.8	9.2	19.9	0.4	0.0	1.8	0.0	0.1	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	0.7	13.5	13.2	0.1	6.6	0.1	5.0	0.0	0.3	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.4	40.4	40.7	72.7	29.2	23.3	20.7	0.0	14.9	0.0	14.7	14.8
LnGrp LOS	E	D	D	E	C	C	C	A	B	A	B	B
Approach Vol, veh/h		1118			694			328				16
Approach Delay, s/veh		40.9			29.2			20.3				14.8
Approach LOS		D			C			C				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	44.6		56.4	7.2	42.3		56.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	6.4	46.5		* 50	7.4	* 46		49.8				
Max Q Clear Time (g_c+I1), s	2.1	32.9		2.4	3.5	18.7		17.9				
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	4.2		1.0				

Intersection Summary

HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

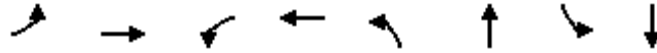
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

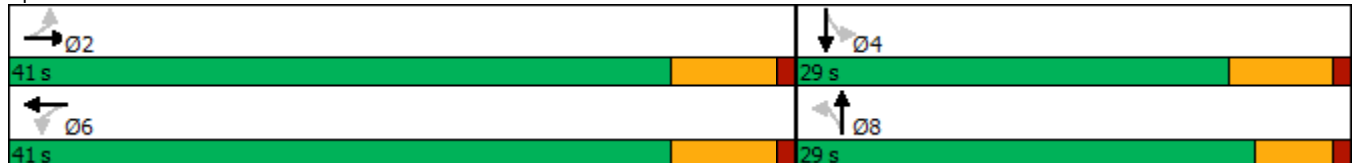


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	260	325	15	341	145	50	22	53
Future Volume (vph)	260	325	15	341	145	50	22	53
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.5	28.5	28.5	28.5	27.1	27.1	28.5	28.5
Total Split (s)	41.0	41.0	41.0	41.0	29.0	29.0	29.0	29.0
Total Split (%)	58.6%	58.6%	58.6%	58.6%	41.4%	41.4%	41.4%	41.4%
Yellow Time (s)	5.5	5.5	5.5	5.5	4.1	4.1	5.5	5.5
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
Total Lost Time (s)		6.5		6.5		5.1		6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 62.1
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	260	325	154	15	341	39	145	50	10	22	53	161
Future Volume (veh/h)	260	325	154	15	341	39	145	50	10	22	53	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	283	353	167	16	371	42	158	54	11	24	58	175
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	343	361	164	75	908	100	278	83	14	84	104	264
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	469	643	292	25	1616	178	784	368	60	87	460	1167
Grp Volume(v), veh/h	803	0	0	429	0	0	223	0	0	257	0	0
Grp Sat Flow(s),veh/h/ln	1403	0	0	1819	0	0	1212	0	0	1714	0	0
Q Serve(g_s), s	26.3	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	34.5	0.0	0.0	8.2	0.0	0.0	10.9	0.0	0.0	8.4	0.0	0.0
Prop In Lane	0.35		0.21	0.04		0.10	0.71		0.05	0.09		0.68
Lane Grp Cap(c), veh/h	868	0	0	1083	0	0	374	0	0	452	0	0
V/C Ratio(X)	0.93	0.00	0.00	0.40	0.00	0.00	0.60	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	868	0	0	1083	0	0	584	0	0	678	0	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	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.4	0.0	0.0	7.7	0.0	0.0	22.5	0.0	0.0	21.7	0.0	0.0
Incr Delay (d2), s/veh	15.5	0.0	0.0	0.2	0.0	0.0	1.5	0.0	0.0	1.1	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	10.0	0.0	0.0	2.0	0.0	0.0	2.9	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	0.0	0.0	7.9	0.0	0.0	24.0	0.0	0.0	22.8	0.0	0.0
LnGrp LOS	C	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		803			429			223				257
Approach Delay, s/veh		29.0			7.9			24.0				22.8
Approach LOS		C			A			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.0		20.4		41.0		20.4				
Change Period (Y+Rc), s		6.5		6.5		6.5		* 6.5				
Max Green Setting (Gmax), s		34.5		22.5		34.5		* 24				
Max Q Clear Time (g_c+I1), s		36.5		10.4		10.2		12.9				
Green Ext Time (p_c), s		0.0		1.0		2.3		1.0				

Intersection Summary

HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 7.1:

EAPC (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

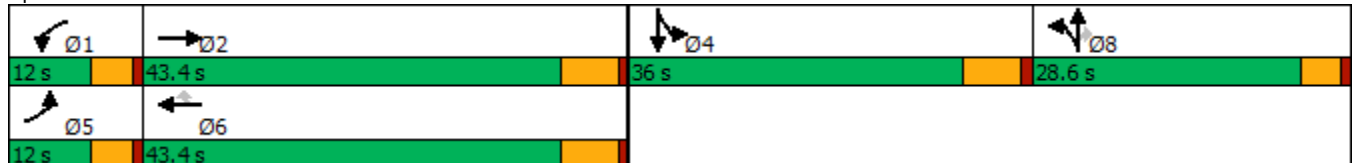


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	126	516	111	573	857	39	112	80	777	79
Future Volume (vph)	126	516	111	573	857	39	112	80	777	79
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	12.0	43.4	12.0	43.4	43.4	28.6	28.6	28.6	36.0	36.0
Total Split (%)	10.0%	36.2%	10.0%	36.2%	36.2%	23.8%	23.8%	23.8%	30.0%	30.0%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	516	39	111	573	857	39	112	80	777	79	85
Future Volume (veh/h)	126	516	39	111	573	857	39	112	80	777	79	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	573	42	123	637	660	43	124	86	1007	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	534	39	110	580	491	356	374	317	885	464	0
Arrive On Green	0.06	0.31	0.31	0.06	0.31	0.31	0.20	0.20	0.20	0.25	0.00	0.00
Sat Flow, veh/h	1781	1721	126	1781	1870	1585	1781	1870	1585	3563	1870	0
Grp Volume(v), veh/h	140	0	615	123	637	660	43	124	86	1007	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1848	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	7.4	0.0	37.2	7.4	37.2	37.2	2.4	6.8	5.5	29.8	0.0	0.0
Cycle Q Clear(g_c), s	7.4	0.0	37.2	7.4	37.2	37.2	2.4	6.8	5.5	29.8	0.0	0.0
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	110	0	573	110	580	491	356	374	317	885	464	0
V/C Ratio(X)	1.27	0.00	1.07	1.12	1.10	1.34	0.12	0.33	0.27	1.14	0.00	0.00
Avail Cap(c_a), veh/h	110	0	573	110	580	491	356	374	317	885	464	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.3	0.0	41.4	56.3	41.4	41.4	39.3	41.1	40.6	45.1	0.0	0.0
Incr Delay (d2), s/veh	176.7	0.0	58.9	121.7	67.2	167.6	0.7	2.4	2.1	75.9	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	8.6	0.0	25.3	6.9	26.9	36.5	1.1	3.4	2.4	21.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	233.0	0.0	100.3	178.0	108.6	209.0	40.0	43.5	42.7	121.0	0.0	0.0
LnGrp LOS	F	A	F	F	F	F	D	D	D	F	A	A
Approach Vol, veh/h		755			1420			253			1007	
Approach Delay, s/veh		124.9			161.3			42.6			121.0	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	43.4		36.0	12.0	43.4		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	37.2		29.8	7.4	37.2		24.0				
Max Q Clear Time (g_c+I1), s	9.4	39.2		31.8	9.4	39.2		8.8				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.9				

Intersection Summary

HCM 6th Ctrl Delay	132.8
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

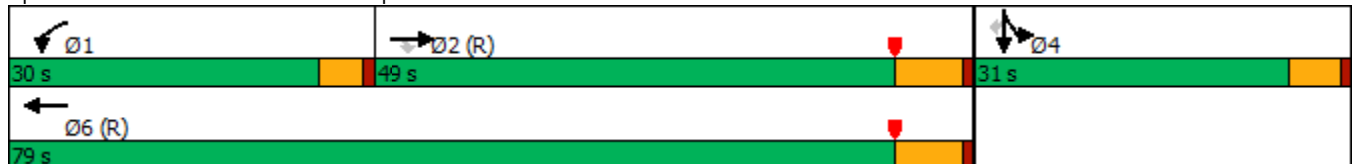


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	804	543	407	1333	2	208
Future Volume (vph)	804	543	407	1333	2	208
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	49.0	49.0	30.0	79.0	31.0	31.0
Total Split (%)	44.5%	44.5%	27.3%	71.8%	28.2%	28.2%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	804	543	407	1333	221	0	0	0	409	2	208
Future Volume (veh/h)	0	804	543	407	1333	221	0	0	0	409	2	208
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	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	846	445	428	1403	233				431	2	166
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	2				2	2	2
Cap, veh/h	0	723	612	411	1031	171				414	2	370
Arrive On Green	0.00	0.39	0.39	0.23	0.66	0.66				0.23	0.23	0.23
Sat Flow, veh/h	0	1870	1585	1781	1564	260				1773	8	1585
Grp Volume(v), veh/h	0	846	445	428	0	1636				433	0	166
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	0	1824				1782	0	1585
Q Serve(g_s), s	0.0	42.5	26.3	25.4	0.0	72.5				25.7	0.0	9.9
Cycle Q Clear(g_c), s	0.0	42.5	26.3	25.4	0.0	72.5				25.7	0.0	9.9
Prop In Lane	0.00		1.00	1.00		0.14				1.00		1.00
Lane Grp Cap(c), veh/h	0	723	612	411	0	1202				416	0	370
V/C Ratio(X)	0.00	1.17	0.73	1.04	0.00	1.36				1.04	0.00	0.45
Avail Cap(c_a), veh/h	0	723	612	411	0	1202				416	0	370
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	0.09	0.09	0.09	0.00	0.09				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	33.8	28.8	42.3	0.0	18.8				42.2	0.0	36.1
Incr Delay (d2), s/veh	0.0	78.3	0.7	25.5	0.0	163.0				54.9	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
%ile BackOfQ(50%),veh/ln	0.0	33.3	9.4	13.3	0.0	77.0				17.1	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	112.1	29.5	67.8	0.0	181.8				97.1	0.0	40.0
LnGrp LOS	A	F	C	F	A	F				F	A	D
Approach Vol, veh/h		1291			2064						599	
Approach Delay, s/veh		83.6			158.1						81.3	
Approach LOS		F			F						F	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.0	49.0		31.0		79.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	25.4	42.5		25.7		72.5						
Max Q Clear Time (g_c+I1), s	27.4	44.5		27.7		74.5						
Green Ext Time (p_c), s	0.0	0.0		0.0		0.0						

Intersection Summary

HCM 6th Ctrl Delay	122.2
HCM 6th LOS	F

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

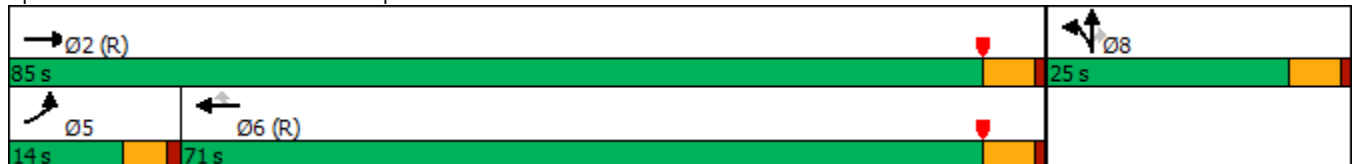


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT
Lane Configurations							
Traffic Volume (vph)	166	1046	1548	665	1	297	0
Future Volume (vph)	166	1046	1548	665	1	297	0
Turn Type	Prot	NA	NA	Perm	NA	Perm	
Protected Phases	5	2	6		8		
Permitted Phases				6		8	
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0	
Total Split (s)	14.0	85.0	71.0	71.0	25.0	25.0	
Total Split (%)	12.7%	77.3%	64.5%	64.5%	22.7%	22.7%	
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3	
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	5.3	5.3	5.3	5.3	5.3	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	1046	0	0	1548	665	250	1	297	0	0	164
Future Volume (veh/h)	166	1046	0	0	1548	665	250	1	297	0	0	164
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		0.99			
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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	168	1057	0	0	1564	648	253	1	183			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	152	1355	0	0	1117	927	318	1	280			
Arrive On Green	0.09	0.72	0.00	0.00	0.60	0.60	0.18	0.18	0.18			
Sat Flow, veh/h	1781	1870	0	0	1870	1552	1775	7	1564			
Grp Volume(v), veh/h	168	1057	0	0	1564	648	254	0	183			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1552	1782	0	1564			
Q Serve(g_s), s	9.4	39.4	0.0	0.0	65.7	31.7	15.0	0.0	12.0			
Cycle Q Clear(g_c), s	9.4	39.4	0.0	0.0	65.7	31.7	15.0	0.0	12.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	152	1355	0	0	1117	927	319	0	280			
V/C Ratio(X)	1.10	0.78	0.00	0.00	1.40	0.70	0.80	0.00	0.65			
Avail Cap(c_a), veh/h	152	1355	0	0	1117	927	319	0	280			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.09	0.09	1.00	0.00	1.00			
Uniform Delay (d), s/veh	50.3	9.6	0.0	0.0	22.2	15.3	43.2	0.0	42.0			
Incr Delay (d2), s/veh	56.1	0.4	0.0	0.0	180.5	0.4	18.4	0.0	11.3			
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	6.3	10.9	0.0	0.0	79.1	9.3	8.0	0.0	5.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.4	10.0	0.0	0.0	202.7	15.7	61.6	0.0	53.3			
LnGrp LOS	F	B	A	A	F	B	E	A	D			
Approach Vol, veh/h		1225			2212			437				
Approach Delay, s/veh		23.2			147.9			58.1				
Approach LOS		C			F			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		85.0			14.0	71.0		25.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		79.7			9.4	65.7		19.7				
Max Q Clear Time (g_c+I1), s		41.4			11.4	67.7		17.0				
Green Ext Time (p_c), s		5.1			0.0	0.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay	98.4
HCM 6th LOS	F

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	130	827	86	1427	420	100	104	64	175	366
Future Volume (vph)	130	827	86	1427	420	100	104	64	175	366
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	14.6	58.7	12.6	56.7	20.4	33.8	33.8	14.9	28.3	28.3
Total Split (%)	12.2%	48.9%	10.5%	47.3%	17.0%	28.2%	28.2%	12.4%	23.6%	23.6%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated























Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	827	387	86	1427	37	420	100	104	64	175	366
Future Volume (veh/h)	130	827	387	86	1427	37	420	100	104	64	175	366
Initial Q (Qb), 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	141	899	334	93	1551	37	457	109	72	70	190	376
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	148	1108	410	116	1483	35	455	497	421	90	344	291
Arrive On Green	0.08	0.44	0.44	0.07	0.42	0.42	0.13	0.27	0.27	0.05	0.18	0.18
Sat Flow, veh/h	1781	2538	939	1781	3545	84	3456	1870	1585	1781	1870	1582
Grp Volume(v), veh/h	141	628	605	93	776	812	457	109	72	70	190	376
Grp Sat Flow(s),veh/h/ln	1781	1777	1700	1781	1777	1853	1728	1870	1585	1781	1870	1582
Q Serve(g_s), s	9.5	37.0	37.3	6.2	50.2	50.2	15.8	5.5	4.2	4.7	11.1	22.1
Cycle Q Clear(g_c), s	9.5	37.0	37.3	6.2	50.2	50.2	15.8	5.5	4.2	4.7	11.1	22.1
Prop In Lane	1.00		0.55	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	148	776	742	116	743	775	455	497	421	90	344	291
V/C Ratio(X)	0.95	0.81	0.81	0.80	1.04	1.05	1.00	0.22	0.17	0.78	0.55	1.29
Avail Cap(c_a), veh/h	148	777	744	119	743	775	455	497	421	153	344	291
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	54.8	29.5	29.6	55.3	34.9	34.9	52.1	34.4	33.9	56.3	44.5	49.0
Incr Delay (d2), s/veh	58.2	6.4	7.0	28.6	45.0	45.5	43.3	1.0	0.9	5.5	6.2	153.9
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	6.5	16.0	15.5	3.6	28.9	30.3	9.3	2.5	1.7	2.2	5.5	20.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.0	35.9	36.5	83.9	79.9	80.4	95.4	35.4	34.8	61.8	50.7	202.8
LnGrp LOS	F	D	D	F	F	F	F	D	C	E	D	F
Approach Vol, veh/h		1374			1681			638			636	
Approach Delay, s/veh		44.1			80.4			78.3			141.9	
Approach LOS		D			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	58.9	20.4	28.3	14.6	56.7	10.6	38.1				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	8.0	* 53	15.8	22.1	10.0	50.2	10.3	27.6				
Max Q Clear Time (g_c+I1), s	8.2	39.3	17.8	24.1	11.5	52.2	6.7	7.5				
Green Ext Time (p_c), s	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay	77.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	221.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↕↗		↵	↕↗	
Traffic Vol, veh/h	177	135	70	218	305	168	120	553	146	89	599	155
Future Vol, veh/h	177	135	70	218	305	168	120	553	146	89	599	155
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	224	171	89	276	386	213	152	700	185	113	758	196
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	40.3	115.3	277.2	337
HCM LOS	E	F	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	56%	0%	100%	39%	0%	100%	38%	0%	100%
Vol Right, %	0%	0%	44%	0%	0%	61%	0%	0%	62%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	369	330	177	90	115	218	203	270	89	399
LT Vol	120	0	0	177	0	0	218	0	0	89	0
Through Vol	0	369	184	0	90	45	0	203	102	0	399
RT Vol	0	0	146	0	0	70	0	0	168	0	0
Lane Flow Rate	152	467	418	224	114	146	276	257	341	113	505
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.576	1.706	1.493	0.857	0.42	0.519	1.036	0.931	1.194	0.428	1.849
Departure Headway (Hd)	13.547	13.047	12.738	12.269	11.769	11.343	13.737	13.237	12.8	13.356	12.856
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	267	285	289	296	308	320	265	275	287	272	288
Service Time	11.247	10.747	10.438	9.969	9.469	9.043	11.437	10.937	10.5	11.056	10.556
HCM Lane V/C Ratio	0.569	1.639	1.446	0.757	0.37	0.456	1.042	0.935	1.188	0.415	1.753
HCM Control Delay	33.2	362.3	270.8	58.7	22.7	25.7	105	76.5	152.9	25.7	423.8
HCM Lane LOS	D	F	F	F	C	D	F	F	F	D	F
HCM 95th-tile Q	3.3	30.2	24	7.4	2	2.8	10.7	8.6	15.1	2	35.2

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	139	718	161	1045	125	187	164	189	227
Future Volume (vph)	139	718	161	1045	125	187	164	189	227
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	15.5	48.1	20.3	52.9	14.6	29.0	29.0	22.6	37.0
Total Split (%)	12.9%	40.1%	16.9%	44.1%	12.2%	24.2%	24.2%	18.8%	30.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 110
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Volume (veh/h)	139	718	131	161	1045	193	125	187	164	189	227	230
Future Volume (veh/h)	139	718	131	161	1045	193	125	187	164	189	227	230
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	146	756	126	169	1100	188	132	197	142	199	239	228
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	163	1106	184	196	1162	198	149	364	304	245	226	215
Arrive On Green	0.09	0.36	0.36	0.11	0.38	0.38	0.08	0.19	0.19	0.14	0.26	0.26
Sat Flow, veh/h	1781	3037	506	1781	3037	517	1781	1870	1564	1781	873	833
Grp Volume(v), veh/h	146	442	440	169	642	646	132	197	142	199	0	467
Grp Sat Flow(s),veh/h/ln	1781	1777	1766	1781	1777	1777	1781	1870	1564	1781	0	1706
Q Serve(g_s), s	9.7	25.1	25.1	11.1	41.7	42.0	8.7	11.3	7.2	12.9	0.0	30.8
Cycle Q Clear(g_c), s	9.7	25.1	25.1	11.1	41.7	42.0	8.7	11.3	7.2	12.9	0.0	30.8
Prop In Lane	1.00		0.29	1.00		0.29	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	163	647	643	196	680	680	149	364	304	245	0	441
V/C Ratio(X)	0.90	0.68	0.68	0.86	0.94	0.95	0.88	0.54	0.47	0.81	0.00	1.06
Avail Cap(c_a), veh/h	163	647	643	235	692	692	149	364	304	269	0	441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	53.6	32.1	32.1	52.2	35.6	35.7	54.0	43.2	24.2	49.9	0.0	44.2
Incr Delay (d2), s/veh	41.1	3.0	3.0	20.8	21.5	22.4	40.5	5.7	5.1	14.2	0.0	59.6
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	6.0	10.6	10.5	5.9	20.6	20.9	5.5	5.7	3.9	6.5	0.0	19.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.7	35.1	35.1	73.0	57.1	58.1	94.5	48.9	29.3	64.1	0.0	103.8
LnGrp LOS	F	D	D	E	E	E	F	D	C	E	A	F
Approach Vol, veh/h		1028			1457			471				666
Approach Delay, s/veh		43.6			59.4			55.8				91.9
Approach LOS		D			E			E				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.7	49.9	14.6	37.0	15.5	52.1	22.6	29.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	6.2	* 5.8				
Max Green Setting (Gmax), s	15.7	41.6	10.0	30.8	10.9	46.4	18.0	* 23				
Max Q Clear Time (g_c+I1), s	13.1	27.1	10.7	32.8	11.7	44.0	14.9	13.3				
Green Ext Time (p_c), s	0.1	4.2	0.0	0.0	0.0	1.6	0.1	1.0				

Intersection Summary

HCM 6th Ctrl Delay	60.4
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	7.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	49	20	62	0	52	2	30	14	0	0	34	63
Future Vol, veh/h	49	20	62	0	52	2	30	14	0	0	34	63
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	57	57	57	57	57	57	57	57	57	57	57	57
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	35	109	0	91	4	53	25	0	0	60	111

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	295	247	116	319	302	25	171	0	0	25	0	0
Stage 1	116	116	-	131	131	-	-	-	-	-	-	-
Stage 2	179	131	-	188	171	-	-	-	-	-	-	-
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	657	655	936	634	611	1051	1406	-	-	1589	-	-
Stage 1	889	800	-	873	788	-	-	-	-	-	-	-
Stage 2	823	788	-	814	757	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	560	630	936	521	588	1051	1406	-	-	1589	-	-
Mov Cap-2 Maneuver	560	630	-	521	588	-	-	-	-	-	-	-
Stage 1	855	800	-	840	758	-	-	-	-	-	-	-
Stage 2	694	758	-	688	757	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.5		12.2		5.2		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1406	-	-	706	598	1589	-
HCM Lane V/C Ratio	0.037	-	-	0.326	0.158	-	-
HCM Control Delay (s)	7.7	0	-	12.5	12.2	0	-
HCM Lane LOS	A	A	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.4	0.6	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

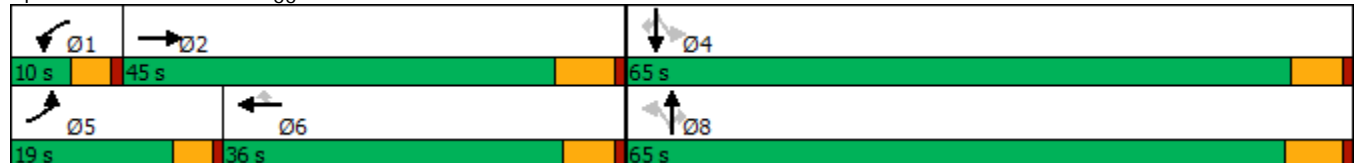


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙		↕	↙		↕	↙
Traffic Volume (vph)	89	762	9	917	24	240	4	11	48	15	227
Future Volume (vph)	89	762	9	917	24	240	4	11	48	15	227
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6			8			4	
Permitted Phases					6	8		8	4		4
Detector Phase	5	2	1	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8	37.8
Total Split (s)	19.0	45.0	10.0	36.0	36.0	65.0	65.0	65.0	65.0	65.0	65.0
Total Split (%)	15.8%	37.5%	8.3%	30.0%	30.0%	54.2%	54.2%	54.2%	54.2%	54.2%	54.2%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	4.8	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
Total Lost Time (s)	4.6	6.5	4.6	5.8	5.8		6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.9
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖		↖	↗		↖	↗
Traffic Volume (veh/h)	89	762	236	9	917	24	240	4	11	48	15	227
Future Volume (veh/h)	89	762	236	9	917	24	240	4	11	48	15	227
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	778	195	9	936	21	245	4	7	49	15	198
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	115	896	225	19	941	420	63	0	823	56	10	823
Arrive On Green	0.06	0.32	0.32	0.01	0.26	0.26	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1781	2815	705	1781	3554	1585	0	0	1585	0	19	1585
Grp Volume(v), veh/h	91	491	482	9	936	21	249	0	7	64	0	198
Grp Sat Flow(s),veh/h/ln	1781	1777	1743	1781	1777	1585	0	0	1585	19	0	1585
Q Serve(g_s), s	5.7	29.7	29.7	0.6	30.0	1.1	0.0	0.0	0.2	0.0	0.0	7.8
Cycle Q Clear(g_c), s	5.7	29.7	29.7	0.6	30.0	1.1	59.2	0.0	0.2	59.2	0.0	7.8
Prop In Lane	1.00		0.40	1.00		1.00	0.98		1.00	0.77		1.00
Lane Grp Cap(c), veh/h	115	566	555	19	941	420	63	0	823	66	0	823
V/C Ratio(X)	0.79	0.87	0.87	0.46	0.99	0.05	3.98	0.00	0.01	0.97	0.00	0.24
Avail Cap(c_a), veh/h	225	600	589	84	941	420	63	0	823	66	0	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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.6	36.6	36.6	56.1	41.8	31.2	57.0	0.0	13.2	47.8	0.0	15.1
Incr Delay (d2), s/veh	4.6	12.4	12.6	6.3	28.0	0.0	1376.6	0.0	0.0	103.6	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	2.6	13.9	13.7	0.3	15.9	0.4	25.7	0.0	0.1	3.7	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	49.0	49.2	62.4	69.8	31.3	1433.7	0.0	13.3	151.4	0.0	15.8
LnGrp LOS	E	D	D	E	E	C	F	A	B	F	A	B
Approach Vol, veh/h		1064			966			256				262
Approach Delay, s/veh		49.8			68.9			1394.8				48.9
Approach LOS		D			E			F				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	42.8		65.4	12.0	36.7		65.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	5.4	38.5		* 59	14.4	* 30		58.8				
Max Q Clear Time (g_c+I1), s	2.6	31.7		61.2	7.7	32.0		61.2				
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	192.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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	3	17	10	112	41	26	28	62	41	8	131	3
Future Vol, veh/h	3	17	10	112	41	26	28	62	41	8	131	3
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	22	13	145	53	34	36	81	53	10	170	4
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	8.3	10.1	9.1	9.4
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	10%	63%	6%
Vol Thru, %	47%	57%	23%	92%
Vol Right, %	31%	33%	15%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	131	30	179	142
LT Vol	28	3	112	8
Through Vol	62	17	41	131
RT Vol	41	10	26	3
Lane Flow Rate	170	39	232	184
Geometry Grp	1	1	1	1
Degree of Util (X)	0.222	0.053	0.314	0.246
Departure Headway (Hd)	4.689	4.904	4.858	4.809
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	762	724	737	743
Service Time	2.744	2.974	2.91	2.865
HCM Lane V/C Ratio	0.223	0.054	0.315	0.248
HCM Control Delay	9.1	8.3	10.1	9.4
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.8	0.2	1.3	1

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↕	↕
Traffic Vol, veh/h	62	9	122	21	3	250
Future Vol, veh/h	62	9	122	21	3	250
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	67	10	133	23	3	272

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	423	78	0	0	156	0
Stage 1	145	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	573	967	-	-	1423	-
Stage 1	868	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	572	967	-	-	1423	-
Mov Cap-2 Maneuver	572	-	-	-	-	-
Stage 1	866	-	-	-	-	-
Stage 2	768	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	603	1423
HCM Lane V/C Ratio	-	-	0.128	0.002
HCM Control Delay (s)	-	-	11.8	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	1	0	0	0	143	0	0	312	0
Future Vol, veh/h	0	0	1	1	0	0	0	143	0	0	312	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	53	53	53	53	53	53	53	53	53	53	53	53
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	2	0	0	0	270	0	0	589	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	859	859	589	860	859	270	589	0	0	270	0	0
Stage 1	589	589	-	270	270	-	-	-	-	-	-	-
Stage 2	270	270	-	590	589	-	-	-	-	-	-	-
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	277	294	508	276	294	769	986	-	-	1293	-	-
Stage 1	494	495	-	736	686	-	-	-	-	-	-	-
Stage 2	736	686	-	494	495	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	277	294	508	275	294	769	986	-	-	1293	-	-
Mov Cap-2 Maneuver	277	294	-	275	294	-	-	-	-	-	-	-
Stage 1	494	495	-	736	686	-	-	-	-	-	-	-
Stage 2	736	686	-	492	495	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB		
HCM Control Delay, s	12.1		18.2		0		0		
HCM LOS	B		C						

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	986	-	-	508	275	1293	-
HCM Lane V/C Ratio	-	-	-	0.004	0.007	-	-
HCM Control Delay (s)	0	-	-	12.1	18.2	0	-
HCM Lane LOS	A	-	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	56	1	3	1	38	96	3	0	252	8
Future Vol, veh/h	7	0	56	1	3	1	38	96	3	0	252	8
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	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	67	1	4	1	46	116	4	0	304	10

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	522	521	309	553	524	118	314	0	0	120	0	0
Stage 1	309	309	-	210	210	-	-	-	-	-	-	-
Stage 2	213	212	-	343	314	-	-	-	-	-	-	-
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	465	460	731	444	458	934	1246	-	-	1468	-	-
Stage 1	701	660	-	792	728	-	-	-	-	-	-	-
Stage 2	789	727	-	672	656	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	447	442	731	391	440	934	1246	-	-	1468	-	-
Mov Cap-2 Maneuver	447	442	-	391	440	-	-	-	-	-	-	-
Stage 1	673	660	-	760	699	-	-	-	-	-	-	-
Stage 2	753	698	-	610	656	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.9		12.6		2.2		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1246	-	-	683	479	1468	-
HCM Lane V/C Ratio	0.037	-	-	0.111	0.013	-	-
HCM Control Delay (s)	8	0	-	10.9	12.6	0	-
HCM Lane LOS	A	A	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0	0	-

Intersection	
Intersection Delay, s/veh	380
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	189	421	242	21	442	89	266	122	9	98	151	243
Future Vol, veh/h	189	421	242	21	442	89	266	122	9	98	151	243
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	197	439	252	22	460	93	277	127	9	102	157	253
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	641.3	292.8	143.8	216
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	67%	22%	4%	20%
Vol Thru, %	31%	49%	80%	31%
Vol Right, %	2%	28%	16%	49%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	397	852	552	492
LT Vol	266	189	21	98
Through Vol	122	421	442	151
RT Vol	9	242	89	243
Lane Flow Rate	414	888	575	512
Geometry Grp	1	1	1	1
Degree of Util (X)	1.12	2.343	1.524	1.335
Departure Headway (Hd)	17.096	12.661	15.429	15.419
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	215	302	242	241
Service Time	15.096	10.661	13.429	13.419
HCM Lane V/C Ratio	1.926	2.94	2.376	2.124
HCM Control Delay	143.8	641.3	292.8	216
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	11.1	52.5	21.5	16.8

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	58	9	0	153	26	0
Future Vol, veh/h	58	9	0	153	26	0
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	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	10	0	166	28	0

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	73	0	234 68
Stage 1	-	-	-	-	68 -
Stage 2	-	-	-	-	166 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1527	-	754 995
Stage 1	-	-	-	-	955 -
Stage 2	-	-	-	-	863 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1527	-	754 995
Mov Cap-2 Maneuver	-	-	-	-	754 -
Stage 1	-	-	-	-	955 -
Stage 2	-	-	-	-	863 -

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	754	-	-	1527	-
HCM Lane V/C Ratio	0.037	-	-	-	-
HCM Control Delay (s)	10	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	28	18	0	63	0	53	0	0	0	0	37
Future Vol, veh/h	12	28	18	0	63	0	53	0	0	0	0	37
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	-	-	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	13	30	20	0	68	0	58	0	0	0	0	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	68	0	0	50	0	0	154	134	40	134	144	68
Stage 1	-	-	-	-	-	-	66	66	-	68	68	-
Stage 2	-	-	-	-	-	-	88	68	-	66	76	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1533	-	-	1557	-	-	813	757	1031	838	747	995
Stage 1	-	-	-	-	-	-	945	840	-	942	838	-
Stage 2	-	-	-	-	-	-	920	838	-	945	832	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1533	-	-	1557	-	-	775	751	1031	833	741	995
Mov Cap-2 Maneuver	-	-	-	-	-	-	775	751	-	833	741	-
Stage 1	-	-	-	-	-	-	937	833	-	934	838	-
Stage 2	-	-	-	-	-	-	883	838	-	937	825	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0	10	8.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	775	1533	-	-	1557	-	-	995
HCM Lane V/C Ratio	0.074	0.009	-	-	-	-	-	0.04
HCM Control Delay (s)	10	7.4	-	-	0	-	-	8.8
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	6.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	7	9	0	0	0	26	0	0	0	0	37
Future Vol, veh/h	12	7	9	0	0	0	26	0	0	0	0	37
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	-	-	-	-	-	-	-	-	-	-	-	-
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	13	8	10	0	0	0	28	0	0	0	0	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	18	0	0	60	40	13	40	45	1
Stage 1	-	-	-	-	-	-	39	39	-	1	1	-
Stage 2	-	-	-	-	-	-	21	1	-	39	44	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1622	-	-	1599	-	-	936	852	1067	964	847	1084
Stage 1	-	-	-	-	-	-	976	862	-	1022	895	-
Stage 2	-	-	-	-	-	-	998	895	-	976	858	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1599	-	-	896	845	1067	958	840	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	896	845	-	958	840	-
Stage 1	-	-	-	-	-	-	968	855	-	1014	895	-
Stage 2	-	-	-	-	-	-	961	895	-	968	851	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.1	0	9.1	8.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	896	1622	-	-	1599	-	-	1084
HCM Lane V/C Ratio	0.032	0.008	-	-	-	-	-	0.037
HCM Control Delay (s)	9.1	7.2	0	-	0	-	-	8.4
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	6.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	0	0	0	0	9
Future Vol, veh/h	26	0	0	0	0	9
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	-	-	-	-	-
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	28	0	0	0	0	10

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	5	5	10	0	-	0
Stage 1	5	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1017	1078	1610	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1017	1078	1610	-	-	-
Mov Cap-2 Maneuver	1017	-	-	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1610	-	1017	-	-
HCM Lane V/C Ratio	-	-	0.028	-	-
HCM Control Delay (s)	0	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

01/31/2018

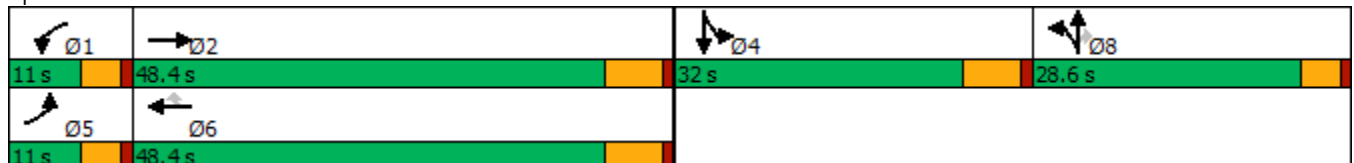


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	121	728	107	922	666	58	112	105	709	95
Future Volume (vph)	121	728	107	922	666	58	112	105	709	95
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	11.0	48.4	11.0	48.4	48.4	28.6	28.6	28.6	32.0	32.0
Total Split (%)	9.2%	40.3%	9.2%	40.3%	40.3%	23.8%	23.8%	23.8%	26.7%	26.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↗
Traffic Volume (veh/h)	121	728	43	107	922	666	58	112	105	709	95	143
Future Volume (veh/h)	121	728	43	107	922	666	58	112	105	709	95	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	743	41	109	941	464	59	114	81	482	434	144
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	95	618	34	95	658	557	356	374	317	383	289	96
Arrive On Green	0.05	0.35	0.35	0.05	0.35	0.35	0.20	0.20	0.20	0.21	0.21	0.21
Sat Flow, veh/h	1781	1756	97	1781	1870	1585	1781	1870	1585	1781	1344	446
Grp Volume(v), veh/h	123	0	784	109	941	464	59	114	81	482	0	578
Grp Sat Flow(s),veh/h/ln	1781	0	1853	1781	1870	1585	1781	1870	1585	1781	0	1790
Q Serve(g_s), s	6.4	0.0	42.2	6.4	42.2	32.2	3.3	6.2	5.2	25.8	0.0	25.8
Cycle Q Clear(g_c), s	6.4	0.0	42.2	6.4	42.2	32.2	3.3	6.2	5.2	25.8	0.0	25.8
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	95	0	652	95	658	557	356	374	317	383	0	385
V/C Ratio(X)	1.29	0.00	1.20	1.15	1.43	0.83	0.17	0.30	0.26	1.26	0.00	1.50
Avail Cap(c_a), veh/h	95	0	652	95	658	557	356	374	317	383	0	385
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00
Uniform Delay (d), s/veh	56.8	0.0	38.9	56.8	38.9	35.7	39.7	40.9	40.5	47.1	0.0	47.1
Incr Delay (d2), s/veh	190.5	0.0	105.6	137.5	202.5	10.4	1.0	2.1	1.9	135.9	0.0	239.0
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	7.8	0.0	37.0	6.4	55.1	13.3	1.6	3.1	2.2	25.4	0.0	36.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	247.3	0.0	144.5	194.3	241.4	46.1	40.7	43.0	42.4	183.0	0.0	286.1
LnGrp LOS	F	A	F	F	F	D	D	D	D	F	A	F
Approach Vol, veh/h		907			1514			254			1060	
Approach Delay, s/veh		158.4			178.1			42.3			239.3	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	48.4		32.0	11.0	48.4		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.4	42.2		25.8	6.4	42.2		24.0				
Max Q Clear Time (g_c+I1), s	8.4	44.2		27.8	8.4	44.2		8.2				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.9				

Intersection Summary

HCM 6th Ctrl Delay	181.5
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

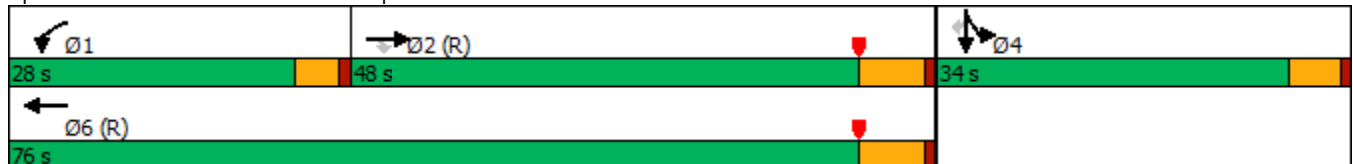


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	1026	532	358	1438	0	258
Future Volume (vph)	1026	532	358	1438	0	258
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	48.0	48.0	28.0	76.0	34.0	34.0
Total Split (%)	43.6%	43.6%	25.5%	69.1%	30.9%	30.9%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	1026	532	358	1438	159	0	0	0	622	0	258
Future Volume (veh/h)	0	1026	532	358	1438	159	0	0	0	622	0	258
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	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1047	457	365	1467	162				635	0	200
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	2				2	2	2
Cap, veh/h	0	706	598	379	1045	115				465	0	414
Arrive On Green	0.00	0.38	0.38	0.43	1.00	1.00				0.26	0.00	0.26
Sat Flow, veh/h	0	1870	1585	1781	1655	183				1781	0	1585
Grp Volume(v), veh/h	0	1047	457	365	0	1629				635	0	200
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	0	1837				1781	0	1585
Q Serve(g_s), s	0.0	41.5	27.8	21.9	0.0	61.6				28.7	0.0	11.7
Cycle Q Clear(g_c), s	0.0	41.5	27.8	21.9	0.0	61.6				28.7	0.0	11.7
Prop In Lane	0.00		1.00	1.00		0.10				1.00		1.00
Lane Grp Cap(c), veh/h	0	706	598	379	0	1161				465	0	414
V/C Ratio(X)	0.00	1.48	0.76	0.96	0.00	1.40				1.37	0.00	0.48
Avail Cap(c_a), veh/h	0	706	598	379	0	1161				465	0	414
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.09	0.00	0.09				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	34.3	30.0	31.2	0.0	0.0				40.7	0.0	34.4
Incr Delay (d2), s/veh	0.0	218.4	0.9	7.3	0.0	181.9				178.2	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	60.1	9.9	7.0	0.0	58.7				34.9	0.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	252.6	30.8	38.4	0.0	181.9				218.9	0.0	38.4
LnGrp LOS	A	F	C	D	A	F				F	A	D
Approach Vol, veh/h		1504			1994						835	
Approach Delay, s/veh		185.2			155.6						175.6	
Approach LOS		F			F						F	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	28.0	48.0		34.0		76.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	23.4	41.5		28.7		69.5						
Max Q Clear Time (g_c+I1), s	23.9	43.5		30.7		63.6						
Green Ext Time (p_c), s	0.0	0.0		0.0		4.6						

Intersection Summary

HCM 6th Ctrl Delay	169.8
HCM 6th LOS	F

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT
Lane Configurations							
Traffic Volume (vph)	164	1482	1290	617	0	735	0
Future Volume (vph)	164	1482	1290	617	0	735	0
Turn Type	Prot	NA	NA	Perm	NA	Perm	
Protected Phases	5	2	6		8		
Permitted Phases				6		8	
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0	
Total Split (s)	13.0	75.0	62.0	62.0	35.0	35.0	
Total Split (%)	11.8%	68.2%	56.4%	56.4%	31.8%	31.8%	
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3	
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	5.3	5.3	5.3	5.3	5.3	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	1482	0	0	1290	617	402	0	735	0	0	263
Future Volume (veh/h)	164	1482	0	0	1290	617	402	0	735	0	0	263
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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	166	1497	0	0	1303	552	406	0	684			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	136	1185	0	0	964	817	481	0	428			
Arrive On Green	0.08	0.63	0.00	0.00	0.52	0.52	0.27	0.00	0.27			
Sat Flow, veh/h	1781	1870	0	0	1870	1585	1781	0	1585			
Grp Volume(v), veh/h	166	1497	0	0	1303	552	406	0	684			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	1781	0	1585			
Q Serve(g_s), s	8.4	69.7	0.0	0.0	56.7	28.5	23.7	0.0	29.7			
Cycle Q Clear(g_c), s	8.4	69.7	0.0	0.0	56.7	28.5	23.7	0.0	29.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	136	1185	0	0	964	817	481	0	428			
V/C Ratio(X)	1.22	1.26	0.00	0.00	1.35	0.68	0.84	0.00	1.60			
Avail Cap(c_a), veh/h	136	1185	0	0	964	817	481	0	428			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.09	0.09	1.00	0.00	1.00			
Uniform Delay (d), s/veh	50.8	20.1	0.0	0.0	26.6	19.8	38.0	0.0	40.2			
Incr Delay (d2), s/veh	105.4	119.1	0.0	0.0	158.8	0.4	16.4	0.0	280.0			
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	7.5	62.5	0.0	0.0	64.0	9.2	12.1	0.0	44.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	156.2	139.2	0.0	0.0	185.5	20.2	54.4	0.0	320.2			
LnGrp LOS	F	F	A	A	F	C	D	A	F			
Approach Vol, veh/h		1663			1855			1090				
Approach Delay, s/veh		140.9			136.3			221.2				
Approach LOS		F			F			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		75.0			13.0	62.0		35.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		69.7			8.4	56.7		29.7				
Max Q Clear Time (g_c+I1), s		71.7			10.4	58.7		31.7				
Green Ext Time (p_c), s		0.0			0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	158.0
HCM 6th LOS	F

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

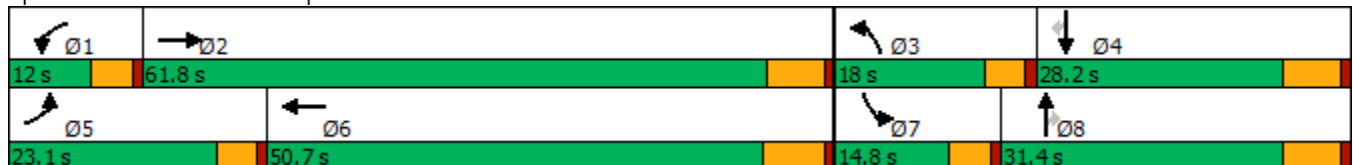


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	274	1473	139	1144	519	269	233	98	175	243
Future Volume (vph)	274	1473	139	1144	519	269	233	98	175	243
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	23.1	61.8	12.0	50.7	18.0	31.4	31.4	14.8	28.2	28.2
Total Split (%)	19.3%	51.5%	10.0%	42.3%	15.0%	26.2%	26.2%	12.3%	23.5%	23.5%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	274	1473	471	139	1144	73	519	269	233	98	175	243
Future Volume (veh/h)	274	1473	471	139	1144	73	519	269	233	98	175	243
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	280	1503	378	142	1167	70	530	274	146	100	179	201
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	274	1311	318	110	1260	76	385	420	356	124	342	290
Arrive On Green	0.15	0.46	0.46	0.06	0.37	0.37	0.11	0.22	0.22	0.07	0.18	0.18
Sat Flow, veh/h	1781	2836	687	1781	3406	204	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	280	921	960	142	608	629	530	274	146	100	179	201
Grp Sat Flow(s),veh/h/ln	1781	1777	1747	1781	1777	1834	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	18.5	55.6	55.6	7.4	39.5	39.5	13.4	16.0	9.5	6.7	10.4	14.3
Cycle Q Clear(g_c), s	18.5	55.6	55.6	7.4	39.5	39.5	13.4	16.0	9.5	6.7	10.4	14.3
Prop In Lane	1.00		0.39	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	274	821	807	110	657	678	385	420	356	124	342	290
V/C Ratio(X)	1.02	1.12	1.19	1.30	0.93	0.93	1.38	0.65	0.41	0.81	0.52	0.69
Avail Cap(c_a), veh/h	274	821	807	110	657	678	385	420	356	151	342	290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	32.4	32.4	56.5	36.3	36.3	53.4	42.4	39.8	55.2	44.4	46.0
Incr Delay (d2), s/veh	60.2	70.2	97.6	185.0	19.1	18.9	185.2	7.6	3.5	18.9	5.6	12.8
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	12.5	37.7	43.2	8.8	19.2	19.9	15.5	8.0	3.9	3.5	5.2	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.1	102.6	129.9	241.4	55.4	55.3	238.7	50.0	43.3	74.1	50.0	58.8
LnGrp LOS	F	F	F	F	E	E	F	D	D	E	D	E
Approach Vol, veh/h		2161			1379			950			480	
Approach Delay, s/veh		115.8			74.5			154.2			58.7	
Approach LOS		F			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	62.1	18.0	28.2	23.1	51.0	13.0	33.2				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.4	* 56	13.4	22.0	18.5	44.2	10.2	25.2				
Max Q Clear Time (g_c+I1), s	9.4	57.6	15.4	16.3	20.5	41.5	8.7	18.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	1.7	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	106.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	84.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↕↗		↵	↕↗	
Traffic Vol, veh/h	114	262	124	108	173	91	93	515	190	146	471	129
Future Vol, veh/h	114	262	124	108	173	91	93	515	190	146	471	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	121	279	132	115	184	97	99	548	202	155	501	137
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	37.9	26.8	139.1	86.9
HCM LOS	E	D	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	47%	0%	100%	41%	0%	100%	39%	0%	100%
Vol Right, %	0%	0%	53%	0%	0%	59%	0%	0%	61%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	343	362	114	175	211	108	115	149	146	314
LT Vol	93	0	0	114	0	0	108	0	0	146	0
Through Vol	0	343	172	0	175	87	0	115	58	0	314
RT Vol	0	0	190	0	0	124	0	0	91	0	0
Lane Flow Rate	99	365	385	121	186	225	115	123	158	155	334
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.337	1.197	1.223	0.441	0.65	0.761	0.426	0.438	0.546	0.534	1.103
Departure Headway (Hd)	12.414	11.914	11.546	13.225	12.725	12.314	13.335	12.843	12.421	12.539	12.039
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	292	307	319	274	286	297	272	282	293	289	304
Service Time	10.114	9.614	9.246	10.925	10.425	10.014	11.02	10.52	10.091	10.239	9.739
HCM Lane V/C Ratio	0.339	1.189	1.207	0.442	0.65	0.758	0.423	0.436	0.539	0.536	1.099
HCM Control Delay	21.3	150.5	158.6	26	36.3	45.6	25.6	25.1	29	28.7	118.6
HCM Lane LOS	C	F	F	D	E	E	D	D	D	D	F
HCM 95th-tile Q	1.4	15.9	17.1	2.1	4.2	5.8	2	2.1	3	2.9	13.2

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

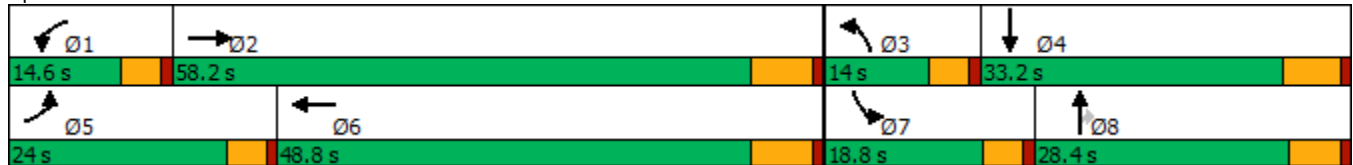


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕↗	↙	↕↗	↙	↕	↗	↙	↗
Traffic Volume (vph)	322	1263	132	1068	151	253	166	157	116
Future Volume (vph)	322	1263	132	1068	151	253	166	157	116
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	24.0	58.2	14.6	48.8	14.0	28.4	28.4	18.8	33.2
Total Split (%)	20.0%	48.5%	12.2%	40.7%	11.7%	23.7%	23.7%	15.7%	27.7%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
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	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑	↗	↖	↗	
Traffic Volume (veh/h)	322	1263	165	132	1068	204	151	253	166	157	116	206
Future Volume (veh/h)	322	1263	165	132	1068	204	151	253	166	157	116	206
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	339	1329	154	139	1124	203	159	266	104	165	122	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	288	1380	159	148	1057	190	140	366	310	192	148	231
Arrive On Green	0.16	0.43	0.43	0.08	0.35	0.35	0.08	0.20	0.20	0.11	0.22	0.22
Sat Flow, veh/h	1781	3203	369	1781	2998	539	1781	1870	1585	1781	657	1028
Grp Volume(v), veh/h	339	734	749	139	664	663	159	266	104	165	0	313
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	1781	1777	1760	1781	1870	1585	1781	0	1685
Q Serve(g_s), s	19.4	48.0	49.0	9.3	42.3	42.3	9.4	16.0	6.8	10.9	0.0	21.2
Cycle Q Clear(g_c), s	19.4	48.0	49.0	9.3	42.3	42.3	9.4	16.0	6.8	10.9	0.0	21.2
Prop In Lane	1.00		0.21	1.00		0.31	1.00		1.00	1.00		0.61
Lane Grp Cap(c), veh/h	288	766	773	148	626	620	140	366	310	192	0	379
V/C Ratio(X)	1.18	0.96	0.97	0.94	1.06	1.07	1.14	0.73	0.34	0.86	0.00	0.83
Avail Cap(c_a), veh/h	288	766	773	148	626	620	140	366	310	211	0	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	50.3	33.1	33.4	54.7	38.8	38.9	55.3	45.2	41.5	52.7	0.0	44.3
Incr Delay (d2), s/veh	109.9	22.8	24.9	54.4	53.0	55.9	118.6	11.9	2.9	25.0	0.0	18.2
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	17.0	23.6	24.6	6.2	26.2	26.5	8.7	8.4	2.8	6.1	0.0	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	160.2	55.9	58.3	109.1	91.9	94.7	173.9	57.1	44.4	77.7	0.0	62.5
LnGrp LOS	F	E	E	F	F	F	F	E	D	E	A	E
Approach Vol, veh/h		1822			1466			529			478	
Approach Delay, s/veh		76.3			94.8			89.7			67.7	
Approach LOS		E			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	58.2	14.0	33.2	24.0	48.8	17.5	29.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	* 6.2				
Max Green Setting (Gmax), s	10.0	51.7	9.4	27.0	19.4	42.3	14.2	* 23				
Max Q Clear Time (g_c+I1), s	11.3	51.0	11.4	23.2	21.4	44.3	12.9	18.0				
Green Ext Time (p_c), s	0.0	0.6	0.0	0.6	0.0	0.0	0.0	0.7				

Intersection Summary

HCM 6th Ctrl Delay	83.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	62	26	1	42	3	43	42	0	1	38	5
Future Vol, veh/h	8	62	26	1	42	3	43	42	0	1	38	5
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	1	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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	79	33	1	54	4	55	54	0	1	49	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	251	219	52	275	222	59	55	0	0	55	0	0
Stage 1	54	54	-	165	165	-	-	-	-	-	-	-
Stage 2	197	165	-	110	57	-	-	-	-	-	-	-
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	702	679	1016	677	677	1007	1550	-	-	1550	-	-
Stage 1	958	850	-	837	762	-	-	-	-	-	-	-
Stage 2	805	762	-	895	847	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	634	653	1016	576	651	1002	1550	-	-	1549	-	-
Mov Cap-2 Maneuver	634	653	-	576	651	-	-	-	-	-	-	-
Stage 1	923	849	-	805	733	-	-	-	-	-	-	-
Stage 2	713	733	-	784	846	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11		10.9		3.7		0.2	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1550	-	-	721	664	1549	-
HCM Lane V/C Ratio	0.036	-	-	0.171	0.089	0.001	-
HCM Control Delay (s)	7.4	0	-	11	10.9	7.3	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.3	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

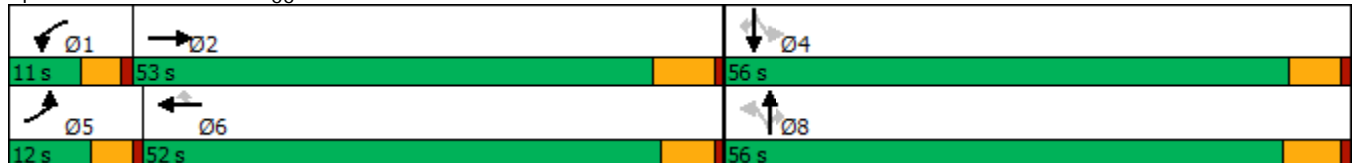


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	214	1004	4	908	19	263	14	11	10	5	153
Future Volume (vph)	214	1004	4	908	19	263	14	11	10	5	153
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6			8			4	
Permitted Phases					6	8		8	4		4
Detector Phase	5	2	1	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	53.0	11.0	52.0	52.0	56.0	56.0	56.0	56.0	56.0	56.0
Total Split (%)	10.0%	44.2%	9.2%	43.3%	43.3%	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	4.8	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
Total Lost Time (s)	4.6	6.5	4.6	5.8	5.8		6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.9
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗		↖	↗		↖	↗
Traffic Volume (veh/h)	214	1004	253	4	908	19	263	14	11	10	5	153
Future Volume (veh/h)	214	1004	253	4	908	19	263	14	11	10	5	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	230	1080	240	4	976	16	283	15	9	11	5	145
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	116	1155	255	9	1206	538	62	0	702	54	15	702
Arrive On Green	0.07	0.40	0.40	0.01	0.34	0.34	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	1781	2892	640	1781	3554	1585	0	0	1585	0	34	1585
Grp Volume(v), veh/h	230	661	659	4	976	16	298	0	9	16	0	145
Grp Sat Flow(s),veh/h/ln	1781	1777	1755	1781	1777	1585	0	0	1585	34	0	1585
Q Serve(g_s), s	7.4	40.4	40.9	0.3	28.4	0.8	0.0	0.0	0.4	0.0	0.0	6.4
Cycle Q Clear(g_c), s	7.4	40.4	40.9	0.3	28.4	0.8	50.2	0.0	0.4	50.2	0.0	6.4
Prop In Lane	1.00		0.36	1.00		1.00	0.95		1.00	0.69		1.00
Lane Grp Cap(c), veh/h	116	710	701	9	1206	538	62	0	702	69	0	702
V/C Ratio(X)	1.98	0.93	0.94	0.43	0.81	0.03	4.81	0.00	0.01	0.23	0.00	0.21
Avail Cap(c_a), veh/h	116	729	720	101	1448	646	62	0	702	69	0	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	53.0	32.6	32.7	56.2	34.1	25.0	56.7	0.0	17.7	28.5	0.0	19.4
Incr Delay (d2), s/veh	469.5	18.5	19.9	11.2	3.0	0.0	1751.9	0.0	0.0	7.8	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	18.3	19.3	19.6	0.1	11.8	0.3	31.8	0.0	0.1	0.4	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	522.5	51.1	52.7	67.5	37.1	25.0	1808.5	0.0	17.7	36.3	0.0	20.0
LnGrp LOS	F	D	D	E	D	C	F	A	B	D	A	C
Approach Vol, veh/h		1550			996			307				161
Approach Delay, s/veh		121.7			37.0			1756.0				21.6
Approach LOS		F			D			F				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	51.8		56.4	12.0	45.0		56.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	6.4	46.5		* 50	7.4	* 46		49.8				
Max Q Clear Time (g_c+I1), s	2.3	42.9		52.2	9.4	30.4		52.2				
Green Ext Time (p_c), s	0.0	2.4		0.0	0.0	5.4		0.0				

Intersection Summary

HCM 6th Ctrl Delay	254.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	46	32	75	27	17	9	128	127	29	84	1
Future Vol, veh/h	4	46	32	75	27	17	9	128	127	29	84	1
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	74	52	121	44	27	15	206	205	47	135	2
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	10.2	11.4	14.5	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	5%	63%	25%
Vol Thru, %	48%	56%	23%	74%
Vol Right, %	48%	39%	14%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	264	82	119	114
LT Vol	9	4	75	29
Through Vol	128	46	27	84
RT Vol	127	32	17	1
Lane Flow Rate	426	132	192	184
Geometry Grp	1	1	1	1
Degree of Util (X)	0.579	0.208	0.308	0.283
Departure Headway (Hd)	4.895	5.65	5.786	5.548
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	737	634	620	645
Service Time	2.933	3.703	3.836	3.596
HCM Lane V/C Ratio	0.578	0.208	0.31	0.285
HCM Control Delay	14.5	10.2	11.4	10.8
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	3.8	0.8	1.3	1.2

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↓		↔	↑
Traffic Vol, veh/h	41	6	258	69	10	181
Future Vol, veh/h	41	6	258	69	10	181
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	45	7	280	75	11	197

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	537	178	0	0	355
Stage 1	318	-	-	-	-
Stage 2	219	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13
Critical Hdwy Stg 1	5.83	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219
Pot Cap-1 Maneuver	489	835	-	-	1202
Stage 1	711	-	-	-	-
Stage 2	817	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	485	835	-	-	1202
Mov Cap-2 Maneuver	485	-	-	-	-
Stage 1	705	-	-	-	-
Stage 2	817	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	512	1202
HCM Lane V/C Ratio	-	-	0.1	0.009
HCM Control Delay (s)	-	-	12.8	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	1	0	2	1	324	2	1	220	0
Future Vol, veh/h	1	0	0	1	0	2	1	324	2	1	220	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	1	0	3	1	476	3	1	324	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	807	808	324	807	807	479	324	0	0	480	0	0
Stage 1	326	326	-	481	481	-	-	-	-	-	-	-
Stage 2	481	482	-	326	326	-	-	-	-	-	-	-
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	300	315	717	300	315	587	1236	-	-	1082	-	-
Stage 1	687	648	-	566	554	-	-	-	-	-	-	-
Stage 2	566	553	-	687	648	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	298	314	717	299	314	586	1236	-	-	1081	-	-
Mov Cap-2 Maneuver	298	314	-	299	314	-	-	-	-	-	-	-
Stage 1	686	647	-	565	553	-	-	-	-	-	-	-
Stage 2	563	552	-	686	647	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	17.1		13.2		0		0	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1236	-	-	298	444	1081	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.01	0.001	-
HCM Control Delay (s)	7.9	0	-	17.1	13.2	8.3	0
HCM Lane LOS	A	A	-	C	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	2	29	1	1	0	21	301	0	0	184	10
Future Vol, veh/h	10	2	29	1	1	0	21	301	0	0	184	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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	3	39	1	1	0	28	407	0	0	249	14

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	720	719	256	740	726	407	263	0	0	407	0	0
Stage 1	256	256	-	463	463	-	-	-	-	-	-	-
Stage 2	464	463	-	277	263	-	-	-	-	-	-	-
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	343	354	783	333	351	644	1301	-	-	1152	-	-
Stage 1	749	696	-	579	564	-	-	-	-	-	-	-
Stage 2	578	564	-	729	691	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	335	344	783	308	341	644	1301	-	-	1152	-	-
Mov Cap-2 Maneuver	335	344	-	308	341	-	-	-	-	-	-	-
Stage 1	728	696	-	563	548	-	-	-	-	-	-	-
Stage 2	560	548	-	690	691	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.1		16.2		0.5		0	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1301	-	-	564	324	1152	-
HCM Lane V/C Ratio	0.022	-	-	0.098	0.008	-	-
HCM Control Delay (s)	7.8	0	-	12.1	16.2	0	-
HCM Lane LOS	A	A	-	B	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0	0	-

Intersection	
Intersection Delay, s/veh	491.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	245	516	224	18	523	78	238	113	17	56	101	168
Future Vol, veh/h	245	516	224	18	523	78	238	113	17	56	101	168
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	266	561	243	20	568	85	259	123	18	61	110	183
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	830.7	383.7	121.4	87
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	65%	25%	3%	17%
Vol Thru, %	31%	52%	84%	31%
Vol Right, %	5%	23%	13%	52%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	368	985	619	325
LT Vol	238	245	18	56
Through Vol	113	516	523	101
RT Vol	17	224	78	168
Lane Flow Rate	400	1071	673	353
Geometry Grp	1	1	1	1
Degree of Util (X)	1.057	2.774	1.746	0.916
Departure Headway (Hd)	16.367	11.616	14.326	17.011
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	224	321	262	215
Service Time	14.367	9.616	12.326	15.011
HCM Lane V/C Ratio	1.786	3.336	2.569	1.642
HCM Control Delay	121.4	830.7	383.7	87
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	10.2	73.1	29.1	7.5

Intersection

Int Delay, s/veh 0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	
Traffic Vol, veh/h	171	30	0	101	17	0
Future Vol, veh/h	171	30	0	101	17	0
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	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	186	33	0	110	18	0

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	219	0	313
Stage 1	-	-	-	-	203
Stage 2	-	-	-	-	110
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1350	-	680
Stage 1	-	-	-	-	831
Stage 2	-	-	-	-	915
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1350	-	680
Mov Cap-2 Maneuver	-	-	-	-	680
Stage 1	-	-	-	-	831
Stage 2	-	-	-	-	915

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	680	-	-	1350	-
HCM Lane V/C Ratio	0.027	-	-	-	-
HCM Control Delay (s)	10.4	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	72	59	0	42	0	35	0	0	0	0	24
Future Vol, veh/h	41	72	59	0	42	0	35	0	0	0	0	24
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	-	-	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	45	78	64	0	46	0	38	0	0	0	0	26

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	46	0	0	142
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1562	-	-	1441
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1562	-	-	1441
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0	10.8	8.6
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	661	1562	-	-	1441	-	-	1023
HCM Lane V/C Ratio	0.058	0.029	-	-	-	-	-	0.026
HCM Control Delay (s)	10.8	7.4	-	-	0	-	-	8.6
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	5.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	41	1	30	0	1	0	17	0	0	0	0	24
Future Vol, veh/h	41	1	30	0	1	0	17	0	0	0	0	24
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	-	-	-	-	-	-	-	-	-	-	-	-
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	45	1	33	0	1	0	18	0	0	0	0	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	34	0	0	122	109	18	109	125	1
Stage 1	-	-	-	-	-	-	108	108	-	1	1	-
Stage 2	-	-	-	-	-	-	14	1	-	108	124	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1622	-	-	1578	-	-	853	781	1061	870	765	1084
Stage 1	-	-	-	-	-	-	897	806	-	1022	895	-
Stage 2	-	-	-	-	-	-	1006	895	-	897	793	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1578	-	-	815	759	1061	852	744	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	815	759	-	852	744	-
Stage 1	-	-	-	-	-	-	872	783	-	993	895	-
Stage 2	-	-	-	-	-	-	982	895	-	872	771	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	4.1			0			9.5			8.4		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	815	1622	-	-	1578	-	-	1084
HCM Lane V/C Ratio	0.023	0.027	-	-	-	-	-	0.024
HCM Control Delay (s)	9.5	7.3	0	-	0	-	-	8.4
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	0	0	0	0	30
Future Vol, veh/h	17	0	0	0	0	30
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	-	-	-	-	-
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	18	0	0	0	0	33

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	17	17	33	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1001	1062	1579	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1001	1062	1579	-	-	-
Mov Cap-2 Maneuver	1001	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1579	-	1001	-	-
HCM Lane V/C Ratio	-	-	0.018	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

APPENDIX 7.2:

EAPC (2025) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

01/31/2018

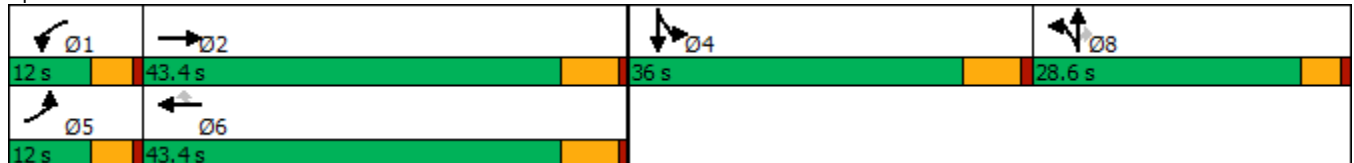


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	150	583	142	672	995	49	136	106	897	99
Future Volume (vph)	150	583	142	672	995	49	136	106	897	99
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	12.0	43.4	12.0	43.4	43.4	28.6	28.6	28.6	36.0	36.0
Total Split (%)	10.0%	36.2%	10.0%	36.2%	36.2%	23.8%	23.8%	23.8%	30.0%	30.0%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	583	49	142	672	995	49	136	106	897	99	103
Future Volume (veh/h)	150	583	49	142	672	995	49	136	106	897	99	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	648	53	158	747	814	54	151	115	1176	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	529	43	110	580	491	356	374	317	885	464	0
Arrive On Green	0.06	0.31	0.31	0.06	0.31	0.31	0.20	0.20	0.20	0.25	0.00	0.00
Sat Flow, veh/h	1781	1706	140	1781	1870	1585	1781	1870	1585	3563	1870	0
Grp Volume(v), veh/h	167	0	701	158	747	814	54	151	115	1176	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1845	1781	1870	1585	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	7.4	0.0	37.2	7.4	37.2	37.2	3.0	8.4	7.5	29.8	0.0	0.0
Cycle Q Clear(g_c), s	7.4	0.0	37.2	7.4	37.2	37.2	3.0	8.4	7.5	29.8	0.0	0.0
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	110	0	572	110	580	491	356	374	317	885	464	0
V/C Ratio(X)	1.52	0.00	1.23	1.44	1.29	1.66	0.15	0.40	0.36	1.33	0.00	0.00
Avail Cap(c_a), veh/h	110	0	572	110	580	491	356	374	317	885	464	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	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.3	0.0	41.4	56.3	41.4	41.4	39.6	41.8	41.4	45.1	0.0	0.0
Incr Delay (d2), s/veh	274.9	0.0	116.4	241.2	142.4	304.4	0.9	3.2	3.2	156.0	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	11.6	0.0	34.4	10.6	39.1	55.2	1.4	4.3	3.3	31.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	331.2	0.0	157.8	297.5	183.8	345.8	40.5	45.0	44.6	201.1	0.0	0.0
LnGrp LOS	F	A	F	F	F	F	D	D	D	F	A	A
Approach Vol, veh/h		868			1719			320			1176	
Approach Delay, s/veh		191.1			271.0			44.1			201.1	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	43.4		36.0	12.0	43.4		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	37.2		29.8	7.4	37.2		24.0				
Max Q Clear Time (g_c+I1), s	9.4	39.2		31.8	9.4	39.2		10.4				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		1.2				

Intersection Summary

HCM 6th Ctrl Delay	216.1
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

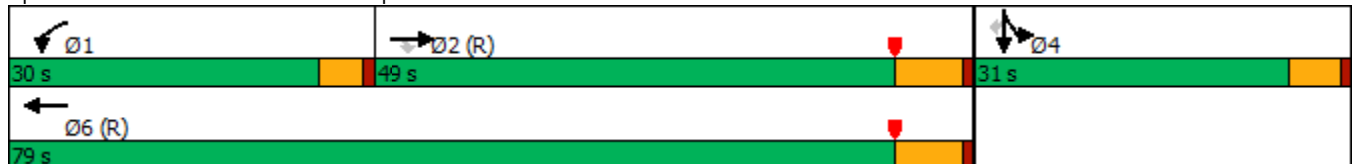


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	932	626	476	1567	2	242
Future Volume (vph)	932	626	476	1567	2	242
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	49.0	49.0	30.0	79.0	31.0	31.0
Total Split (%)	44.5%	44.5%	27.3%	71.8%	28.2%	28.2%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
 2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	932	626	476	1567	295	0	0	0	471	2	242
Future Volume (veh/h)	0	932	626	476	1567	295	0	0	0	471	2	242
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	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	981	532	501	1649	311				496	2	202
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	2				2	2	2
Cap, veh/h	0	723	612	411	1008	190				415	2	370
Arrive On Green	0.00	0.39	0.39	0.23	0.66	0.66				0.23	0.23	0.23
Sat Flow, veh/h	0	1870	1585	1781	1530	289				1774	7	1585
Grp Volume(v), veh/h	0	981	532	501	0	1960				498	0	202
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	0	1818				1782	0	1585
Q Serve(g_s), s	0.0	42.5	34.1	25.4	0.0	72.5				25.7	0.0	12.3
Cycle Q Clear(g_c), s	0.0	42.5	34.1	25.4	0.0	72.5				25.7	0.0	12.3
Prop In Lane	0.00		1.00	1.00		0.16				1.00		1.00
Lane Grp Cap(c), veh/h	0	723	612	411	0	1199				416	0	370
V/C Ratio(X)	0.00	1.36	0.87	1.22	0.00	1.64				1.20	0.00	0.55
Avail Cap(c_a), veh/h	0	723	612	411	0	1199				416	0	370
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	0.09	0.09	0.09	0.00	0.09				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	33.8	31.2	42.3	0.0	18.8				42.2	0.0	37.0
Incr Delay (d2), s/veh	0.0	161.7	1.7	100.3	0.0	286.3				109.6	0.0	5.7
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	50.1	12.3	21.9	0.0	117.8				23.4	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	195.5	32.9	142.6	0.0	305.0				151.8	0.0	42.7
LnGrp LOS	A	F	C	F	A	F				F	A	D
Approach Vol, veh/h		1513			2461						700	
Approach Delay, s/veh		138.3			271.9						120.3	
Approach LOS		F			F						F	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.0	49.0		31.0		79.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	25.4	42.5		25.7		72.5						
Max Q Clear Time (g_c+I1), s	27.4	44.5		27.7		74.5						
Green Ext Time (p_c), s	0.0	0.0		0.0		0.0						

Intersection Summary

HCM 6th Ctrl Delay	206.0
HCM 6th LOS	F

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

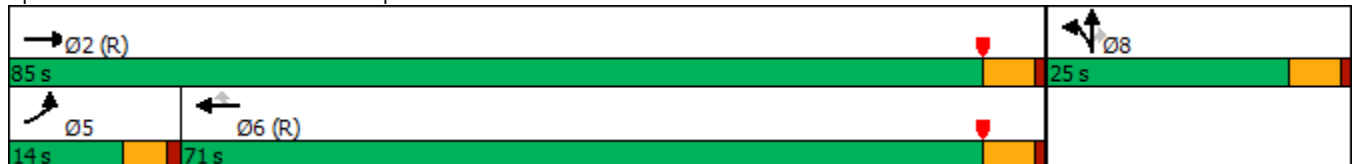


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT
Lane Configurations							
Traffic Volume (vph)	194	1209	1849	789	1	356	0
Future Volume (vph)	194	1209	1849	789	1	356	0
Turn Type	Prot	NA	NA	Perm	NA	Perm	
Protected Phases	5	2	6		8		
Permitted Phases				6		8	
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0	
Total Split (s)	14.0	85.0	71.0	71.0	25.0	25.0	
Total Split (%)	12.7%	77.3%	64.5%	64.5%	22.7%	22.7%	
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3	
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	5.3	5.3	5.3	5.3	5.3	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	1209	0	0	1849	789	271	1	356	0	0	218
Future Volume (veh/h)	194	1209	0	0	1849	789	271	1	356	0	0	218
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		0.99			
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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	196	1221	0	0	1868	773	274	1	243			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	152	1355	0	0	1117	927	318	1	280			
Arrive On Green	0.06	0.49	0.00	0.00	0.60	0.60	0.18	0.18	0.18			
Sat Flow, veh/h	1781	1870	0	0	1870	1552	1775	6	1564			
Grp Volume(v), veh/h	196	1221	0	0	1868	773	275	0	243			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1552	1782	0	1564			
Q Serve(g_s), s	9.4	65.7	0.0	0.0	65.7	43.9	16.5	0.0	16.6			
Cycle Q Clear(g_c), s	9.4	65.7	0.0	0.0	65.7	43.9	16.5	0.0	16.6			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	152	1355	0	0	1117	927	319	0	280			
V/C Ratio(X)	1.29	0.90	0.00	0.00	1.67	0.83	0.86	0.00	0.87			
Avail Cap(c_a), veh/h	152	1355	0	0	1117	927	319	0	280			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.09	0.09	1.00	0.00	1.00			
Uniform Delay (d), s/veh	51.9	24.7	0.0	0.0	22.2	17.8	43.8	0.0	43.9			
Incr Delay (d2), s/veh	134.0	1.1	0.0	0.0	302.8	0.9	25.1	0.0	28.5			
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	9.8	28.8	0.0	0.0	117.0	13.0	9.2	0.0	8.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	185.9	25.8	0.0	0.0	325.0	18.6	68.9	0.0	72.4			
LnGrp LOS	F	C	A	A	F	B	E	A	E			
Approach Vol, veh/h		1417			2641			518				
Approach Delay, s/veh		47.9			235.3			70.5				
Approach LOS		D			F			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		85.0			14.0	71.0		25.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		79.7			9.4	65.7		19.7				
Max Q Clear Time (g_c+I1), s		67.7			11.4	67.7		18.6				
Green Ext Time (p_c), s		4.8			0.0	0.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	158.6
HCM 6th LOS	F

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	144	984	113	1759	472	115	122	74	200	406
Future Volume (vph)	144	984	113	1759	472	115	122	74	200	406
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	14.6	58.7	12.6	56.7	20.4	33.8	33.8	14.9	28.3	28.3
Total Split (%)	12.2%	48.9%	10.5%	47.3%	17.0%	28.2%	28.2%	12.4%	23.6%	23.6%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
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	6.2	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	984	438	113	1759	44	472	115	122	74	200	406
Future Volume (veh/h)	144	984	438	113	1759	44	472	115	122	74	200	406
Initial Q (Qb), 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	157	1070	389	123	1912	45	513	125	92	80	217	419
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	148	1117	400	119	1487	35	454	483	410	101	344	291
Arrive On Green	0.08	0.44	0.44	0.07	0.42	0.42	0.13	0.26	0.26	0.06	0.18	0.18
Sat Flow, veh/h	1781	2563	918	1781	3547	83	3456	1870	1585	1781	1870	1582
Grp Volume(v), veh/h	157	737	722	123	953	1004	513	125	92	80	217	419
Grp Sat Flow(s),veh/h/ln	1781	1777	1704	1781	1777	1853	1728	1870	1585	1781	1870	1582
Q Serve(g_s), s	10.0	48.0	49.9	8.0	50.4	50.4	15.8	6.4	5.5	5.3	12.9	22.1
Cycle Q Clear(g_c), s	10.0	48.0	49.9	8.0	50.4	50.4	15.8	6.4	5.5	5.3	12.9	22.1
Prop In Lane	1.00		0.54	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	148	774	743	119	745	777	454	483	410	101	344	291
V/C Ratio(X)	1.06	0.95	0.97	1.04	1.28	1.29	1.13	0.26	0.22	0.79	0.63	1.44
Avail Cap(c_a), veh/h	148	776	744	119	745	777	454	483	410	153	344	291
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	55.1	32.7	33.2	56.1	34.9	34.9	52.2	35.4	35.1	56.0	45.3	49.0
Incr Delay (d2), s/veh	90.6	21.2	26.3	93.0	136.2	140.9	82.5	1.3	1.3	7.7	8.5	216.4
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	8.1	23.5	24.3	6.5	47.9	50.9	11.8	3.0	2.2	2.5	6.6	25.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	145.6	53.9	59.5	149.1	171.1	175.8	134.7	36.7	36.3	63.6	53.8	265.5
LnGrp LOS	F	D	E	F	F	F	F	D	D	E	D	F
Approach Vol, veh/h		1616			2080			730			716	
Approach Delay, s/veh		65.3			172.1			105.5			178.8	
Approach LOS		E			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	58.9	20.4	28.3	14.6	56.9	11.4	37.3				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	8.0	* 53	15.8	22.1	10.0	50.2	10.3	27.6				
Max Q Clear Time (g_c+I1), s	10.0	51.9	17.8	24.1	12.0	52.4	7.3	8.4				
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay	130.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	329.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↕↗		↵	↕↗	
Traffic Vol, veh/h	207	161	89	276	365	205	150	664	173	104	731	184
Future Vol, veh/h	207	161	89	276	365	205	150	664	173	104	731	184
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	262	204	113	349	462	259	190	841	219	132	925	233
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	69.6	197.8	396.7	490.2
HCM LOS	F	F	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	56%	0%	100%	38%	0%	100%	37%	0%	100%
Vol Right, %	0%	0%	44%	0%	0%	62%	0%	0%	63%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	443	394	207	107	143	276	243	327	104	487
LT Vol	150	0	0	207	0	0	276	0	0	104	0
Through Vol	0	443	221	0	107	54	0	243	122	0	487
RT Vol	0	0	173	0	0	89	0	0	205	0	0
Lane Flow Rate	190	560	499	262	136	181	349	308	414	132	617
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.727	2.067	1.799	1.006	0.503	0.646	1.327	1.127	1.463	0.504	2.276
Departure Headway (Hd)	12.183	11.683	11.376	16.421	15.921	15.485	11.764	11.264	10.824	12.69	12.19
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	298	314	324	223	228	235	311	323	339	286	302
Service Time	9.883	9.383	9.076	14.121	13.621	13.185	9.464	8.964	8.524	10.39	9.89
HCM Lane V/C Ratio	0.638	1.783	1.54	1.175	0.596	0.77	1.122	0.954	1.221	0.462	2.043
HCM Control Delay	41.5	516.2	397.6	106.7	33.7	42.7	199.6	123.3	251.8	27.6	610.1
HCM Lane LOS	E	F	F	F	D	E	F	F	F	F	D
HCM 95th-tile Q	5.3	46.3	37.3	9.2	2.6	4	20.1	14.4	26.2	2.6	52

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙	↗
Traffic Volume (vph)	170	862	187	1313	140	207	202	223	251
Future Volume (vph)	170	862	187	1313	140	207	202	223	251
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	15.5	48.1	20.3	52.9	14.6	29.0	29.0	22.6	37.0
Total Split (%)	12.9%	40.1%	16.9%	44.1%	12.2%	24.2%	24.2%	18.8%	30.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	
Traffic Volume (veh/h)	170	862	146	187	1313	220	140	207	202	223	251	285
Future Volume (veh/h)	170	862	146	187	1313	220	140	207	202	223	251	285
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	179	907	142	197	1382	217	147	218	182	235	264	286
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	160	1065	167	223	1179	183	147	358	299	261	216	234
Arrive On Green	0.09	0.35	0.35	0.13	0.38	0.38	0.08	0.19	0.19	0.15	0.26	0.26
Sat Flow, veh/h	1781	3068	480	1781	3082	479	1781	1870	1564	1781	814	882
Grp Volume(v), veh/h	179	525	524	197	790	809	147	218	182	235	0	550
Grp Sat Flow(s),veh/h/ln	1781	1777	1772	1781	1777	1784	1781	1870	1564	1781	0	1696
Q Serve(g_s), s	10.9	33.2	33.3	13.2	46.4	46.4	10.0	12.9	9.6	15.7	0.0	32.1
Cycle Q Clear(g_c), s	10.9	33.2	33.3	13.2	46.4	46.4	10.0	12.9	9.6	15.7	0.0	32.1
Prop In Lane	1.00		0.27	1.00		0.27	1.00		1.00	1.00		0.52
Lane Grp Cap(c), veh/h	160	617	615	223	679	682	147	358	299	261	0	449
V/C Ratio(X)	1.12	0.85	0.85	0.88	1.16	1.19	1.00	0.61	0.61	0.90	0.00	1.22
Avail Cap(c_a), veh/h	160	617	615	230	679	682	147	358	299	264	0	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	0.00	1.00
Uniform Delay (d), s/veh	55.2	36.7	36.7	52.2	37.5	37.5	55.7	44.9	24.5	50.9	0.0	44.6
Incr Delay (d2), s/veh	106.6	11.1	11.1	28.9	88.9	97.9	74.7	7.5	8.9	30.1	0.0	119.3
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	9.4	15.3	15.3	7.4	35.3	37.1	7.4	6.6	4.2	8.9	0.0	27.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	161.8	47.8	47.8	81.1	126.4	135.4	130.3	52.5	33.5	81.0	0.0	163.9
LnGrp LOS	F	D	D	F	F	F	F	D	C	F	A	F
Approach Vol, veh/h		1228			1796			547			785	
Approach Delay, s/veh		64.4			125.5			67.1			139.1	
Approach LOS		E			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.8	48.6	14.6	38.3	15.5	52.9	23.9	29.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	6.2	* 5.8				
Max Green Setting (Gmax), s	15.7	41.6	10.0	30.8	10.9	46.4	18.0	* 23				
Max Q Clear Time (g_c+I1), s	15.2	35.3	12.0	34.1	12.9	48.4	17.7	14.9				
Green Ext Time (p_c), s	0.0	3.1	0.0	0.0	0.0	0.0	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	103.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Int Delay, s/veh 9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	53	30	74	0	82	2	35	15	0	0	37	68
Future Vol, veh/h	53	30	74	0	82	2	35	15	0	0	37	68
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	57	57	57	57	57	57	57	57	57	57	57	57
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	93	53	130	0	144	4	61	26	0	0	65	119

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	347	273	125	364	332	26	184	0	0	26	0	0
Stage 1	125	125	-	148	148	-	-	-	-	-	-	-
Stage 2	222	148	-	216	184	-	-	-	-	-	-	-
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	607	634	926	592	588	1050	1391	-	-	1588	-	-
Stage 1	879	792	-	855	775	-	-	-	-	-	-	-
Stage 2	780	775	-	786	747	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	470	605	926	459	562	1050	1391	-	-	1588	-	-
Mov Cap-2 Maneuver	470	605	-	459	562	-	-	-	-	-	-	-
Stage 1	839	792	-	817	740	-	-	-	-	-	-	-
Stage 2	598	740	-	631	747	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.6		13.5		5.4		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1391	-	-	648	568	1588	-
HCM Lane V/C Ratio	0.044	-	-	0.425	0.259	-	-
HCM Control Delay (s)	7.7	0	-	14.6	13.5	0	-
HCM Lane LOS	A	A	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.1	1	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

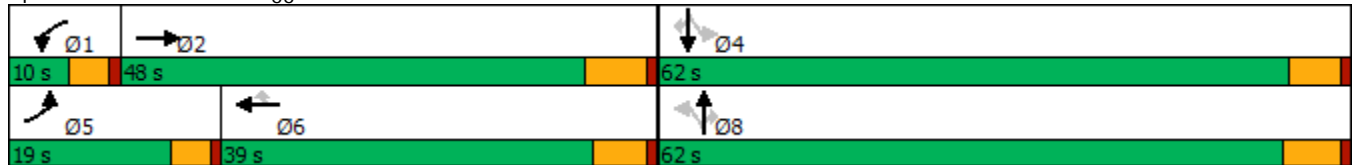


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙		↕	↙		↕	↙
Traffic Volume (vph)	116	933	11	1154	30	260	5	12	60	16	289
Future Volume (vph)	116	933	11	1154	30	260	5	12	60	16	289
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6			8			4	
Permitted Phases					6	8		8	4		4
Detector Phase	5	2	1	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8	37.8
Total Split (s)	19.0	48.0	10.0	39.0	39.0	62.0	62.0	62.0	62.0	62.0	62.0
Total Split (%)	15.8%	40.0%	8.3%	32.5%	32.5%	51.7%	51.7%	51.7%	51.7%	51.7%	51.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	4.8	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)	-0.6	-2.5	-0.6	-1.8	-1.8		-2.2	-2.2		-1.8	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 117.2
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗	↖		↖	↖		↖	↖
Traffic Volume (veh/h)	116	933	255	11	1154	30	260	5	12	60	16	289
Future Volume (veh/h)	116	933	255	11	1154	30	260	5	12	60	16	289
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	952	214	11	1178	28	265	5	8	61	16	261
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	153	1082	243	32	1072	478	65	0	798	56	8	792
Arrive On Green	0.09	0.38	0.35	0.02	0.30	0.30	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1781	2884	647	1781	3554	1585	7	0	1585	0	17	1585
Grp Volume(v), veh/h	118	586	580	11	1178	28	270	0	8	77	0	261
Grp Sat Flow(s),veh/h/ln	1781	1777	1754	1781	1777	1585	8	0	1585	17	0	1585
Q Serve(g_s), s	7.5	35.7	35.9	0.7	35.0	1.5	0.4	0.0	0.3	0.0	0.0	11.4
Cycle Q Clear(g_c), s	7.5	35.7	35.9	0.7	35.0	1.5	58.4	0.0	0.3	58.0	0.0	11.4
Prop In Lane	1.00		0.37	1.00		1.00	0.98		1.00	0.79		1.00
Lane Grp Cap(c), veh/h	153	667	658	32	1072	478	65	0	798	64	0	792
V/C Ratio(X)	0.77	0.88	0.88	0.34	1.10	0.06	4.14	0.00	0.01	1.20	0.00	0.33
Avail Cap(c_a), veh/h	230	674	665	92	1072	478	65	0	798	64	0	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	51.9	33.8	34.3	56.3	40.5	28.8	58.0	0.0	14.4	50.4	0.0	17.4
Incr Delay (d2), s/veh	4.0	12.6	13.0	2.3	58.8	0.1	1446.4	0.0	0.0	177.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	16.4	16.5	0.3	22.9	0.5	28.1	0.0	0.1	5.0	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	46.4	47.3	58.6	99.3	28.9	1504.5	0.0	14.4	227.4	0.0	18.5
LnGrp LOS	E	D	D	E	F	C	F	A	B	F	A	B
Approach Vol, veh/h		1284			1217			278				338
Approach Delay, s/veh		47.7			97.3			1461.6				66.1
Approach LOS		D			F			F				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	47.6		62.4	14.0	39.7		62.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	5.4	41.5		* 56	14.4	* 33		55.8				
Max Q Clear Time (g_c+I1), s	2.7	37.9		60.0	9.5	37.0		60.4				
Green Ext Time (p_c), s	0.0	2.1		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	195.2
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh 11.4

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	21	16	152	55	34	47	74	55	11	161	3
Future Vol, veh/h	3	21	16	152	55	34	47	74	55	11	161	3
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	27	21	197	71	44	61	96	71	14	209	4
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	9	12.7	10.7	11
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	7%	63%	6%
Vol Thru, %	42%	52%	23%	92%
Vol Right, %	31%	40%	14%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	40	241	175
LT Vol	47	3	152	11
Through Vol	74	21	55	161
RT Vol	55	16	34	3
Lane Flow Rate	229	52	313	227
Geometry Grp	1	1	1	1
Degree of Util (X)	0.328	0.079	0.458	0.334
Departure Headway (Hd)	5.162	5.449	5.266	5.294
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	697	657	685	680
Service Time	3.194	3.489	3.295	3.326
HCM Lane V/C Ratio	0.329	0.079	0.457	0.334
HCM Control Delay	10.7	9	12.7	11
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.4	0.3	2.4	1.5

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↔	↕
Traffic Vol, veh/h	67	13	163	22	4	325
Future Vol, veh/h	67	13	163	22	4	325
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	73	14	177	24	4	353

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	550	101	0	0	201
Stage 1	189	-	-	-	-
Stage 2	361	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13
Critical Hdwy Stg 1	5.83	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219
Pot Cap-1 Maneuver	480	935	-	-	1370
Stage 1	825	-	-	-	-
Stage 2	704	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	479	935	-	-	1370
Mov Cap-2 Maneuver	479	-	-	-	-
Stage 1	823	-	-	-	-
Stage 2	704	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	520	1370
HCM Lane V/C Ratio	-	-	0.167	0.003
HCM Control Delay (s)	-	-	13.3	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0

Intersection												
Int Delay, s/veh	11.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	1	84	0	13	0	173	28	4	388	0
Future Vol, veh/h	0	0	1	84	0	13	0	173	28	4	388	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	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	53	53	53	53	53	53	53	53	53	53	53	53
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	158	0	25	0	326	53	8	732	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1113	1127	732	1102	1101	353	732	0	0	379	0	0
Stage 1	748	748	-	353	353	-	-	-	-	-	-	-
Stage 2	365	379	-	749	748	-	-	-	-	-	-	-
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	186	205	421	189	212	691	873	-	-	1179	-	-
Stage 1	404	420	-	664	631	-	-	-	-	-	-	-
Stage 2	654	615	-	404	420	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	179	204	421	187	211	691	873	-	-	1179	-	-
Mov Cap-2 Maneuver	179	204	-	187	211	-	-	-	-	-	-	-
Stage 1	404	417	-	664	631	-	-	-	-	-	-	-
Stage 2	631	615	-	399	417	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.6		83.5		0		0.1	
HCM LOS	B		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	873	-	-	421	207	1179	-
HCM Lane V/C Ratio	-	-	-	0.004	0.884	0.006	-
HCM Control Delay (s)	0	-	-	13.6	83.5	8.1	-
HCM Lane LOS	A	-	-	B	F	A	-
HCM 95th %tile Q(veh)	0	-	-	0	6.9	0	-

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	0	61	1	3	1	41	147	3	0	406	9
Future Vol, veh/h	9	0	61	1	3	1	41	147	3	0	406	9
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	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	73	1	4	1	49	177	4	0	489	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	775	774	495	808	777	179	500	0	0	181	0	0
Stage 1	495	495	-	277	277	-	-	-	-	-	-	-
Stage 2	280	279	-	531	500	-	-	-	-	-	-	-
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	315	329	575	299	328	864	1064	-	-	1394	-	-
Stage 1	556	546	-	729	681	-	-	-	-	-	-	-
Stage 2	727	680	-	532	543	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	300	312	575	251	311	864	1064	-	-	1394	-	-
Mov Cap-2 Maneuver	300	312	-	251	311	-	-	-	-	-	-	-
Stage 1	528	546	-	692	646	-	-	-	-	-	-	-
Stage 2	685	645	-	464	543	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	13.4		15.8		1.8		0			
HCM LOS	B		C							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1064	-	-	514	338	1394	-
HCM Lane V/C Ratio	0.046	-	-	0.164	0.018	-	-
HCM Control Delay (s)	8.5	0	-	13.4	15.8	0	-
HCM Lane LOS	A	A	-	B	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.1	0	-

Intersection	
Intersection Delay, s/veh	573.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	269	492	277	24	520	118	295	154	10	130	194	381
Future Vol, veh/h	269	492	277	24	520	118	295	154	10	130	194	381
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	280	513	289	25	542	123	307	160	10	135	202	397
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	881.8	438.9	231	467.5
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	64%	26%	4%	18%
Vol Thru, %	34%	47%	79%	28%
Vol Right, %	2%	27%	18%	54%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	459	1038	662	705
LT Vol	295	269	24	130
Through Vol	154	492	520	194
RT Vol	10	277	118	381
Lane Flow Rate	478	1081	690	734
Geometry Grp	1	1	1	1
Degree of Util (X)	1.295	2.86	1.826	1.906
Departure Headway (Hd)	24.625	16.767	21.518	19.393
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	153	227	179	198
Service Time	22.625	14.767	19.518	17.393
HCM Lane V/C Ratio	3.124	4.762	3.855	3.707
HCM Control Delay	231	881.8	438.9	467.5
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	11.5	54.2	22.4	26.1

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	16	16	49	0	0	48
Future Vol, veh/h	16	16	49	0	0	48
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	17	17	53	0	0	52

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	53	0	0	104	53
Stage 1	-	-	-	53	-
Stage 2	-	-	-	51	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1553	-	-	894	1014
Stage 1	-	-	-	970	-
Stage 2	-	-	-	971	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1553	-	-	884	1014
Mov Cap-2 Maneuver	-	-	-	884	-
Stage 1	-	-	-	959	-
Stage 2	-	-	-	971	-

Approach

	EB	WB	SB
HCM Control Delay, s	3.7	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1553	-	-	-	1014
HCM Lane V/C Ratio	0.011	-	-	-	0.051
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection

Int Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	77	11	0	210	32	0
Future Vol, veh/h	77	11	0	210	32	0
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	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	12	0	228	35	0

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	96	0	318 90
Stage 1	-	-	-	-	90 -
Stage 2	-	-	-	-	228 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1498	-	675 968
Stage 1	-	-	-	-	934 -
Stage 2	-	-	-	-	810 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1498	-	675 968
Mov Cap-2 Maneuver	-	-	-	-	675 -
Stage 1	-	-	-	-	934 -
Stage 2	-	-	-	-	810 -

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	675	-	-	1498	-
HCM Lane V/C Ratio	0.052	-	-	-	-
HCM Control Delay (s)	10.6	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

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	16	35	27	0	81	0	80	0	0	0	0	49
Future Vol, veh/h	16	35	27	0	81	0	80	0	0	0	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	-	-	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	17	38	29	0	88	0	87	0	0	0	0	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	88	0	0	67	0	0	202	175	53	175	189	88
Stage 1	-	-	-	-	-	-	87	87	-	88	88	-
Stage 2	-	-	-	-	-	-	115	88	-	87	101	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1508	-	-	1535	-	-	756	718	1014	788	706	970
Stage 1	-	-	-	-	-	-	921	823	-	920	822	-
Stage 2	-	-	-	-	-	-	890	822	-	921	811	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1508	-	-	1535	-	-	708	710	1014	781	698	970
Mov Cap-2 Maneuver	-	-	-	-	-	-	708	710	-	781	698	-
Stage 1	-	-	-	-	-	-	911	814	-	910	822	-
Stage 2	-	-	-	-	-	-	841	822	-	911	802	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0	10.8	8.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	708	1508	-	-	1535	-	-	970
HCM Lane V/C Ratio	0.123	0.012	-	-	-	-	-	0.055
HCM Control Delay (s)	10.8	7.4	-	-	0	-	-	8.9
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.2

Intersection

Int Delay, s/veh 8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	16	0	1	0	0	48
Future Vol, veh/h	16	0	1	0	0	48
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	17	0	1	0	0	52

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1	0	0 35 1
Stage 1	-	-	- - 1 -
Stage 2	-	-	- - 34 -
Critical Hdwy	4.12	-	- - 6.42 6.22
Critical Hdwy Stg 1	-	-	- - 5.42 -
Critical Hdwy Stg 2	-	-	- - 5.42 -
Follow-up Hdwy	2.218	-	- - 3.518 3.318
Pot Cap-1 Maneuver	1622	-	- - 978 1084
Stage 1	-	-	- - 1022 -
Stage 2	-	-	- - 988 -
Platoon blocked, %		-	- - -
Mov Cap-1 Maneuver	1622	-	- - 968 1084
Mov Cap-2 Maneuver	-	-	- - 968 -
Stage 1	-	-	- - 1012 -
Stage 2	-	-	- - 988 -

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	1084
HCM Lane V/C Ratio	0.011	-	-	-	0.048
HCM Control Delay (s)	7.2	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection

Int Delay, s/veh 7.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	8	11	0	0	0	32	0	0	0	0	49
Future Vol, veh/h	16	8	11	0	0	0	32	0	0	0	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	-	-	-	-	-	-	-	-	-	-	-	-
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	17	9	12	0	0	0	35	0	0	0	0	53

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	1	0	0	21
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1622	-	-	1595
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1595
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0	9.4	8.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	860	1622	-	-	1595	-	-	1084
HCM Lane V/C Ratio	0.04	0.011	-	-	-	-	-	0.049
HCM Control Delay (s)	9.4	7.2	0	-	0	-	-	8.5
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection						
Int Delay, s/veh	6.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	0	0	0	0	11
Future Vol, veh/h	32	0	0	0	0	11
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	-	-	-	-	-
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	35	0	0	0	0	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	6	6	12	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1015	1077	1607	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1015	1077	1607	-	-	-
Mov Cap-2 Maneuver	1015	-	-	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1607	-	1015	-	-
HCM Lane V/C Ratio	-	-	0.034	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

01/31/2018

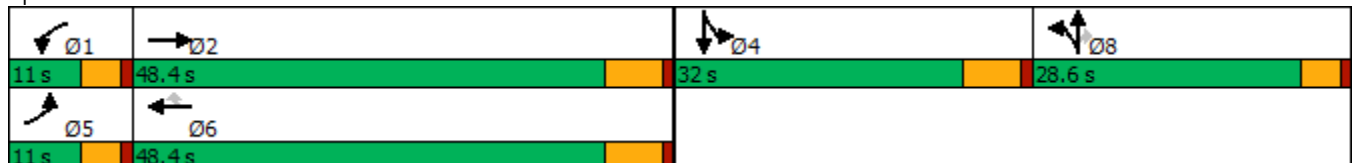


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	150	859	135	1053	811	70	141	133	859	122
Future Volume (vph)	150	859	135	1053	811	70	141	133	859	122
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA
Protected Phases	5	2	1	6		8	8		4	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	8	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	27.2	28.6	28.6	28.6	25.2	25.2
Total Split (s)	11.0	48.4	11.0	48.4	48.4	28.6	28.6	28.6	32.0	32.0
Total Split (%)	9.2%	40.3%	9.2%	40.3%	40.3%	23.8%	23.8%	23.8%	26.7%	26.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	3.6	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	4.6	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	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷	↶	↶	↷	↶	↶	↷	↷
Traffic Volume (veh/h)	150	859	54	135	1053	811	70	141	133	859	122	175
Future Volume (veh/h)	150	859	54	135	1053	811	70	141	133	859	122	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	877	52	138	1074	612	71	144	110	589	527	177
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	95	615	36	95	658	557	356	374	317	383	288	97
Arrive On Green	0.05	0.35	0.35	0.05	0.35	0.35	0.20	0.20	0.20	0.21	0.21	0.21
Sat Flow, veh/h	1781	1748	104	1781	1870	1585	1781	1870	1585	1781	1339	450
Grp Volume(v), veh/h	153	0	929	138	1074	612	71	144	110	589	0	704
Grp Sat Flow(s),veh/h/ln	1781	0	1852	1781	1870	1585	1781	1870	1585	1781	0	1789
Q Serve(g_s), s	6.4	0.0	42.2	6.4	42.2	42.2	4.0	8.0	7.2	25.8	0.0	25.8
Cycle Q Clear(g_c), s	6.4	0.0	42.2	6.4	42.2	42.2	4.0	8.0	7.2	25.8	0.0	25.8
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	95	0	651	95	658	557	356	374	317	383	0	385
V/C Ratio(X)	1.61	0.00	1.43	1.45	1.63	1.10	0.20	0.38	0.35	1.54	0.00	1.83
Avail Cap(c_a), veh/h	95	0	651	95	658	557	356	374	317	383	0	385
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00
Uniform Delay (d), s/veh	56.8	0.0	38.9	56.8	38.9	38.9	40.0	41.6	41.3	47.1	0.0	47.1
Incr Delay (d2), s/veh	317.9	0.0	200.8	252.7	291.7	67.7	1.3	3.0	3.0	254.8	0.0	383.5
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	11.2	0.0	54.2	9.5	71.4	25.8	1.9	4.1	3.1	38.0	0.0	51.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	374.7	0.0	239.7	309.5	330.6	106.6	41.2	44.6	44.3	301.9	0.0	430.6
LnGrp LOS	F	A	F	F	F	F	D	D	D	F	A	F
Approach Vol, veh/h		1082			1824			325			1293	
Approach Delay, s/veh		258.8			253.8			43.7			372.0	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	48.4		32.0	11.0	48.4		28.6				
Change Period (Y+Rc), s	4.6	6.2		6.2	4.6	6.2		4.6				
Max Green Setting (Gmax), s	6.4	42.2		25.8	6.4	42.2		24.0				
Max Q Clear Time (g_c+I1), s	8.4	44.2		27.8	8.4	44.2		10.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		1.2				

Intersection Summary

HCM 6th Ctrl Delay	273.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

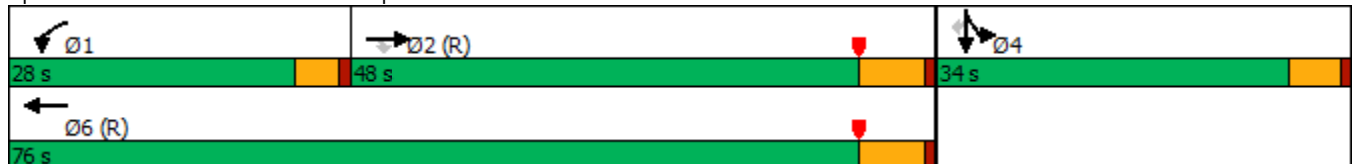


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	1229	639	411	1701	0	298
Future Volume (vph)	1229	639	411	1701	0	298
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.6	33.5	20.0	20.0
Total Split (s)	48.0	48.0	28.0	76.0	34.0	34.0
Total Split (%)	43.6%	43.6%	25.5%	69.1%	30.9%	30.9%
Yellow Time (s)	5.5	5.5	3.6	5.5	4.3	4.3
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	4.6	6.5	5.3	5.3
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	1229	639	411	1701	212	0	0	0	751	0	298
Future Volume (veh/h)	0	1229	639	411	1701	212	0	0	0	751	0	298
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	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1254	566	419	1736	216				766	0	241
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	2	2	2				2	2	2
Cap, veh/h	0	706	598	379	1030	128				465	0	414
Arrive On Green	0.00	0.38	0.38	0.43	1.00	1.00				0.26	0.00	0.26
Sat Flow, veh/h	0	1870	1585	1781	1631	203				1781	0	1585
Grp Volume(v), veh/h	0	1254	566	419	0	1952				766	0	241
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	0	1834				1781	0	1585
Q Serve(g_s), s	0.0	41.5	38.0	23.4	0.0	62.6				28.7	0.0	14.6
Cycle Q Clear(g_c), s	0.0	41.5	38.0	23.4	0.0	62.6				28.7	0.0	14.6
Prop In Lane	0.00		1.00	1.00		0.11				1.00		1.00
Lane Grp Cap(c), veh/h	0	706	598	379	0	1159				465	0	414
V/C Ratio(X)	0.00	1.78	0.95	1.11	0.00	1.68				1.65	0.00	0.58
Avail Cap(c_a), veh/h	0	706	598	379	0	1159				465	0	414
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.09	0.00	0.09				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	34.3	33.2	31.6	0.0	0.0				40.7	0.0	35.4
Incr Delay (d2), s/veh	0.0	350.2	4.1	51.7	0.0	308.5				301.2	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	85.9	14.1	12.0	0.0	99.3				50.8	0.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	384.5	37.3	83.3	0.0	308.5				341.9	0.0	41.3
LnGrp LOS	A	F	D	F	A	F				F	A	D
Approach Vol, veh/h		1820			2371						1007	
Approach Delay, s/veh		276.5			268.7						269.9	
Approach LOS		F			F						F	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	28.0	48.0		34.0		76.0						
Change Period (Y+Rc), s	4.6	6.5		5.3		6.5						
Max Green Setting (Gmax), s	23.4	41.5		28.7		69.5						
Max Q Clear Time (g_c+I1), s	25.4	43.5		30.7		64.6						
Green Ext Time (p_c), s	0.0	0.0		0.0		4.7						

Intersection Summary

HCM 6th Ctrl Delay	271.7
HCM 6th LOS	F

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

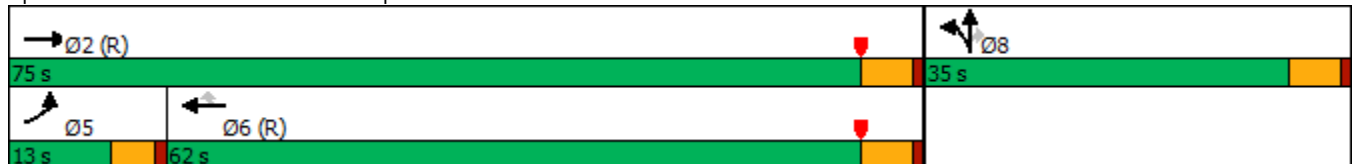


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT
Lane Configurations							
Traffic Volume (vph)	197	1782	1537	718	0	898	0
Future Volume (vph)	197	1782	1537	718	0	898	0
Turn Type	Prot	NA	NA	Perm	NA	Perm	
Protected Phases	5	2	6		8		
Permitted Phases				6		8	
Detector Phase	5	2	6	6	8	8	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.6	22.0	33.5	33.5	22.0	22.0	
Total Split (s)	13.0	75.0	62.0	62.0	35.0	35.0	
Total Split (%)	11.8%	68.2%	56.4%	56.4%	31.8%	31.8%	
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3	
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	5.3	5.3	5.3	5.3	5.3	
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 79.2 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	1782	0	0	1537	718	435	0	898	0	0	351
Future Volume (veh/h)	197	1782	0	0	1537	718	435	0	898	0	0	351
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	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	199	1800	0	0	1553	654	439	0	849			
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	136	1185	0	0	964	817	481	0	428			
Arrive On Green	0.08	0.63	0.00	0.00	0.52	0.52	0.27	0.00	0.27			
Sat Flow, veh/h	1781	1870	0	0	1870	1585	1781	0	1585			
Grp Volume(v), veh/h	199	1800	0	0	1553	654	439	0	849			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1585	1781	0	1585			
Q Serve(g_s), s	8.4	69.7	0.0	0.0	56.7	37.4	26.3	0.0	29.7			
Cycle Q Clear(g_c), s	8.4	69.7	0.0	0.0	56.7	37.4	26.3	0.0	29.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	136	1185	0	0	964	817	481	0	428			
V/C Ratio(X)	1.46	1.52	0.00	0.00	1.61	0.80	0.91	0.00	1.98			
Avail Cap(c_a), veh/h	136	1185	0	0	964	817	481	0	428			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	0.09	0.09	1.00	0.00	1.00			
Uniform Delay (d), s/veh	50.8	20.1	0.0	0.0	26.6	22.0	38.9	0.0	40.2			
Incr Delay (d2), s/veh	212.0	233.9	0.0	0.0	275.3	0.8	24.2	0.0	451.0			
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	11.6	100.3	0.0	0.0	95.2	12.2	14.1	0.0	64.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	262.8	254.0	0.0	0.0	302.0	22.8	63.1	0.0	491.2			
LnGrp LOS	F	F	A	A	F	C	E	A	F			
Approach Vol, veh/h		1999			2207			1288				
Approach Delay, s/veh		254.9			219.2			345.3				
Approach LOS		F			F			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		75.0			13.0	62.0		35.0				
Change Period (Y+Rc), s		5.3			4.6	5.3		5.3				
Max Green Setting (Gmax), s		69.7			8.4	56.7		29.7				
Max Q Clear Time (g_c+I1), s		71.7			10.4	58.7		31.7				
Green Ext Time (p_c), s		0.0			0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	261.8
HCM 6th LOS	F

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↕	↙	↕	↙
Traffic Volume (vph)	308	1837	170	1397	588	305	278	114	200	270
Future Volume (vph)	308	1837	170	1397	588	305	278	114	200	270
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
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)	9.6	35.2	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	23.1	61.8	12.0	50.7	18.0	31.4	31.4	14.8	28.2	28.2
Total Split (%)	19.3%	51.5%	10.0%	42.3%	15.0%	26.2%	26.2%	12.3%	23.5%	23.5%
Yellow Time (s)	3.6	5.2	3.6	5.5	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
Lost Time Adjust (s)	-0.6	-2.2	-0.6	-2.5	-0.6	-2.2	-2.2	-0.6	-2.2	-2.2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	308	1837	535	170	1397	87	588	305	278	114	200	270
Future Volume (veh/h)	308	1837	535	170	1397	87	588	305	278	114	200	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	314	1874	443	173	1426	85	600	311	192	116	204	229
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	283	1382	314	118	1332	79	402	437	370	149	376	319
Arrive On Green	0.16	0.48	0.46	0.07	0.39	0.37	0.12	0.23	0.23	0.08	0.20	0.20
Sat Flow, veh/h	1781	2876	653	1781	3408	203	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	314	1129	1188	173	741	770	600	311	192	116	204	229
Grp Sat Flow(s),veh/h/ln	1781	1777	1753	1781	1777	1834	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	19.1	57.8	57.8	8.0	47.0	47.0	14.0	18.4	12.7	7.7	11.8	16.2
Cycle Q Clear(g_c), s	19.1	57.8	57.8	8.0	47.0	47.0	14.0	18.4	12.7	7.7	11.8	16.2
Prop In Lane	1.00		0.37	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	283	854	842	118	694	716	402	437	370	149	376	319
V/C Ratio(X)	1.11	1.32	1.41	1.46	1.07	1.07	1.49	0.71	0.52	0.78	0.54	0.72
Avail Cap(c_a), veh/h	283	854	842	118	694	716	402	437	370	160	376	319
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	31.3	31.7	56.2	36.7	36.8	53.2	42.4	40.2	54.0	43.1	44.9
Incr Delay (d2), s/veh	86.4	153.2	192.0	247.5	53.7	55.4	234.2	9.5	5.1	17.7	5.5	13.0
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	15.0	58.7	67.1	11.6	29.0	30.3	18.9	9.3	5.3	4.1	5.8	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	137.0	184.4	223.7	303.7	90.4	92.1	287.4	51.8	45.3	71.7	48.6	57.9
LnGrp LOS	F	F	F	F	F	F	F	D	D	E	D	E
Approach Vol, veh/h		2631			1684			1103				549
Approach Delay, s/veh		196.5			113.1			178.8				57.4
Approach LOS		F			F			F				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	62.1	18.0	28.2	23.1	51.0	14.1	32.1				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.4	* 56	13.4	22.0	18.5	44.2	10.2	25.2				
Max Q Clear Time (g_c+I1), s	10.0	59.8	16.0	18.2	21.1	49.0	9.7	20.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.0	0.0	0.0	1.0				

Intersection Summary

HCM 6th Ctrl Delay	156.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	165
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↕↗		↵	↕↗	
Traffic Vol, veh/h	139	322	153	140	211	116	116	610	246	184	569	156
Future Vol, veh/h	139	322	153	140	211	116	116	610	246	184	569	156
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	148	343	163	149	224	123	123	649	262	196	605	166
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	62.7	34.1	280.1	178.4
HCM LOS	F	D	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	45%	0%	100%	41%	0%	100%	38%	0%	100%
Vol Right, %	0%	0%	55%	0%	0%	59%	0%	0%	62%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	116	407	449	139	215	260	140	141	186	184	379
LT Vol	116	0	0	139	0	0	140	0	0	184	0
Through Vol	0	407	203	0	215	107	0	141	70	0	379
RT Vol	0	0	246	0	0	153	0	0	116	0	0
Lane Flow Rate	123	433	478	148	228	277	149	150	198	196	404
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.456	1.538	1.65	0.557	0.828	0.973	0.567	0.549	0.703	0.717	1.423
Departure Headway (Hd)	13.293	12.802	12.425	13.55	13.054	12.646	13.099	12.599	12.163	13.552	13.052
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	271	286	296	268	279	288	277	287	299	268	282
Service Time	11.055	10.555	10.172	11.242	10.742	10.33	10.799	10.299	9.863	11.252	10.752
HCM Lane V/C Ratio	0.454	1.514	1.615	0.552	0.817	0.962	0.538	0.523	0.662	0.731	1.433
HCM Control Delay	26.8	290.1	336.5	32	56.8	83.9	31.7	29.6	39.2	44.4	242.9
HCM Lane LOS	D	F	F	D	F	F	D	D	E	E	F
HCM 95th-tile Q	2.2	25.2	29.5	3.1	6.8	9.7	3.2	3.1	4.9	5	21.4

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

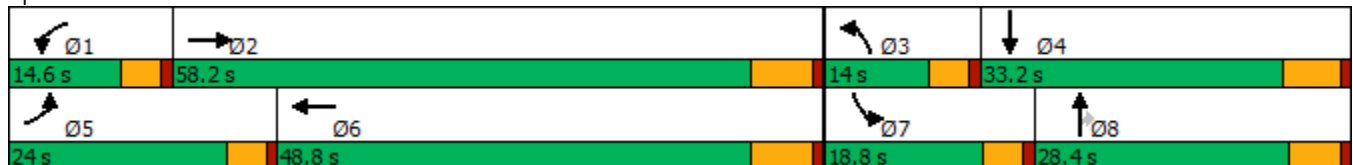


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕↗	↙	↕↗	↙	↕	↗	↙	↗
Traffic Volume (vph)	390	1582	152	1308	168	281	189	189	132
Future Volume (vph)	390	1582	152	1308	168	281	189	189	132
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	3	8		7	4
Permitted Phases							8		
Detector Phase	5	2	1	6	3	8	8	7	4
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	36.5	9.6	27.5	9.6	21.8	21.8	9.6	33.2
Total Split (s)	24.0	58.2	14.6	48.8	14.0	28.4	28.4	18.8	33.2
Total Split (%)	20.0%	48.5%	12.2%	40.7%	11.7%	23.7%	23.7%	15.7%	27.7%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	4.8	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	6.5	4.6	5.8	5.8	4.6	6.2
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	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↑	↗	↗	↘	↘
Traffic Volume (veh/h)	390	1582	183	152	1308	245	168	281	189	189	132	254
Future Volume (veh/h)	390	1582	183	152	1308	245	168	281	189	189	132	254
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	411	1665	173	160	1377	246	177	296	128	199	139	241
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	287	1394	143	148	1057	186	139	351	298	210	140	242
Arrive On Green	0.16	0.43	0.43	0.08	0.35	0.35	0.08	0.19	0.19	0.12	0.23	0.23
Sat Flow, veh/h	1781	3247	332	1781	3009	529	1781	1870	1585	1781	614	1065
Grp Volume(v), veh/h	411	899	939	160	804	819	177	296	128	199	0	380
Grp Sat Flow(s),veh/h/ln	1781	1777	1802	1781	1777	1762	1781	1870	1585	1781	0	1679
Q Serve(g_s), s	19.4	51.7	51.7	10.0	42.3	42.3	9.4	18.4	8.6	13.4	0.0	27.2
Cycle Q Clear(g_c), s	19.4	51.7	51.7	10.0	42.3	42.3	9.4	18.4	8.6	13.4	0.0	27.2
Prop In Lane	1.00		0.18	1.00		0.30	1.00		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	287	763	774	148	624	619	139	351	298	210	0	382
V/C Ratio(X)	1.43	1.18	1.21	1.08	1.29	1.32	1.27	0.84	0.43	0.95	0.00	0.99
Avail Cap(c_a), veh/h	287	763	774	148	624	619	139	351	298	210	0	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	50.5	34.3	34.4	55.2	39.0	39.1	55.5	47.2	43.2	52.7	0.0	46.4
Incr Delay (d2), s/veh	213.3	93.6	107.8	97.4	141.6	156.3	167.1	21.2	4.5	46.8	0.0	44.7
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	25.2	40.0	43.6	8.3	41.6	43.8	10.6	10.4	3.7	8.5	0.0	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	263.8	128.0	142.1	152.6	180.7	195.4	222.6	68.4	47.7	99.5	0.0	91.2
LnGrp LOS	F	F	F	F	F	F	F	E	D	F	A	F
Approach Vol, veh/h		2249			1783			601				579
Approach Delay, s/veh		158.7			184.9			109.4				94.0
Approach LOS		F			F			F				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	58.2	14.0	33.6	24.0	48.8	18.8	28.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	* 6.2				
Max Green Setting (Gmax), s	10.0	51.7	9.4	27.0	19.4	42.3	14.2	* 23				
Max Q Clear Time (g_c+I1), s	12.0	53.7	11.4	29.2	21.4	44.3	15.4	20.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	154.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	96	34	1	62	3	55	46	0	1	41	6
Future Vol, veh/h	9	96	34	1	62	3	55	46	0	1	41	6
Conflicting Peds, #/hr	0	0	0	0	0	4	0	0	1	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	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	123	44	1	79	4	71	59	0	1	53	8

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	306	261	57	345	265	64	61	0	0	60	0	0
Stage 1	59	59	-	202	202	-	-	-	-	-	-	-
Stage 2	247	202	-	143	63	-	-	-	-	-	-	-
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	646	644	1009	609	640	1000	1542	-	-	1544	-	-
Stage 1	953	846	-	800	734	-	-	-	-	-	-	-
Stage 2	757	734	-	860	842	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	556	612	1009	474	608	995	1542	-	-	1543	-	-
Mov Cap-2 Maneuver	556	612	-	474	608	-	-	-	-	-	-	-
Stage 1	907	845	-	761	698	-	-	-	-	-	-	-
Stage 2	634	698	-	702	841	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	11.8	4.1	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1542	-	-	672	616	1543	-
HCM Lane V/C Ratio	0.046	-	-	0.265	0.137	0.001	-
HCM Control Delay (s)	7.4	0	-	12.3	11.8	7.3	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0.1	-	-	1.1	0.5	0	-

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018

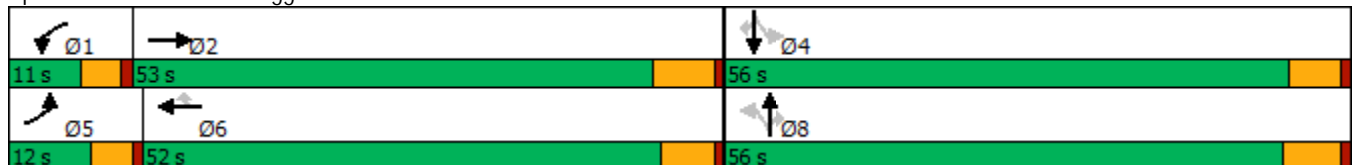


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	280	1281	5	1135	23	285	15	13	13	6	198
Future Volume (vph)	280	1281	5	1135	23	285	15	13	13	6	198
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6			8			4	
Permitted Phases					6	8		8	4		4
Detector Phase	5	2	1	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	53.0	11.0	52.0	52.0	56.0	56.0	56.0	56.0	56.0	56.0
Total Split (%)	10.0%	44.2%	9.2%	43.3%	43.3%	46.7%	46.7%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	5.2	4.8	4.8	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
Total Lost Time (s)	4.6	6.5	4.6	5.8	5.8		6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.1
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗	↖		↖	↖		↖	↖
Traffic Volume (veh/h)	280	1281	273	5	1135	23	285	15	13	13	6	198
Future Volume (veh/h)	280	1281	273	5	1135	23	285	15	13	13	6	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	301	1377	262	5	1220	21	306	16	11	14	6	193
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	111	1276	239	11	1320	589	59	0	668	51	13	668
Arrive On Green	0.06	0.43	0.43	0.01	0.37	0.37	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1781	2987	560	1781	3554	1585	0	0	1585	0	32	1585
Grp Volume(v), veh/h	301	811	828	5	1220	21	322	0	11	20	0	193
Grp Sat Flow(s),veh/h/ln	1781	1777	1770	1781	1777	1585	0	0	1585	32	0	1585
Q Serve(g_s), s	7.4	50.9	50.9	0.3	39.2	1.0	0.0	0.0	0.5	0.0	0.0	9.6
Cycle Q Clear(g_c), s	7.4	50.9	50.9	0.3	39.2	1.0	50.2	0.0	0.5	50.2	0.0	9.6
Prop In Lane	1.00		0.32	1.00		1.00	0.95		1.00	0.70		1.00
Lane Grp Cap(c), veh/h	111	759	756	11	1320	589	59	0	668	65	0	668
V/C Ratio(X)	2.72	1.07	1.10	0.44	0.92	0.04	5.47	0.00	0.02	0.31	0.00	0.29
Avail Cap(c_a), veh/h	111	759	756	96	1378	614	59	0	668	65	0	668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	55.9	34.1	34.1	59.0	35.8	23.9	59.6	0.0	20.1	30.4	0.0	22.7
Incr Delay (d2), s/veh	799.5	52.4	62.0	9.5	10.4	0.0	2046.3	0.0	0.0	11.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.8	30.9	32.8	0.2	17.5	0.4	35.2	0.0	0.2	0.5	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	855.4	86.5	96.1	68.5	46.3	23.9	2105.8	0.0	20.1	42.3	0.0	23.8
LnGrp LOS	F	F	F	E	D	C	F	A	C	D	A	C
Approach Vol, veh/h		1940			1246			333				213
Approach Delay, s/veh		209.9			46.0			2036.9				25.6
Approach LOS		F			D			F				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.4	57.4		56.4	12.0	50.8		56.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	6.4	46.5		* 50	7.4	* 46		49.8				
Max Q Clear Time (g_c+I1), s	2.3	52.9		52.2	9.4	41.2		52.2				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	3.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	307.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection

Intersection Delay, s/veh 26.7

Intersection LOS D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	61	53	101	36	22	20	161	171	38	106	1
Future Vol, veh/h	5	61	53	101	36	22	20	161	171	38	106	1
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	98	85	163	58	35	32	260	276	61	171	2
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	13.8	16.6	40.5	14.9
HCM LOS	B	C	E	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	4%	64%	26%
Vol Thru, %	46%	51%	23%	73%
Vol Right, %	49%	45%	14%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	352	119	159	145
LT Vol	20	5	101	38
Through Vol	161	61	36	106
RT Vol	171	53	22	1
Lane Flow Rate	568	192	256	234
Geometry Grp	1	1	1	1
Degree of Util (X)	0.905	0.364	0.492	0.435
Departure Headway (Hd)	5.741	6.82	6.907	6.701
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	630	524	518	533
Service Time	3.802	4.906	4.988	4.786
HCM Lane V/C Ratio	0.902	0.366	0.494	0.439
HCM Control Delay	40.5	13.8	16.6	14.9
HCM Lane LOS	E	B	C	B
HCM 95th-tile Q	11.3	1.7	2.7	2.2

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↔	↕
Traffic Vol, veh/h	44	8	345	75	14	246
Future Vol, veh/h	44	8	345	75	14	246
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	48	9	375	82	15	267

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	713	229	0	0	457
Stage 1	416	-	-	-	-
Stage 2	297	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13
Critical Hdwy Stg 1	5.83	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219
Pot Cap-1 Maneuver	382	774	-	-	1102
Stage 1	635	-	-	-	-
Stage 2	753	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	377	774	-	-	1102
Mov Cap-2 Maneuver	377	-	-	-	-
Stage 1	626	-	-	-	-
Stage 2	753	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.2	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	409	1102
HCM Lane V/C Ratio	-	-	0.138	0.014
HCM Control Delay (s)	-	-	15.2	8.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.5	0

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	1	0	0	56	0	10	1	409	95	15	275	0
Future Vol, veh/h	1	0	0	56	0	10	1	409	95	15	275	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	82	0	15	1	601	140	22	404	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1129	1192	404	1122	1122	672	404	0	0	742	0	0
Stage 1	448	448	-	674	674	-	-	-	-	-	-	-
Stage 2	681	744	-	448	448	-	-	-	-	-	-	-
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	181	187	647	183	206	456	1155	-	-	865	-	-
Stage 1	590	573	-	444	454	-	-	-	-	-	-	-
Stage 2	440	421	-	590	573	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	172	182	647	179	200	456	1155	-	-	864	-	-
Mov Cap-2 Maneuver	172	182	-	179	200	-	-	-	-	-	-	-
Stage 1	589	559	-	443	453	-	-	-	-	-	-	-
Stage 2	425	420	-	575	559	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	26.1		39.8		0		0.5	
HCM LOS	D		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1155	-	-	172	197	864	-
HCM Lane V/C Ratio	0.001	-	-	0.009	0.493	0.026	-
HCM Control Delay (s)	8.1	-	-	26.1	39.8	9.3	-
HCM Lane LOS	A	-	-	D	E	A	-
HCM 95th %tile Q(veh)	0	-	-	0	2.4	0.1	-

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	2	31	1	1	0	23	476	0	0	288	12
Future Vol, veh/h	12	2	31	1	1	0	23	476	0	0	288	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	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	3	42	1	1	0	31	643	0	0	389	16

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1103	1102	397	1125	1110	643	405	0	0	643	0	0
Stage 1	397	397	-	705	705	-	-	-	-	-	-	-
Stage 2	706	705	-	420	405	-	-	-	-	-	-	-
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	189	212	652	182	209	473	1154	-	-	942	-	-
Stage 1	629	603	-	427	439	-	-	-	-	-	-	-
Stage 2	427	439	-	611	598	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	182	203	652	163	200	473	1154	-	-	942	-	-
Mov Cap-2 Maneuver	182	203	-	163	200	-	-	-	-	-	-	-
Stage 1	603	603	-	409	421	-	-	-	-	-	-	-
Stage 2	408	421	-	569	598	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.8		25.3		0.4		0	
HCM LOS	C		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1154	-	-	365	180	942	-
HCM Lane V/C Ratio	0.027	-	-	0.167	0.015	-	-
HCM Control Delay (s)	8.2	0	-	16.8	25.3	0	-
HCM Lane LOS	A	A	-	C	D	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0	0	-

Intersection	
Intersection Delay, s/veh	755.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	389	613	263	21	618	107	284	154	20	77	132	259
Future Vol, veh/h	389	613	263	21	618	107	284	154	20	77	132	259
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	423	666	286	23	672	116	309	167	22	84	143	282
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	1234.5	579.5	249	238.6
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	62%	31%	3%	16%
Vol Thru, %	34%	48%	83%	28%
Vol Right, %	4%	21%	14%	55%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	458	1265	746	468
LT Vol	284	389	21	77
Through Vol	154	613	618	132
RT Vol	20	263	107	259
Lane Flow Rate	498	1375	811	509
Geometry Grp	1	1	1	1
Degree of Util (X)	1.345	3.654	2.151	1.319
Departure Headway (Hd)	24.327	15.803	21.329	24.189
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	154	247	178	158
Service Time	22.327	13.803	19.329	22.189
HCM Lane V/C Ratio	3.234	5.567	4.556	3.222
HCM Control Delay	249	1234.5	579.5	238.6
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	12.4	79.5	29	12

Intersection

Int Delay, s/veh 3.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	54	57	35	0	0	31
Future Vol, veh/h	54	57	35	0	0	31
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	59	62	38	0	0	34

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	38	0	-	0	218	38
Stage 1	-	-	-	-	38	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1572	-	-	-	770	1034
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1572	-	-	-	740	1034
Mov Cap-2 Maneuver	-	-	-	-	740	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	851	-

Approach EB WB SB

HCM Control Delay, s	3.6	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1572	-	-	-	1034
HCM Lane V/C Ratio	0.037	-	-	-	0.033
HCM Control Delay (s)	7.4	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection

Int Delay, s/veh 0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	↑
Traffic Vol, veh/h	234	36	0	139	21	0
Future Vol, veh/h	234	36	0	139	21	0
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	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	254	39	0	151	23	0

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	293	0	425
Stage 1	-	-	-	-	274
Stage 2	-	-	-	-	151
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1269	-	586
Stage 1	-	-	-	-	772
Stage 2	-	-	-	-	877
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1269	-	586
Mov Cap-2 Maneuver	-	-	-	-	586
Stage 1	-	-	-	-	772
Stage 2	-	-	-	-	877

Approach

	EB	WB	NB
HCM Control Delay, s	0	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	586	-	-	1269	-
HCM Lane V/C Ratio	0.039	-	-	-	-
HCM Control Delay (s)	11.4	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	54	91	90	0	54	0	53	0	0	0	0	32
Future Vol, veh/h	54	91	90	0	54	0	53	0	0	0	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	-	-	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	59	99	98	0	59	0	58	0	0	0	0	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	59	0	0	197	0	0	343	325	148	325	374	59
Stage 1	-	-	-	-	-	-	266	266	-	59	59	-
Stage 2	-	-	-	-	-	-	77	59	-	266	315	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1545	-	-	1376	-	-	611	593	899	628	557	1007
Stage 1	-	-	-	-	-	-	739	689	-	953	846	-
Stage 2	-	-	-	-	-	-	932	846	-	739	656	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1545	-	-	1376	-	-	573	570	899	610	536	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	573	570	-	610	536	-
Stage 1	-	-	-	-	-	-	711	663	-	917	846	-
Stage 2	-	-	-	-	-	-	900	846	-	711	631	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0	12	8.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	573	1545	-	-	1376	-	-	1007
HCM Lane V/C Ratio	0.101	0.038	-	-	-	-	-	0.035
HCM Control Delay (s)	12	7.4	-	-	0	-	-	8.7
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.1

Intersection

Int Delay, s/veh 7.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	54	3	3	0	0	32
Future Vol, veh/h	54	3	3	0	0	32
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	59	3	3	0	0	35

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	3	0	-	0	124 3
Stage 1	-	-	-	-	3 -
Stage 2	-	-	-	-	121 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1619	-	-	-	871 1081
Stage 1	-	-	-	-	1020 -
Stage 2	-	-	-	-	904 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1619	-	-	-	839 1081
Mov Cap-2 Maneuver	-	-	-	-	839 -
Stage 1	-	-	-	-	982 -
Stage 2	-	-	-	-	904 -

Approach

	EB	WB	SB
HCM Control Delay, s	6.9	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1619	-	-	-	1081
HCM Lane V/C Ratio	0.036	-	-	-	0.032
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	54	1	36	0	1	0	21	0	0	0	0	32
Future Vol, veh/h	54	1	36	0	1	0	21	0	0	0	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	-	-	-	-	-	-	-	-	-	-	-	-
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	59	1	39	0	1	0	23	0	0	0	0	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	40	0	0	158	140	21	140	159	1
Stage 1	-	-	-	-	-	-	139	139	-	1	1	-
Stage 2	-	-	-	-	-	-	19	1	-	139	158	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1622	-	-	1570	-	-	808	751	1056	830	733	1084
Stage 1	-	-	-	-	-	-	864	782	-	1022	895	-
Stage 2	-	-	-	-	-	-	1000	895	-	864	767	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1570	-	-	760	723	1056	807	706	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	760	723	-	807	706	-
Stage 1	-	-	-	-	-	-	832	753	-	984	895	-
Stage 2	-	-	-	-	-	-	968	895	-	832	739	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.3	0	9.9	8.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	760	1622	-	-	1570	-	-	1084
HCM Lane V/C Ratio	0.03	0.036	-	-	-	-	-	0.032
HCM Control Delay (s)	9.9	7.3	0	-	0	-	-	8.4
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	0	0	0	0	36
Future Vol, veh/h	21	0	0	0	0	36
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	-	-	-	-	-
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	23	0	0	0	0	39

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	20	20	39	0	0
Stage 1	20	-	-	-	-
Stage 2	0	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	997	1058	1571	-	-
Stage 1	1003	-	-	-	-
Stage 2	-	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	997	1058	1571	-	-
Mov Cap-2 Maneuver	997	-	-	-	-
Stage 1	1003	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1571	-	997	-	-
HCM Lane V/C Ratio	-	-	0.023	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

APPENDIX 7.3:

EAPC (2021) CONDITIONS FREEWAY OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	846	572	428	1636	433	219
v/c Ratio	1.18	0.67	1.05	1.35	1.05	0.51
Control Delay	125.8	12.3	68.9	178.0	98.5	27.5
Queue Delay	0.0	0.0	0.0	0.5	35.8	0.0
Total Delay	125.8	12.3	68.9	178.5	134.3	27.5
Queue Length 50th (ft)	~716	91	~325	~1543	~332	84
Queue Length 95th (ft)	#955	220	m218	m#988	#528	161
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	719	855	408	1210	414	431
Starvation Cap Reductn	0	0	0	137	0	0
Spillback Cap Reductn	0	0	0	0	283	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.67	1.05	1.52	3.31	0.51

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.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	168	1057	1564	672	254	300	166
v/c Ratio	1.11	0.78	1.41	0.62	0.80	0.73	1.37
Control Delay	99.7	27.1	211.9	8.2	63.1	31.0	0.0
Queue Delay	0.0	49.7	3.3	0.6	0.0	0.0	6.9
Total Delay	99.7	76.8	215.2	8.9	63.1	31.0	6.9
Queue Length 50th (ft)	~134	772	~1484	108	174	93	0
Queue Length 95th (ft)	m102	m685	#1746	216	#302	#203	0
Internal Link Dist (ft)		633	514		1324		1367
Turn Bay Length (ft)	240					400	
Base Capacity (vph)	151	1349	1112	1081	317	411	121
Starvation Cap Reductn	0	491	49	143	0	0	0
Spillback Cap Reductn	0	0	493	0	0	0	31
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.11	1.23	2.53	0.72	0.80	0.73	1.84

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.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	1047	543	365	1629	635	263
v/c Ratio	1.49	0.69	0.97	1.40	1.38	0.56
Control Delay	257.3	17.6	52.7	199.4	216.4	29.2
Queue Delay	0.9	0.0	0.0	0.4	619.5	0.0
Total Delay	258.2	17.6	52.7	199.9	836.0	29.2
Queue Length 50th (ft)	~1025	142	245	~1551	~595	111
Queue Length 95th (ft)	#1275	274	m181	m#1015	#816	197
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	702	784	376	1164	461	472
Starvation Cap Reductn	0	0	0	112	0	0
Spillback Cap Reductn	86	0	0	0	461	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.70	0.69	0.97	1.55	635.00	0.56

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.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	166	1497	1303	623	406	742	266
v/c Ratio	1.23	1.27	1.36	0.63	0.85	1.56	2.20
Control Delay	150.8	154.9	193.7	10.7	56.2	288.1	0.0
Queue Delay	0.0	1.6	4.6	0.4	0.0	0.0	7.1
Total Delay	150.8	156.5	198.3	11.2	56.2	288.1	7.1
Queue Length 50th (ft)	~146	~1356	~1212	121	272	~711	0
Queue Length 95th (ft)	m85	m771	#1471	239	#438	#945	0
Internal Link Dist (ft)		633	514		1324		1367
Turn Bay Length (ft)	240					400	
Base Capacity (vph)	135	1180	960	987	477	477	121
Starvation Cap Reductn	0	334	77	91	0	0	0
Spillback Cap Reductn	0	0	481	0	0	0	32
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.23	1.77	2.72	0.70	0.85	1.56	2.99

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.
- m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 7.4:

EAPC (2025) CONDITIONS FREEWAY OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	981	659	501	1960	498	255
v/c Ratio	1.36	0.77	1.23	1.62	1.20	0.59
Control Delay	202.7	18.4	140.6	300.0	150.0	31.7
Queue Delay	0.2	0.0	0.0	0.5	52.9	0.0
Total Delay	202.9	18.4	140.6	300.5	202.9	31.7
Queue Length 50th (ft)	~915	166	~434	~2025	~428	110
Queue Length 95th (ft)	#1161	332	m216	m#1043	#633	197
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	719	853	408	1208	414	431
Starvation Cap Reductn	0	0	0	132	0	0
Spillback Cap Reductn	23	0	0	0	376	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.41	0.77	1.23	1.82	13.11	0.59

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.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	196	1221	1868	797	275	360	220
v/c Ratio	1.30	0.91	1.68	0.74	0.87	0.96	1.82
Control Delay	173.9	31.9	332.2	12.5	70.8	68.6	0.0
Queue Delay	0.0	47.6	4.8	1.3	0.0	0.0	9.3
Total Delay	173.9	79.5	337.0	13.8	70.8	68.6	9.3
Queue Length 50th (ft)	~175	896	~1932	196	191	178	0
Queue Length 95th (ft)	m103	m684	#2197	360	#337	#367	0
Internal Link Dist (ft)		633	514		1324		1367
Turn Bay Length (ft)	240					400	
Base Capacity (vph)	151	1349	1112	1079	317	375	121
Starvation Cap Reductn	0	491	0	120	0	0	0
Spillback Cap Reductn	0	0	604	0	0	0	39
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.30	1.42	3.68	0.83	0.87	0.96	2.68

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.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

01/31/2018



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	1254	652	419	1952	766	304
v/c Ratio	1.79	0.83	1.11	1.68	1.66	0.64
Control Delay	385.1	27.0	96.0	325.2	336.3	33.4
Queue Delay	2.2	0.0	0.0	0.4	619.5	0.0
Total Delay	387.2	27.0	96.0	325.6	955.9	33.4
Queue Length 50th (ft)	~1329	238	~336	~2044	~788	141
Queue Length 95th (ft)	#1586	#462	m173	m#1075	#1019	239
Internal Link Dist (ft)	903			633	1388	
Turn Bay Length (ft)			250			450
Base Capacity (vph)	702	784	376	1163	461	472
Starvation Cap Reductn	0	0	0	110	0	0
Spillback Cap Reductn	182	0	0	0	461	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.41	0.83	1.11	1.85	766.00	0.64

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.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

3: I-215 NB Ramps & Scott Rd.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	199	1800	1553	725	439	907	355
v/c Ratio	1.47	1.53	1.62	0.74	0.92	1.90	2.93
Control Delay	252.4	266.5	307.1	15.4	65.5	437.9	0.0
Queue Delay	0.0	1.6	7.2	0.9	0.0	0.0	9.6
Total Delay	252.4	268.1	314.3	16.3	65.5	437.9	9.6
Queue Length 50th (ft)	~196	~1813	~1580	203	301	~958	0
Queue Length 95th (ft)	m85	m771	#1844	362	#491	#1205	0
Internal Link Dist (ft)		633	514		1324		1367
Turn Bay Length (ft)	240					400	
Base Capacity (vph)	135	1180	960	984	477	477	121
Starvation Cap Reductn	0	334	35	81	0	0	0
Spillback Cap Reductn	0	0	595	0	0	0	40
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.47	2.13	4.25	0.80	0.92	1.90	4.38

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.
- m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 7.5:

EAPC (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 = **EAPC (2021) Conditions - Weekday AM Peak Hour**

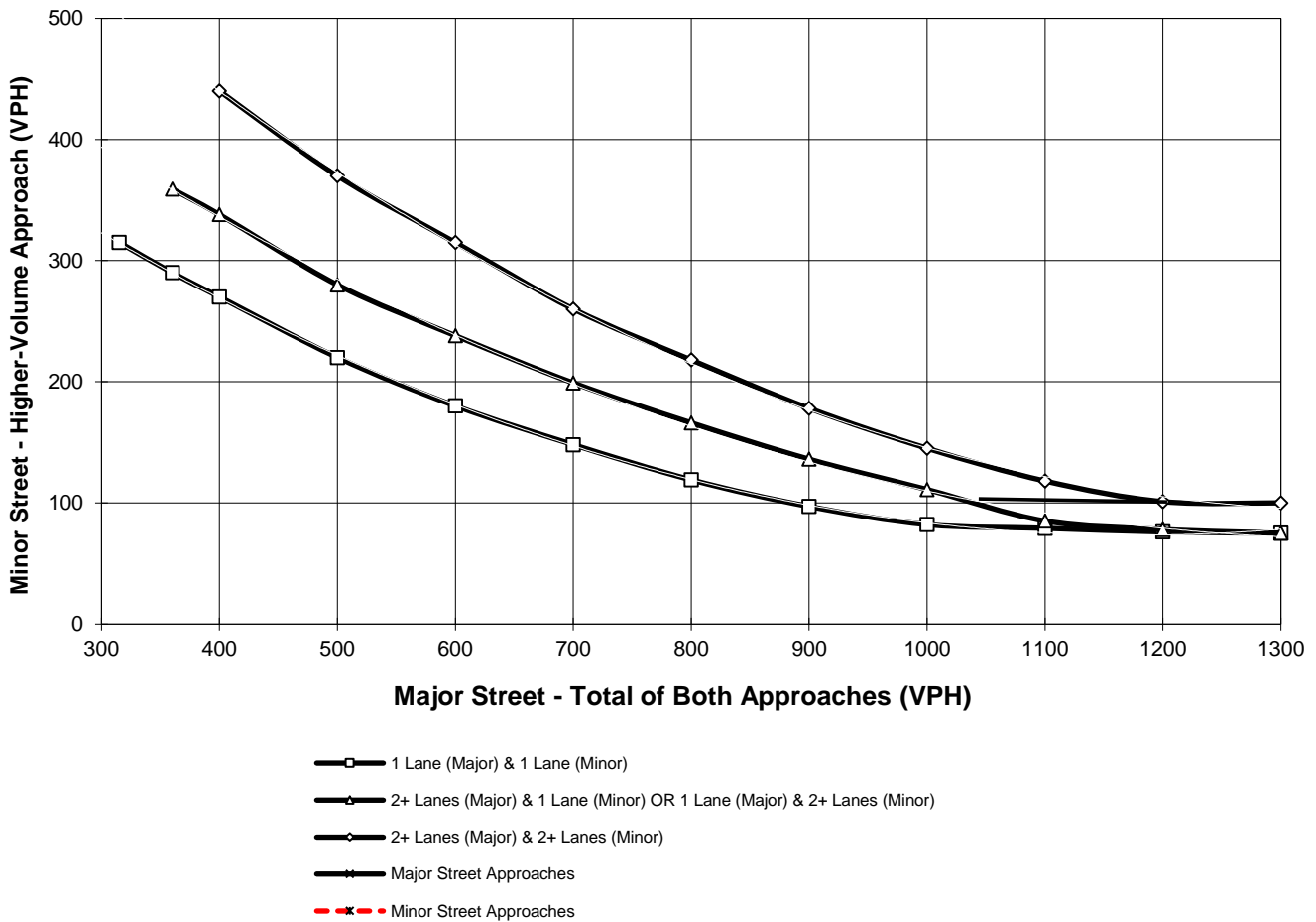
Major Street Name = **Briggs Rd.**

Total of Both Approaches (VPH) = **141**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **131**
 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-3. Warrant 3, Peak Hour

Traffic Conditions = **EAPC (2021) Conditions - Weekday PM Peak Hour**

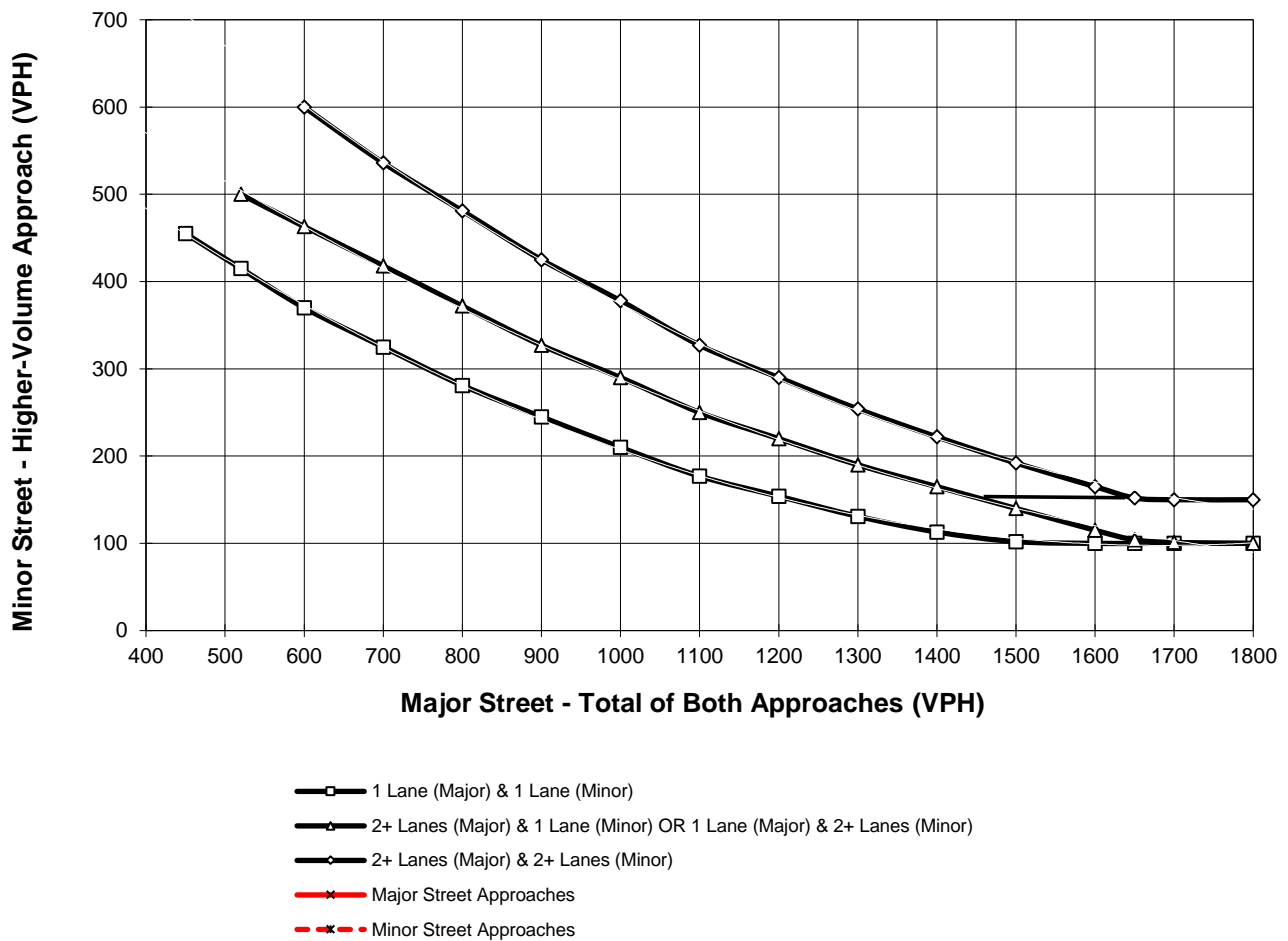
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **378**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **119**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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>EAPC (2021)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>	DATE <u>02/01/18</u>	DATE <u>02/01/18</u>
Major Street: <u>Leon Rd.</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>Canterwood Dr.</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>4,743</u>	vpd	Minor Street Future ADT = <u>600</u>	vpd			
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);	<input type="checkbox"/>	or	<input type="checkbox"/>			URBAN (U)
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			
XX					
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		Urban	Rural	Urban	Rural
<u>Major Street</u>	<u>Minor Street</u>				
1 4,743	1 600	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		Urban	Rural	Urban	Rural
<u>Major Street</u>	<u>Minor Street</u>				
1 4,743	1 600	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				
	25%				
	B				
	40%				

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-3. Warrant 3, Peak Hour

Traffic Conditions = **EAPC (2021) Conditions - Weekday PM Peak Hour**

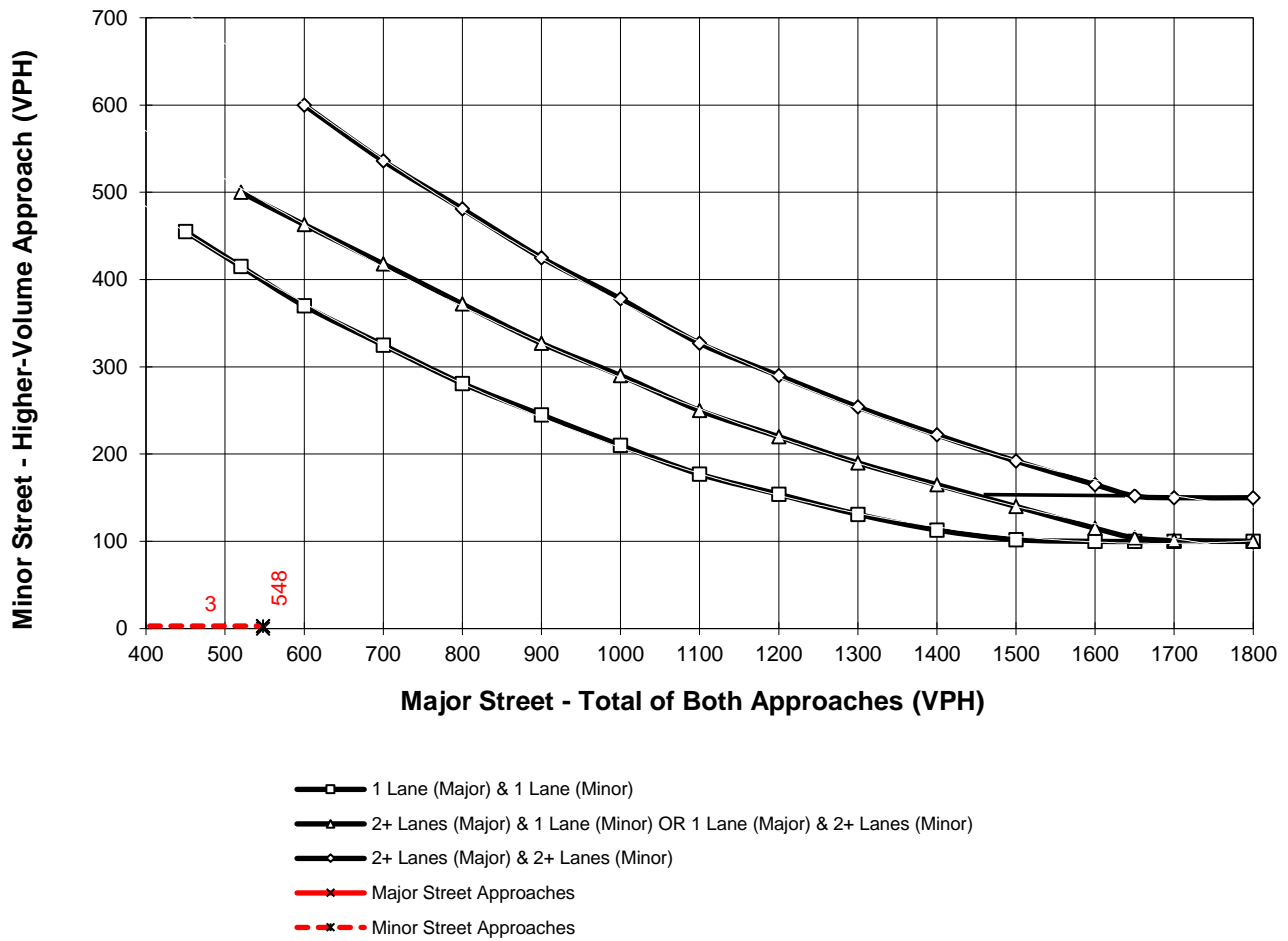
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **548**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Craig Av.**

High Volume Approach (VPH) = **3**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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 (2021) Conditions - Weekday PM Peak Hour**

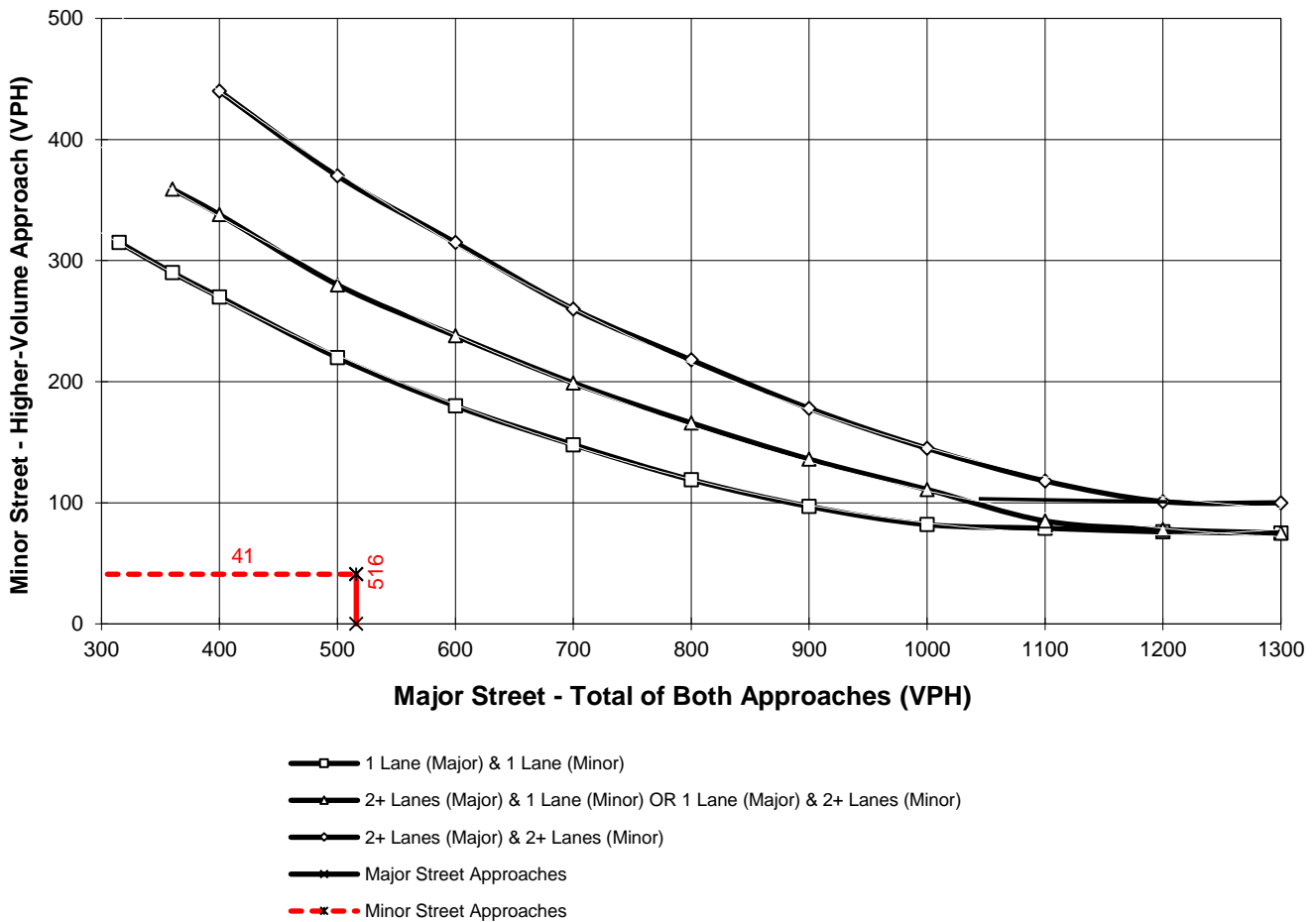
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **516**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Garbani Rd.**

High Volume Approach (VPH) = **41**
 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>EAPC (2021)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>	DATE <u>02/01/18</u>	DATE <u>02/01/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>St. B</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 2,875 vpd Minor Street Future ADT = 225 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 2,875	1 225	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 2,875	1 225	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	9%				
	<u>B</u>				
	19%				

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 (2021)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>	DATE <u>02/01/18</u>	DATE <u>02/01/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>Canterwood Dr.</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 1,878 vpd Minor Street Future ADT = 450 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 1,878	1 450	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 1,878	1 450	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	19%				
	<u>B</u>				
	16%				

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 (2021)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Eucalyptus Rd.</u>					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 562 vpd Minor Street Future ADT = 319 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 562	1 319	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 562	1 319	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	7%				
	<u>B</u>				
	5%				

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 (2021)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Eucalyptus Rd.</u>					Critical Approach Speed (Major) <u>25</u> mph	DATE <u>02/01/18</u>
Minor Street: <u>St. D</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>225</u>	vpd	Minor Street Future ADT =		<u>225</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input type="checkbox"/>	
					or	URBAN (U)
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			
XX					
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>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 225	1 225	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>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 225	1 225	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>				
	3%				
	<u>B</u>				
	2%				

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 7.6:

EAPC (2025) 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 (2025) Conditions - Weekday AM Peak Hour**

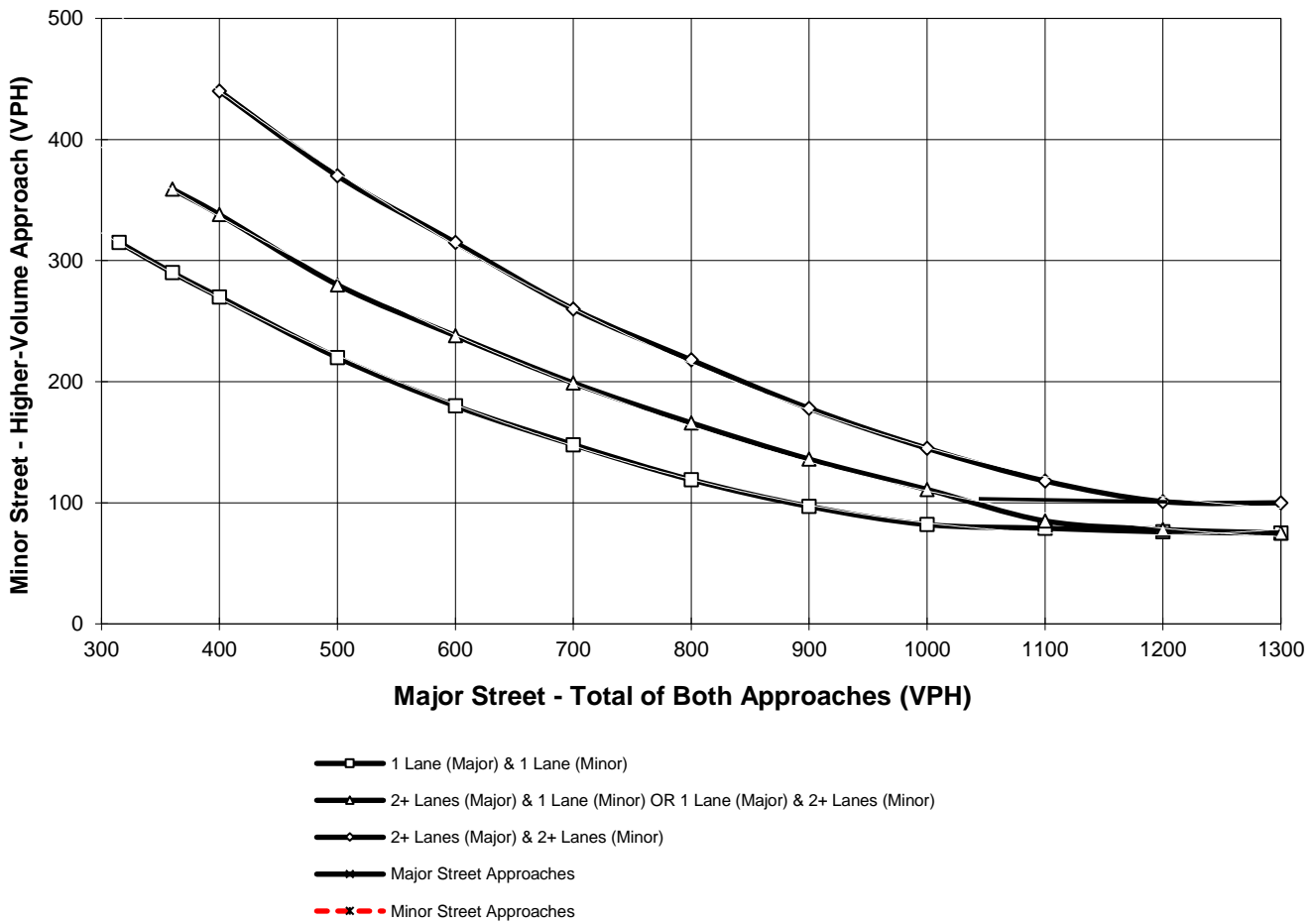
Major Street Name = **Holland Rd.**

Total of Both Approaches (VPH) = **241**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Briggs Rd.**

High Volume Approach (VPH) = **105**
 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-3. Warrant 3, Peak Hour

Traffic Conditions = **EAPC (2025) Conditions - Weekday PM Peak Hour**

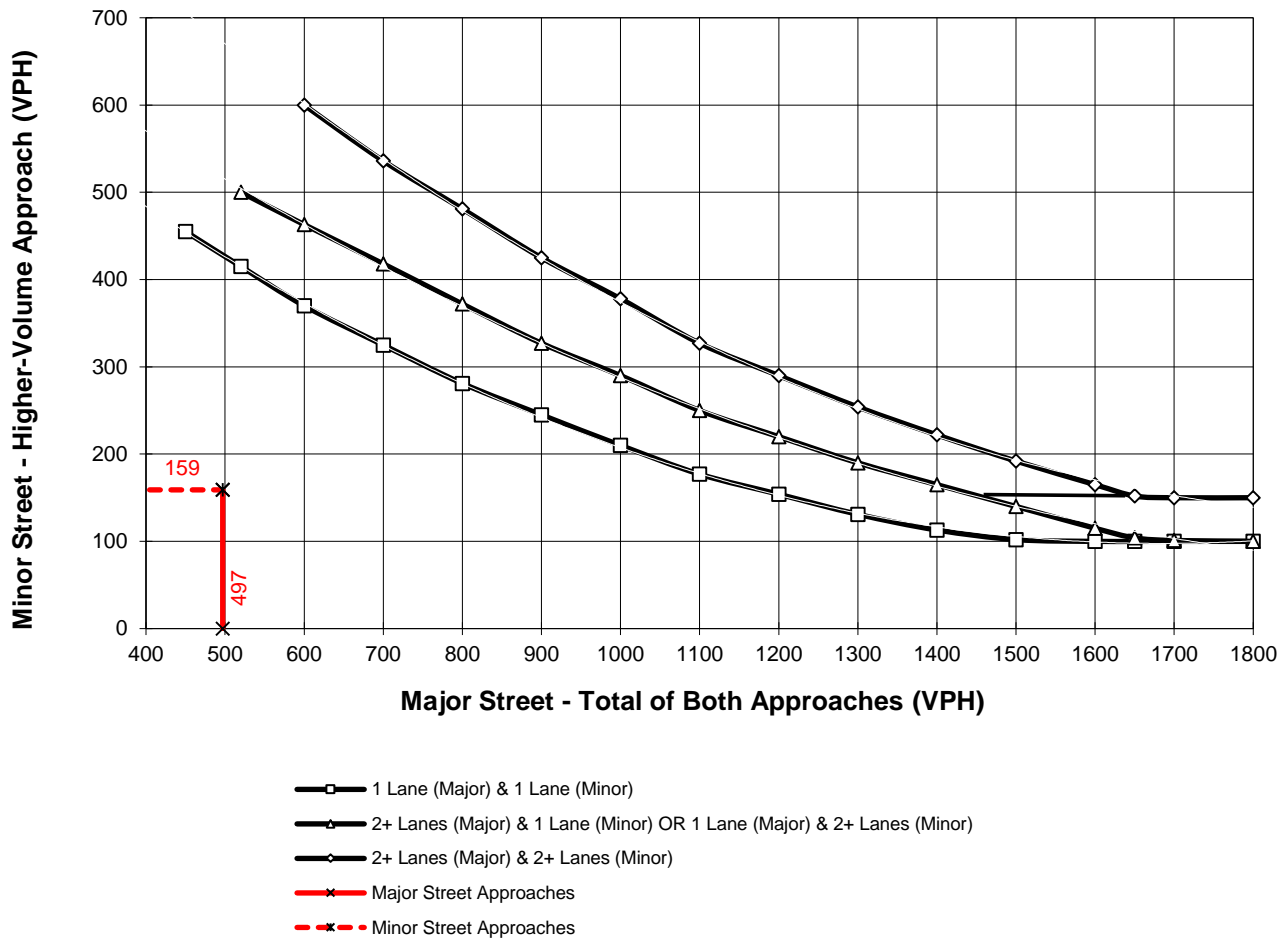
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **497**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Holland Rd.**

High Volume Approach (VPH) = **159**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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>EAPC (2025)</u>	
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>	DATE <u>02/01/18</u>	DATE <u>02/01/18</u>	
Major Street: <u>Leon Rd.</u>					Critical Approach Speed (Major) <u>25</u> mph		
Minor Street: <u>Canterwood Dr.</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>6,280</u>	vpd	Minor Street Future ADT =	<u>679</u> vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>	
						or	URBAN (U)
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			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 6,280	1 679	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 6,280	1 679	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	28%				
	<u>B</u>				
	52%				

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-3. Warrant 3, Peak Hour

Traffic Conditions = **EAPC (2025) Conditions - Weekday PM Peak Hour**

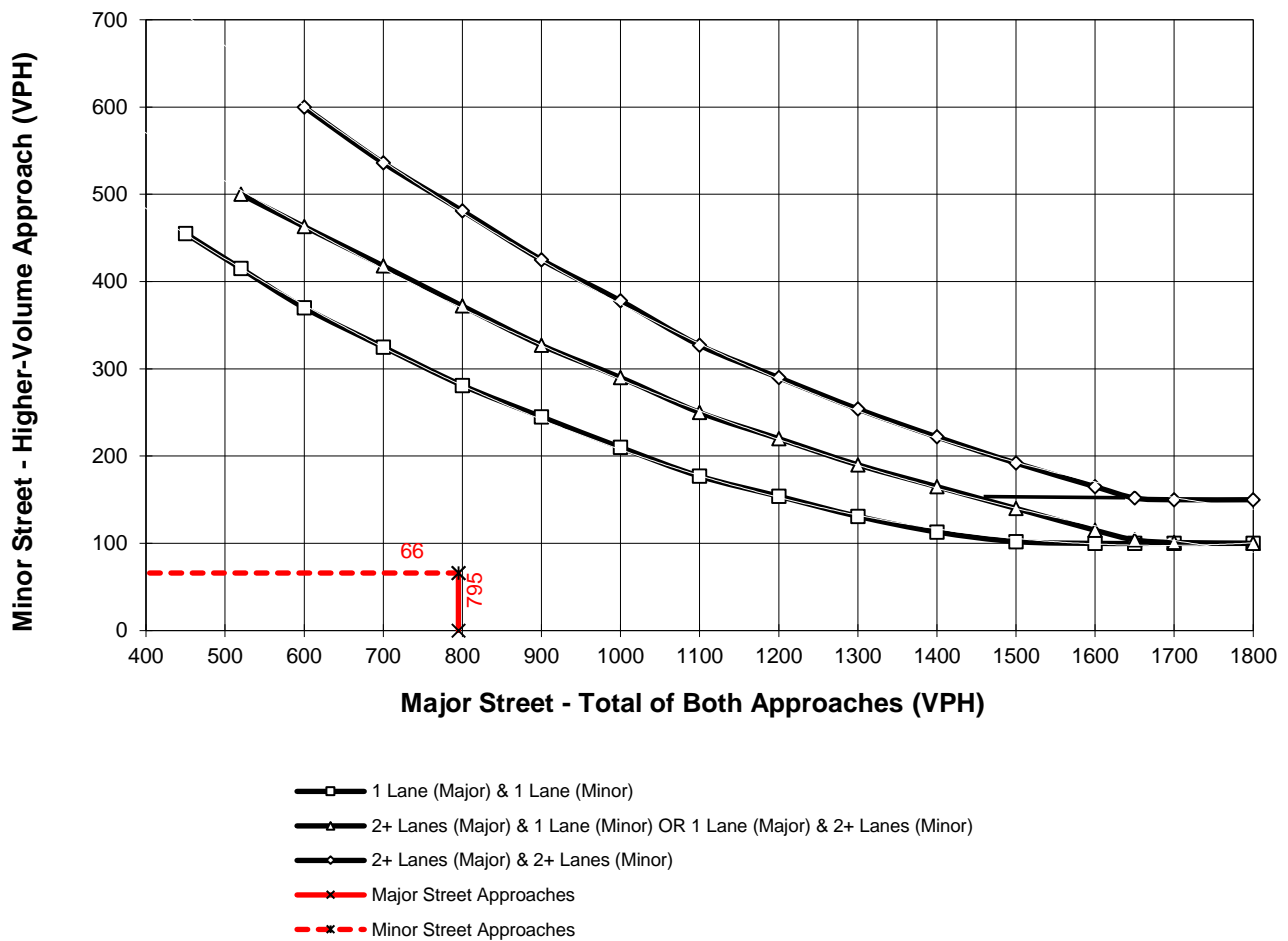
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **795**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Craig Av.**

High Volume Approach (VPH) = **66**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 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 (2025) Conditions - Weekday PM Peak Hour**

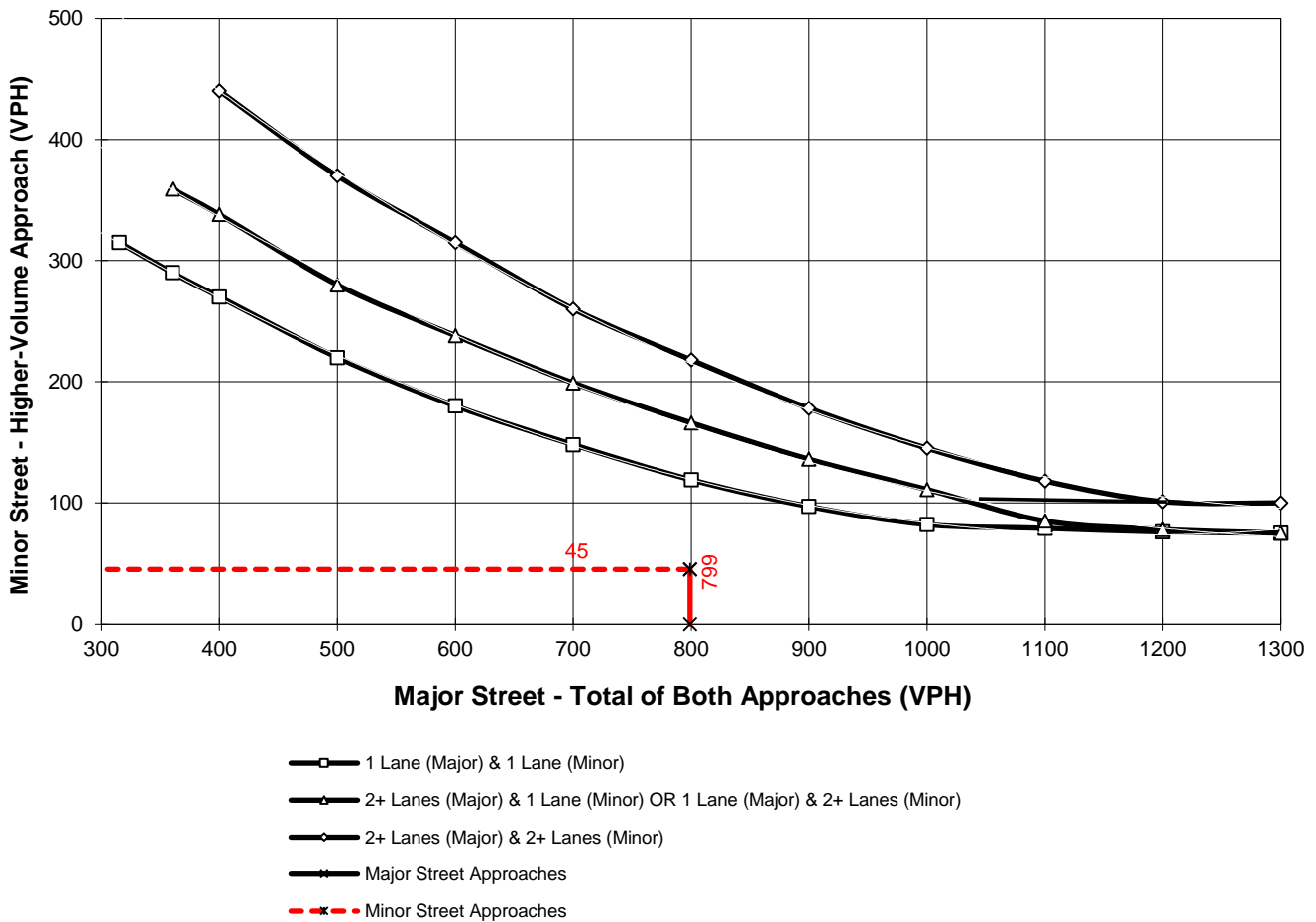
Major Street Name = **Leon Rd.**

Total of Both Approaches (VPH) = **799**
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Garbani Rd.**

High Volume Approach (VPH) = **45**
 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>EAPC (2025)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Craig Av.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>St. A</u>					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 1,277 vpd Minor Street Future ADT = 406 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 1,277	1 406	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 1,277	1 406	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	16%				
	<u>B</u>				
	11%				

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 (2025)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major) <u>25</u> mph	DATE <u>02/01/18</u>
Minor Street: <u>St. B</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 3,899 vpd Minor Street Future ADT = 271 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	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 3,899	1 271	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	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 3,899	1 271	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				
	A				
	11%				
	B				
	23%				

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 (2025)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>		DATE <u>02/01/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Canterwood Dr.</u>					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 2,519 vpd Minor Street Future ADT = 678 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 2,519	1 678	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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 2,519	1 678	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	28%				
	<u>B</u>				
	21%				

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 (2025)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>	DATE <u>02/01/18</u>	DATE <u>02/01/18</u>
Major Street: <u>Craig Av.</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>St. C</u>					Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes =		<u>1</u>
Major Street Future ADT =		<u>464</u>	vpd	Minor Street Future ADT =		<u>407</u>
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input type="checkbox"/>	
					or	URBAN (U)
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			
XX					
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	<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>				
1 464	1 407				
2 +	1				
2 +	2 +				
1	2 +				
		8,000	5,600	2,400	1,680
		9,600	6,720	2,400	1,680
		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				
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>				
1 464	1 407				
2 +	1				
2 +	2 +				
1	2 +				
		12,000	8,400	1,200	850
		14,400	10,080	1,200	850
		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>				
	6%				
	<u>B</u>				
	4%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

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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>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>EAPC (2025)</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>BA</u>	DATE <u>02/01/18</u>	DATE <u>02/01/18</u>
Major Street: <u>Holland Rd.</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>Eucalyptus Rd.</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 715 vpd Minor Street Future ADT = 425 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
CONDITION A - Minimum Vehicular Volume		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Satisfied</u>	<u>Not Satisfied</u>				
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 715	1 425	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>				
1 715	1 425	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>				
	9%				
	<u>B</u>				
	6%				

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> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
	DIST	CO	RTE	PM	CALC	TRAFFIC CONDITIONS	EAPC (2025)
Jurisdiction:	<u>County of Riverside</u>				CHK	<u>BA</u>	DATE <u>02/01/18</u>
Major Street:	<u>Eucalyptus Rd.</u>						DATE <u>02/01/18</u>
Minor Street:	<u>St. D</u>					Critical Approach Speed (Major)	<u>25</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>271</u> vpd				Minor Street Future ADT =	<u>271</u> vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);	<input type="checkbox"/>						or
In built up area of isolated community of < 10,000 population	<input type="checkbox"/>						URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 271	1 271	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		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<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>				
1 271	1 271	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>		80%		80%	
<u>Not Satisfied</u>					
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>	<u>B</u>			
	3%	2%			

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 7.7:

EAPC (2021) CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6889	Heavy Vehicle Adjustment Factor (f _{HV})	0.971
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2571
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.07
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	7441	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2751
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.15
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	3855	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1452
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	69.3
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	21.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	3735	Heavy Vehicle Adjustment Factor (f_{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v_p), pc/h/ln	1407
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5947	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2240
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.93
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	57.5
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	39.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6117	Heavy Vehicle Adjustment Factor (f _{HV})	0.971
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2282
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.95
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	56.4
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	40.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	5817	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2151
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	59.5
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	36.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6436	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2379
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	53.9
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	44.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

APPENDIX 7.8:

EAPC (2025) CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	7536	Heavy Vehicle Adjustment Factor (f_{HV})	0.971
Peak Hour Factor (PHF)	0.92	Flow Rate (v_p), pc/h/ln	2812
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	8217	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v_p), pc/h/ln	3038
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.27
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	4259	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1604
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	68.1
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	23.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	4122	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	1552
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	68.6
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	22.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6541	Heavy Vehicle Adjustment Factor (f _{HV})	0.962
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2464
Total Trucks, %	4.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6754	Heavy Vehicle Adjustment Factor (f _{HV})	0.971
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2520
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.05
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	6400	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2366
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	54.3
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	43.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

HCS7 Basic Freeway Report

Project Information

Analyst	CHS	Date	1/31/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume (V), veh/h	7169	Heavy Vehicle Adjustment Factor (f _{HV})	0.980
Peak Hour Factor (PHF)	0.92	Flow Rate (v _p), pc/h/ln	2650
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c _{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E _T)	2.000		

Speed and Density

Lane Width Adjustment (f _{LW})	-	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f _{RLC})	-	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	-	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS _{adj}), mi/h	70.0		

APPENDIX 7.9:

EAPC (2021) CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	220
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6889	619
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	3.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.971	0.943
Flow Rate (v _i), pc/h	7712	713
Capacity (c), pc/h	7200	4200
Volume-to-Capacity Ratio (v/c)	1.07	0.17

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	1548	Off-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.450	Outer Lanes Freeway Speed (S _O), mi/h	70.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	5012	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (L _A), ft	1500	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6269	628
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (v _i), pc/h	6953	690
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.06	0.33

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1587.0	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	1548	Speed Index (M _s)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.575	Outer Lanes Freeway Speed (S _O), mi/h	61.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4253	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4943	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6269	628
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (v _i), pc/h	6953	690
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.06	0.33

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (M _s)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	528	On-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.578	Outer Lanes Freeway Speed (S _O), mi/h	61.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4253	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4943	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	525
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6898	543
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (v _i), pc/h	7651	596
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.15	0.28

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	528	Speed Index (M _s)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.592	Outer Lanes Freeway Speed (S _O), mi/h	61.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4951	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	5547	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	3023	832
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.980
Flow Rate (vi), pc/h	3416	923
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.60	0.44

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1084.2	Density in Ramp Influence Area (D _R), pc/mi/ln	25.2
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.353
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1401
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	60.1
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	66.8
Flow in Lanes 1 and 2 (v ₁₂), pc/h	2015	Ramp Junction Speed (S), mi/h	62.1
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	2938	Average Density (D), pc/mi/ln	23.3
Level of Service (LOS)	C	7.9-5	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	3735	712
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.990
Flow Rate (v _i), pc/h	4220	782
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.59	0.37

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	27.5
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.368
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1310
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	59.7
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.619	Outer Lanes Freeway Speed (S _O), mi/h	75.6
Flow in Lanes 1 and 2 (v ₁₂), pc/h	2910	Ramp Junction Speed (S), mi/h	63.9
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	22.0
Level of Service (LOS)	C	7.9-6	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	220
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5947	879
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.980
Flow Rate (v _i), pc/h	6719	975
Capacity (c), pc/h	7200	4200
Volume-to-Capacity Ratio (v/c)	0.93	0.23

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	36.8
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.386
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	1548	Off-Ramp Influence Area Speed (S _R), mi/h	59.2
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.450	Outer Lanes Freeway Speed (S _O), mi/h	70.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4019	Ramp Junction Speed (S), mi/h	63.2
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	35.4
Level of Service (LOS)	E	7.9-7	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5068	517
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.990
Flow Rate (v _i), pc/h	5726	568
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.87	0.27

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1298.3	Density in Ramp Influence Area (D _R), pc/mi/ln	35.5
Distance to Upstream Ramp (L _{UP}), ft	1548	Speed Index (M _s)	0.509
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2416
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	55.7
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.578	Outer Lanes Freeway Speed (S _O), mi/h	62.8
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3310	Ramp Junction Speed (S), mi/h	58.2
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3878	Average Density (D), pc/mi/ln	36.0
Level of Service (LOS)	E	7.9-8	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	5068	517
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.990
Flow Rate (vi), pc/h	5726	568
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.87	0.27

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	35.5
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (M _s)	0.509
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2416
Distance to Downstream Ramp (L _{DOWN}), ft	528	On-Ramp Influence Area Speed (S _R), mi/h	55.7
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.578	Outer Lanes Freeway Speed (S _O), mi/h	62.8
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3310	Ramp Junction Speed (S), mi/h	58.2
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3878	Average Density (D), pc/mi/ln	36.0
Level of Service (LOS)	E	7.9-9	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	525
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	5585	532
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	1.000
Flow Rate (vi), pc/h	6310	578
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.96	0.28

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	35.6
Distance to Upstream Ramp (L _{UP}), ft	528	Speed Index (M _s)	0.565
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2574
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.592	Outer Lanes Freeway Speed (S _O), mi/h	61.8
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3736	Ramp Junction Speed (S), mi/h	56.8
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4314	Average Density (D), pc/mi/ln	40.4
Level of Service (LOS)	E	7.9	10

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5036	782
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.971
Flow Rate (v _i), pc/h	5586	875
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.90	0.42

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1538.3	Density in Ramp Influence Area (D _R), pc/mi/ln	34.8
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.532
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2290
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	63.6
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3296	Ramp Junction Speed (S), mi/h	57.8
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4171	Average Density (D), pc/mi/ln	37.3
Level of Service (LOS)	D	7.9	11

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2021)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	Mostly Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	1.000
Final Capacity Adjustment Factor (CAF)	0.968	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6436	1401
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (v _i), pc/h	7138	1538
Capacity (c), pc/h	6824	2100
Volume-to-Capacity Ratio (v/c)	1.05	0.73

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.511	Outer Lanes Freeway Speed (S _O), mi/h	68.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4438	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	7.9	12

APPENDIX 7.10:

EAPC (2025) CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	220
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	7536	715
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	3.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.971	0.952
Flow Rate (v _i), pc/h	8436	816
Capacity (c), pc/h	7200	4200
Volume-to-Capacity Ratio (v/c)	1.17	0.19

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	1548	Off-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.450	Outer Lanes Freeway Speed (S _O), mi/h	70.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	5736	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

7.10-1

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6820	771
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (v _i), pc/h	7564	847
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.17	0.40

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1751.4	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	1548	Speed Index (M _s)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.565	Outer Lanes Freeway Speed (S _O), mi/h	61.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4864	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	5711	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	6820	771
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (vi), pc/h	7564	847
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.17	0.40

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (M _s)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	528	On-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.578	Outer Lanes Freeway Speed (S _O), mi/h	61.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4864	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	5711	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

7.10-3

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	525
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	7591	626
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (v _i), pc/h	8419	687
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.26	0.33

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	528	Speed Index (M _s)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.592	Outer Lanes Freeway Speed (S _O), mi/h	61.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	5719	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	6406	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

7.10-4

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	3275	984
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.980
Flow Rate (vi), pc/h	3700	1091
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.67	0.52

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1180.9	Density in Ramp Influence Area (D _R), pc/mi/ln	27.7
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.383
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1517
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	59.3
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	66.3
Flow in Lanes 1 and 2 (v ₁₂), pc/h	2183	Ramp Junction Speed (S), mi/h	61.4
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	3274	Average Density (D), pc/mi/ln	26.0
Level of Service (LOS)	C	7.10-5	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	AM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	4122	847
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.990
Flow Rate (v _i), pc/h	4657	930
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.65	0.44

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	29.7
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	0.382
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	1487
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	59.3
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.601	Outer Lanes Freeway Speed (S _O), mi/h	74.9
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3170	Ramp Junction Speed (S), mi/h	63.5
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	24.4
Level of Service (LOS)	D		7.10-6

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	220
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6541	1049
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.980
Flow Rate (v _i), pc/h	7391	1163
Capacity (c), pc/h	7200	4200
Volume-to-Capacity Ratio (v/c)	1.03	0.28

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	1548	Off-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.450	Outer Lanes Freeway Speed (S _O), mi/h	70.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4691	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

7.10-7

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi), veh/h	5492	623
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.990
Flow Rate (vi), pc/h	6205	684
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.96	0.33

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1425.7	Density in Ramp Influence Area (D _R), pc/mi/ln	38.5
Distance to Upstream Ramp (L _{UP}), ft	1548	Speed Index (M _s)	0.600
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2619
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	53.2
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.578	Outer Lanes Freeway Speed (S _O), mi/h	61.6
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3586	Ramp Junction Speed (S), mi/h	56.1
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4270	Average Density (D), pc/mi/ln	40.9
Level of Service (LOS)	E	7.10-8	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	0
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5492	623
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	0.990
Flow Rate (v _i), pc/h	6205	684
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.96	0.33

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	38.5
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (M _s)	0.600
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2619
Distance to Downstream Ramp (L _{DOWN}), ft	528	On-Ramp Influence Area Speed (S _R), mi/h	53.2
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.578	Outer Lanes Freeway Speed (S _O), mi/h	61.6
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3586	Ramp Junction Speed (S), mi/h	56.1
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4270	Average Density (D), pc/mi/ln	40.9
Level of Service (LOS)	E	7.10-9	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	525
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	6115	639
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	4.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.962	1.000
Flow Rate (v _i), pc/h	6909	695
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	1.06	0.33

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	528	Speed Index (M _s)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.592	Outer Lanes Freeway Speed (S _O), mi/h	61.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	4209	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4904	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	7.10-10	

HCS7 Freeway Merge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	460
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5485	916
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.971
Flow Rate (v _i), pc/h	6084	1025
Capacity (c), pc/h	7200	2100
Volume-to-Capacity Ratio (v/c)	0.99	0.49

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	1677.0	Density in Ramp Influence Area (D _R), pc/mi/ln	38.2
Distance to Upstream Ramp (L _{UP}), ft	2050	Speed Index (M _s)	0.673
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2494
Distance to Downstream Ramp (L _{DOWN}), ft	-	On-Ramp Influence Area Speed (S _R), mi/h	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FM})	0.590	Outer Lanes Freeway Speed (S _O), mi/h	62.3
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3590	Ramp Junction Speed (S), mi/h	54.6
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	4615	Average Density (D), pc/mi/ln	43.4
Level of Service (LOS)	E	7.10-11	

HCS7 Freeway Diverge Report

Project Information

Analyst	BA	Date	2/1/2018
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025)
Jurisdiction	Urban Crossroads, Inc.	Time Period Analyzed	PM Peak Hour
Project Description	Canterwood TIA (JN 11302)		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	Mostly Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.975	1.000
Final Capacity Adjustment Factor (CAF)	0.968	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	7169	1684
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	2.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.980	0.990
Flow Rate (v _i), pc/h	7951	1849
Capacity (c), pc/h	6824	2100
Volume-to-Capacity Ratio (v/c)	1.17	0.88

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	-
Distance to Upstream Ramp (L _{UP}), ft	-	Speed Index (D _S)	-
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (v _{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L _{DOWN}), ft	2050	Off-Ramp Influence Area Speed (S _R), mi/h	-
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.476	Outer Lanes Freeway Speed (S _O), mi/h	68.2
Flow in Lanes 1 and 2 (v ₁₂), pc/h	5251	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	7.10-12	

APPENDIX 7.11:

**EAPC (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS
WITH IMPROVEMENTS**

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Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

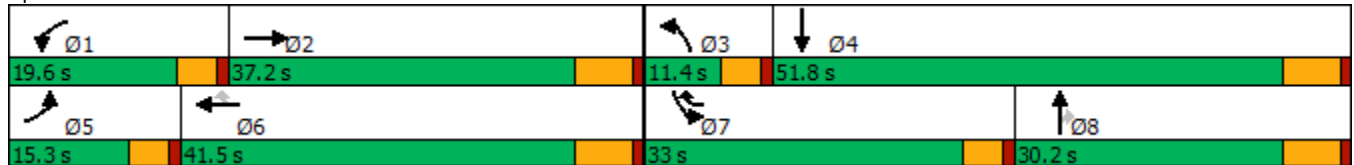


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↷	↶	↷	↷	↷	↷
Traffic Volume (vph)	126	516	111	573	857	39	112	80	777	79
Future Volume (vph)	126	516	111	573	857	39	112	80	777	79
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	7	3	8		7	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	7	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	9.6	9.6	30.2	30.2	9.6	25.2
Total Split (s)	15.3	37.2	19.6	41.5	33.0	11.4	30.2	30.2	33.0	51.8
Total Split (%)	12.8%	31.0%	16.3%	34.6%	27.5%	9.5%	25.2%	25.2%	27.5%	43.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	5.2	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	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	6.2	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 117.7
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	516	39	111	573	857	39	112	80	777	79	85
Future Volume (veh/h)	126	516	39	111	573	857	39	112	80	777	79	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1976	1976	1900	1976	1976	1900	1976	1976	1976	1976	1976
Adj Flow Rate, veh/h	143	586	43	126	559	737	44	127	88	883	90	90
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	161	1088	80	153	581	1778	58	395	335	891	367	367
Arrive On Green	0.09	0.30	0.30	0.08	0.29	0.29	0.03	0.20	0.20	0.24	0.40	0.40
Sat Flow, veh/h	1810	3638	266	1810	1976	3349	1810	1976	1675	3764	906	906
Grp Volume(v), veh/h	143	318	311	126	559	737	44	127	88	883	0	180
Grp Sat Flow(s),veh/h/ln	1810	1976	1928	1810	1976	1675	1810	1976	1675	1882	0	1813
Q Serve(g_s), s	9.4	16.1	16.2	8.2	33.4	15.9	2.9	6.6	5.3	28.1	0.0	7.9
Cycle Q Clear(g_c), s	9.4	16.1	16.2	8.2	33.4	15.9	2.9	6.6	5.3	28.1	0.0	7.9
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	161	591	576	153	581	1778	58	395	335	891	0	733
V/C Ratio(X)	0.89	0.54	0.54	0.83	0.96	0.41	0.76	0.32	0.26	0.99	0.00	0.25
Avail Cap(c_a), veh/h	161	591	576	226	581	1778	103	395	335	891	0	733
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	54.0	35.1	35.2	54.1	41.7	16.9	57.6	41.0	40.5	45.7	0.0	23.6
Incr Delay (d2), s/veh	39.0	1.0	1.0	9.2	27.9	0.2	7.3	2.1	1.9	27.9	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	5.9	7.6	7.4	4.0	19.9	5.5	1.4	3.3	2.3	15.8	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.1	36.1	36.2	63.3	69.6	17.1	64.9	43.2	42.4	73.6	0.0	24.4
LnGrp LOS	F	D	D	E	E	B	E	D	D	E	A	C
Approach Vol, veh/h		772			1422			259			1063	
Approach Delay, s/veh		46.7			41.8			46.6			65.2	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	42.1	8.4	54.8	15.3	41.5	33.0	30.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	15.0	31.0	6.8	45.6	10.7	35.3	28.4	24.0				
Max Q Clear Time (g_c+I1), s	10.2	18.2	4.9	9.9	11.4	35.4	30.1	8.6				
Green Ext Time (p_c), s	0.1	2.7	0.0	0.9	0.0	0.0	0.0	0.7				

Intersection Summary

HCM 6th Ctrl Delay	50.3
HCM 6th LOS	D

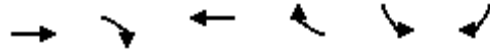
Notes

User approved volume balancing among the lanes for turning movement.

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

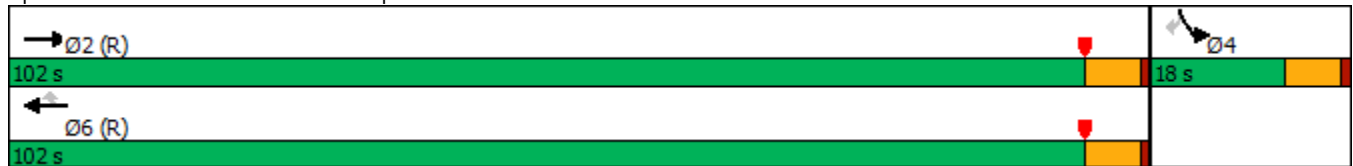


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑↑
Traffic Volume (vph)	804	543	1333	628	409	208
Future Volume (vph)	804	543	1333	628	409	208
Turn Type	NA	Free	NA	Perm	Prot	Perm
Protected Phases	2		6		4	
Permitted Phases		Free		6		4
Detector Phase	2		6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		34.0	34.0	11.0	11.0
Total Split (s)	102.0		102.0	102.0	18.0	18.0
Total Split (%)	85.0%		85.0%	85.0%	15.0%	15.0%
Yellow Time (s)	5.0		5.0	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3		-1.3	0.0	-1.3	-1.3
Total Lost Time (s)	4.7		4.7	6.0	4.7	4.7
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Max	C-Max	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 45
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖		↖↖
Traffic Volume (veh/h)	0	804	543	0	1333	628	0	0	0	409	0	208
Future Volume (veh/h)	0	804	543	0	1333	628	0	0	0	409	0	208
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	1914	1914	0	1945	1870				1853	0	1837
Adj Flow Rate, veh/h	0	874	0	0	1449	683				445	0	226
Peak Hour Factor	0.95	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	0	2	2				8	0	9
Cap, veh/h	0	3104		0	3154	1268				391	0	345
Arrive On Green	0.00	0.81	0.00	0.00	1.00	1.00				0.11	0.00	0.11
Sat Flow, veh/h	0	3829	1622	0	3890	1585				3529	0	3114
Grp Volume(v), veh/h	0	874	0	0	1449	683				445	0	226
Grp Sat Flow(s),veh/h/ln	0	1914	1622	0	1945	1585				1764	0	1557
Q Serve(g_s), s	0.0	6.7	0.0	0.0	0.0	0.0				13.3	0.0	8.3
Cycle Q Clear(g_c), s	0.0	6.7	0.0	0.0	0.0	0.0				13.3	0.0	8.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3104		0	3154	1268				391	0	345
V/C Ratio(X)	0.00	0.28		0.00	0.46	0.54				1.14	0.00	0.65
Avail Cap(c_a), veh/h	0	3104		0	3154	1268				391	0	345
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.59	0.00	0.00	0.77	0.77				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	2.8	0.0	0.0	0.0	0.0				53.3	0.0	51.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.4	1.3				88.6	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	1.5	0.0	0.0	0.2	0.4				10.5	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	2.9	0.0	0.0	0.4	1.3				141.9	0.0	54.7
LnGrp LOS	A	A		A	A	A				F	A	D
Approach Vol, veh/h		874	A		2132						671	
Approach Delay, s/veh		2.9			0.7						112.5	
Approach LOS		A			A						F	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		102.0		18.0		102.0						
Change Period (Y+Rc), s		6.0		6.0		6.0						
Max Green Setting (Gmax), s		96.0		12.0		96.0						
Max Q Clear Time (g_c+I1), s		8.7		15.3		2.0						
Green Ext Time (p_c), s		14.2		0.0		43.1						

Intersection Summary

HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

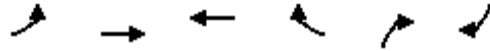
Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

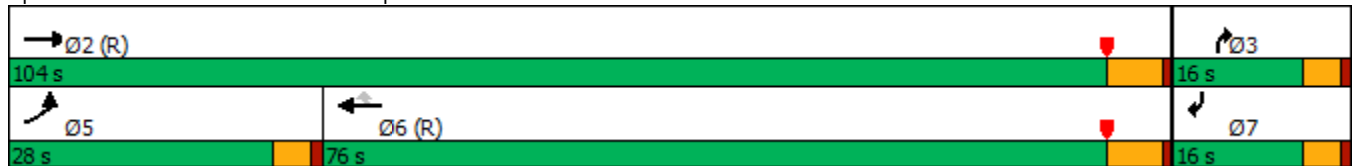


Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations	↶	↷	↷	↷	↶	↶
Traffic Volume (vph)	166	1046	1548	665	297	414
Future Volume (vph)	166	1046	1548	665	297	414
Turn Type	Prot	NA	NA	Perm	Prot	Prot
Protected Phases	5	2	6		3	7
Permitted Phases				6		
Detector Phase	5	2	6	6	3	7
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	4.0	4.0
Minimum Split (s)	9.5	11.0	33.0	33.0	8.5	8.5
Total Split (s)	28.0	104.0	76.0	76.0	16.0	16.0
Total Split (%)	23.3%	86.7%	63.3%	63.3%	13.3%	13.3%
Yellow Time (s)	3.5	5.0	5.0	5.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3	-1.3	0.0	-1.3	0.0
Total Lost Time (s)	4.5	4.7	4.7	6.0	3.2	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes					
Recall Mode	None	C-Max	C-Max	C-Max	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM Signalized Intersection Capacity Analysis
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗			↗↗			↗↗
Traffic Volume (vph)	166	1046	0	0	1548	665	0	0	297	0	0	414
Future Volume (vph)	166	1046	0	0	1548	665	0	0	297	0	0	414
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	14	14	12	14	14	12	12	14
Total Lost time (s)	4.5	4.7			4.7	6.0			3.2			4.5
Lane Util. Factor	*1.00	*1.00			*1.00	*1.00			*1.00			*1.00
Frbp, ped/bikes	1.00	1.00			1.00	1.00			1.00			1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00			1.00			1.00
Frt	1.00	1.00			1.00	1.00			1.00			1.00
Flt Protected	1.00	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	1778	3860			3935	1949			4013			4013
Flt Permitted	1.00	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	1778	3860			3935	1949			4013			4013
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	177	1113	0	0	1647	707	0	0	316	0	0	440
RTOR Reduction (vph)	0	0	0	0	0	142	0	0	297	0	0	418
Lane Group Flow (vph)	177	1113	0	0	1647	565	0	0	19	0	0	22
Confl. Peds. (#/hr)												5
Heavy Vehicles (%)	14%	5%	0%	0%	3%	4%	0%	0%	1%	0%	0%	1%
Turn Type	Prot	NA			NA	Perm			Prot			Prot
Protected Phases	5	2			6				3			7
Permitted Phases						6						
Actuated Green, G (s)	16.3	103.6			82.8	82.8			5.9			5.9
Effective Green, g (s)	16.3	104.9			84.1	82.8			7.2			5.9
Actuated g/C Ratio	0.14	0.87			0.70	0.69			0.06			0.05
Clearance Time (s)	4.5	6.0			6.0	6.0			4.5			4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0			3.0			3.0
Lane Grp Cap (vph)	241	3374			2757	1344			240			197
v/s Ratio Prot	c0.10	0.29			c0.42				0.00			c0.01
v/s Ratio Perm						0.29						
v/c Ratio	0.73	0.33			0.60	0.42			0.08			0.11
Uniform Delay, d1	49.8	1.3			9.2	8.1			53.3			54.5
Progression Factor	1.26	1.34			1.00	1.00			1.00			1.00
Incremental Delay, d2	9.3	0.2			1.0	1.0			0.1			0.2
Delay (s)	72.0	2.0			10.2	9.1			53.4			54.8
Level of Service	E	A			B	A			D			D
Approach Delay (s)		11.6			9.9			53.4			54.8	
Approach LOS		B			A			D			D	

Intersection Summary

HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.7
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑↑	↗	↑	↗	↙	↑	↗
Traffic Volume (vph)	130	827	387	86	1427	420	100	104	64	175	366
Future Volume (vph)	130	827	387	86	1427	420	100	104	64	175	366
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	5	2	3	1	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	35.2	9.6	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	18.0	50.4	23.0	16.6	49.0	23.0	38.8	38.8	14.2	30.0	30.0
Total Split (%)	15.0%	42.0%	19.2%	13.8%	40.8%	19.2%	32.3%	32.3%	11.8%	25.0%	25.0%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.5	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	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	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 111.9
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	130	827	387	86	1427	37	420	100	104	64	175	366
Future Volume (veh/h)	130	827	387	86	1427	37	420	100	104	64	175	366
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	853	317	89	1471	35	433	103	68	66	180	356
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	163	1362	800	113	1834	44	503	595	504	85	420	356
Arrive On Green	0.09	0.36	0.36	0.06	0.34	0.34	0.14	0.32	0.32	0.05	0.22	0.22
Sat Flow, veh/h	1781	3741	1584	1781	5458	130	3563	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	134	853	317	89	1008	498	433	103	68	66	180	356
Grp Sat Flow(s),veh/h/ln	1781	1870	1584	1781	1870	1847	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.8	19.9	13.1	5.2	26.0	26.0	12.6	4.2	3.2	3.9	8.7	23.8
Cycle Q Clear(g_c), s	7.8	19.9	13.1	5.2	26.0	26.0	12.6	4.2	3.2	3.9	8.7	23.8
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	163	1362	800	113	1257	621	503	595	504	85	420	356
V/C Ratio(X)	0.82	0.63	0.40	0.79	0.80	0.80	0.86	0.17	0.13	0.78	0.43	1.00
Avail Cap(c_a), veh/h	225	1561	884	202	1501	741	619	595	504	161	420	356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	27.7	16.2	48.9	32.0	32.0	44.5	26.1	25.7	49.9	35.2	41.1
Incr Delay (d2), s/veh	11.4	0.6	0.3	4.5	2.7	5.4	8.7	0.6	0.6	5.6	3.2	47.6
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	3.8	8.4	4.5	2.3	11.2	11.5	6.0	1.9	1.3	1.8	4.1	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	28.4	16.5	53.4	34.7	37.3	53.2	26.7	26.3	55.5	38.4	88.7
LnGrp LOS	E	C	B	D	C	D	D	C	C	E	D	F
Approach Vol, veh/h		1304			1595			604			602	
Approach Delay, s/veh		28.6			36.6			45.7			70.0	
Approach LOS		C			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	45.1	19.6	30.0	14.3	42.1	9.7	39.9				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	12.0	* 44	18.4	23.8	13.4	42.5	9.6	32.6				
Max Q Clear Time (g_c+I1), s	7.2	21.9	14.6	25.8	9.8	28.0	5.9	6.2				
Green Ext Time (p_c), s	0.0	6.6	0.4	0.0	0.0	7.7	0.0	0.7				

Intersection Summary

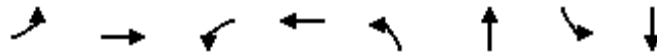
HCM 6th Ctrl Delay	40.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

5: Menifee Rd. & Holland Rd.

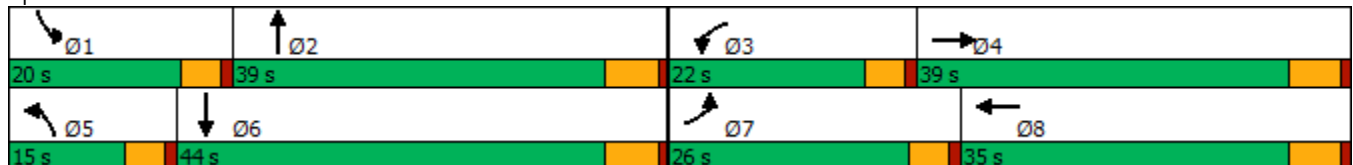


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	124	86	92	187	44	312	76	292
Future Volume (vph)	124	86	92	187	44	312	76	292
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	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	32.8	9.6	32.8	9.6	32.8	9.6	32.8
Total Split (s)	26.0	39.0	22.0	35.0	15.0	39.0	20.0	44.0
Total Split (%)	21.7%	32.5%	18.3%	29.2%	12.5%	32.5%	16.7%	36.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	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
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	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 72.2
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Menifee Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
5: Menifee Rd. & Holland Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	124	86	17	92	187	140	44	312	104	76	292	95
Future Volume (veh/h)	124	86	17	92	187	140	44	312	104	76	292	95
Initial Q (Qb), 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		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	157	109	22	116	237	177	56	395	132	96	370	120
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	698	137	150	407	291	92	648	214	124	705	226
Arrive On Green	0.11	0.24	0.24	0.08	0.21	0.21	0.05	0.25	0.25	0.07	0.27	0.27
Sat Flow, veh/h	1781	2960	582	1781	1967	1405	1781	2608	860	1781	2644	845
Grp Volume(v), veh/h	157	64	67	116	213	201	56	267	260	96	247	243
Grp Sat Flow(s),veh/h/ln	1781	1777	1766	1781	1777	1596	1781	1777	1691	1781	1777	1713
Q Serve(g_s), s	4.9	1.7	1.7	3.7	6.2	6.6	1.8	7.7	7.8	3.0	6.8	7.0
Cycle Q Clear(g_c), s	4.9	1.7	1.7	3.7	6.2	6.6	1.8	7.7	7.8	3.0	6.8	7.0
Prop In Lane	1.00		0.33	1.00		0.88	1.00		0.51	1.00		0.49
Lane Grp Cap(c), veh/h	202	419	416	150	368	330	92	441	420	124	474	457
V/C Ratio(X)	0.78	0.15	0.16	0.77	0.58	0.61	0.61	0.61	0.62	0.77	0.52	0.53
Avail Cap(c_a), veh/h	663	1025	1019	539	902	810	322	1025	976	477	1180	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	24.8	17.4	17.5	25.8	20.5	20.7	26.7	19.1	19.2	26.3	18.0	18.0
Incr Delay (d2), s/veh	2.5	0.2	0.2	3.1	1.4	1.8	2.5	1.3	1.5	3.8	0.9	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	2.0	0.6	0.6	1.5	2.3	2.3	0.7	2.8	2.8	1.3	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	17.6	17.6	28.9	22.0	22.5	29.2	20.5	20.7	30.1	18.8	19.0
LnGrp LOS	C	B	B	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		288			530			583			586	
Approach Delay, s/veh		22.9			23.7			21.4			20.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	20.1	9.5	19.4	7.6	21.1	11.1	17.7				
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	15.4	33.2	17.4	33.2	10.4	38.2	21.4	29.2				
Max Q Clear Time (g_c+I1), s	5.0	9.8	5.7	3.7	3.8	9.0	6.9	8.6				
Green Ext Time (p_c), s	0.1	2.9	0.1	0.6	0.0	2.8	0.2	2.2				

Intersection Summary

HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

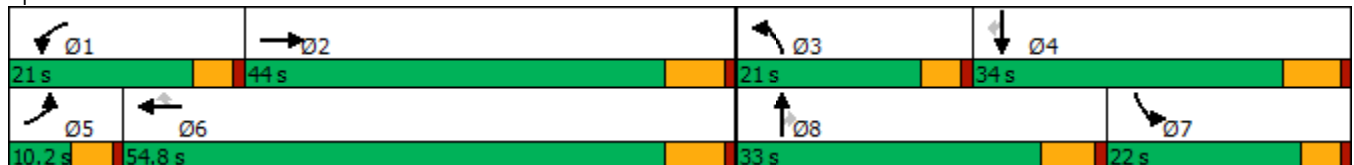


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↖↗	↖	↖↖↖	↖	↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	63	563	118	821	162	115	183	72	126	222	93
Future Volume (vph)	63	563	118	821	162	115	183	72	126	222	93
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
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	10.0
Minimum Split (s)	9.6	36.5	9.6	27.5	27.5	9.6	21.8	21.8	9.6	33.2	33.2
Total Split (s)	10.2	44.0	21.0	54.8	54.8	21.0	33.0	33.0	22.0	34.0	34.0
Total Split (%)	8.5%	36.7%	17.5%	45.7%	45.7%	17.5%	27.5%	27.5%	18.3%	28.3%	28.3%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	4.8	4.8	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	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 99.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗		↖	↖↖↖	↖	↖	↖	↖	↖	↖	↖
Traffic Volume (veh/h)	63	563	125	118	821	162	115	183	72	126	222	93
Future Volume (veh/h)	63	563	125	118	821	162	115	183	72	126	222	93
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	66	593	120	124	864	156	121	193	45	133	234	84
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	156	742	150	156	1506	468	152	573	479	166	613	512
Arrive On Green	0.05	0.25	0.25	0.09	0.30	0.30	0.09	0.31	0.31	0.09	0.33	0.33
Sat Flow, veh/h	3456	2933	592	1781	5106	1585	1781	1870	1565	1781	1870	1562
Grp Volume(v), veh/h	66	359	354	124	864	156	121	193	45	133	234	84
Grp Sat Flow(s),veh/h/ln	1728	1777	1748	1781	1702	1585	1781	1870	1565	1781	1870	1562
Q Serve(g_s), s	1.7	16.8	16.9	6.1	12.7	4.5	5.9	7.1	1.3	6.5	8.5	3.4
Cycle Q Clear(g_c), s	1.7	16.8	16.9	6.1	12.7	4.5	5.9	7.1	1.3	6.5	8.5	3.4
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	449	442	156	1506	468	152	573	479	166	613	512
V/C Ratio(X)	0.42	0.80	0.80	0.80	0.57	0.33	0.79	0.34	0.09	0.80	0.38	0.16
Avail Cap(c_a), veh/h	218	751	739	329	2778	862	329	573	479	349	613	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	41.2	31.0	31.1	39.7	26.6	10.8	39.8	23.8	10.9	39.5	22.9	21.2
Incr Delay (d2), s/veh	0.7	3.3	3.4	3.5	0.3	0.4	3.5	1.6	0.4	3.4	1.8	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	0.7	6.9	6.8	2.6	4.7	2.3	2.6	3.2	0.7	2.8	3.7	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.9	34.3	34.5	43.2	26.9	11.2	43.3	25.4	11.3	42.8	24.8	21.9
LnGrp LOS	D	C	C	D	C	B	D	C	B	D	C	C
Approach Vol, veh/h		779			1144			359			451	
Approach Delay, s/veh		35.1			26.5			29.7			29.6	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	29.0	12.2	35.3	8.6	32.7	14.5	33.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	6.2	* 5.8				
Max Green Setting (Gmax), s	16.4	37.5	16.4	27.8	5.6	48.3	17.4	* 27				
Max Q Clear Time (g_c+I1), s	8.1	18.9	7.9	10.5	3.7	14.7	8.5	9.1				
Green Ext Time (p_c), s	0.1	3.6	0.1	1.3	0.0	6.4	0.1	1.0				

Intersection Summary

HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

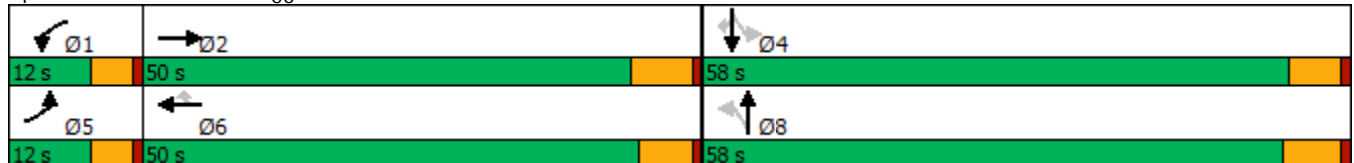


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↗	↙	↕		↕	↗
Traffic Volume (vph)	11	512	7	769	7	260	5	18	16	56
Future Volume (vph)	11	512	7	769	7	260	5	18	16	56
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		4		4
Detector Phase	5	2	1	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	50.0	12.0	50.0	50.0	58.0	58.0	58.0	58.0	58.0
Total Split (%)	10.0%	41.7%	10.0%	41.7%	41.7%	48.3%	48.3%	48.3%	48.3%	48.3%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	4.8	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
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	5.8	5.8	6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 92.9
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	512	255	7	769	7	260	5	11	18	16	56
Future Volume (veh/h)	11	512	255	7	769	7	260	5	11	18	16	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	11	522	214	7	785	4	265	5	7	18	16	23
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	24	687	280	16	976	435	794	377	528	491	421	848
Arrive On Green	0.01	0.28	0.28	0.01	0.27	0.27	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	1781	2461	1005	1781	3554	1585	1368	705	987	813	786	1585
Grp Volume(v), veh/h	11	376	360	7	785	4	265	0	12	34	0	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1689	1781	1777	1585	1368	0	1693	1599	0	1585
Q Serve(g_s), s	0.6	18.9	19.0	0.4	20.1	0.2	11.1	0.0	0.3	0.0	0.0	0.7
Cycle Q Clear(g_c), s	0.6	18.9	19.0	0.4	20.1	0.2	11.9	0.0	0.3	0.8	0.0	0.7
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.58	0.53		1.00
Lane Grp Cap(c), veh/h	24	496	471	16	976	435	794	0	905	912	0	848
V/C Ratio(X)	0.47	0.76	0.76	0.44	0.80	0.01	0.33	0.00	0.01	0.04	0.00	0.03
Avail Cap(c_a), veh/h	135	792	753	135	1610	718	794	0	905	912	0	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	47.8	32.2	32.2	48.1	33.0	25.7	13.6	0.0	10.6	10.8	0.0	10.7
Incr Delay (d2), s/veh	5.3	2.4	2.6	7.1	1.6	0.0	1.1	0.0	0.0	0.1	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	7.8	7.4	0.2	8.1	0.1	3.2	0.0	0.1	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.1	34.6	34.8	55.2	34.6	25.7	14.7	0.0	10.7	10.8	0.0	10.8
LnGrp LOS	D	C	C	E	C	C	B	A	B	B	A	B
Approach Vol, veh/h		747			796			277				57
Approach Delay, s/veh		35.0			34.7			14.5				10.8
Approach LOS		C			C			B				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	33.7		58.4	5.9	33.3		58.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	7.4	43.5		* 52	7.4	* 44		51.8				
Max Q Clear Time (g_c+I1), s	2.4	21.0		2.8	2.6	22.1		13.9				
Green Ext Time (p_c), s	0.0	4.0		0.2	0.0	4.7		0.8				

Intersection Summary

HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

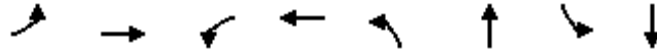
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

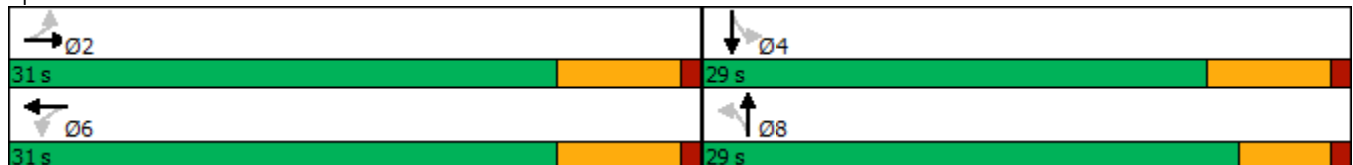


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↗	↖	↗
Traffic Volume (vph)	79	296	15	301	260	48	48	90
Future Volume (vph)	79	296	15	301	260	48	48	90
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.5	28.5	28.5	28.5	27.1	27.1	28.5	28.5
Total Split (s)	31.0	31.0	31.0	31.0	29.0	29.0	29.0	29.0
Total Split (%)	51.7%	51.7%	51.7%	51.7%	48.3%	48.3%	48.3%	48.3%
Yellow Time (s)	5.5	5.5	5.5	5.5	4.1	4.1	5.5	5.5
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)	6.5	6.5	6.5	6.5	5.1	5.1	6.5	6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 48.7
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	79	296	199	15	301	16	260	48	7	48	90	223
Future Volume (veh/h)	79	296	199	15	301	16	260	48	7	48	90	223
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	308	207	16	314	17	271	50	7	50	94	232
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	340	359	241	190	606	33	426	681	95	674	203	500
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1049	1042	700	885	1758	95	1054	1605	225	1346	478	1179
Grp Volume(v), veh/h	82	0	515	16	0	331	271	0	57	50	0	326
Grp Sat Flow(s),veh/h/ln	1049	0	1742	885	0	1853	1054	0	1830	1346	0	1657
Q Serve(g_s), s	3.8	0.0	15.5	1.0	0.0	8.0	14.0	0.0	1.0	1.3	0.0	7.9
Cycle Q Clear(g_c), s	11.8	0.0	15.5	16.5	0.0	8.0	21.9	0.0	1.0	2.3	0.0	7.9
Prop In Lane	1.00		0.40	1.00		0.05	1.00		0.12	1.00		0.71
Lane Grp Cap(c), veh/h	340	0	601	190	0	639	426	0	777	674	0	703
V/C Ratio(X)	0.24	0.00	0.86	0.08	0.00	0.52	0.64	0.00	0.07	0.07	0.00	0.46
Avail Cap(c_a), veh/h	435	0	758	269	0	806	426	0	777	674	0	703
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00
Uniform Delay (d), s/veh	19.4	0.0	17.2	24.8	0.0	14.7	19.5	0.0	9.6	10.3	0.0	11.6
Incr Delay (d2), s/veh	0.4	0.0	8.0	0.2	0.0	0.7	3.1	0.0	0.0	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	0.8	0.0	5.9	0.2	0.0	2.6	3.3	0.0	0.4	0.3	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	25.1	25.0	0.0	15.4	22.6	0.0	9.7	10.4	0.0	12.1
LnGrp LOS	B	A	C	C	A	B	C	A	A	B	A	B
Approach Vol, veh/h		597			347			328				376
Approach Delay, s/veh		24.4			15.8			20.3				11.9
Approach LOS		C			B			C				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.9		30.4		25.9		30.4				
Change Period (Y+Rc), s		6.5		6.5		6.5		* 6.5				
Max Green Setting (Gmax), s		24.5		22.5		24.5		* 24				
Max Q Clear Time (g_c+I1), s		17.5		9.9		18.5		23.9				
Green Ext Time (p_c), s		1.9		1.5		0.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

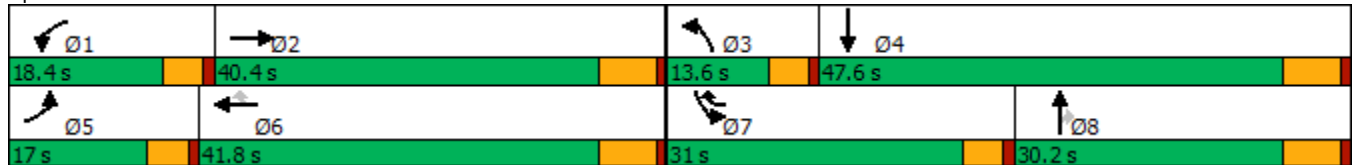


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	121	728	107	922	666	58	112	105	709	95
Future Volume (vph)	121	728	107	922	666	58	112	105	709	95
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	7	3	8		7	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	7	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	9.6	9.6	30.2	30.2	9.6	25.2
Total Split (s)	17.0	40.4	18.4	41.8	31.0	13.6	30.2	30.2	31.0	47.6
Total Split (%)	14.2%	33.7%	15.3%	34.8%	25.8%	11.3%	25.2%	25.2%	25.8%	39.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	5.2	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	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	6.2	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	728	43	107	922	666	58	112	105	709	95	143
Future Volume (veh/h)	121	728	43	107	922	666	58	112	105	709	95	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1976	1976	1900	1976	1976	1900	1976	1976	1976	1976	1976
Adj Flow Rate, veh/h	126	758	42	111	960	473	60	117	83	739	99	147
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	154	1103	61	138	1140	843	78	428	362	810	279	414
Arrive On Green	0.09	0.30	0.30	0.08	0.29	0.29	0.04	0.22	0.22	0.22	0.39	0.39
Sat Flow, veh/h	1810	3710	205	1810	3952	1675	1810	1976	1675	3764	718	1066
Grp Volume(v), veh/h	126	404	396	111	960	473	60	117	83	739	0	246
Grp Sat Flow(s),veh/h/ln	1810	1976	1939	1810	1976	1675	1810	1976	1675	1882	0	1784
Q Serve(g_s), s	7.6	20.0	20.0	6.7	25.3	21.7	3.6	5.5	4.5	21.3	0.0	10.8
Cycle Q Clear(g_c), s	7.6	20.0	20.0	6.7	25.3	21.7	3.6	5.5	4.5	21.3	0.0	10.8
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	154	588	577	138	1140	843	78	428	362	810	0	693
V/C Ratio(X)	0.82	0.69	0.69	0.80	0.84	0.56	0.77	0.27	0.23	0.91	0.00	0.35
Avail Cap(c_a), veh/h	202	610	598	225	1269	898	147	428	362	896	0	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	0.00	1.00
Uniform Delay (d), s/veh	49.9	34.4	34.4	50.4	37.1	19.0	52.5	36.2	35.8	42.5	0.0	24.0
Incr Delay (d2), s/veh	13.8	3.1	3.2	4.1	4.9	0.7	6.0	1.6	1.5	12.1	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	3.9	9.6	9.4	3.1	12.2	7.6	1.7	2.7	1.9	10.6	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	37.5	37.6	54.5	41.9	19.7	58.5	37.8	37.3	54.6	0.0	25.5
LnGrp LOS	E	D	D	D	D	B	E	D	D	D	A	C
Approach Vol, veh/h		926			1544			260				985
Approach Delay, s/veh		41.1			36.0			42.4				47.3
Approach LOS		D			D			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.1	39.2	9.4	49.3	14.0	38.2	28.4	30.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	13.8	34.2	9.0	41.4	12.4	35.6	26.4	24.0				
Max Q Clear Time (g_c+I1), s	8.7	22.0	5.6	12.8	9.6	27.3	23.3	7.5				
Green Ext Time (p_c), s	0.0	3.5	0.0	1.3	0.0	4.7	0.6	0.6				

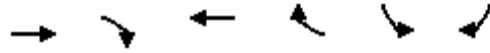
Intersection Summary

HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

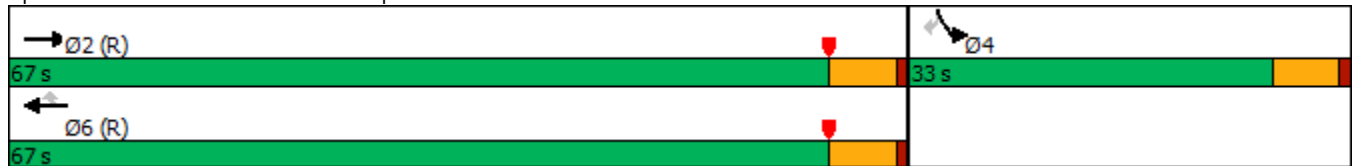


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑↑
Traffic Volume (vph)	1026	532	1438	517	622	258
Future Volume (vph)	1026	532	1438	517	622	258
Turn Type	NA	Free	NA	Perm	Prot	Perm
Protected Phases	2		6		4	
Permitted Phases		Free		6		4
Detector Phase	2		6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		34.0	34.0	11.0	11.0
Total Split (s)	67.0		67.0	67.0	33.0	33.0
Total Split (%)	67.0%		67.0%	67.0%	33.0%	33.0%
Yellow Time (s)	5.0		5.0	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3		-1.3	0.0	-1.3	-1.3
Total Lost Time (s)	4.7		4.7	6.0	4.7	4.7
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Max	C-Max	None	None

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖		↖↖
Traffic Volume (veh/h)	0	1026	532	0	1438	517	0	0	0	622	0	258
Future Volume (veh/h)	0	1026	532	0	1438	517	0	0	0	622	0	258
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	1945	1976	0	1945	1885				1930	0	1930
Adj Flow Rate, veh/h	0	1080	0	0	1514	544				655	0	272
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	0	2	1				3	0	3
Cap, veh/h	0	2681		0	2681	1080				797	0	710
Arrive On Green	0.00	0.69	0.00	0.00	1.00	1.00				0.22	0.00	0.22
Sat Flow, veh/h	0	3890	1675	0	3890	1598				3676	0	3271
Grp Volume(v), veh/h	0	1080	0	0	1514	544				655	0	272
Grp Sat Flow(s),veh/h/ln	0	1945	1675	0	1945	1598				1838	0	1635
Q Serve(g_s), s	0.0	11.9	0.0	0.0	0.0	0.0				17.0	0.0	7.1
Cycle Q Clear(g_c), s	0.0	11.9	0.0	0.0	0.0	0.0				17.0	0.0	7.1
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2681		0	2681	1080				797	0	710
V/C Ratio(X)	0.00	0.40		0.00	0.56	0.50				0.82	0.00	0.38
Avail Cap(c_a), veh/h	0	2681		0	2681	1080				1040	0	926
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.60	0.00	0.00	0.78	0.78				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.7	0.0	0.0	0.0	0.0				37.3	0.0	33.4
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.7	1.3				3.2	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	3.7	0.0	0.0	0.3	0.4				7.6	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	7.0	0.0	0.0	0.7	1.3				40.5	0.0	33.6
LnGrp LOS	A	A		A	A	A				D	A	C
Approach Vol, veh/h		1080	A		2058						927	
Approach Delay, s/veh		7.0			0.8						38.5	
Approach LOS		A			A						D	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		73.6		26.4		73.6						
Change Period (Y+Rc), s		6.0		6.0		6.0						
Max Green Setting (Gmax), s		61.0		27.0		61.0						
Max Q Clear Time (g_c+I1), s		13.9		19.0		2.0						
Green Ext Time (p_c), s		17.5		1.4		35.4						

Intersection Summary

HCM 6th Ctrl Delay			11.0									
HCM 6th LOS			B									

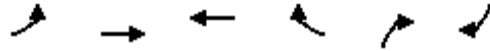
Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↗↗	↗↗
Traffic Volume (vph)	164	1482	1290	617	735	665
Future Volume (vph)	164	1482	1290	617	735	665
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		4
Detector Phase	5	2	6	6	8	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	4.0	4.0
Minimum Split (s)	9.5	11.0	33.0	33.0	22.5	22.5
Total Split (s)	21.0	72.0	51.0	51.0	28.0	28.0
Total Split (%)	21.0%	72.0%	51.0%	51.0%	28.0%	28.0%
Yellow Time (s)	3.5	5.0	5.0	5.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3	-1.3	0.0	-1.3	0.0
Total Lost Time (s)	4.5	4.7	4.7	6.0	3.2	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes					
Recall Mode	None	C-Max	C-Max	C-Max	None	None

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM Signalized Intersection Capacity Analysis
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↘	↑↑			↑↑	↗			↗↗			↗↗	
Traffic Volume (vph)	164	1482	0	0	1290	617	0	0	735	0	0	665	
Future Volume (vph)	164	1482	0	0	1290	617	0	0	735	0	0	665	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	14	14	12	12	14	14	12	14	14	12	12	14	
Total Lost time (s)	4.5	4.7			4.7	6.0			3.2			4.5	
Lane Util. Factor	*1.00	*1.00			*1.00	*1.00			*1.00			*1.00	
Frbp, ped/bikes	1.00	1.00			1.00	1.00			1.00			0.97	
Flpb, ped/bikes	1.00	1.00			1.00	1.00			1.00			1.00	
Frt	1.00	1.00			1.00	1.00			1.00			1.00	
Flt Protected	1.00	1.00			1.00	1.00			1.00			1.00	
Satd. Flow (prot)	1930	3974			4013	1912			4013			3840	
Flt Permitted	1.00	1.00			1.00	1.00			1.00			1.00	
Satd. Flow (perm)	1930	3974			4013	1912			4013			3840	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	167	1512	0	0	1316	630	0	0	750	0	0	679	
RTOR Reduction (vph)	0	0	0	0	0	306	0	0	83	0	0	490	
Lane Group Flow (vph)	167	1512	0	0	1316	324	0	0	667	0	0	189	
Confl. Peds. (#/hr)									2			5	
Confl. Bikes (#/hr)									1				
Heavy Vehicles (%)	5%	2%	0%	0%	1%	6%	0%	0%	1%	0%	0%	2%	
Turn Type	Prot	NA			NA	Perm			Prot			Perm	
Protected Phases	5	2			6				8				
Permitted Phases						6						4	
Actuated Green, G (s)	12.7	68.7			51.5	51.5			20.8			20.8	
Effective Green, g (s)	12.7	70.0			52.8	51.5			22.1			20.8	
Actuated g/C Ratio	0.13	0.70			0.53	0.52			0.22			0.21	
Clearance Time (s)	4.5	6.0			6.0	6.0			4.5			4.5	
Vehicle Extension (s)	2.0	2.0			2.0	2.0			3.0			3.0	
Lane Grp Cap (vph)	245	2781			2118	984			886			798	
v/s Ratio Prot	c0.09	0.38			c0.33				c0.17				
v/s Ratio Perm						0.17						0.05	
v/c Ratio	0.68	0.54			0.62	0.33			0.75			0.24	
Uniform Delay, d1	41.7	7.3			16.6	14.2			36.4			33.0	
Progression Factor	1.46	1.36			1.00	1.00			1.00			1.00	
Incremental Delay, d2	5.7	0.7			1.4	0.9			3.6			0.2	
Delay (s)	66.8	10.6			18.0	15.1			40.0			33.1	
Level of Service	E	B			B	B			D			C	
Approach Delay (s)		16.2			17.0			40.0			33.1		
Approach LOS		B			B			D			C		
Intersection Summary													
HCM 2000 Control Delay			22.3									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.67										
Actuated Cycle Length (s)			100.0									Sum of lost time (s)	13.7
Intersection Capacity Utilization			74.1%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

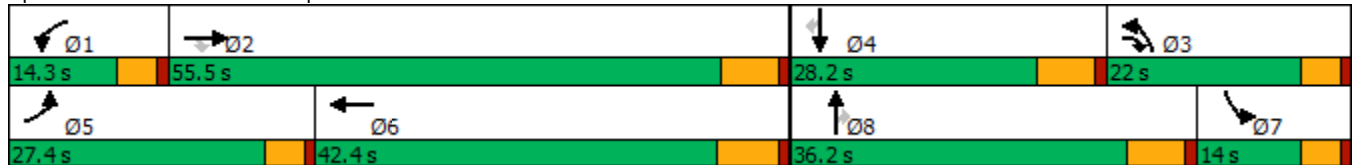


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↘	↙	↕	↙	↕	↘	↙	↕	↘
Traffic Volume (vph)	274	1473	471	139	1144	519	269	233	98	175	243
Future Volume (vph)	274	1473	471	139	1144	519	269	233	98	175	243
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	5	2	3	1	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	35.2	9.6	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	27.4	55.5	22.0	14.3	42.4	22.0	36.2	36.2	14.0	28.2	28.2
Total Split (%)	22.8%	46.3%	18.3%	11.9%	35.3%	18.3%	30.2%	30.2%	11.7%	23.5%	23.5%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.5	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	274	1473	471	139	1144	73	519	269	233	98	175	243
Future Volume (veh/h)	274	1473	471	139	1144	73	519	269	233	98	175	243
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	280	1503	378	142	1167	70	530	274	146	100	179	201
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	306	1533	879	144	1669	100	515	466	395	139	342	290
Arrive On Green	0.17	0.41	0.41	0.08	0.32	0.32	0.14	0.25	0.25	0.08	0.18	0.18
Sat Flow, veh/h	1781	3741	1585	1781	5240	314	3563	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	280	1503	378	142	833	404	530	274	146	100	179	201
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1814	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	18.6	47.7	4.5	9.6	23.5	23.5	17.4	15.5	7.1	6.6	10.4	9.7
Cycle Q Clear(g_c), s	18.6	47.7	4.5	9.6	23.5	23.5	17.4	15.5	7.1	6.6	10.4	9.7
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	306	1533	879	144	1192	578	515	466	395	139	342	290
V/C Ratio(X)	0.91	0.98	0.43	0.99	0.70	0.70	1.03	0.59	0.37	0.72	0.52	0.69
Avail Cap(c_a), veh/h	338	1533	879	144	1192	578	515	466	395	139	342	290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	48.9	35.0	5.5	55.2	35.9	35.9	51.4	39.7	22.3	54.2	44.4	21.3
Incr Delay (d2), s/veh	25.8	18.4	0.3	71.4	1.8	3.7	47.1	5.3	2.6	14.3	5.6	12.8
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	10.1	23.9	2.3	7.0	10.4	10.3	11.0	7.7	3.7	3.4	5.1	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	53.5	5.8	126.6	37.8	39.7	98.6	45.0	24.9	68.5	50.0	34.1
LnGrp LOS	E	D	A	F	D	D	F	D	C	E	D	C
Approach Vol, veh/h		2161			1379			950			480	
Approach Delay, s/veh		47.9			47.5			71.8			47.2	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.3	55.8	22.0	28.2	25.3	44.8	14.0	36.2				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	9.7	* 49	17.4	22.0	22.8	35.9	9.4	30.0				
Max Q Clear Time (g_c+I1), s	11.6	49.7	19.4	12.4	20.6	25.5	8.6	17.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.1	5.1	0.0	1.6				

Intersection Summary

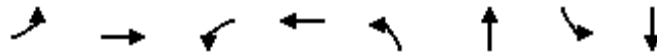
HCM 6th Ctrl Delay	52.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

5: Menifee Rd. & Holland Rd.

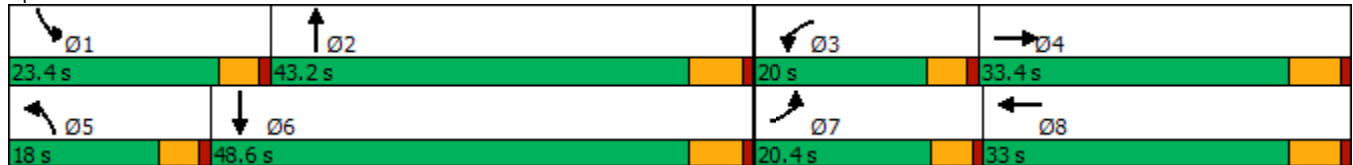


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕
Traffic Volume (vph)	114	262	108	173	93	515	146	471
Future Volume (vph)	114	262	108	173	93	515	146	471
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	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	32.8	9.6	32.8	9.6	32.8	9.6	32.8
Total Split (s)	20.4	33.4	20.0	33.0	18.0	43.2	23.4	48.6
Total Split (%)	17.0%	27.8%	16.7%	27.5%	15.0%	36.0%	19.5%	40.5%
Yellow Time (s)	3.6	4.8	3.6	4.8	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
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	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 85.9
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Menifee Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
5: Menifee Rd. & Holland Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	262	124	108	173	91	93	515	190	146	471	129
Future Volume (veh/h)	114	262	124	108	173	91	93	515	190	146	471	129
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	121	279	132	115	184	97	99	548	202	155	501	137
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	156	428	196	149	405	203	128	754	277	197	927	252
Arrive On Green	0.09	0.18	0.18	0.08	0.18	0.18	0.07	0.30	0.30	0.11	0.34	0.34
Sat Flow, veh/h	1781	2350	1079	1781	2277	1142	1781	2532	930	1781	2753	748
Grp Volume(v), veh/h	121	209	202	115	142	139	99	384	366	155	322	316
Grp Sat Flow(s),veh/h/ln	1781	1777	1653	1781	1777	1642	1781	1777	1686	1781	1777	1724
Q Serve(g_s), s	4.2	7.0	7.3	4.0	4.5	4.9	3.5	12.3	12.4	5.4	9.4	9.5
Cycle Q Clear(g_c), s	4.2	7.0	7.3	4.0	4.5	4.9	3.5	12.3	12.4	5.4	9.4	9.5
Prop In Lane	1.00		0.65	1.00		0.70	1.00		0.55	1.00		0.43
Lane Grp Cap(c), veh/h	156	323	301	149	316	292	128	529	502	197	598	581
V/C Ratio(X)	0.78	0.65	0.67	0.77	0.45	0.48	0.77	0.73	0.73	0.79	0.54	0.54
Avail Cap(c_a), veh/h	441	769	715	430	758	700	374	1042	988	525	1192	1157
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	28.5	24.2	24.3	28.6	23.4	23.6	29.1	20.1	20.1	27.6	17.1	17.2
Incr Delay (d2), s/veh	3.1	2.2	2.6	3.2	1.0	1.2	3.7	1.9	2.1	2.6	0.8	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	1.8	2.8	2.7	1.7	1.8	1.8	1.5	4.6	4.4	2.2	3.4	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	26.3	26.9	31.9	24.4	24.8	32.8	22.0	22.1	30.3	17.9	18.0
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		532			396			849			793	
Approach Delay, s/veh		27.8			26.7			23.3			20.3	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	24.8	9.9	17.4	9.2	27.3	10.2	17.1				
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	18.8	37.4	15.4	27.6	13.4	42.8	15.8	27.2				
Max Q Clear Time (g_c+I1), s	7.4	14.4	6.0	9.3	5.5	11.5	6.2	6.9				
Green Ext Time (p_c), s	0.1	4.4	0.1	2.1	0.1	3.8	0.1	1.4				

Intersection Summary

HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

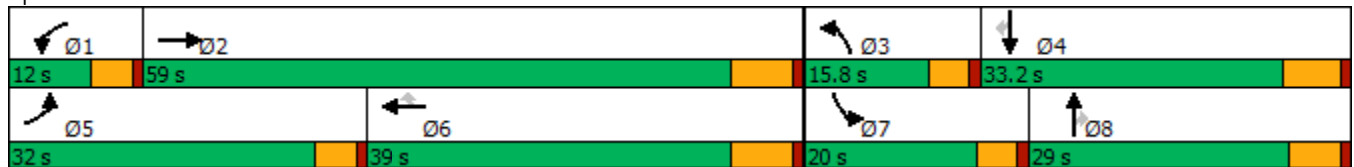


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↕↕↕	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (vph)	322	1263	132	1068	204	151	253	166	157	116	206
Future Volume (vph)	322	1263	132	1068	204	151	253	166	157	116	206
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
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	10.0
Minimum Split (s)	9.6	36.5	9.6	27.5	27.5	9.6	21.8	21.8	9.6	33.2	33.2
Total Split (s)	32.0	59.0	12.0	39.0	39.0	15.8	29.0	29.0	20.0	33.2	33.2
Total Split (%)	26.7%	49.2%	10.0%	32.5%	32.5%	13.2%	24.2%	24.2%	16.7%	27.7%	27.7%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	4.8	4.8	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	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	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	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗↘	↗↘		↗	↗↗↗	↗	↗	↗	↗	↗	↗	↗
Traffic Volume (veh/h)	322	1263	165	132	1068	204	151	253	166	157	116	206
Future Volume (veh/h)	322	1263	165	132	1068	204	151	253	166	157	116	206
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	339	1329	154	139	1124	203	159	266	104	165	122	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	404	1393	160	110	1940	595	167	396	336	192	423	358
Arrive On Green	0.12	0.44	0.44	0.06	0.38	0.38	0.09	0.21	0.21	0.11	0.23	0.23
Sat Flow, veh/h	3456	3203	369	1781	5106	1565	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	339	734	749	139	1124	203	159	266	104	165	122	191
Grp Sat Flow(s),veh/h/ln	1728	1777	1795	1781	1702	1565	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	11.5	47.5	48.4	7.4	20.9	11.0	10.6	15.6	6.6	10.9	6.5	12.7
Cycle Q Clear(g_c), s	11.5	47.5	48.4	7.4	20.9	11.0	10.6	15.6	6.6	10.9	6.5	12.7
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	404	773	781	110	1940	595	167	396	336	192	423	358
V/C Ratio(X)	0.84	0.95	0.96	1.26	0.58	0.34	0.95	0.67	0.31	0.86	0.29	0.53
Avail Cap(c_a), veh/h	793	781	789	110	1940	595	167	396	336	230	423	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	32.5	32.7	56.0	29.4	26.4	53.9	43.2	39.7	52.4	38.3	40.7
Incr Delay (d2), s/veh	1.8	20.7	22.6	171.0	0.4	0.3	55.0	8.7	2.4	20.8	1.7	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	4.9	22.8	23.8	8.4	8.0	4.0	7.2	8.0	2.7	5.8	3.1	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.5	53.1	55.3	227.1	29.9	26.7	108.9	52.0	42.1	73.2	40.0	46.3
LnGrp LOS	D	D	E	F	C	C	F	D	D	E	D	D
Approach Vol, veh/h		1822			1466			529			478	
Approach Delay, s/veh		54.1			48.1			67.2			54.0	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	58.5	15.8	33.2	18.6	51.9	17.5	31.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	* 6.2				
Max Green Setting (Gmax), s	7.4	52.5	11.2	27.0	27.4	32.5	15.4	* 23				
Max Q Clear Time (g_c+I1), s	9.4	50.4	12.6	14.7	13.5	22.9	12.9	17.6				
Green Ext Time (p_c), s	0.0	1.6	0.0	0.9	0.5	5.1	0.0	0.8				

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.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↙	↕		↕	↙
Traffic Volume (vph)	214	1004	4	908	19	263	14	10	5	153
Future Volume (vph)	214	1004	4	908	19	263	14	10	5	153
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		4		4
Detector Phase	5	2	1	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8	37.8
Total Split (s)	28.0	68.4	9.6	50.0	50.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	23.3%	57.0%	8.0%	41.7%	41.7%	35.0%	35.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	4.8	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
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	5.8	5.8	6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 106
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗			↖	↗
Traffic Volume (veh/h)	214	1004	253	4	908	19	263	14	11	10	5	153
Future Volume (veh/h)	214	1004	253	4	908	19	263	14	11	10	5	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	230	1080	240	4	976	16	283	15	9	11	5	145
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	263	1360	301	9	1165	520	499	389	233	418	180	562
Arrive On Green	0.15	0.47	0.47	0.01	0.33	0.33	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	2892	640	1781	3554	1585	1237	1095	657	1011	507	1585
Grp Volume(v), veh/h	230	661	659	4	976	16	283	0	24	16	0	145
Grp Sat Flow(s),veh/h/ln	1781	1777	1755	1781	1777	1585	1237	0	1752	1518	0	1585
Q Serve(g_s), s	12.9	32.0	32.4	0.2	26.0	0.7	19.8	0.0	0.9	0.0	0.0	6.6
Cycle Q Clear(g_c), s	12.9	32.0	32.4	0.2	26.0	0.7	20.7	0.0	0.9	0.9	0.0	6.6
Prop In Lane	1.00		0.36	1.00		1.00	1.00		0.38	0.69		1.00
Lane Grp Cap(c), veh/h	263	836	825	9	1165	520	499	0	622	598	0	562
V/C Ratio(X)	0.87	0.79	0.80	0.43	0.84	0.03	0.57	0.00	0.04	0.03	0.00	0.26
Avail Cap(c_a), veh/h	409	1078	1065	87	1540	687	499	0	622	598	0	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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.6	22.8	22.9	50.6	31.8	23.3	28.3	0.0	21.5	21.4	0.0	23.4
Incr Delay (d2), s/veh	8.2	3.1	3.3	11.1	3.2	0.0	4.6	0.0	0.1	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	12.3	12.4	0.1	10.6	0.2	6.0	0.0	0.4	0.3	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	25.9	26.2	61.6	35.0	23.3	32.9	0.0	21.6	21.5	0.0	24.5
LnGrp LOS	D	C	C	E	D	C	C	A	C	C	A	C
Approach Vol, veh/h		1550			996			307				161
Approach Delay, s/veh		29.7			34.9			32.0				24.2
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	54.5		42.4	19.7	40.0		42.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	5.0	61.9		* 36	23.4	* 44		35.8				
Max Q Clear Time (g_c+I1), s	2.2	34.4		8.6	14.9	28.0		22.7				
Green Ext Time (p_c), s	0.0	9.1		0.5	0.2	5.5		0.9				

Intersection Summary

HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↗	↘	↗	↘	↗	↘	↗	↘
Traffic Volume (vph)	245	516	18	523	238	113	56	101
Future Volume (vph)	245	516	18	523	238	113	56	101
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.5	28.5	28.5	28.5	27.1	27.1	28.5	28.5
Total Split (s)	41.5	41.5	41.5	41.5	28.5	28.5	28.5	28.5
Total Split (%)	59.3%	59.3%	59.3%	59.3%	40.7%	40.7%	40.7%	40.7%
Yellow Time (s)	5.5	5.5	5.5	5.5	4.1	4.1	5.5	5.5
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)	6.5	6.5	6.5	6.5	5.1	5.1	6.5	6.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 67.8
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	516	224	18	523	78	238	113	17	56	101	168
Future Volume (veh/h)	245	516	224	18	523	78	238	113	17	56	101	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	266	561	243	20	568	85	259	123	18	61	110	183
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	262	607	263	147	779	117	303	523	76	440	207	344
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	779	1238	536	677	1590	238	1086	1595	233	1248	631	1050
Grp Volume(v), veh/h	266	0	804	20	0	653	259	0	141	61	0	293
Grp Sat Flow(s),veh/h/ln	779	0	1774	677	0	1828	1086	0	1828	1248	0	1681
Q Serve(g_s), s	14.8	0.0	30.2	2.0	0.0	20.2	13.3	0.0	4.0	2.7	0.0	10.1
Cycle Q Clear(g_c), s	35.0	0.0	30.2	32.2	0.0	20.2	23.4	0.0	4.0	6.7	0.0	10.1
Prop In Lane	1.00		0.30	1.00		0.13	1.00		0.13	1.00		0.62
Lane Grp Cap(c), veh/h	262	0	870	147	0	896	303	0	599	440	0	551
V/C Ratio(X)	1.02	0.00	0.92	0.14	0.00	0.73	0.86	0.00	0.24	0.14	0.00	0.53
Avail Cap(c_a), veh/h	262	0	870	147	0	896	303	0	599	440	0	551
HCM Platoon Ratio	1.00	1.00	1.00	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	0.00	1.00
Uniform Delay (d), s/veh	31.2	0.0	17.0	32.0	0.0	14.4	30.5	0.0	17.5	19.9	0.0	19.5
Incr Delay (d2), s/veh	59.6	0.0	15.4	0.4	0.0	3.0	20.7	0.0	0.2	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	0.0	12.7	0.3	0.0	7.0	6.1	0.0	1.6	0.7	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.7	0.0	32.4	32.4	0.0	17.5	51.2	0.0	17.7	20.1	0.0	20.5
LnGrp LOS	F	A	C	C	A	B	D	A	B	C	A	C
Approach Vol, veh/h		1070			673			400			354	
Approach Delay, s/veh		46.9			17.9			39.4			20.4	
Approach LOS		D			B			D			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.5		29.9		41.5		29.9				
Change Period (Y+Rc), s		6.5		6.5		6.5		* 6.5				
Max Green Setting (Gmax), s		35.0		22.0		35.0		* 23				
Max Q Clear Time (g_c+I1), s		37.0		12.1		34.2		25.4				
Green Ext Time (p_c), s		0.0		1.2		0.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 7.12:

**EAPC (2025) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS
WITH IMPROVEMENTS**

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Timings

1: Zeiders Rd./Haun Rd. & Scott Rd.

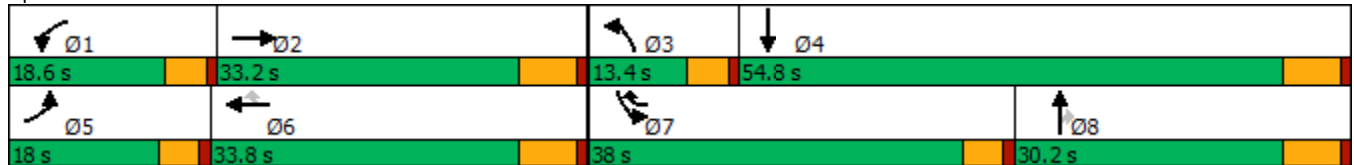


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↕↗	↙	↕↗	↕↗	↙	↕	↗	↙↗	↗
Traffic Volume (vph)	150	583	142	672	995	49	136	106	897	99
Future Volume (vph)	150	583	142	672	995	49	136	106	897	99
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	7	3	8		7	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	7	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	9.6	9.6	30.2	30.2	9.6	25.2
Total Split (s)	18.0	33.2	18.6	33.8	38.0	13.4	30.2	30.2	38.0	54.8
Total Split (%)	15.0%	27.7%	15.5%	28.2%	31.7%	11.2%	25.2%	25.2%	31.7%	45.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	5.2	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	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	6.2	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.4
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	583	49	142	672	995	49	136	106	897	99	103
Future Volume (veh/h)	150	583	49	142	672	995	49	136	106	897	99	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1976	1976	1900	1976	1976	1900	1976	1976	1976	1976	1976
Adj Flow Rate, veh/h	170	662	55	161	764	832	56	155	117	1019	112	110
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	197	823	68	188	885	1695	73	400	339	1062	407	400
Arrive On Green	0.11	0.23	0.23	0.10	0.22	0.22	0.04	0.20	0.20	0.28	0.44	0.44
Sat Flow, veh/h	1810	3599	299	1810	3952	3349	1810	1976	1675	3764	915	899
Grp Volume(v), veh/h	170	363	354	161	764	832	56	155	117	1019	0	222
Grp Sat Flow(s),veh/h/ln	1810	1976	1922	1810	1976	1675	1810	1976	1675	1882	0	1814
Q Serve(g_s), s	10.9	20.6	20.6	10.4	22.0	19.3	3.6	8.0	7.1	31.6	0.0	9.2
Cycle Q Clear(g_c), s	10.9	20.6	20.6	10.4	22.0	19.3	3.6	8.0	7.1	31.6	0.0	9.2
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	197	452	440	188	885	1695	73	400	339	1062	0	807
V/C Ratio(X)	0.86	0.80	0.80	0.85	0.86	0.49	0.77	0.39	0.34	0.96	0.00	0.28
Avail Cap(c_a), veh/h	205	452	440	214	921	1725	134	400	339	1062	0	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	43.1	43.2	52.2	44.2	19.2	56.3	40.8	40.5	41.8	0.0	20.8
Incr Delay (d2), s/veh	27.3	10.1	10.5	22.7	8.3	0.2	6.4	2.8	2.8	18.5	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	6.3	10.9	10.6	5.7	11.3	6.8	1.7	4.0	3.1	16.4	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.2	53.2	53.6	74.9	52.5	19.4	62.7	43.7	43.2	60.4	0.0	21.7
LnGrp LOS	E	D	D	E	D	B	E	D	D	E	A	C
Approach Vol, veh/h		887			1757			328			1241	
Approach Delay, s/veh		58.4			38.9			46.7			53.5	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.9	33.3	9.3	58.9	17.5	32.7	38.0	30.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	14.0	27.0	8.8	48.6	13.4	27.6	33.4	24.0				
Max Q Clear Time (g_c+I1), s	12.4	22.6	5.6	11.2	12.9	24.0	33.6	10.0				
Green Ext Time (p_c), s	0.0	1.6	0.0	1.2	0.0	2.5	0.0	0.9				

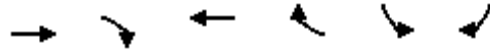
Intersection Summary

HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑↑
Traffic Volume (vph)	932	626	1567	771	471	242
Future Volume (vph)	932	626	1567	771	471	242
Turn Type	NA	Free	NA	Perm	Prot	Perm
Protected Phases	2		6		4	
Permitted Phases		Free		6		4
Detector Phase	2		6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		34.0	34.0	11.0	11.0
Total Split (s)	102.0		102.0	102.0	18.0	18.0
Total Split (%)	85.0%		85.0%	85.0%	15.0%	15.0%
Yellow Time (s)	5.0		5.0	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3		-1.3	0.0	-1.3	-1.3
Total Lost Time (s)	4.7		4.7	6.0	4.7	4.7
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Max	C-Max	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 45
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖		↖↖
Traffic Volume (veh/h)	0	932	626	0	1567	771	0	0	0	471	0	242
Future Volume (veh/h)	0	932	626	0	1567	771	0	0	0	471	0	242
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	1914	1914	0	1945	1870				1853	0	1837
Adj Flow Rate, veh/h	0	1013	0	0	1703	838				512	0	263
Peak Hour Factor	0.95	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	0	2	2				8	0	9
Cap, veh/h	0	3104		0	3154	1268				391	0	345
Arrive On Green	0.00	0.81	0.00	0.00	1.00	1.00				0.11	0.00	0.11
Sat Flow, veh/h	0	3829	1622	0	3890	1585				3529	0	3114
Grp Volume(v), veh/h	0	1013	0	0	1703	838				512	0	263
Grp Sat Flow(s),veh/h/ln	0	1914	1622	0	1945	1585				1764	0	1557
Q Serve(g_s), s	0.0	8.2	0.0	0.0	0.0	0.0				13.3	0.0	9.8
Cycle Q Clear(g_c), s	0.0	8.2	0.0	0.0	0.0	0.0				13.3	0.0	9.8
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3104		0	3154	1268				391	0	345
V/C Ratio(X)	0.00	0.33		0.00	0.54	0.66				1.31	0.00	0.76
Avail Cap(c_a), veh/h	0	3104		0	3154	1268				391	0	345
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.46	0.00	0.00	0.61	0.61				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	2.9	0.0	0.0	0.0	0.0				53.3	0.0	51.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.4	1.7				156.4	0.0	8.7
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	1.8	0.0	0.0	0.2	0.6				14.2	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	3.0	0.0	0.0	0.4	1.7				209.8	0.0	60.5
LnGrp LOS	A	A		A	A	A				F	A	E
Approach Vol, veh/h		1013	A		2541						775	
Approach Delay, s/veh		3.0			0.8						159.1	
Approach LOS		A			A						F	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		102.0		18.0		102.0						
Change Period (Y+Rc), s		6.0		6.0		6.0						
Max Green Setting (Gmax), s		96.0		12.0		96.0						
Max Q Clear Time (g_c+I1), s		10.2		15.3		2.0						
Green Ext Time (p_c), s		18.0		0.0		59.8						

Intersection Summary

HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

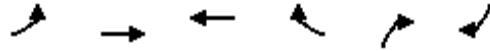
Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

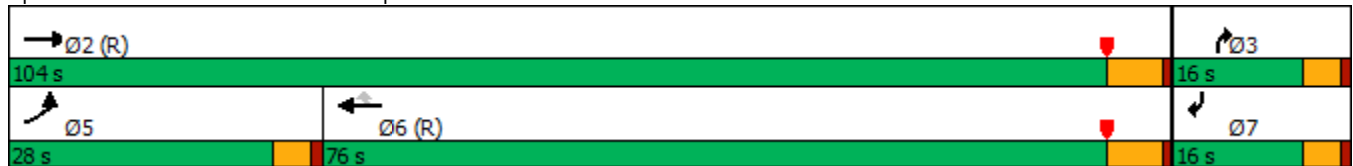


Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations	↵	↑↑	↑↑	↵	↵↵	↵↵
Traffic Volume (vph)	194	1209	1849	789	356	489
Future Volume (vph)	194	1209	1849	789	356	489
Turn Type	Prot	NA	NA	Perm	Prot	Prot
Protected Phases	5	2	6		3	7
Permitted Phases				6		
Detector Phase	5	2	6	6	3	7
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	4.0	4.0
Minimum Split (s)	9.5	11.0	33.0	33.0	8.5	8.5
Total Split (s)	28.0	104.0	76.0	76.0	16.0	16.0
Total Split (%)	23.3%	86.7%	63.3%	63.3%	13.3%	13.3%
Yellow Time (s)	3.5	5.0	5.0	5.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3	-1.3	0.0	-1.3	0.0
Total Lost Time (s)	4.5	4.7	4.7	6.0	3.2	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes					
Recall Mode	None	C-Max	C-Max	C-Max	None	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM Signalized Intersection Capacity Analysis
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗			↗↗			↗↗
Traffic Volume (vph)	194	1209	0	0	1849	789	0	0	356	0	0	489
Future Volume (vph)	194	1209	0	0	1849	789	0	0	356	0	0	489
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	14	14	12	14	14	12	12	14
Total Lost time (s)	4.5	4.7			4.7	6.0			3.2			4.5
Lane Util. Factor	*1.00	*1.00			*1.00	*1.00			*1.00			*1.00
Frbp, ped/bikes	1.00	1.00			1.00	1.00			1.00			1.00
Flpb, ped/bikes	1.00	1.00			1.00	1.00			1.00			1.00
Frt	1.00	1.00			1.00	1.00			1.00			1.00
Flt Protected	1.00	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	1778	3860			3935	1949			4013			4013
Flt Permitted	1.00	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	1778	3860			3935	1949			4013			4013
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	206	1286	0	0	1967	839	0	0	379	0	0	520
RTOR Reduction (vph)	0	0	0	0	0	152	0	0	259	0	0	483
Lane Group Flow (vph)	206	1286	0	0	1967	687	0	0	120	0	0	37
Confl. Peds. (#/hr)												5
Heavy Vehicles (%)	14%	5%	0%	0%	3%	4%	0%	0%	1%	0%	0%	1%
Turn Type	Prot	NA			NA	Perm			Prot			Prot
Protected Phases	5	2			6				3			7
Permitted Phases						6						
Actuated Green, G (s)	17.9	101.0			78.6	78.6			8.5			8.5
Effective Green, g (s)	17.9	102.3			79.9	78.6			9.8			8.5
Actuated g/C Ratio	0.15	0.85			0.67	0.65			0.08			0.07
Clearance Time (s)	4.5	6.0			6.0	6.0			4.5			4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0			3.0			3.0
Lane Grp Cap (vph)	265	3290			2620	1276			327			284
v/s Ratio Prot	c0.12	0.33			c0.50				c0.03			0.01
v/s Ratio Perm						0.35						
v/c Ratio	0.78	0.39			0.75	0.54			0.37			0.13
Uniform Delay, d1	49.1	2.0			13.4	11.0			52.2			52.3
Progression Factor	1.12	1.90			1.00	1.00			1.00			1.00
Incremental Delay, d2	11.8	0.3			2.0	1.6			0.7			0.2
Delay (s)	67.0	4.0			15.4	12.7			52.9			52.5
Level of Service	E	A			B	B			D			D
Approach Delay (s)		12.7			14.6			52.9			52.5	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			20.6				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		13.7			
Intersection Capacity Utilization			76.4%				ICU Level of Service		D			
Analysis Period (min)			15									
c Critical Lane Group												

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

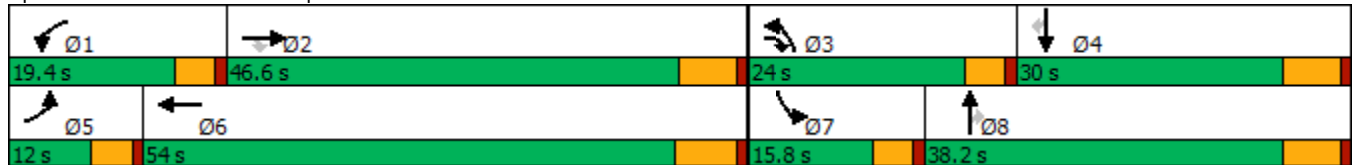


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖	↑↑↑	↖↖	↑	↗	↖	↑	↗
Traffic Volume (vph)	144	984	438	113	1759	472	115	122	74	200	406
Future Volume (vph)	144	984	438	113	1759	472	115	122	74	200	406
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	5	2	3	1	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	35.2	9.6	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	12.0	46.6	24.0	19.4	54.0	24.0	38.2	38.2	15.8	30.0	30.0
Total Split (%)	10.0%	38.8%	20.0%	16.2%	45.0%	20.0%	31.8%	31.8%	13.2%	25.0%	25.0%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.5	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	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	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.8
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔	↑↑↑		↔↔	↑	↔	↔	↑	↔
Traffic Volume (veh/h)	144	984	438	113	1759	44	472	115	122	74	200	406
Future Volume (veh/h)	144	984	438	113	1759	44	472	115	122	74	200	406
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	1014	370	116	1813	42	487	119	87	76	206	398
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	207	2052	823	142	2118	49	548	576	488	97	390	331
Arrive On Green	0.06	0.37	0.37	0.08	0.39	0.39	0.15	0.31	0.31	0.05	0.21	0.21
Sat Flow, veh/h	3563	5611	1584	1781	5462	126	3563	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	148	1014	370	116	1241	614	487	119	87	76	206	398
Grp Sat Flow(s),veh/h/ln	1781	1870	1584	1781	1870	1848	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.7	16.0	16.7	7.3	34.7	34.7	15.3	5.4	4.6	4.8	11.2	23.8
Cycle Q Clear(g_c), s	4.7	16.0	16.7	7.3	34.7	34.7	15.3	5.4	4.6	4.8	11.2	23.8
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	207	2052	823	142	1451	716	548	576	488	97	390	331
V/C Ratio(X)	0.72	0.49	0.45	0.81	0.86	0.86	0.89	0.21	0.18	0.78	0.53	1.20
Avail Cap(c_a), veh/h	231	2052	823	231	1557	769	606	576	488	175	390	331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	52.8	28.0	17.2	51.7	32.0	32.0	47.3	29.2	28.9	53.3	40.2	45.2
Incr Delay (d2), s/veh	7.1	0.2	0.4	4.4	4.7	9.0	13.3	0.8	0.8	5.1	5.0	117.1
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	5.8	3.3	15.2	15.9	7.6	2.5	1.8	2.2	5.4	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	28.2	17.6	56.1	36.7	41.0	60.6	30.0	29.7	58.4	45.2	162.2
LnGrp LOS	E	C	B	E	D	D	E	C	C	E	D	F
Approach Vol, veh/h		1532			1971			693			680	
Approach Delay, s/veh		28.7			39.2			51.5			115.2	
Approach LOS		C			D			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	48.2	22.2	30.0	11.2	50.8	10.8	41.3				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	14.8	* 40	19.4	23.8	7.4	47.5	11.2	32.0				
Max Q Clear Time (g_c+I1), s	9.3	18.7	17.3	25.8	6.7	36.7	6.8	7.4				
Green Ext Time (p_c), s	0.1	8.0	0.3	0.0	0.0	7.5	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay	48.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

5: Menifee Rd. & Holland Rd.

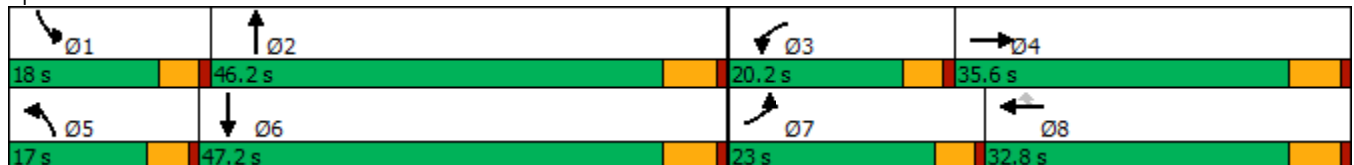


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙↘	↕	↗	↙	↕	↙	↕
Traffic Volume (vph)	207	161	276	365	205	150	664	104	731
Future Volume (vph)	207	161	276	365	205	150	664	104	731
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					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	32.8	9.6	32.8	32.8	9.6	32.8	9.6	32.8
Total Split (s)	23.0	35.6	20.2	32.8	32.8	17.0	46.2	18.0	47.2
Total Split (%)	19.2%	29.7%	16.8%	27.3%	27.3%	14.2%	38.5%	15.0%	39.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	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	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
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	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113.2
 Natural Cycle: 115
 Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Menifee Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
5: Menifee Rd. & Holland Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗↘	↗↘	↗	↗	↗↘		↗	↗↘	
Traffic Volume (veh/h)	207	161	89	276	365	205	150	664	173	104	731	184
Future Volume (veh/h)	207	161	89	276	365	205	150	664	173	104	731	184
Initial Q (Qb), 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	262	204	113	349	462	259	190	841	219	132	925	233
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	285	542	288	408	710	313	192	1027	267	159	987	248
Arrive On Green	0.16	0.24	0.24	0.12	0.20	0.20	0.11	0.37	0.37	0.09	0.35	0.35
Sat Flow, veh/h	1781	2242	1191	3456	3554	1564	1781	2777	723	1781	2810	707
Grp Volume(v), veh/h	262	160	157	349	462	259	190	538	522	132	584	574
Grp Sat Flow(s),veh/h/ln	1781	1777	1656	1728	1777	1564	1781	1777	1723	1781	1777	1740
Q Serve(g_s), s	16.7	8.6	9.1	11.4	13.7	18.3	12.2	31.5	31.5	8.4	36.6	36.7
Cycle Q Clear(g_c), s	16.7	8.6	9.1	11.4	13.7	18.3	12.2	31.5	31.5	8.4	36.6	36.7
Prop In Lane	1.00		0.72	1.00		1.00	1.00		0.42	1.00		0.41
Lane Grp Cap(c), veh/h	285	430	401	408	710	313	192	657	637	159	624	611
V/C Ratio(X)	0.92	0.37	0.39	0.86	0.65	0.83	0.99	0.82	0.82	0.83	0.94	0.94
Avail Cap(c_a), veh/h	285	460	429	469	834	367	192	657	637	208	640	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	47.6	36.3	36.5	49.8	42.3	44.1	51.2	32.7	32.7	51.5	36.0	36.1
Incr Delay (d2), s/veh	32.4	0.5	0.6	11.8	1.4	12.9	61.5	8.0	8.3	15.2	21.0	21.8
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	9.7	3.7	3.7	5.4	6.0	7.9	8.6	14.3	13.9	4.3	18.6	18.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.9	36.8	37.1	61.5	43.7	57.0	112.8	40.8	41.0	66.7	57.1	57.9
LnGrp LOS	E	D	D	E	D	E	F	D	D	E	E	E
Approach Vol, veh/h		579			1070			1250			1290	
Approach Delay, s/veh		56.4			52.7			51.8			58.4	
Approach LOS		E			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	48.3	18.2	33.6	17.0	46.2	23.0	28.8				
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	13.4	40.4	15.6	29.8	12.4	41.4	18.4	27.0				
Max Q Clear Time (g_c+I1), s	10.4	33.5	13.4	11.1	14.2	38.7	18.7	20.3				
Green Ext Time (p_c), s	0.0	3.5	0.2	1.5	0.0	1.7	0.0	2.1				

Intersection Summary

HCM 6th Ctrl Delay	54.7
HCM 6th LOS	D

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

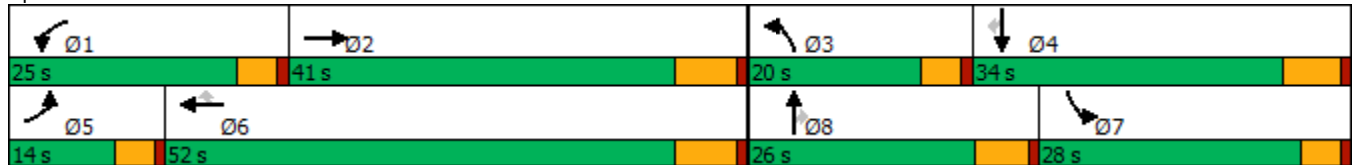


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↕↕↕	↖	↕↕↕	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (vph)	170	862	187	1313	220	140	207	202	223	251	285
Future Volume (vph)	170	862	187	1313	220	140	207	202	223	251	285
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
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	10.0
Minimum Split (s)	9.6	36.5	9.6	27.5	27.5	9.6	21.8	21.8	9.6	33.2	33.2
Total Split (s)	14.0	41.0	25.0	52.0	52.0	20.0	26.0	26.0	28.0	34.0	34.0
Total Split (%)	11.7%	34.2%	20.8%	43.3%	43.3%	16.7%	21.7%	21.7%	23.3%	28.3%	28.3%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	4.8	4.8	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	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	5.8	5.8	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 110.7
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕↔		↖	↕↔	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	170	862	146	187	1313	220	140	207	202	223	251	285
Future Volume (veh/h)	170	862	146	187	1313	220	140	207	202	223	251	285
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	179	907	142	197	1382	217	147	218	182	235	264	286
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	243	1294	202	229	1785	554	177	365	305	288	503	420
Arrive On Green	0.07	0.29	0.29	0.13	0.35	0.35	0.10	0.20	0.20	0.16	0.27	0.27
Sat Flow, veh/h	3456	4440	692	1781	5106	1585	1781	1870	1564	1781	1870	1562
Grp Volume(v), veh/h	179	694	355	197	1382	217	147	218	182	235	264	286
Grp Sat Flow(s),veh/h/ln	1728	1702	1728	1781	1702	1585	1781	1870	1564	1781	1870	1562
Q Serve(g_s), s	5.3	18.8	18.9	11.2	25.0	6.0	8.4	11.0	7.8	13.2	12.4	17.0
Cycle Q Clear(g_c), s	5.3	18.8	18.9	11.2	25.0	6.0	8.4	11.0	7.8	13.2	12.4	17.0
Prop In Lane	1.00		0.40	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	243	992	504	229	1785	554	177	365	305	288	503	420
V/C Ratio(X)	0.74	0.70	0.70	0.86	0.77	0.39	0.83	0.60	0.60	0.82	0.53	0.68
Avail Cap(c_a), veh/h	314	1135	576	351	2246	697	265	365	305	403	503	420
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	47.1	32.6	32.7	44.2	30.0	8.0	45.7	37.9	19.4	41.9	32.2	33.9
Incr Delay (d2), s/veh	4.2	1.6	3.3	8.2	1.4	0.5	8.0	7.0	8.3	6.1	3.9	8.7
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	2.3	7.4	7.8	5.2	9.5	3.6	4.0	5.5	4.6	6.0	5.8	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	34.3	36.0	52.4	31.3	8.5	53.7	44.9	27.7	48.0	36.1	42.5
LnGrp LOS	D	C	D	D	C	A	D	D	C	D	D	D
Approach Vol, veh/h		1228			1796			547			785	
Approach Delay, s/veh		37.2			30.9			41.6			42.0	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.9	36.6	14.9	34.0	11.9	42.7	22.9	26.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	6.2	* 5.8				
Max Green Setting (Gmax), s	20.4	34.5	15.4	27.8	9.4	45.5	23.4	* 20				
Max Q Clear Time (g_c+I1), s	13.2	20.9	10.4	19.0	7.3	27.0	15.2	13.0				
Green Ext Time (p_c), s	0.1	5.1	0.1	1.6	0.1	9.2	0.2	1.0				

Intersection Summary

HCM 6th Ctrl Delay	36.0
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.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

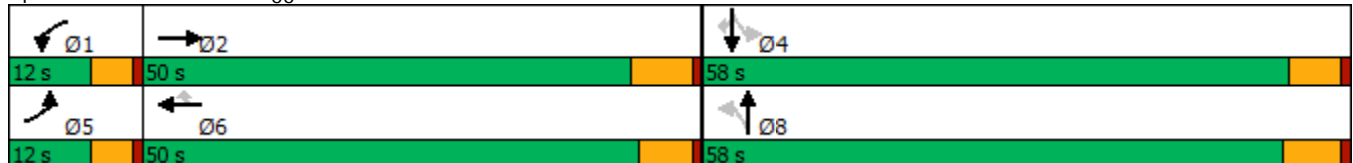


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	116	933	11	1154	30	260	5	60	16	289
Future Volume (vph)	116	933	11	1154	30	260	5	60	16	289
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		4		4
Detector Phase	5	2	1	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8	37.8
Total Split (s)	12.0	50.0	12.0	50.0	50.0	58.0	58.0	58.0	58.0	58.0
Total Split (%)	10.0%	41.7%	10.0%	41.7%	41.7%	48.3%	48.3%	48.3%	48.3%	48.3%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	4.8	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
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	5.8	5.8	6.2	6.2		5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 118.6
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	933	255	11	1154	30	260	5	12	60	16	289
Future Volume (veh/h)	116	933	255	11	1154	30	260	5	12	60	16	289
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			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	952	214	11	1178	28	265	5	8	61	16	261
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	110	1171	263	23	1268	566	509	283	452	560	141	692
Arrive On Green	0.06	0.41	0.41	0.01	0.36	0.36	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	1781	2884	647	1781	3554	1585	1102	648	1036	1159	323	1585
Grp Volume(v), veh/h	118	586	580	11	1178	28	265	0	13	77	0	261
Grp Sat Flow(s),veh/h/ln	1781	1777	1754	1781	1777	1585	1102	0	1684	1482	0	1585
Q Serve(g_s), s	7.4	35.0	35.1	0.7	38.1	1.4	22.4	0.0	0.5	3.0	0.0	13.3
Cycle Q Clear(g_c), s	7.4	35.0	35.1	0.7	38.1	1.4	26.0	0.0	0.5	3.6	0.0	13.3
Prop In Lane	1.00		0.37	1.00		1.00	1.00		0.62	0.79		1.00
Lane Grp Cap(c), veh/h	110	721	712	23	1268	566	509	0	735	701	0	692
V/C Ratio(X)	1.07	0.81	0.81	0.48	0.93	0.05	0.52	0.00	0.02	0.11	0.00	0.38
Avail Cap(c_a), veh/h	110	721	712	110	1314	586	509	0	735	701	0	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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.1	31.5	31.5	58.6	37.0	25.2	27.7	0.0	19.1	19.9	0.0	22.7
Incr Delay (d2), s/veh	105.9	7.0	7.2	5.8	11.5	0.0	3.8	0.0	0.0	0.3	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	6.4	15.2	15.1	0.4	17.3	0.5	6.1	0.0	0.2	1.3	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	162.0	38.5	38.8	64.4	48.4	25.2	31.5	0.0	19.2	20.3	0.0	24.3
LnGrp LOS	F	D	D	E	D	C	C	A	B	C	A	C
Approach Vol, veh/h		1284			1217			278				338
Approach Delay, s/veh		50.0			48.1			30.9				23.4
Approach LOS		D			D			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	55.0		58.4	12.0	49.2		58.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	7.4	43.5		* 52	7.4	* 44		51.8				
Max Q Clear Time (g_c+I1), s	2.7	37.1		15.3	9.4	40.1		28.0				
Green Ext Time (p_c), s	0.0	3.4		1.3	0.0	2.5		1.1				

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.

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	1	84	0	13	0	173	28	4	388	0
Future Vol, veh/h	0	0	1	84	0	13	0	173	28	4	388	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	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	53	53	53	53	53	53	53	53	53	53	53	53
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	158	0	25	0	326	53	8	732	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	911	1127	366	735	1101	190	732	0	0	379	0	0
Stage 1	748	748	-	353	353	-	-	-	-	-	-	-
Stage 2	163	379	-	382	748	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
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	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	229	203	631	308	211	820	868	-	-	1176	-	-
Stage 1	371	418	-	637	629	-	-	-	-	-	-	-
Stage 2	823	613	-	612	418	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	221	202	631	306	210	820	868	-	-	1176	-	-
Mov Cap-2 Maneuver	221	202	-	306	210	-	-	-	-	-	-	-
Stage 1	371	415	-	637	629	-	-	-	-	-	-	-
Stage 2	798	613	-	606	415	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.7		28.1		0		0.1	
HCM LOS	B		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	868	-	-	631	334	1176	-
HCM Lane V/C Ratio	-	-	-	0.003	0.548	0.006	-
HCM Control Delay (s)	0	-	-	10.7	28.1	8.1	-
HCM Lane LOS	A	-	-	B	D	A	-
HCM 95th %tile Q(veh)	0	-	-	0	3.1	0	-

Timings
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

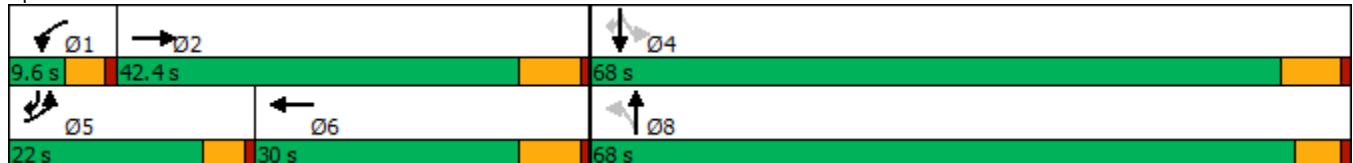


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↙	↕	↗
Traffic Volume (vph)	269	492	24	520	295	154	130	194	381
Future Volume (vph)	269	492	24	520	295	154	130	194	381
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	5	2	1	6		8		4	5
Permitted Phases					8		4		4
Detector Phase	5	2	1	6	8	8	4	4	5
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	9.6	28.5	9.6	28.5	27.1	27.1	28.5	28.5	9.6
Total Split (s)	22.0	42.4	9.6	30.0	68.0	68.0	68.0	68.0	22.0
Total Split (%)	18.3%	35.3%	8.0%	25.0%	56.7%	56.7%	56.7%	56.7%	18.3%
Yellow Time (s)	3.6	5.5	3.6	5.5	4.1	4.1	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	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	5.1	5.1	6.5	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag					Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	None	None	None	Min	Min	Min	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 83.7
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖
Traffic Volume (veh/h)	269	492	277	24	520	118	295	154	10	130	194	381
Future Volume (veh/h)	269	492	277	24	520	118	295	154	10	130	194	381
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	280	512	289	25	542	123	307	160	10	135	202	397
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	288	757	426	44	601	136	396	812	51	568	872	995
Arrive On Green	0.16	0.35	0.35	0.02	0.21	0.21	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1781	2189	1232	1781	2879	651	819	1742	109	1215	1870	1584
Grp Volume(v), veh/h	280	415	386	25	334	331	307	0	170	135	202	397
Grp Sat Flow(s),veh/h/ln	1781	1777	1644	1781	1777	1753	819	0	1851	1215	1870	1584
Q Serve(g_s), s	16.8	21.5	21.6	1.5	19.7	19.9	38.6	0.0	5.8	7.9	7.0	13.4
Cycle Q Clear(g_c), s	16.8	21.5	21.6	1.5	19.7	19.9	45.6	0.0	5.8	13.7	7.0	13.4
Prop In Lane	1.00		0.75	1.00		0.37	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	288	614	569	44	371	366	396	0	863	568	872	995
V/C Ratio(X)	0.97	0.68	0.68	0.57	0.90	0.91	0.78	0.00	0.20	0.24	0.23	0.40
Avail Cap(c_a), veh/h	288	614	569	83	388	383	492	0	1081	695	1068	1161
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00
Uniform Delay (d), s/veh	44.9	30.1	30.1	52.0	41.5	41.6	30.8	0.0	16.9	20.9	17.2	9.9
Incr Delay (d2), s/veh	45.3	2.9	3.2	4.4	22.7	23.9	6.1	0.0	0.1	0.2	0.1	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	10.6	8.9	8.3	0.7	10.4	10.5	7.9	0.0	2.4	2.1	2.7	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.2	33.0	33.4	56.4	64.2	65.4	36.9	0.0	17.0	21.1	17.3	10.2
LnGrp LOS	F	C	C	E	E	E	D	A	B	C	B	B
Approach Vol, veh/h		1081			690			477			734	
Approach Delay, s/veh		48.0			64.5			29.8			14.2	
Approach LOS		D			E			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	43.7		56.7	22.0	29.0		56.7				
Change Period (Y+Rc), s	4.6	6.5		6.5	4.6	6.5		* 6.5				
Max Green Setting (Gmax), s	5.0	35.9		61.5	17.4	23.5		* 63				
Max Q Clear Time (g_c+I1), s	3.5	23.6		15.7	18.8	21.9		47.6				
Green Ext Time (p_c), s	0.0	3.5		2.9	0.0	0.6		2.7				

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

1: Zeiders Rd./Haun Rd. & Scott Rd.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↵	↕	↵	↕	↕	↵	↕	↕	↕	↕
Traffic Volume (vph)	150	859	135	1053	811	70	141	133	859	122
Future Volume (vph)	150	859	135	1053	811	70	141	133	859	122
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	7	3	8		7	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	7	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	27.2	9.6	9.6	30.2	30.2	9.6	25.2
Total Split (s)	16.0	40.5	17.2	41.7	32.1	14.4	30.2	30.2	32.1	47.9
Total Split (%)	13.3%	33.8%	14.3%	34.8%	26.8%	12.0%	25.2%	25.2%	26.8%	39.9%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	5.2	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	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	6.2	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max

Intersection Summary

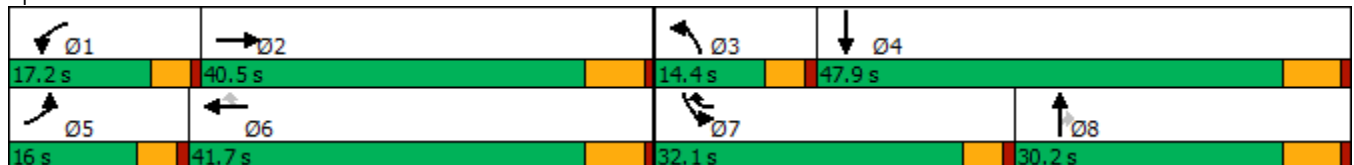
Cycle Length: 120

Actuated Cycle Length: 119.1

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Zeiders Rd./Haun Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
 1: Zeiders Rd./Haun Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	150	859	54	135	1053	811	70	141	133	859	122	175
Future Volume (veh/h)	150	859	54	135	1053	811	70	141	133	859	122	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1976	1976	1900	1976	1976	1900	1976	1976	1976	1976	1976
Adj Flow Rate, veh/h	156	895	53	141	1097	624	73	147	113	895	127	180
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	172	1098	65	168	1165	1756	94	396	335	864	280	396
Arrive On Green	0.10	0.30	0.30	0.09	0.29	0.29	0.05	0.20	0.20	0.23	0.38	0.38
Sat Flow, veh/h	1810	3694	219	1810	3952	3349	1810	1976	1675	3764	739	1048
Grp Volume(v), veh/h	156	479	469	141	1097	624	73	147	113	895	0	307
Grp Sat Flow(s),veh/h/ln	1810	1976	1937	1810	1976	1675	1810	1976	1675	1882	0	1787
Q Serve(g_s), s	10.2	26.9	26.9	9.2	32.5	13.1	4.8	7.7	6.9	27.5	0.0	15.4
Cycle Q Clear(g_c), s	10.2	26.9	26.9	9.2	32.5	13.1	4.8	7.7	6.9	27.5	0.0	15.4
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		0.59
Lane Grp Cap(c), veh/h	172	587	575	168	1165	1756	94	396	335	864	0	676
V/C Ratio(X)	0.91	0.82	0.82	0.84	0.94	0.36	0.78	0.37	0.34	1.04	0.00	0.45
Avail Cap(c_a), veh/h	172	587	575	190	1171	1761	148	396	335	864	0	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	53.7	39.1	39.1	53.5	41.3	16.7	56.1	41.4	41.1	46.2	0.0	28.0
Incr Delay (d2), s/veh	41.9	8.7	8.9	22.5	14.5	0.1	5.2	2.7	2.7	40.3	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	6.5	13.8	13.6	5.1	17.3	4.6	2.2	3.9	3.0	17.0	0.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.5	47.8	47.9	76.0	55.8	16.8	61.3	44.0	43.8	86.4	0.0	30.2
LnGrp LOS	F	D	D	E	E	B	E	D	D	F	A	C
Approach Vol, veh/h		1104			1862			333			1202	
Approach Delay, s/veh		54.6			44.2			47.7			72.1	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	41.8	10.8	51.5	16.0	41.5	32.1	30.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.6	34.3	9.8	41.7	11.4	35.5	27.5	24.0				
Max Q Clear Time (g_c+I1), s	11.2	28.9	6.8	17.4	12.2	34.5	29.5	9.7				
Green Ext Time (p_c), s	0.0	2.5	0.0	1.6	0.0	0.8	0.0	0.8				

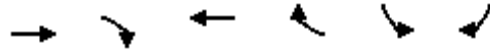
Intersection Summary

HCM 6th Ctrl Delay	54.5
HCM 6th LOS	D

Timings
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

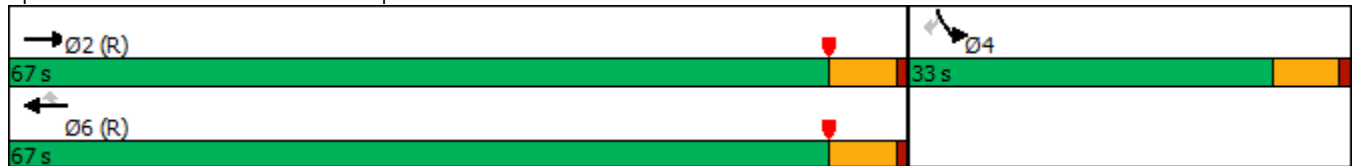


Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑↑	↑↑
Traffic Volume (vph)	1229	639	1701	623	751	298
Future Volume (vph)	1229	639	1701	623	751	298
Turn Type	NA	Free	NA	Perm	Prot	Perm
Protected Phases	2		6		4	
Permitted Phases		Free		6		4
Detector Phase	2		6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		34.0	34.0	11.0	11.0
Total Split (s)	67.0		67.0	67.0	33.0	33.0
Total Split (%)	67.0%		67.0%	67.0%	33.0%	33.0%
Yellow Time (s)	5.0		5.0	5.0	5.0	5.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3		-1.3	0.0	-1.3	-1.3
Total Lost Time (s)	4.7		4.7	6.0	4.7	4.7
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Max	C-Max	None	None

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated

Splits and Phases: 2: I-215 SB Ramps & Scott Rd.



HCM 6th Signalized Intersection Summary
2: I-215 SB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖↖		↖↖
Traffic Volume (veh/h)	0	1229	639	0	1701	623	0	0	0	751	0	298
Future Volume (veh/h)	0	1229	639	0	1701	623	0	0	0	751	0	298
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	1945	1976	0	1945	1885				1930	0	1930
Adj Flow Rate, veh/h	0	1294	0	0	1791	656				791	0	314
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	0	2	1				3	0	3
Cap, veh/h	0	2549		0	2549	1026				922	0	821
Arrive On Green	0.00	0.66	0.00	0.00	1.00	1.00				0.25	0.00	0.25
Sat Flow, veh/h	0	3890	1675	0	3890	1598				3676	0	3271
Grp Volume(v), veh/h	0	1294	0	0	1791	656				791	0	314
Grp Sat Flow(s),veh/h/ln	0	1945	1675	0	1945	1598				1838	0	1635
Q Serve(g_s), s	0.0	17.2	0.0	0.0	0.0	0.0				20.5	0.0	8.0
Cycle Q Clear(g_c), s	0.0	17.2	0.0	0.0	0.0	0.0				20.5	0.0	8.0
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2549		0	2549	1026				922	0	821
V/C Ratio(X)	0.00	0.51		0.00	0.70	0.64				0.86	0.00	0.38
Avail Cap(c_a), veh/h	0	2549		0	2549	1026				1040	0	926
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.44	0.00	0.00	0.62	0.62				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.9	0.0	0.0	0.0	0.0				35.8	0.0	31.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	1.0	1.9				6.0	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
%ile BackOfQ(50%),veh/ln	0.0	5.7	0.0	0.0	0.4	0.5				9.5	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.2	0.0	0.0	1.0	1.9				41.8	0.0	31.1
LnGrp LOS	A	A		A	A	A				D	A	C
Approach Vol, veh/h		1294	A		2447						1105	
Approach Delay, s/veh		9.2			1.3						38.7	
Approach LOS		A			A						D	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		70.2		29.8		70.2						
Change Period (Y+Rc), s		6.0		6.0		6.0						
Max Green Setting (Gmax), s		61.0		27.0		61.0						
Max Q Clear Time (g_c+I1), s		19.2		22.5		2.0						
Green Ext Time (p_c), s		21.5		1.2		44.4						

Intersection Summary

HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

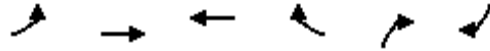
Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

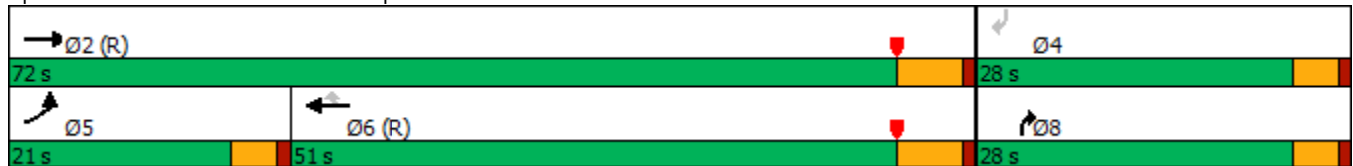


Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations	↶	↷↷	↷↷	↷	↷↷	↷↷
Traffic Volume (vph)	197	1782	1537	718	898	786
Future Volume (vph)	197	1782	1537	718	898	786
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		8	
Permitted Phases				6		4
Detector Phase	5	2	6	6	8	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	4.0	4.0
Minimum Split (s)	9.5	11.0	33.0	33.0	22.5	22.5
Total Split (s)	21.0	72.0	51.0	51.0	28.0	28.0
Total Split (%)	21.0%	72.0%	51.0%	51.0%	28.0%	28.0%
Yellow Time (s)	3.5	5.0	5.0	5.0	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	-1.3	-1.3	0.0	-1.3	0.0
Total Lost Time (s)	4.5	4.7	4.7	6.0	3.2	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes					
Recall Mode	None	C-Max	C-Max	C-Max	None	None

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated

Splits and Phases: 3: I-215 NB Ramps & Scott Rd.



HCM Signalized Intersection Capacity Analysis
3: I-215 NB Ramps & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗			↗↗			↗↗
Traffic Volume (vph)	197	1782	0	0	1537	718	0	0	898	0	0	786
Future Volume (vph)	197	1782	0	0	1537	718	0	0	898	0	0	786
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	14	14	12	12	14	14	12	14	14	12	12	14
Total Lost time (s)	4.5	4.7			4.7	6.0			3.2			4.5
Lane Util. Factor	*1.00	*1.00			*1.00	*1.00			*1.00			*1.00
Frbp, ped/bikes	1.00	1.00			1.00	1.00			1.00			0.97
Flpb, ped/bikes	1.00	1.00			1.00	1.00			1.00			1.00
Frt	1.00	1.00			1.00	1.00			1.00			1.00
Flt Protected	1.00	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	1930	3974			4013	1912			4013			3840
Flt Permitted	1.00	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	1930	3974			4013	1912			4013			3840
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	201	1818	0	0	1568	733	0	0	916	0	0	802
RTOR Reduction (vph)	0	0	0	0	0	349	0	0	62	0	0	463
Lane Group Flow (vph)	201	1818	0	0	1568	384	0	0	854	0	0	339
Confl. Peds. (#/hr)									2			5
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	5%	2%	0%	0%	1%	6%	0%	0%	1%	0%	0%	2%
Turn Type	Prot	NA			NA	Perm			Prot			Perm
Protected Phases	5	2			6				8			
Permitted Phases						6						4
Actuated Green, G (s)	13.8	66.5			48.2	48.2			23.0			23.0
Effective Green, g (s)	13.8	67.8			49.5	48.2			24.3			23.0
Actuated g/C Ratio	0.14	0.68			0.50	0.48			0.24			0.23
Clearance Time (s)	4.5	6.0			6.0	6.0			4.5			4.5
Vehicle Extension (s)	2.0	2.0			2.0	2.0			3.0			3.0
Lane Grp Cap (vph)	266	2694			1986	921			975			883
v/s Ratio Prot	0.10	c0.46			c0.39				c0.21			
v/s Ratio Perm						0.20						0.09
v/c Ratio	0.76	0.67			0.79	0.42			0.88			0.38
Uniform Delay, d1	41.5	9.6			20.9	16.8			36.4			32.5
Progression Factor	1.54	1.28			1.00	1.00			1.00			1.00
Incremental Delay, d2	9.1	1.1			3.3	1.4			8.9			0.3
Delay (s)	72.9	13.3			24.2	18.2			45.3			32.8
Level of Service	E	B			C	B			D			C
Approach Delay (s)		19.3			22.3			45.3			32.8	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.7
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Timings
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

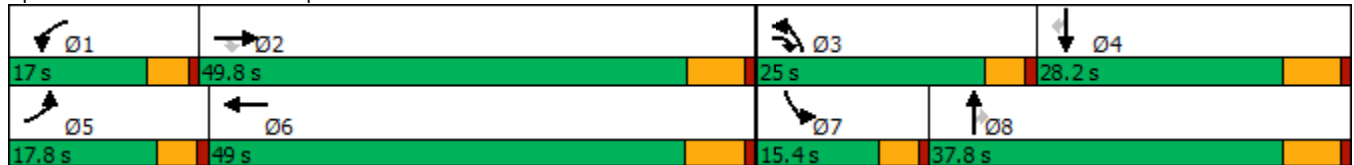


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖	↑↑↑	↖↗	↑	↗	↖	↑	↗
Traffic Volume (vph)	308	1837	535	170	1397	588	305	278	114	200	270
Future Volume (vph)	308	1837	535	170	1397	588	305	278	114	200	270
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6	3	8		7	4	
Permitted Phases			2					8			4
Detector Phase	5	2	3	1	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	35.2	9.6	9.6	29.5	9.6	30.2	30.2	9.6	28.2	28.2
Total Split (s)	17.8	49.8	25.0	17.0	49.0	25.0	37.8	37.8	15.4	28.2	28.2
Total Split (%)	14.8%	41.5%	20.8%	14.2%	40.8%	20.8%	31.5%	31.5%	12.8%	23.5%	23.5%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.5	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	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	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	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.9
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated































Splits and Phases: 4: Antelope Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
4: Antelope Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 				 	
Traffic Volume (veh/h)	308	1837	535	170	1397	87	588	305	278	114	200	270
Future Volume (veh/h)	308	1837	535	170	1397	87	588	305	278	114	200	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	314	1874	443	173	1426	85	600	311	192	116	204	229
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	370	2023	841	184	1888	113	606	513	435	141	343	291
Arrive On Green	0.10	0.36	0.36	0.10	0.36	0.36	0.17	0.27	0.27	0.08	0.18	0.18
Sat Flow, veh/h	3563	5611	1585	1781	5242	312	3563	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	314	1874	443	173	1018	493	600	311	192	116	204	229
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1814	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	10.4	38.5	21.8	11.6	28.7	28.7	20.2	17.4	12.0	7.7	12.0	16.5
Cycle Q Clear(g_c), s	10.4	38.5	21.8	11.6	28.7	28.7	20.2	17.4	12.0	7.7	12.0	16.5
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	370	2023	841	184	1347	653	606	513	435	141	343	291
V/C Ratio(X)	0.85	0.93	0.53	0.94	0.76	0.76	0.99	0.61	0.44	0.82	0.59	0.79
Avail Cap(c_a), veh/h	392	2039	846	184	1347	653	606	513	435	160	343	291
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	52.8	36.8	18.3	53.4	33.7	33.7	49.7	37.9	35.9	54.4	44.9	46.8
Incr Delay (d2), s/veh	14.4	7.9	0.6	48.5	2.5	5.0	34.0	5.3	3.2	22.6	7.4	19.1
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	5.2	17.9	7.7	7.4	12.6	12.6	11.6	8.5	4.9	4.2	6.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	44.7	18.9	101.9	36.2	38.7	83.6	43.1	39.2	77.0	52.3	65.9
LnGrp LOS	E	D	B	F	D	D	F	D	D	E	D	E
Approach Vol, veh/h		2631			1684			1103			549	
Approach Delay, s/veh		43.0			43.7			64.5			63.2	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	49.8	25.0	28.2	17.0	49.7	14.1	39.1				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	12.4	* 44	20.4	22.0	13.2	42.5	10.8	31.6				
Max Q Clear Time (g_c+I1), s	13.6	40.5	22.2	18.5	12.4	30.7	9.7	19.4				
Green Ext Time (p_c), s	0.0	2.8	0.0	0.6	0.1	6.7	0.0	1.9				

Intersection Summary

HCM 6th Ctrl Delay	49.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

5: Menifee Rd. & Holland Rd.

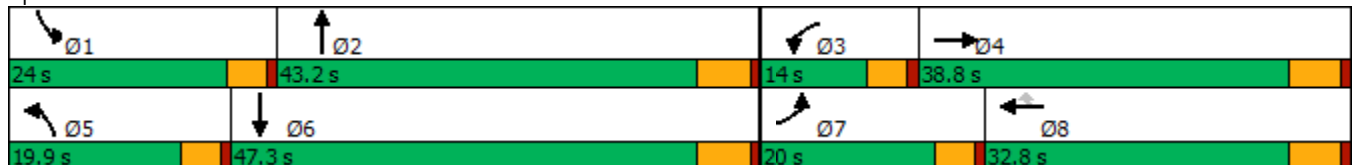


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↙	↕	↗	↙	↕	↙	↕
Traffic Volume (vph)	139	322	140	211	116	116	610	184	569
Future Volume (vph)	139	322	140	211	116	116	610	184	569
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
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	32.8	9.6	32.8	32.8	9.6	32.8	9.6	32.8
Total Split (s)	20.0	38.8	14.0	32.8	32.8	19.9	43.2	24.0	47.3
Total Split (%)	16.7%	32.3%	11.7%	27.3%	27.3%	16.6%	36.0%	20.0%	39.4%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	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)	-0.6	-1.8	-0.6	-1.8	0.0	-0.6	-1.8	-0.6	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.8	4.0	4.0	4.0	4.0
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	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.8
 Natural Cycle: 85
 Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Menifee Rd. & Holland Rd.



HCM 6th Signalized Intersection Summary
5: Menifee Rd. & Holland Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗↘	↗↘	↗	↗	↗↘		↗	↗↘	
Traffic Volume (veh/h)	139	322	153	140	211	116	116	610	246	184	569	156
Future Volume (veh/h)	139	322	153	140	211	116	116	610	246	184	569	156
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	148	343	163	149	224	123	123	649	262	196	605	166
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	198	528	246	255	670	257	170	864	349	250	1090	298
Arrive On Green	0.11	0.23	0.20	0.07	0.19	0.16	0.10	0.35	0.33	0.14	0.40	0.37
Sat Flow, veh/h	1781	2339	1089	3456	3554	1558	1781	2458	992	1781	2748	752
Grp Volume(v), veh/h	148	259	247	149	224	123	123	469	442	196	391	380
Grp Sat Flow(s),veh/h/ln	1781	1777	1651	1728	1777	1558	1781	1777	1674	1781	1777	1724
Q Serve(g_s), s	6.2	10.1	10.5	3.2	4.2	5.5	5.1	17.8	18.0	8.1	13.0	13.2
Cycle Q Clear(g_c), s	6.2	10.1	10.5	3.2	4.2	5.5	5.1	17.8	18.0	8.1	13.0	13.2
Prop In Lane	1.00		0.66	1.00		1.00	1.00		0.59	1.00		0.44
Lane Grp Cap(c), veh/h	198	401	373	255	670	257	170	624	588	250	705	683
V/C Ratio(X)	0.75	0.65	0.66	0.58	0.33	0.48	0.73	0.75	0.75	0.78	0.55	0.56
Avail Cap(c_a), veh/h	372	807	750	451	1335	549	369	909	856	465	1004	974
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	33.0	26.9	27.6	34.4	26.9	29.0	33.7	21.9	22.4	31.8	17.9	18.3
Incr Delay (d2), s/veh	2.1	1.7	2.0	0.8	0.3	1.4	2.2	2.1	2.2	2.1	0.7	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	2.6	4.1	4.0	1.3	1.7	2.0	2.2	6.9	6.7	3.4	4.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	28.6	29.6	35.1	27.2	30.4	35.9	24.0	24.6	33.9	18.6	19.0
LnGrp LOS	D	C	C	D	C	C	D	C	C	C	B	B
Approach Vol, veh/h		654			496			1034			967	
Approach Delay, s/veh		30.5			30.4			25.7			21.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	30.9	9.7	21.3	11.3	34.4	12.5	18.4				
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	19.4	37.4	9.4	33.0	15.3	41.5	15.4	27.0				
Max Q Clear Time (g_c+I1), s	10.1	20.0	5.2	12.5	7.1	15.2	8.2	7.5				
Green Ext Time (p_c), s	0.2	5.1	0.1	2.7	0.1	4.7	0.1	1.6				

Intersection Summary

HCM 6th Ctrl Delay			26.2									
HCM 6th LOS			C									

Timings
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018

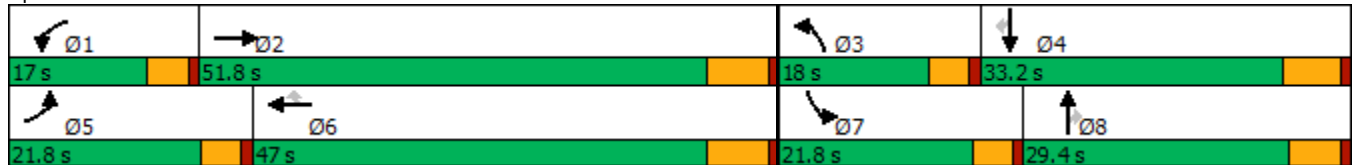


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕↗	↖	↕↕↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	390	1582	152	1308	245	168	281	189	189	132	254
Future Volume (vph)	390	1582	152	1308	245	168	281	189	189	132	254
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
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	10.0
Minimum Split (s)	9.6	36.5	9.6	27.5	27.5	9.6	21.8	21.8	9.6	33.2	33.2
Total Split (s)	21.8	51.8	17.0	47.0	47.0	18.0	29.4	29.4	21.8	33.2	33.2
Total Split (%)	18.2%	43.2%	14.2%	39.2%	39.2%	15.0%	24.5%	24.5%	18.2%	27.7%	27.7%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	4.8	4.8	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)	-0.6	-2.5	-0.6	-2.5	-2.5	-0.6	-1.8	-1.8	-0.6	-2.2	-2.2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	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	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.2
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Menifee Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
6: Menifee Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕↔		↔	↕↕↕	↔	↔	↕	↔	↔	↔	↔
Traffic Volume (veh/h)	390	1582	183	152	1308	245	168	281	189	189	132	254
Future Volume (veh/h)	390	1582	183	152	1308	245	168	281	189	189	132	254
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	411	1665	173	160	1377	246	177	296	128	199	139	241
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	481	1853	192	194	1864	571	209	425	360	234	457	388
Arrive On Green	0.14	0.40	0.37	0.11	0.37	0.37	0.12	0.23	0.23	0.13	0.24	0.24
Sat Flow, veh/h	3456	4689	486	1781	5106	1565	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	411	1208	630	160	1377	246	177	296	128	199	139	241
Grp Sat Flow(s),veh/h/ln	1728	1702	1771	1781	1702	1565	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	13.9	39.7	40.0	10.5	28.0	14.1	11.6	17.3	8.1	13.0	7.2	16.2
Cycle Q Clear(g_c), s	13.9	39.7	40.0	10.5	28.0	14.1	11.6	17.3	8.1	13.0	7.2	16.2
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	481	1345	700	194	1864	571	209	425	360	234	457	388
V/C Ratio(X)	0.85	0.90	0.90	0.82	0.74	0.43	0.85	0.70	0.36	0.85	0.30	0.62
Avail Cap(c_a), veh/h	515	1363	709	194	1864	571	209	425	360	266	457	388
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	50.2	33.8	34.2	52.1	33.0	28.6	51.6	42.4	38.8	50.7	36.8	40.2
Incr Delay (d2), s/veh	11.7	8.2	14.6	23.0	1.6	0.5	25.2	9.1	2.7	18.5	1.7	7.3
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	16.5	18.6	5.7	11.0	5.2	6.5	8.8	3.3	6.8	3.4	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	42.0	48.8	75.0	34.5	29.1	76.8	51.5	41.5	69.2	38.5	47.5
LnGrp LOS	E	D	D	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		2249			1783			601			579	
Approach Delay, s/veh		47.6			37.4			56.8			52.8	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	51.2	18.0	33.2	20.6	47.6	19.7	31.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	* 6.2				
Max Green Setting (Gmax), s	12.4	45.3	13.4	27.0	17.2	40.5	17.2	* 24				
Max Q Clear Time (g_c+I1), s	12.5	42.0	13.6	18.2	15.9	30.0	15.0	19.3				
Green Ext Time (p_c), s	0.0	2.7	0.0	1.0	0.1	6.4	0.1	0.8				

Intersection Summary

HCM 6th Ctrl Delay	45.7
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.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↙	↗	↙	↗	↗	↙	↗		↗	↗
Traffic Volume (vph)	280	1281	5	1135	23	285	15	13	6	198
Future Volume (vph)	280	1281	5	1135	23	285	15	13	6	198
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	NA	Perm
Protected Phases	5	2	1	6			8		4	
Permitted Phases					6	8		4		4
Detector Phase	5	2	1	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	29.5	9.6	29.8	29.8	41.2	41.2	37.8	37.8	37.8
Total Split (s)	28.0	68.4	9.6	50.0	50.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	23.3%	57.0%	8.0%	41.7%	41.7%	35.0%	35.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	5.5	3.6	4.8	4.8	5.2	5.2	4.8	4.8	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
Lost Time Adjust (s)	-0.6	-2.5	-0.6	-1.8	-1.8	-2.2	-2.2		-1.8	-1.8
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.9
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Briggs Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
8: Briggs Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗			↖	↗
Traffic Volume (veh/h)	280	1281	273	5	1135	23	285	15	13	13	6	198
Future Volume (veh/h)	280	1281	273	5	1135	23	285	15	13	13	6	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	301	1377	262	5	1220	21	306	16	11	14	6	193
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	335	1675	314	20	1345	600	434	336	231	379	154	511
Arrive On Green	0.19	0.56	0.54	0.01	0.38	0.38	0.33	0.33	0.31	0.32	0.32	0.32
Sat Flow, veh/h	1781	2987	560	1781	3554	1585	1183	1033	710	1015	477	1585
Grp Volume(v), veh/h	301	811	828	5	1220	21	306	0	27	20	0	193
Grp Sat Flow(s),veh/h/ln	1781	1777	1770	1781	1777	1585	1183	0	1743	1493	0	1585
Q Serve(g_s), s	19.5	43.4	45.8	0.3	38.3	1.0	28.2	0.0	1.3	0.0	0.0	11.1
Cycle Q Clear(g_c), s	19.5	43.4	45.8	0.3	38.3	1.0	29.4	0.0	1.3	1.3	0.0	11.1
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.41	0.70		1.00
Lane Grp Cap(c), veh/h	335	997	993	20	1345	600	434	0	568	533	0	511
V/C Ratio(X)	0.90	0.81	0.83	0.24	0.91	0.04	0.71	0.00	0.05	0.04	0.00	0.38
Avail Cap(c_a), veh/h	363	997	993	85	1387	619	434	0	568	533	0	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	46.8	20.9	21.7	57.7	34.7	23.1	37.3	0.0	27.5	27.4	0.0	30.8
Incr Delay (d2), s/veh	22.1	5.2	6.2	2.3	8.8	0.0	9.3	0.0	0.2	0.1	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	10.2	16.9	18.1	0.2	16.8	0.4	8.8	0.0	0.5	0.4	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	26.1	28.0	60.0	43.4	23.1	46.6	0.0	27.7	27.5	0.0	32.9
LnGrp LOS	E	C	C	E	D	C	D	A	C	C	A	C
Approach Vol, veh/h		1940			1246			333			213	
Approach Delay, s/veh		33.6			43.2			45.0			32.4	
Approach LOS		C			D			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.4	70.1		42.4	26.2	49.3		42.4				
Change Period (Y+Rc), s	4.6	6.5		* 6.2	4.6	* 6.5		6.2				
Max Green Setting (Gmax), s	5.0	61.9		* 36	23.4	* 44		35.8				
Max Q Clear Time (g_c+I1), s	2.3	47.8		13.1	21.5	40.3		31.4				
Green Ext Time (p_c), s	0.0	8.6		0.7	0.1	2.5		0.5				

Intersection Summary

HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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	1	0	0	56	0	10	1	409	95	15	275	0
Future Vol, veh/h	1	0	0	56	0	10	1	409	95	15	275	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	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	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	82	0	15	1	601	140	22	404	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	751	1192	202	920	1122	372	404	0	0	742	0	0
Stage 1	448	448	-	674	674	-	-	-	-	-	-	-
Stage 2	303	744	-	246	448	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
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	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	299	186	805	226	205	625	1151	-	-	861	-	-
Stage 1	560	571	-	410	452	-	-	-	-	-	-	-
Stage 2	681	420	-	736	571	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	286	181	805	221	199	624	1151	-	-	860	-	-
Mov Cap-2 Maneuver	286	181	-	221	199	-	-	-	-	-	-	-
Stage 1	559	556	-	409	451	-	-	-	-	-	-	-
Stage 2	664	419	-	717	556	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	17.7		29		0		0.5	
HCM LOS	C		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1151	-	-	286	245	860	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.396	0.026	-
HCM Control Delay (s)	8.1	-	-	17.7	29	9.3	-
HCM Lane LOS	A	-	-	C	D	A	-
HCM 95th %tile Q(veh)	0	-	-	0	1.8	0.1	-

Timings
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↗	↗↘	↗	↗↘	↗	↘	↗	↗	↗
Traffic Volume (vph)	389	613	21	618	284	154	77	132	259
Future Volume (vph)	389	613	21	618	284	154	77	132	259
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA	pm+ov
Protected Phases	5	2	1	6		8		4	5
Permitted Phases					8		4		4
Detector Phase	5	2	1	6	8	8	4	4	5
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	9.6	28.5	9.6	28.5	27.1	27.1	28.5	28.5	9.6
Total Split (s)	38.0	66.4	9.6	38.0	44.0	44.0	44.0	44.0	38.0
Total Split (%)	31.7%	55.3%	8.0%	31.7%	36.7%	36.7%	36.7%	36.7%	31.7%
Yellow Time (s)	3.6	5.5	3.6	5.5	4.1	4.1	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)	-2.5	-2.5	-2.5	-2.5	-1.1	-1.1	-2.5	-2.5	0.0
Total Lost Time (s)	2.1	4.0	2.1	4.0	4.0	4.0	4.0	4.0	4.6
Lead/Lag	Lead	Lead	Lag	Lag					Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					Yes
Recall Mode	None	None	None	None	Min	Min	Min	Min	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 105.4
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Leon Rd. & Scott Rd.



HCM 6th Signalized Intersection Summary
13: Leon Rd. & Scott Rd.

Canterwood (TTM No. 37439) (JN 11302)

02/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↗		↖	↗	↖↗
Traffic Volume (veh/h)	389	613	263	21	618	107	284	154	20	77	132	259
Future Volume (veh/h)	389	613	263	21	618	107	284	154	20	77	132	259
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	423	666	286	23	672	116	309	167	22	84	143	282
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	482	832	357	319	815	141	358	579	76	418	692	945
Arrive On Green	0.27	0.34	0.32	0.18	0.27	0.25	0.36	0.36	0.35	0.37	0.37	0.35
Sat Flow, veh/h	1781	2421	1039	1781	3031	523	962	1619	213	1194	1870	1585
Grp Volume(v), veh/h	423	489	463	23	394	394	309	0	189	84	143	282
Grp Sat Flow(s),veh/h/ln	1781	1777	1683	1781	1777	1776	962	0	1832	1194	1870	1585
Q Serve(g_s), s	25.4	27.9	28.0	1.2	23.3	23.4	34.2	0.0	8.3	6.0	5.8	9.8
Cycle Q Clear(g_c), s	25.4	27.9	28.0	1.2	23.3	23.4	40.0	0.0	8.3	14.2	5.8	9.8
Prop In Lane	1.00		0.62	1.00		0.29	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	482	610	578	319	478	478	358	0	655	418	692	945
V/C Ratio(X)	0.88	0.80	0.80	0.07	0.82	0.83	0.86	0.00	0.29	0.20	0.21	0.30
Avail Cap(c_a), veh/h	572	991	939	319	540	540	358	0	655	418	692	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00
Uniform Delay (d), s/veh	39.0	33.2	34.0	38.2	38.4	38.8	39.7	0.0	25.8	29.8	24.0	11.1
Incr Delay (d2), s/veh	11.5	2.5	2.6	0.0	9.1	9.2	18.9	0.0	0.2	0.2	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	11.9	11.5	11.1	0.5	10.7	10.8	10.3	0.0	3.6	1.6	2.4	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	35.7	36.6	38.2	47.5	48.0	58.6	0.0	26.0	30.0	24.2	11.3
LnGrp LOS	D	D	D	D	D	D	E	A	C	C	C	B
Approach Vol, veh/h		1375			811			498				509
Approach Delay, s/veh		40.6			47.5			46.2				18.0
Approach LOS		D			D			D				B
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.0	42.4		45.4	32.4	34.1		45.4				
Change Period (Y+Rc), s	6.5	* 6.5		6.5	4.6	6.5		* 6.5				
Max Green Setting (Gmax), s	5.0	* 60		37.5	33.4	31.5		* 39				
Max Q Clear Time (g_c+I1), s	3.2	30.0		16.2	27.4	25.4		42.0				
Green Ext Time (p_c), s	0.0	5.9		1.8	0.4	2.2		0.0				

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.