Oleander Business Park

TRAFFIC IMPACT ANALYSIS

COUNTY OF RIVERSIDE

PREPARED BY:

Aric Evatt, PTP
aevatt@urbanxroads.com
(949) 336-5978

Pranesh Tarikere, PE
ptarikere@urbanxroads.com
(949) 336-5992

Robert Vu, PE
rvu@urbanxroads.com
(949) 336-5980

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
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
HOV	High Occupancy Vehicle
ITE	Institute of Transportation Engineers
LOS	Level of Service
MUTCD	Manual on Uniform Traffic Control Devices
NCHRP	National Cooperative Highway Research Program
NP	No Project (or Without Project)
PCE	Passenger Car Equivalents
PeMS	Caltrans Performance Measurement System
PHF	Peak Hour Factor
Project	Oleander Business Park
RCTC	Riverside County Transportation Commission
RTA	Riverside Transit Authority
RTP	Regional Transportation Plan
SBCTA	San Bernardino County Transportation Authority
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SHS	State Highway System
sf	Square Feet
TIA	Traffic Impact Analysis
TUMF	Transportation Uniform Mitigation Fee
WP	With Project
WRCOG	Western Riverside Council of Governments

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1 SUMMARY OF FINDINGS

This report presents the results of the traffic impact analysis (TIA) for the proposed Oleander Business Park ("Project") located on the northwest corner of Decker Road and Oleander Avenue in unincorporated County of Riverside as shown on Exhibit 1-1.

The purpose of this traffic impact analysis is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and to recommend improvements to achieve acceptable circulation system operational conditions. As directed by County of Riverside staff, this traffic study has been prepared in accordance with the County of Riverside's *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

The Project is proposed to consist of a of up to approximately 710,736 square feet (sf) of high-cube warehouse and manufacturing uses divided over two building. Building A located in Parcel 1 will be developed with approximately 363,367 sf and Building B located in Parcel 2 will be developed with approximately 347,369 sf. The remainder of the Project site would not be developed. Up to 20 percent of the Project building areas are assumed to accommodate manufacturing occupancies. The Project is anticipated to be constructed and occupied by 2021.

The Project is proposed to have access on Nandina Avenue via Driveway 1, Oleander Avenue via Driveways 2 and 3, and the northly and southerly driveways on Harley Knox Boulevard. All Project access points are assumed to allow full-access. Regional access to the Project site is provided via the I-215 Freeway at Harley Knox Boulevard interchange.

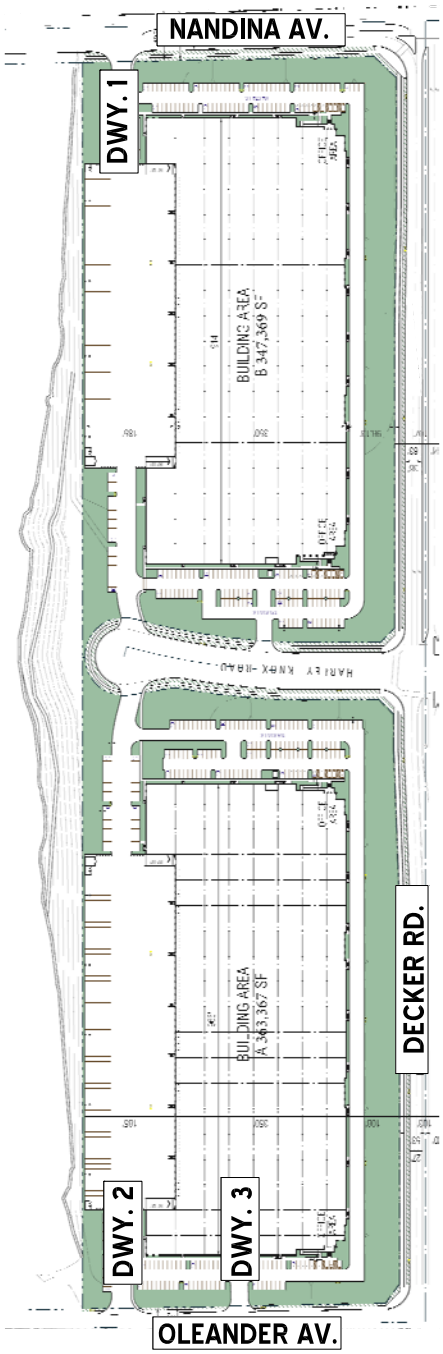
Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition, 2017. (3) The Project is estimated to generate a net total of 1,936 passenger-car-equivalent (PCE) trip-ends per day on a typical weekday with 187 AM PCE peak hour trips and 204 PM PCE peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.2 ANALYSIS SCENARIOS

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

- Existing (2019)
- Existing plus Project (E+P)
- Existing Plus Ambient Growth Plus Project (EAP) (2021)
- Existing Plus Ambient Growth Plus Project Plus Cumulative Projects (EAPC) (2021)

EXHIBIT 1-1: PRELIMINARY SITE PLAN



1.2.1 EXISTING (2019) CONDITIONS

Information for Existing (2019) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared.

1.2.2 EXISTING PLUS PROJECT CONDITIONS

The Existing plus Project (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. The E+P scenario has been provided for information purposes.

1.2.3 EXISTING PLUS AMBIENT GROWTH PLUS PROJECT (2021) CONDITIONS

The EAP (2021) conditions analyses determines the traffic impacts based on a comparison of the EAP (2021) traffic conditions to existing conditions. To account for background traffic growth, an ambient growth factor from Existing (2019) conditions of 4.04% (2 percent per year, compounded over 2 years) is included for EAP (2021) traffic conditions. Other cumulative development projects are not included as part of the EAP (2021) analysis.

1.2.4 EXISTING PLUS AMBIENT GROWTH PLUS PROJECT PLUS CUMULATIVE (2021) CONDITIONS

To account for growth in traffic between Existing (2019) conditions and the Project Opening Year (2021), an annual traffic growth factor of 4.04% was assumed (4 percent per year, compounded over 2 years). The 2.0 percent annual growth rate is intended to capture non-specific ambient traffic growth.

Conservatively, the TIA estimates of area traffic growth then add traffic generated by other known or probable related projects. These related projects are at least in part already accounted for in the assumed 4.04% total ambient growth in traffic noted above; and in some instances, these related projects would likely not be implemented and operational within the 2021 Opening Year time frame assumed for the Project. The resulting traffic growth rate utilized in the TIA (4.04 percent ambient growth + traffic generated by related projects) would therefore tend to overstate rather than understate background cumulative traffic impacts under 2021 conditions.

1.3 STUDY AREA

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

1.3.1 INTERSECTIONS

The 9 study area intersections shown on Exhibit 1-2 and listed at Table 1-1 were selected for this TIA based on the County's Traffic Study Guidelines and in consultation with County of Riverside staff. Pursuant to the Traffic Study Guidelines, the County requires analysis of intersections where the Project would contribute 50 or more peak hour one-way trips.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction	CMP?
1	Driveway 1 / Nandina Avenue (Future Intersection)	County of Riverside	No
2	Driveway 2 / Oleander Avenue (Future Intersection)	County of Riverside	No
3	Driveway 3 / Oleander Avenue (Future Intersection)	County of Riverside	No
4	Decker Road / Nandina Avenue (Future Intersection)	County of Riverside	No
5	Decker Road / Harley Knox Boulevard (Future Intersection)	County of Riverside	No
6	Decker Road / Oleander Avenue – Future Intersection	County of Riverside	No
7	Harvill Avenue / Harley Knox Boulevard	County of Riverside	No
8	I-215 Southbound Ramps / Harley Knox Boulevard	Caltrans, Riv. County	Yes
9	I-215 Northbound Ramps / Harley Knox Boulevard	Caltrans, Riv. County	Yes

The intent of a Congestion Management Program (CMP) is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. Counties within California have developed CMPs with varying methods and strategies to meet the intent of the CMP legislation. The County of Riverside CMP became effective with the passage of Proposition 111 in 1990 and updated most recently in 2011. The Riverside County Transportation Commission (RCTC) adopted the 2011 CMP for the County of Riverside in December 2011. (4) There are 2 study area intersections that are ramp-to-arterial intersections with the I-215 Freeway, which are identified as CMP facilities.

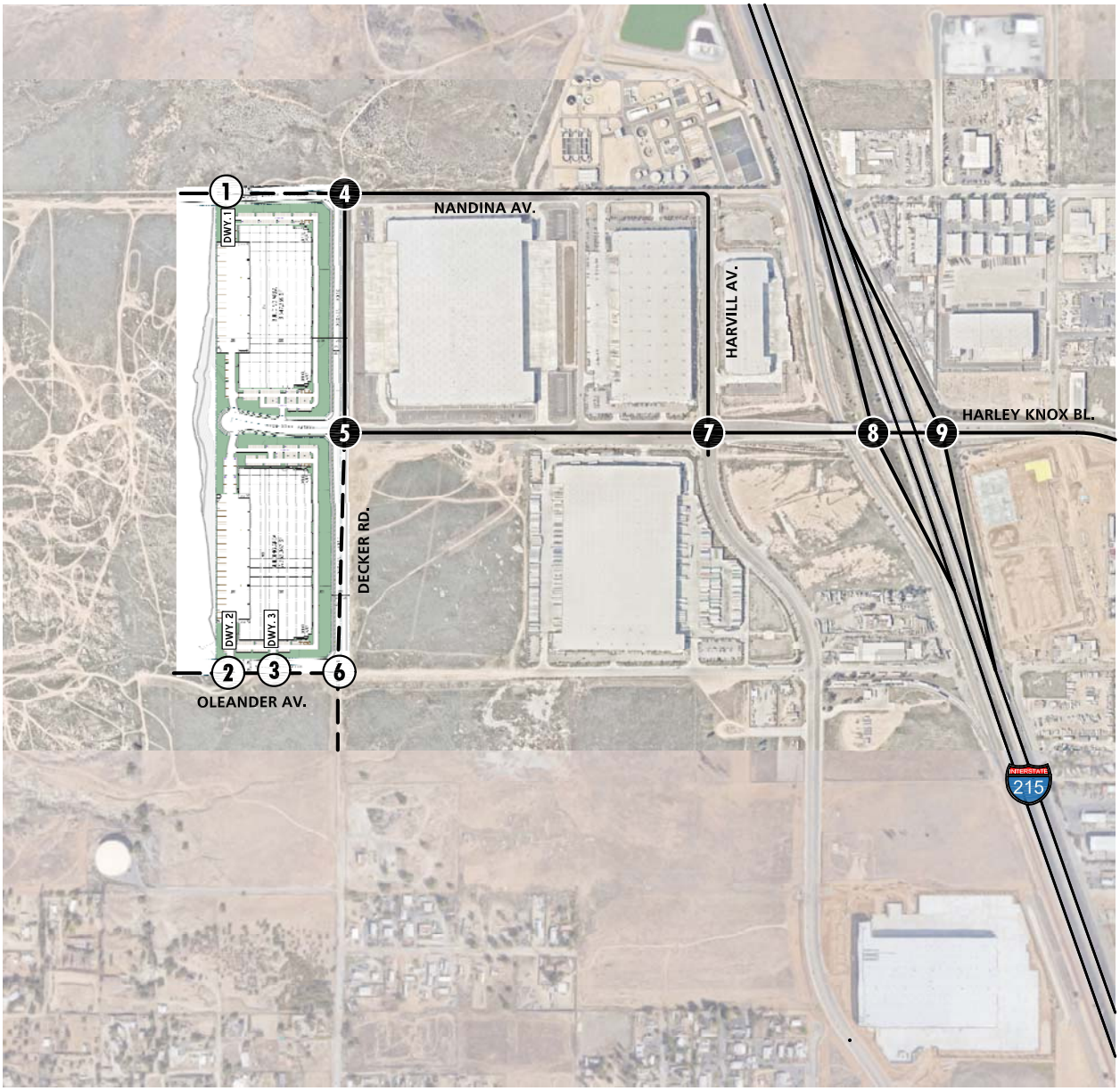
1.3.2 FREEWAY MAINLINE SEGMENTS

Study area freeway mainline analysis locations were selected based on Caltrans traffic study guidelines, which may require the analysis of State highway facilities. (2) This study evaluates the following freeway segments adjacent to the point of entry to the State Highway System (SHS), where the Project is anticipated to contribute 50 or more peak hour trips (see Table 1-2):

TABLE 1-2: FREEWAY MAINLINE SEGMENT ANALYSIS LOCATIONS

ID	Freeway Mainline Segments
1	I-215 Freeway – Southbound, North of Harley Knox Boulevard
2	I-215 Freeway – Southbound, South of Harley Knox Boulevard
3	I-215 Freeway – Northbound, South of Harley Knox Boulevard
4	I-215 Freeway – Northbound, North of Harley Knox Boulevard

EXHIBIT 1-2: LOCATION MAP



LEGEND:

- ⓪ = EXISTING INTERSECTION ANALYSIS LOCATION
- ⓪ = FUTURE INTERSECTION ANALYSIS LOCATION

N

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1.3.3 FREEWAY MERGE/DIVERGE RAMP JUNCTIONS

The study area freeway merge/diverge ramp junction analysis locations include the following freeway ramp junctions for each direction of flow as shown on Table 1-3, where the Project is anticipated to contribute 50 or more peak hour trips:

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

ID	Freeway Merge/Diverge Ramp Junctions
1	I-215 Freeway – Southbound, Off-Ramp at Harley Knox Boulevard (Diverge)
2	I-215 Freeway – Southbound, On-Ramp at Harley Knox Boulevard (Merge)
3	I-215 Freeway – Northbound, Off-Ramp at Harley Knox Boulevard (Diverge)
4	I-215 Freeway – Northbound, On-Ramp at Harley Knox Boulevard (Merge)

1.4 PROJECT IMPACTS

This section provides a summary of Project impacts. Section 2 *Methodologies* provides information on the methodologies used in the analysis, and Section 5 *E+P Traffic Analysis,* Section 6 *EAP (2021) Traffic Analysis*, and Section 7 *EAPC (2021) Traffic Analysis* includes the detailed analysis. A summary of intersection LOS results for all analysis scenarios is presented on Exhibit 1-3 and a summary of freeway LOS results for all analysis scenarios is presented on Exhibit 1-4.

1.4.1 INTERSECTIONS

EXISTING, E+P, AND EAP (2021) CONDITIONS

Intersection operations analysis conducted for Existing, E+P, and EAP (2021) traffic conditions indicates that all the study area intersections are anticipated to operate at acceptable level of service (LOS). The addition of Project traffic to the study area intersections did not result in any significant impacts to the intersection operations.

EAPC (2021) CONDITIONS

The following study area intersections are anticipated to operate at a deficient LOS during one or both peak hours for EAPC (2021) traffic conditions. The Project is anticipated to contribute to these deficiencies by adding traffic (as measured by 50 or more peak hours one-way trips) to already deficient intersections resulting in an increase to peak hour delays. Cumulative impacts are deficiencies that would not be directly caused by the Project. The Project would, however, contribute traffic to these deficient facilities along with other cumulative development projects, resulting in a cumulatively considerable impact.

- I-215 Southbound Ramps / Harley Knox Bl. (#8) – LOS F AM and PM peak hours
- I-215 Northbound Ramps / Harley Knox Bl. (#9) – LOS F AM and PM peak hours

EXHIBIT 1-3: SUMMARY OF INTERSECTION LOS BY ANALYSIS SCENARIO

#	Intersection	Existing (2019)	E+P	EAP (2021)	EAPC (2021)
1	Dwy. 1 & Nandina Av.	NA	A-D	A-D	A-D
2	Dwy. 2 & Oleander Av.	NA	A-D	A-D	A-D
3	Dwy. 3 & Oleander Av.	NA	A-D	A-D	A-D
4	Decker Rd. & Nandina Av.	A-D	A-D	A-D	A-D
5	Decker Rd. & Harley Knox Bl.	A-D	A-D	A-D	A-D
6	Decker Rd. & Oleander Av.	NA	A-D	A-D	A-D
7	Harvill Av. & Harley Knox Bl.	A-D	A-D	A-D	A-D
8	I-215 SB Ramps & Harley Knox Bl.	A-D	A-D	A-D	F
9	I-215 NB Ramps & Harley Knox Bl.	A-D	A-D	A-D	F

LEGEND:

- AM PEAK HOUR
- PM PEAK HOUR
- LOS A-D
- LOS E
- LOS F
- NA - NOT AN ANALYSIS LOCATION FOR THIS SCENARIO

EXHIBIT 1-4: SUMMARY OF FREEWAY LOS BY ANALYSIS SCENARIO

Basic Freeway Segment

#	Mainline Segment	Existing (2019)	E+P	EAP (2021)	EAPC (2021)
1	I-215 Southbound North of Harley Knox Bl.				
2	I-215 Southbound South of Harley Knox Bl.				
3	I-215 Northbound South of Harley Knox Bl.				
4	I-215 Northbound North of Harley Knox Bl.				

Freeway Ramp Junction Merge/Diverge

#	Ramp or Segment	Existing (2019)	E+P	EAP (2021)	EAPC (2021)
1	I-215 Southbound Off-Ramp at Harley Knox Bl. (Diverge)				
2	I-215 Southbound On-Ramp at Harley Knox Bl. (Merge)				
3	I-215 Northbound Off-Ramp at Harley Knox Bl. (Diverge)				
4	I-215 Northbound On-Ramp at Harley Knox Bl. (Merge)				

LEGEND:

- = AM PEAK HOUR
- = PM PEAK HOUR
- = LOS A-D
- = LOS E
- = LOS F

1.4.2 FREEWAY FACILITIES

Off-ramp queuing analysis conducted for Existing, E+P, EAP (2021), and EAPC (2021) traffic conditions indicates that the off-ramps are not anticipated to exceed storage capacity. The addition of Project traffic to the off-ramp queues did not result in any exceedances in the storage capacity.

EXISTING, E+P, AND EAP (2021) CONDITIONS

Freeway facility analysis conducted for Existing, E+P, and EAP (2021) traffic conditions indicates that the following study area freeway mainline segments and ramp merge/diverge junctions are anticipated to operate at an unacceptable LOS during one or both peak hours:

- I-215 Northbound Mainline, South of Harley Knox Boulevard (#3) – LOS E AM peak hour only
- I-215 Northbound Ramp Diverge, Off-ramp at Harley Knox Boulevard (#3) – LOS E AM peak hour only

The addition of Project traffic to the freeway facilities did not result in any new impacts to the freeway mainline segments or ramp merge/diverge junctions.

EAPC (2021) CONDITIONS

Freeway facility analysis conducted for EAPC (2021) indicates that all study area freeway mainline segments and ramp merge/diverge junctions are anticipated to operate at an unacceptable LOS during one or both peak hours. The addition of Project traffic to the freeway facilities did not result in any new impacts to the freeway mainline segments or ramp merge/diverge junctions.

1.5 PROJECT IMPROVEMENTS

The Project would construct the following improvements. Please refer also to Exhibit 1-5 *Site Access and Site Adjacent Roadway Recommendations*.

Nandina Avenue – Nandina Avenue is an east-west oriented roadway located along the Project's northern boundary. Construct Nandina Avenue between the Project's western and eastern boundaries at its ultimate half-section width as secondary highway (100-foot right-of-way), in compliance with applicable County of Riverside standards. The Project will also construct a minimum of one lane in the westbound direction in order to provide access to and from the site.

Oleander Avenue – Oleander Avenue is an east-west oriented roadway located along the Project's southern boundary. Construct Oleander Avenue between the Project's western and eastern boundaries at its ultimate half-section width as an industrial collector (78-foot right-of-way), in compliance with applicable County of Riverside standards. The Project will also construct a minimum of one lane in the eastbound direction in order to provide access to and from the site.

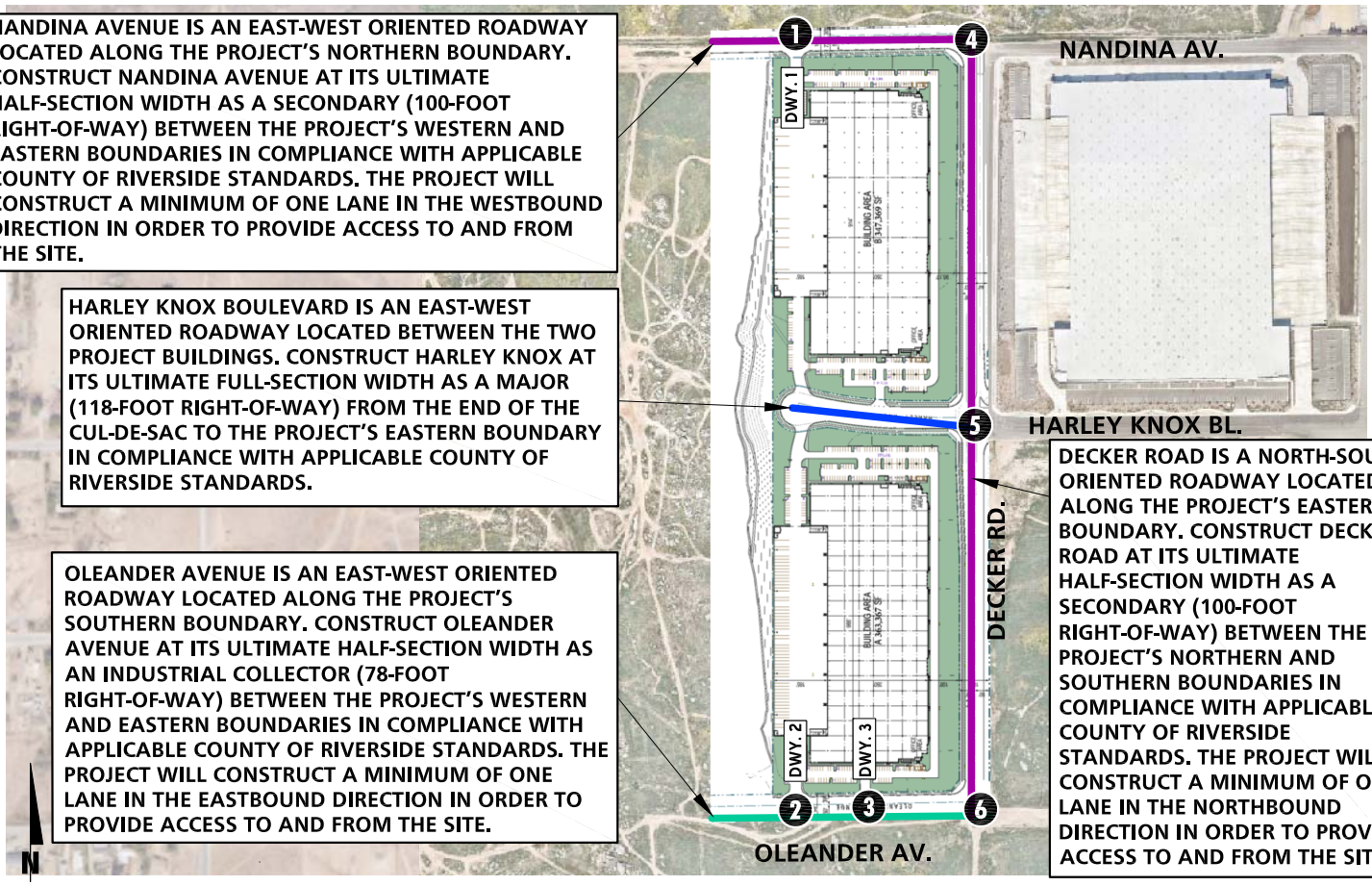
County of Riverside

EXHIBIT 1-5: SITE ACCESS AND SITE ADJACENT ROADWAY RECOMMENDATIONS

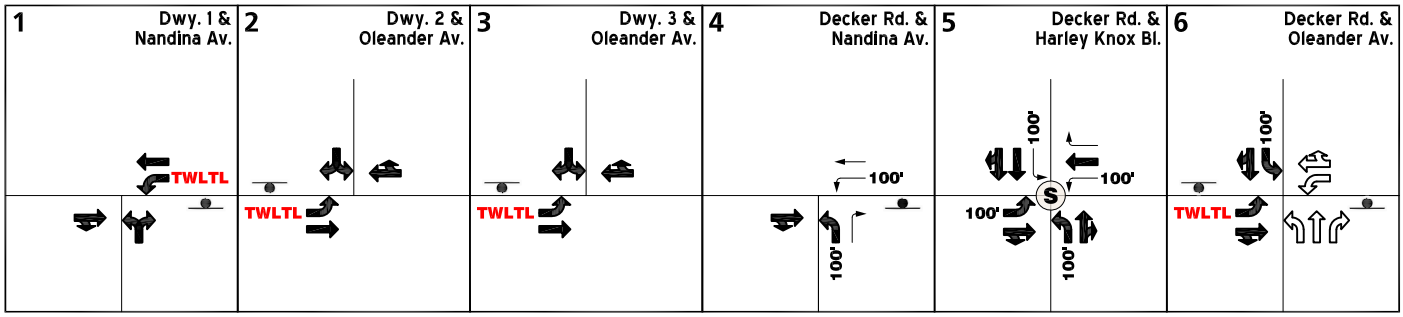
NANDINA AVENUE IS AN EAST-WEST ORIENTED ROADWAY LOCATED ALONG THE PROJECT'S NORTHERN BOUNDARY. CONSTRUCT NANDINA AVENUE AT ITS ULTIMATE HALF-SECTION WIDTH AS A SECONDARY (100-FOOT RIGHT-OF-WAY) BETWEEN THE PROJECT'S WESTERN AND EASTERN BOUNDARIES IN COMPLIANCE WITH APPLICABLE COUNTY OF RIVERSIDE STANDARDS. THE PROJECT WILL CONSTRUCT A MINIMUM OF ONE LANE IN THE WESTBOUND DIRECTION IN ORDER TO PROVIDE ACCESS TO AND FROM THE SITE.

HARLEY KNOX BOULEVARD IS AN EAST-WEST ORIENTED ROADWAY LOCATED BETWEEN THE TWO PROJECT BUILDINGS. CONSTRUCT HARLEY KNOX AT ITS ULTIMATE FULL-SECTION WIDTH AS A MAJOR (118-FOOT RIGHT-OF-WAY) FROM THE END OF THE CUL-DE-SAC TO THE PROJECT'S EASTERN BOUNDARY IN COMPLIANCE WITH APPLICABLE COUNTY OF RIVERSIDE STANDARDS.

OLEANDER AVENUE IS AN EAST-WEST ORIENTED ROADWAY LOCATED ALONG THE PROJECT'S SOUTHERN BOUNDARY. CONSTRUCT OLEANDER AVENUE AT ITS ULTIMATE HALF-SECTION WIDTH AS AN INDUSTRIAL COLLECTOR (78-FOOT RIGHT-OF-WAY) BETWEEN THE PROJECT'S WESTERN AND EASTERN BOUNDARIES IN COMPLIANCE WITH APPLICABLE COUNTY OF RIVERSIDE STANDARDS. THE PROJECT WILL CONSTRUCT A MINIMUM OF ONE LANE IN THE EASTBOUND DIRECTION IN ORDER TO PROVIDE ACCESS TO AND FROM THE SITE.



DECKER ROAD IS A NORTH-SOUTH ORIENTED ROADWAY LOCATED ALONG THE PROJECT'S EASTERN BOUNDARY. CONSTRUCT DECKER ROAD AT ITS ULTIMATE HALF-SECTION WIDTH AS A SECONDARY (100-FOOT RIGHT-OF-WAY) BETWEEN THE PROJECT'S NORTHERN AND SOUTHERN BOUNDARIES IN COMPLIANCE WITH APPLICABLE COUNTY OF RIVERSIDE STANDARDS. THE PROJECT WILL CONSTRUCT A MINIMUM OF ONE LANE IN THE NORTHBOUND DIRECTION IN ORDER TO PROVIDE ACCESS TO AND FROM THE SITE.



LEGEND:

- S = ALL WAY STOP
- = STOP SIGN
- = EXISTING LANE
- = PROJECT IMPROVEMENT
- = IMPROVEMENT BY OTHERS
- 100' = MINIMUM STORAGE LENGTH
- TWLTL = TWO WAY LEFT TURN LANE
- TWLTL = TWO WAY LEFT TURN LANE IMPROVEMENT
- = MAJOR (118' R-O-W)
- = SECONDARY (100' R-O-W)
- = INDUSTRIAL COLLECTOR (78' R-O-W)

ON-SITE TRAFFIC SIGNING AND STRIPING SHOULD BE IMPLEMENTED IN CONJUNCTION WITH DETAILED CONSTRUCTION PLANS FOR THE PROJECT SITE.

SIGHT DISTANCE AT EACH PROJECT ACCESS POINT SHOULD BE REVIEWED WITH RESPECT TO STANDARD CALTRANS AND CITY OF SAN BERNADINO SIGHT DISTANCE STANDARDS AT THE TIME OF PREPARATION OF FINAL GRADING, LANDSCAPE AND STREET IMPROVEMENT PLANS.

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Decker Road – Decker Road is a north-south oriented roadway located along the Project's eastern boundary. Construct Decker Road from Project's northern boundary to the Project's southern boundary at its ultimate half-section width as a secondary highway (100-foot right-of-way), in compliance with applicable County of Riverside standards. The Project will also construct a minimum of one lane in the northbound direction in order to provide access to and from the site.

Harley Knox Boulevard – Harley Knox Boulevard is an east-west oriented roadway bisecting the Project. Construct Harley Knox Boulevard from the end of the cul-de-sac to the Project's eastern boundary at its ultimate full-section width as a major highway (118-foot right-of-way), in compliance with applicable County of Riverside standards.

Driveway 1 & Nandina Avenue (#1)

- Install a stop control on the northbound approach and a northbound shared left-right turn lane.
- Add an eastbound shared through-right turn lane.
- Add a westbound two-way left turn lane within the median.
- Add a westbound through lane.

Driveway 2 & Oleander Avenue (#2)

- Install a stop control on the southbound approach and a southbound shared left-right turn lane.
- Add an eastbound two-way left turn lane within the median.
- Add an eastbound through lane.
- Add a westbound shared through-right turn lane.

Driveway 3 & Oleander Avenue (#3)

- Install a stop control on the southbound approach and a southbound shared left-right turn lane.
- Add an eastbound two-way left turn lane within the median.
- Add an eastbound through lane.
- Add a westbound shared through-right turn lane.

Decker Road & Nandina Avenue (#4)

- Add a northbound left turn lane with a minimum of 100-feet of storage.
- Add an eastbound shared through-right turn lane.

Decker Road & Harley Knox Boulevard (#5)

- Add a northbound left turn lane with a minimum of 100-feet of storage.
- Add a northbound shared through-right turn lane.
- Add a southbound through lane.
- Add a southbound shared through-right turn lane.
- Add an eastbound left turn lane with a minimum of 100-feet of storage.
- Add an eastbound shared through-right turn lane.

- Add an westbound through lane.

Decker Road & Oleander Avenue (#6)

- Add a southbound left turn lane with a minimum of 100-feet of storage.
- Add a southbound shared through-right turn lane.
- Add an eastbound left turn lane.
- Add an eastbound shared through-right turn lane.

1.6 RECOMMENDED OFF-SITE IMPROVEMENTS

1.6.1 INTERSECTION IMPROVEMENTS

Table 1-4 identifies recommended off-site intersection improvements that would address deficiencies listed previously on Exhibit 1-3.

Payment of fees would fulfill the Applicant's mitigation responsibilities for Project impacts at the deficient locations identified on Exhibit 1-3.

1.6.2 FREEWAY MAINLINE/MERGE DIVERGE JUNCTION IMPROVEMENTS

The Project Study Report/Project Development Support in Riverside County on I-215 and SR-60 between Nuevo Road (I-215) & I-215/SR-60 Junction and Box Springs Road (I-215) & Day Street (SR-60), also known as the I-215 North Project, includes the construction of an high-occupancy vehicle (HOV) lane in each direction of the I-215 Freeway between Nuevo Road and Box Springs Road within the existing median.

Caltrans, the owner and operator of the State Highway System (SHS), has not identified or proposed other improvements to the study area SHS that would address existing and anticipated study area SHS LOS deficiencies. The Project Applicant would pay required TUMF offsetting the Project's Incremental and cumulative effects to the study area SHS.

Table 1-4

Summary of Improvements by Analysis Scenario

#	Intersection Location	Jurisdiction	EAPC 2021	Improvements in TUMF, DIF, etc.[1,2]	Fair Share %
8	I-215 Southbound Ramps / Harley Knox Bl.	Caltrans, County of Riverside	- Restripe southbound ramp to provide 2 southbound left turn lanes and 1 shared southbound left-through-right turn lane - Add a 2nd westbound left turn lane	Yes (TUMF)[3] Yes (TUMF)[3]	NA[4]
9	I-215 Northbound Ramps / Harley Knox Bl.	Caltrans, City of Perris	- Add a 2nd eastbound left turn lane - Add a westbound free-right turn lane	Yes (TUMF)[3] Yes (TUMF)[3]	NA[4]

[1] Improvements are included wholly or partially in one or more of the following: County of Riverside TUMF or DIF programs for local, regional, and specific plan components. Final determination on extent of the improvements included and covered by these fee programs is to be established by the governing lead agency.

[2] Program improvements constructed by the Project may be eligible for fee credit, at the discretion of the County.

[3] Although the interchange is identified as a TUMF interchange, the interchange is not currently identified on the Central Zone 5-Year Transportation Improvement Program Amendment (adopted June 30, 2016).

[4] Fair share percentage is not shown as the recommended improvements at this location are included in a pre-existing fee program. In the event that the pre-existing fee program does not fully cover mitigation of the identified cumulative impact, a fair share calculation may still be required.

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2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are generally consistent with County of Riverside and Caltrans traffic study guidelines. (1) (2)

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. (5) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

County of Riverside

The County of Riverside requires signalized intersection operations analysis based on the methodology described in the HCM 6th Edition. (5) Intersection LOS operations are based on 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.

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

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

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

Source: HCM

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 = [Hourly Volume] / [4 x 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, 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.

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 Harley Knox Boulevard). (2) Signal timing for the freeway arterial-to-ramp intersections have been obtained from Caltrans District 8 and were utilized for the purposes of this analysis.

2.2.2 UNSIGNALIZED INTERSECTIONS

The County of Riverside requires the operations of unsignalized intersections be evaluated using the methodology described the HCM. (5) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

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

Source: HCM

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 Harley Knox Boulevard off-ramps. Consistent with Caltrans requirements, the 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the freeway ramp intersections on Harley Knox Boulevard. 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 deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the Synchro progression analysis. The queue length reported is for the lane with the highest queue in the lane group.

There are two footnotes which appear on the Synchro outputs. One footnote indicates if the 95th percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95th percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95th percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The other footnote indicates whether or not the volume for the 95th percentile queue is metered by an upstream signal. In many cases, the 95th percentile queue will not be experienced and may potentially be less than

the 50th percentile queue due to upstream metering. If the upstream intersection is at or near capacity, the 50th percentile queue represents the maximum queue experienced.

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. In other words, queues are lower than the reported 95th percentile queue 95 percent of the time and is only observed to exceed the 95th percentile queue 5 percent 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 the Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This 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. (6)

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. (6) 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 the following study area intersection shown on Table 2-3:

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction
1	Driveway 1 / Nandina Av.	County of Riverside
2	Driveway 2 / Oleander Av.	County of Riverside
3	Driveway 3 / Oleander Av.	County of Riverside
4	Decker Rd. / Nandina Av.	County of Riverside
5	Decker Rd. / Harley Knox Bl.	County of Riverside
6	Decker Rd. / Oleander Av.	County of Riverside

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *E+P Traffic Conditions*, Section 6 *EAP (2021) Traffic Conditions*, and Section 7 EAPC (2021) *Traffic Conditions* of this report.

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

2.5 FREEWAY MAINLINE SEGMENT ANALYSIS METHODOLOGY

Consistent with recent Caltrans guidance, the traffic study has evaluated all freeway segments where the Project is anticipated to contribute 50 or more peak hour one-way trips. (2)

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 and performed using 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

The number of lanes for existing baseline conditions has been obtained from field observations conducted by Urban Crossroads in September 2018. These existing freeway geometrics have been utilized for Existing (2019) baseline, E+P, EAP (2021), and EAPC (2021) traffic conditions.

The I-215 Freeway mainline volume data were obtained from the Caltrans Performance Measurement System (PeMS) website for the segments of the I-215 Freeway interchange at Harley Knox Boulevard. The data was obtained from September 2018. In an effort to conduct a conservative analysis, the maximum value observed within the 3-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 and actual vehicles (as opposed to PCE volumes) have been utilized for the purposes of the basic freeway segment analysis. (7)

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 4 existing on and off ramp locations where the Project is anticipated to contribute 50 or more peak hour trips (see Table 1-3). Although the HCM indicates the influence area for a merge/diverge junction is 1,500 feet, the analysis presented in this traffic study has been performed at all 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 in the region.

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) are 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

Similar to the basic freeway segment analysis, the I-215 Freeway mainline volume data were obtained from the Caltrans maintained PeMS website for the segments of the I-215 Freeway interchange at Harley Knox Boulevard. The ramp data (per the count data presented in Appendix 3.1) were then utilized to flow conserve the mainline volumes to determine the remaining I-215 Freeway mainline segment volumes. Flow conservation checks ensure that traffic flows from north to south (and vice versa) of the interchange area with no unexplained loss of vehicles. The data was obtained from September 2018. In an effort to conduct a conservative analysis, the maximum value observed within the 3-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 and actual vehicles (as opposed to PCE volumes) have been utilized for the purposes of the freeway ramp junction (merge/diverge) analysis. (7)

2.7 INTERSECTION LEVEL OF SERVICE (LOS) DEFICIENCIES DEFINED

Intersection LOS deficiencies would occur when minimum acceptable or target LOS conditions are not or cannot be achieved. 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 (excerpted below) 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 RIVERSIDE COUNTY TRANSPORTATION COMMISSION (RCTC) CMP

In an effort to more directly link land use, transportation and air quality and promote reasonable growth, the County of Riverside adopted a CMP (December 2011). The RCTC monitors the CMP roadway network system to minimize LOS deficiencies. Within the Project study area, the I-215 Freeway is recognized as a key transportation facility within the CMP system. The RCTC has adopted LOS E as the minimum standard for intersections and segments along the CMP System of Highways and Roadways. However, for the purposes of this TIA, the more restrictive Caltrans LOS D standard is employed in evaluation of study area CMP facilities.

2.7.3 CALTRANS

Caltrans acknowledges that the region-wide goal for an acceptable LOS on all SHS freeways, roadway segments, and intersections is LOS D. Accordingly, within this analysis, LOS D is employed as the target LOS for study area SHS freeway ramps, freeway segments, and freeway merge/diverge ramp junctions.

2.8 DEFICIENCY CRITERIA

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

2.8.1 INTERSECTIONS

For the study area intersections that lie within the County of Riverside, the following deficiency criteria is employed:

- When the pre-Project condition is at or better than LOS D (i.e., acceptable LOS), and project-generated traffic, as measured by 50 or more peak hour trips, causes deterioration below LOS D/LOS E (i.e., unacceptable LOS), a deficiency is deemed to occur.

When the pre-Project condition is already below LOS D (i.e., unacceptable LOS), the Project will be responsible for mitigating its impact to a level of service equal to or better than it was without the Project. Thus, for intersections currently operating at unacceptable LOS during either the AM and/or PM peak hour under Existing traffic conditions, improvements have been identified to mitigate the impacts of the Project to an intersection LOS that is equal to or better than pre-Project 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 deficiency criteria is employed:

- 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 by 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 to transportation system 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 (Opening Year) traffic less existing baseline traffic:

Project Fair Share % = Project Traffic / (2021 With Project Total Traffic – Existing Traffic)

2.10 SB 743 CONSIDERATIONS

In the fall of 2013, Senate Bill 743 (SB 743) was passed by the legislature and signed into law by the governor. This legislation will eventually change the way that transportation studies are conducted for environmental documents. In the areas where SB 743 is implemented, delay-based metrics such as roadway capacity and level of service will no longer be the performance measures used for the determination of the transportation impacts of projects in studies conducted under CEQA. Instead, new performance measures such as vehicle miles travelled (VMT) or other similar measures will be used.

In December 2018 CEQA Guidelines were updated to include a threshold for evaluating traffic impacts using the VMT methodology. This new methodology is required to be used statewide after July 2020. During the preparation of this traffic impact study, VMT thresholds were not yet adopted by the lead agency. Therefore, this traffic impact study follows current practice regarding lead agency guidance as of the date of preparation. As such, and because the County

of Riverside as the lead agency has not yet adopted VMT thresholds, the analysis for this project utilizes the LOS methodology.

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, and traffic signal warrant, and freeway mainline operations 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 9 existing and future intersections as shown previously on Exhibit 1-2. Exhibit 3-1 illustrates the study area intersections and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 COUNTY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT

3.2.1 COUNTY OF RIVERSIDE

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

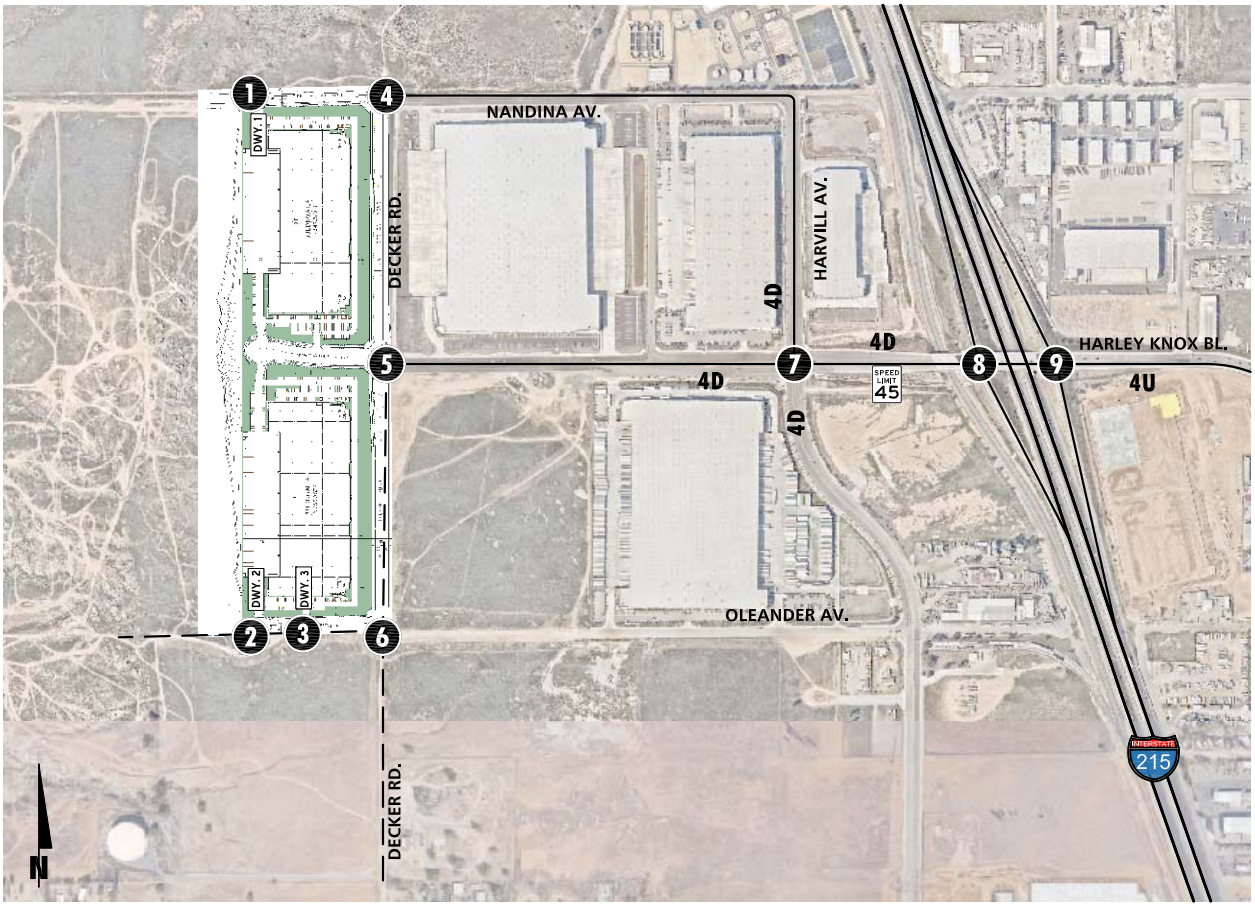
Urban Arterial Highways are 6 to 8 lanes with a minimum right-of-way of 152-feet. These highways are primarily for through traffic where traffic volumes exceed four-lane capacities. Access from other streets or highways shall be limited to approximately one-quarter mile intervals. The following study area roadway within the County of Riverside is classified as an Urban Arterial Highway:

- Harley Knox Boulevard – from Decker Road to the I-215 Freeway

Major Highways are 4 lanes with a minimum right-of-way of 118-feet. These highways are intended to serve property zoned for major industrial and commercial uses, or to serve through traffic. Intersections with other streets or highways may be limited to approximately 660-foot intervals. The following study area roadway within the County of Riverside is classified as a Major Highway:

- Harvill Avenue
- Harley Knox Boulevard – west of Decker Road

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



1 Dwy. 1 & Nandina Av. Future Intersection	2 Dwy. 2 & Oleander Av. Future Intersection	3 Dwy. 3 & Oleander Av. Future Intersection	4 Decker Rd. & Nandina Av.	5 Decker Rd. & Harley Knox Bl. S
6 Decker Rd. & Oleander Av. Future Intersection	7 Harvill Av. & Harley Knox Bl.	8 I-215 SB Ramps & Harley Knox Bl. DEF	9 I-215 NB Ramps & Harley Knox Bl. DEF	

LEGEND:

- = TRAFFIC SIGNAL
- S = ALL WAY STOP
- 4 = NUMBER OF LANES
- D = DIVIDED
- U = UNDIVIDED
- DEF = DEFACTO RIGHT TURN
- SPEED LIMIT 25 = SPEED LIMIT (MPH)

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URBAN CROSSROADS

EXHIBIT 3-2: RIVERSIDE COUNTY GENERAL PLAN CIRCULATION ELEMENT

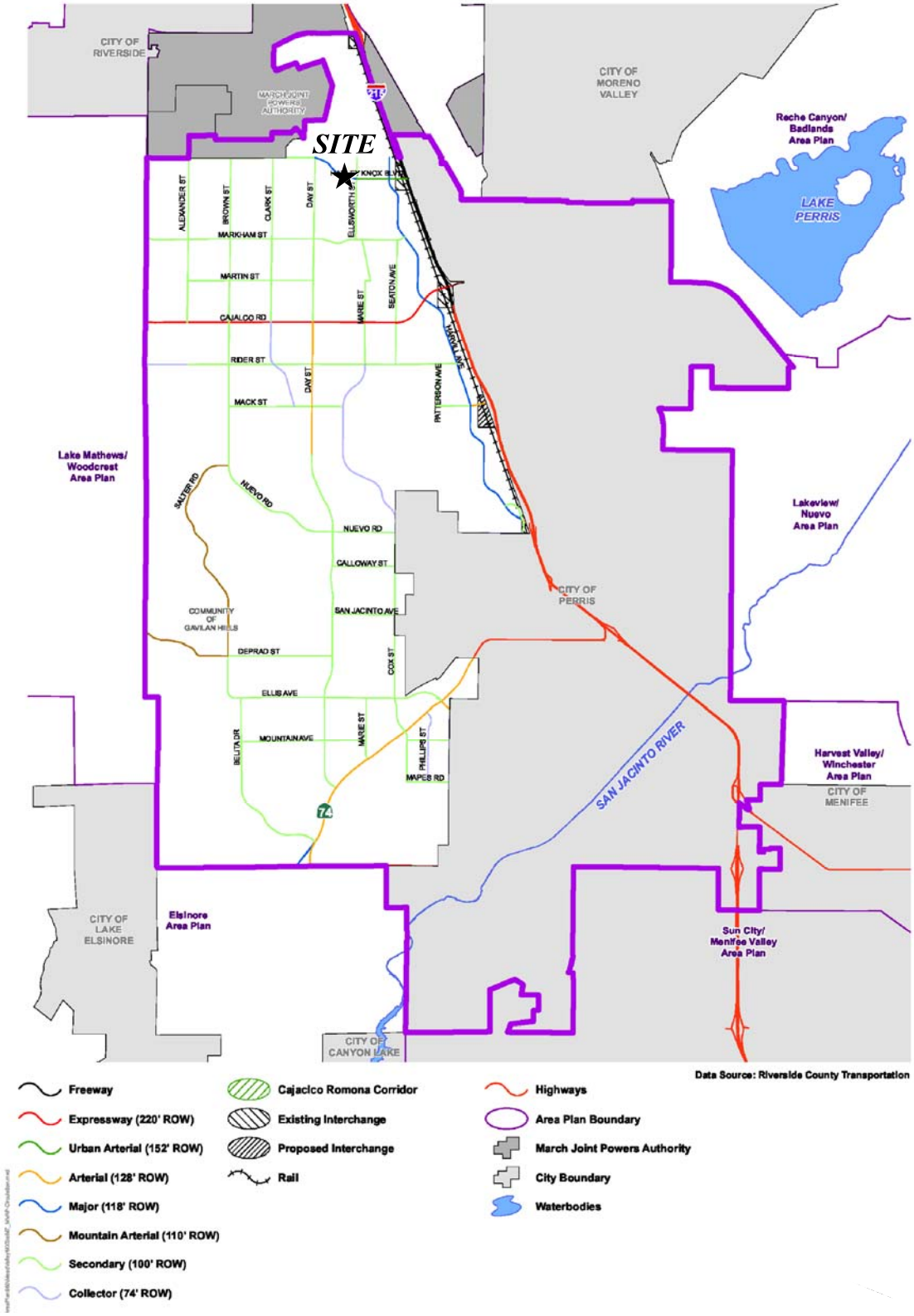
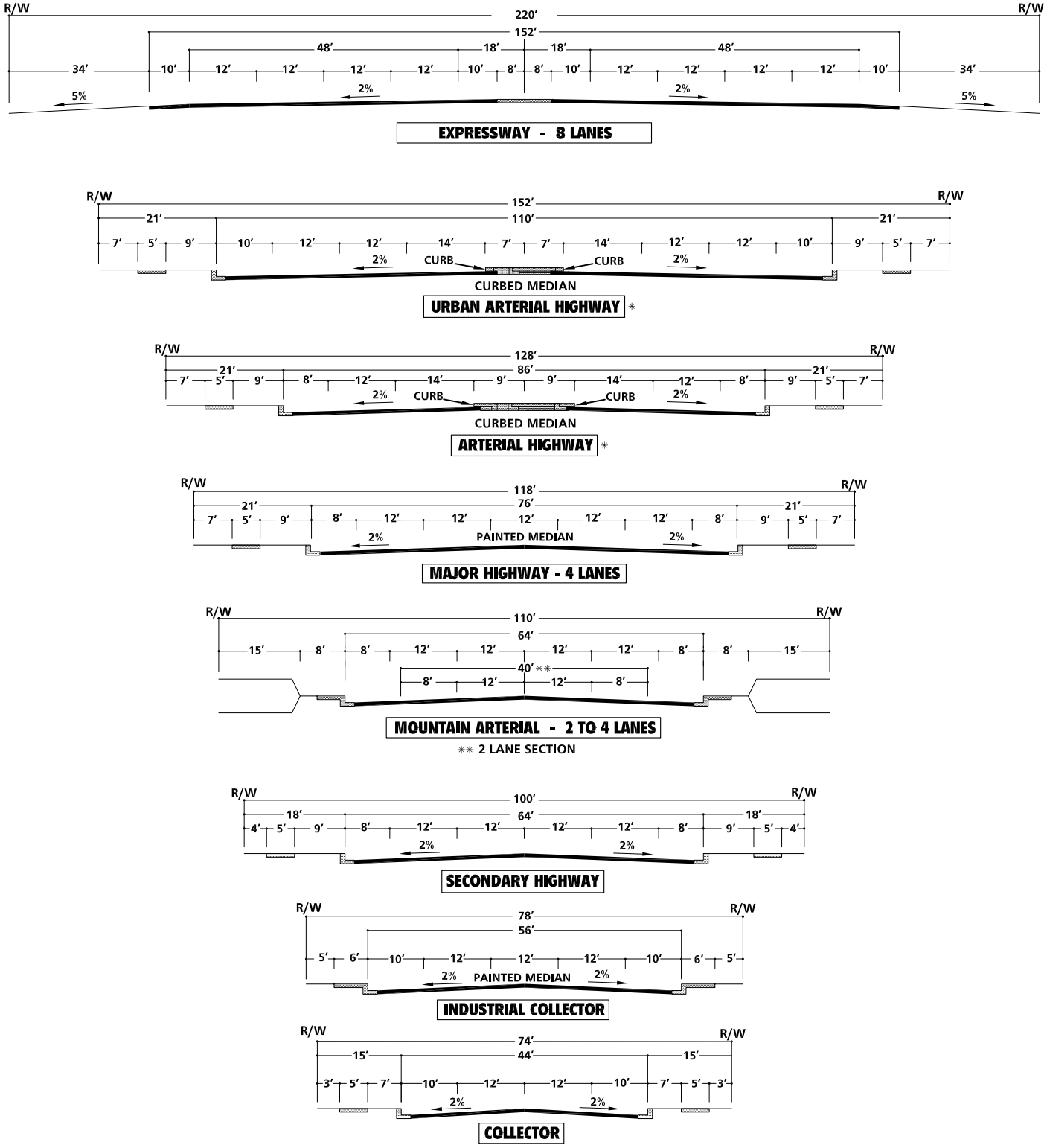


EXHIBIT 3-3: RIVERSIDE COUNTY GENERAL PLAN ROADWAY CROSS-SECTIONS



✳ *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

Secondary Highways are 4 lanes, generally with no turn lanes, and a minimum right-of-way of 100-feet. These highways are intended to serve through traffic along longer routes between major traffic generating areas or to serve property zoned for multiple residential, secondary industrial or commercial uses. Intersections with other streets and highways may be limited to 330-foot intervals. The following study area roadways within the County of Riverside are classified as a Secondary Highway:

- Decker Road
- Nandina Avenue – west of Day Street

Industrial Collectors are 2 lanes and have a minimum right-of-way of 78-feet. Industrial Collectors are circulatory streets with a continuous left-turn lane with at least one end connecting to a road of equal or greater classification. The following study area roadway within the County of Riverside is classified as an Industrial Collector:

- Oleander Avenue
- Nandina Avenue – from Decker Road to Harvill Avenue

3.3 TRUCK ROUTES

There are no truck routes defined within the County. Harley Knox Boulevard, east of the I-215 Freeway, is identified as designated City of Perris truck route.

3.4 BICYCLE & PEDESTRIAN FACILITIES

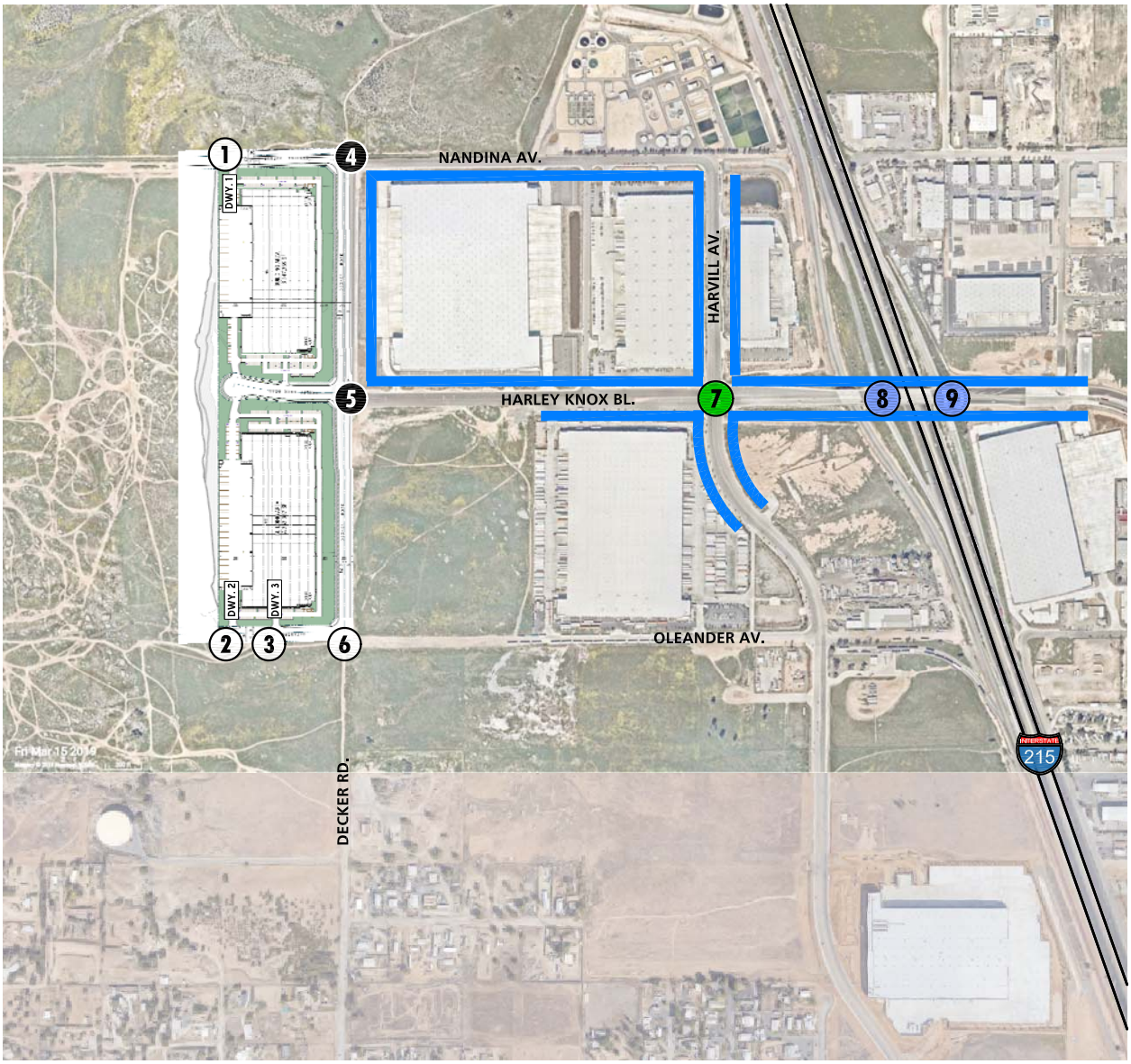
Field observations conducted in September 2018 indicate nominal pedestrian and bicycle activity within the study area. Exhibit 3-4 illustrates the existing pedestrian facilities, including sidewalks and crosswalk locations.

The trails and bikeway system, shown on Exhibit 3-5, shows the proposed trails are connected with major features within the County. There are proposed Community Trails along Oleander Avenue, Harvill Avenue (north of Oleander Avenue), and Harley Knox Boulevard within the study area.

3.5 TRANSIT SERVICE

The study area is currently served by the Riverside Transit Authority (RTA), a public transit agency serving the unincorporated Riverside County region. No bus routes currently provide proximate service (within one-quarter mile) of the Project site. Transit service is reviewed and updated by RTA periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. It is recommended that the Applicant work in conjunction with the Lead Agency and RTA to coordinate potential bus service to the Project site.

EXHIBIT 3-4: EXISTING PEDESTRIAN FACILITIES



LEGEND:

- = SIDEWALK
- 0 = FUTURE INTERSECTION
- 0 = CROSSWALK ON ALL APPROACHES
- 0 = CROSSWALK ON TWO APPROACHES
- 0 = NO CROSSWALK

N

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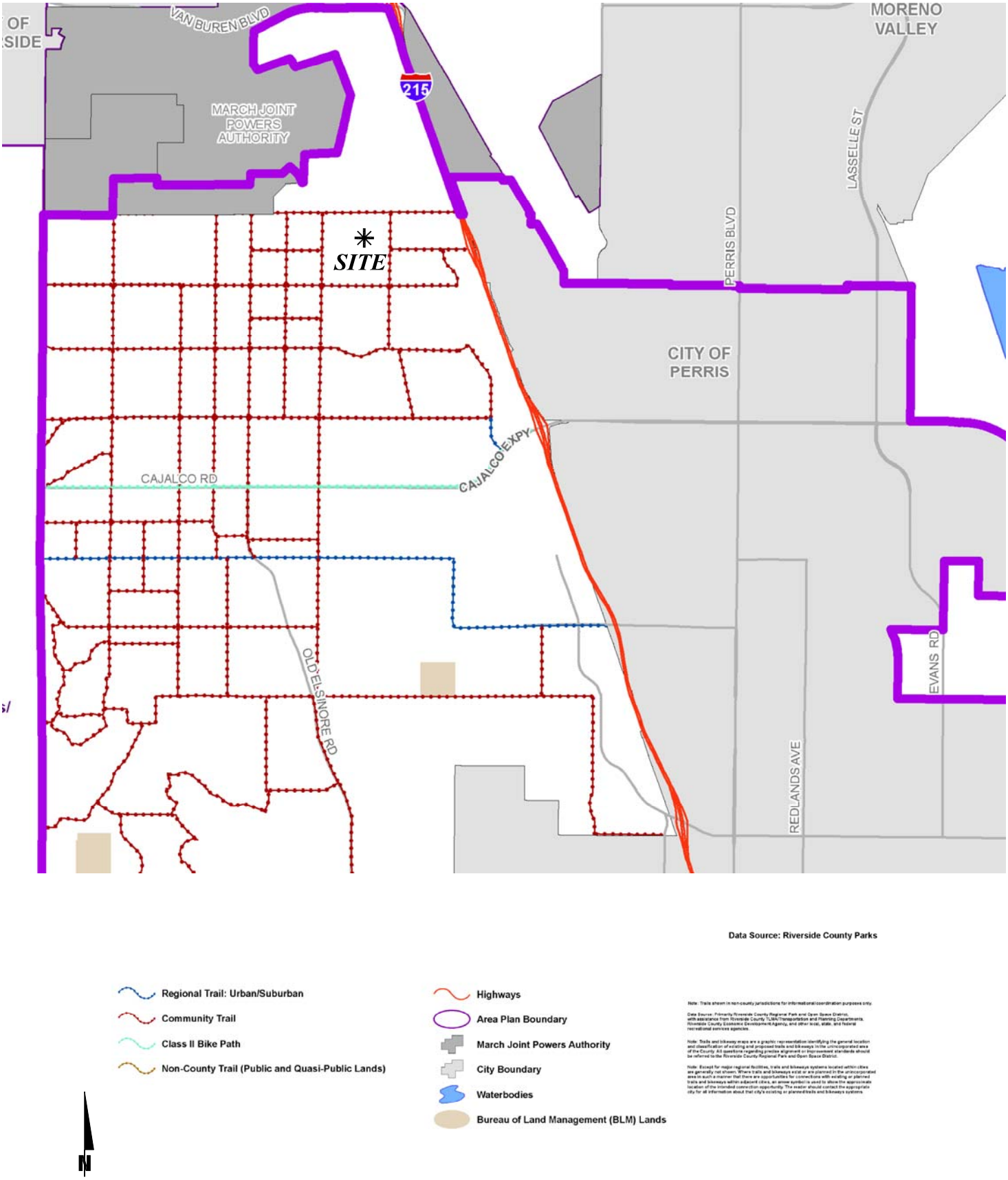
URBAN CROSSROADS

EXHIBIT 3-5: RIVERSIDE COUNTY TRAILS AND BIKEWAY SYSTEM



3.6 TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in September 2018 plus an ambient growth rate of 2% to account for area growth. 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 weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. 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 (e.g., between ramp-to-arterial intersections, etc.). The traffic counts collected in September 2018 include the vehicle classifications as shown below:

- Passenger Cars
- 2-Axle Trucks
- 3-Axle Trucks
- 4 or More Axle Trucks

To represent the impact large trucks, buses and recreational vehicles have on traffic flow; all trucks were converted into PCEs. By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is also much longer than for passenger cars, and varies depending on the type of vehicle and number of axles. For the purpose of this analysis, a PCE factor of 1.5 has been applied to 2-axle trucks, 2.0 for 3-axle trucks and 3.0 for 4+-axle trucks to estimate each turning movement. These factors are consistent with the values recommended for use in the San Bernardino County CMP and are in excess of the corresponding factors recommended for use in the County of Riverside traffic study guidelines. (8) Although the County of Riverside has a recommended PCE factor of 2.0, the San Bernardino County CMP PCE factors have been utilized in an effort to conduct a more conservative analysis.

Existing weekday average daily traffic (ADT) volumes on arterial highways throughout the study area are shown on Exhibit 3-6. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 17.3555 = Leg Volume

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 5.76 percent. As such, the above equation utilizing a factor of 17.3554 estimates the ADT volumes

on the study area roadway segments assuming a peak-to-daily relationship of approximately 5.76 percent (i.e., 1/0.0576 = 17.3555) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes (in PCE) are also shown on Exhibit 3-6.

3.7 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1 which indicates that the existing study area intersections are currently operating at an acceptable LOS during the peak hours (i.e., LOS D or better).

Consistent with Table 3-1, a summary of the peak hour intersection LOS for Existing conditions are shown on Exhibit 3-7. The intersection operations analysis worksheets are included in Appendix 3.2 of this TIA.

3.8 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. No study area intersections currently warrant a traffic signal for Existing traffic conditions.

3.9 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the I-215 Freeway and Harley Knox Boulevard 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 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 movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows. Worksheets for Existing traffic conditions off-ramp queuing analysis are provided in Appendix 3.3.

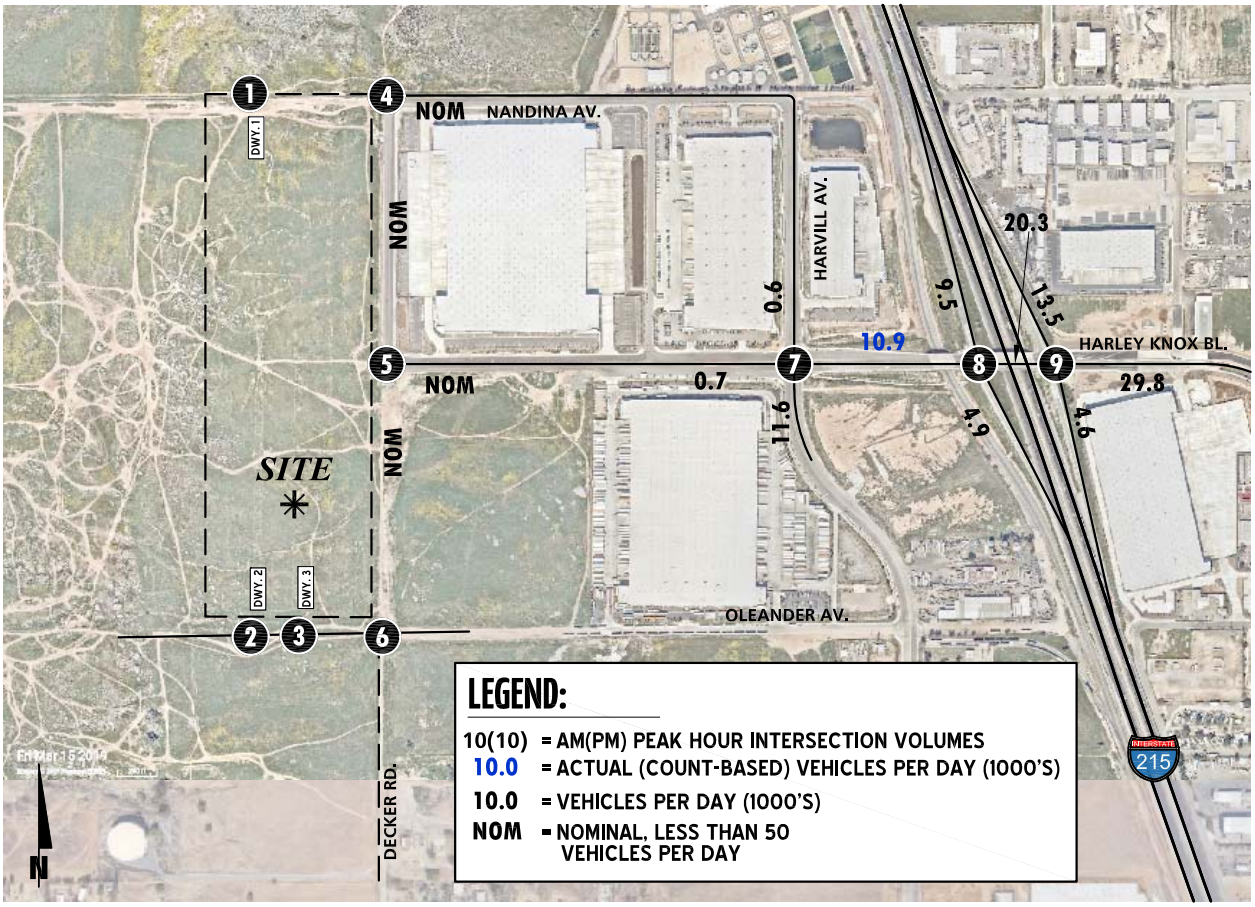
3.10 FREEWAY FACILITY ANALYSIS

Existing mainline directional volumes for the weekday AM and PM peak hours are provided on Exhibit 3-8. As shown on Tables 3-3 and 3-4, the following study area freeway mainline segments and ramp merge/diverge junctions are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during one or both peak hours:

- I-215 Northbound Mainline, South of Harley Knox Boulevard (#3) – LOS E AM peak hour only
- I-215 Northbound Ramp Diverge, Off-ramp at Harley Knox Boulevard (#3) – LOS E AM peak hour only

Existing freeway facility analysis worksheets are provided in Appendix 3.4.

EXHIBIT 3-6: EXISTING (2019) TRAFFIC VOLUMES (IN PCE)



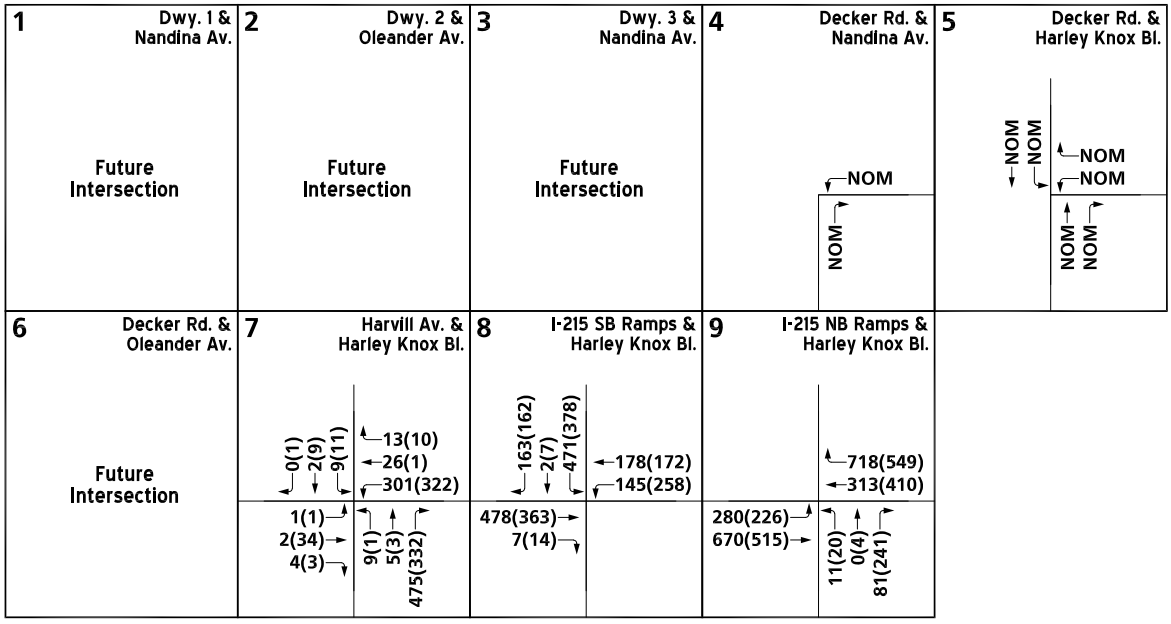


EXHIBIT 3-7: EXISTING (2019) SUMMARY OF LOS

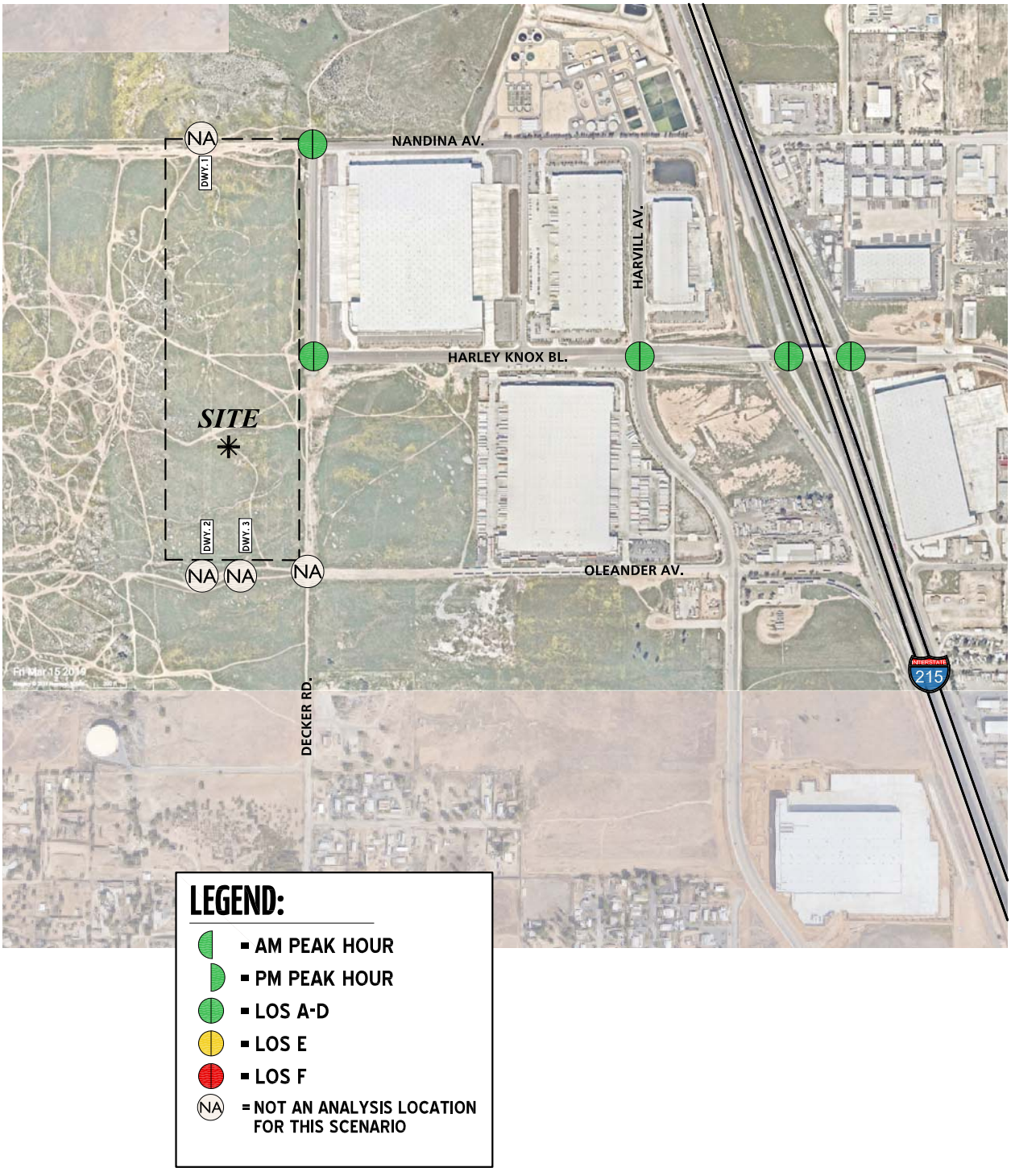


EXHIBIT 3-8: EXISTING (2019) FREEWAY MAINLINE VOLUMES

LEGEND:

⟵ 100/200 = AM/PM PEAK HOUR VOLUMES

NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)

N

Table 3-1

Intersection Analysis for Existing (2019) Conditions

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay (secs.)[2]		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Driveway 1 / Nandina Av.		Future Intersection															
2	Driveway 2 / Oleander Av.		Future Intersection															
3	Driveway 3 / Oleander Av.		Future Intersection															
4	Decker Rd. / Nandina Av.	CSS	0	0	1	0	0	0	0	0	0	1	0	0	0.0	0.0	A	A
5	Decker Rd. / Harley Knox Bl.	AWS	0	0	0	1	0	0	0	0	0	1	0	1	0.0	0.0	A	A
6	Decker Rd. / Oleander Av.		Future Intersection															
7	Harvill Av. / Harley Knox Bl.	TS	1	1	2	1	2	0	2	2	1	2	3	1	25.6	29.2	C	C
8	I-215 Southbound Ramps / Harley Knox Bl.	TS	0	0	0	0	1	1	0	2	d	1	2	0	25.9	28.4	C	C
9	I-215 Northbound Ramps / Harley Knox Bl.	TS	0	1	1	0	0	0	1	2	0	0	2	d	14.3	24.2	B	C

[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; d = Defacto Right Turn Lane

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

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

Table 3-2

Peak Hour Freeway Off-Ramp Queuing Summary for Existing (2019) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)[2]		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps / Harley Knox Bl.	SBL/T	1,330	336 [2]	310	Yes	Yes
	SBR	270	35	43	Yes	Yes
I-215 NB Ramps / Harley Knox Bl.	NBL/T	1,120	20	31	Yes	Yes
	NBR	265	33	44	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] Maximum queue length for the approach reported.

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 (2019) Conditions

Freeway	Direction	Mainline Segment	Lanes[1]	Volume		Truck %	Truck %	Density[2]		LOS[3]	
				AM	PM	AM	PM	AM	PM	AM	PM
I-215	SB	North of Harley Knox Boulevard	3	3,880	5,276	3%	2%	20.9	30.7	C	D
		South of Harley Knox Boulevard	3	3,510	5,122	1%	1%	18.4	29.0	C	D
	NB	South of Harley Knox Boulevard	3	6,260	5,175	4%	3%	**43.3**	30.3	**E**	D
		North of Harley Knox Boulevard	3	5,497	4,755	3%	2%	33.3	26.5	D	D

* **BOLD** = Unacceptable Level of Service

[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

Table 3-4

Freeway Ramp Junction Merge/Diverge Analysis for Existing (2019) Conditions

Freeway	Direction	Ramp or Segment	Lanes on Freeway[1]	AM Peak Hour		PM Peak Hour	
				Density[2]	LOS[3]	Density[2]	LOS[3]
I-215	SB	Off-Ramp at Harley Knox Boulevard	3	27.8	C	34.0	D
		On-Ramp at Harley Knox Boulevard	3	21.9	C	30.8	D
	NB	Off-Ramp at Harley Knox Boulevard	3	**39.3**	**E**	33.5	D
		On-Ramp at Harley Knox Boulevard	3	34.6	D	28.7	D

* **BOLD** = Unacceptable Level of Service

[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

3.11 RECOMMENDED IMPROVEMENTS

Improvement strategies have been recommended at intersections and freeway segments that have been identified as deficient under Existing (2019) traffic conditions in an effort to achieve an acceptable LOS (i.e., LOS D or better).

3.11.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

All study area intersections are currently operating at an acceptable LOS (LOS D) for Existing (2019) traffic conditions.

3.11.2 RECOMMENDED IMPROVEMENTS TO ADDRESS OFF-RAMP QUEUES

As shown previously on Table 3-2, there are no peak hour queuing issues at the I-215 Freeway at Harley Knox Boulevard interchange.

3.11.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

The Project Study Report/Project Development Support in Riverside County on I-215 and SR-60 between Nuevo Road (I-215) & I-215/SR-60 Junction and Box Springs Road (I-215) & Day Street (SR-60), also known as the I-215 North Project, includes the construction of a high-occupancy vehicle (HOV) lane in each direction of the I-215 Freeway between Nuevo Road and Box Springs Road within the existing median. (9) (10)

At this time, the I-215 North Project has no anticipated start or completion date. Caltrans, the owner and operator of the SHS, has not identified or proposed other improvements to the study area SHS that would address existing and anticipated study area SHS LOS deficiencies.

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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. The Project is proposed to consist of a total of 710,736 square feet (sf) of high-cube warehouse and manufacturing uses divided over two buildings: Building A (363,367 sf) and Building B (347,369 sf). 20 percent of the total building square footage is assumed to be manufacturing use. The Project is anticipated to be constructed and occupied by 2021.

The Project is proposed to have access on Nandina Avenue via Driveway 1, Oleander Avenue via Driveways 2 and 3, and the northly and southerly driveways on Harley Knox Boulevard. All Project access points are assumed to allow full-access. Regional access to the Project site is provided via the I-215 Freeway at Harley Knox Boulevard interchange.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development, and is based upon the specific land uses planned for a given project. Trip generation rates (actual vehicles) for the Project are shown in Table 4-1 and trip generation rates (PCE) for the Project are shown in Table 4-2 illustrating daily and peak hour trip generation estimates based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, 2017, for High-Cube Transload and Short-Term Storage Warehouse (ITE Land Use Code 154). (3)

Data regarding the Project truck/passenger car vehicle mix has been obtained from High Cube Warehouse Vehicle Trip Generation Analysis (October 2016). (11) The South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type for high-cube warehouses has been utilized for the 2-axle, 3-axle, and 4+-axle trucks.

The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their *Trip Generation* manual, 10th Edition, 2017. For purposes of this analysis, ITE land use codes 140 (Manufacturing) and 154 (High-Cube Warehouse/Distribution Center) have been used to derive site specific trip generation estimates. As noted on Table 4-1, refinements to the raw trip generation estimates have been made to provide a more detailed breakdown of trips by vehicle mix. Total vehicle mix percentages were also obtained from the ITE *Trip Generation* manual in conjunction with the South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type. Finally, PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix "B" of the San Bernardino County Congestion Management Program (CMP), 2016 Update. Trip generation rates with PCE factors are also shown on Table 4-1.

As shown on Table 4-2, the proposed Project is anticipated to generate a net total of 1,936 PCE trip-ends per day with 187 net PCE AM peak hour trips and 204 net PCE PM peak hour trips. For comparison, the proposed Project is anticipated to generate a net total of 1,366 actual vehicle trip-ends per day with 130 net actual vehicle AM peak hour trips and 153 net actual vehicle PM peak hour trips (as shown on Table 4-3).

4.2 PROJECT TRIP DISTRIBUTION

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 was developed based on anticipated travel patterns to and from the site for both passenger cars and truck traffic. The truck trip distribution patterns have been developed based on the anticipated travel patterns for the high-cube warehousing trucks. The Project trip distribution patterns for both passenger cars and trucks were developed based on an understanding of existing travel patterns in the area, the geographical location of the site, and the site's proximity to the regional arterial and state highway system.

The Project passenger car trip distribution patterns are graphically depicted on Exhibit 4-1 and the Project truck trip distribution patterns are graphically depicted on Exhibit 4-2.

4.3 MODAL SPLIT

The traffic reducing potential of public transit, walking or bicycling have not been considered in this TIA.

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 are shown on Exhibit 4-3.

Table 4-1

Project Trip Generation Rates

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
PCE Rates									
High-Cube Warehouse/Distribution Center[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars			0.043	0.013	0.056	0.022	0.056	0.078	0.949
2-Axle Trucks (PCE = 1.5)			0.005	0.002	0.007	0.002	0.005	0.007	0.113
3-Axle Trucks (PCE = 2.0)			0.008	0.002	0.010	0.002	0.006	0.008	0.186
4-Axle+ Trucks (PCE = 3.0)			0.036	0.012	0.048	0.012	0.030	0.042	0.846
Manufacturing[4]	TSF	140	0.477	0.143	0.620	0.208	0.462	0.670	3.930
Passenger Cars			0.382	0.114	0.496	0.166	0.370	0.536	3.144
2-Axle Trucks (PCE = 1.5)			0.024	0.008	0.032	0.011	0.023	0.034	0.197
3-Axle Trucks (PCE = 2.0)			0.040	0.012	0.052	0.018	0.038	0.056	0.326
4-Axle+ Trucks (PCE = 3.0)			0.180	0.054	0.234	0.078	0.174	0.252	1.476

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicle Rates									
High-Cube Warehouse/Distribution Center[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars			0.043	0.013	0.056	0.022	0.056	0.078	0.949
2-Axle Trucks			0.003	0.001	0.004	0.001	0.003	0.004	0.075
3-Axle Trucks			0.004	0.001	0.005	0.001	0.003	0.004	0.093
4-Axle+ Trucks			0.012	0.004	0.016	0.004	0.010	0.014	0.282
Manufacturing[4]	TSF	140	0.477	0.143	0.620	0.208	0.462	0.670	3.930
Passenger Cars			0.382	0.114	0.496	0.166	0.370	0.536	3.144
2-Axle Trucks			0.016	0.005	0.021	0.007	0.015	0.022	0.131
3-Axle Trucks			0.020	0.006	0.026	0.009	0.019	0.028	0.163
4-Axle+ Trucks			0.060	0.018	0.078	0.026	0.058	0.084	0.492

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation manual, 10th Edition (2017).

[2] TSF = thousand square feet

[3] Vehicle Mix Source: Total truck percentage source from ITE Trip Generation manual for LU 154. Truck mix (by axle type) source from SCAQMD.
AM peak hour = 72.7% passenger cars, 6.01% 2-Axle trucks, 4.83% 3-Axle trucks, 16.46% 4-Axle trucks
PM peak hour = 66.7% passenger cars, 7.33% 2-Axle trucks, 5.89% 3-Axle trucks, 20.08% 4-Axle trucks
ADT = 61.9% passenger cars, 8.38% 2-Axle trucks, 6.74% 3-Axle trucks, 22.98% 4-Axle trucks

[4] Vehicle Mix Source: Total truck percentage source from ITE Trip Generation manual for LU 140. Truck mix (by axle type) source from SCAQMD.
AM/PM/Daily = 80.0% passenger cars, 3.34% 2-Axle trucks, 4.14% 3-Axle trucks, 12.52% 4-Axle trucks

Table 4-2

Project Trip Generation Summary (PCE)
80% High-Cube Warehouse and 20% Manufacturing

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Building Area A (High-Cube Warehouse)	290.694	TSF							
Passenger Cars:			12	4	16	6	16	22	276
Truck Trips:									
2-axle:			1	1	2	1	1	2	34
3-axle:			2	1	3	1	2	3	56
4+-axle:			10	3	13	3	9	12	246
- Net Truck Trips (PCE)[2]			13	5	18	5	12	17	336
Building Area A (Manufacturing)	72.673	TSF							
Passenger Cars:			28	8	36	12	27	39	230
Truck Trips:									
2-axle:			2	1	3	1	2	3	16
3-axle:			3	1	4	1	3	4	24
4+-axle:			13	4	17	6	13	19	108
- Net Truck Trips (PCE)[2]			18	6	24	8	18	26	148
Building Area B (High-Cube Warehouse)	277.895	TSF							
Passenger Cars:			12	4	16	6	16	22	264
Truck Trips:									
2-axle:			1	1	2	1	1	2	32
3-axle:			2	1	3	1	2	3	52
4+-axle:			10	3	13	3	8	11	236
- Net Truck Trips (PCE)[2]			13	5	18	5	11	16	320
Building Area B (Manufacturing)	69.474	TSF							
Passenger Cars:			27	8	35	12	26	38	220
Truck Trips:									
2-axle:			2	1	3	1	2	3	14
3-axle:			3	1	4	1	3	4	24
4+-axle:			13	4	17	5	12	17	104
- Net Truck Trips (PCE)[2]			18	6	24	7	17	24	142
TOTAL NET TRIPS (PCE)[3]			***141***	***46***	***187***	***61***	***143***	***204***	***1,936***

[1] TSF = thousand square feet

[2] PCE rates are per San Bernardino County Transportation Authority (SBCTA).

[3] TOTAL NET TRIPS (PCE) = Passenger Cars + Net Truck Trips (PCE).

Table 4-3

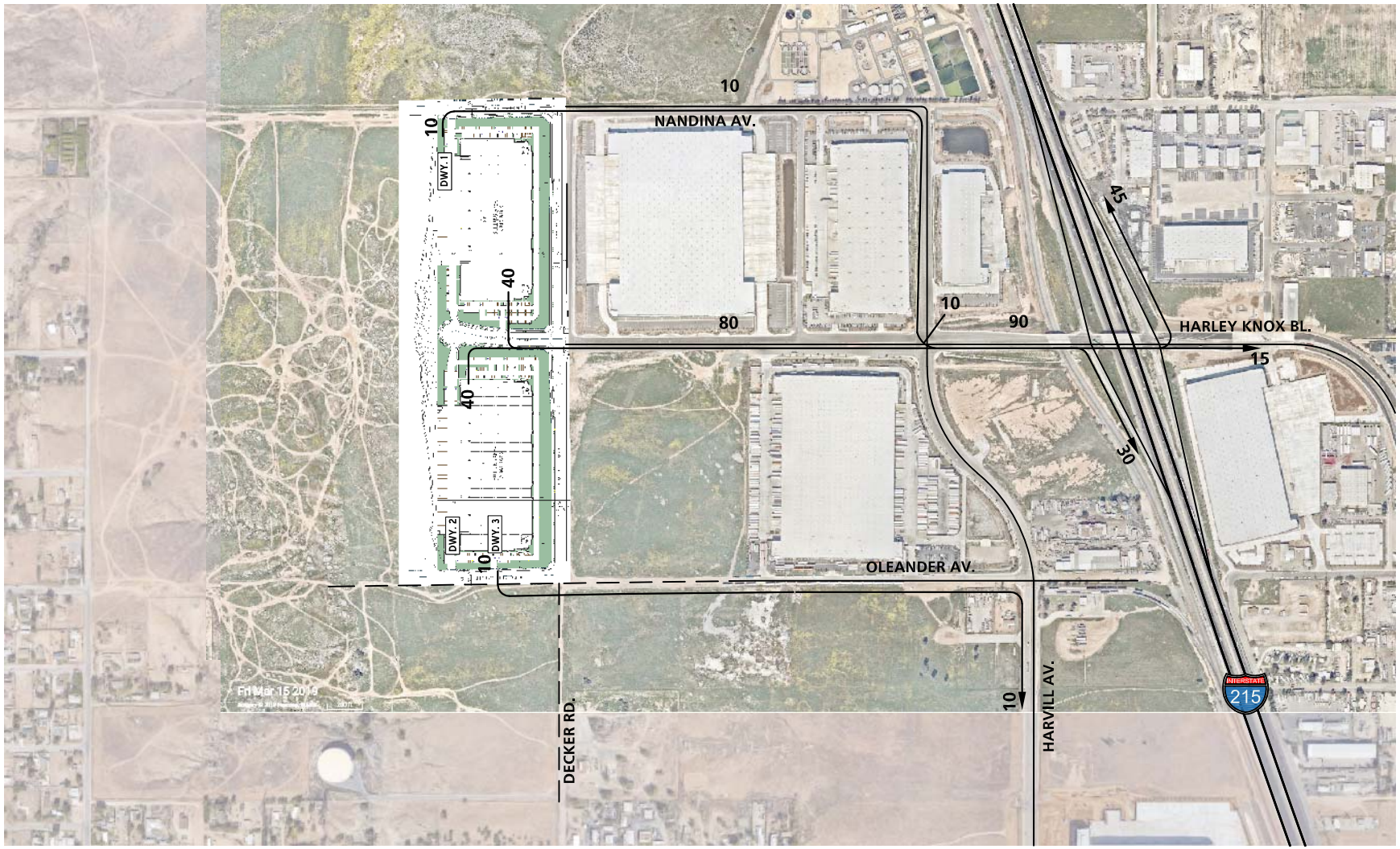
Project Trip Generation Summary (Actual Vehicles)
80% High-Cube Warehouse and 20% Manufacturing

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Building Area A (High-Cube Warehouse)	290.694	TSF							
Passenger Cars:			12	4	16	6	16	22	276
Truck Trips:									
2-axle:			1	0	1	0	1	1	22
3-axle:			1	0	1	0	1	1	28
4+-axle:			3	1	4	1	3	4	82
- Net Truck Trips			6	1	6	1	5	6	132
Building Area A (Manufacturing)	72.673	TSF							
Passenger Cars:			28	8	36	12	27	39	230
Truck Trips:									
2-axle:			1	0	1	1	1	2	10
3-axle:			1	0	1	1	1	2	12
4+-axle:			4	1	5	2	4	6	36
- Net Truck Trips			6	1	7	4	6	10	58
Building Area B (High-Cube Warehouse)	277.895	TSF							
Passenger Cars:			12	4	16	6	16	22	264
Truck Trips:									
2-axle:			1	0	1	0	1	1	22
3-axle:			1	0	1	0	1	1	26
4+-axle:			3	1	4	1	3	4	80
- Net Truck Trips			5	2	7	1	5	6	128
Building Area B (Manufacturing)	69.474	TSF							
Passenger Cars:			27	8	35	12	26	38	220
Truck Trips:									
2-axle:			1	0	1	0	1	1	10
3-axle:			1	0	1	1	1	2	12
4+-axle:			4	1	5	2	4	6	36
- Net Truck Trips			6	1	7	3	6	9	58
TOTAL NET TRIPS[2]			***101***	***29***	***130***	***44***	***107***	***153***	***1,366***

[1] TSF = thousand square feet

[2] TOTAL NET TRIPS = Passenger Cars + Net Truck Trips.

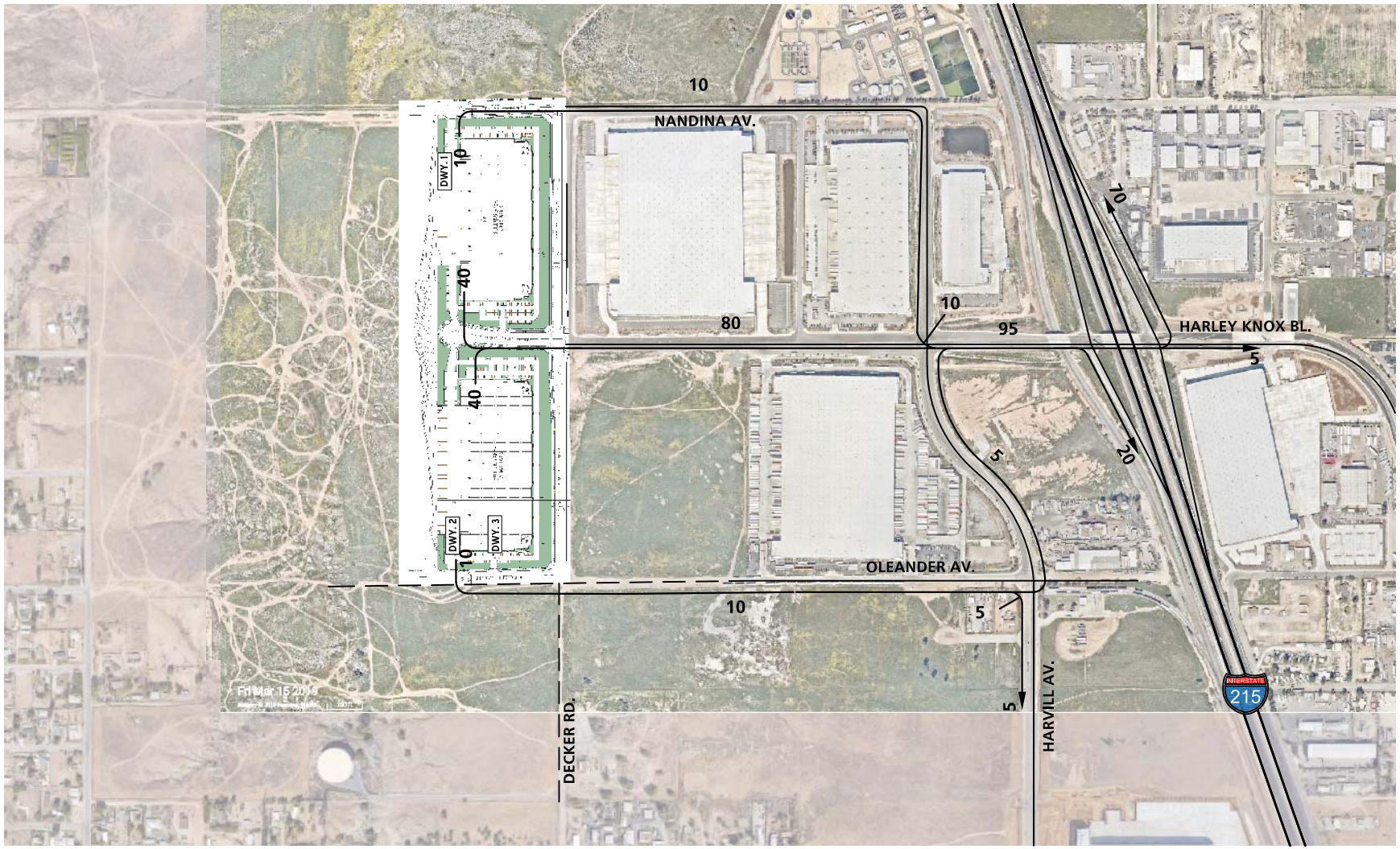
EXHIBIT 4-1: PROJECT (PASSENGER CARS) TRIP DISTRIBUTION



LEGEND:

10 = PERCENT TO/FROM PROJECT

EXHIBIT 4-2: PROJECT (TRUCKS) TRIP DISTRIBUTION

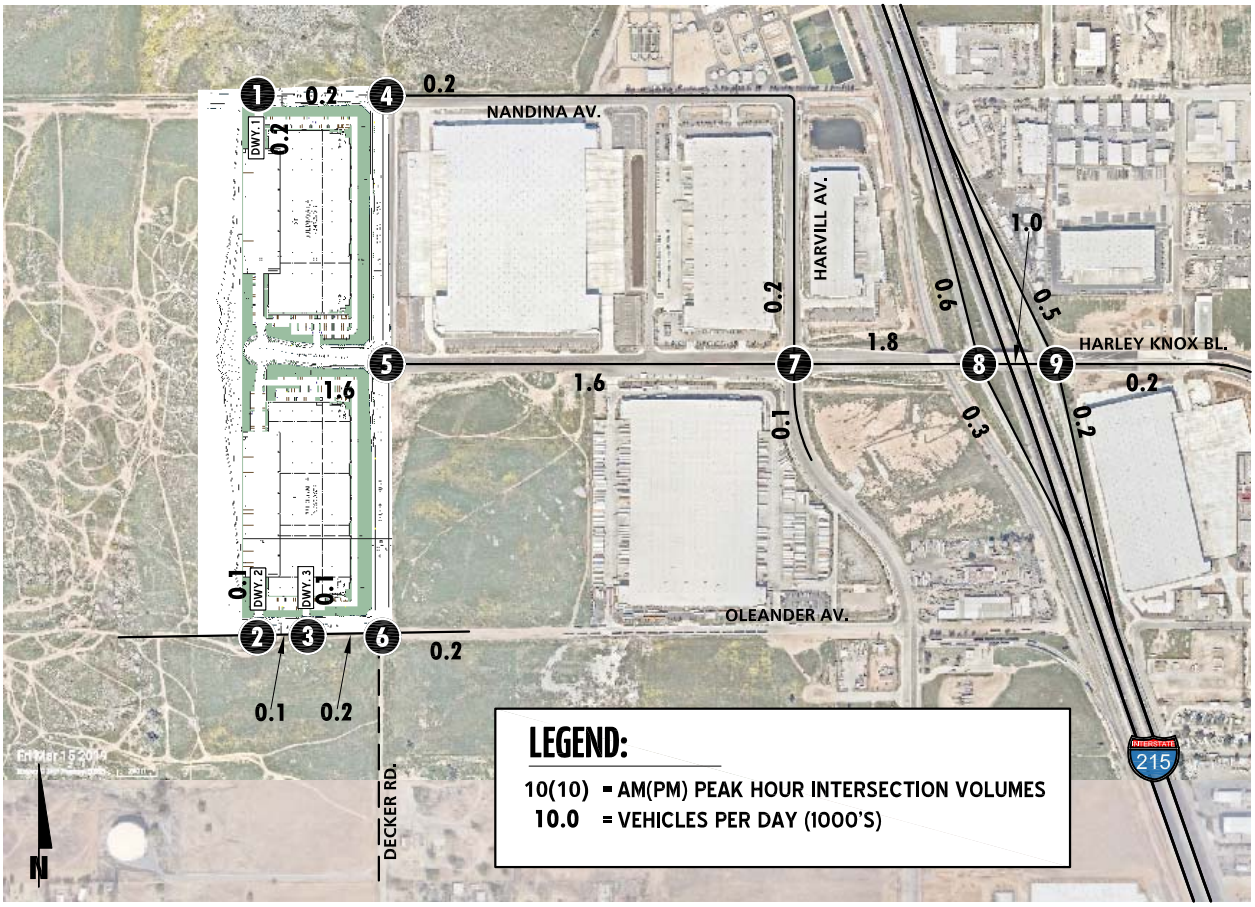


LEGEND:

10 = PERCENT TO/FROM PROJECT

N

EXHIBIT 4-3: PROJECT ONLY TRAFFIC VOLUMES (IN PCE)



1 Dwy. 1 & Nandina Av. ←0(0) ←14(6) 0(0)→ 0(0)→ 0(0) 5(14)	**2** Dwy. 2 & Oleander Av. 0(0) 2(6) ←6(3) ←0(0) 0(0)→ 0(0)→	**3** Dwy. 3 & Nandina Av. 0(0) 2(9) ←8(4) ←6(3) 0(0)→ 2(6)→	**4** Decker Rd. & Nandina Av. ←14(6) ←0(0) 5(14)→ 0(0)→ 0(0) 0(0)	**5** Decker Rd. & Harley Knox Bl. 0(0) 0(0) 0(0) ←0(0) ←113(49) ←0(0) 0(0)→ 37(114)→ 0(0)→ 0(0) 0(0) 0(0)
6 Decker Rd. & Oleander Av. 0(0) 0(0) 0(0) ←0(0) ←14(6) ←0(0) 0(0)→ 5(14)→ 0(0)→ 0(0) 0(0) 0(0)	**7** Harvill Av. & Harley Knox Bl. 0(0) 0(0) 5(14) ←14(6) ←113(49) ←3(1) 0(0)→ 37(114)→ 0(0)→ 0(0) 0(0) 1(3)	**8** I-215 SB Ramps & Harley Knox Bl. 79(34) 0(0) 0(0) ←51(22) ←0(0) 31(95)→ 12(37)→	**9** I-215 NB Ramps & Harley Knox Bl. ←0(0) ←15(7) 26(79)→ 5(16)→ 36(16) 0(0) 0(0)	

4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year for 2021 traffic conditions, consistent with the County of Riverside's traffic study requirements. The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies. The currently adopted Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan (RTP) (April 2016) growth forecasts for the unincorporated areas of the County of Riverside identifies projected growth in population of 359,000 in 2012 to 499,200 in 2040, or a 139.1 percent increase over the 28 year period. (12) 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 145.1 percent, or 1.34 percent annual growth rate. Finally, growth in employment over the same 28 year period is projected to increase by 222.1 percent, or a 2.89 percent annual growth rate.

Based on a comparison of Existing traffic volumes to the EAPC (2021) forecasts, the average growth rate is estimated at approximately 41.54 percent compounded annually between Existing and EAPC (2021) traffic conditions. The annual growth rate at each individual intersection is not lower than 35.33 percent compounded annually to as high as 45.53 percent compounded annually over the same period. Therefore, the annual growth rate utilized for the purposes of this analysis would appear to conservatively approximate the anticipated regional growth in traffic volumes in the County of Riverside for EAPC (2021) traffic conditions, especially when considered along with the addition of project-related traffic. As such, the growth in traffic volumes assumed in this traffic impact analysis would tend to overstate as opposed to understate the potential impacts to traffic and circulation.

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

California Environmental Quality Act (CEQA) Guidelines require that other reasonably foreseeable related development projects 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 cumulative project list includes known and foreseeable projects that are anticipated to contribute traffic to the study area intersections.

Where applicable, cumulative projects anticipated to contribute measurable traffic (i.e. 50 or more peak hour trips) to study area intersections have been manually added to the study area network to generate EAPC (2021) forecasts. In other words, this list of cumulative development projects has been reviewed to determine which projects would likely contribute measurable traffic through the study area intersections (e.g., those cumulative projects in close proximity to the proposed Project). For the purposes of this analysis, the cumulative projects that were

determined to affect one or more of the study area intersections are shown on Exhibit 4-4 and listed on Table 4-4. Any other cumulative projects that are not expected to contribute measurable traffic to study area intersections have not been included since the traffic would dissipate due to the distance from the Project site and study area intersections. Any additional traffic generated by other projects not on the cumulative projects list is accounted by the assumed 2% ambient growth factor noted previously.

4.7 OPENING YEAR (2021) TRAFFIC FORECASTS

To provide a comprehensive assessment of potential transportation network deficiencies, a "buildup" analysis was performed in support of this work effort. The "buildup" method was used to approximate the EAP and EAPC (2021) traffic forecasts that includes background traffic, and is intended to identify the significant impacts on both the existing and planned near-term circulation system. The "buildup" method was also utilized to approximate the EAP and EAPC (2021) traffic forecasts, and is intended to identify the cumulative impacts on both the existing and planned near-term circulation system. The EAP and EAPC (2021) traffic forecasts include background traffic, traffic generated by other cumulative development projects within the study area, and the traffic generated by the proposed Project.

The 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 and other near-by cumulative projects.

The EAP and EAPC (2021) traffic analysis includes the following traffic conditions, with the various traffic components:

- EAP (2021)
    - Existing 2018 counts plus ambient growth (2.0%)
    - Ambient growth traffic (4.04% increase from Existing 2018 counts plus ambient growth (2.0%))
    - Project traffic
- EAPC (2021)
    - Existing 2018 counts plus ambient growth (2.0%)
    - Ambient growth traffic (4.04% increase from Existing 2018 counts plus ambient growth (2.0%))
    - Cumulative Development Project traffic
    - Project traffic

EXHIBIT 4-4: CUMULATIVE DEVELOPMENT LOCATION MAP

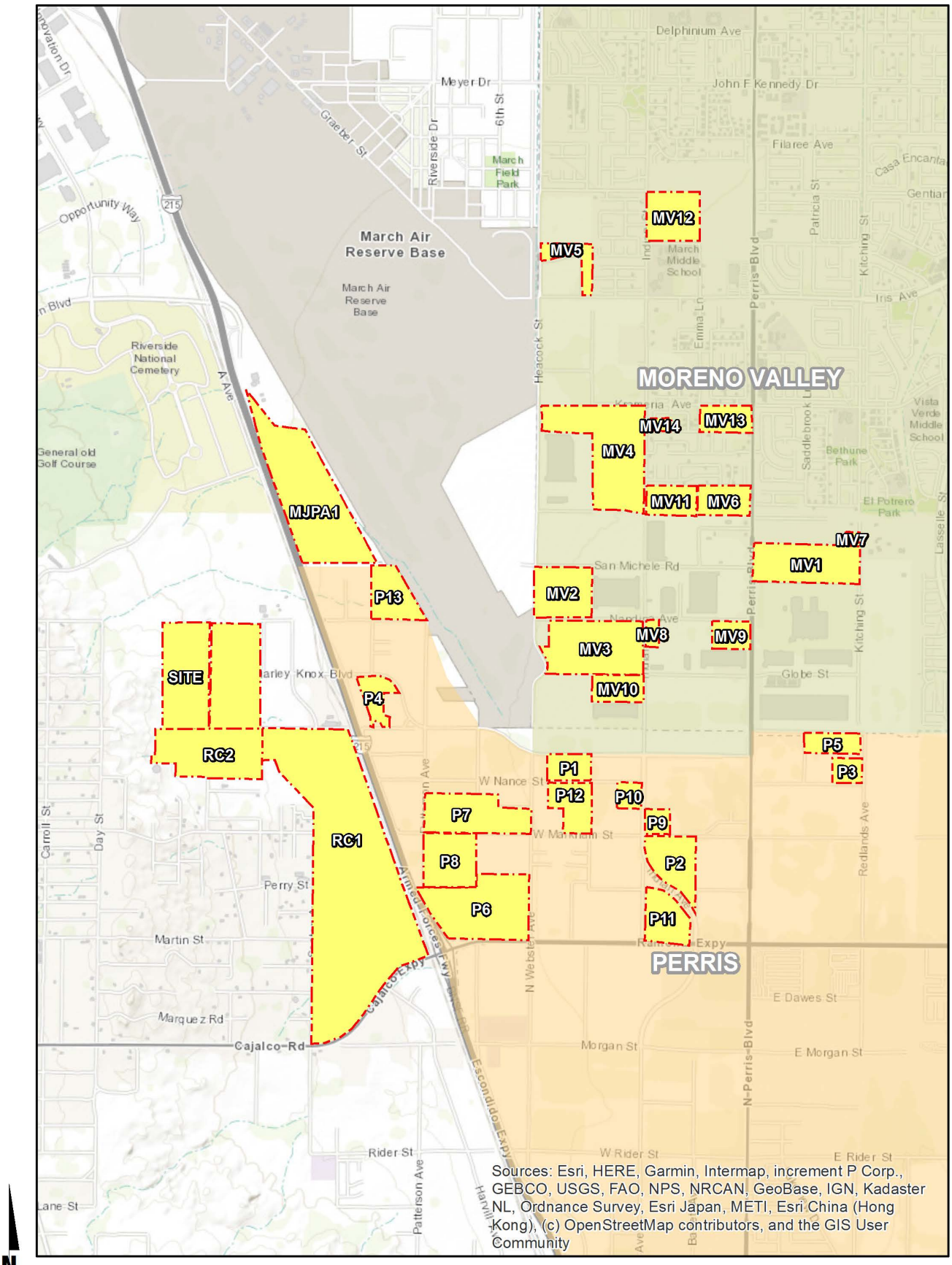


Table 4-4

Cumulative Development Land Use Summary

No.	Project Name / Case Number	Jurisdiction	Land Use[1]	Quantity	Units[2]	Location
P1	Bargemann / DPR 07-09-0018	Perris	Warehousing	173.00	TSF	NEC OF WEBSTER & NANCE
P2	Duke 2 / DPR 16-00008	Perris	High-Cube Warehouse	669.00	TSF	NEC OF INDIAN & MARKHAM
P3	Perris Circle 3	Perris	Warehousing	210.90	TSF	NWC OF REDLANDS AVE. AND NANCE AVE.
P4	Gateway / DPR 16-00003	Perris	High-Cube Warehouse	400.00	TSF	SOUTH OF HARLEY KNOX BLVD. EAST OF HWY. 215
P5	Harley Knox Commerce Park / DPR 16-004	Perris	High-Cube Warehouse	386.28	TSF	NWC OF HARLEY KNOX BLVD. & REDLANDS AVE.
P6	OLC 1 / DPR 12-10-0005	Perris	High-Cube Warehouse	1,455.00	TSF	WEST OF WEBSTER AVE. NORTH OF RAMONA EXWY.
P7	OLC2 / DPR 14-01-0015	Perris	High-Cube Warehouse	1,037.00	TSF	WEST OF WEBSTER AVE. NORTH OF MARKHAM ST.
P8	Duke at Patterson / DPR 17-00001	Perris	High-Cube Warehouse	811.00	TSF	SEC OF PATTERSON AVE. & MARKHAM ST.
P9	Markham Industrial / DPR 16-00015	Perris	Warehousing	170.00	TSF	NEC OF INDIAN AVE. & MARKHAM ST.
P10	Westcoast Textile / DPR 16-00001	Perris	Warehousing	180.00	TSF	SWC OF INDIAN ST. & NANCE ST.
P11	Indian/Ramona Warehouse	Perris	High-Cube Warehouse	428.73	TSF	NORTH OF RAMONA EXWY. WEST OF INDIAN AVE.
P12	IPT Perris DC II	Perris	High-Cube Warehouse	273.00	TSF	NEC OF WEBSTER & MARKHAM
P13	Western / Nandina Warehouse	Perris	High-Cube Warehouse	252.03	TSF	NEC OF WESTERN & NANDINA
MV1	Kearney	Moreno Valley	High-Cube Warehouse	1,100.00	TSF	EAST OF PERRIS BLVD. AT SAN MICHEL RD.
MV2	IDS	Moreno Valley	High-Cube Warehouse	701.00	TSF	SEC OF HEACOCK ST. & SAN MICHELE RD.
MV3	First Industrial	Moreno Valley	High-Cube Warehouse	1,380.00	TSF	SWC OF INDIAN AVE. & NANDINA AVE.
MV4	Prologis 1	Moreno Valley	High-Cube Warehouse	1,000.00	TSF	NEC OF INDIAN AVE. & MARIPOSA AVE.
MV5	Moreno Valley Industrial Park	Moreno Valley	High-Cube Warehouse	207.68	TSF	NEC OF HEACOCK ST. & IRIS AVE.
MV6	Tract 31442	Moreno Valley	SFDR	63.00	DU	NWC OF PERRIS BLVD. & MARIPOSA AVE.
MV7	Moreno Valley Utility Substation	Moreno Valley	High-Cube Warehouse	PUBLIC	TSF	NWC OF EDWIN RD. & KITCHING ST.
MV8	Phelan Development	Moreno Valley	High-Cube Warehouse	98.21	TSF	SEC OF INDIAN ST. & NANDINA AVE.
MV9	Nandina Industrial Center	Moreno Valley	High-Cube Warehouse	335.97	TSF	SOUTH OF NANDINA AVE. WEST OF PERRIS BLVD.
MV10	Indian Street Commerce Center	Moreno Valley	High-Cube Warehouse	433.92	TSF	SWC OF INDIAN ST. & GROVEVIEW RD.
MV11	Tract 32716	Moreno Valley	SFDR	57.00	DU	NEC OF INDIAN ST. & MARIPOSA AVE.
MV12	Tract 36760	Moreno Valley	SFDR	221.00	DU	SEC OF INDIAN ST. & GENTIAN AVE.
MV13	PEN18-0042	Moreno Valley	SFDR	2.00	DU	SEC OF INDIAN ST. & KRAMERIA AVE.
MV14	Tract 33024	Moreno Valley	SFDR	8.00	DU	SEC OF INDIAN ST. & KRAMERIA AVE.
MJPA1	VIP 215	March JPA	High-Cube Warehouse	2,219.85	TSF	NORTH OF NANDINA AVE. EAST OF HWY. 215
RC1	Majestic Freeway Business Center SP	Riverside County	General Light Industrial	6,200.00	TSF	NORTH OF RAMONA EXPY. SOUTH OF NANDINA AVE. WEST OF HWY. 215
RC2	Knox Business Park	Riverside County	High-Cube Warehouse	1,259.05	TSF	SOUTH OF OLEANDER AVE., WEST OF DECKER RD., & EAST OF DECKER RD.

[1] SFDR = Single Family Detached Residential

[2] DU = Dwelling Units; TSF = Thousand Square Feet

5 E+P TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Existing plus Project (E+P) conditions and the resulting intersection operations, traffic signal warrant, and freeway mainline operations analyses.

5.1 ROADWAY IMPROVEMENTS

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

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

5.2 EXISTING PLUS PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus Project traffic. Exhibit 5-1 shows the ADT and peak hour intersection turning movement volumes, which can be expected for E+P traffic conditions.

5.3 INTERSECTION OPERATIONS ANALYSIS

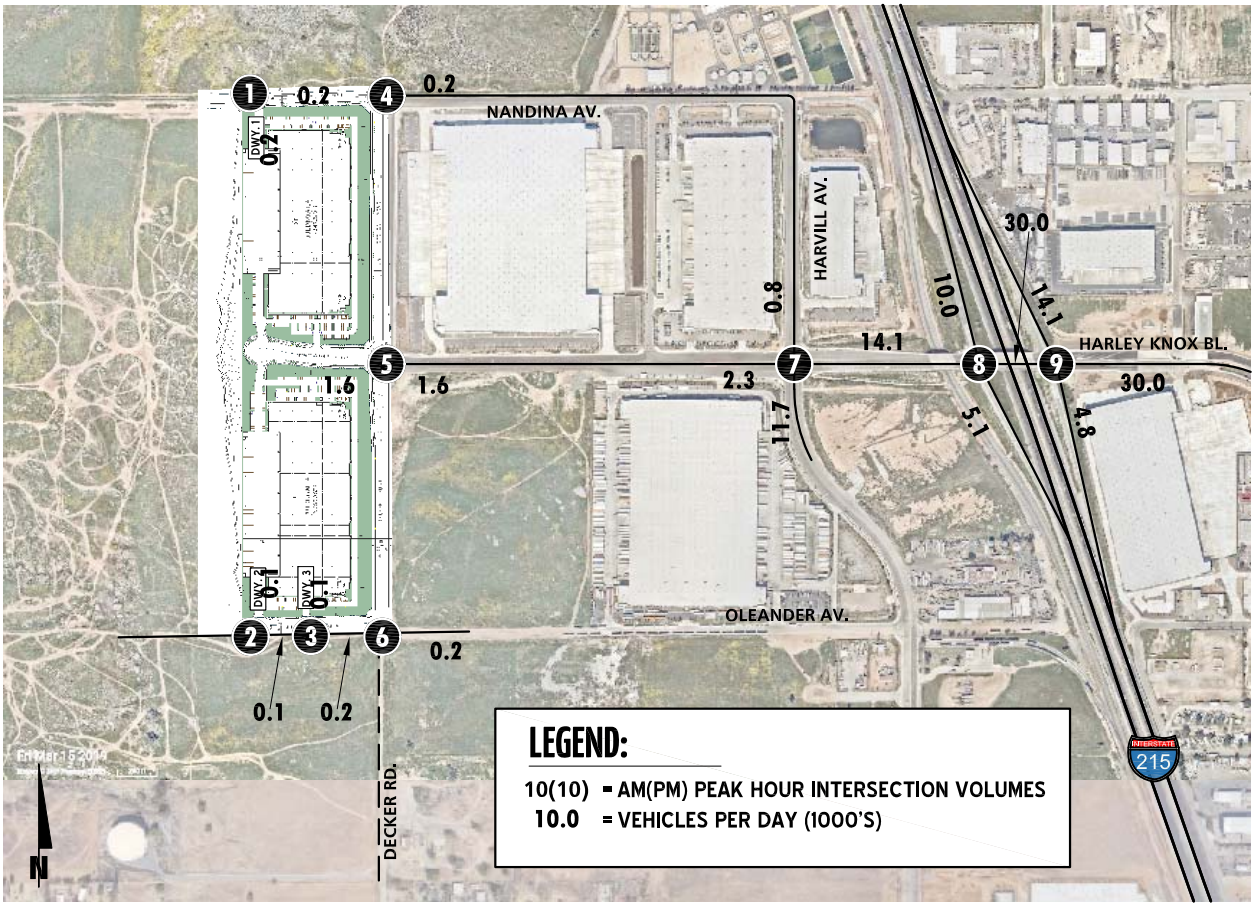
E+P peak hour traffic operations have been evaluated, for each phase of development, for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TIA. The intersection analysis results are summarized in Table 5-1, which indicates that the study area intersections are anticipated to continue to operate at acceptable LOS under E+P traffic conditions, consistent with Existing traffic conditions. As such, the impact to study area intersections from the addition of Project traffic is anticipated to be less than significant.

A summary of the peak hour intersection LOS for E+P conditions are shown on Exhibit 5-2. The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 5.1 of this TIA.

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

There are no intersections anticipated to meet traffic signal warrants for E+P traffic conditions (see Appendix 5.2).

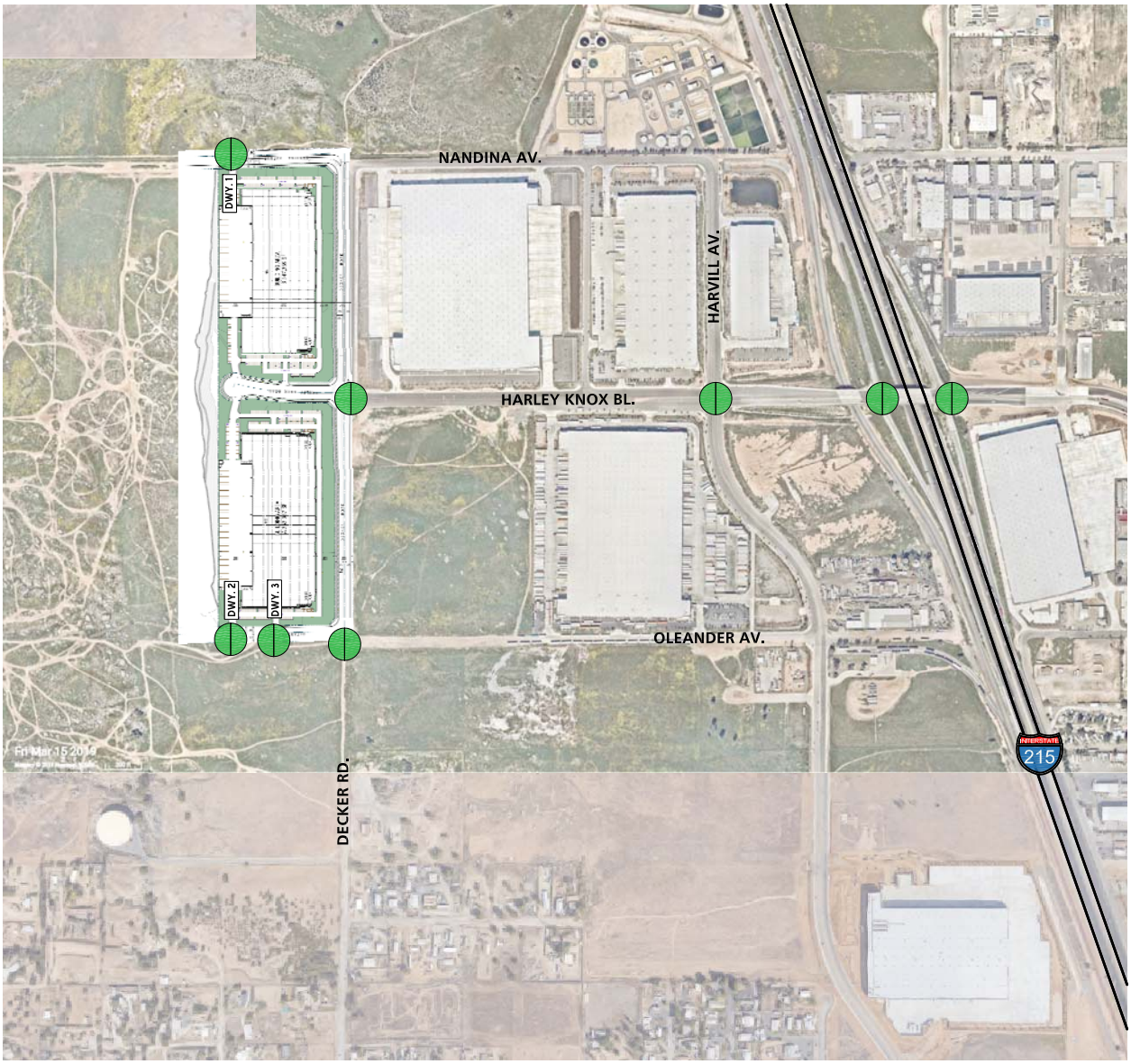
EXHIBIT 5-1: E+P TRAFFIC VOLUMES (IN PCE)



1 Dwy. 1 & Nandina Av.	2 Dwy. 2 & Oleander Av.	3 Dwy. 3 & Nandina Av.	4 Decker Rd. & Nandina Av.	5 Decker Rd. & Harley Knox Bl.
←0(0) ←14(6)	0(0) 2(6) ←6(3) ←0(0)	0(0) 2(9) ←8(4) ←6(3)	←14(6) ←0(0)	0(0) 0(0) 0(0) ←0(0) ←113(49) ←0(0)
0(0)→ 0(0)→ 0(0) 5(14)	0(0)→ 0(0)→	0(0)→ 2(6)→	5(14)→ 0(0)→ 0(0) 0(0)	0(0)→ 37(114)→ 0(0) 0(0) 0(0) 0(0)→

6 Decker Rd. & Oleander Av.	7 Harvill Av. & Harley Knox Bl.	8 I-215 SB Ramps & Harley Knox Bl.	9 I-215 NB Ramps & Harley Knox Bl.
0(0) 0(0) 0(0) ←0(0) ←14(6) ←0(0)	0(1) 2(9) 14(25) ←27(16) ←139(50) ←304(323)	242(196) 2(7) 471(378) ←229(194) ←145(258)	←718(549) ←328(417)
0(0)→ 5(14)→ 0(0)→ 0(0) 0(0) 0(0)	1(1)→ 39(148)→ 9(1) 5(3) 476(335) 4(3)→	509(458)→ 19(51)→	306(305)→ 675(531)→ 47(36) 0(4) 81(241)

EXHIBIT 5-2: E+P SUMMARY OF LOS



LEGEND:

- = AM PEAK HOUR
- = PM PEAK HOUR
- = LOS A-D
- = LOS E
- = LOS F

N

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Table 5-1

Intersection Analysis for E+P Conditions

#	Intersection	Traffic Control[2]	Existing (2019)				E+P			
			Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Driveway 1 / Nandina Av.	**CSS**	Future Intersection				8.3	8.4	A	A
2	Driveway 2 / Oleander Av.	**CSS**	Future Intersection				8.9	8.9	A	A
3	Driveway 3 / Oleander Av.	**CSS**	Future Intersection				8.9	8.9	A	A
4	Decker Rd. / Nandina Av.	CSS	0.0	0.0	A	A	0.0	0.0	A	A
5	Decker Rd. / Harley Knox Bl.	AWS	0.0	0.0	A	A	8.0	8.1	A	A
6	Decker Rd. / Oleander Av.	**CSS**	Future Intersection				0.0	0.0	A	A
7	Harvill Av. / Harley Knox Bl.	TS	25.6	29.2	C	C	28.1	36.8	C	D
8	I-215 Southbound Ramps / Harley Knox Bl.	TS	25.9	28.4	C	C	26.5	28.9	C	C
9	I-215 Northbound Ramps / Harley Knox Bl.	TS	14.3	24.2	B	C	16.1	36.9	B	D

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

[2] CSS = Cross-street Stop; AWS = All-way Stop; TS = Traffic Signal; **CSS** = Improvement

5.5 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the I-215 Freeway and Harley Knox Boulevard 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. 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 5-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for E+P traffic conditions.

Worksheets for E+P traffic conditions off-ramp queuing analysis are provided in Appendix 5.3 for E+P traffic conditions.

5.6 FREEWAY FACILITY ANALYSIS

E+P mainline directional volumes for the weekday AM and PM peak hours are provided on Exhibit 5-3. As shown on Tables 5-3 and 5-4, there are no additional study area freeway mainline segments and ramp merge/diverge junctions that are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during one or both peak hours, in addition to the freeway mainline segments and ramp merge/diverge junctions identified in Existing (2019) traffic conditions. E+P freeway facility analysis worksheets are provided in Appendix 5.4.

5.7 RECOMMENDED IMPROVEMENTS

Improvement strategies have been recommended at intersections and freeway segments that have been identified as deficient under E+P traffic conditions in an effort to achieve an acceptable LOS (i.e., LOS D or better).

5.7.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

All study area intersections are anticipated to operate at an acceptable LOS (LOS D) for E+P traffic conditions. As such, no improvements have been recommended.

5.7.2 RECOMMENDED IMPROVEMENTS TO ADDRESS OFF-RAMP QUEUES

As shown previously on Table 5-2, there are no peak hour queuing issues at the I-215 Freeway at Harley Knox Boulevard interchange. As such, no improvements have been recommended.

5.7.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

The Project Study Report/Project Development Support in Riverside County on I-215 and SR-60 between Nuevo Road (I-215) & I-215/SR-60 Junction and Box Springs Road (I-215) & Day Street (SR-60), also known as the I-215 North Project, includes the construction of an high-occupancy vehicle (HOV) lane in each direction of the I-215 Freeway between Nuevo Road and Box Springs Road within the existing median. (9) (10)

Table 5-2

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

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2019)				E+P			
			95th Percentile Queue (Feet)[2]		Acceptable?[1]		95th Percentile Queue (Feet)[2]		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps / Harley Knox Bl.	SBL/T	1330	336 [2]	310	Yes	Yes	360 [2]	310 [2]	Yes	Yes
	SBR	270	35	43	Yes	Yes	45	47	Yes	Yes
I-215 NB Ramps / Harley Knox Bl.	NBL/T	1120	20	31	Yes	Yes	54	45	Yes	Yes
	NBR	265	33	44	Yes	Yes	33	44 [2]	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] Maximum queue length for the approach reported.

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

Table 5-3

Basic Freeway Segment Analysis for E+P Conditions

Freeway	Direction	Mainline Segment	Lanes[1]	Existing (2019)				E+P			
				Density[2]		LOS[3]		Density[2]		LOS[3]	
				AM	PM	AM	PM	AM	PM	AM	PM
I-215	SB	North of Harley Knox Boulevard	3	20.9	30.7	C	D	21.2	30.9	C	D
		South of Harley Knox Boulevard	3	18.4	29.0	C	D	18.4	29.2	C	D
	NB	South of Harley Knox Boulevard	3	**43.3**	30.3	**E**	D	**43.7**	30.4	**E**	D
		North of Harley Knox Boulevard	3	33.3	26.5	D	D	33.4	27.2	D	D

* **BOLD** = Unacceptable Level of Service

[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

Table 5-4

Freeway Ramp Junction Merge/Diverge Analysis for E+P Conditions

Freeway	Direction	Ramp or Segment	Lanes on Freeway[1]	Existing (2019)				E+P			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density[2]	LOS[3]	Density[2]	LOS[3]	Density[2]	LOS[3]	Density[2]	LOS[3]
I-215	SB	Off-Ramp at Harley Knox Boulevard	3	27.8	C	34.0	D	28.2	D	34.2	D
		On-Ramp at Harley Knox Boulevard	3	21.9	C	30.8	D	21.9	C	31.0	D
	NB	Off-Ramp at Harley Knox Boulevard	3	**39.3**	**E**	33.5	D	**39.6**	**E**	33.5	D
		On-Ramp at Harley Knox Boulevard	3	34.6	D	28.7	D	34.7	D	29.2	D

* **BOLD** = Unacceptable Level of Service

[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

EXHIBIT 5-3: E+P FREEWAY MAINLINE VOLUMES

At this time, the I-215 North Project has no anticipated start or completion date. Caltrans, the owner and operator of the SHS, has not identified or proposed other improvements to the study area SHS that would address existing and anticipated study area SHS LOS deficiencies. The Project would pay required TUMF, offsetting the Project's incremental and cumulative effects to the study area SHS.

6 EAP (2021) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAP (2021) conditions and the resulting intersection operations, traffic signal warrant, and freeway mainline operations analyses.

6.1 ROADWAY IMPROVEMENTS

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

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

6.2 EAP (2021) TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 4.04% and the addition of Project traffic. Exhibit 6-1 shows the ADT and peak hour intersection turning movement volumes, which can be expected for EAP (2021) traffic conditions.

6.3 INTERSECTION OPERATIONS ANALYSIS

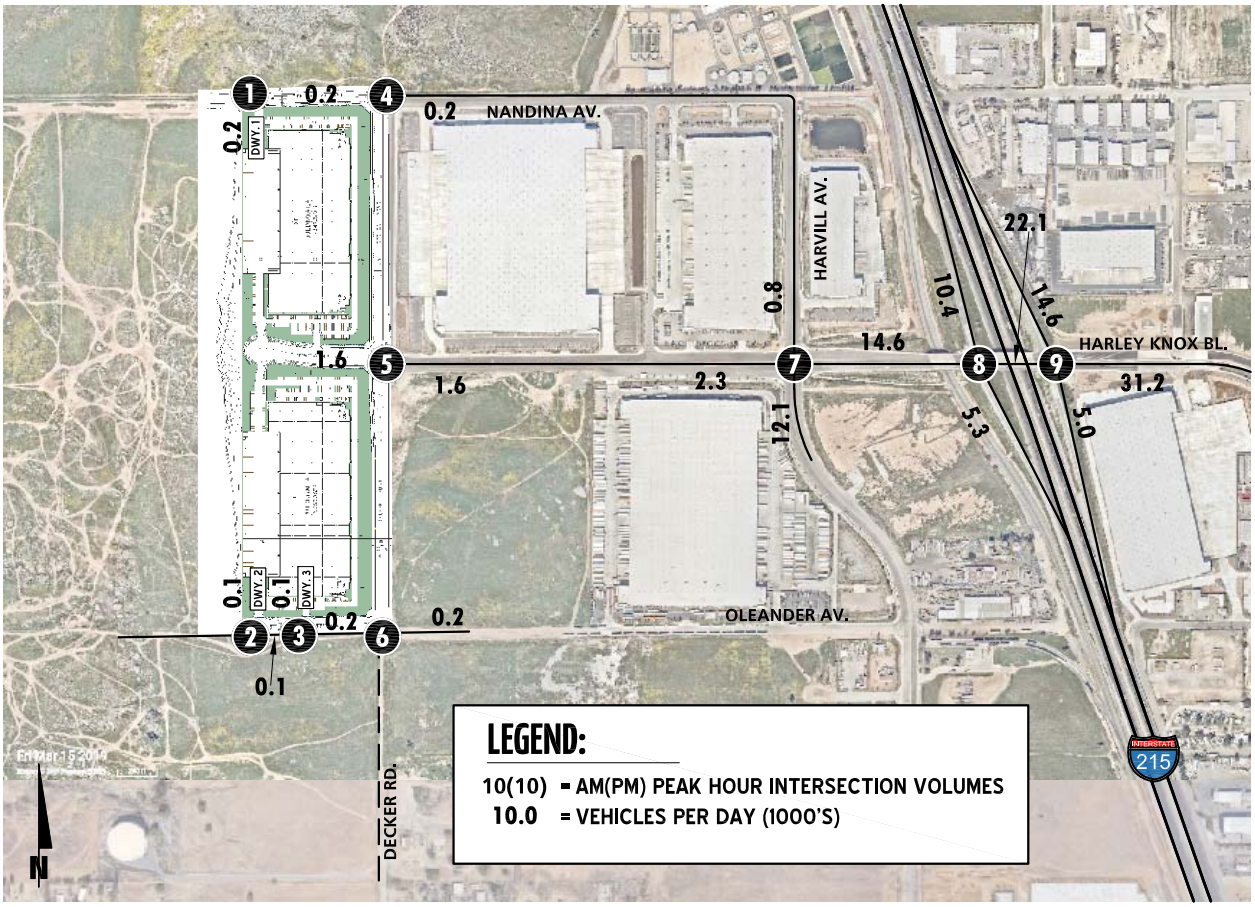
EAP (2021) peak hour traffic operations have been evaluated, for each phase of development, for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TIA. The intersection analysis results are summarized in Table 6-1, which indicates that the study area intersections are anticipated to continue to operate at acceptable LOS under EAP (2021) traffic conditions, consistent with Existing traffic conditions. As such, the impact to study area intersections from the addition of Project traffic is anticipated to be less than significant.

A summary of the peak hour intersection LOS for EAP (2021) conditions are shown on Exhibit 6-2. The intersection operations analysis worksheets for EAP (2021) traffic conditions are included in Appendix 6.1 of this TIA.

6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

There are no intersections anticipated to meet traffic signal warrants for EAP (2021) traffic conditions (see Appendix 6.2).

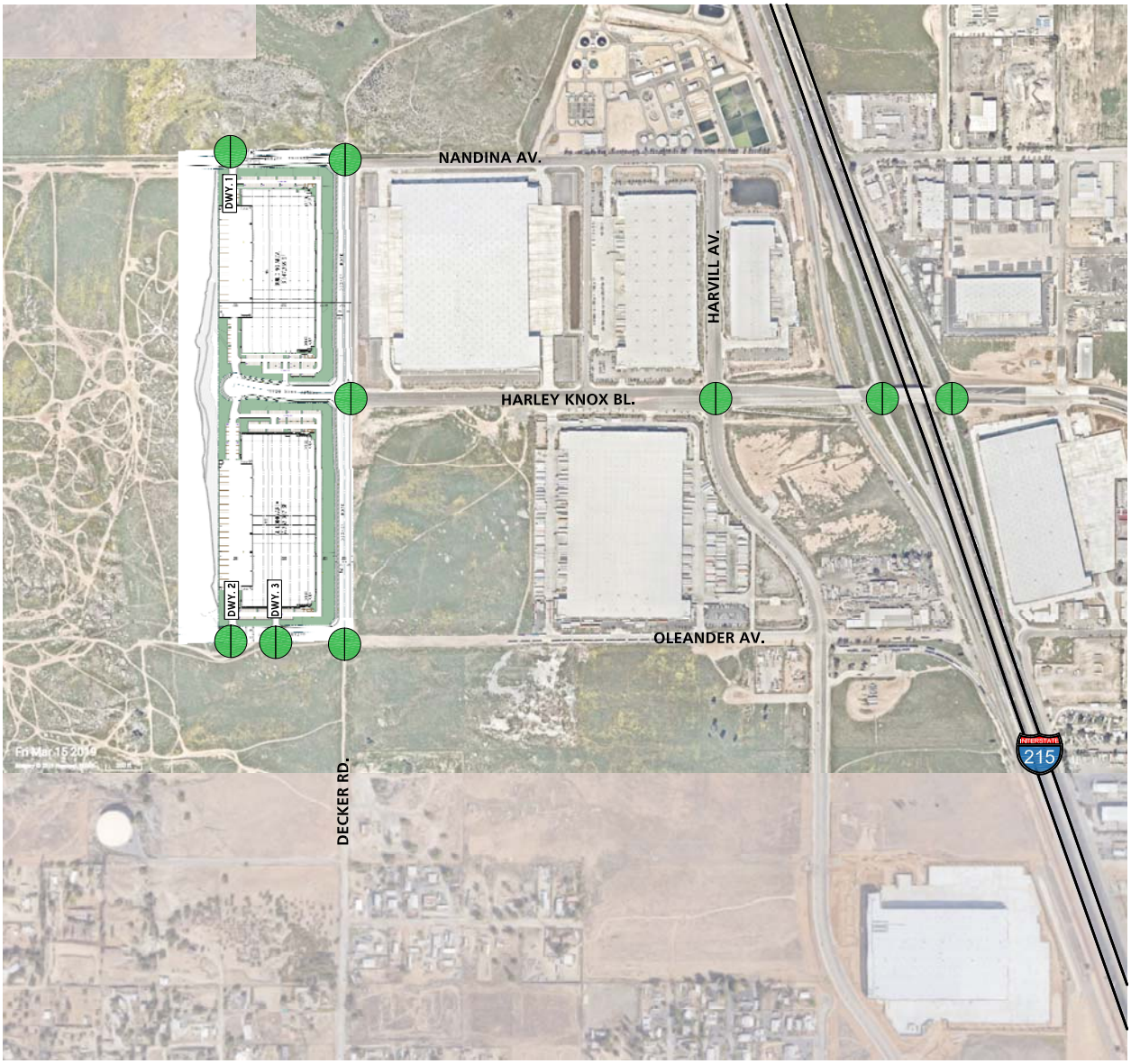
EXHIBIT 6-1: EAP (2021) TRAFFIC VOLUMES (IN PCE)



1 Dwy. 1 & Nandina Av.	2 Dwy. 2 & Oleander Av.	3 Dwy. 3 & Nandina Av.	4 Decker Rd. & Nandina Av.	5 Decker Rd. & Harley Knox Bl.
←0(0) ←14(6) 0(0)→ 0(0)→ 0(0) 5(14)	0(0) 2(6) ←6(3) ←0(0) 0(0)→ 0(0)→	0(0) 2(9) ←8(4) ←6(3) 0(0)→ 2(6)→	←14(6) ←0(0) 5(14)→ 0(0)→ 0(0) 0(0)	0(0) 0(0) ←0(0) ←0(0) 0(0) 0(0)

6 Decker Rd. & Oleander Av.	7 Harvill Av. & Harley Knox Bl.	8 I-215 SB Ramps & Harley Knox Bl.	9 I-215 NB Ramps & Harley Knox Bl.
0(0) 0(0) 0(0) ←0(0) ←14(6) ←0(0) 0(0)→ 5(14)→ 0(0)→ 0(0) 0(0) 0(0)	0(1) 2(9) 15(26) ←28(17) ←140(50) ←317(336) 1(1)→ 39(149)→ 4(3)→ 10(1) 5(3) 495(349)	248(202) 2(7) 490(393) ←237(200) ←151(269) 529(472)→ 19(52)→	←747(571) ←340(433) 317(314)→ 702(552)→ 48(37) 0(4) 85(251)

EXHIBIT 6-2: EAP (2021) SUMMARY OF LOS



LEGEND:

- AM PEAK HOUR
- PM PEAK HOUR
- LOS A-D
- LOS E
- LOS F

N

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Table 6-1

Intersection Analysis for EAP (2021) Conditions

#	Intersection	Traffic Control[2]	Existing (2019)				EAP (2021)			
			Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Driveway 1 / Nandina Av.	**CSS**	Future Intersection				8.3	8.4	A	A
2	Driveway 2 / Oleander Av.	**CSS**	Future Intersection				8.9	8.9	A	A
3	Driveway 3 / Oleander Av.	**CSS**	Future Intersection				8.9	8.9	A	A
4	Decker Rd. / Nandina Av.	CSS	0.0	0.0	A	A	0.0	0.0	A	A
5	Decker Rd. / Harley Knox Bl.	AWS	0.0	0.0	A	A	8.0	8.1	A	A
6	Decker Rd. / Oleander Av.	**CSS**	Future Intersection				0.0	0.0	A	A
7	Harvill Av. / Harley Knox Bl.	TS	25.6	29.2	C	C	28.1	36.8	C	D
8	I-215 Southbound Ramps / Harley Knox Bl.	TS	25.9	28.4	C	C	27.3	29.7	C	C
9	I-215 Northbound Ramps / Harley Knox Bl.	TS	14.3	24.2	B	C	17.8	42.3	B	D

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

[2] CSS = Cross-street Stop; AWS = All-way Stop; TS = Traffic Signal; **CSS** = Improvement

6.5 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the I-215 Freeway and Harley Knox Boulevard 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 (2021) traffic conditions. 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 6-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAP (2021) traffic conditions.

Worksheets for EAP (2021) traffic conditions off-ramp queuing analysis are provided in Appendix 6.3 for EAP (2021) traffic conditions.

6.6 FREEWAY FACILITY ANALYSIS

EAP (2021) mainline directional volumes for the weekday AM and PM peak hours are provided on Exhibit 6-3. As shown on Tables 6-3 and 6-4, there are no additional study area freeway mainline segments and ramp merge/diverge junctions that are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during one or both peak hours, in addition to the freeway mainline segments and ramp merge/diverge junctions identified in Existing (2019) and E+P traffic conditions. EAP (2021) freeway facility analysis worksheets are provided in Appendix 6.4.

6.7 RECOMMENDED IMPROVEMENTS

Improvement strategies have been recommended at intersections and freeway segments that have been identified as deficient under EAP (2021) traffic conditions in an effort to achieve an acceptable LOS (i.e., LOS D or better).

6.7.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

All study area intersections are anticipated to operate at an acceptable LOS (LOS D) for EAP (2021) traffic conditions. As such, no improvements have been recommended.

6.7.2 RECOMMENDED IMPROVEMENTS TO ADDRESS OFF-RAMP QUEUES

As shown previously on Table 6-2, there are no peak hour queuing issues at the I-215 Freeway at Harley Knox Boulevard interchange. As such, no improvements have been recommended.

6.7.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

The Project Study Report/Project Development Support in Riverside County on I-215 and SR-60 between Nuevo Road (I-215) & I-215/SR-60 Junction and Box Springs Road (I-215) & Day Street (SR-60), also known as the I-215 North Project, includes the construction of an high-occupancy vehicle (HOV) lane in each direction of the I-215 Freeway between Nuevo Road and Box Springs Road within the existing median. (9) (10)

Table 6-2

Peak Hour Freeway Off-Ramp Queuing Summary for EAP (2021) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2019)				EAP (2021)			
			95th Percentile Queue (Feet)[2]		Acceptable?[1]		95th Percentile Queue (Feet)[2]		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps / Harley Knox Bl.	SBL/T	1330	336 [2]	310	Yes	Yes	382 [2]	325	Yes	Yes
	SBR	270	35	43	Yes	Yes	45	47	Yes	Yes
I-215 NB Ramps / Harley Knox Bl.	NBL/T	1120	20	31	Yes	Yes	54	46	Yes	Yes
	NBR	265	33	44	Yes	Yes	36	56	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] Maximum queue length for the approach reported.

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

Table 6-3

Basic Freeway Segment Analysis for EAP (2021) Conditions

Freeway	Direction	Mainline Segment	Lanes[1]	Existing (2019)				EAP (2021)			
				Density[2]		LOS[3]		Density[2]		LOS[3]	
				AM	PM	AM	PM	AM	PM	AM	PM
I-215	SB	North of Harley Knox Boulevard	3	20.9	30.7	C	D	22.2	32.9	C	D
		South of Harley Knox Boulevard	3	18.4	29.0	C	D	19.2	31.0	C	D
	NB	South of Harley Knox Boulevard	3	**43.3**	30.3	**E**	D	**45.0**	32.3	**E**	D
		North of Harley Knox Boulevard	3	33.3	26.5	D	D	33.8	28.8	D	D

* **BOLD** = Unacceptable Level of Service

[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

Table 6-4

Freeway Ramp Junction Merge/Diverge Analysis for EAP (2021) Conditions

Freeway	Direction	Ramp or Segment	Lanes on Freeway[1]	Existing (2019)				EAP (2021)			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density[2]	LOS[3]	Density[2]	LOS[3]	Density[2]	LOS[3]	Density[2]	LOS[3]
I-215	SB	Off-Ramp at Harley Knox Boulevard	3	27.8	C	34.0	D	29.1	D	34.9	D
		On-Ramp at Harley Knox Boulevard	3	21.9	C	30.8	D	22.7	C	32.5	D
	NB	Off-Ramp at Harley Knox Boulevard	3	**39.3**	**E**	33.5	D	**40.4**	**F**	34.5	D
		On-Ramp at Harley Knox Boulevard	3	34.6	D	28.7	D	34.9	D	30.6	D

* **BOLD** = Unacceptable Level of Service

[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

EXHIBIT 6-3: EAP (2021) FREEWAY MAINLINE VOLUMES

LEGEND:

⟵ 100/200 = AM/PM PEAK HOUR VOLUMES

NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)

N

At this time, the I-215 North Project has no anticipated start or completion date. Caltrans, the owner and operator of the SHS, has not identified or proposed other improvements to the study area SHS that would address existing and anticipated study area SHS LOS deficiencies. The Project would pay required TUMF, offsetting the Project's incremental and cumulative effects to the study area SHS.

7 EAPC (2021) TRAFFIC CONDITIONS

This section discusses the methods used to develop EAPC (2021) traffic forecasts, and the resulting intersection operations, traffic signal warrant, and freeway mainline operations analyses.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAPC (2021) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAPC (2021) conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for EAPC (2021) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways).

7.2 EAPC (2021) TRAFFIC VOLUME FORECASTS

EAPC (2021) traffic volumes reflect existing conditions traffic volumes adjusted to reflect assumed ambient traffic growth (2% annually), traffic generated by related projects, and traffic generated by the Project. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for EAPC (2021) traffic conditions are shown on Exhibit 7-1.

7.3 INTERSECTION OPERATIONS ANALYSIS

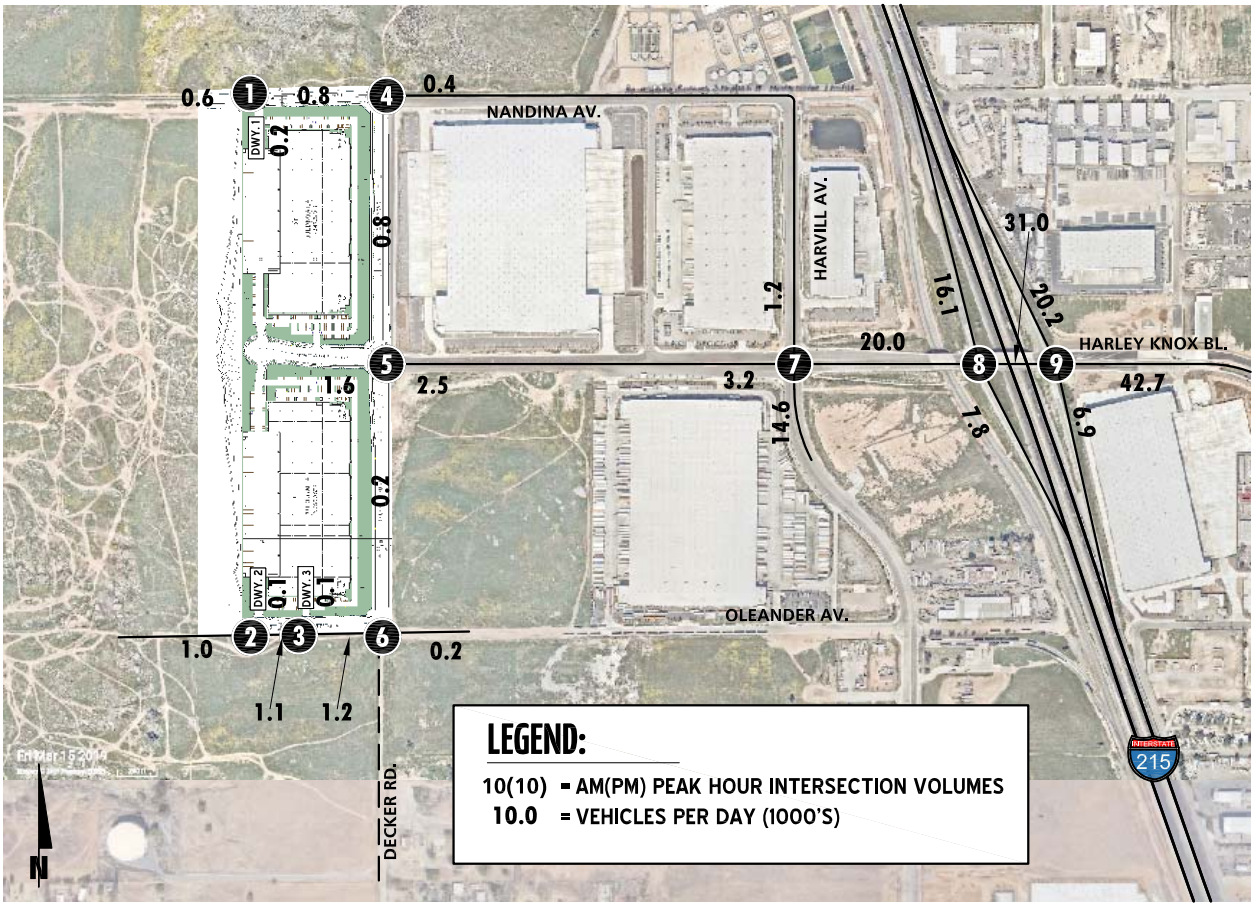
LOS calculations were conducted for the study intersections to evaluate their operations under EAPC (2021) conditions with roadway and intersection geometrics consistent with Section 7.1 *Roadway Improvements*. As shown on Table 7-1, the following additional study area intersections are anticipated to operate at an unacceptable LOS under EAPC (2021) traffic conditions:

- I-215 Southbound Ramps / Harley Knox Bl. (#8) – LOS F AM and PM peak hours
- I-215 Northbound Ramps / Harley Knox Bl. (#9) – LOS F AM and PM peak hours

A summary of the peak hour intersection LOS for EAPC (2021) conditions is shown on Exhibit 7-2. The intersection operations analysis worksheets for EAPC (2021) traffic conditions are included in Appendix 7.1 of this TIA.

Measures to address near-term cumulative deficiencies for EAPC (2021) traffic conditions are discussed in Section 7.7 *Recommended Improvements.*

EXHIBIT 7-1: EAPC (2021) TRAFFIC VOLUMES (IN PCE)



1 Dwy. 1 & Nandina Av. ←19(10) ←14(6) 9(20)→ 0(0)→ 0(0)← 5(14)←	2 Dwy. 2 & Oleander Av. 0(0)→ 2(6)← ←6(3) ←22(11) 0(0)→ 10(25)→	3 Dwy. 3 & Nandina Av. 0(0)→ 2(9)← ←8(4) ←28(21) 0(0)→ 12(45)→	4 Decker Rd. & Nandina Av. ←14(6) ←5(5) 5(14)→ 9(20)→ 19(10)← 5(5)←	5 Decker Rd. & Harley Knox Bl. 0(0)→ 0(0)→ 14(25)← ←24(15) ←113(49) ←3(3) 0(0)→ 37(114)→ 0(0)→ 0(0)← 0(0)← 2(5)←
6 Decker Rd. & Oleander Av. 0(0)→ 0(0)→ 3(3)← ←2(5) ←48(24) ←0(0) 0(0)→ 20(53)→ 0(0)→ 0(0)← 0(0)← 0(0)←	7 Harvill Av. & Harley Knox Bl. 0(1)→ 5(11)→ 36(50)← ←73(17) ←161(87) ←460(416) 1(1)→ 50(213)→ 6(9)→ 13(5)← 9(5)← 563(523)←	8 I-215 SB Ramps & Harley Knox Bl. 384(275)→ 2(7)→ 948(621)← ←309(244) ←220(532) 607(679)→ 41(107)→	9 I-215 NB Ramps & Harley Knox Bl. ←903(1064) ←434(713) 382(478)→ 1174(821)→ 95(62)← 0(4)← 301(310)←	

Table 7-1

Intersection Analysis for EAPC (2021) Conditions

#	Intersection	Traffic Control[2]	Existing (2019) Delay[1] (secs.) AM	Existing (2019) Delay[1] (secs.) PM	Existing (2019) Level of Service AM	Existing (2019) Level of Service PM	EAPC (2021) Delay[1] (secs.) AM	EAPC (2021) Delay[1] (secs.) PM	EAPC (2021) Level of Service AM	EAPC (2021) Level of Service PM
1	Driveway 1 / Nandina Av.	**CSS**	Future Intersection				8.4	8.4	A	A
2	Driveway 2 / Oleander Av.	**CSS**	Future Intersection				9.0	9.0	A	A
3	Driveway 3 / Oleander Av.	**CSS**	Future Intersection				8.7	8.9	A	A
4	Decker Rd. / Nandina Av.	CSS	0.0	0.0	A	A	8.7	8.7	A	A
5	Decker Rd. / Harley Knox Bl.	AWS	0.0	0.0	A	A	8.0	8.2	A	A
6	Decker Rd. / Oleander Av.	**CSS**	Future Intersection				8.9	9.0	A	A
7	Harvill Av. / Harley Knox Bl.	TS	25.6	29.2	C	C	29.9	38.2	C	D
8	I-215 Southbound Ramps / Harley Knox Bl.	TS	25.9	28.4	C	C	**141.9**	**103.9**	**F**	**F**
9	I-215 Northbound Ramps / Harley Knox Bl.	TS	14.3	24.2	B	C	**85.5**	**214.6**	**F**	**F**

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

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

[2] CSS = Cross-street Stop; AWS = All-way Stop; TS = Traffic Signal; **CSS** = Improvement

7.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

No study area intersections are anticipated to meet traffic signal warrants for EAPC (2021) traffic conditions (see Appendix 7.2).

7.5 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for EAPC (2021) traffic conditions are shown on Table 7-2. As shown on Table 7-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows. Worksheets for EAPC (2021) traffic conditions off-ramp queuing analysis are provided in Appendix 7.3.

7.6 FREEWAY FACILITY ANALYSIS

EAPC (2021) mainline directional volumes for the weekday AM and PM peak hours are provided on Exhibit 7-3. As shown on Tables 7-3 and 7-4, all study area freeway mainline segments and ramp merge/diverge junctions are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during one or both peak hours. EAPC (2021) freeway facility analysis worksheets are provided in Appendix 7.4.

7.7 RECOMMENDED IMPROVEMENTS

7.7.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been recommended to address intersection LOS deficiencies identified in this analysis. The effectiveness of the recommended improvement strategies is presented on Table 7-5. Worksheets for EAPC (2021) conditions, with improvements, HCM calculation worksheets are provided in Appendix 7.5.

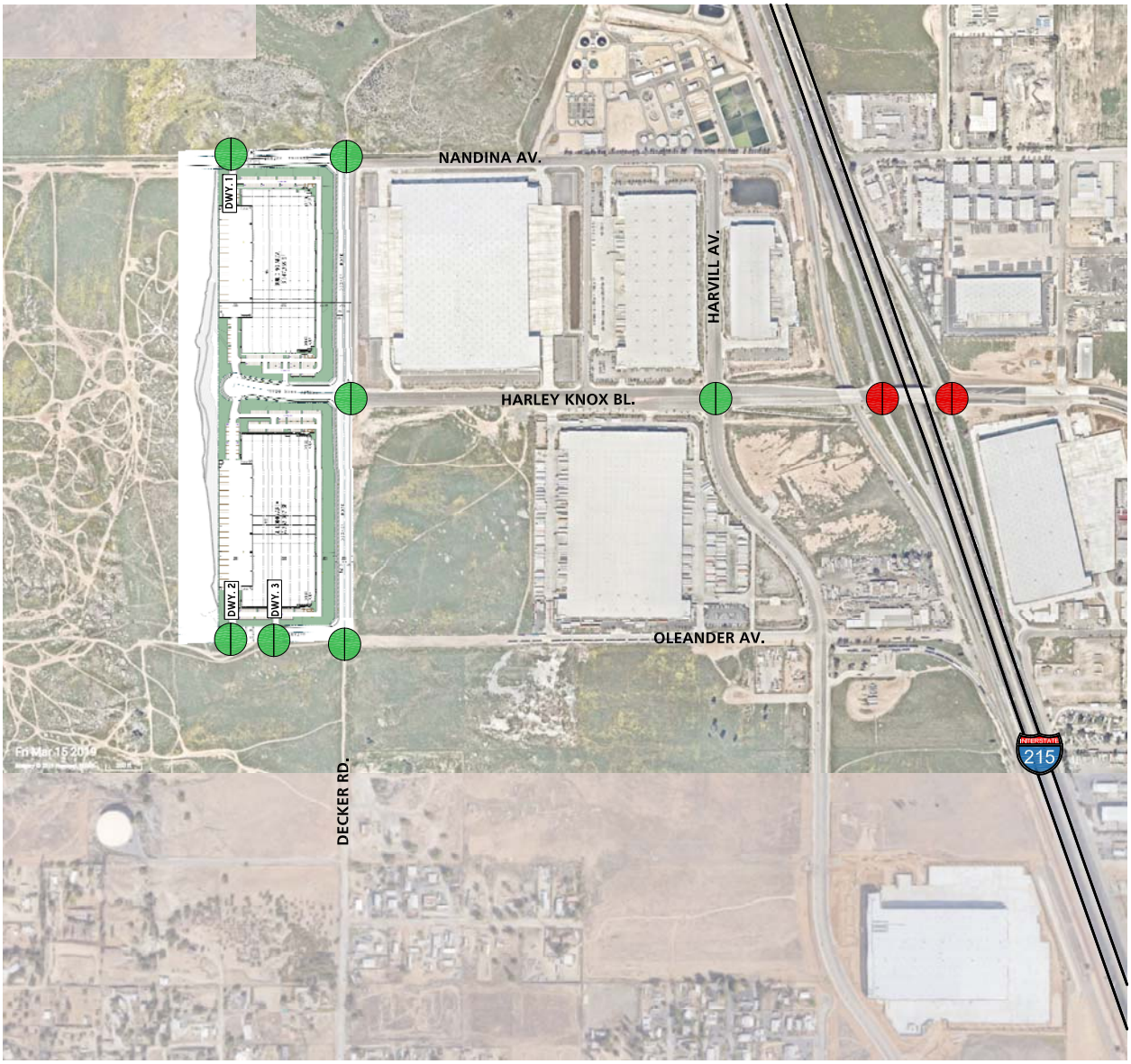
7.7.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously on Table 7-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows. However, the improvements presented on Table 7-5 are anticipated to reduce the off-ramp queues and the results are shown on Table 7-6. Worksheets for EAPC (2021) conditions, with improvements, off-ramp queuing analysis worksheets are provided in Appendix 7.6.

7.7.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

The Project Study Report/Project Development Support in Riverside County on I-215 and SR-60 between Nuevo Road (I-215) & I-215/SR-60 Junction and Box Springs Road (I-215) & Day Street (SR-60), also known as the I-215 North Project, includes the construction of an high-occupancy vehicle (HOV) lane in each direction of the I-215 Freeway between Nuevo Road and Box Springs Road within the existing median. (9) (10)

EXHIBIT 7-2: EAPC (2021) SUMMARY OF LOS



11006 - los-2.dwg

EXHIBIT 7-3: EAPC (2021) FREEWAY MAINLINE VOLUMES

LEGEND:

⟵ 100/200 = AM/PM PEAK HOUR VOLUMES

NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)

N

Table 7-2

Peak Hour Freeway Off-Ramp Queuing Summary for EAPC (2021) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2019)				EAPC (2021)			
			95th Percentile Queue (Feet)[2]		Acceptable?[1]		95th Percentile Queue (Feet)[2]		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps / Harley Knox Bl.	SBL/T	1330	336 [2]	310	Yes	Yes	881 [2]	665 [2]	Yes	Yes
	SBR	270	35	43	Yes	Yes	75	54	Yes	Yes
I-215 NB Ramps / Harley Knox Bl.	NBL/T	1120	20	31	Yes	Yes	112 [2]	66	Yes	Yes
	NBR	265	33	44	Yes	Yes	276 [2]	194	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] Maximum queue length for the approach reported.

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

Table 7-3

Basic Freeway Segment Analysis for EAPC (2021) Conditions

Freeway	Direction	Mainline Segment	Lanes[1]	Existing (2019)				EAPC (2021)			
				Density[2]		LOS[3]		Density[2]		LOS[3]	
				AM	PM	AM	PM	AM	PM	AM	PM
I-215	SB	North of Harley Knox Boulevard	3	20.9	30.7	C	D	**40.5**	**45.0**	**E**	**F**
		South of Harley Knox Boulevard	3	18.4	29.0	C	D	29.7	**42.5**	D	**F**
	NB	South of Harley Knox Boulevard	3	**43.3**	30.3	**E**	D	**45.0**	**45.0**	**F**	**F**
		North of Harley Knox Boulevard	3	33.3	26.5	D	D	**33.6**	**38.8**	**F**	**F**

* **BOLD** = Unacceptable Level of Service

[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

Table 7-4

Freeway Ramp Junction Merge/Diverge Analysis for EAPC (2021) Conditions

Freeway	Direction	Ramp or Segment	Lanes on Freeway[1]	Existing (2019)				EAPC (2021)			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density[2]	LOS[3]	Density[2]	LOS[3]	Density[2]	LOS[3]	Density[2]	LOS[3]
I-215	SB	Off-Ramp at Harley Knox Boulevard	3	27.8	C	34.0	D	**39.2**	**E**	**41.2**	**F**
		On-Ramp at Harley Knox Boulevard	3	21.9	C	30.8	D	31.6	D	**42.0**	**F**
	NB	Off-Ramp at Harley Knox Boulevard	3	**39.3**	**E**	33.5	D	**40.4**	**F**	**53.7**	**F**
		On-Ramp at Harley Knox Boulevard	3	34.6	D	28.7	D	**34.9**	**F**	**39.8**	**F**

* **BOLD** = Unacceptable Level of Service

[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

Table 7-5

Intersection Analysis for EAPC (2021) Conditions With Improvements

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
8	I-215 Southbound Ramps / Harley Knox Bl.																	
	- Without Improvements	TS	0	0	0	0	1	1	0	2	d	1	2	0	**141.9**	**103.9**	**F**	**F**
	- With Improvements[4]	TS	0	0	0	**2**	1	**0**	0	2	d	**2**	2	0	37.5	35.1	D	D
9	I-215 Northbound Ramps / Harley Knox Bl.																	
	- Without Improvements	TS	0	1	1	0	0	0	1	2	0	0	2	d	**85.5**	**214.6**	**F**	**F**
	- With Improvements[4]	TS	0	1	1	0	0	0	**2**	2	0	0	2	**1>>**	20.8	22.4	C	C

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

[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; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane; **1** = Improvement

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

[3] TS = Traffic Signal

[4] Cycle length increased to 120 seconds for both AM and PM peak hours.

Table 7-6

Peak Hour Freeway Off-Ramp Queuing Summary for EAPC (2021) Conditions With Improvements

Intersection	Movement	Available Stacking Distance (Feet)	Without Improvements				With Improvements			
			95th Percentile Queue (Feet)[2]		Acceptable?[1]		95th Percentile Queue (Feet)[2]		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps / Harley Knox Bl.	SBL/T	1330	881 [2]	665 [2]	Yes	Yes	392 [2]	302	Yes	Yes
	SBR	270	75	54	Yes	Yes	58	72	Yes	Yes
I-215 NB Ramps / Harley Knox Bl.	NBL/T	1120	112 [2]	66	Yes	Yes	122	80	Yes	Yes
	NBR	265	276 [2]	194	Yes	Yes	312 [2]	236	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] Maximum queue length for the approach reported.

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

At this time, the I-215 North Project has no anticipated start or completion date. Caltrans, the owner and operator of the SHS, has not identified or proposed other improvements to the study area SHS that would address existing and anticipated study area SHS LOS deficiencies. The Project would pay required TUMF, offsetting the Project's incremental and cumulative effects to the study area SHS.

8 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements throughout the County of Riverside are funded by a combination of fair share fee contributions, Development Impact Fee (DIF) programs, and the Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF) program. Transportation improvement funding mechanisms of relevance to the Project are summarized below.

8.1 TRANSPORTATION UNIFORM MITIGATION FEE (TUMF) PROGRAM

The Project Applicant will be required to pay TUMF program fees. The TUMF program is administered by the WRCOG based upon a regional Nexus Study most recently updated in 2017 to address major changes in right of way acquisition and improvement cost factors. (13) 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.

TUMF guidelines empower a local zone committee to prioritize and arbitrate certain projects. The Project is located in the Central Zone. The zone has developed a 5-year capital improvement program to prioritize public construction of certain roads. TUMF is focused on improvements necessitated by regional growth. Although the I-215/Harley Knox Boulevard interchange is identified as a TUMF interchange, the improvements to the I-215 Freeway/Harley Knox Boulevard Interchange are not currently identified in the Central Zone 5-Year Capital Improvement Program.

8.2 DEVELOPMENT IMPACT FEE (DIF) PROGRAM

The Project is located within the County's Mead Valley Area Plan and therefore will be subject to County of Riverside Development Impact Fees (DIF). The DIF program consists of two separate transportation components: Roads, Bridges and Major Improvements component and the Traffic Signals component. Eligible facilities for funding by the County DIF program are identified on the County's Public Needs List, which currently extends through the year 2020.

The cost of signalizing 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.

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9 REFERENCES

1. **Riverside County Transportation Department.** *Traffic Impact Analysis Preparation Guide.* County of Riverside : s.n., 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. **Riverside County Transportation Commission.** *2011 Riverside County Congestion Management Program.* County of Riverside : RCTC, December 14, 2011.
5. **Transportation Research Board.** *Highway Capacity Manual (HCM).* 6th Edition. s.l. : National Academy of Sciences, 2016.
6. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CAMUTCD).* 2017.
7. —. *Freeway Performance Measurement (PeMS).* [Online] http://pems.dot.ca.gov/.
8. **San Bernardino Associated Governments.** *Congestion Management Program for County of San Bernardino.* County of San Bernardino : s.n., Updated December 2007.
9. **California Department of Transportation.** *Project Study Report/Project Development Support in Riverside County on I-215 and SR-60 between Nuevo Road (I-215) & I-215/SR-60 Junction and Box Springs Road (I-215) & Day Street (SR-60).* April 2008.
10. **Riverside County Transportation Commission (RCTC).** RCTC: I-215 North Project. *RCTC.* [Online] [Cited: August 6, 2018.] http://www.rctc.org/projects/215-north-project/.
11. **Institute of Transportation Engineers.** *High Cube Warehouse Vehicle Trip Generation Analysis.* Washington, DC : Institute of Transportation Engineers, October 2016.
12. **Southern California Association of Governments.** *2012 Regional Transportation Plan.* April 2012.
13. **Western Riverside Council of Governments.** *TUMF Nexus Study, 2016 Program Update.* July 2017.

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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.
Related Cases-
SP No.
EIR No.
GPA No.
CZ No.
Project Name: Oleander Business Park
Project Address: Northwest corner of Decker Road and Oleander Avenue
Project Description: Approximately 711,236 square feet of high-cube warehouse and manufacturing uses divided over two buildings: Building A (358,867 SF) and Building B (352,369 SF).

	Consultant	Developer
Name:	Urban Crossroads Inc. - Pranesh Tarikere	SARES-REGIS Group
Address:	260 E. Baker St. Suite 200	18802 Bardeen Avenue
	Costa Mesa, CA 92626	Irvine, CA 92612
Telephone:	(949) 660-1994	(949) 809-2414
Fax:		(949) 862-2214

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

Current GP Land Use: Business Park — Proposed Land Use: High-Cube Warehousing/Manufacturing
Current Zoning: I-P — Proposed Zoning: Industrial Park (I-P)

	Current Trip Generation			Proposed Trip Generation (PCE)		
	In	Out	Total	In	Out	Total
AM Trips	**0**	**0**	**0**	**140**	**46**	**186**
PM Trips	**0**	**0**	**0**	**61**	**142**	**203**

Internal Trip Allowance ☐ Yes ■ No (% Trip Discount)
Pass-By Trip Allowance ☐ Yes ■ No (% 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 Exhibits 3 & 4 for detailed assignment)

N **Varies** % S **Varies** % E **Varies** % W **Varies** %

C. Background Traffic

Project Build-out Year: 2021 Annual Ambient Growth Rate: 2 %
Phase Year(s) 2021

Other area Projects to be analyzed: County to provide list of cumulative projects
Model/Forecast Methodology:

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

1. Driveway 1 / Nandina Avenue
2. Driveway 2 / Oleander Avenue
3. Driveway 3 / Oleander Avenue
4. Decker Road / Nandina Avenue
5. Decker Road / Driveway 4/Harley Knox Boulevard
6. Decker Road / Oleander Avenue
7. Harvill Avenue / Harley Knox Boulevard
8. I-215 SB Ramps / Harley Knox Boulevard
9. I-215 NB Ramps / Harley Knox Boulevard
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.

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

1.
2.

F. Other Jurisdictional Impacts

Is this project within a City's Sphere of influence or one mile radius of City boundarie: ■ Yes ☐ No

If so, name of City jurisdiction: Perris

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.

Turn pocket lengths at Project driveways

I. Existing Conditions
Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.
Date of counts September 2018

***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:

02/28/2019
Consultant's Representative — Date

Approved Scoping Agreement:

03/28/2019
Riverside County Transportation Department — Date

Scoping Agreement Revised on

URBAN CROSSROADS

260 E. Baker St. | Suite 200 | Costa Mesa, CA 92626 | (949) 660-1994
urbanxroads.com

February 28, 2019

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

SUBJECT: TRAFFIC IMPACT ANALYSIS SCOPING AGREEMENT FOR THE OLEANDER BUSINESS PARK

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 Oleander Business Park ("Project"), which is located on the northwest corner of Decker Road and Oleander Avenue in unincorporated County of Riverside. It is our understanding that the Project is to consist of approximately 711,236 square feet of high-cube warehouse and manufacturing uses divided over two buildings: Building A (358,867 SF) and Building B (352,369 SF). Approximately 20 percent of the total building square footage will assume manufacturing use.

A site plan for the proposed Project is shown on Exhibit 1. Exhibit 2 depicts the location of the proposed Project in relation to the existing roadway network and the study area intersections. It is anticipated that the Project would be developed within a single phase. The Project's opening year is anticipated to be 2021 (i.e., fully built and occupied). Access to the Project site will be provided via the following 4 driveways:

- Driveway 1 to Nandina Avenue is a full access driveway for both passenger cars and trucks.
- Driveway 2 to Oleander Avenue is a full access driveway for both passenger cars and trucks.
- Driveway 3 to Oleander Avenue is a full access driveway for passenger cars only.
- Driveway 4 to Decker Road is a full access driveway for both passenger cars and trucks (primary access).

TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development, and is based upon the specific land uses planned for a given project. Trip generation rates for the Project are shown in Table 1. The trip generation summary illustrating daily and peak hour trip generation estimates for the proposed Project by buildings are shown on Table 2 in passenger car equivalent (PCE) and on Table 3 for actual vehicles.

The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their *Trip Generation* manual, 10th Edition, 2017. For purposes of this analysis, ITE land use code 154 (High-Cube Warehouse/Distribution Center) has been

used to derive site specific trip generation estimates. As noted on Table 1, refinements to the raw trip generation estimates have been made to provide a more detailed breakdown of trips by vehicle mix. Total vehicle mix percentages were also obtained from the ITE *Trip Generation* manual in conjunction with the South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type. Finally, PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix "B" of the San Bernardino County Congestion Management Program (CMP), 2016 Update. Trip generation rates with PCE factors are also shown on Table 1.

As shown on Table 2, the proposed Project is anticipated to generate a net total of 1,938 PCE trip-ends per day with 186 PCE AM peak hour trips and 203 PCE PM peak hour trips. In comparison, as shown on Table 3, the proposed Project is anticipated to generate a net total of 1,368 actual trip-ends per day with 129 actual AM peak hour trips and 153 actual 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. The trip distribution pattern of passenger cars is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. The trip distribution pattern for truck traffic is also influenced by the local truck routes approved by the County of Riverside, the City of Perris, and the California Department of Transportation (Caltrans). Given these differences, separate trip distributions were generated for both passenger cars and truck trips.

The Project passenger car trip distribution pattern is graphically depicted on Exhibit 3. The Project truck trip distribution pattern is graphically depicted on Exhibit 4.

ANALYSIS SCENARIOS

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

- Existing (2019) Conditions
- Existing plus Project Conditions
- Existing plus Ambient Growth plus Project (E+A+P) Conditions
- Existing plus Ambient Growth plus Project Plus Cumulative (E+A+P+C) Conditions

As the Project is consistent with the County's General Plan Land Use and Zoning, a build-out analysis is

not required per the County's TIA guidelines.

All study area intersections will be analyzed using the Synchro (Version 10) software using the HCM 6th Edition methodology.

In addition, the traffic impact analysis will include Basic Freeway Segment, Ramp Junction (Merge/Diverge), and off-ramp queuing analyses at I-215 Freeway interchange at Harley Knox Boulevard consistent with Caltrans requirements.

SPECIAL ISSUES

The following special issues will be addressed in the traffic study:

- Provide a queuing analysis for the Project driveways and site adjacent intersections to determine necessary storage lengths.

OPEN ITEMS - CUMULATIVE DEVELOPMENT PROJECTS

It is requested that the County of Riverside provide a list of cumulative development projects.

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 Oleander Business Park 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) 336-5992.

Respectfully submitted,

URBAN CROSSROADS, INC.

Aric Evatt, PTP
Principal

Pranesh Tarikere
Senior Engineer

Table 1

Project Trip Generation Rates

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
PCE Rates									
High-Cube Warehouse/Distribution Center[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars			0.043	0.013	0.056	0.022	0.056	0.078	0.949
2-Axle Trucks (PCE = 1.5)			0.005	0.002	0.007	0.002	0.005	0.007	0.113
3-Axle Trucks (PCE = 2.0)			0.008	0.002	0.010	0.002	0.006	0.008	0.186
4-Axle+ Trucks (PCE = 3.0)			0.036	0.012	0.048	0.012	0.030	0.042	0.846
Manufacturing[4]	TSF	140	0.477	0.143	0.620	0.208	0.462	0.670	3.930
Passenger Cars			0.382	0.114	0.496	0.166	0.370	0.536	3.144
2-Axle Trucks (PCE = 1.5)			0.024	0.008	0.032	0.011	0.023	0.034	0.197
3-Axle Trucks (PCE = 2.0)			0.040	0.012	0.052	0.018	0.038	0.056	0.326
4-Axle+ Trucks (PCE = 3.0)			0.180	0.054	0.234	0.078	0.174	0.252	1.476

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicle Rates									
High-Cube Warehouse/Distribution Center[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars			0.043	0.013	0.056	0.022	0.056	0.078	0.949
2-Axle Trucks			0.003	0.001	0.004	0.001	0.003	0.004	0.075
3-Axle Trucks			0.004	0.001	0.005	0.001	0.003	0.004	0.093
4-Axle+ Trucks			0.012	0.004	0.016	0.004	0.010	0.014	0.282
Manufacturing[4]	TSF	140	0.477	0.143	0.620	0.208	0.462	0.670	3.930
Passenger Cars			0.382	0.114	0.496	0.166	0.370	0.536	3.144
2-Axle Trucks			0.016	0.005	0.021	0.007	0.015	0.022	0.131
3-Axle Trucks			0.020	0.006	0.026	0.009	0.019	0.028	0.163
4-Axle+ Trucks			0.060	0.018	0.078	0.026	0.058	0.084	0.492

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation manual, 10th Edition (2017).

[2] TSF = thousand square feet

[3] Vehicle Mix Source: Total truck percentage source from ITE Trip Generation manual. Truck mix (by axle type) source from SCAQMD.
AM peak hour = 72.7% passenger cars, 6.01% 2-Axle trucks, 4.83% 3-Axle trucks, 16.46% 4-Axle trucks
PM peak hour = 66.7% passenger cars, 7.33% 2-Axle trucks, 5.89% 3-Axle trucks, 20.08% 4-Axle trucks
ADT = 61.9% passenger cars, 8.38% 2-Axle trucks, 6.74% 3-Axle trucks, 22.98% 4-Axle trucks

[4] Vehicle Mix Source: Total truck percentage source from ITE Trip Generation manual. Truck mix (by axle type) source from SCAQMD.

Table 2

Project Trip Generation Summary (PCE)
80% High-Cube Warehouse and 20% Manufacturing

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Building Area A (High-Cube Warehouse)	287.094	TSF							
Passenger Cars:			12	4	16	6	16	22	274
Truck Trips:									
2-axle:			1	1	2	1	1	2	34
3-axle:			2	1	3	1	2	3	54
4+-axle:			10	3	13	3	9	12	244
- Net Truck Trips (PCE) [2]			13	5	18	5	12	17	332
Building Area A (Manufacturing)	71.773	TSF							
Passenger Cars:			27	8	35	12	27	39	226
Truck Trips:									
2-axle:			2	1	3	1	2	3	16
3-axle:			3	1	4	1	3	4	24
4+-axle:			13	4	17	6	12	18	106
- Net Truck Trips (PCE) [2]			18	6	24	8	17	25	146
Building Area B (High-Cube Warehouse)	281.895	TSF							
Passenger Cars:			12	4	16	6	16	22	268
Truck Trips:									
2-axle:			1	1	2	1	1	2	32
3-axle:			2	1	3	1	2	3	54
4+-axle:			10	3	13	3	8	11	240
- Net Truck Trips (PCE) [2]			13	5	18	5	11	16	326
Building Area B (Manufacturing)	70.474	TSF							
Passenger Cars:			27	8	35	12	26	38	222
Truck Trips:									
2-axle:			2	1	3	1	2	3	14
3-axle:			3	1	4	1	3	4	24
4+-axle:			13	4	17	5	12	17	106
- Net Truck Trips (PCE) [2]			18	6	24	7	17	24	144
TOTAL NET TRIPS (PCE) [3]			***140***	***46***	***186***	***61***	***142***	***203***	***1,938***

[1] TSF = thousand square feet

[2] PCE rates are per SBCTA.

[3] TOTAL NET TRIPS (PCE) = Passenger Cars + Net Truck Trips (PCE).

Table 3

Project Trip Generation Summary (Actual Vehicles)
80% High-Cube Warehouse and 20% Manufacturing

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Building Area A (High-Cube Warehouse)	287.094	TSF							
Passenger Cars:			12	4	16	6	16	22	274
Truck Trips:									
2-axle:			1	0	1	0	1	1	22
3-axle:			1	0	1	0	1	1	28
4+-axle:			3	1	4	1	3	4	82
- Net Truck Trips			5	1	6	1	5	6	132
Building Area A (Manufacturing)	71.773	TSF							
Passenger Cars:			27	8	35	12	27	39	226
Truck Trips:									
2-axle:			1	0	1	1	1	2	10
3-axle:			1	0	1	1	1	2	12
4+-axle:			4	1	5	2	4	6	36
- Net Truck Trips			6	1	7	4	6	10	58
Building Area B (High-Cube Warehouse)	281.895	TSF							
Passenger Cars:			12	4	16	6	16	22	268
Truck Trips:									
2-axle:			1	0	1	0	1	1	22
3-axle:			1	0	1	0	1	1	28
4+-axle:			3	1	4	1	3	4	80
- Net Truck Trips			5	2	7	1	5	6	130
Building Area B (Manufacturing)	70.474	TSF							
Passenger Cars:			27	8	35	12	26	38	222
Truck Trips:									
2-axle:			1	0	1	0	1	1	10
3-axle:			1	0	1	1	1	2	12
4+-axle:			4	1	5	2	4	6	36
- Net Truck Trips			6	1	7	3	6	9	58
TOTAL NET TRIPS [2]			***100***	***29***	***129***	***44***	***107***	***153***	***1,368***

[1] TSF = thousand square feet

[2] TOTAL NET TRIPS = Passenger Cars + Net Truck Trips.

EXHIBIT 1: PRELIMINARY SITE PLAN

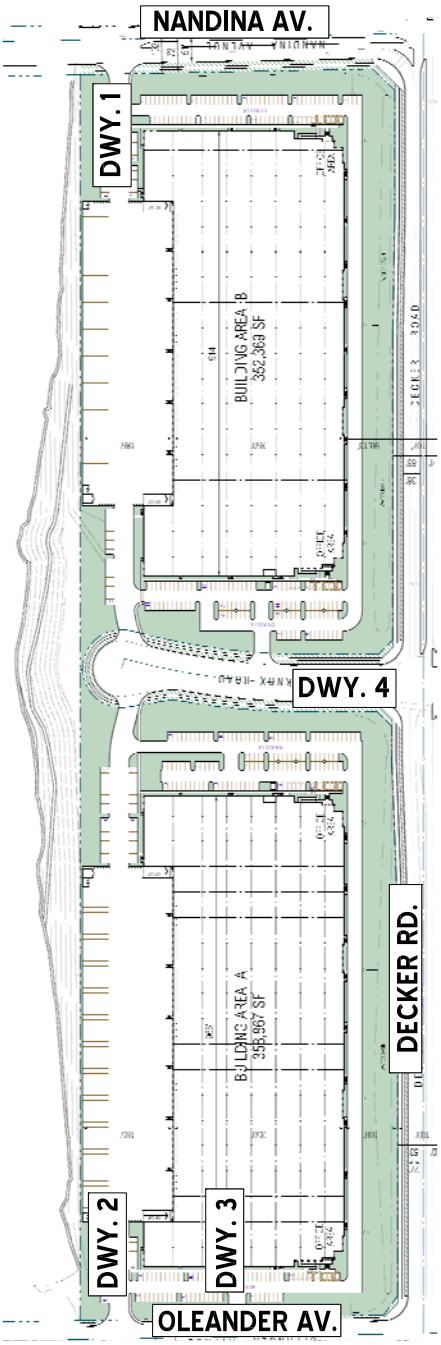
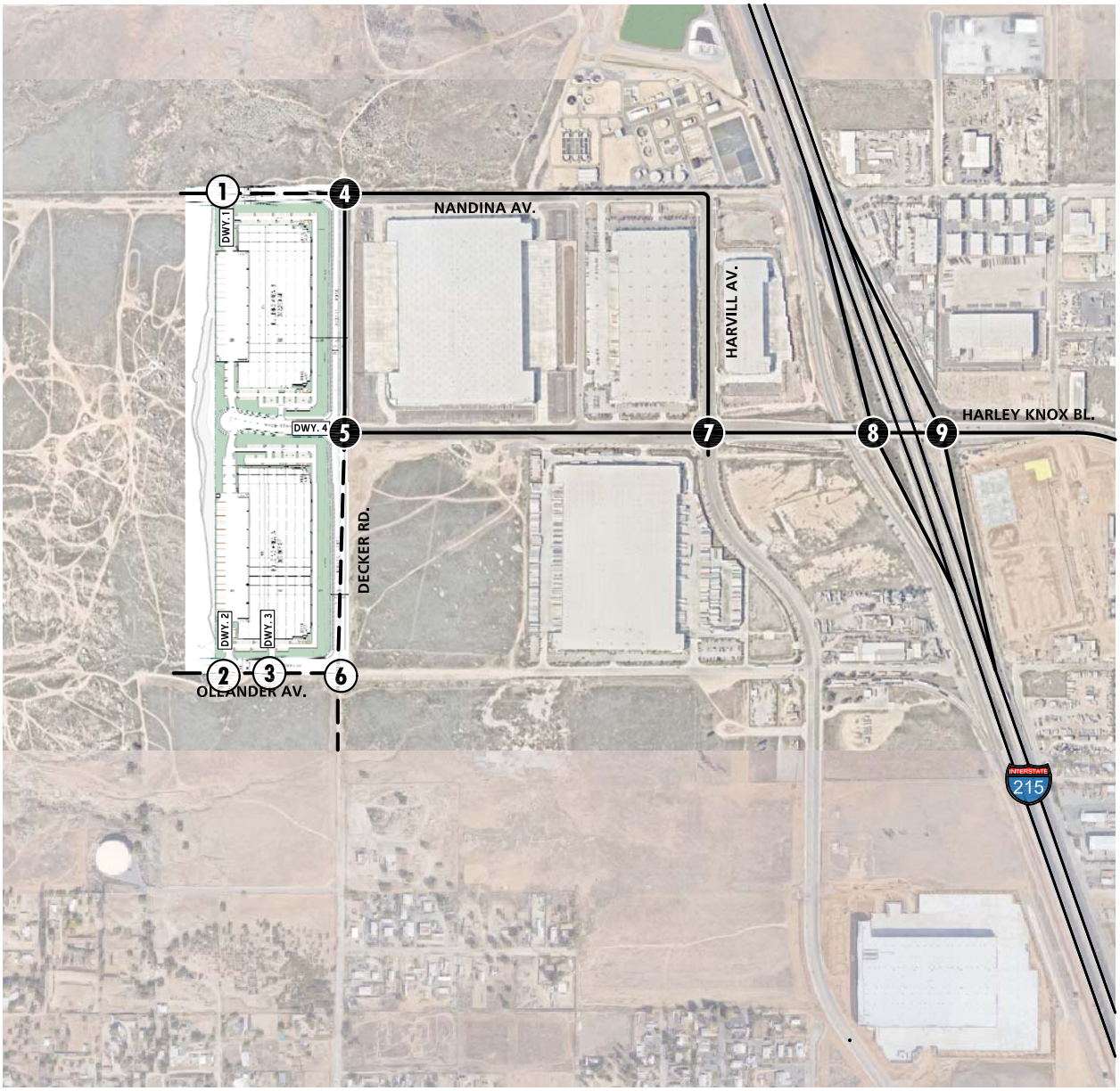


EXHIBIT 2: LOCATION MAP



LEGEND:

- 0 = EXISTING INTERSECTION ANALYSIS LOCATION
- 0 = FUTURE INTERSECTION ANALYSIS LOCATION

N

11006 - locmap.dwg

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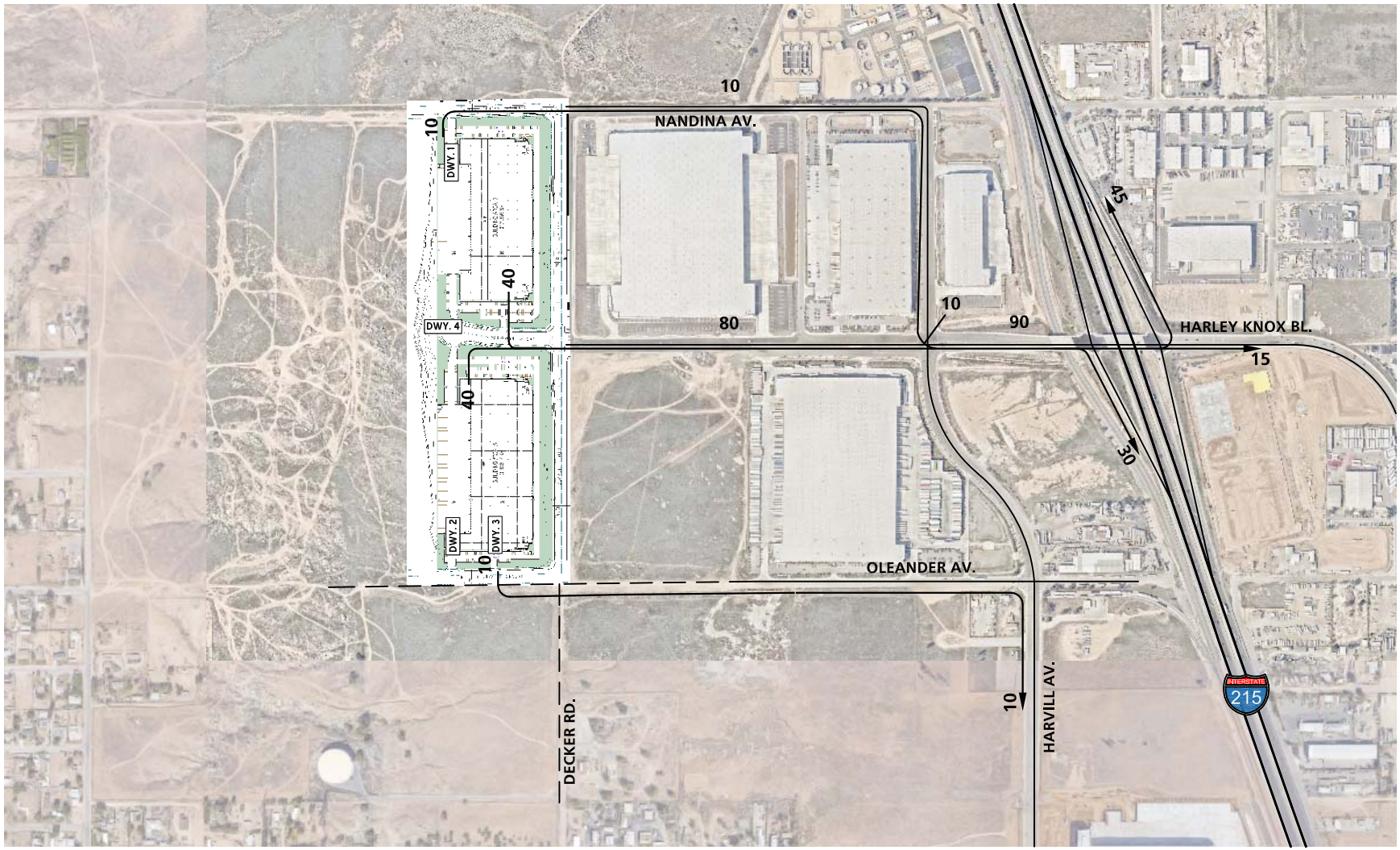
EXHIBIT 3: PROJECT (PASSENGER CARS) TRIP DISTRIBUTION

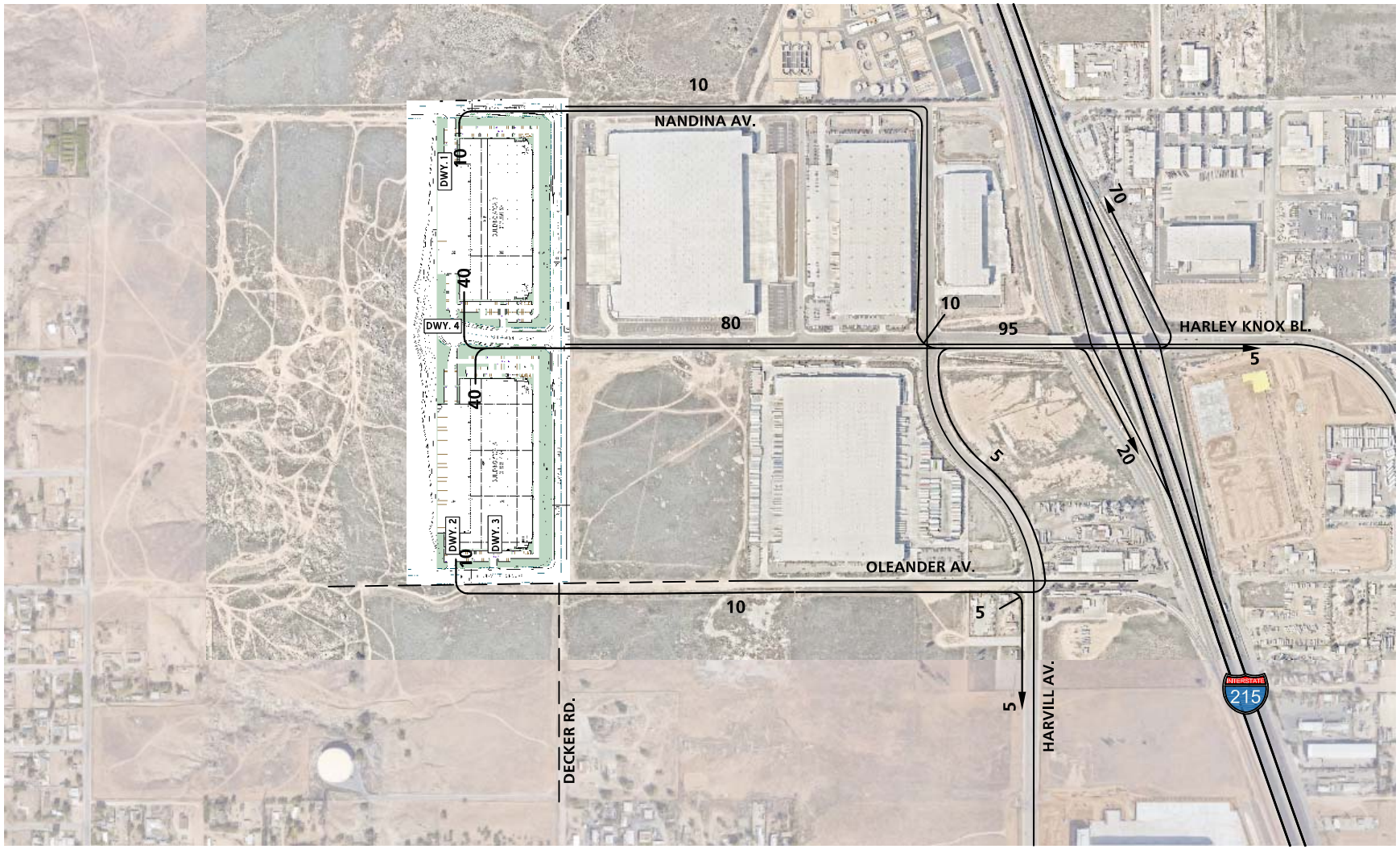


LEGEND:

10 = PERCENT TO/FROM PROJECT

N

EXHIBIT 4: PROJECT (TRUCKS) TRIP DISTRIBUTION



LEGEND:

10 = PERCENT TO/FROM PROJECT

N

11006 - trips.dwg

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N

RIVERSIDE
MORENO VALLEY
PERRIS
ECONOMIC DR
VAN BUREN BLVD
I-215 NBON
I-215 SBON
AVENUE A
I-215
I-215 SBOFF
I-215 NBOFF
PLUMMER ST
KRAMERIA AVE
11TH ST
WESTOVER CIR
ARNOLD DR
VILLAGE WEST DR
WHITE ST
BUNDY AVE
ALLEN AVE
MCCONNELL AVE
TWINING AVE
5TH ST
NANDINA AVE
HAWTHORNE AVE
KUDER AVE
CORSON AVE
OLEANDER AVE
LUCY WAY
BURCH ST
NANCE ST
BAILLY ST
BONHAM ST
MARKHAM ST
MARY ST
LANE ST
BYRON ST
JEAN ST
MARTIN ST
KINNEY ST
HICKS ST
DAWES ST
SHORTRIDGE AVE
JOHNSON ST
CAJALCO RD
ELMWOOD ST
OAKWOOD ST
WARREN RD
JOANN WAY
SAGE ST
SOUDER ST
HUNTER ST
MURAL ST
ILA LN
THOMAS LN
PERRY ST
BURNS ST
MOORE ST
WELLS ST
MAYFIELD LN
HAINES ST
CLARK ST
BROWN ST
CARROLL ST
ROBINSON ST
DAY ST
HALLETT ST
MEAD ST
PEQUENA ENTRADA
DARIN DR
THIFTHART DR
DECKER RD
ELLSWORTH ST
BECK ST
NORA DR
ALVISO RD
MARQUEZ RD
ANDERSON RD
SEATON AVE
DIABLO DR
HARVILL AVE
NATWAR LN
NALINI LN
JET WAY
HARLEY KNOX BLVD
LLOYD WAY
CORY LN
RIOS AVE
TPM37397
PM33478
PM26697
PM26873
PPT180010
PM35557
PUP00325
PUP0325
PUP00765
PUP00856
PM34039
PP24735
PM26154
CUP02305
CUP03642
TR23234M2
TR23234
PUP0315
CUP180011
CUP03620R1
PP25067
CUP180008
PP26165
PP16711
PM35780
PP24608
TPM37627
PM25051
CUP03727
PP19521
PP25954
PP20699R1
PP20699
PP14485R1
PP14485
PP26174
PM33942
PPT180033
PP21714
PP26118
CUP03227
PPT180032
PPT180029
PP25252
PPT180038
PPT190003
PPT180034
PPT180025
PP15197
PP21552
PP16763
PP12994
PM27445
PM27140
PM29716
PP25699
CUP03468
CUP03320
CUP03370R1
CUP03599
CUP03599R01
SP00341
PUP00693
CUP03370
PPT180028
PP16932
PPT190006
PM27485
PP16932R1
PUP00726
CUP03477
PP22532
PP14974
PP16823
PP18961
PP19728
1.1-13
HEACOCK ST
COSMOS ST
FIJI DR
IRIS AVE
CARDINAL AVE
SAN MICHELE RD
NANDINA AVE
CALIFORNIA ST
NANCE ST
ARIZONA ST
OREGON ST
MARKHAM ST
PERRY ST
RAMONA EXPY
DAWES ST
MORGAN ST
OLEANDER AVE
PATTERSON AVE
MESSENIA LN
NEVADA AVE
E FRONTAGE RD
WEBSTER AVE
BRENNAN AVE

Cities (Outline)
Active Major Cases (CUP, PM, PP, PUP, SP, TR)
Approved Major Cases (CUP, PM, PP, PUP, SP, TR)

0 1,000 2,000 4,000 Feet

Printed by ktsang on 6/16/10

CASE NAME	STATUS	APPLIED DATE	APPROVAL DATE	EXPIRED DATE
CASE DESCRIPTION				
CUP03599R01	APPLIED	11/9/2018		
REVISED PERMIT FOR REVISION OF APPOVED 6'-0' HIGH MANSORY WALL TO PROPOSED 6'-0' HIGH				
CUP03727	APPLIED	5/18/2015		
CUP180008	LDC REVIEW	4/11/2018		
PROPOSED NEW SHOPPING CENTER (SERVICE STATION, DRIVE THRU RESTAURANT AND RETAILS)				
CUP180011	LDC REVIEW	5/17/2018		
MINI MALL - SPORTS BAR, RESTAURANT, LIQUOR STORE, LAUNDRY MAT, WATER STORE, AND UPS STORE				
PP26165	LDC REVIEW	12/27/2016		
PLOT PLAN FOR FEED STORE W/ MINI MART/SMOKE SHOP				
PPT180010	LDC REVIEW	3/21/2018		
TMOBILE 50FT MONOPINE, 6' CMU WALL, 12 PANEL ANTENNAS AT 43FT RAD CENTER, 400SQ FT LEASE AREA, 5 CABINETS				
PPT180025	LDC REVIEW	10/23/2018		
SEATON COMMERCE CENTER 207,892SF WAREHOUSE FACILITY W/ OFFICE SPACE AND MEZZANINE				
PPT180028	LDC REVIEW	10/29/2018		
THREE WAREHOUSE BUILDINGS				
PPT180029	LDC REVIEW	11/14/2018		
WAREHOUSE BUILDING ("19") 347.672 SF				
PPT180032	LDC REVIEW	11/20/2018		
PROPOSED WAREHOUSE BUILDING AND DETENTION BASIN LOCATED ON AN APPROXIMATELY 21.5AC NONCONTIGUOUS PROPERTY				
PPT180033	LDC REVIEW	11/28/2018		
2 WAREHOUSE BUILDINGS				
PPT180034	LDC REVIEW	12/4/2018		
PROPOSED WAREHOUSE BUILDING LOCATED ON AN APPROXIMATELY 21.05 NET ACRE PROPERTY, WEST OF INTERSTATE 215, EAST OF HARVILL AVENUE, SOUTH OF COMMERCE CENTER DRIVE, AND NORTH OF PERRY ST.				
PPT180038	LDC REVIEW	12/20/2018		
PROPOSED WAREHOUSE BUILDING LOCATED ON AN APPROXIMATELY 8.45 ACRE PROPERTY WEST OF INTERSTATE 215, EAST OF HARVILL AVENUE, SOUTH OF COMMERCE CENTER DRIVE AD NORTH OF PERRY STREET.				
PPT190003	LDC REVIEW	2/14/2019		
WAREHOUSE BUILDING 86,319 SFT				
PPT190006	APPLIED	2/26/2019		
NEW INDUSTRIAL BUILDING 285,286 SF AND 281,286 SF WAREHOUSE				

CASE NAME	STATUS	APPLIED DATE	APPROVAL DATE	EXPIRED DATE
CASE DESCRIPTION				
TPM37397	LDC REVIEW	4/13/2018		
TENTATIVE PARCEL MAP				
TPM37625	LDC REVIEW	10/1/2018		
SUBDIVISION OF 3.4 ACRES INTO 3 RESIDENTIAL LOTS				
TPM37627	LDC REVIEW	12/14/2018		
PARCEL MAP TO SUBDIVIDE 1 LOT INTO 2 LOTS				

CASE NAME	STATUS	APPLIED DATE	APPROVAL DATE	EXPIRED DATE
CASE DESCRIPTION				
CUP02305	APPROVED	1/28/2008		
CUP03227	APPROVED	4/1/1996		6/4/1998
RESINS MANUFACTURING FACILITY RESINS MANUFACT FACILITY INCL. OFFICE BLDG, MAINT. BLDG., WAREHOUSE, TRUCK MAINT. & CONTROL ROOM/LAB EA 36982, CZ 6289 NONE				
CUP03315	APPROVED	5/18/2000		
GAS STATN/CONV STORE/2 FAST FOOD/1 DINE IN RESTRNT				
CUP03320	APPROVED	8/15/2000		6/1/2030
CONVENIENCE STORE/FAST FOOD RESTAURANT/CAR WASH/ BEER & WINE SALES/GAS STATION/OFF-SITE SIGNAGE				
CUP03320R1	APPROVED	12/21/2005		
ALLOW LIQUOR SALES USE WITHIN EXISTING GAS STATION AND CONVENIENCE STORE.				
CUP03370	APPROVED	4/3/2002		7/1/2006
TRUCK/GASSTATION COMM CTR SEVERAL BLDGS @ 32,000SF				
CUP03370R1	APPROVED	5/17/2016		
ADD ADDITIONAL ABC LICENSE TYPE 21 1. REVISE CUP03370 COND OF APPRVL 10.PLANNING 27 TO INCLUDE HARD LIQUOR. 2. DELETE CUP03370 COND OF APPROVAL 10. PLANNING 41 AND REPLACE WITH ABC TYPE 21, HARD LIQUOR., CONDITION NO. 3-MODIFY 11,800 SF C-STORE TO INCLUDE 2000SF TENANT LEASE.				
CUP03468	APPROVED	9/15/2005		3/11/2010
PROPOSED GAS STATION,FASTFOOD,CARWASH, STORE				
CUP03477	APPROVED	11/14/2005		4/2/2010
CUP FOR EXISTING STRUCT FOR OFFICE SP/VEHICLE STOR				
CUP03599	APPROVED	6/25/2008		6/2/2017
TO CONSTRUCT A THREE-STORY 52,798 SQ.FT. HOTEL WI H 103 ROOMS AND A DETACHED ANCILLARY ONE-STORY 8,9 37 SQ.FT. BANQUET HALL ON 3.1 GROSS ACRES				
CUP03620	APPROVED	3/30/2009		1/18/2014
GAS STATION/CONV STORE/RETAIL BUILDING				
CUP03620R1	APPROVED	10/23/2013		
ALLOW BEER&WINE SALES WITHIN GAS STATION/MARKET				
CUP03642	APPROVED	4/19/2010		
EXISTING USE AS CONVENIENT STORE W/PROPANE &ALCOHO SALES, LANDSCAPE, FACADE RENOVATION, REROOF				
PM25051	APPROVED	1/25/1990		5/14/1996
DIVIDE APPROX 4 ACRES INTO 4 PARCELS DIVIDE 4.15 ACRES INTO 4 PARCELS EA 34759 EXT 873				
PM26154	APPROVED	7/17/1990		2/25/1998
SUBDIVIDE INTO 4 LOTS SUBDIVIDE 2.4 ACRES INTO 3 LOTS WITH A 1/2 ACRE MI NIMUM LOT SIZE EA 35344				
PM26697	APPROVED	5/2/1991		2/11/2000
SUBDIVIDE 2.12 ACRES INTO TWO PARCELS. DIVIDE 2.12 ACRES INTO 2 RESIDENTIAL PARCELS WITH A MINIMUM SIZE OF 1 ACRE. EA 35852. N/A.				
PM26873	APPROVED	4/12/1991		7/7/1998
DIVIDE 2.50 ACRES INTO 4 PARCELS DIVIDE 2.50 ACRES INTO 4 PARCELS EA 35828 CFG 179, ASA 30				
PM27140	APPROVED	9/25/1991		5/26/1998
3.99AC INTO TEN INDUSTRIAL PARCELS NTO 10 PARCELS DIVIDE 3.99 ACRES INTO 10 PLANNED INDUSTRIAL PARCE LS. EA 36089 CFG 62, PP 12994 SEE FILE				

CASE NAME	STATUS	APPLIED DATE	APPROVAL DATE	EXPIRED DATE
CASE DESCRIPTION				
PM27445	APPROVED	3/25/1992		3/16/1999
DIVIDE APPROX 14 ACRES INTO 10 LOTS DIVIDE 14.52 ACRES INTO 10 INDUSTRIAL PARCELS WITH A 1.05 ACRE MINIMUM PARCEL SIZE EA 36214 PM 24110				
PM27485	APPROVED	4/21/1992		1/26/1999
SUBDIVIDE 26.73 ACRES INTO 10 INDUSTRIAL LOTS DIVIDE 26.73 ACRES INTO 10 INDUSTRIAL PARCELS WITH A 1.11 ACRE MINIMUM PARCEL SIZE EA 36236 N/A				
PM29716	APPROVED	5/18/2000		7/25/2004
SUBDIVIDE 4.45 ACRES INTO 4 COMMERCIAL PARCELS				
PM33478	APPROVED	3/21/2006		7/30/2013
SCHED H DIVISION OF 2.35AC INTO TWO 1-AC PARCELS.				
PM33942	APPROVED	7/28/2005		6/25/2017
PM33942 PROPOSES A SCHEDULE E SUBDIVISION OF 68.85 GROSS (64.13 NET) ACRES INTO 7 PARCELS: PARCEL ON E (1) - 30.39 GROSS ACRES, PARCEL TWO (2) - 6.06 G ROSS ACRES, PARCEL THREE (3) - 5.97 GROSS ACRES, P ARCEL FOUR (4) - 4.08 GROSS ACRES, PARCEL FIVE (5) - 16.96 GROSS ACRES, PARCEL SIX (6) FOR STORM DRA IN - 1.32 GROSS ACRES, AND PARCEL SEVEN (7) FOR S TORM DRAIN - 2.94 NET ACRES.				
PM34039	APPROVED	10/3/2005		11/13/2014
SCHED H DIVISION OF 3 AC INTO 3 1-AC. MIN PARCELS				
PM35557	APPROVED	8/13/2007		7/22/2015
SCHEDULE H SUBDIVISION OF 2.5AC INTO TWO PARCELS				
PM35780	APPROVED	9/20/2007		6/30/2015
SCHED H DIVISION OF 2.02 ACRES INTO TWO PARCELS.				
PM37086	APPROVED	4/5/2016		8/29/2020
THREE SFR PARCELS UNDER SCHEDULE H				
PP12994	APPROVED	9/25/1991		3/9/1994
PLOT PLAN FOR PLANNED INDUSTRIAL DEVELOPMENT FOR 8 TILT-UP BLDG PLOT PLAN FOR PLANNED INDUSTRIAL DEVELOPMENT FOR 8 TILT-UP BUILDINGS EA 36083 CFG 63, PM 27140 SEE FILE				
PP14485	APPROVED	12/19/1995		1/22/1999
CONSTRUCTION EQUIP AUCTION CONSTRUCTION EQUIPMENT AUCTION EA 36944 COC 4507, COC 4511				
PP14485R1	APPROVED	8/20/2001		
HEAVY EQUIPMENT AUCTION YARD				
PP14974	APPROVED	4/25/1997		6/30/1999
STEEL BUILDING FABRICATION				
PP15197	APPROVED	10/30/1997		12/1/1999
3 INDUSTRIAL BUILDINGS				
PP16711	APPROVED	9/1/2000		
150' UNMANNED TELECOMMUNICATION MONOPOLE				
PP16763	APPROVED	10/11/2000		12/12/2002
19500 SQ FT IND BUILDING (18,570 WAREHOUSE 930 OFF ICE				
PP16823	APPROVED	11/17/2000		2/8/2006
TO CONSTRUCT A 22,000 SQ FT MANUFACTURING FACILITY BUILDING TO MANUFACTURE,STORE AND LEASE CONCRETE F ORMING MATERIAL				
PP16932	APPROVED	2/2/2001		
SHEET METAL MANUFACTURING, 12,000 SQ FT STEEL BLDG WITH OFFICES,MEZZANINE, SHOP AND STORAGE AREA.				

CASE NAME	STATUS	APPLIED DATE	APPROVAL DATE	EXPIRED DATE
CASE DESCRIPTION				
PP16932R1	APPROVED	10/17/2008		7/12/2013
ADD RECYCLING COLLECTION CENTER TO A 12,000 S.F. P RE-MANUFACTURED STEEL BUILDING FOR THE MANUFACTURE OF SHEET METAL PRODUCTS. THE BUILDING CONTAINS 1 ,620 S.F. OF OFFICE AREA, A 936 S.F. MEZZANINE, SH EET METAL SHOP FABRICATION AREA, AND STORAGE AREA.				
PP18961	APPROVED	10/28/2003		
NATIONAL ARCHIVES & RECORDS ADMIN. WAREHOUSE FAC.				
PP19521	APPROVED	6/11/2004		11/13/2008
HAY AND FEED STORE				
PP19728	APPROVED	9/1/2004		2/27/2009
CONTRACTORS STORAGE YARD, VEHICLE MAINT AND ADMIN				
PP20699	APPROVED	7/28/2005		6/25/2012
PP20699 PROPOSES TO DEVELOP FIVE (5) INDUSTRIAL / DISTRIBUTION WAREHOUSE BUILDINGS ON A 68.85 GROSS (64.13 NET) ACRE SITE CONSISTING OF: 1,172,710 SQU ARE FEET OF WAREHOUSE, 34,000 SQUARE FEET OF OFFIC E, 425,289 SQUARE FEET OF LANDSCAPING AREA, 927 PA RKING SPACES, AND 8 DETENTION BASINS. THE TOTAL BU ILDING SQUARE FOOTAGE PROPOSED IS 1,206,710 SQUARE FEET. THE PROJECT WILL BE BUILT IN TWO PHASES.				
PP20699R1	APPROVED	6/16/2011		8/16/2013
REDUCE FROM 5 INDUS BLDG TO 3/MODIFY DRAINAGE AND WATER QUALITY CONCEPT				
PP21552	APPROVED	3/21/2006		12/18/2008
PROSPD 6 LIGHT INDUS BLDGS; TOTAL OF 14 PARCELS. BLDGS RANGING FROM 40,000 SF TO 600,000 SF PER SITE PLAN. 14 PARCELS WHICH WILL BE SUBJECT TO LOT CONSOLIDATIONS, LINE ADJUSTMENTS PER SEPARATE FORTHCOMING APPLICATION.				
PP21714	APPROVED	5/4/2006		9/21/2009
UNMNND WRLSS COMM 65' MONOTREE BROADLEAF/OUTDOOR E QUIPMENT/5X7 PAD FOR FUTURE GENERATOR FOR VERIZON				
PP22532	APPROVED	2/9/2007		1/7/2010
OFFICE AND MANUFACTURING FACILITY TRACT 2006-26				
PP24608	APPROVED	6/17/2010		9/8/2016
FEED & GRAIN SALES W/6400 SF HAY BARN, 2880 SF STO RAGE SHED, EXISTING 1,152 SF RESIDENCE				
PP24735	APPROVED	9/30/2010		3/26/2014
50' MONOPINE/12 PANNL ANTS/1 MICRO/6 EQUIP CABINTS				
PP25067	APPROVED	12/22/2011		6/3/2015
VERIZON 65 FT MONOEUCALYPTUS WIRELESS FACILITY/12 ANTS/1 PARABOLIC ANT/1 EQPMT SHELTER/1 GENERATOR/2 GPS/6 FT DECORATIVE BLOCK WALL ENCLOSURE				
PP25252	APPROVED	12/20/2012		
399,150 SF WAREHOUSE/OFFICE BLDG FOR DISCOUNT TIRE THE FACILITY WILL ALSO PROVIDE 152 AUTO PARKING SP ACES AND 214 TRACTOR/TRAILER PARKING SPACES, AND I NCLUDES THE CONSTRUCTION OF A PRIVATE ROAD ALONG I TS A PORTION OF THE NORTHERLY PROJECT BOUNDARY.				
PP25699	APPROVED	11/7/2014		
FARMER BOYS/RETAIL SHOP. CNR 4 BLDGS/19,558 SF TOT				
PP25954	APPROVED	1/29/2016		
PROPOSE 767,410 SF INDUS BLDG WITH 10000 SF MEZZ				
PP26118	APPROVED	10/7/2016		
30,000 SQ FT CONTRACTOR'S STORAGE YARD W/ A 528 S. MOBILE OFFICE.				
PP26174	APPROVED	1/11/2017		
PLOT PLAN FOR UTILITY STORAGE YARD/CONTRACTOR YARD				

CASE NAME	STATUS	APPLIED DATE	APPROVAL DATE	EXPIRED DATE
CASE DESCRIPTION				
PUP00325	APPROVED	12/26/2000		
PUP00693	APPROVED	11/17/1989		1/8/1993
BUILD A CHURCH				
PUP00726	APPROVED	7/26/1991		10/15/1993
OFFICES AND DAY CARE CENTER OFFICES & DAY CARE CENTER EA 36012 SEE FILE				
PUP00765	APPROVED	3/31/1995		9/5/1997
PUBLIC USE PERMIT FOR 32-BED RESIDENTIAL CARE FACI LITY RESIDENTIAL CARE FACILITY FOR THE ELDERLY WITH 32 BEDS EA 36840 PUP 325				
PUP00856	APPROVED	7/19/2002		
DAY CARE CENTER				
PUP00856R1	APPROVED	6/11/2008		6/24/2011
RENEWTIME&EXPANSION OF EXISTING DAY CARE FACILITY				
PUP00856R2	APPROVED	1/9/2012		12/29/2014
ADD 2,596 SQ FT CARE TAKERS QUARTER,ADD 2,400SQ FT METAL GARAGE/WAREHOUSE TO EXISTING CHILD CARE CENT ER. EXISTING FACILITIES CONSIST OF:				
PUP0315	APPROVED	8/7/2000		11/1/1985
EXPANSION OF FAMILY CARE HOME				
PUP0325	APPROVED	8/7/2000		
SP00341	APPROVED	4/21/2004		
FOR 6.2 MILLION SQ FT BUS PARK & LGT IND.				
TR23234	APPROVED	12/14/1987		6/7/2001
DIVIDE 44.55 ACRES INTO 170 SINGLE FAMILY RESIDENC ES EA 32259, CZ 5042 EXT 67, EXT 264, EXT 511, EXT 905				
TR23234M2	APPROVED	8/27/1996		6/7/2001
MC TO TR23234 TO RECONFIGURE STREETS AND LOTS				

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APPENDIX 1.2:

SITE ACCESS QUEUING ANALYSIS

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Intersection: 1: Dwy. 1 & Nandina Av.

Movement	NB
Directions Served	LR
Maximum Queue (ft)	26
Average Queue (ft)	6
95th Queue (ft)	22
Link Distance (ft)	641
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Oleander Av. & Dwy. 2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	1
95th Queue (ft)	9
Link Distance (ft)	701
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Oleander Av. & Dwy. 3

Movement	SB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	2
95th Queue (ft)	15
Link Distance (ft)	673
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Decker Rd. & Nandina Av.

Movement	NB	NB
Directions Served	L	R
Maximum Queue (ft)	48	20
Average Queue (ft)	11	5
95th Queue (ft)	32	19
Link Distance (ft)	1236	1236
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Decker Rd. & Dwy. 4/Harley Knox Bl.

Movement	EB	WB	WB	WB	NB	SB
Directions Served	TR	L	T	R	TR	L
Maximum Queue (ft)	31	24	52	55	30	25
Average Queue (ft)	19	2	29	20	3	9
95th Queue (ft)	44	11	50	48	18	28
Link Distance (ft)	390	969	969	969	1269	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						200
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Decker Rd. & Oleander Av.

Movement	SB
Directions Served	L
Maximum Queue (ft)	31
Average Queue (ft)	3
95th Queue (ft)	18
Link Distance (ft)	1269
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Dwy. 1 & Nandina Av.

Movement	NB
Directions Served	LR
Maximum Queue (ft)	26
Average Queue (ft)	10
95th Queue (ft)	31
Link Distance (ft)	641
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Oleander Av. & Dwy. 2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	700
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Oleander Av. & Dwy. 3

Movement	SB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	26
Link Distance (ft)	674
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Decker Rd. & Nandina Av.

Movement	NB	NB
Directions Served	L	R
Maximum Queue (ft)	23	21
Average Queue (ft)	5	3
95th Queue (ft)	20	14
Link Distance (ft)	1235	1235
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Decker Rd. & Dwy. 4/Harley Knox Bl.

Movement	EB	WB	WB	WB	NB	SB
Directions Served	TR	L	T	R	TR	L
Maximum Queue (ft)	55	23	51	30	30	50
Average Queue (ft)	31	2	20	9	6	18
95th Queue (ft)	50	11	41	31	26	39
Link Distance (ft)	390	1620	1620	1620	1269	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						200
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Decker Rd. & Oleander Av.

Movement	SB
Directions Served	L
Maximum Queue (ft)	31
Average Queue (ft)	2
95th Queue (ft)	15
Link Distance (ft)	1269
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 – SEPTEMBER 2018

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Counts Unlimited, Inc

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Corona, CA 92878
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email: counts@countsunlimited.com

City of Perris
Harley Knox Boulevard
E/ Harvill Avenue
24 Hour Directional Classification Count

PERHKEHA
Site Code: 051-18711

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
09/25/18	2	36	4	1	1	5	0	0	6	0	0	0	0	55
01:00	0	54	7	1	0	2	0	0	1	0	0	0	0	65
02:00	1	86	9	0	2	4	0	0	3	0	0	0	0	105
03:00	1	38	8	0	1	4	0	0	1	1	0	0	0	54
04:00	2	85	27	2	3	7	0	1	3	0	0	0	0	130
05:00	3	115	44	1	19	5	0	3	5	0	0	0	0	195
06:00	7	257	65	**11**	23	**18**	0	3	3	1	**1**	0	0	389
07:00	7	**367**	**88**	4	**24**	13	0	**6**	4	1	0	0	0	**514**
08:00	3	140	40	1	14	11	**5**	1	3	0	1	0	0	219
09:00	4	95	40	4	13	11	2	1	8	0	0	0	0	178
10:00	3	122	36	2	11	12	2	4	**13**	0	0	0	0	205
11:00	**8**	96	35	7	8	15	0	2	11	**2**	0	0	0	184
12 PM	2	108	29	5	9	10	4	3	6	0	0	0	0	176
13:00	4	143	47	2	11	9	2	**5**	8	0	0	0	0	231
14:00	**8**	180	55	1	12	**13**	1	2	**9**	0	0	**1**	0	282
15:00	5	**323**	**87**	**6**	18	7	0	3	3	0	0	0	0	**452**
16:00	3	280	76	0	18	3	2	4	7	0	**1**	0	0	394
17:00	3	247	60	0	**19**	7	**8**	4	2	0	0	0	0	350
18:00	2	152	58	2	6	9	1	1	3	0	0	0	0	234
19:00	0	94	31	0	10	5	0	1	4	0	0	0	0	145
20:00	2	76	22	0	3	6	0	0	1	0	0	0	0	110
21:00	4	54	14	2	1	7	0	1	5	0	0	1	0	89
22:00	3	69	15	1	1	3	0	0	3	0	0	0	0	95
23:00	0	17	3	0	4	2	0	0	8	0	0	0	0	34
Total	77	3234	900	53	231	188	27	45	120	5	3	2	0	4885
Percent	1.6%	66.2%	18.4%	1.1%	4.7%	3.8%	0.6%	0.9%	2.5%	0.1%	0.1%	0.0%	0.0%	
AM Peak	11:00	07:00	07:00	06:00	07:00	06:00	08:00	07:00	10:00	11:00	06:00			07:00
Vol.	8	367	88	11	24	18	5	6	13	2	1			514
PM Peak	14:00	15:00	15:00	15:00	17:00	14:00	17:00	13:00	14:00		16:00	14:00		15:00
Vol.	8	323	87	6	19	13	8	5	9		1	1		452
Grand Total	77	3234	900	53	231	188	27	45	120	5	3	2	0	4885
Percent	1.6%	66.2%	18.4%	1.1%	4.7%	3.8%	0.6%	0.9%	2.5%	0.1%	0.1%	0.0%	0.0%	

Counts Unlimited, Inc

PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Perris
Harley Knox Boulevard
E/ Harvill Avenue
24 Hour Directional Classification Count

PERHKEHA
Site Code: 051-18711

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
09/25/18	1	29	6	0	0	5	0	0	2	0	0	0	0	43
01:00	1	26	0	0	0	5	0	0	1	0	0	0	0	33
02:00	0	15	1	0	0	1	0	0	2	0	0	0	0	19
03:00	5	164	30	1	0	5	0	**5**	2	0	0	0	0	212
04:00	3	103	24	0	0	6	0	0	3	0	0	0	0	139
05:00	4	108	29	**7**	4	6	0	1	6	0	0	0	0	165
06:00	6	165	32	5	**13**	12	**1**	3	2	0	0	0	0	239
07:00	6	**192**	36	3	9	15	0	2	0	0	0	0	0	**263**
08:00	**8**	122	**39**	2	11	**20**	0	2	10	0	0	0	**1**	215
09:00	4	87	35	3	12	13	0	1	2	0	0	0	0	157
10:00	7	89	25	4	10	18	0	4	**23**	0	**1**	0	0	181
11:00	7	108	35	6	13	19	1	0	6	0	0	**1**	0	196
12 PM	4	123	38	4	9	10	0	4	3	0	0	0	0	195
13:00	4	168	55	1	9	14	0	2	**9**	0	**1**	**1**	0	264
14:00	**10**	231	**70**	**6**	**22**	**19**	0	**7**	6	0	1	0	0	372
15:00	7	**305**	69	3	18	11	**1**	5	5	0	0	0	**1**	**425**
16:00	6	164	64	3	20	10	1	4	3	0	0	0	0	275
17:00	5	139	49	0	11	13	0	4	5	**1**	1	0	0	228
18:00	3	132	47	0	9	9	0	4	6	0	0	0	0	210
19:00	3	123	37	0	2	8	0	0	4	0	1	0	0	178
20:00	4	109	29	0	4	8	0	0	4	0	0	0	0	158
21:00	2	89	19	2	1	5	0	2	3	0	0	0	0	123
22:00	2	64	23	0	1	6	0	0	9	0	0	0	0	105
23:00	3	48	8	0	2	5	0	0	5	0	0	0	0	71
Total	105	2903	800	50	180	243	4	50	121	1	5	2	2	4466
Percent	2.4%	65.0%	17.9%	1.1%	4.0%	5.4%	0.1%	1.1%	2.7%	0.0%	0.1%	0.0%	0.0%	
AM Peak	08:00	07:00	08:00	05:00	06:00	08:00	06:00	03:00	10:00		10:00	11:00	08:00	07:00
Vol.	8	192	39	7	13	20	1	5	23		1	1	1	263
PM Peak	14:00	15:00	14:00	14:00	14:00	14:00	15:00	14:00	13:00	17:00	13:00	13:00	15:00	15:00
Vol.	10	305	70	6	22	19	1	7	9	1	1	1	1	425
Grand Total	105	2903	800	50	180	243	4	50	121	1	5	2	2	4466
Percent	2.4%	65.0%	17.9%	1.1%	4.0%	5.4%	0.1%	1.1%	2.7%	0.0%	0.1%	0.0%	0.0%	

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Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
09/25/18	3	65	10	1	1	10	0	0	8	0	0	0	0	98
01:00	1	80	7	1	0	7	0	0	2	0	0	0	0	98
02:00	1	101	10	0	2	5	0	0	5	0	0	0	0	124
03:00	6	202	38	1	1	9	0	5	3	1	0	0	0	266
04:00	5	188	51	2	3	13	0	1	6	0	0	0	0	269
05:00	7	223	73	8	23	11	0	4	11	0	0	0	0	360
06:00	13	422	97	**16**	**36**	30	1	6	5	1	**1**	0	0	628
07:00	13	**559**	**124**	7	33	28	0	**8**	4	1	0	0	0	**777**
08:00	11	262	79	3	25	31	**5**	3	13	0	1	0	**1**	434
09:00	8	182	75	7	25	24	2	2	10	0	0	0	0	335
10:00	10	211	61	6	21	30	2	8	**36**	0	1	0	0	386
11:00	**15**	204	70	13	21	**34**	1	2	17	**2**	0	**1**	0	380
12 PM	6	231	67	**9**	18	20	4	7	9	0	0	0	0	371
13:00	8	311	102	3	20	23	2	7	**17**	0	**1**	**1**	0	495
14:00	**18**	411	125	7	34	**32**	1	**9**	15	0	1	1	0	654
15:00	12	**628**	**156**	9	36	18	1	8	8	0	0	0	**1**	**877**
16:00	9	444	140	3	**38**	13	3	8	10	0	1	0	0	669
17:00	8	386	109	0	30	20	**8**	8	7	**1**	1	0	0	578
18:00	5	284	105	2	15	18	1	5	9	0	0	0	0	444
19:00	3	217	68	0	12	13	0	1	8	0	1	0	0	323
20:00	6	185	51	0	7	14	0	0	5	0	0	0	0	268
21:00	6	143	33	4	2	12	0	3	8	0	0	1	0	212
22:00	5	133	38	1	2	9	0	0	12	0	0	0	0	200
23:00	3	65	11	0	6	7	0	0	13	0	0	0	0	105
Total	182	6137	1700	103	411	431	31	95	241	6	8	4	2	9351
Percent	1.9%	65.6%	18.2%	1.1%	4.4%	4.6%	0.3%	1.0%	2.6%	0.1%	0.1%	0.0%	0.0%	
AM Peak	11:00	07:00	07:00	06:00	06:00	11:00	08:00	07:00	10:00	11:00	06:00	11:00	08:00	07:00
Vol.	15	559	124	16	36	34	5	8	36	2	1	1	1	777
PM Peak	14:00	15:00	15:00	12:00	16:00	14:00	17:00	14:00	13:00	17:00	13:00	13:00	15:00	15:00
Vol.	18	628	156	9	38	32	8	9	17	1	1	1	1	877
Grand Total	182	6137	1700	103	411	431	31	95	241	6	8	4	2	9351
Percent	1.9%	65.6%	18.2%	1.1%	4.4%	4.6%	0.3%	1.0%	2.6%	0.1%	0.1%	0.0%	0.0%	

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County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018

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

	Harvill Avenue Southbound					Harley Knox Boulevard Westbound					Harvill Avenue Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	2	0	0	4	77	3	4	3	84	3	5	124	57	132	0	0	0	0	0	60	220	280
07:15 AM	3	1	0	0	4	47	3	3	0	53	5	3	113	41	121	0	2	0	0	2	41	180	221
07:30 AM	4	1	1	0	6	47	9	3	0	59	1	3	108	77	112	0	1	1	0	2	77	179	256
07:45 AM	2	0	0	0	2	34	5	2	1	41	5	0	110	88	115	1	1	0	0	2	89	160	249
Total	11	4	1	0	16	205	20	12	4	237	14	11	455	263	480	1	4	1	0	6	267	739	1006
08:00 AM	2	1	1	1	4	39	8	5	4	52	1	2	66	56	69	0	0	1	1	1	62	126	188
08:15 AM	4	1	0	0	5	38	12	4	1	54	1	2	43	35	46	0	1	2	0	3	36	108	144
08:30 AM	5	6	0	0	11	34	13	0	0	47	2	2	30	19	34	0	1	1	1	2	20	94	114
08:45 AM	4	1	0	0	5	31	6	7	5	44	2	1	35	22	38	0	0	4	0	4	27	91	118
Total	15	9	1	1	25	142	39	16	10	197	6	7	174	132	187	0	2	8	2	10	145	419	564
Grand Total	26	13	2	1	41	347	59	28	14	434	20	18	629	395	667	1	6	9	2	16	412	1158	1570
Apprch %	63.4	31.7	4.9			80	13.6	6.5			3	2.7	94.3			6.2	37.5	56.2					
Total %	2.2	1.1	0.2		3.5	30	5.1	2.4		37.5	1.7	1.6	54.3		57.6	0.1	0.5	0.8		1.4	26.2	73.8	
Passenger Vehicles	20	9	2		32	297	54	22		387	18	17	581		988	1	6	4		11	0	0	1418
% Passenger Vehicles	76.9	69.2	100	100	76.2	85.6	91.5	78.6	100	86.4	90	94.4	92.4	94.2	93	100	100	44.4	0	61.1	0	0	90.3
Large 2 Axle Vehicles	4	2	0		6	6	2	1		9	1	1	16		26	0	0	2		3	0	0	44
% Large 2 Axle Vehicles	15.4	15.4	0	0	14.3	1.7	3.4	3.6	0	2	5	5.6	2.5	2	2.4	0	0	22.2	50	16.7	0	0	2.8
3 Axle Vehicles	0	0	0		0	7	0	0		7	0	0	10		16	0	0	0		0	0	0	23
% 3 Axle Vehicles	0	0	0	0	0	2	0	0	0	1.6	0	0	1.6	1.5	1.5	0	0	0	0	0	0	0	1.5
4+ Axle Trucks	2	2	0		4	37	3	5		45	1	0	22		32	0	0	3		4	0	0	85
% 4+ Axle Trucks	7.7	15.4	0	0	9.5	10.7	5.1	17.9	0	10	5	0	3.5	2.3	3	0	0	33.3	50	22.2	0	0	5.4

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	2	**2**	0	4	**77**	3	**4**	**84**	3	**5**	**124**	**132**	0	0	0	0	**220**
07:15 AM	3	1	0	4	47	3	3	53	**5**	3	113	121	0	**2**	0	**2**	180
07:30 AM	**4**	1	**1**	**6**	47	**9**	3	59	1	3	108	112	0	1	**1**	2	179
07:45 AM	2	0	0	2	34	5	2	41	5	0	110	115	**1**	1	0	2	160
Total Volume	11	4	1	16	205	20	12	237	14	11	455	480	1	4	1	6	739
% App. Total	68.8	25	6.2		86.5	8.4	5.1		2.9	2.3	94.8		16.7	66.7	16.7		
PHF	.688	.500	.250	.667	.666	.556	.750	.705	.700	.550	.917	.909	.250	.500	.250	.750	.840

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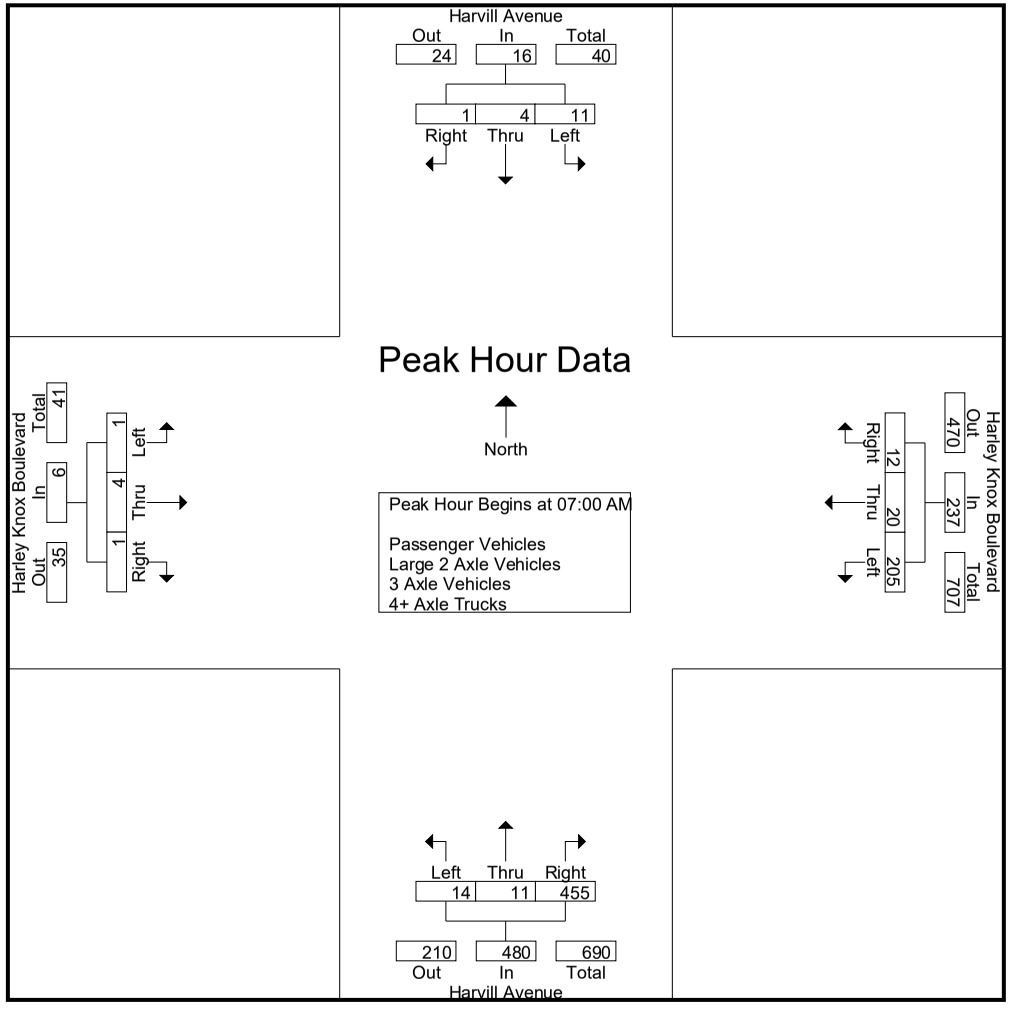
County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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County of Riverside
N/S: Harvill Avenue
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Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00 AM				07:00 AM				07:00 AM				08:00 AM				
+0 mins.	2	1	**1**	4	**77**	3	**4**	**84**	3	**5**	**124**	**132**	0	0	1	1	
+15 mins.	4	1	0	5	47	3	3	53	**5**	3	113	121	0	**1**	2	3	
+30 mins.	**5**	**6**	0	**11**	47	**9**	3	59	1	3	108	112	0	1	1	2	
+45 mins.	4	1	0	5	34	5	2	41	5	0	110	115	0	0	**4**	**4**	
Total Volume	15	9	1	25	205	20	12	237	14	11	455	480	0	2	8	10	
% App. Total	60	36	4		86.5	8.4	5.1		2.9	2.3	94.8		0	20	80		
PHF	.750	.375	.250	.568	.666	.556	.750	.705	.700	.550	.917	.909	.000	.500	.500	.625	

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County of Riverside
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Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- Passenger Vehicles

	Harvill Avenue Southbound					Harley Knox Boulevard Westbound					Harvill Avenue Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	2	0	0	3	71	2	4	3	77	3	5	119	53	127	0	0	0	0	0	56	207	263
07:15 AM	2	1	0	0	3	43	3	2	0	48	5	3	104	40	112	0	2	0	0	2	40	165	205
07:30 AM	3	1	1	0	5	42	9	2	0	53	1	3	104	75	108	0	1	1	0	2	75	168	243
07:45 AM	2	0	0	0	2	31	5	2	1	38	4	0	104	84	108	1	1	0	0	2	85	150	235
Total	8	4	1	0	13	187	19	10	4	216	13	11	431	252	455	1	4	1	0	6	256	690	946
08:00 AM	0	0	1	1	1	33	8	4	4	45	1	2	62	55	65	0	0	0	0	0	60	111	171
08:15 AM	3	1	0	0	4	29	10	2	1	41	1	1	36	31	38	0	1	0	0	1	32	84	116
08:30 AM	5	4	0	0	9	24	12	0	0	36	1	2	27	19	30	0	1	0	0	1	19	76	95
08:45 AM	4	0	0	0	4	24	5	6	5	35	2	1	25	15	28	0	0	3	0	3	20	70	90
Total	12	5	1	1	18	110	35	12	10	157	5	6	150	120	161	0	2	3	0	5	131	341	472
Grand Total	20	9	2	1	31	297	54	22	14	373	18	17	581	372	616	1	6	4	0	11	387	1031	1418
Apprch %	64.5	29	6.5			79.6	14.5	5.9			2.9	2.8	94.3			9.1	54.5	36.4					
Total %	1.9	0.9	0.2		3	28.8	5.2	2.1		36.2	1.7	1.6	56.4		59.7	0.1	0.6	0.4		1.1	27.3	72.7	

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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 Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	**2**	0	3	**71**	2	**4**	**77**	3	**5**	**119**	**127**	0	0	0	0	**207**
07:15 AM	2	1	0	3	43	3	2	48	**5**	3	104	112	0	**2**	0	**2**	165
07:30 AM	**3**	1	**1**	**5**	42	**9**	2	53	1	3	104	108	0	1	**1**	2	168
07:45 AM	2	0	0	2	31	5	2	38	4	0	104	108	**1**	1	0	2	150
Total Volume	8	4	1	13	187	19	10	216	13	11	431	455	1	4	1	6	690
% App. Total	61.5	30.8	7.7		86.6	8.8	4.6		2.9	2.4	94.7		16.7	66.7	16.7		
PHF	.667	.500	.250	.650	.658	.528	.625	.701	.650	.550	.905	.896	.250	.500	.250	.750	.833

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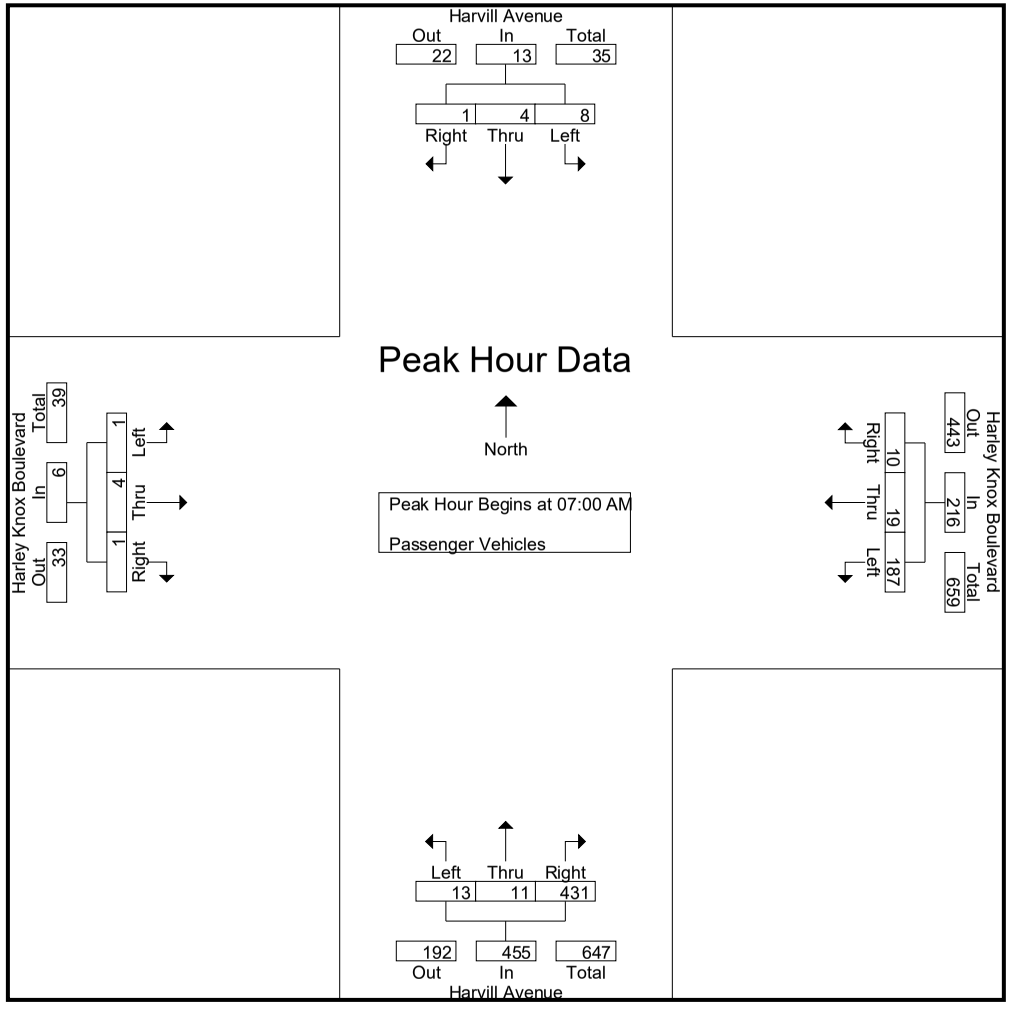
County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	1	**2**	0	3	**71**	2	**4**	**77**	3	**5**	**119**	**127**	0	0	0	0	
+15 mins.	2	1	0	3	43	3	2	48	**5**	3	104	112	0	**2**	0	**2**	
+30 mins.	**3**	1	**1**	**5**	42	**9**	2	53	1	3	104	108	0	1	**1**	2	
+45 mins.	2	0	0	2	31	5	2	38	4	0	104	108	**1**	1	0	2	
Total Volume	8	4	1	13	187	19	10	216	13	11	431	455	1	4	1	6	
% App. Total	61.5	30.8	7.7		86.6	8.8	4.6		2.9	2.4	94.7		16.7	66.7	16.7		
PHF	.667	.500	.250	.650	.658	.528	.625	.701	.650	.550	.905	.896	.250	.500	.250	.750	

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Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Harvill Avenue Southbound					Harley Knox Boulevard Westbound					Harvill Avenue Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	0	0	0	1	1	0	0	0	1	0	0	1	1	1	0	0	0	0	0	1	3	4
07:15 AM	1	0	0	0	1	1	0	0	0	1	0	0	5	0	5	0	0	0	0	0	0	7	7
07:30 AM	1	0	0	0	1	1	0	0	0	1	0	0	2	1	2	0	0	0	0	0	1	4	5
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	0	0	2	2	4
Total	3	0	0	0	3	3	0	0	0	3	0	0	10	4	10	0	0	0	0	0	4	16	20
08:00 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
08:15 AM	0	0	0	0	0	2	1	0	0	3	0	1	4	3	5	0	0	1	0	1	3	9	12
08:30 AM	0	2	0	0	2	0	1	0	0	1	1	0	1	0	2	0	0	1	1	1	1	6	7
08:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	1	1	1	0	0	0	0	0	1	2	3
Total	1	2	0	0	3	3	2	1	0	6	1	1	6	4	8	0	0	2	1	2	5	19	24
Grand Total	4	2	0	0	6	6	2	1	0	9	1	1	16	8	18	0	0	2	1	2	9	35	44
Apprch %	66.7	33.3	0			66.7	22.2	11.1			5.6	5.6	88.9			0	0	100					
Total %	11.4	5.7	0		17.1	17.1	5.7	2.9		25.7	2.9	2.9	45.7		51.4	0	0	5.7		5.7	20.5	79.5	

3.1-10

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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 Entire Intersection Begins at 07:00 AM																	
07:00 AM	**1**	0	0	**1**	**1**	0	0	**1**	0	0	1	1	0	0	0	0	3
07:15 AM	1	0	0	1	1	0	0	1	0	0	**5**	**5**	0	0	0	0	**7**
07:30 AM	1	0	0	1	1	0	0	1	0	0	2	2	0	0	0	0	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2
Total Volume	3	0	0	3	3	0	0	3	0	0	10	10	0	0	0	0	16
% App. Total	100	0	0		100	0	0		0	0	100		0	0	0		
PHF	.750	.000	.000	.750	.750	.000	.000	.750	.000	.000	.500	.500	.000	.000	.000	.000	.571

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County of Riverside
N/S: Harvill Avenue
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File Name : 01_CRV_Harvill_Harley Knox AM
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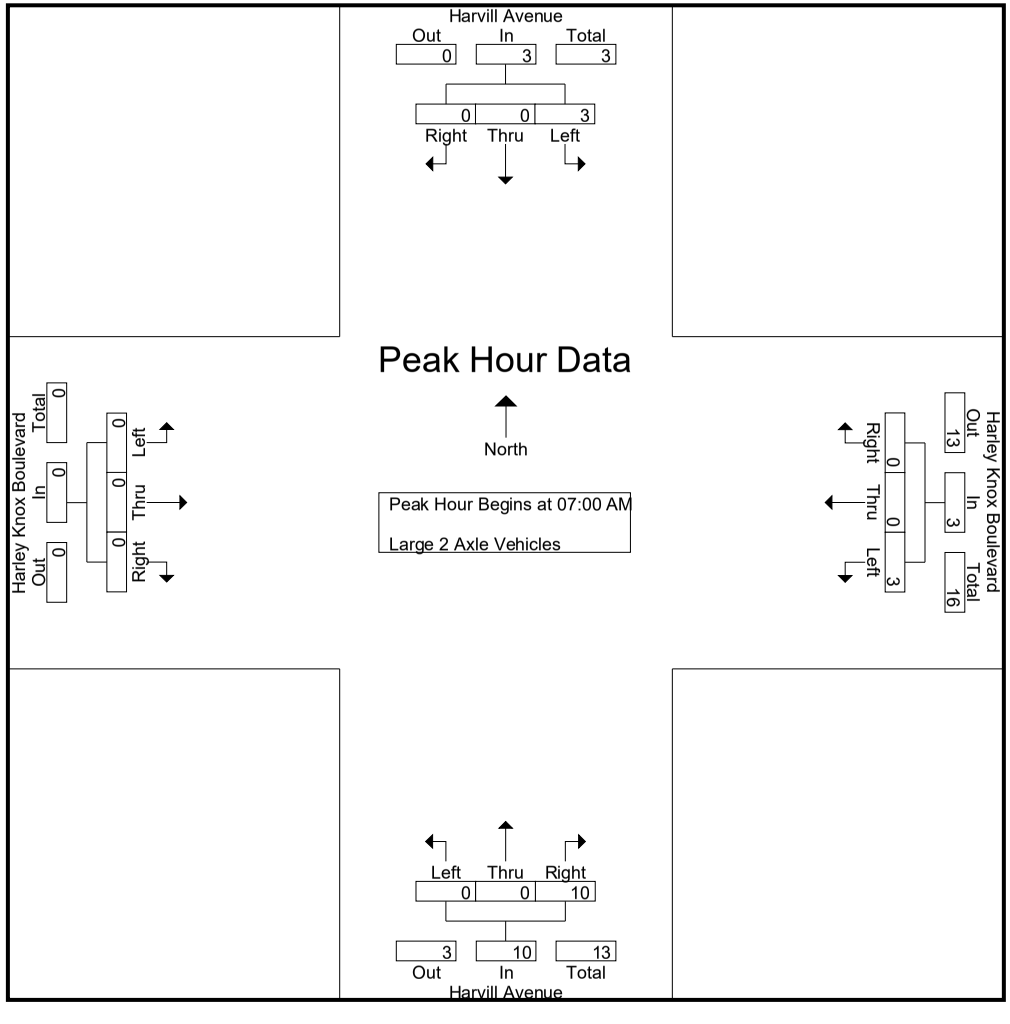

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File Name : 01_CRV_Harvill_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**1**	0	0	**1**	**1**	0	0	**1**	0	0	1	1	0	0	0	0	
+15 mins.	1	0	0	1	1	0	0	1	0	0	**5**	**5**	0	0	0	0	
+30 mins.	1	0	0	1	1	0	0	1	0	0	2	2	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	
Total Volume	3	0	0	3	3	0	0	3	0	0	10	10	0	0	0	0	
% App. Total	100	0	0		100	0	0		0	0	100		0	0	0		
PHF	.750	.000	.000	.750	.750	.000	.000	.750	.000	.000	.500	.500	.000	.000	.000	.000	

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File Name : 01_CRV_Harvill_Harley Knox AM
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Page No : 1

Groups Printed- 3 Axle Vehicles

	Harvill Avenue Southbound					Harley Knox Boulevard Westbound					Harvill Avenue Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	1	1	0	0	0	0	0	1	2	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	1	1	0	0	0	0	0	1	2	3
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	0	0	2	0	0	2	2	2	0	0	0	0	0	2	4	6
08:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	2	0	2	0	0	0	0	0	0	3	3
08:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	2	1	2	0	0	0	0	0	1	3	4
08:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2	2
08:45 AM	0	0	0	0	0	2	0	0	0	2	0	0	3	3	3	0	0	0	0	0	3	5	8
Total	0	0	0	0	0	5	0	0	0	5	0	0	8	4	8	0	0	0	0	0	4	13	17
Grand Total	0	0	0	0	0	7	0	0	0	7	0	0	10	6	10	0	0	0	0	0	6	17	23
Apprch %	0	0	0			100	0	0			0	0	100			0	0	0					
Total %	0	0	0		0	41.2	0	0		41.2	0	0	58.8		58.8	0	0	0		0	26.1	73.9	

3.1-13

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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 Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	**1**	0	0	**1**	0	0	**1**	**1**	0	0	0	0	**2**
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	2	0	0	2	0	0	2	2	0	0	0	0	4
% App. Total	0	0	0		100	0	0		0	0	100		0	0	0		
PHF	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.500	.500	.000	.000	.000	.000	.500

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County of Riverside
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E/W: Harley Knox Boulevard
Weather: Clear

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Site Code : 05118711
Start Date : 9/25/2018
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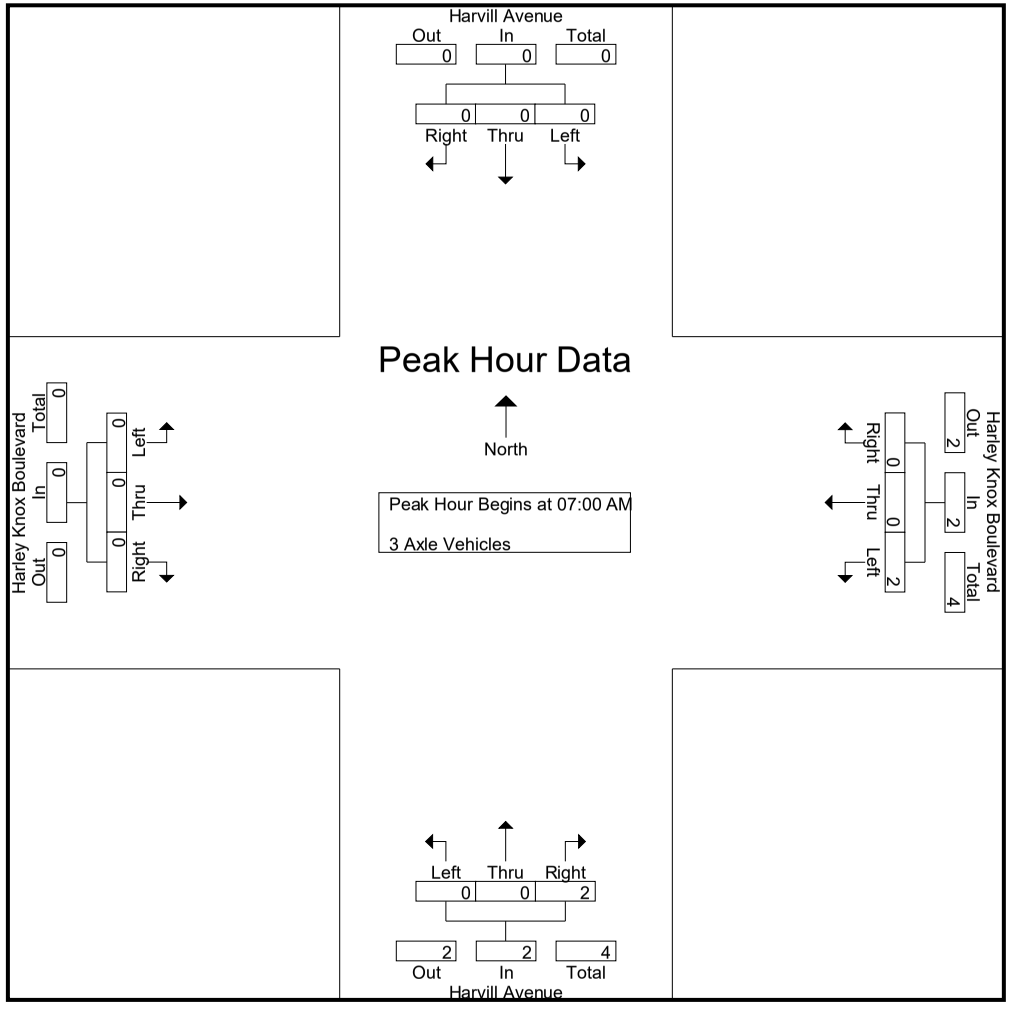

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File Name : 01_CRV_Harvill_Harley Knox AM
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Start Date : 9/25/2018

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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	**1**	0	0	**1**	0	0	**1**	**1**	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	2	0	0	2	0	0	2	2	0	0	0	0	
% App. Total	0	0	0		100	0	0		0	0	100		0	0	0		
PHF	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.500	.500	.000	.000	.000	.000	

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File Name : 01_CRV_Harvill_Harley Knox AM
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Groups Printed- 4+ Axle Trucks

	Harvill Avenue Southbound					Harley Knox Boulevard Westbound					Harvill Avenue Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	4	1	0	0	5	0	0	3	2	3	0	0	0	0	0	2	8	10
07:15 AM	0	0	0	0	0	3	0	1	0	4	0	0	4	1	4	0	0	0	0	0	1	8	9
07:30 AM	0	0	0	0	0	3	0	1	0	4	0	0	1	0	1	0	0	0	0	0	0	5	5
07:45 AM	0	0	0	0	0	3	0	0	0	3	1	0	4	2	5	0	0	0	0	0	2	8	10
Total	0	0	0	0	0	13	1	2	0	16	1	0	12	5	13	0	0	0	0	0	5	29	34
08:00 AM	1	1	0	0	2	4	0	1	0	5	0	0	2	1	2	0	0	1	1	1	2	10	12
08:15 AM	1	0	0	0	1	6	1	2	0	9	0	0	1	0	1	0	0	1	0	1	0	12	12
08:30 AM	0	0	0	0	0	9	0	0	0	9	0	0	1	0	1	0	0	0	0	0	0	10	10
08:45 AM	0	1	0	0	1	5	1	0	0	6	0	0	6	3	6	0	0	1	0	1	3	14	17
Total	2	2	0	0	4	24	2	3	0	29	0	0	10	4	10	0	0	3	1	3	5	46	51
Grand Total	2	2	0	0	4	37	3	5	0	45	1	0	22	9	23	0	0	3	1	3	10	75	85
Apprch %	50	50	0			82.2	6.7	11.1			4.3	0	95.7			0	0	100					
Total %	2.7	2.7	0		5.3	49.3	4	6.7		60	1.3	0	29.3		30.7	0	0	4		4	11.8	88.2	

3.1-16

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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 Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	**4**	**1**	0	**5**	0	0	3	3	0	0	0	0	**8**
07:15 AM	0	0	0	0	3	0	**1**	4	0	0	**4**	4	0	0	0	0	8
07:30 AM	0	0	0	0	3	0	1	4	0	0	1	1	0	0	0	0	5
07:45 AM	0	0	0	0	3	0	0	3	**1**	0	4	**5**	0	0	0	0	8
Total Volume	0	0	0	0	13	1	2	16	1	0	12	13	0	0	0	0	29
% App. Total	0	0	0		81.2	6.2	12.5		7.7	0	92.3		0	0	0		
PHF	.000	.000	.000	.000	.813	.250	.500	.800	.250	.000	.750	.650	.000	.000	.000	.000	.906

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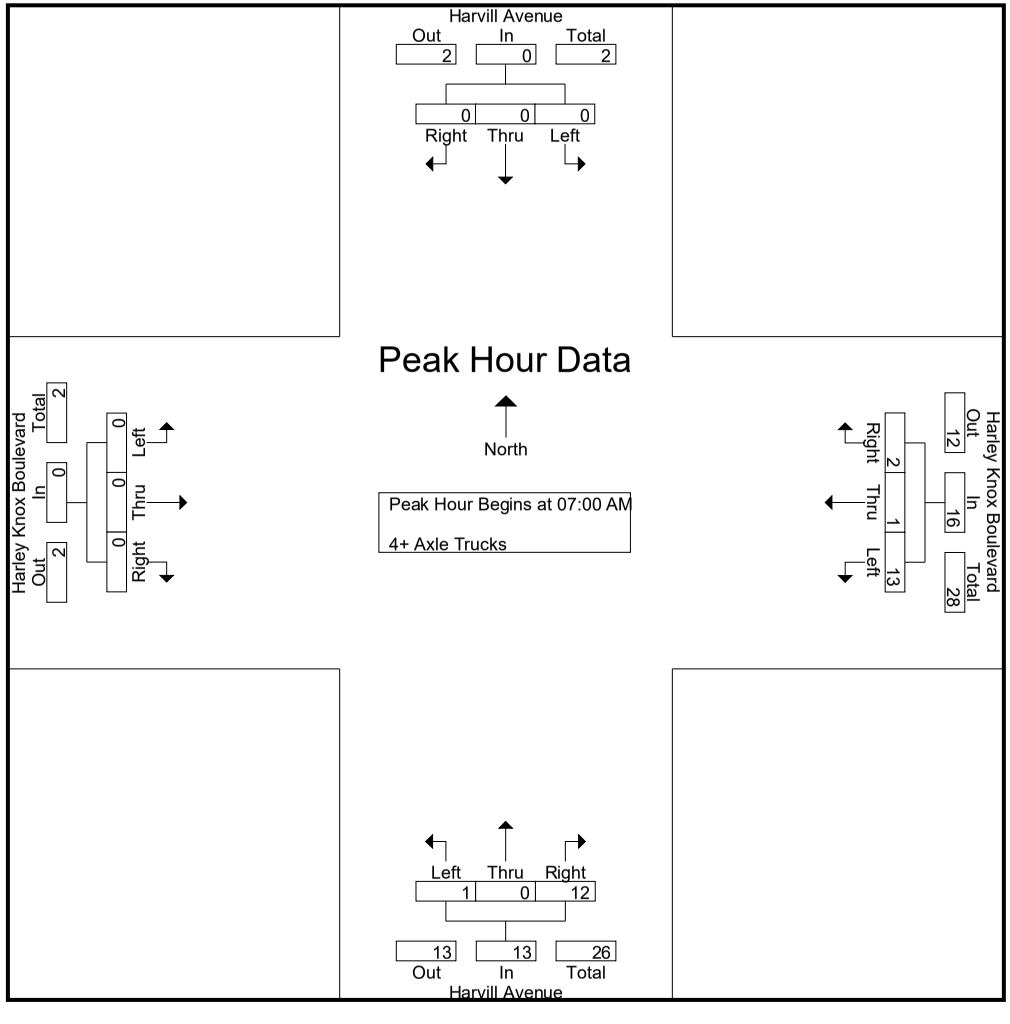

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Start Date : 9/25/2018

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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	**4**	**1**	0	**5**	0	0	3	3	0	0	0	0	
+15 mins.	0	0	0	0	3	0	**1**	4	0	0	**4**	4	0	0	0	0	
+30 mins.	0	0	0	0	3	0	1	4	0	0	1	1	0	0	0	0	
+45 mins.	0	0	0	0	3	0	0	3	**1**	0	4	**5**	0	0	0	0	
Total Volume	0	0	0	0	13	1	2	16	1	0	12	13	0	0	0	0	
% App. Total	0	0	0		81.2	6.2	12.5		7.7	0	92.3		0	0	0		
PHF	.000	.000	.000	.000	.813	.250	.500	.800	.250	.000	.750	.650	.000	.000	.000	.000	

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Site Code : 05118711
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Harvill Avenue Southbound					Harley Knox Boulevard Westbound					Harvill Avenue Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	24	1	0	0	25	67	2	5	0	74	0	0	73	52	73	0	25	3	0	28	52	200	252
04:15 PM	11	1	0	0	12	58	2	1	0	61	1	1	69	48	71	0	19	2	0	21	48	165	213
04:30 PM	4	2	0	0	6	64	3	4	1	71	0	1	63	54	64	0	16	3	1	19	56	160	216
04:45 PM	2	1	0	0	3	58	0	4	0	62	2	0	62	41	64	0	2	2	0	4	41	133	174
Total	41	5	0	0	46	247	7	14	1	268	3	2	267	195	272	0	62	10	1	72	197	658	855
05:00 PM	4	0	0	0	4	59	0	1	0	60	0	0	72	63	72	0	7	2	1	9	64	145	209
05:15 PM	2	1	0	0	3	51	2	2	1	55	0	1	67	58	68	1	8	1	1	10	60	136	196
05:30 PM	5	1	0	0	6	47	1	2	1	50	0	0	75	62	75	0	12	1	0	13	63	144	207
05:45 PM	6	3	0	0	9	43	3	3	0	49	2	2	71	69	75	0	9	0	0	9	69	142	211
Total	17	5	0	0	22	200	6	8	2	214	2	3	285	252	290	1	36	4	2	41	256	567	823
Grand Total	58	10	0	0	68	447	13	22	3	482	5	5	552	447	562	1	98	14	3	113	453	1225	1678
Apprch %	85.3	14.7	0			92.7	2.7	4.6			0.9	0.9	98.2			0.9	86.7	12.4					
Total %	4.7	0.8	0		5.6	36.5	1.1	1.8		39.3	0.4	0.4	45.1		45.9	0.1	8	1.1		9.2	27	73	
Passenger Vehicles	49	7	0		56	397	10	17		426	2	3	516		948	0	96	13		112	0	0	1542
% Passenger Vehicles	84.5	70	0	0	82.4	88.8	76.9	77.3	66.7	87.8	40	60	93.5	95.5	94	0	98	92.9	100	96.6	0	0	91.9
Large 2 Axle Vehicles	3	2	0		5	16	1	3		20	0	2	10		20	0	1	0		1	0	0	46
% Large 2 Axle Vehicles	5.2	20	0	0	7.4	3.6	7.7	13.6	0	4.1	0	40	1.8	1.8	2	0	1	0	0	0.9	0	0	2.7
3 Axle Vehicles	0	0	0		0	5	0	0		5	0	0	12		19	0	0	0		0	0	0	24
% 3 Axle Vehicles	0	0	0	0	0	1.1	0	0	0	1	0	0	2.2	1.6	1.9	0	0	0	0	0	0	0	1.4
4+ Axle Trucks	6	1	0		7	29	2	2		34	3	0	14		22	1	1	1		3	0	0	66
% 4+ Axle Trucks	10.3	10	0	0	10.3	6.5	15.4	9.1	33.3	7	60	0	2.5	1.1	2.2	100	1	7.1	0	2.6	0	0	3.9

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**24**	1	0	**25**	**67**	2	**5**	**74**	0	0	**73**	**73**	0	**25**	**3**	**28**	**200**
04:15 PM	11	1	0	12	58	2	1	61	1	**1**	69	71	0	19	2	21	165
04:30 PM	4	**2**	0	6	64	**3**	4	71	0	1	63	64	0	16	3	19	160
04:45 PM	2	1	0	3	58	0	4	62	**2**	0	62	64	0	2	2	4	133
Total Volume	41	5	0	46	247	7	14	268	3	2	267	272	0	62	10	72	658
% App. Total	89.1	10.9	0		92.2	2.6	5.2		1.1	0.7	98.2		0	86.1	13.9		
PHF	.427	.625	.000	.460	.922	.583	.700	.905	.375	.500	.914	.932	.000	.620	.833	.643	.823

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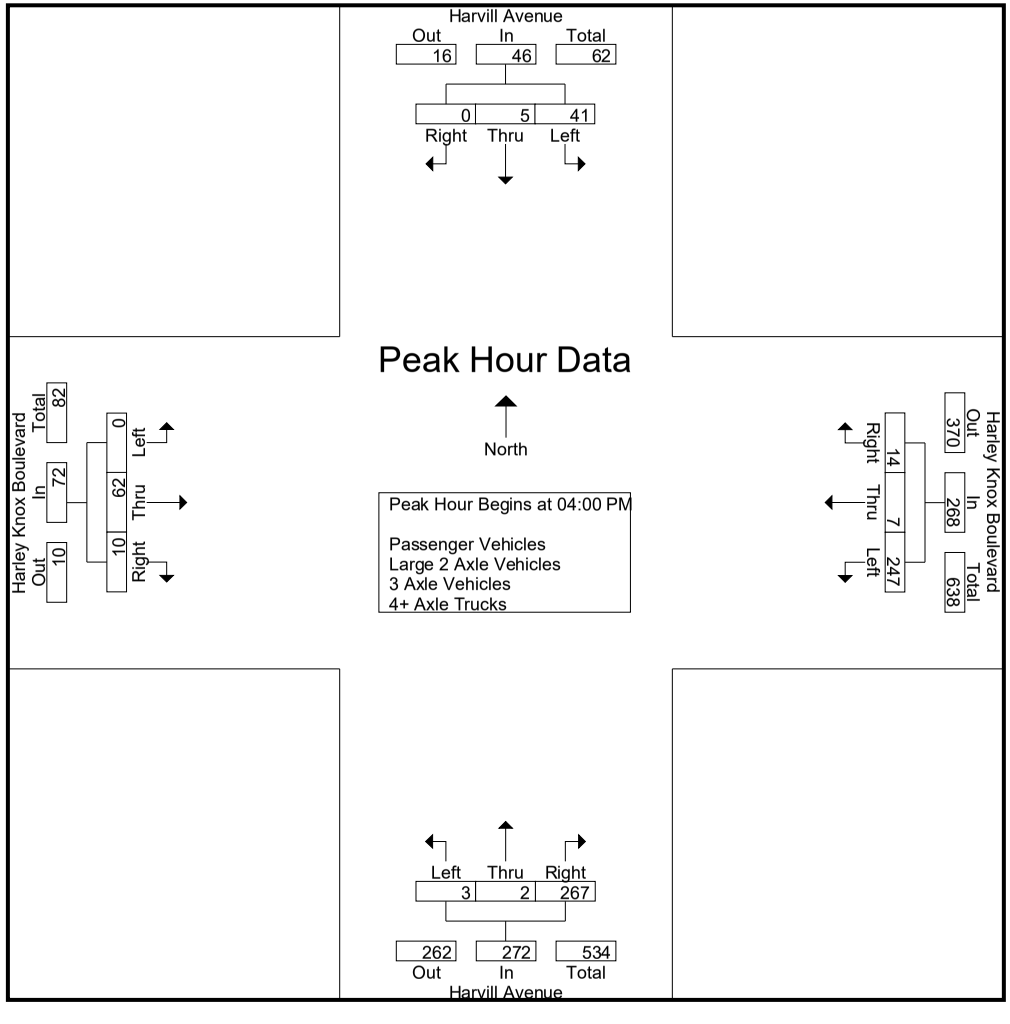

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Page No : 3

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				05:00 PM				04:00 PM				
+0 mins.	**24**	1	0	**25**	**67**	2	**5**	**74**	0	0	72	72	0	**25**	**3**	**28**	
+15 mins.	11	1	0	12	58	2	1	61	0	1	67	68	0	19	2	21	
+30 mins.	4	**2**	0	6	64	**3**	4	71	0	0	**75**	**75**	0	16	3	19	
+45 mins.	2	1	0	3	58	0	4	62	**2**	**2**	71	75	0	2	2	4	
Total Volume	41	5	0	46	247	7	14	268	2	3	285	290	0	62	10	72	
% App. Total	89.1	10.9	0		92.2	2.6	5.2		0.7	1	98.3		0	86.1	13.9		
PHF	.427	.625	.000	.460	.922	.583	.700	.905	.250	.375	.950	.967	.000	.620	.833	.643	

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Groups Printed- Passenger Vehicles

	Harvill Avenue Southbound					Harley Knox Boulevard Westbound					Harvill Avenue Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	22	1	0	0	23	60	2	5	0	67	0	0	68	51	68	0	24	3	0	27	51	185	236
04:15 PM	11	1	0	0	12	50	1	1	0	52	0	1	64	45	65	0	19	2	0	21	45	150	195
04:30 PM	3	2	0	0	5	55	3	2	1	60	0	0	60	53	60	0	16	3	1	19	55	144	199
04:45 PM	1	0	0	0	1	56	0	4	0	60	1	0	61	40	62	0	1	1	0	2	40	125	165
Total	37	4	0	0	41	221	6	12	1	239	1	1	253	189	255	0	60	9	1	69	191	604	795
05:00 PM	3	0	0	0	3	54	0	1	0	55	0	0	62	55	62	0	7	2	1	9	56	129	185
05:15 PM	1	1	0	0	2	45	1	1	1	47	0	0	61	55	61	0	8	1	1	9	57	119	176
05:30 PM	3	0	0	0	3	41	0	1	0	42	0	0	72	62	72	0	12	1	0	13	62	130	192
05:45 PM	5	2	0	0	7	36	3	2	0	41	1	2	68	66	71	0	9	0	0	9	66	128	194
Total	12	3	0	0	15	176	4	5	1	185	1	2	263	238	266	0	36	4	2	40	241	506	747
Grand Total	49	7	0	0	56	397	10	17	2	424	2	3	516	427	521	0	96	13	3	109	432	1110	1542
Apprch %	87.5	12.5	0			93.6	2.4	4			0.4	0.6	99			0	88.1	11.9					
Total %	4.4	0.6	0		5	35.8	0.9	1.5		38.2	0.2	0.3	46.5		46.9	0	8.6	1.2		9.8	28	72	

3.1-22

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**22**	1	0	**23**	**60**	2	**5**	**67**	0	0	**68**	**68**	0	**24**	**3**	**27**	**185**
04:15 PM	11	1	0	12	50	1	1	52	0	**1**	64	65	0	19	2	21	150
04:30 PM	3	**2**	0	5	55	**3**	2	60	0	0	60	60	0	16	3	19	144
04:45 PM	1	0	0	1	56	0	4	60	**1**	0	61	62	0	1	1	2	125
Total Volume	37	4	0	41	221	6	12	239	1	1	253	255	0	60	9	69	604
% App. Total	90.2	9.8	0		92.5	2.5	5		0.4	0.4	99.2		0	87	13		
PHF	.420	.500	.000	.446	.921	.500	.600	.892	.250	.250	.930	.938	.000	.625	.750	.639	.816

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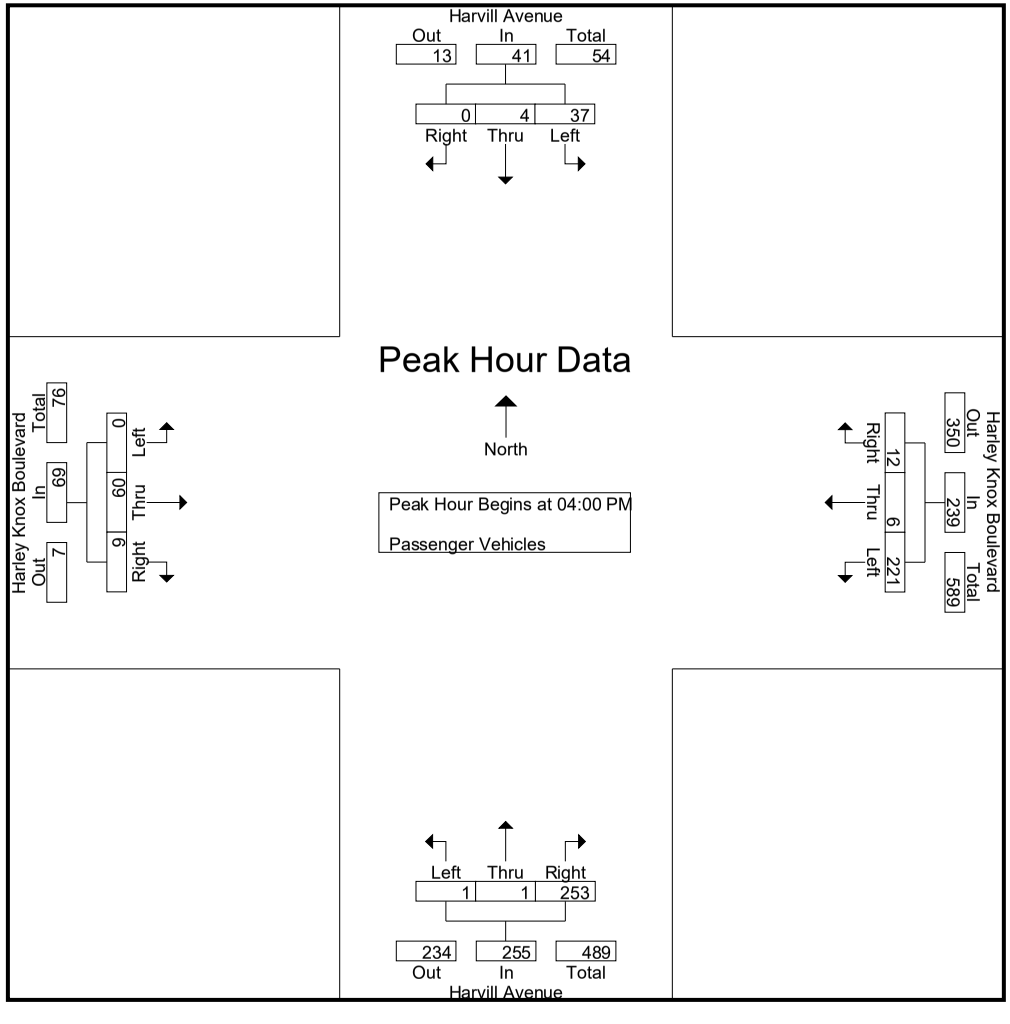

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E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	**22**	1	0	**23**	**60**	2	**5**	**67**	0	0	**68**	**68**	0	**24**	**3**	**27**	
+15 mins.	11	1	0	12	50	1	1	52	0	**1**	64	65	0	19	2	21	
+30 mins.	3	**2**	0	5	55	**3**	2	60	0	0	60	60	0	16	3	19	
+45 mins.	1	0	0	1	56	0	4	60	**1**	0	61	62	0	1	1	2	
Total Volume	37	4	0	41	221	6	12	239	1	1	253	255	0	60	9	69	
% App. Total	90.2	9.8	0		92.5	2.5	5		0.4	0.4	99.2		0	87	13		
PHF	.420	.500	.000	.446	.921	.500	.600	.892	.250	.250	.930	.938	.000	.625	.750	.639	

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

County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Harvill Avenue Southbound					Harley Knox Boulevard Westbound					Harvill Avenue Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	2	1	2	0	0	0	0	0	1	3	4
04:15 PM	0	0	0	0	0	4	1	0	0	5	0	0	2	2	2	0	0	0	0	0	2	7	9
04:30 PM	0	0	0	0	0	2	0	2	0	4	0	1	1	1	2	0	0	0	0	0	1	6	7
04:45 PM	0	1	0	0	1	2	0	0	0	2	0	0	1	1	1	0	1	0	0	1	1	5	6
Total	0	1	0	0	1	9	1	2	0	12	0	1	6	5	7	0	1	0	0	1	5	21	26
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	1	1	1	0	0	0	0	0	1	2	3
05:15 PM	1	0	0	0	1	3	0	0	0	3	0	1	1	0	2	0	0	0	0	0	0	6	6
05:30 PM	1	1	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	3
05:45 PM	1	0	0	0	1	2	0	1	0	3	0	0	2	2	2	0	0	0	0	0	2	6	8
Total	3	1	0	0	4	7	0	1	0	8	0	1	4	3	5	0	0	0	0	0	3	17	20
Grand Total	3	2	0	0	5	16	1	3	0	20	0	2	10	8	12	0	1	0	0	1	8	38	46
Apprch %	60	40	0			80	5	15			0	16.7	83.3			0	100	0					
Total %	7.9	5.3	0		13.2	42.1	2.6	7.9		52.6	0	5.3	26.3		31.6	0	2.6	0		2.6	17.4	82.6	

3.1-25

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	1	0	0	1	0	0	**2**	**2**	0	0	0	0	3
04:15 PM	0	0	0	0	**4**	**1**	0	**5**	0	0	2	2	0	0	0	0	**7**
04:30 PM	0	0	0	0	2	0	**2**	4	0	**1**	1	2	0	0	0	0	6
04:45 PM	0	**1**	0	**1**	2	0	0	2	0	0	1	1	0	**1**	0	**1**	5
Total Volume	0	1	0	1	9	1	2	12	0	1	6	7	0	1	0	1	21
% App. Total	0	100	0		75	8.3	16.7		0	14.3	85.7		0	100	0		
PHF	.000	.250	.000	.250	.563	.250	.250	.600	.000	.250	.750	.875	.000	.250	.000	.250	.750

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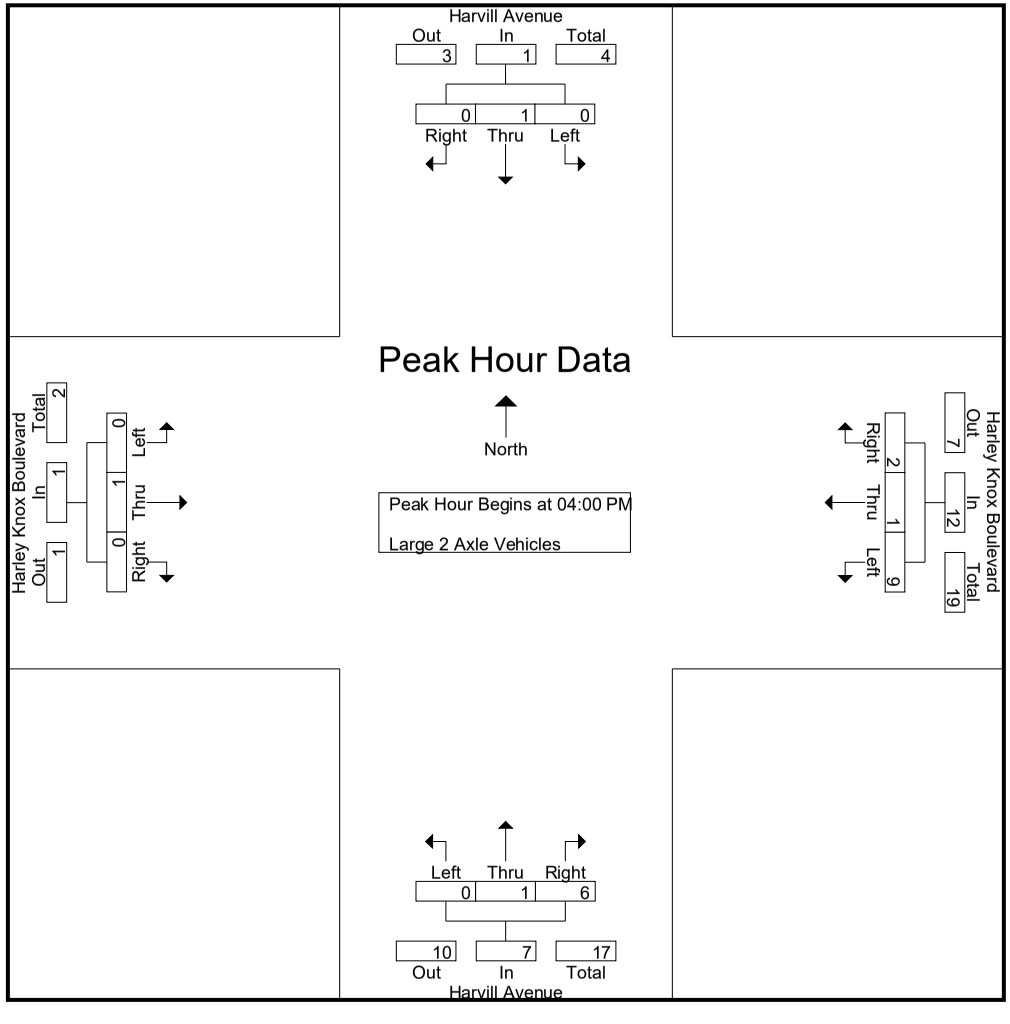
County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	1	0	0	1	0	0	**2**	**2**	0	0	0	0	
+15 mins.	0	0	0	0	**4**	**1**	0	**5**	0	0	2	2	0	0	0	0	
+30 mins.	0	0	0	0	2	0	**2**	4	0	**1**	1	2	0	0	0	0	
+45 mins.	0	**1**	0	**1**	2	0	0	2	0	0	1	1	0	**1**	0	**1**	
Total Volume	0	1	0	1	9	1	2	12	0	1	6	7	0	1	0	1	
% App. Total	0	100	0		75	8.3	16.7		0	14.3	85.7		0	100	0		
PHF	.000	.250	.000	.250	.563	.250	.250	.600	.000	.250	.750	.875	.000	.250	.000	.250	

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County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- 3 Axle Vehicles

	Harvill Avenue Southbound					Harley Knox Boulevard Westbound					Harvill Avenue Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	0	0	2	0	0	2	0	2	0	0	0	0	0	0	4	4
05:00 PM	0	0	0	0	0	2	0	0	0	2	0	0	6	5	6	0	0	0	0	0	5	8	13
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	0	0	0	0	0	1	2	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	1	1	1	0	0	0	0	0	1	2	3
Total	0	0	0	0	0	3	0	0	0	3	0	0	10	7	10	0	0	0	0	0	7	13	20
Grand Total	0	0	0	0	0	5	0	0	0	5	0	0	12	7	12	0	0	0	0	0	7	17	24
Apprch %	0	0	0			100	0	0			0	0	100			0	0	0					
Total %	0	0	0		0	29.4	0	0		29.4	0	0	70.6		70.6	0	0	0		0	29.2	70.8	

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	**1**	0	0	**1**	0	0	**1**	**1**	0	0	0	0	**2**
04:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
04:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	2	0	0	2	0	0	2	2	0	0	0	0	4
% App. Total	0	0	0		100	0	0		0	0	100		0	0	0		
PHF	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.500	.500	.000	.000	.000	.000	.500

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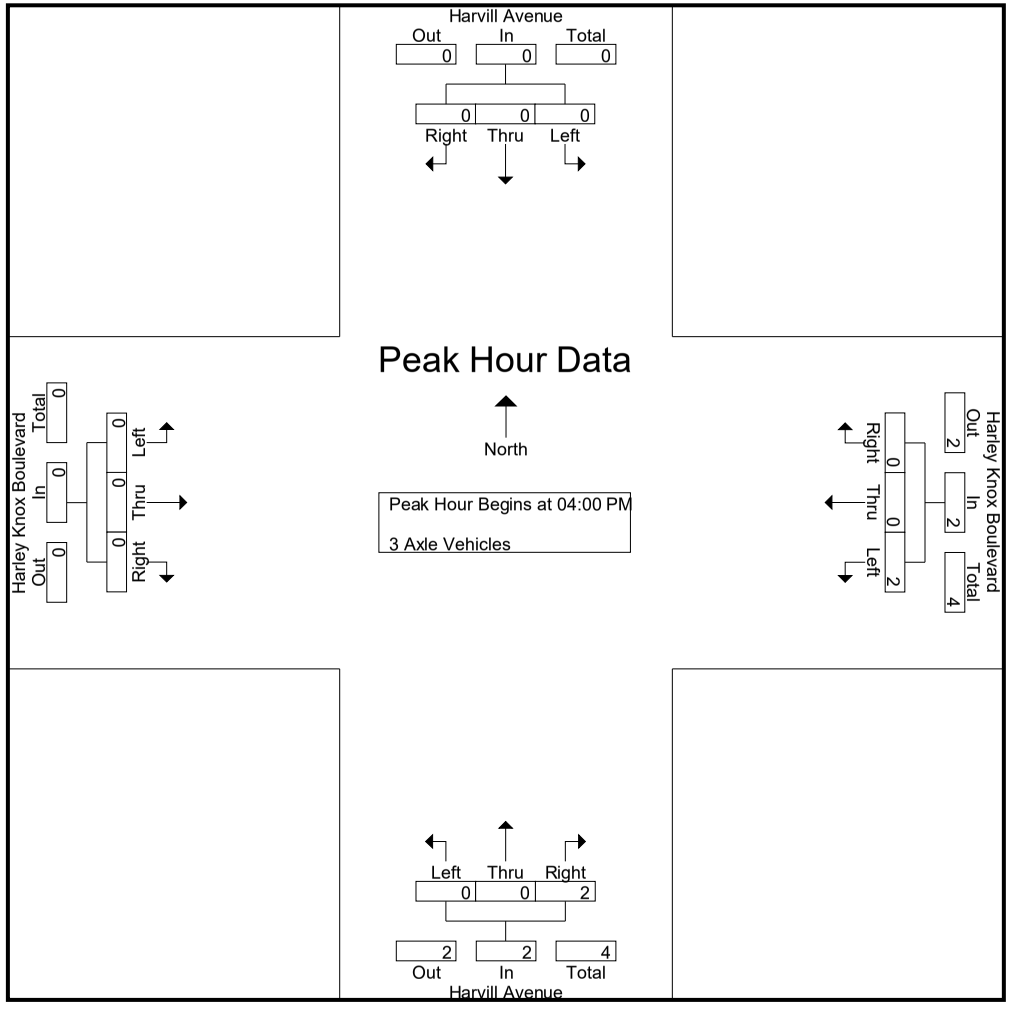
County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	**1**	0	0	**1**	0	0	**1**	**1**	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	
+30 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	2	0	0	2	0	0	2	2	0	0	0	0	
% App. Total	0	0	0		100	0	0		0	0	100		0	0	0		
PHF	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.500	.500	.000	.000	.000	.000	

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County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- 4+ Axle Trucks

	Harvill Avenue Southbound					Harley Knox Boulevard Westbound					Harvill Avenue Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	2	0	0	0	2	5	0	0	0	5	0	0	2	0	2	0	1	0	0	1	0	10	10
04:15 PM	0	0	0	0	0	4	0	0	0	4	1	0	2	1	3	0	0	0	0	0	1	7	8
04:30 PM	1	0	0	0	1	6	0	0	0	6	0	0	2	0	2	0	0	0	0	0	0	9	9
04:45 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	3	3
Total	4	0	0	0	4	15	0	0	0	15	2	0	6	1	8	0	1	1	0	2	1	29	30
05:00 PM	1	0	0	0	1	2	0	0	0	2	0	0	3	2	3	0	0	0	0	0	2	6	8
05:15 PM	0	0	0	0	0	3	1	1	0	5	0	0	3	2	3	1	0	0	0	1	2	9	11
05:30 PM	1	0	0	0	1	5	1	1	1	7	0	0	2	0	2	0	0	0	0	0	1	10	11
05:45 PM	0	1	0	0	1	4	0	0	0	4	1	0	0	0	1	0	0	0	0	0	0	6	6
Total	2	1	0	0	3	14	2	2	1	18	1	0	8	4	9	1	0	0	0	1	5	31	36
Grand Total	6	1	0	0	7	29	2	2	1	33	3	0	14	5	17	1	1	1	0	3	6	60	66
Apprch %	85.7	14.3	0			87.9	6.1	6.1			17.6	0	82.4			33.3	33.3	33.3					
Total %	10	1.7	0		11.7	48.3	3.3	3.3		55	5	0	23.3		28.3	1.7	1.7	1.7		5	9.1	90.9	

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**2**	0	0	**2**	5	0	0	5	0	0	**2**	2	0	**1**	0	**1**	**10**
04:15 PM	0	0	0	0	4	0	0	4	**1**	0	2	**3**	0	0	0	0	7
04:30 PM	1	0	0	1	**6**	0	0	**6**	0	0	2	2	0	0	0	0	9
04:45 PM	1	0	0	1	0	0	0	0	1	0	0	1	0	0	**1**	1	3
Total Volume	4	0	0	4	15	0	0	15	2	0	6	8	0	1	1	2	29
% App. Total	100	0	0		100	0	0		25	0	75		0	50	50		
PHF	.500	.000	.000	.500	.625	.000	.000	.625	.500	.000	.750	.667	.000	.250	.250	.500	.725

Counts Unlimited
PO Box 1178
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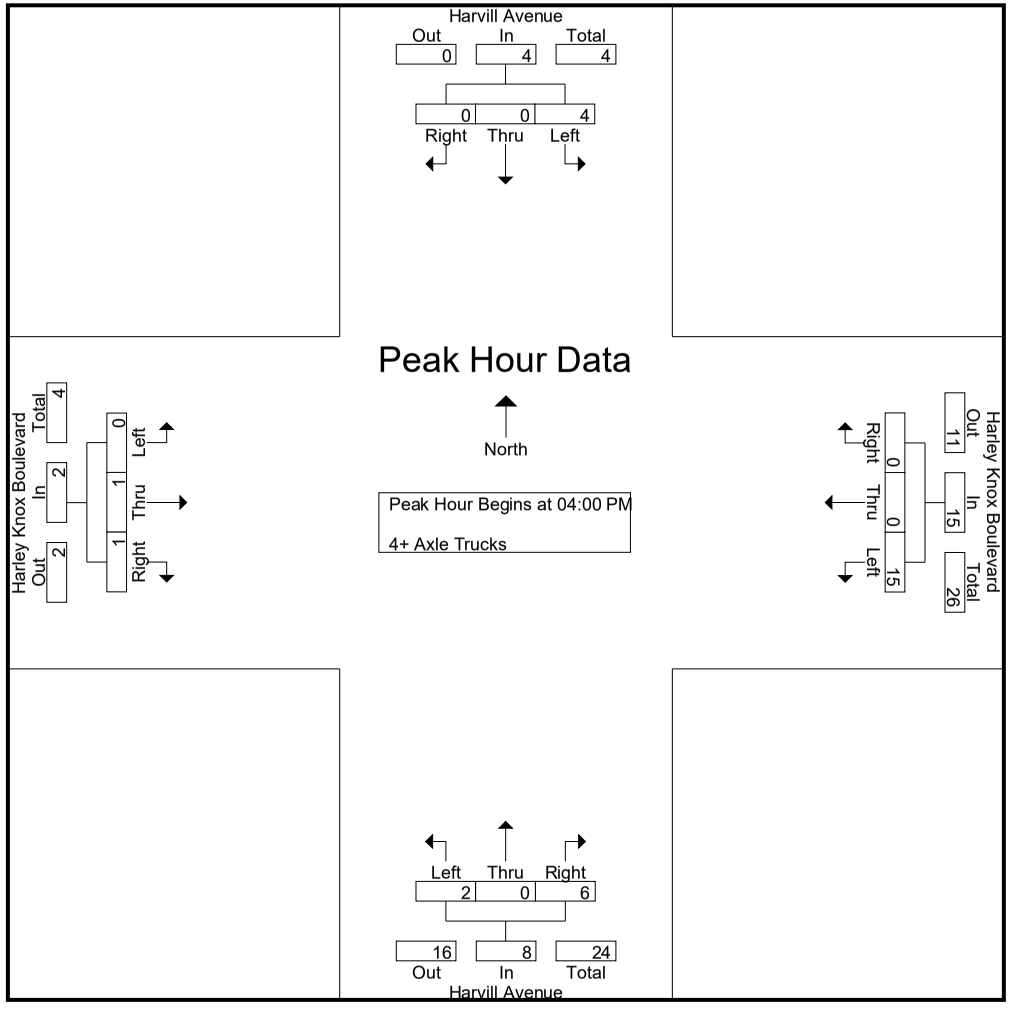
County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 01_CRV_Harvill_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	Harvill Avenue Southbound				Harley Knox Boulevard Westbound				Harvill Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	**2**	0	0	**2**	5	0	0	5	0	0	**2**	2	0	**1**	0	**1**	
+15 mins.	0	0	0	0	4	0	0	4	**1**	0	2	**3**	0	0	0	0	
+30 mins.	1	0	0	1	**6**	0	0	**6**	0	0	2	2	0	0	0	0	
+45 mins.	1	0	0	1	0	0	0	0	1	0	0	1	0	0	**1**	1	
Total Volume	4	0	0	4	15	0	0	15	2	0	6	8	0	1	1	2	
% App. Total	100	0	0		100	0	0		25	0	75		0	50	50		
PHF	.500	.000	.000	.500	.625	.000	.000	.625	.500	.000	.750	.667	.000	.250	.250	.500	

Location: County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard

Date: 9/25/2018
Day: Tuesday

PEDESTRIANS

	North Leg Harvill Avenue	East Leg Harley Knox Boulevard	South Leg Harvill Avenue	West Leg Harley Knox Boulevard	
	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 Harvill Avenue	East Leg Harley Knox Boulevard	South Leg Harvill Avenue	West Leg Harley Knox Boulevard	
	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	1	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

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

Location: County of Riverside
N/S: Harvill Avenue
E/W: Harley Knox Boulevard

Date: 9/25/2018
Day: Tuesday

BICYCLES

	Southbound Harvill Avenue			Westbound Harley Knox Boulevard			Northbound Harvill Avenue			Eastbound Harley Knox Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

	Southbound Harvill Avenue			Westbound Harley Knox Boulevard			Northbound Harvill Avenue			Eastbound Harley Knox Boulevard			
	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	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	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	1	0	0	0	0	0	0	0	0	1

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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

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

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	74	0	30	16	104	22	56	0	0	78	0	0	0	0	0	0	121	0	0	121	16	303	319
07:15 AM	72	2	33	14	107	15	21	0	0	36	0	0	0	0	0	0	123	1	0	124	14	267	281
07:30 AM	91	2	36	14	129	26	24	0	0	50	0	0	0	0	0	0	118	0	0	118	14	297	311
07:45 AM	78	0	27	17	105	24	15	0	0	39	0	0	0	0	0	0	121	0	0	121	17	265	282
Total	315	4	126	61	445	87	116	0	0	203	0	0	0	0	0	0	483	1	0	484	61	1132	1193
08:00 AM	65	1	31	14	97	12	24	0	0	36	0	0	0	0	0	0	77	2	1	79	15	212	227
08:15 AM	55	1	38	11	94	18	16	0	0	34	0	0	0	0	0	0	54	5	1	59	12	187	199
08:30 AM	65	1	33	8	99	23	18	0	0	41	0	0	0	0	0	0	34	2	1	36	9	176	185
08:45 AM	62	0	26	7	88	12	19	0	0	31	0	0	0	0	0	0	37	4	1	41	8	160	168
Total	247	3	128	40	378	65	77	0	0	142	0	0	0	0	0	0	202	13	4	215	44	735	779
Grand Total	562	7	254	101	823	152	193	0	0	345	0	0	0	0	0	0	685	14	4	699	105	1867	1972
Apprch %	68.3	0.9	30.9			44.1	55.9	0			0	0	0			0	98	2					
Total %	30.1	0.4	13.6		44.1	8.1	10.3	0		18.5	0	0	0		0	0	36.7	0.7		37.4	5.3	94.7	
Passenger Vehicles	418	4	204		717	105	182	0		287	0	0	0		0	0	637	11		652	0	0	1656
% Passenger Vehicles	74.4	57.1	80.3	90.1	77.6	69.1	94.3	0	0	83.2	0	0	0	0	0	0	93	78.6	100	92.7	0	0	84
Large 2 Axle Vehicles	34	3	5		43	14	5	0		19	0	0	0		0	0	16	0		16	0	0	78
% Large 2 Axle Vehicles	6	42.9	2	1	4.7	9.2	2.6	0	0	5.5	0	0	0	0	0	0	2.3	0	0	2.3	0	0	4
3 Axle Vehicles	17	0	5		23	9	3	0		12	0	0	0		0	0	9	1		10	0	0	45
% 3 Axle Vehicles	3	0	2	1	2.5	5.9	1.6	0	0	3.5	0	0	0	0	0	0	1.3	7.1	0	1.4	0	0	2.3
4+ Axle Trucks	93	0	40		141	24	3	0		27	0	0	0		0	0	23	2		25	0	0	193
% 4+ Axle Trucks	16.5	0	15.7	7.9	15.3	15.8	1.6	0	0	7.8	0	0	0	0	0	0	3.4	14.3	0	3.6	0	0	9.8

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	74	0	30	104	22	**56**	0	**78**	0	0	0	0	0	121	0	121	**303**
07:15 AM	72	**2**	33	107	15	21	0	36	0	0	0	0	0	**123**	**1**	**124**	267
07:30 AM	**91**	2	**36**	**129**	**26**	24	0	50	0	0	0	0	0	118	0	118	297
07:45 AM	78	0	27	105	24	15	0	39	0	0	0	0	0	121	0	121	265
Total Volume	315	4	126	445	87	116	0	203	0	0	0	0	0	483	1	484	1132
% App. Total	70.8	0.9	28.3		42.9	57.1	0		0	0	0		0	99.8	0.2		
PHF	.865	.500	.875	.862	.837	.518	.000	.651	.000	.000	.000	.000	.000	.982	.250	.976	.934

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County of Riverside
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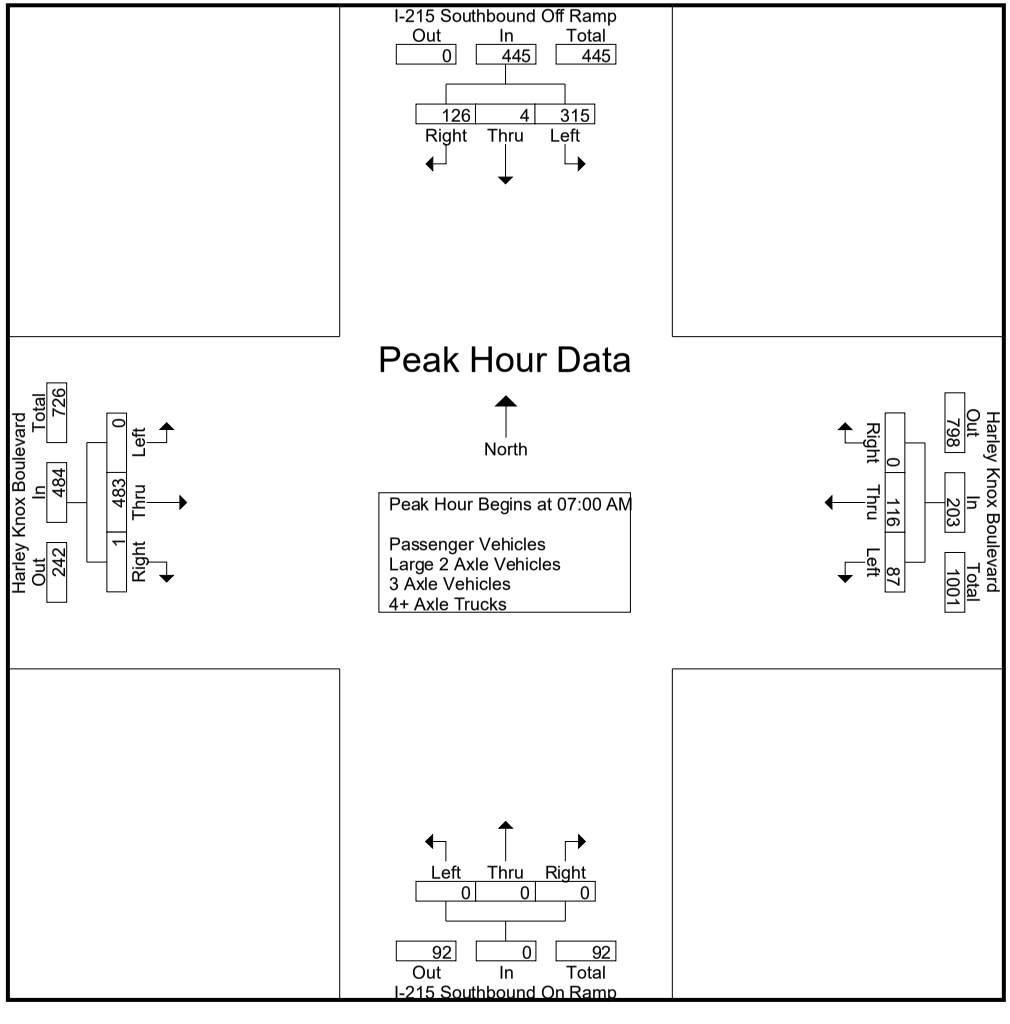
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	74	0	30	104	22	**56**	0	**78**	0	0	0	0	0	121	0	121	
+15 mins.	72	**2**	33	107	15	21	0	36	0	0	0	0	0	**123**	**1**	**124**	
+30 mins.	**91**	2	**36**	**129**	**26**	24	0	50	0	0	0	0	0	118	0	118	
+45 mins.	78	0	27	105	24	15	0	39	0	0	0	0	0	121	0	121	
Total Volume	315	4	126	445	87	116	0	203	0	0	0	0	0	483	1	484	
% App. Total	70.8	0.9	28.3		42.9	57.1	0		0	0	0		0	99.8	0.2		
PHF	.865	.500	.875	.862	.837	.518	.000	.651	.000	.000	.000	.000	.000	.982	.250	.976	

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Groups Printed- Passenger Vehicles

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	57	0	24	13	81	16	54	0	0	70	0	0	0	0	0	0	114	0	0	114	13	265	278
07:15 AM	60	1	29	13	90	10	20	0	0	30	0	0	0	0	0	0	120	0	0	120	13	240	253
07:30 AM	72	1	31	12	104	23	23	0	0	46	0	0	0	0	0	0	110	0	0	110	12	260	272
07:45 AM	60	0	25	16	85	15	14	0	0	29	0	0	0	0	0	0	118	0	0	118	16	232	248
Total	249	2	109	54	360	64	111	0	0	175	0	0	0	0	0	0	462	0	0	462	54	997	1051
08:00 AM	43	0	25	13	68	5	24	0	0	29	0	0	0	0	0	0	70	2	1	72	14	169	183
08:15 AM	39	1	27	10	67	13	14	0	0	27	0	0	0	0	0	0	46	4	1	50	11	144	155
08:30 AM	45	1	23	7	69	16	17	0	0	33	0	0	0	0	0	0	31	2	1	33	8	135	143
08:45 AM	42	0	20	7	62	7	16	0	0	23	0	0	0	0	0	0	28	3	1	31	8	116	124
Total	169	2	95	37	266	41	71	0	0	112	0	0	0	0	0	0	175	11	4	186	41	564	605
Grand Total	418	4	204	91	626	105	182	0	0	287	0	0	0	0	0	0	637	11	4	648	95	1561	1656
Apprch %	66.8	0.6	32.6			36.6	63.4	0			0	0	0			0	98.3	1.7					
Total %	26.8	0.3	13.1		40.1	6.7	11.7	0		18.4	0	0	0		0	0	40.8	0.7		41.5	5.7	94.3	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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 Entire Intersection Begins at 07:00 AM																	
07:00 AM	57	0	24	81	16	**54**	0	**70**	0	0	0	0	0	114	0	114	**265**
07:15 AM	60	**1**	29	90	10	20	0	30	0	0	0	0	0	**120**	0	**120**	240
07:30 AM	**72**	1	**31**	**104**	**23**	23	0	46	0	0	0	0	0	110	0	110	260
07:45 AM	60	0	25	85	15	14	0	29	0	0	0	0	0	118	0	118	232
Total Volume	249	2	109	360	64	111	0	175	0	0	0	0	0	462	0	462	997
% App. Total	69.2	0.6	30.3		36.6	63.4	0		0	0	0		0	100	0		
PHF	.865	.500	.879	.865	.696	.514	.000	.625	.000	.000	.000	.000	.000	.963	.000	.963	.941

Counts Unlimited
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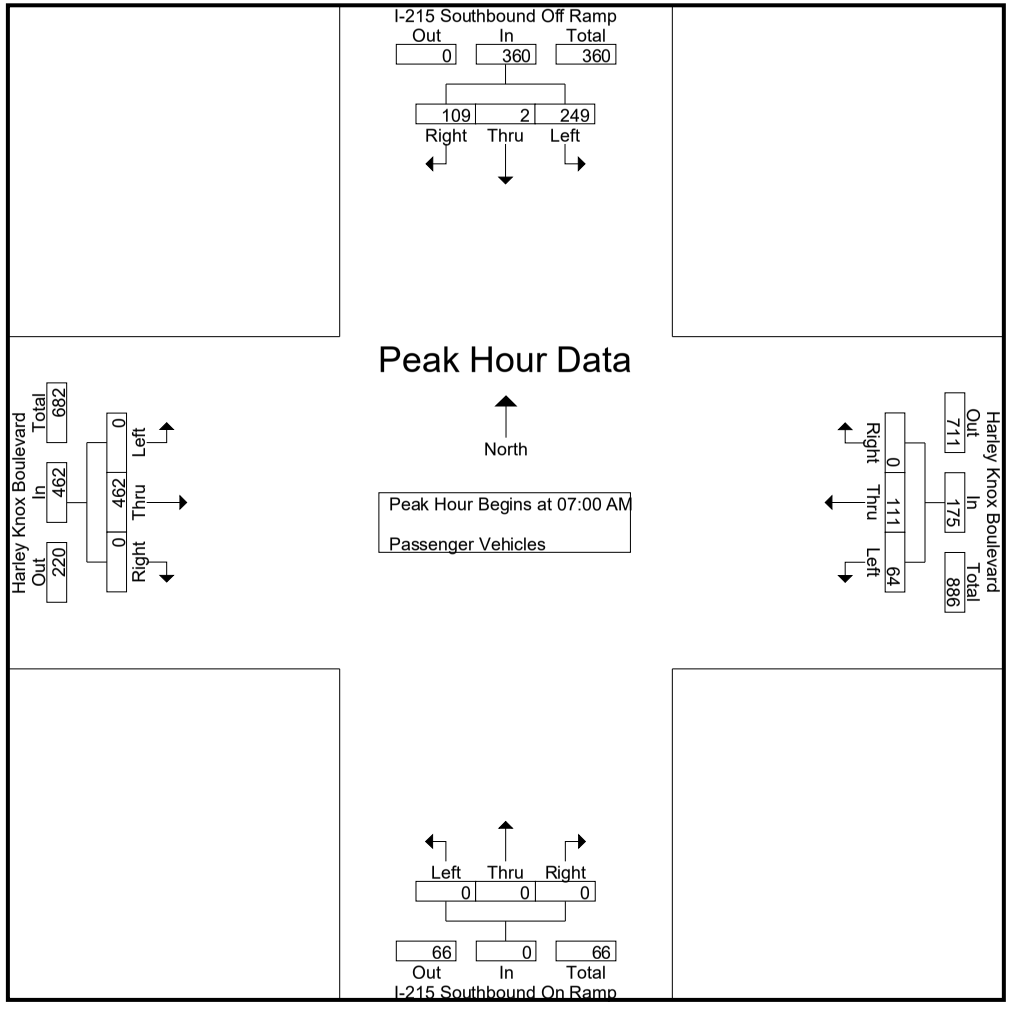

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	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	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.	57	0	24	81	16	**54**	0	**70**	0	0	0	0	0	114	0	114	
+15 mins.	60	**1**	29	90	10	20	0	30	0	0	0	0	0	**120**	0	**120**	
+30 mins.	**72**	1	**31**	**104**	**23**	23	0	46	0	0	0	0	0	110	0	110	
+45 mins.	60	0	25	85	15	14	0	29	0	0	0	0	0	118	0	118	
Total Volume	249	2	109	360	64	111	0	175	0	0	0	0	0	462	0	462	
% App. Total	69.2	0.6	30.3		36.6	63.4	0		0	0	0		0	100	0		
PHF	.865	.500	.879	.865	.696	.514	.000	.625	.000	.000	.000	.000	.000	.963	.000	.963	

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Groups Printed- Large 2 Axle Vehicles

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	4	0	1	1	5	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	1	9	10
07:15 AM	3	1	0	0	4	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	6	6
07:30 AM	5	1	0	0	6	1	1	0	0	2	0	0	0	0	0	0	5	0	0	5	0	13	13
07:45 AM	1	0	0	0	1	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	4
Total	13	2	1	1	16	5	3	0	0	8	0	0	0	0	0	0	8	0	0	8	1	32	33
08:00 AM	4	1	1	0	6	2	0	0	0	2	0	0	0	0	0	0	2	0	0	2	0	10	10
08:15 AM	5	0	2	0	7	4	1	0	0	5	0	0	0	0	0	0	4	0	0	4	0	16	16
08:30 AM	6	0	0	0	6	3	1	0	0	4	0	0	0	0	0	0	1	0	0	1	0	11	11
08:45 AM	6	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	8	8
Total	21	1	4	0	26	9	2	0	0	11	0	0	0	0	0	0	8	0	0	8	0	45	45
Grand Total	34	3	5	1	42	14	5	0	0	19	0	0	0	0	0	0	16	0	0	16	1	77	78
Apprch %	81	7.1	11.9			73.7	26.3	0			0	0	0			0	100	0					
Total %	44.2	3.9	6.5		54.5	18.2	6.5	0		24.7	0	0	0		0	0	20.8	0		20.8	1.3	98.7	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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 Entire Intersection Begins at 07:00 AM																	
07:00 AM	4	0	**1**	5	1	**1**	0	2	0	0	0	0	0	2	0	2	9
07:15 AM	3	**1**	0	4	0	1	0	1	0	0	0	0	0	1	0	1	6
07:30 AM	**5**	1	0	**6**	1	1	0	2	0	0	0	0	0	**5**	0	**5**	**13**
07:45 AM	1	0	0	1	**3**	0	0	**3**	0	0	0	0	0	0	0	0	4
Total Volume	13	2	1	16	5	3	0	8	0	0	0	0	0	8	0	8	32
% App. Total	81.2	12.5	6.2		62.5	37.5	0		0	0	0		0	100	0		
PHF	.650	.500	.250	.667	.417	.750	.000	.667	.000	.000	.000	.000	.000	.400	.000	.400	.615

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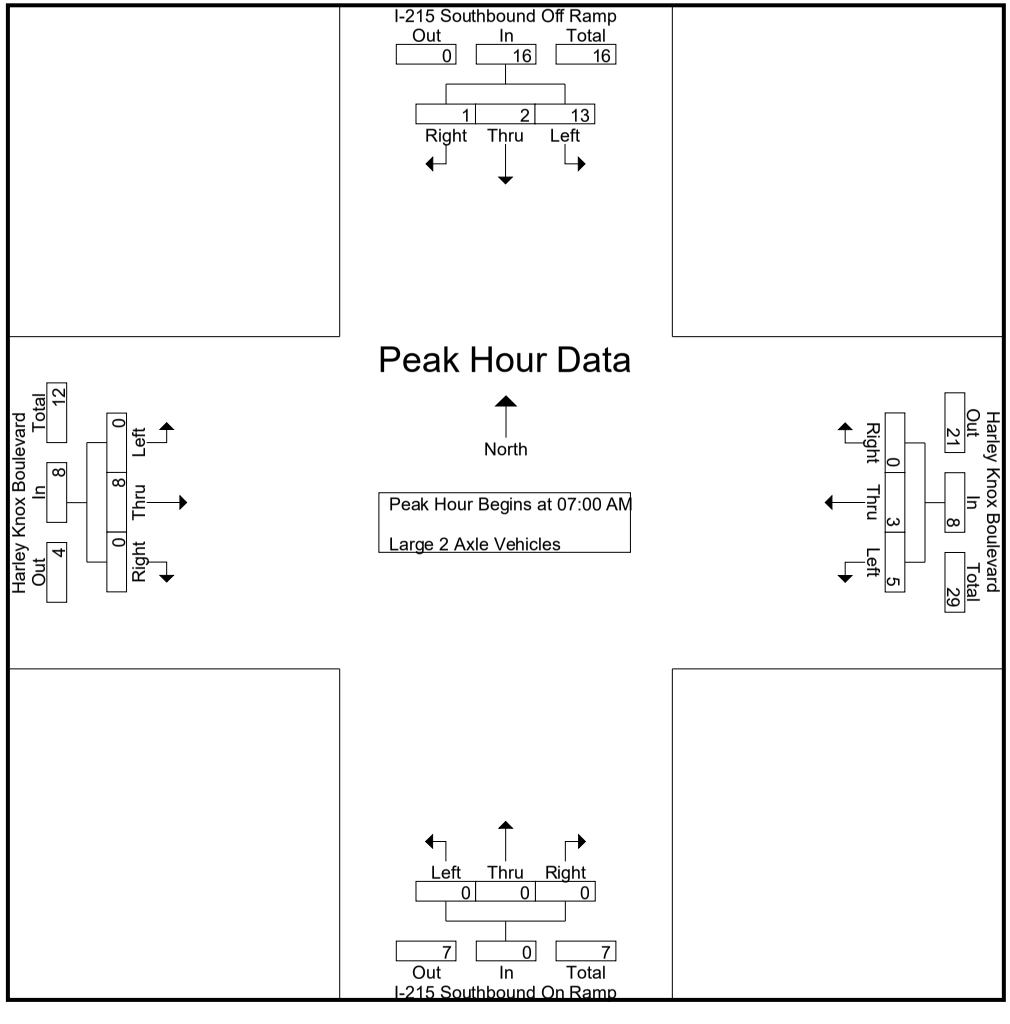

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	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	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.	4	0	**1**	5	1	**1**	0	2	0	0	0	0	0	2	0	2	
+15 mins.	3	**1**	0	4	0	1	0	1	0	0	0	0	0	1	0	1	
+30 mins.	**5**	1	0	**6**	1	1	0	2	0	0	0	0	0	**5**	0	**5**	
+45 mins.	1	0	0	1	**3**	0	0	**3**	0	0	0	0	0	0	0	0	
Total Volume	13	2	1	16	5	3	0	8	0	0	0	0	0	8	0	8	
% App. Total	81.2	12.5	6.2		62.5	37.5	0		0	0	0		0	100	0		
PHF	.650	.500	.250	.667	.417	.750	.000	.667	.000	.000	.000	.000	.000	.400	.000	.400	

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Groups Printed- 3 Axle Vehicles

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	3	3
07:15 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
07:30 AM	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	5	5
07:45 AM	3	0	0	0	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	4
Total	7	0	1	0	8	3	1	0	0	4	0	0	0	0	0	0	2	0	0	2	0	14	14
08:00 AM	2	0	1	0	3	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	6	6
08:15 AM	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	5	5
08:30 AM	5	0	1	1	6	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	1	9	10
08:45 AM	2	0	0	0	2	3	2	0	0	5	0	0	0	0	0	0	3	0	0	3	0	10	10
Total	10	0	4	1	14	6	2	0	0	8	0	0	0	0	0	0	7	1	0	8	1	30	31
Grand Total	17	0	5	1	22	9	3	0	0	12	0	0	0	0	0	0	9	1	0	10	1	44	45
Apprch %	77.3	0	22.7			75	25	0			0	0	0			0	90	10					
Total %	38.6	0	11.4		50	20.5	6.8	0		27.3	0	0	0		0	0	20.5	2.3		22.7	2.2	97.8	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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 Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	**1**	**1**	0	**2**	0	0	0	0	0	**1**	0	**1**	3
07:15 AM	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
07:30 AM	**3**	0	**1**	**4**	0	0	0	0	0	0	0	0	0	1	0	1	**5**
07:45 AM	3	0	0	3	1	0	0	1	0	0	0	0	0	0	0	0	4
Total Volume	7	0	1	8	3	1	0	4	0	0	0	0	0	2	0	2	14
% App. Total	87.5	0	12.5		75	25	0		0	0	0		0	100	0		
PHF	.583	.000	.250	.500	.750	.250	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500	.700

Counts Unlimited
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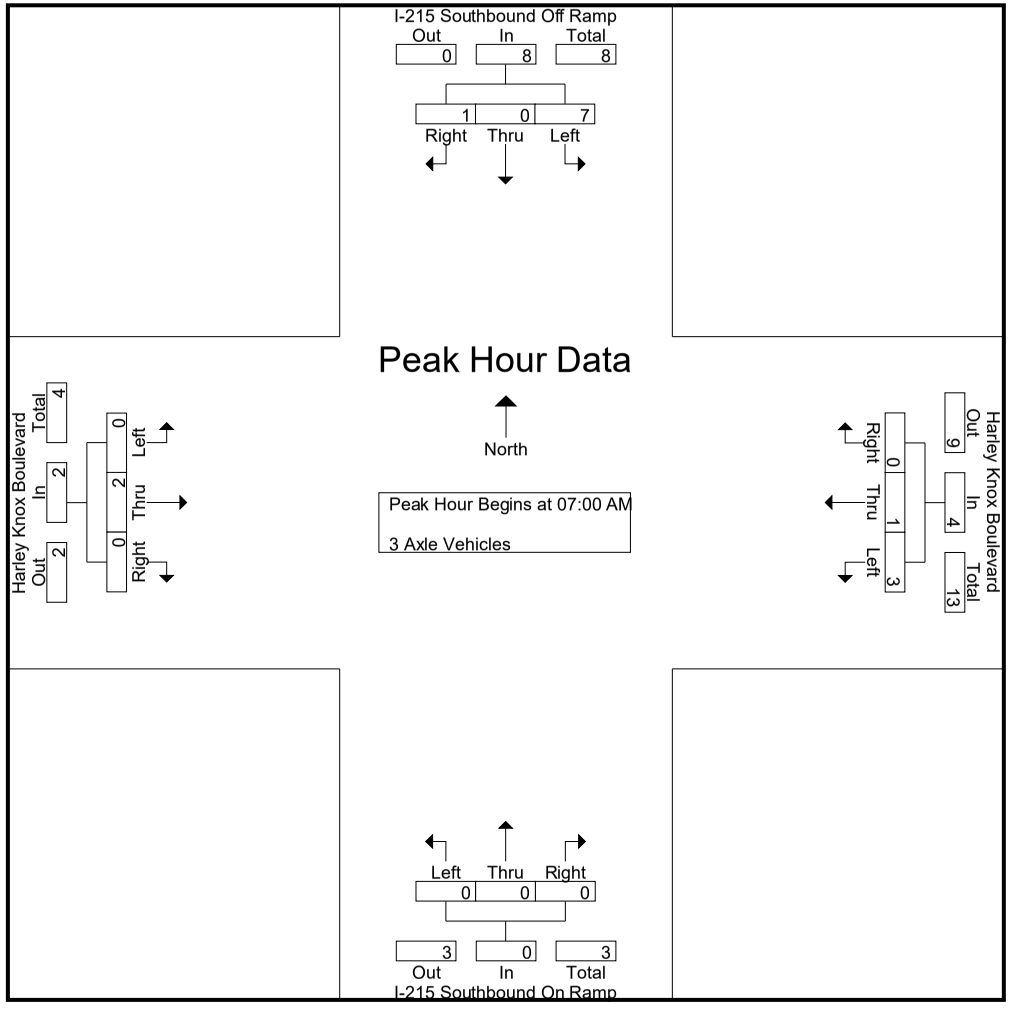
County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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	**1**	**1**	0	**2**	0	0	0	0	0	**1**	0	**1**	
+15 mins.	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	
+30 mins.	**3**	0	**1**	**4**	0	0	0	0	0	0	0	0	0	1	0	1	
+45 mins.	3	0	0	3	1	0	0	1	0	0	0	0	0	0	0	0	
Total Volume	7	0	1	8	3	1	0	4	0	0	0	0	0	2	0	2	
% App. Total	87.5	0	12.5		75	25	0		0	0	0		0	100	0		
PHF	.583	.000	.250	.500	.750	.250	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500	

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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- 4+ Axle Trucks

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	13	0	5	2	18	4	0	0	0	4	0	0	0	0	0	0	4	0	0	4	2	26	28
07:15 AM	8	0	4	1	12	4	0	0	0	4	0	0	0	0	0	0	2	1	0	3	1	19	20
07:30 AM	11	0	4	2	15	2	0	0	0	2	0	0	0	0	0	0	2	0	0	2	2	19	21
07:45 AM	14	0	2	1	16	5	1	0	0	6	0	0	0	0	0	0	3	0	0	3	1	25	26
Total	46	0	15	6	61	15	1	0	0	16	0	0	0	0	0	0	11	1	0	12	6	89	95
08:00 AM	16	0	4	1	20	4	0	0	0	4	0	0	0	0	0	0	3	0	0	3	1	27	28
08:15 AM	10	0	7	1	17	1	1	0	0	2	0	0	0	0	0	0	3	0	0	3	1	22	23
08:30 AM	9	0	9	0	18	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	21	21
08:45 AM	12	0	5	0	17	2	1	0	0	3	0	0	0	0	0	0	5	1	0	6	0	26	26
Total	47	0	25	2	72	9	2	0	0	11	0	0	0	0	0	0	12	1	0	13	2	96	98
Grand Total	93	0	40	8	133	24	3	0	0	27	0	0	0	0	0	0	23	2	0	25	8	185	193
Apprch %	69.9	0	30.1			88.9	11.1	0			0	0	0			0	92	8					
Total %	50.3	0	21.6		71.9	13	1.6	0		14.6	0	0	0		0	0	12.4	1.1		13.5	4.1	95.9	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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 Entire Intersection Begins at 07:00 AM																	
07:00 AM	13	0	**5**	**18**	4	0	0	4	0	0	0	0	0	**4**	0	**4**	**26**
07:15 AM	8	0	4	12	4	0	0	4	0	0	0	0	0	2	**1**	3	19
07:30 AM	11	0	4	15	2	0	0	2	0	0	0	0	0	2	0	2	19
07:45 AM	**14**	0	2	16	**5**	**1**	0	**6**	0	0	0	0	0	3	0	3	25
Total Volume	46	0	15	61	15	1	0	16	0	0	0	0	0	11	1	12	89
% App. Total	75.4	0	24.6		93.8	6.2	0		0	0	0		0	91.7	8.3		
PHF	.821	.000	.750	.847	.750	.250	.000	.667	.000	.000	.000	.000	.000	.688	.250	.750	.856

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County of Riverside
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Weather: Clear

File Name : 02_CRV_215S_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
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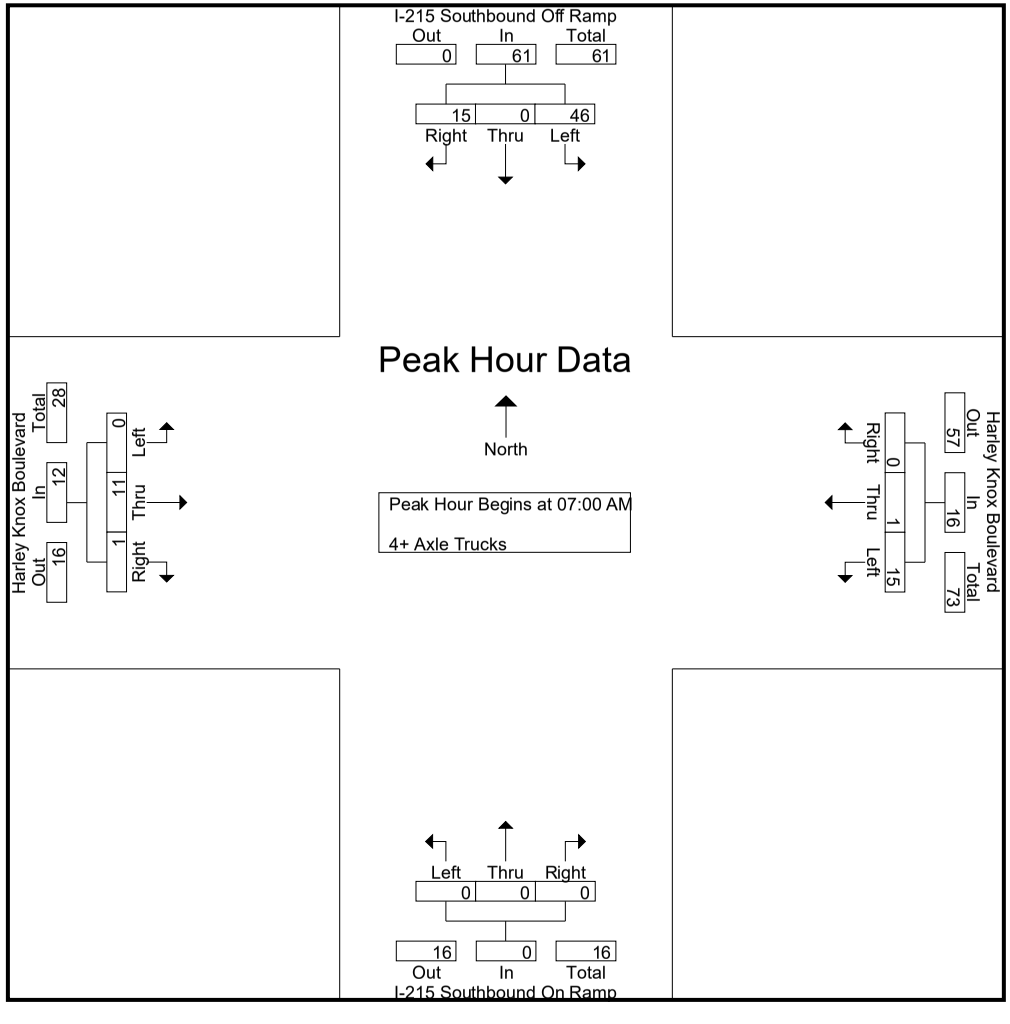

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County of Riverside
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File Name : 02_CRV_215S_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
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	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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.	13	0	**5**	**18**	4	0	0	4	0	0	0	0	0	**4**	0	**4**	
+15 mins.	8	0	4	12	4	0	0	4	0	0	0	0	0	2	**1**	3	
+30 mins.	11	0	4	15	2	0	0	2	0	0	0	0	0	2	0	2	
+45 mins.	**14**	0	2	16	**5**	**1**	0	**6**	0	0	0	0	0	3	0	3	
Total Volume	46	0	15	61	15	1	0	16	0	0	0	0	0	11	1	12	
% App. Total	75.4	0	24.6		93.8	6.2	0		0	0	0		0	91.7	8.3		
PHF	.821	.000	.750	.847	.750	.250	.000	.667	.000	.000	.000	.000	.000	.688	.250	.750	

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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018

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

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	51	3	40	22	94	46	36	0	0	82	0	0	0	0	0	0	105	29	16	134	38	310	348
04:15 PM	66	1	40	16	107	42	24	0	0	66	0	0	0	0	0	0	95	10	6	105	22	278	300
04:30 PM	54	0	34	19	88	72	33	0	0	105	0	0	0	0	0	0	77	9	1	86	20	279	299
04:45 PM	40	1	29	19	70	52	33	0	0	85	0	0	0	0	0	0	69	2	1	71	20	226	246
Total	211	5	143	76	359	212	126	0	0	338	0	0	0	0	0	0	346	50	24	396	100	1093	1193
05:00 PM	56	2	31	14	89	47	31	0	0	78	0	0	0	0	0	0	75	3	1	78	15	245	260
05:15 PM	48	1	33	17	82	45	25	0	0	70	0	0	0	0	0	0	69	4	2	73	19	225	244
05:30 PM	67	1	25	11	93	31	26	0	0	57	0	0	0	0	0	0	93	7	3	100	14	250	264
05:45 PM	63	1	26	15	90	33	25	0	0	58	0	0	0	0	0	0	87	9	5	96	20	244	264
Total	234	5	115	57	354	156	107	0	0	263	0	0	0	0	0	0	324	23	11	347	68	964	1032
Grand Total	445	10	258	133	713	368	233	0	0	601	0	0	0	0	0	0	670	73	35	743	168	2057	2225
Apprch %	62.4	1.4	36.2			61.2	38.8	0			0	0	0			0	90.2	9.8					
Total %	21.6	0.5	12.5		34.7	17.9	11.3	0		29.2	0	0	0		0	0	32.6	3.5		36.1	7.6	92.4	
Passenger Vehicles	364	10	215		715	344	215	0		559	0	0	0		0	0	624	71		730	0	0	2004
% Passenger Vehicles	81.8	100	83.3	94.7	84.5	93.5	92.3	0	0	93	0	0	0	0	0	0	93.1	97.3	100	93.8	0	0	90.1
Large 2 Axle Vehicles	11	0	13		29	12	7	0		19	0	0	0		0	0	11	0		11	0	0	59
% Large 2 Axle Vehicles	2.5	0	5	3.8	3.4	3.3	3	0	0	3.2	0	0	0	0	0	0	1.6	0	0	1.4	0	0	2.7
3 Axle Vehicles	13	0	3		17	3	4	0		7	0	0	0		0	0	14	1		15	0	0	39
% 3 Axle Vehicles	2.9	0	1.2	0.8	2	0.8	1.7	0	0	1.2	0	0	0	0	0	0	2.1	1.4	0	1.9	0	0	1.8
4+ Axle Trucks	57	0	27		85	9	7	0		16	0	0	0		0	0	21	1		22	0	0	123
% 4+ Axle Trucks	12.8	0	10.5	0.8	10	2.4	3	0	0	2.7	0	0	0	0	0	0	3.1	1.4	0	2.8	0	0	5.5

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	51	**3**	**40**	94	46	**36**	0	82	0	0	0	0	0	**105**	**29**	**134**	**310**
04:15 PM	**66**	1	40	**107**	42	24	0	66	0	0	0	0	0	95	10	105	278
04:30 PM	54	0	34	88	**72**	33	0	**105**	0	0	0	0	0	77	9	86	279
04:45 PM	40	1	29	70	52	33	0	85	0	0	0	0	0	69	2	71	226
Total Volume	211	5	143	359	212	126	0	338	0	0	0	0	0	346	50	396	1093
% App. Total	58.8	1.4	39.8		62.7	37.3	0		0	0	0		0	87.4	12.6		
PHF	.799	.417	.894	.839	.736	.875	.000	.805	.000	.000	.000	.000	.000	.824	.431	.739	.881

Counts Unlimited
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County of Riverside
N/S: I-215 Southbound Ramps
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File Name : 02_CRV_215S_Harley Knox PM
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Start Date : 9/25/2018
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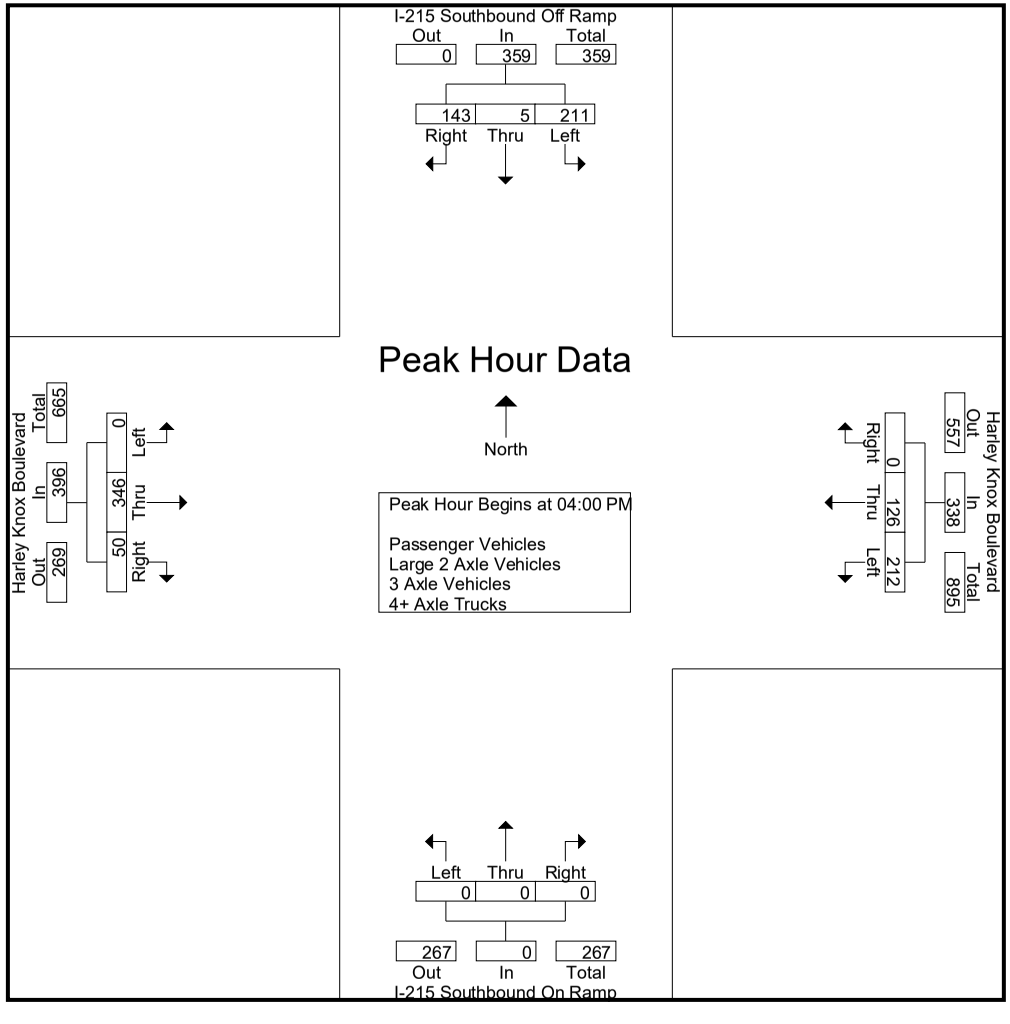

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County of Riverside
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Start Date : 9/25/2018
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	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	51	**3**	**40**	94	46	**36**	0	82	0	0	0	0	0	**105**	**29**	**134**	
+15 mins.	**66**	1	40	**107**	42	24	0	66	0	0	0	0	0	95	10	105	
+30 mins.	54	0	34	88	**72**	33	0	**105**	0	0	0	0	0	77	9	86	
+45 mins.	40	1	29	70	52	33	0	85	0	0	0	0	0	69	2	71	
Total Volume	211	5	143	359	212	126	0	338	0	0	0	0	0	346	50	396	
% App. Total	58.8	1.4	39.8		62.7	37.3	0		0	0	0		0	87.4	12.6		
PHF	.799	.417	.894	.839	.736	.875	.000	.805	.000	.000	.000	.000	.000	.824	.431	.739	

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Site Code : 05118711
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Groups Printed- Passenger Vehicles

	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	40	3	37	22	80	40	32	0	0	72	0	0	0	0	0	0	97	29	16	126	38	278	316
04:15 PM	56	1	31	16	88	36	21	0	0	57	0	0	0	0	0	0	91	9	6	100	22	245	267
04:30 PM	45	0	28	19	73	70	31	0	0	101	0	0	0	0	0	0	73	9	1	82	20	256	276
04:45 PM	32	1	26	17	59	51	33	0	0	84	0	0	0	0	0	0	66	2	1	68	18	211	229
Total	173	5	122	74	300	197	117	0	0	314	0	0	0	0	0	0	327	49	24	376	98	990	1088
05:00 PM	47	2	26	11	75	44	29	0	0	73	0	0	0	0	0	0	64	3	1	67	12	215	227
05:15 PM	40	1	28	17	69	42	22	0	0	64	0	0	0	0	0	0	65	4	2	69	19	202	221
05:30 PM	51	1	19	10	71	30	24	0	0	54	0	0	0	0	0	0	87	6	3	93	13	218	231
05:45 PM	53	1	20	14	74	31	23	0	0	54	0	0	0	0	0	0	81	9	5	90	19	218	237
Total	191	5	93	52	289	147	98	0	0	245	0	0	0	0	0	0	297	22	11	319	63	853	916
Grand Total	364	10	215	126	589	344	215	0	0	559	0	0	0	0	0	0	624	71	35	695	161	1843	2004
Apprch %	61.8	1.7	36.5			61.5	38.5	0			0	0	0			0	89.8	10.2					
Total %	19.8	0.5	11.7		32	18.7	11.7	0		30.3	0	0	0		0	0	33.9	3.9		37.7	8	92	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	40	**3**	**37**	80	40	32	0	72	0	0	0	0	0	**97**	**29**	**126**	**278**
04:15 PM	**56**	1	31	**88**	36	21	0	57	0	0	0	0	0	91	9	100	245
04:30 PM	45	0	28	73	**70**	31	0	**101**	0	0	0	0	0	73	9	82	256
04:45 PM	32	1	26	59	51	**33**	0	84	0	0	0	0	0	66	2	68	211
Total Volume	173	5	122	300	197	117	0	314	0	0	0	0	0	327	49	376	990
% App. Total	57.7	1.7	40.7		62.7	37.3	0		0	0	0		0	87	13		
PHF	.772	.417	.824	.852	.704	.886	.000	.777	.000	.000	.000	.000	.000	.843	.422	.746	.890

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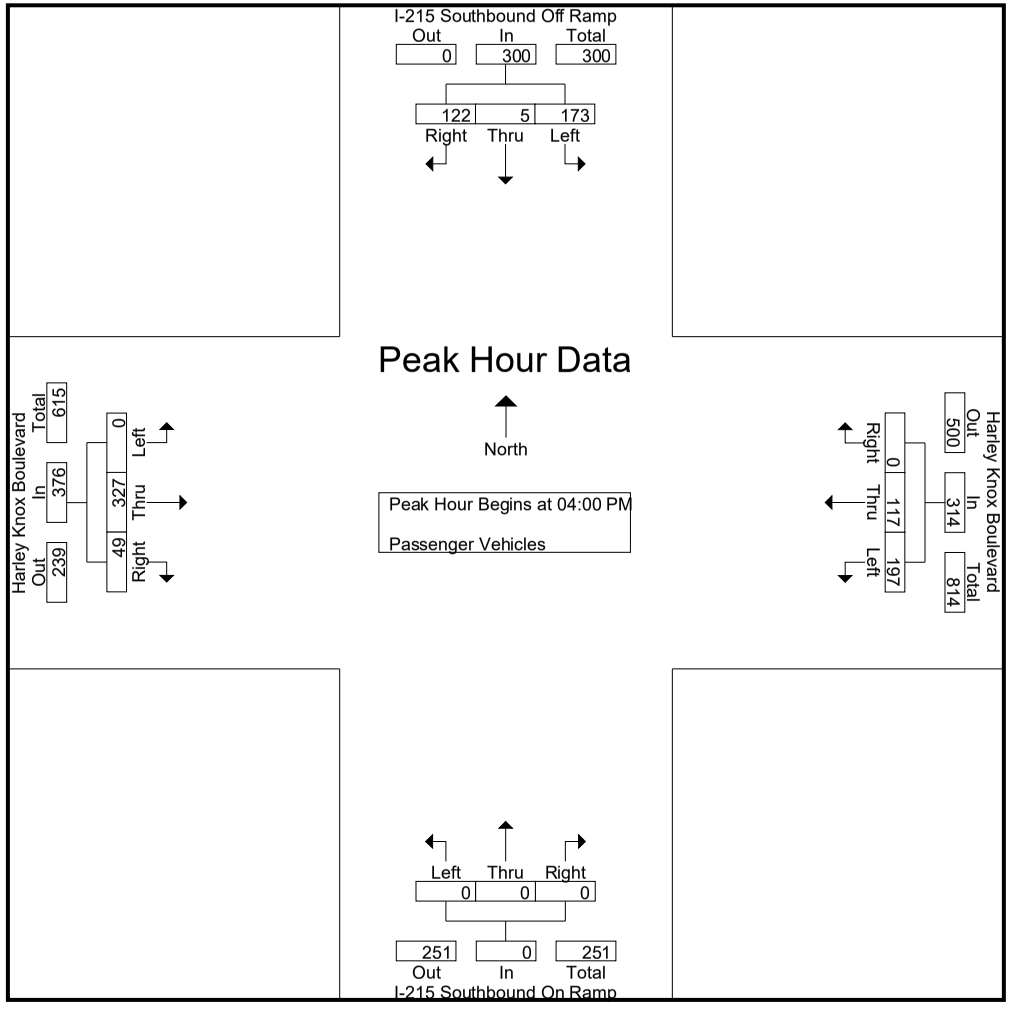

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	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	40	**3**	**37**	80	40	32	0	72	0	0	0	0	0	**97**	**29**	**126**	
+15 mins.	**56**	1	31	**88**	36	21	0	57	0	0	0	0	0	91	9	100	
+30 mins.	45	0	28	73	**70**	31	0	**101**	0	0	0	0	0	73	9	82	
+45 mins.	32	1	26	59	51	**33**	0	84	0	0	0	0	0	66	2	68	
Total Volume	173	5	122	300	197	117	0	314	0	0	0	0	0	327	49	376	
% App. Total	57.7	1.7	40.7		62.7	37.3	0		0	0	0		0	87	13		
PHF	.772	.417	.824	.852	.704	.886	.000	.777	.000	.000	.000	.000	.000	.843	.422	.746	

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

County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- Large 2 Axle Vehicles

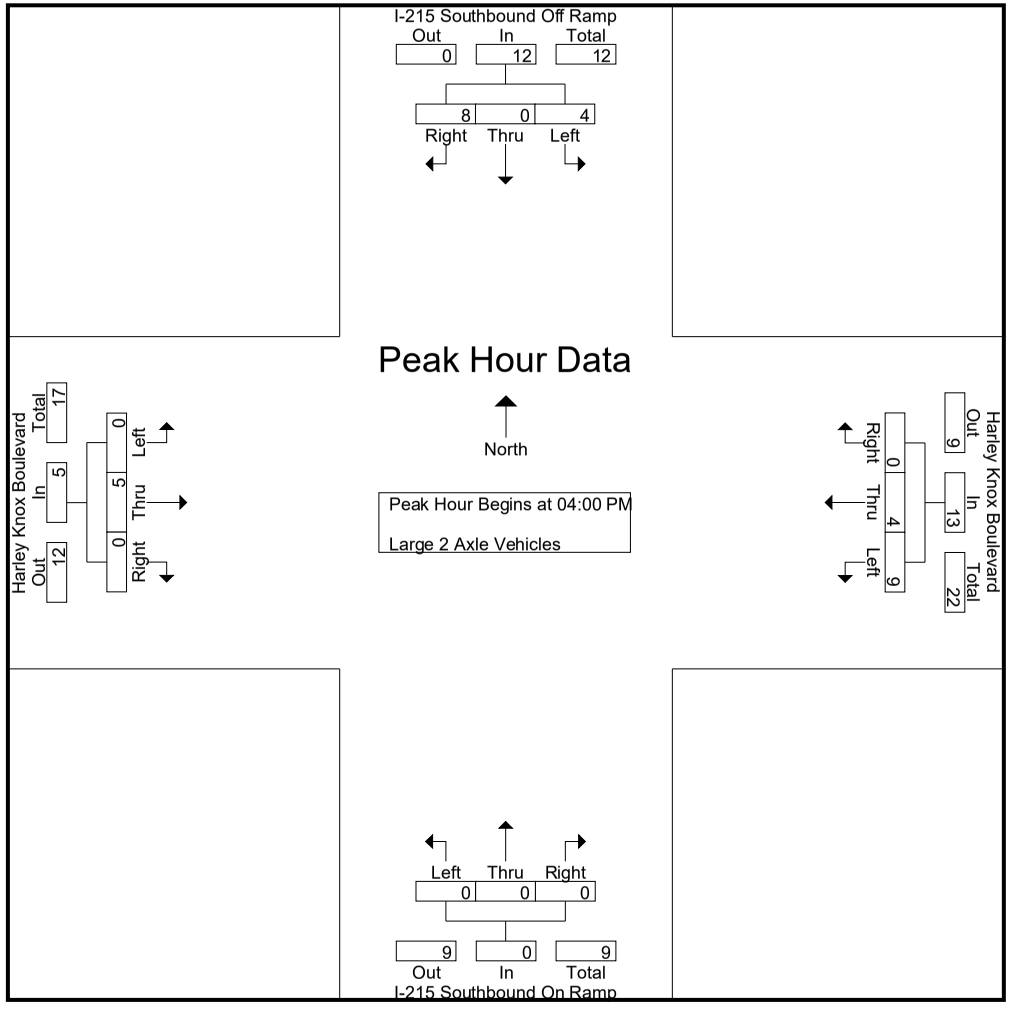
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	2	0	1	0	3	3	1	0	0	4	0	0	0	0	0	0	2	0	0	2	0	9	9
04:15 PM	1	0	3	0	4	4	1	0	0	5	0	0	0	0	0	0	1	0	0	1	0	10	10
04:30 PM	1	0	2	0	3	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	0	7	7
04:45 PM	0	0	2	2	2	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2	4	6
Total	4	0	8	2	12	9	4	0	0	13	0	0	0	0	0	0	5	0	0	5	2	30	32
05:00 PM	3	0	2	2	5	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	2	8	10
05:15 PM	2	0	1	0	3	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	0	7	7
05:30 PM	2	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	5	6
05:45 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	4	4
Total	7	0	5	3	12	3	3	0	0	6	0	0	0	0	0	0	6	0	0	6	3	24	27
Grand Total	11	0	13	5	24	12	7	0	0	19	0	0	0	0	0	0	11	0	0	11	5	54	59
Apprch %	45.8	0	54.2			63.2	36.8	0			0	0	0			0	100	0					
Total %	20.4	0	24.1		44.4	22.2	13	0		35.2	0	0	0		0	0	20.4	0		20.4	8.5	91.5	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**2**	0	1	3	3	1	0	4	0	0	0	0	0	**2**	0	**2**	9
04:15 PM	1	0	**3**	**4**	**4**	1	0	**5**	0	0	0	0	0	1	0	1	**10**
04:30 PM	1	0	2	3	1	**2**	0	3	0	0	0	0	0	1	0	1	7
04:45 PM	0	0	2	2	1	0	0	1	0	0	0	0	0	1	0	1	4
Total Volume	4	0	8	12	9	4	0	13	0	0	0	0	0	5	0	5	30
% App. Total	33.3	0	66.7		69.2	30.8	0		0	0	0		0	100	0		
PHF	.500	.000	.667	.750	.563	.500	.000	.650	.000	.000	.000	.000	.000	.625	.000	.625	.750

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

County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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

County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	**2**	0	1	3	3	1	0	4	0	0	0	0	0	**2**	0	**2**	
+15 mins.	1	0	**3**	**4**	**4**	1	0	**5**	0	0	0	0	0	1	0	1	
+30 mins.	1	0	2	3	1	**2**	0	3	0	0	0	0	0	1	0	1	
+45 mins.	0	0	2	2	1	0	0	1	0	0	0	0	0	1	0	1	
Total Volume	4	0	8	12	9	4	0	13	0	0	0	0	0	5	0	5	
% App. Total	33.3	0	66.7		69.2	30.8	0		0	0	0		0	100	0		
PHF	.500	.000	.667	.750	.563	.500	.000	.650	.000	.000	.000	.000	.000	.625	.000	.625	

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

County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- 3 Axle Vehicles

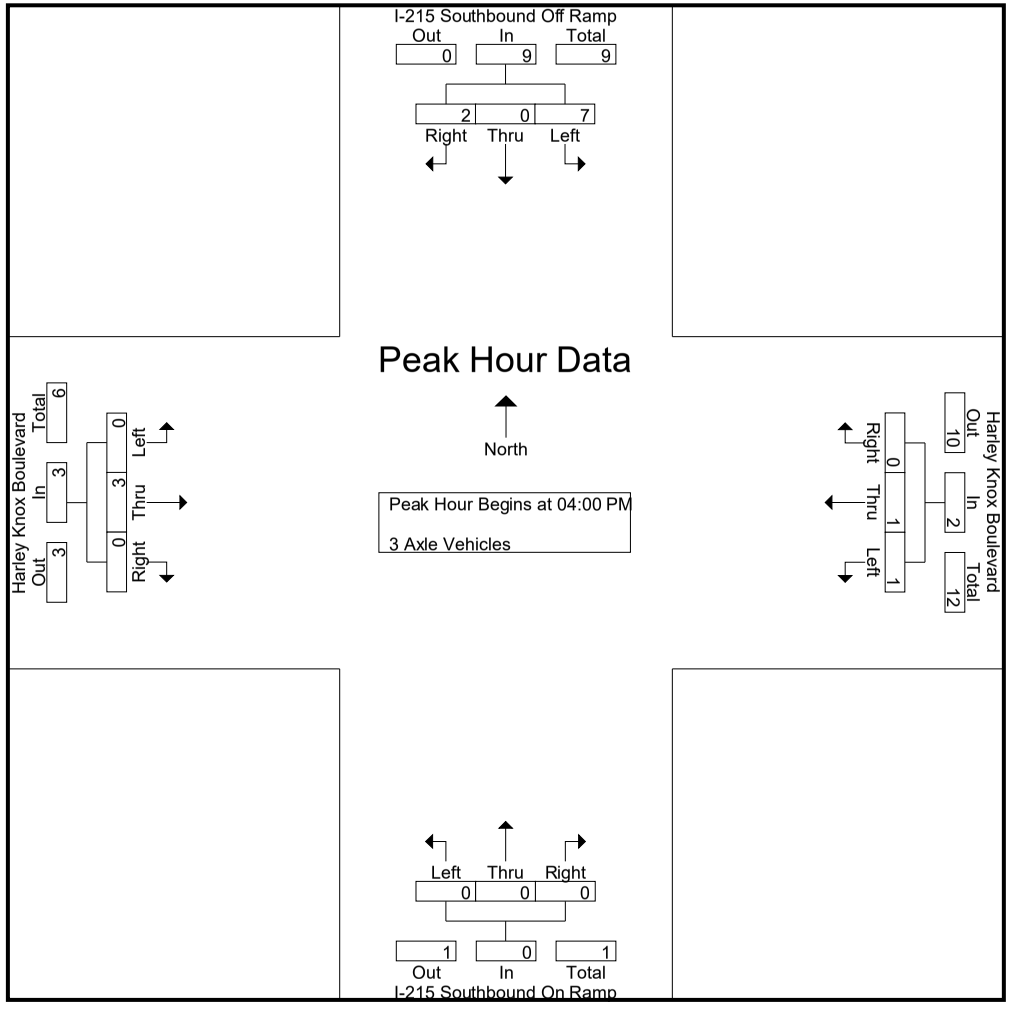
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	3	0	0	0	3	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	6	6
04:15 PM	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4	4
04:30 PM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
04:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	7	0	2	0	9	1	1	0	0	2	0	0	0	0	0	0	3	0	0	3	0	14	14
05:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	0	8	8
05:15 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	3	3
05:30 PM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	5	5
05:45 PM	2	0	1	1	3	1	1	0	0	2	0	0	0	0	0	0	3	0	0	3	1	8	9
Total	6	0	1	1	7	2	3	0	0	5	0	0	0	0	0	0	11	1	0	12	1	24	25
Grand Total	13	0	3	1	16	3	4	0	0	7	0	0	0	0	0	0	14	1	0	15	1	38	39
Apprch %	81.2	0	18.8			42.9	57.1	0			0	0	0			0	93.3	6.7					
Total %	34.2	0	7.9		42.1	7.9	10.5	0		18.4	0	0	0		0	0	36.8	2.6		39.5	2.6	97.4	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**3**	0	0	**3**	**1**	**1**	0	**2**	0	0	0	0	0	1	0	1	**6**
04:15 PM	1	0	**1**	2	0	0	0	0	0	0	0	0	0	**2**	0	**2**	4
04:30 PM	2	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	7	0	2	9	1	1	0	2	0	0	0	0	0	3	0	3	14
% App. Total	77.8	0	22.2		50	50	0		0	0	0		0	100	0		
PHF	.583	.000	.500	.750	.250	.250	.000	.250	.000	.000	.000	.000	.000	.375	.000	.375	.583

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

County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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

County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	**3**	0	0	**3**	**1**	**1**	0	**2**	0	0	0	0	0	1	0	1	
+15 mins.	1	0	**1**	2	0	0	0	0	0	0	0	0	0	**2**	0	**2**	
+30 mins.	2	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	7	0	2	9	1	1	0	2	0	0	0	0	0	3	0	3	
% App. Total	77.8	0	22.2		50	50	0		0	0	0		0	100	0		
PHF	.583	.000	.500	.750	.250	.250	.000	.250	.000	.000	.000	.000	.000	.375	.000	.375	

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

County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- 4+ Axle Trucks

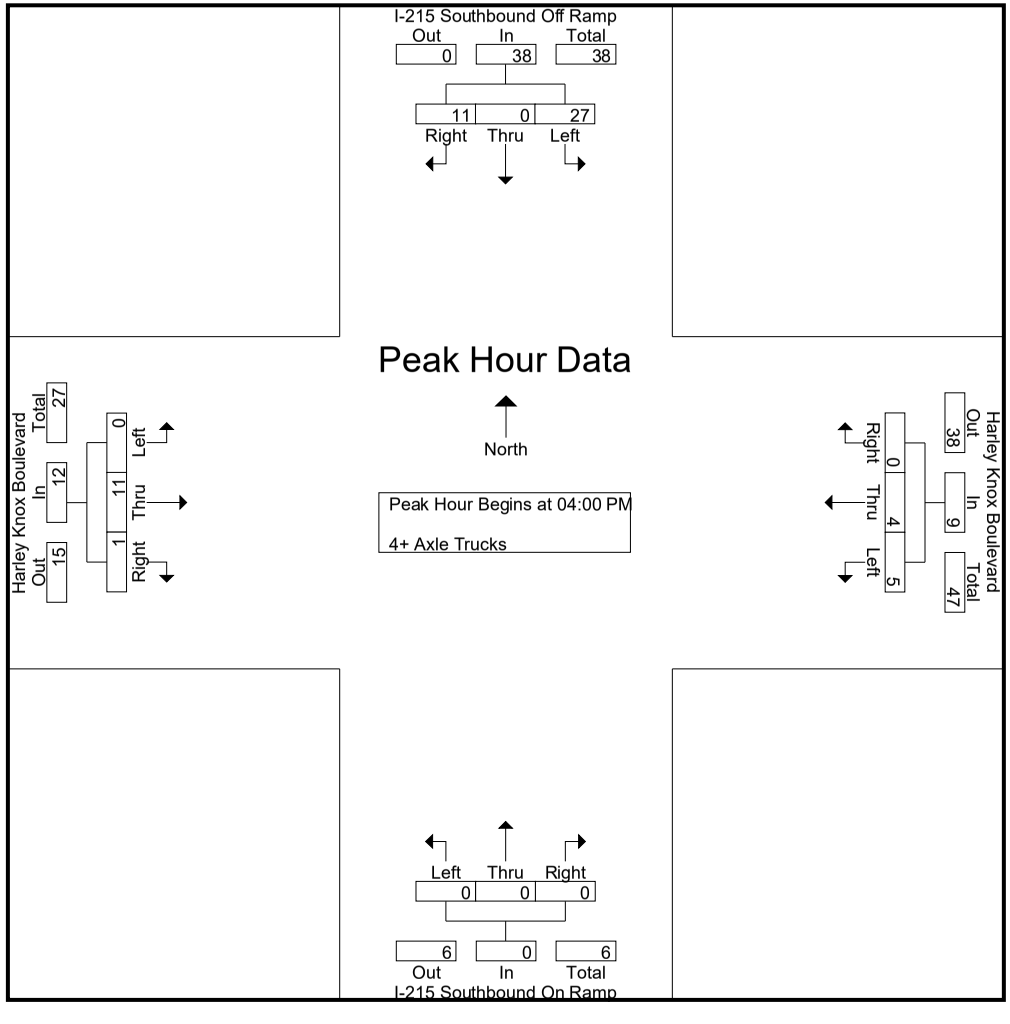
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	6	0	2	0	8	2	2	0	0	4	0	0	0	0	0	0	5	0	0	5	0	17	17
04:15 PM	8	0	5	0	13	2	2	0	0	4	0	0	0	0	0	0	1	1	0	2	0	19	19
04:30 PM	6	0	3	0	9	1	0	0	0	1	0	0	0	0	0	0	3	0	0	3	0	13	13
04:45 PM	7	0	1	0	8	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	10	10
Total	27	0	11	0	38	5	4	0	0	9	0	0	0	0	0	0	11	1	0	12	0	59	59
05:00 PM	6	0	3	1	9	1	0	0	0	1	0	0	0	0	0	0	4	0	0	4	1	14	15
05:15 PM	5	0	4	0	9	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	0	13	13
05:30 PM	11	0	5	0	16	1	2	0	0	3	0	0	0	0	0	0	3	0	0	3	0	22	22
05:45 PM	8	0	4	0	12	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	14	14
Total	30	0	16	1	46	4	3	0	0	7	0	0	0	0	0	0	10	0	0	10	1	63	64
Grand Total	57	0	27	1	84	9	7	0	0	16	0	0	0	0	0	0	21	1	0	22	1	122	123
Apprch %	67.9	0	32.1			56.2	43.8	0			0	0	0			0	95.5	4.5					
Total %	46.7	0	22.1		68.9	7.4	5.7	0		13.1	0	0	0		0	0	17.2	0.8		18	0.8	99.2	

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	6	0	2	8	**2**	**2**	0	**4**	0	0	0	0	0	**5**	0	**5**	17
04:15 PM	**8**	0	**5**	**13**	2	2	0	4	0	0	0	0	0	1	**1**	2	**19**
04:30 PM	6	0	3	9	1	0	0	1	0	0	0	0	0	3	0	3	13
04:45 PM	7	0	1	8	0	0	0	0	0	0	0	0	0	2	0	2	10
Total Volume	27	0	11	38	5	4	0	9	0	0	0	0	0	11	1	12	59
% App. Total	71.1	0	28.9		55.6	44.4	0		0	0	0		0	91.7	8.3		
PHF	.844	.000	.550	.731	.625	.500	.000	.563	.000	.000	.000	.000	.000	.550	.250	.600	.776

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

County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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

County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 02_CRV_215S_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	6	0	2	8	**2**	**2**	0	**4**	0	0	0	0	0	**5**	0	**5**	
+15 mins.	**8**	0	**5**	**13**	2	2	0	4	0	0	0	0	0	1	**1**	2	
+30 mins.	6	0	3	9	1	0	0	1	0	0	0	0	0	3	0	3	
+45 mins.	7	0	1	8	0	0	0	0	0	0	0	0	0	2	0	2	
Total Volume	27	0	11	38	5	4	0	9	0	0	0	0	0	11	1	12	
% App. Total	71.1	0	28.9		55.6	44.4	0		0	0	0		0	91.7	8.3		
PHF	.844	.000	.550	.731	.625	.500	.000	.563	.000	.000	.000	.000	.000	.550	.250	.600	

Location: County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard

Date: 9/25/2018
Day: Tuesday

PEDESTRIANS

	North Leg I-215 Southbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Southbound Ramps	West Leg Harley Knox Boulevard	
	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 Harley Knox Boulevard	South Leg I-215 Southbound Ramps	West Leg Harley Knox Boulevard	
	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

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

Location: County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard

Date: 9/25/2018
Day: Tuesday

BICYCLES

	Southbound I-215 Southbound Ramps			Westbound Harley Knox Boulevard			Northbound I-215 Southbound Ramps			Eastbound Harley Knox Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

	Southbound I-215 Southbound Ramps			Westbound Harley Knox Boulevard			Northbound I-215 Southbound Ramps			Eastbound Harley Knox Boulevard			
	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	1	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	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	1	0	0	0	0	0	0	0	1

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

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

City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

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

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	74	150	0	224	0	0	6	1	6	95	95	0	0	190	1	420	421
07:15 AM	0	0	0	0	0	0	30	178	5	208	1	0	8	6	9	95	96	0	0	191	11	408	419
07:30 AM	0	0	0	0	0	0	49	136	0	185	1	0	5	5	6	83	122	0	0	205	5	396	401
07:45 AM	0	0	0	0	0	0	40	123	1	163	1	0	17	10	18	60	130	0	0	190	11	371	382
Total	0	0	0	0	0	0	193	587	6	780	3	0	36	22	39	333	443	0	0	776	28	1595	1623
08:00 AM	0	0	0	0	0	0	34	105	0	139	7	0	13	7	20	61	91	0	0	152	7	311	318
08:15 AM	0	0	0	0	0	0	25	75	0	100	8	0	16	3	24	43	66	0	0	109	3	233	236
08:30 AM	0	0	0	0	0	0	37	63	3	100	6	2	19	7	27	22	71	0	0	93	10	220	230
08:45 AM	0	0	0	0	0	0	25	53	0	78	5	0	11	5	16	28	73	0	0	101	5	195	200
Total	0	0	0	0	0	0	121	296	3	417	26	2	59	22	87	154	301	0	0	455	25	959	984
Grand Total	0	0	0	0	0	0	314	883	9	1197	29	2	95	44	126	487	744	0	0	1231	53	2554	2607
Apprch %	0	0	0			0	26.2	73.8			23	1.6	75.4			39.6	60.4	0					
Total %	0	0	0		0	0	12.3	34.6		46.9	1.1	0.1	3.7		4.9	19.1	29.1	0		48.2	2	98	
Passenger Vehicles	0	0	0		0	0	263	736		1006	26	2	72		131	450	592	0		1042	0	0	2179
% Passenger Vehicles	0	0	0	0	0	0	83.8	83.4	77.8	83.4	89.7	100	75.8	70.5	77.1	92.4	79.6	0	0	84.6	0	0	83.6
Large 2 Axle Vehicles	0	0	0		0	0	23	36		59	1	0	12		21	15	36	0		51	0	0	131
% Large 2 Axle Vehicles	0	0	0	0	0	0	7.3	4.1	0	4.9	3.4	0	12.6	18.2	12.4	3.1	4.8	0	0	4.1	0	0	5
3 Axle Vehicles	0	0	0		0	0	8	14		22	1	0	4		8	4	24	0		28	0	0	58
% 3 Axle Vehicles	0	0	0	0	0	0	2.5	1.6	0	1.8	3.4	0	4.2	6.8	4.7	0.8	3.2	0	0	2.3	0	0	2.2
4+ Axle Trucks	0	0	0		0	0	20	97		119	1	0	7		10	18	92	0		110	0	0	239
% 4+ Axle Trucks	0	0	0	0	0	0	6.4	11	22.2	9.9	3.4	0	7.4	4.5	5.9	3.7	12.4	0	0	8.9	0	0	9.2

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	**74**	150	**224**	0	0	6	6	**95**	95	0	190	**420**
07:15 AM	0	0	0	0	0	30	**178**	208	**1**	0	8	9	95	96	0	191	408
07:30 AM	0	0	0	0	0	49	136	185	1	0	5	6	83	122	0	**205**	396
07:45 AM	0	0	0	0	0	40	123	163	1	0	**17**	**18**	60	**130**	0	190	371
Total Volume	0	0	0	0	0	193	587	780	3	0	36	39	333	443	0	776	1595
% App. Total	0	0	0		0	24.7	75.3		7.7	0	92.3		42.9	57.1	0		
PHF	.000	.000	.000	.000	.000	.652	.824	.871	.750	.000	.529	.542	.876	.852	.000	.946	.949

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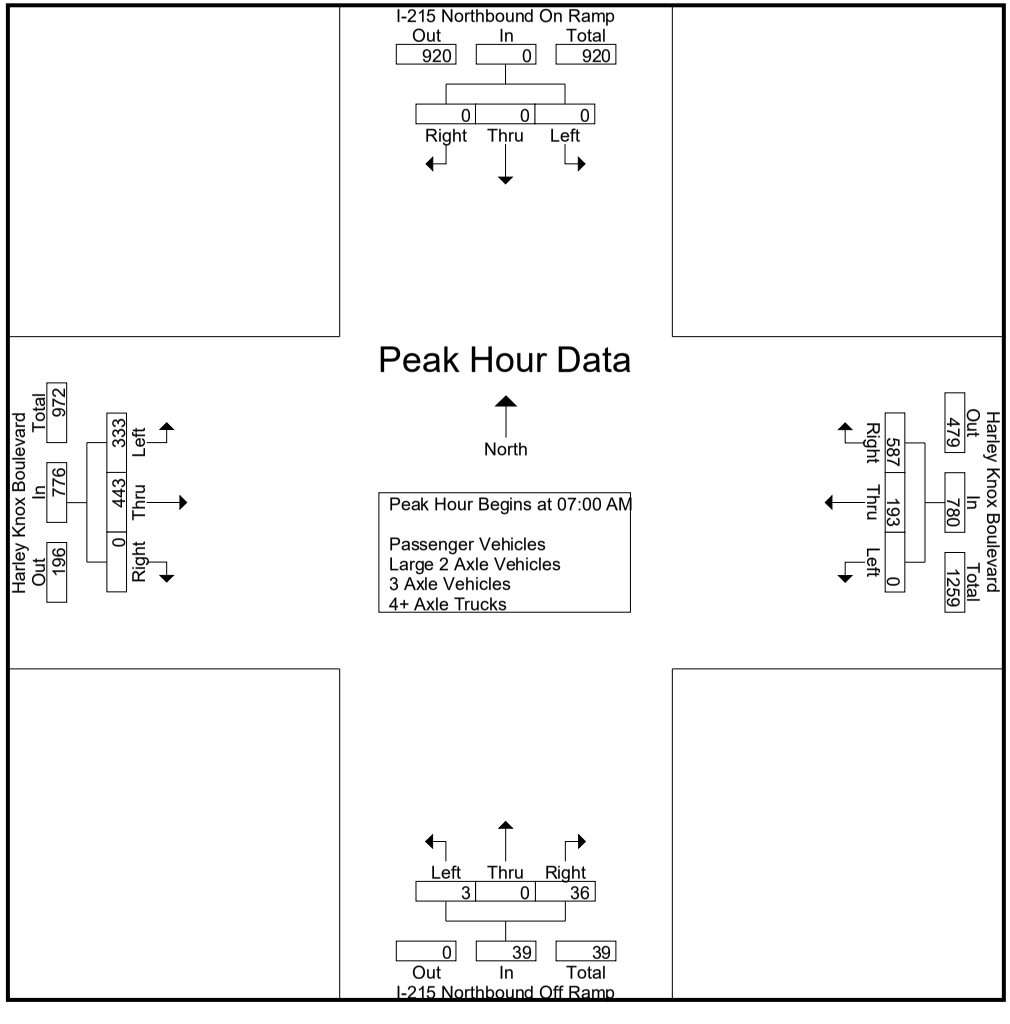
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:45 AM				07:00 AM				
+0 mins.	0	0	0	0	0	**74**	150	**224**	1	0	17	18	**95**	95	0	190	
+15 mins.	0	0	0	0	0	30	**178**	208	7	0	13	20	95	96	0	191	
+30 mins.	0	0	0	0	0	49	136	185	**8**	0	16	24	83	122	0	**205**	
+45 mins.	0	0	0	0	0	40	123	163	6	**2**	**19**	**27**	60	**130**	0	190	
Total Volume	0	0	0	0	0	193	587	780	22	2	65	89	333	443	0	776	
% App. Total	0	0	0		0	24.7	75.3		24.7	2.2	73		42.9	57.1	0		
PHF	.000	.000	.000	.000	.000	.652	.824	.871	.688	.250	.855	.824	.876	.852	.000	.946	

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City of Perris
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E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- Passenger Vehicles

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	67	133	0	200	0	0	4	0	4	90	80	0	0	170	0	374	374
07:15 AM	0	0	0	0	0	0	26	164	4	190	1	0	6	5	7	93	86	0	0	179	9	376	385
07:30 AM	0	0	0	0	0	0	44	119	0	163	1	0	4	4	5	74	104	0	0	178	4	346	350
07:45 AM	0	0	0	0	0	0	31	103	0	134	1	0	14	8	15	58	109	0	0	167	8	316	324
Total	0	0	0	0	0	0	168	519	4	687	3	0	28	17	31	315	379	0	0	694	21	1412	1433
08:00 AM	0	0	0	0	0	0	28	86	0	114	7	0	11	5	18	56	66	0	0	122	5	254	259
08:15 AM	0	0	0	0	0	0	20	57	0	77	6	0	12	2	18	36	48	0	0	84	2	179	181
08:30 AM	0	0	0	0	0	0	29	39	3	68	5	2	14	5	21	21	49	0	0	70	8	159	167
08:45 AM	0	0	0	0	0	0	18	35	0	53	5	0	7	2	12	22	50	0	0	72	2	137	139
Total	0	0	0	0	0	0	95	217	3	312	23	2	44	14	69	135	213	0	0	348	17	729	746
Grand Total	0	0	0	0	0	0	263	736	7	999	26	2	72	31	100	450	592	0	0	1042	38	2141	2179
Apprch %	0	0	0			0	26.3	73.7			26	2	72			43.2	56.8	0					
Total %	0	0	0		0	0	12.3	34.4		46.7	1.2	0.1	3.4		4.7	21	27.7	0		48.7	1.7	98.3	

3.1-71

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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 Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	**67**	133	**200**	0	0	4	4	90	80	0	170	374
07:15 AM	0	0	0	0	0	26	**164**	190	**1**	0	6	7	**93**	86	0	**179**	**376**
07:30 AM	0	0	0	0	0	44	119	163	1	0	4	5	74	104	0	178	346
07:45 AM	0	0	0	0	0	31	103	134	1	0	**14**	**15**	58	**109**	0	167	316
Total Volume	0	0	0	0	0	168	519	687	3	0	28	31	315	379	0	694	1412
% App. Total	0	0	0		0	24.5	75.5		9.7	0	90.3		45.4	54.6	0		
PHF	.000	.000	.000	.000	.000	.627	.791	.859	.750	.000	.500	.517	.847	.869	.000	.969	.939

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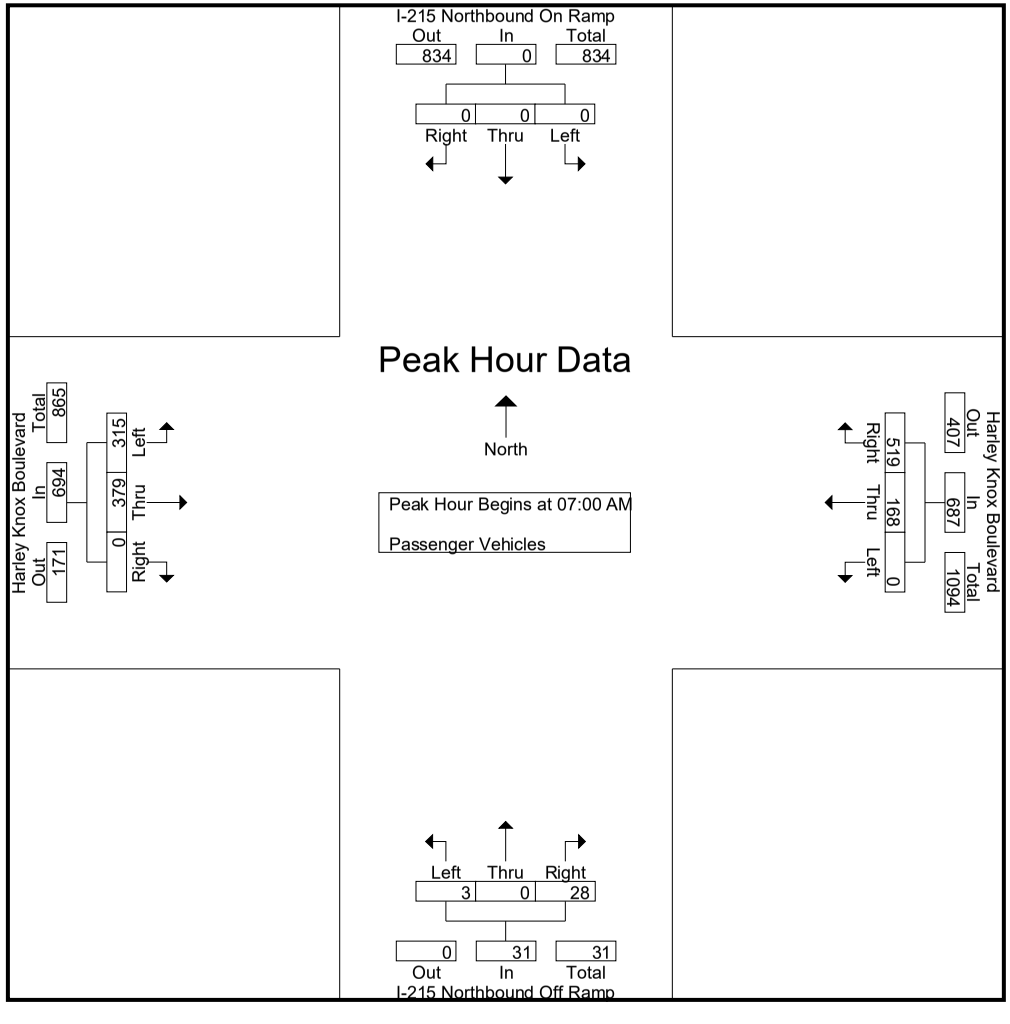
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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City of Perris
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Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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	**67**	133	**200**	0	0	4	4	90	80	0	170	
+15 mins.	0	0	0	0	0	26	**164**	190	**1**	0	6	7	**93**	86	0	**179**	
+30 mins.	0	0	0	0	0	44	119	163	1	0	4	5	74	104	0	178	
+45 mins.	0	0	0	0	0	31	103	134	1	0	**14**	**15**	58	**109**	0	167	
Total Volume	0	0	0	0	0	168	519	687	3	0	28	31	315	379	0	694	
% App. Total	0	0	0		0	24.5	75.5		9.7	0	90.3		45.4	54.6	0		
PHF	.000	.000	.000	.000	.000	.627	.791	.859	.750	.000	.500	.517	.847	.869	.000	.969	

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City of Perris
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File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	2	6	0	8	0	0	1	0	1	2	3	0	0	5	0	14	14
07:15 AM	0	0	0	0	0	0	1	6	0	7	0	0	0	0	0	1	1	0	0	2	0	9	9
07:30 AM	0	0	0	0	0	0	3	2	0	5	0	0	1	1	1	6	6	0	0	12	1	18	19
07:45 AM	0	0	0	0	0	0	5	8	0	13	0	0	2	1	2	0	3	0	0	3	1	18	19
Total	0	0	0	0	0	0	11	22	0	33	0	0	4	2	4	9	13	0	0	22	2	59	61
08:00 AM	0	0	0	0	0	0	3	4	0	7	0	0	2	2	2	1	5	0	0	6	2	15	17
08:15 AM	0	0	0	0	0	0	4	3	0	7	1	0	1	1	2	3	6	0	0	9	1	18	19
08:30 AM	0	0	0	0	0	0	5	6	0	11	0	0	3	1	3	0	7	0	0	7	1	21	22
08:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	2	2	2	2	5	0	0	7	2	10	12
Total	0	0	0	0	0	0	12	14	0	26	1	0	8	6	9	6	23	0	0	29	6	64	70
Grand Total	0	0	0	0	0	0	23	36	0	59	1	0	12	8	13	15	36	0	0	51	8	123	131
Apprch %	0	0	0			0	39	61			7.7	0	92.3			29.4	70.6	0					
Total %	0	0	0		0	0	18.7	29.3		48	0.8	0	9.8		10.6	12.2	29.3	0		41.5	6.1	93.9	

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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 Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	2	6	8	0	0	1	1	2	3	0	5	14
07:15 AM	0	0	0	0	0	1	6	7	0	0	0	0	1	1	0	2	9
07:30 AM	0	0	0	0	0	3	2	5	0	0	1	1	**6**	**6**	0	**12**	**18**
07:45 AM	0	0	0	0	0	**5**	**8**	**13**	0	0	**2**	**2**	0	3	0	3	18
Total Volume	0	0	0	0	0	11	22	33	0	0	4	4	9	13	0	22	59
% App. Total	0	0	0		0	33.3	66.7		0	0	100		40.9	59.1	0		
PHF	.000	.000	.000	.000	.000	.550	.688	.635	.000	.000	.500	.500	.375	.542	.000	.458	.819

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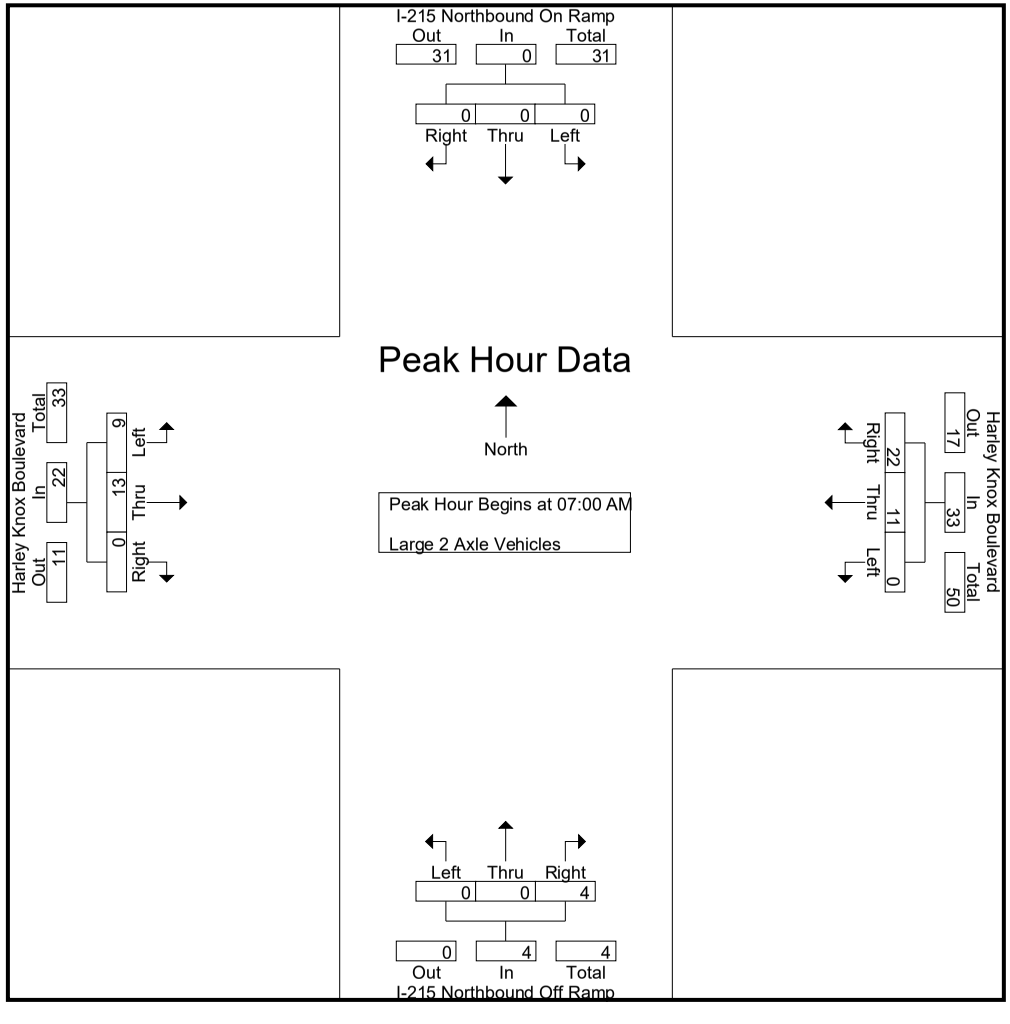
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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City of Perris
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File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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	2	6	8	0	0	1	1	2	3	0	5	
+15 mins.	0	0	0	0	0	1	6	7	0	0	0	0	1	1	0	2	
+30 mins.	0	0	0	0	0	3	2	5	0	0	1	1	**6**	**6**	0	**12**	
+45 mins.	0	0	0	0	0	**5**	**8**	**13**	0	0	**2**	**2**	0	3	0	3	
Total Volume	0	0	0	0	0	11	22	33	0	0	4	4	9	13	0	22	
% App. Total	0	0	0		0	33.3	66.7		0	0	100		40.9	59.1	0		
PHF	.000	.000	.000	.000	.000	.550	.688	.635	.000	.000	.500	.500	.375	.542	.000	.458	

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City of Perris
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E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- 3 Axle Vehicles

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	2	0	3	0	0	1	1	1	1	0	0	0	1	1	5	6
07:15 AM	0	0	0	0	0	0	1	1	0	2	0	0	1	1	1	0	2	0	0	2	1	5	6
07:30 AM	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	1	3	0	0	4	0	7	7
07:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	1	1	1	0	3	0	0	3	1	5	6
Total	0	0	0	0	0	0	2	7	0	9	0	0	3	3	3	2	8	0	0	10	3	22	25
08:00 AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2	2	0	0	4	0	6	6
08:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	2	0	0	2	0	4	4
08:30 AM	0	0	0	0	0	0	2	3	0	5	1	0	0	0	1	0	6	0	0	6	0	12	12
08:45 AM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	6	0	0	6	0	11	11
Total	0	0	0	0	0	0	6	7	0	13	1	0	1	0	2	2	16	0	0	18	0	33	33
Grand Total	0	0	0	0	0	0	8	14	0	22	1	0	4	3	5	4	24	0	0	28	3	55	58
Apprch %	0	0	0			0	36.4	63.6			20	0	80			14.3	85.7	0					
Total %	0	0	0		0	0	14.5	25.5		40	1.8	0	7.3		9.1	7.3	43.6	0		50.9	5.2	94.8	

3.1-77

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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 Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	**1**	2	**3**	0	0	**1**	**1**	**1**	0	0	1	5
07:15 AM	0	0	0	0	0	1	1	2	0	0	1	1	0	2	0	2	5
07:30 AM	0	0	0	0	0	0	**3**	3	0	0	0	0	1	**3**	0	**4**	**7**
07:45 AM	0	0	0	0	0	0	1	1	0	0	1	1	0	3	0	3	5
Total Volume	0	0	0	0	0	2	7	9	0	0	3	3	2	8	0	10	22
% App. Total	0	0	0		0	22.2	77.8		0	0	100		20	80	0		
PHF	.000	.000	.000	.000	.000	.500	.583	.750	.000	.000	.750	.750	.500	.667	.000	.625	.786

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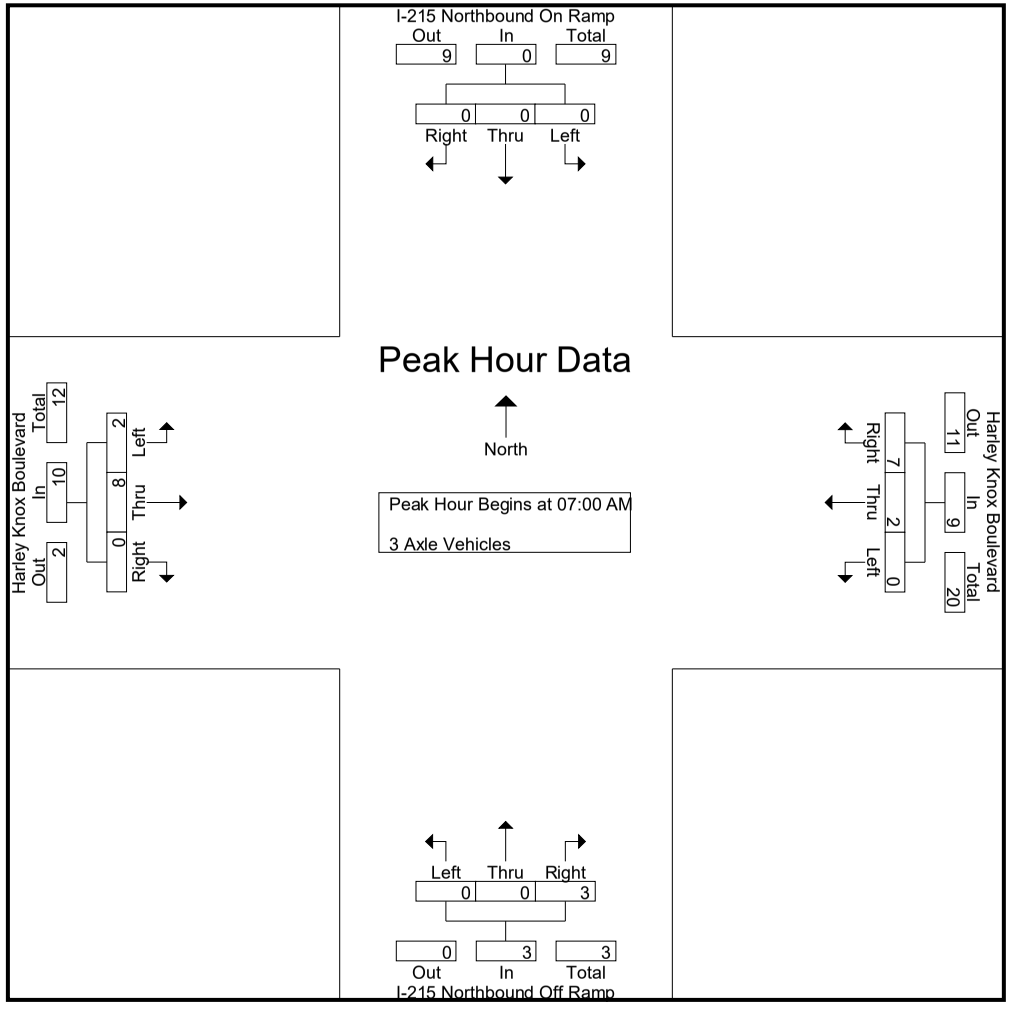
City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
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	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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	**1**	2	**3**	0	0	**1**	**1**	**1**	0	0	1	
+15 mins.	0	0	0	0	0	1	1	2	0	0	1	1	0	2	0	2	
+30 mins.	0	0	0	0	0	0	**3**	3	0	0	0	0	1	**3**	0	**4**	
+45 mins.	0	0	0	0	0	0	1	1	0	0	1	1	0	3	0	3	
Total Volume	0	0	0	0	0	2	7	9	0	0	3	3	2	8	0	10	
% App. Total	0	0	0		0	22.2	77.8		0	0	100		20	80	0		
PHF	.000	.000	.000	.000	.000	.500	.583	.750	.000	.000	.750	.750	.500	.667	.000	.625	

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- 4+ Axle Trucks

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	4	9	0	13	0	0	0	0	0	2	12	0	0	14	0	27	27
07:15 AM	0	0	0	0	0	0	2	7	1	9	0	0	1	0	1	1	7	0	0	8	1	18	19
07:30 AM	0	0	0	0	0	0	2	12	0	14	0	0	0	0	0	2	9	0	0	11	0	25	25
07:45 AM	0	0	0	0	0	0	4	11	1	15	0	0	0	0	0	2	15	0	0	17	1	32	33
Total	0	0	0	0	0	0	12	39	2	51	0	0	1	0	1	7	43	0	0	50	2	102	104
08:00 AM	0	0	0	0	0	0	3	13	0	16	0	0	0	0	0	2	18	0	0	20	0	36	36
08:15 AM	0	0	0	0	0	0	1	14	0	15	1	0	2	0	3	4	10	0	0	14	0	32	32
08:30 AM	0	0	0	0	0	0	1	15	0	16	0	0	2	1	2	1	9	0	0	10	1	28	29
08:45 AM	0	0	0	0	0	0	3	16	0	19	0	0	2	1	2	4	12	0	0	16	1	37	38
Total	0	0	0	0	0	0	8	58	0	66	1	0	6	2	7	11	49	0	0	60	2	133	135
Grand Total	0	0	0	0	0	0	20	97	2	117	1	0	7	2	8	18	92	0	0	110	4	235	239
Apprch %	0	0	0			0	17.1	82.9			12.5	0	87.5			16.4	83.6	0					
Total %	0	0	0		0	0	8.5	41.3		49.8	0.4	0	3		3.4	7.7	39.1	0		46.8	1.7	98.3	

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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 Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	**4**	9	13	0	0	0	0	**2**	12	0	14	27
07:15 AM	0	0	0	0	0	2	7	9	0	0	**1**	**1**	1	7	0	8	18
07:30 AM	0	0	0	0	0	2	**12**	14	0	0	0	0	2	9	0	11	25
07:45 AM	0	0	0	0	0	4	11	**15**	0	0	0	0	2	**15**	0	**17**	**32**
Total Volume	0	0	0	0	0	12	39	51	0	0	1	1	7	43	0	50	102
% App. Total	0	0	0		0	23.5	76.5		0	0	100		14	86	0		
PHF	.000	.000	.000	.000	.000	.750	.813	.850	.000	.000	.250	.250	.875	.717	.000	.735	.797

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City of Perris
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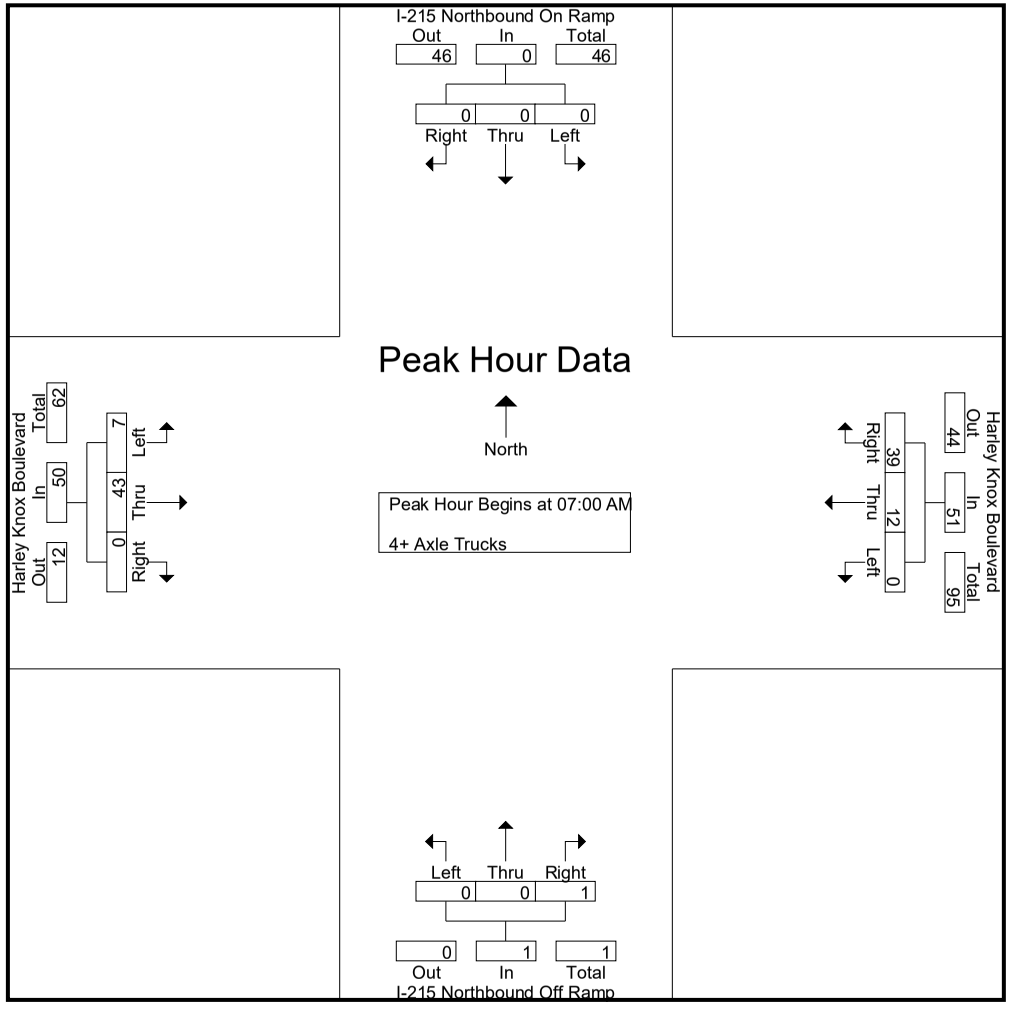
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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City of Perris
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Weather: Clear

File Name : 03_PER_215N_Harley Knox AM
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Start Date : 9/25/2018
Page No : 3

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	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	**4**	9	13	0	0	0	0	**2**	12	0	14	
+15 mins.	0	0	0	0	0	2	7	9	0	0	**1**	**1**	1	7	0	8	
+30 mins.	0	0	0	0	0	2	**12**	14	0	0	0	0	2	9	0	11	
+45 mins.	0	0	0	0	0	4	11	**15**	0	0	0	0	2	**15**	0	**17**	
Total Volume	0	0	0	0	0	12	39	51	0	0	1	1	7	43	0	50	
% App. Total	0	0	0		0	23.5	76.5		0	0	100		14	86	0		
PHF	.000	.000	.000	.000	.000	.750	.813	.850	.000	.000	.250	.250	.875	.717	.000	.735	

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018

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

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	79	103	1	182	5	0	28	21	33	67	89	0	0	156	22	371	393
04:15 PM	0	0	0	0	0	0	65	104	2	169	4	1	32	25	37	57	97	0	0	154	27	360	387
04:30 PM	0	0	0	0	0	0	95	146	3	241	6	0	45	31	51	47	75	0	0	122	34	414	448
04:45 PM	0	0	0	0	0	0	82	123	8	205	2	2	33	23	37	45	61	0	0	106	31	348	379
Total	0	0	0	0	0	0	321	476	14	797	17	3	138	100	158	216	322	0	0	538	114	1493	1607
05:00 PM	0	0	0	0	0	0	72	99	8	171	1	1	29	19	31	47	80	0	0	127	27	329	356
05:15 PM	0	0	0	0	0	0	68	72	5	140	2	0	38	26	40	47	74	0	0	121	31	301	332
05:30 PM	0	0	0	0	0	0	65	69	1	134	3	1	37	26	41	60	98	0	0	158	27	333	360
05:45 PM	0	0	0	0	0	0	45	66	3	111	7	0	32	17	39	54	91	0	0	145	20	295	315
Total	0	0	0	0	0	0	250	306	17	556	13	2	136	88	151	208	343	0	0	551	105	1258	1363
Grand Total	0	0	0	0	0	0	571	782	31	1353	30	5	274	188	309	424	665	0	0	1089	219	2751	2970
Apprch %	0	0	0			0	42.2	57.8			9.7	1.6	88.7			38.9	61.1	0					
Total %	0	0	0		0	0	20.8	28.4		49.2	1.1	0.2	10		11.2	15.4	24.2	0		39.6	7.4	92.6	
Passenger Vehicles	0	0	0		0	0	536	663		1223	24	4	223		406	395	568	0		963	0	0	2592
% Passenger Vehicles	0	0	0	0	0	0	93.9	84.8	77.4	88.4	80	80	81.4	82.4	81.7	93.2	85.4	0	0	88.4	0	0	87.3
Large 2 Axle Vehicles	0	0	0		0	0	14	26		42	3	1	10		21	9	18	0		27	0	0	90
% Large 2 Axle Vehicles	0	0	0	0	0	0	2.5	3.3	6.5	3	10	20	3.6	3.7	4.2	2.1	2.7	0	0	2.5	0	0	3
3 Axle Vehicles	0	0	0		0	0	7	18		28	1	0	35		59	2	21	0		23	0	0	110
% 3 Axle Vehicles	0	0	0	0	0	0	1.2	2.3	9.7	2	3.3	0	12.8	12.2	11.9	0.5	3.2	0	0	2.1	0	0	3.7
4+ Axle Trucks	0	0	0		0	0	14	75		91	2	0	6		11	18	58	0		76	0	0	178
% 4+ Axle Trucks	0	0	0	0	0	0	2.5	9.6	6.5	6.6	6.7	0	2.2	1.6	2.2	4.2	8.7	0	0	7	0	0	6

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	79	103	182	5	0	28	33	**67**	89	0	**156**	371
04:15 PM	0	0	0	0	0	65	104	169	4	1	32	37	57	**97**	0	154	360
04:30 PM	0	0	0	0	0	**95**	**146**	**241**	**6**	0	**45**	**51**	47	75	0	122	**414**
04:45 PM	0	0	0	0	0	82	123	205	2	**2**	33	37	45	61	0	106	348
Total Volume	0	0	0	0	0	321	476	797	17	3	138	158	216	322	0	538	1493
% App. Total	0	0	0		0	40.3	59.7		10.8	1.9	87.3		40.1	59.9	0		
PHF	.000	.000	.000	.000	.000	.845	.815	.827	.708	.375	.767	.775	.806	.830	.000	.862	.902

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City of Perris
N/S: I-215 Northbound Ramps
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Weather: Clear

File Name : 03_PER_215N_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
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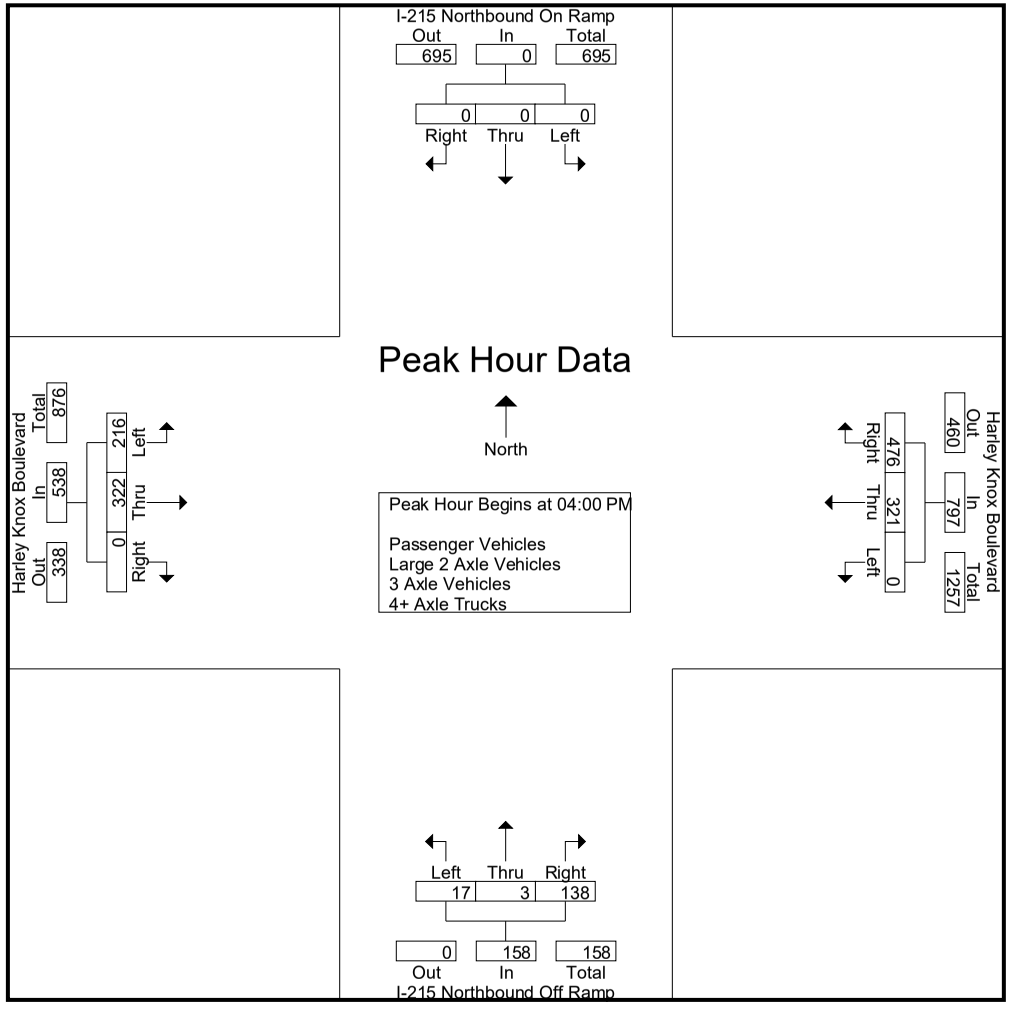

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City of Perris
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Site Code : 05118711
Start Date : 9/25/2018
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	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:30 PM				05:00 PM				
+0 mins.	0	0	0	0	0	79	103	182	**6**	0	**45**	**51**	47	80	0	127	
+15 mins.	0	0	0	0	0	65	104	169	2	**2**	33	37	47	74	0	121	
+30 mins.	0	0	0	0	0	**95**	**146**	**241**	1	1	29	31	**60**	**98**	0	**158**	
+45 mins.	0	0	0	0	0	82	123	205	2	0	38	40	54	91	0	145	
Total Volume	0	0	0	0	0	321	476	797	11	3	145	159	208	343	0	551	
% App. Total	0	0	0		0	40.3	59.7		6.9	1.9	91.2		37.7	62.3	0		
PHF	.000	.000	.000	.000	.000	.845	.815	.827	.458	.375	.806	.779	.867	.875	.000	.872	

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File Name : 03_PER_215N_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
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Groups Printed- Passenger Vehicles

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	72	93	0	165	2	0	21	15	23	61	77	0	0	138	15	326	341
04:15 PM	0	0	0	0	0	0	56	81	1	137	4	1	29	22	34	55	85	0	0	140	23	311	334
04:30 PM	0	0	0	0	0	0	94	131	2	225	4	0	40	26	44	42	68	0	0	110	28	379	407
04:45 PM	0	0	0	0	0	0	81	100	7	181	2	2	25	19	29	43	48	0	0	91	26	301	327
Total	0	0	0	0	0	0	303	405	10	708	12	3	115	82	130	201	278	0	0	479	92	1317	1409
05:00 PM	0	0	0	0	0	0	67	84	6	151	1	1	18	13	20	44	66	0	0	110	19	281	300
05:15 PM	0	0	0	0	0	0	62	61	4	123	2	0	29	21	31	44	63	0	0	107	25	261	286
05:30 PM	0	0	0	0	0	0	62	59	1	121	2	0	33	23	35	55	82	0	0	137	24	293	317
05:45 PM	0	0	0	0	0	0	42	54	3	96	7	0	28	16	35	51	79	0	0	130	19	261	280
Total	0	0	0	0	0	0	233	258	14	491	12	1	108	73	121	194	290	0	0	484	87	1096	1183
Grand Total	0	0	0	0	0	0	536	663	24	1199	24	4	223	155	251	395	568	0	0	963	179	2413	2592
Apprch %	0	0	0			0	44.7	55.3			9.6	1.6	88.8			41	59	0					
Total %	0	0	0		0	0	22.2	27.5		49.7	1	0.2	9.2		10.4	16.4	23.5	0		39.9	6.9	93.1	

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	72	93	165	2	0	21	23	**61**	77	0	138	326
04:15 PM	0	0	0	0	0	56	81	137	**4**	1	29	34	55	**85**	0	**140**	311
04:30 PM	0	0	0	0	0	**94**	**131**	**225**	4	0	**40**	**44**	42	68	0	110	**379**
04:45 PM	0	0	0	0	0	81	100	181	2	**2**	25	29	43	48	0	91	301
Total Volume	0	0	0	0	0	303	405	708	12	3	115	130	201	278	0	479	1317
% App. Total	0	0	0		0	42.8	57.2		9.2	2.3	88.5		42	58	0		
PHF	.000	.000	.000	.000	.000	.806	.773	.787	.750	.375	.719	.739	.824	.818	.000	.855	.869

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City of Perris
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File Name : 03_PER_215N_Harley Knox PM
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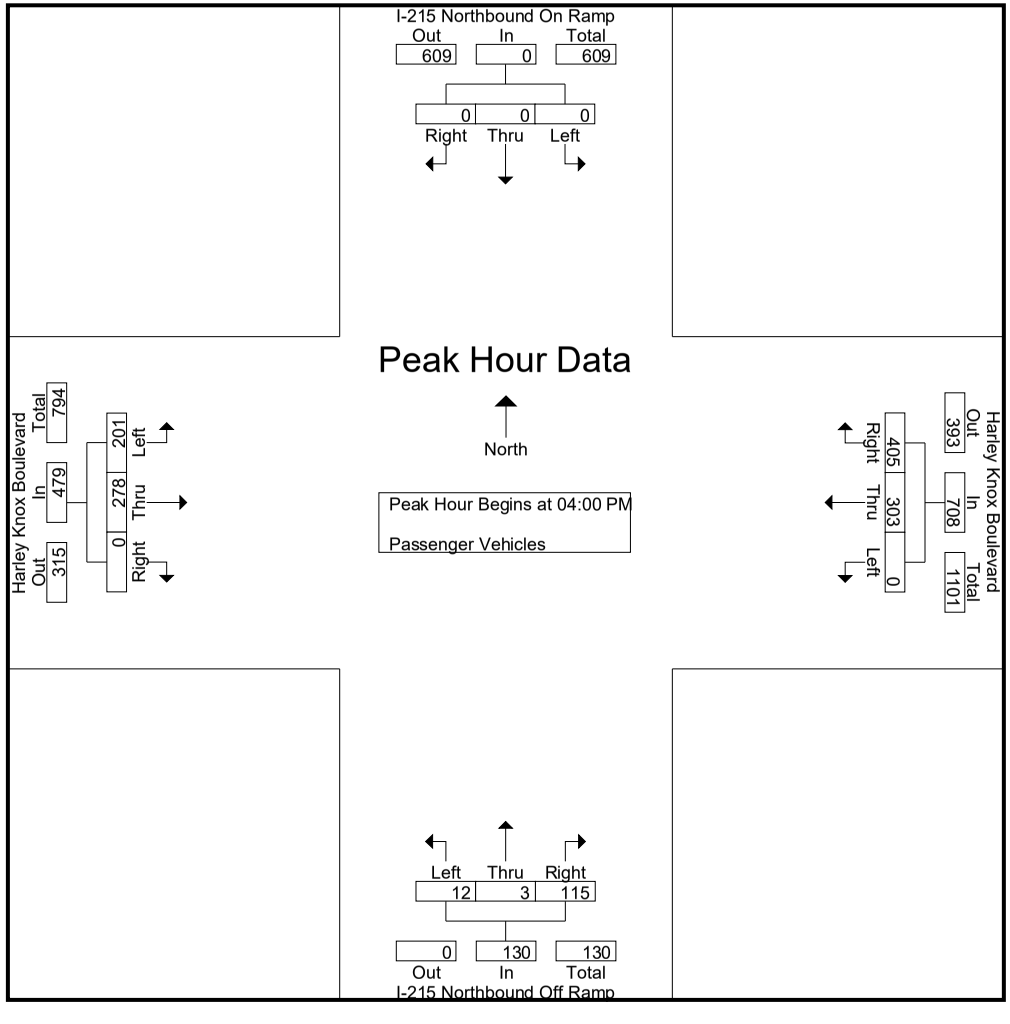
Start Date : 9/25/2018
Page No : 2



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	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	72	93	165	2	0	21	23	**61**	77	0	138	
+15 mins.	0	0	0	0	0	56	81	137	**4**	1	29	34	55	**85**	0	**140**	
+30 mins.	0	0	0	0	0	**94**	**131**	**225**	4	0	**40**	**44**	42	68	0	110	
+45 mins.	0	0	0	0	0	81	100	181	2	**2**	25	29	43	48	0	91	
Total Volume	0	0	0	0	0	303	405	708	12	3	115	130	201	278	0	479	
% App. Total	0	0	0		0	42.8	57.2		9.2	2.3	88.5		42	58	0		
PHF	.000	.000	.000	.000	.000	.806	.773	.787	.750	.375	.719	.739	.824	.818	.000	.855	

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(951) 268-6268

City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- Large 2 Axle Vehicles

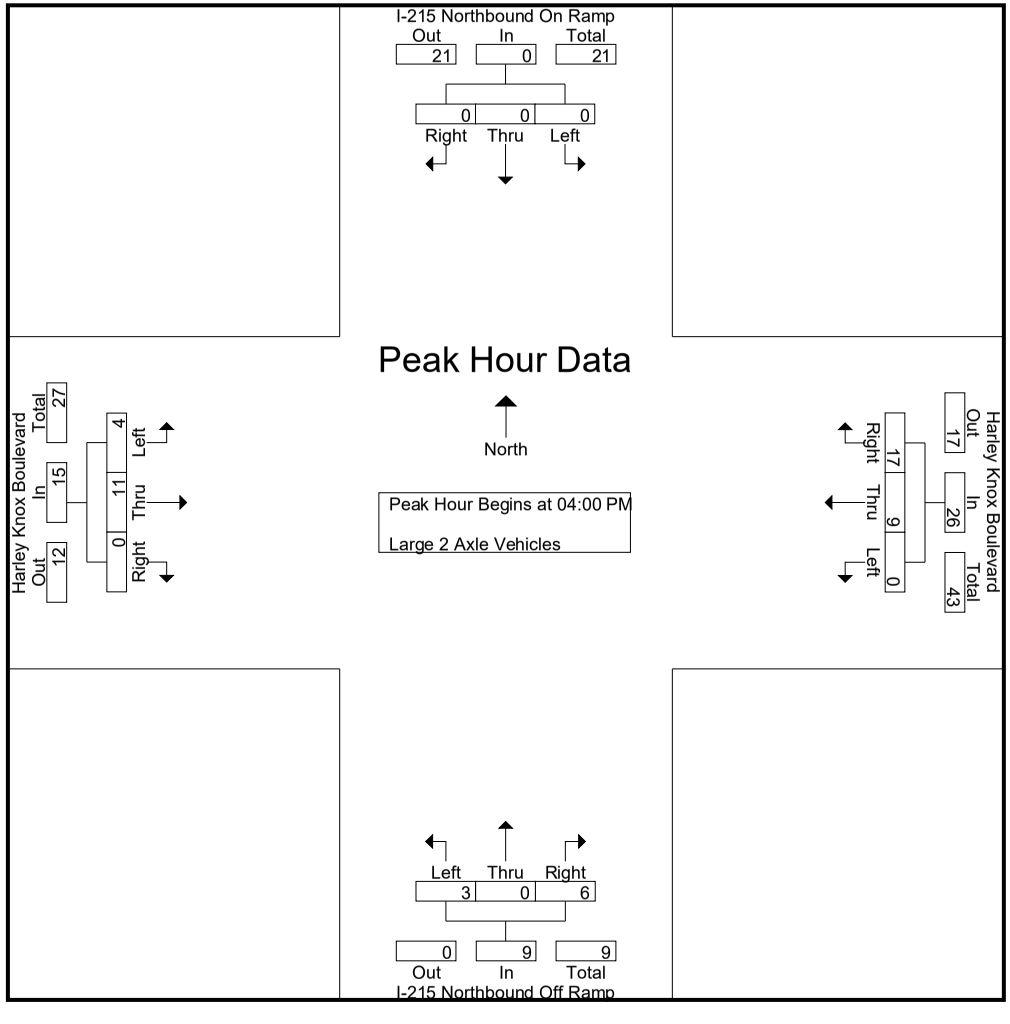
	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	3	3	0	6	1	0	4	3	5	1	4	0	0	5	3	16	19
04:15 PM	0	0	0	0	0	0	5	8	1	13	0	0	1	1	1	0	2	0	0	2	2	16	18
04:30 PM	0	0	0	0	0	0	0	2	0	2	2	0	0	0	2	2	1	0	0	3	0	7	7
04:45 PM	0	0	0	0	0	0	1	4	0	5	0	0	1	0	1	1	4	0	0	5	0	11	11
Total	0	0	0	0	0	0	9	17	1	26	3	0	6	4	9	4	11	0	0	15	5	50	55
05:00 PM	0	0	0	0	0	0	1	3	1	4	0	0	2	1	2	1	1	0	0	2	2	8	10
05:15 PM	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	1	3	0	0	4	0	9	9
05:30 PM	0	0	0	0	0	0	0	4	0	4	0	1	2	2	3	2	2	0	0	4	2	11	13
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	3	3
Total	0	0	0	0	0	0	5	9	1	14	0	1	4	3	5	5	7	0	0	12	4	31	35
Grand Total	0	0	0	0	0	0	14	26	2	40	3	1	10	7	14	9	18	0	0	27	9	81	90
Apprch %	0	0	0			0	35	65			21.4	7.1	71.4			33.3	66.7	0					
Total %	0	0	0		0	0	17.3	32.1		49.4	3.7	1.2	12.3		17.3	11.1	22.2	0		33.3	10	90	

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	3	3	6	1	0	**4**	**5**	1	**4**	0	**5**	**16**
04:15 PM	0	0	0	0	0	**5**	**8**	**13**	0	0	1	1	0	2	0	2	16
04:30 PM	0	0	0	0	0	0	2	2	**2**	0	0	2	**2**	1	0	3	7
04:45 PM	0	0	0	0	0	1	4	5	0	0	1	1	1	4	0	5	11
Total Volume	0	0	0	0	0	9	17	26	3	0	6	9	4	11	0	15	50
% App. Total	0	0	0		0	34.6	65.4		33.3	0	66.7		26.7	73.3	0		
PHF	.000	.000	.000	.000	.000	.450	.531	.500	.375	.000	.375	.450	.500	.688	.000	.750	.781

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

City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	3	3	6	1	0	**4**	**5**	1	**4**	0	**5**	
+15 mins.	0	0	0	0	0	**5**	**8**	**13**	0	0	1	1	0	2	0	2	
+30 mins.	0	0	0	0	0	0	2	2	**2**	0	0	2	**2**	1	0	3	
+45 mins.	0	0	0	0	0	1	4	5	0	0	1	1	1	4	0	5	
Total Volume	0	0	0	0	0	9	17	26	3	0	6	9	4	11	0	15	
% App. Total	0	0	0		0	34.6	65.4		33.3	0	66.7		26.7	73.3	0		
PHF	.000	.000	.000	.000	.000	.450	.531	.500	.375	.000	.375	.450	.500	.688	.000	.750	

Counts Unlimited
PO Box 1178
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(951) 268-6268

City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- 3 Axle Vehicles

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	1	0	2	1	0	2	2	3	0	3	0	0	3	2	8	10
04:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	2	2	2	1	2	0	0	3	2	6	8
04:30 PM	0	0	0	0	0	0	0	2	1	2	0	0	4	4	4	0	0	0	0	0	5	6	11
04:45 PM	0	0	0	0	0	0	0	4	1	4	0	0	6	4	6	0	1	0	0	1	5	11	16
Total	0	0	0	0	0	0	1	8	2	9	1	0	14	12	15	1	6	0	0	7	14	31	45
05:00 PM	0	0	0	0	0	0	3	4	1	7	0	0	8	4	8	0	7	0	0	7	5	22	27
05:15 PM	0	0	0	0	0	0	1	2	0	3	0	0	8	5	8	0	2	0	0	2	5	13	18
05:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	2	1	2	0	3	0	0	3	1	6	7
05:45 PM	0	0	0	0	0	0	2	3	0	5	0	0	3	1	3	1	3	0	0	4	1	12	13
Total	0	0	0	0	0	0	6	10	1	16	0	0	21	11	21	1	15	0	0	16	12	53	65
Grand Total	0	0	0	0	0	0	7	18	3	25	1	0	35	23	36	2	21	0	0	23	26	84	110
Apprch %	0	0	0			0	28	72			2.8	0	97.2			8.7	91.3	0					
Total %	0	0	0		0	0	8.3	21.4		29.8	1.2	0	41.7		42.9	2.4	25	0		27.4	23.6	76.4	

3.1-92

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**1**	1	2	**1**	0	2	3	0	**3**	0	**3**	8
04:15 PM	0	0	0	0	0	0	1	1	0	0	2	2	**1**	2	0	3	6
04:30 PM	0	0	0	0	0	0	2	2	0	0	4	4	0	0	0	0	6
04:45 PM	0	0	0	0	0	0	**4**	**4**	0	0	**6**	**6**	0	1	0	1	**11**
Total Volume	0	0	0	0	0	1	8	9	1	0	14	15	1	6	0	7	31
% App. Total	0	0	0		0	11.1	88.9		6.7	0	93.3		14.3	85.7	0		
PHF	.000	.000	.000	.000	.000	.250	.500	.563	.250	.000	.583	.625	.250	.500	.000	.583	.705

Counts Unlimited
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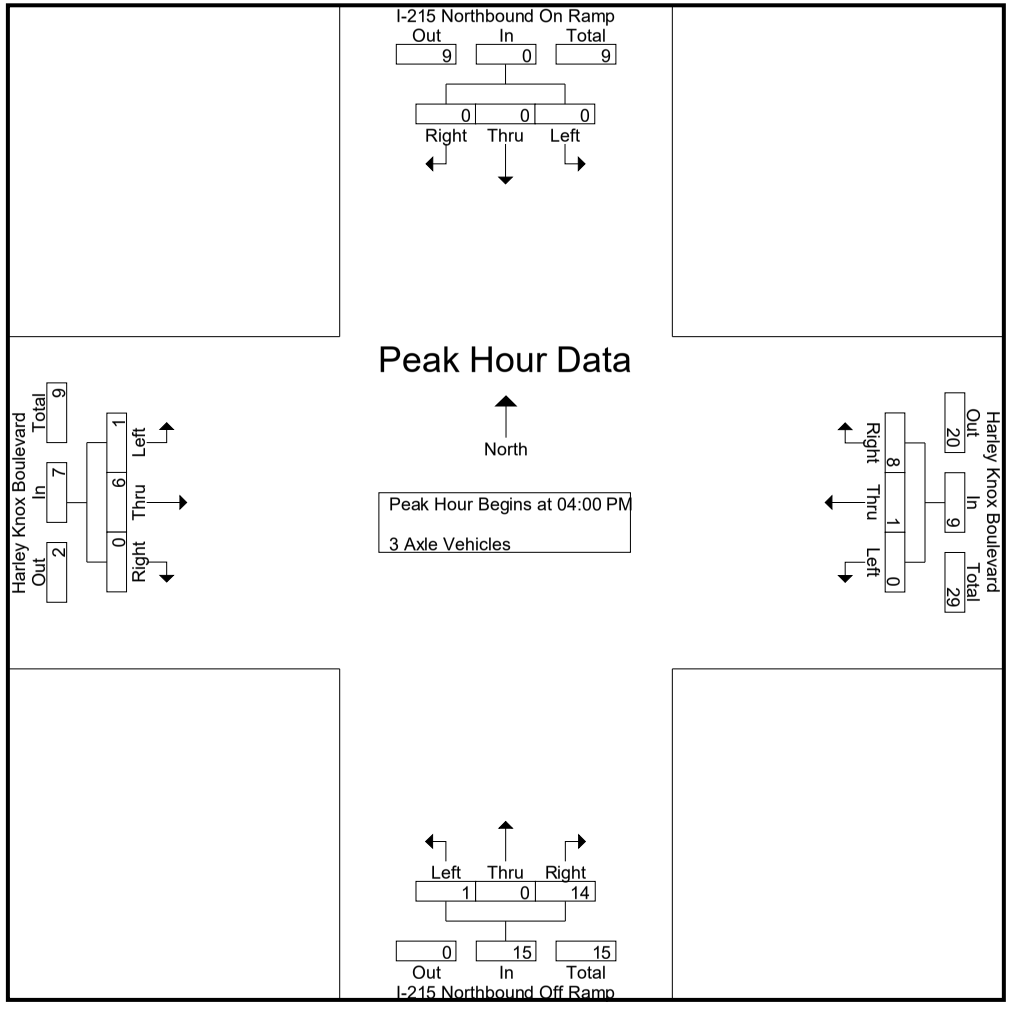
(951) 268-6268

City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	**1**	1	2	**1**	0	2	3	0	**3**	0	**3**	
+15 mins.	0	0	0	0	0	0	1	1	0	0	2	2	**1**	2	0	3	
+30 mins.	0	0	0	0	0	0	2	2	0	0	4	4	0	0	0	0	
+45 mins.	0	0	0	0	0	0	**4**	**4**	0	0	**6**	**6**	0	1	0	1	
Total Volume	0	0	0	0	0	1	8	9	1	0	14	15	1	6	0	7	
% App. Total	0	0	0		0	11.1	88.9		6.7	0	93.3		14.3	85.7	0		
PHF	.000	.000	.000	.000	.000	.250	.500	.563	.250	.000	.583	.625	.250	.500	.000	.583	

Counts Unlimited
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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 1

Groups Printed- 4+ Axle Trucks

	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	3	6	1	9	1	0	1	1	2	5	5	0	0	10	2	21	23
04:15 PM	0	0	0	0	0	0	4	14	0	18	0	0	0	0	0	1	8	0	0	9	0	27	27
04:30 PM	0	0	0	0	0	0	1	11	0	12	0	0	1	1	1	3	6	0	0	9	1	22	23
04:45 PM	0	0	0	0	0	0	0	15	0	15	0	0	1	0	1	1	8	0	0	9	0	25	25
Total	0	0	0	0	0	0	8	46	1	54	1	0	3	2	4	10	27	0	0	37	3	95	98
05:00 PM	0	0	0	0	0	0	1	8	0	9	0	0	1	1	1	2	6	0	0	8	1	18	19
05:15 PM	0	0	0	0	0	0	2	7	1	9	0	0	1	0	1	2	6	0	0	8	1	18	19
05:30 PM	0	0	0	0	0	0	3	5	0	8	1	0	0	0	1	3	11	0	0	14	0	23	23
05:45 PM	0	0	0	0	0	0	0	9	0	9	0	0	1	0	1	1	8	0	0	9	0	19	19
Total	0	0	0	0	0	0	6	29	1	35	1	0	3	1	4	8	31	0	0	39	2	78	80
Grand Total	0	0	0	0	0	0	14	75	2	89	2	0	6	3	8	18	58	0	0	76	5	173	178
Apprch %	0	0	0			0	15.7	84.3			25	0	75			23.7	76.3	0					
Total %	0	0	0		0	0	8.1	43.4		51.4	1.2	0	3.5		4.6	10.4	33.5	0		43.9	2.8	97.2	

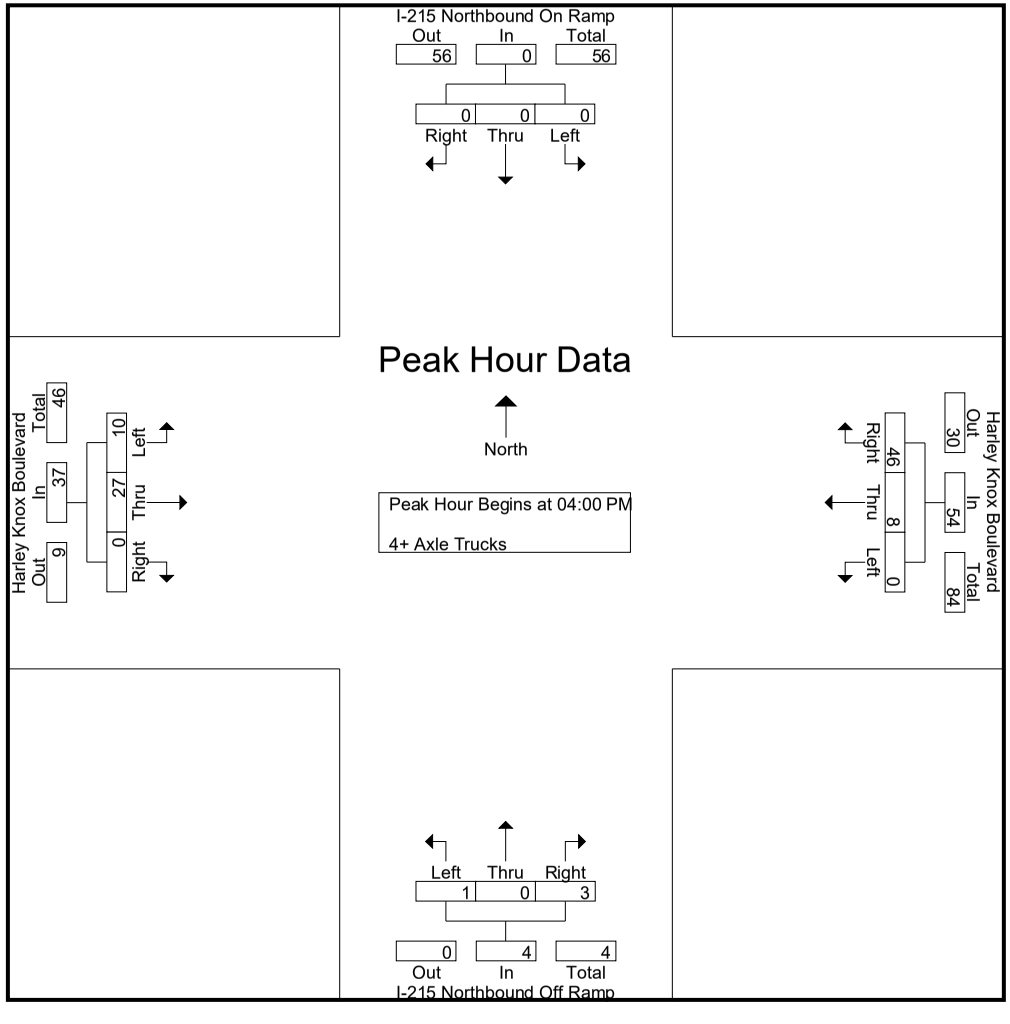
3.1-95

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	3	6	9	**1**	0	**1**	**2**	**5**	5	0	**10**	21
04:15 PM	0	0	0	0	0	**4**	14	**18**	0	0	0	0	1	**8**	0	9	**27**
04:30 PM	0	0	0	0	0	1	11	12	0	0	1	1	3	6	0	9	22
04:45 PM	0	0	0	0	0	0	**15**	15	0	0	1	1	1	8	0	9	25
Total Volume	0	0	0	0	0	8	46	54	1	0	3	4	10	27	0	37	95
% App. Total	0	0	0		0	14.8	85.2		25	0	75		27	73	0		
PHF	.000	.000	.000	.000	.000	.500	.767	.750	.250	.000	.750	.500	.500	.844	.000	.925	.880

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

City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard
Weather: Clear

File Name : 03_PER_215N_Harley Knox PM
Site Code : 05118711
Start Date : 9/25/2018
Page No : 3

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	3	6	9	**1**	0	**1**	**2**	**5**	5	0	**10**	
+15 mins.	0	0	0	0	0	**4**	14	**18**	0	0	0	0	1	**8**	0	9	
+30 mins.	0	0	0	0	0	1	11	12	0	0	1	1	3	6	0	9	
+45 mins.	0	0	0	0	0	0	**15**	15	0	0	1	1	1	8	0	9	
Total Volume	0	0	0	0	0	8	46	54	1	0	3	4	10	27	0	37	
% App. Total	0	0	0		0	14.8	85.2		25	0	75		27	73	0		
PHF	.000	.000	.000	.000	.000	.500	.767	.750	.250	.000	.750	.500	.500	.844	.000	.925	

Location: Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard

Date: 9/25/2018
Day: Tuesday

PEDESTRIANS

	North Leg I-215 Northbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Northbound Ramps	West Leg Harley Knox Boulevard	
	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 Harley Knox Boulevard	South Leg I-215 Northbound Ramps	West Leg Harley Knox Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	1	0	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:	1	0	0	0	1

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

Location: Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard

Date: 9/25/2018
Day: Tuesday

BICYCLES

	Southbound I-215 Northbound Ramps			Westbound Harley Knox Boulevard			Northbound I-215 Northbound Ramps			Eastbound Harley Knox Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

	Southbound I-215 Northbound Ramps			Westbound Harley Knox Boulevard			Northbound I-215 Northbound Ramps			Eastbound Harley Knox Boulevard			
	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

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APPENDIX 3.2:

EXISTING (2019) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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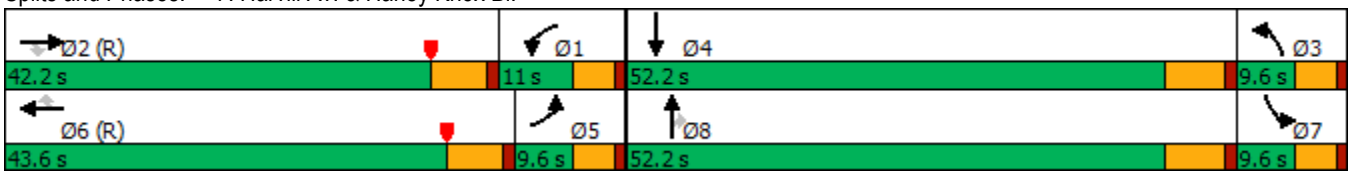
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	1	2	4	301	26	13	9	5	475	9	2
Future Volume (vph)	1	2	4	301	26	13	9	5	475	9	2
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	41.8	41.8	9.6	38.8	38.8	9.6	48.2	48.2	9.6	52.2
Total Split (s)	9.6	42.2	42.2	11.0	43.6	43.6	9.6	52.2	52.2	9.6	52.2
Total Split (%)	8.3%	36.7%	36.7%	9.6%	37.9%	37.9%	8.3%	45.4%	45.4%	8.3%	45.4%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	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	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Max	C-Max	None	Max	Max	None	Min

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 7: Harvill Av. & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	2	4	301	26	13	9	5	475	9	2	0
Future Volume (veh/h)	1	2	4	301	26	13	9	5	475	9	2	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	2	1	314	27	9	9	5	161	9	2	0
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	267	157	70	1268	1187	529	665	760	1134	20	157	0
Arrive On Green	0.08	0.04	0.04	0.36	0.33	0.33	0.37	0.40	0.40	0.01	0.04	0.00
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	1810	1900	2834	1810	3705	0
Grp Volume(v), veh/h	1	2	1	314	27	9	9	5	161	9	2	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1810	1900	1417	1810	1805	0
Q Serve(g_s), s	0.0	0.1	0.1	7.2	0.6	0.4	0.4	0.2	4.2	0.6	0.1	0.0
Cycle Q Clear(g_c), s	0.0	0.1	0.1	7.2	0.6	0.4	0.4	0.2	4.2	0.6	0.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	267	157	70	1268	1187	529	665	760	1134	20	157	0
V/C Ratio(X)	0.00	0.01	0.01	0.25	0.02	0.02	0.01	0.01	0.14	0.46	0.01	0.00
Avail Cap(c_a), veh/h	267	1143	510	1268	1187	529	665	760	1134	79	1444	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	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.1	52.6	52.6	25.8	26.1	26.1	23.1	20.8	21.9	56.5	52.6	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.4	0.0	0.0	0.1	0.0	0.0	0.3	6.1	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	0.0	0.0	0.0	2.9	0.2	0.2	0.1	0.1	1.4	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	52.8	53.0	25.8	26.1	26.1	23.1	20.8	22.2	62.6	52.7	0.0
LnGrp LOS	D	D	D	C	C	C	C	C	C	E	D	A
Approach Vol, veh/h		4			350			175			11	
Approach Delay, s/veh		51.9			25.8			22.2			60.8	
Approach LOS		D			C			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	46.2	10.8	46.8	11.2	13.4	43.6	5.8	52.2
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.4	36.4	5.0	46.0	5.0	37.8	5.0	46.0
Max Q Clear Time (g_c+I1), s	9.2	2.1	2.4	2.1	2.0	2.6	2.6	6.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.6

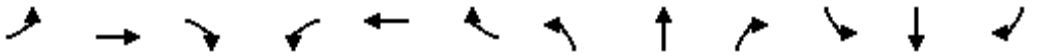
Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	478	7	145	178	2	163
Future Volume (vph)	478	7	145	178	2	163
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)	25.5	25.5	9.5	25.5	10.5	10.5
Total Split (s)	26.0	26.0	13.0	39.0	31.0	31.0
Total Split (%)	37.1%	37.1%	18.6%	55.7%	44.3%	44.3%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
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)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0.5 (1%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 8: I-215 SB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	478	7	145	178	0	0	0	0	471	2	163
Future Volume (veh/h)	0	478	7	145	178	0	0	0	0	471	2	163
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	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	520	7	158	193	0				512	2	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1083	482	298	1936	0				578	2	517
Arrive On Green	0.00	0.30	0.30	0.05	0.18	0.00				0.32	0.32	0.32
Sat Flow, veh/h	0	3705	1607	1810	3705	0				1803	7	1610
Grp Volume(v), veh/h	0	520	7	158	193	0				514	0	120
Grp Sat Flow(s),veh/h/ln	0	1805	1607	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	8.2	0.2	6.0	3.1	0.0				18.9	0.0	3.8
Cycle Q Clear(g_c), s	0.0	8.2	0.2	6.0	3.1	0.0				18.9	0.0	3.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1083	482	298	1936	0				581	0	517
V/C Ratio(X)	0.00	0.48	0.01	0.53	0.10	0.00				0.89	0.00	0.23
Avail Cap(c_a), veh/h	0	1083	482	298	1936	0				672	0	598
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	0.96	0.96	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.0	17.2	30.5	14.6	0.0				22.6	0.0	17.4
Incr Delay (d2), s/veh	0.0	1.5	0.1	0.9	0.1	0.0				12.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.3	0.1	2.6	1.1	0.0				8.9	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.5	17.3	31.4	14.7	0.0				34.8	0.0	17.7
LnGrp LOS	A	C	B	C	B	A				C	A	B
Approach Vol, veh/h		527			351						634	
Approach Delay, s/veh		21.4			22.2						31.5	
Approach LOS		C			C						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	16.5	26.0		27.5		42.5
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	8.5	* 21		26.0		34.0
Max Q Clear Time (g_c+I1), s	8.0	10.2		20.9		5.1
Green Ext Time (p_c), s	0.0	1.6		1.6		0.7

Intersection Summary		
HCM 6th Ctrl Delay		25.9
HCM 6th LOS		C

Notes

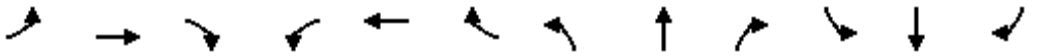
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	280	670	313	718	0	81
Future Volume (vph)	280	670	313	718	0	81
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)	9.5	26.0	24.0	24.0	10.0	10.0
Total Split (s)	21.8	60.0	38.2	38.2	10.0	10.0
Total Split (%)	31.1%	85.7%	54.6%	54.6%	14.3%	14.3%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
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)	4.5	5.0	5.0	5.0	5.0	5.0
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: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 9: I-215 NB Ramp & Harley Knox Bl.



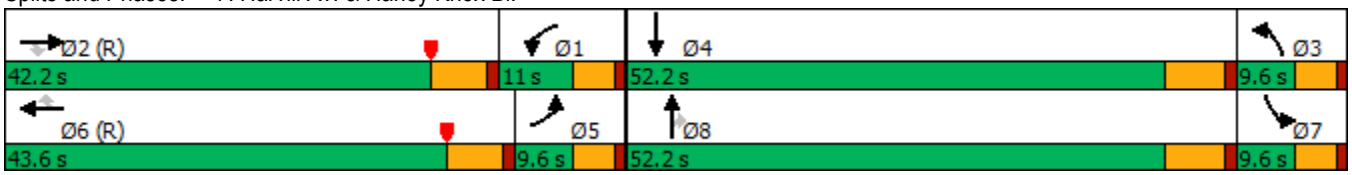
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	670	0	0	313	718	11	0	81	0	0	0
Future Volume (veh/h)	280	670	0	0	313	718	11	0	81	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking 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	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	301	720	0	0	337	709	12	0	22			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	338	2836	0	0	1930	861	129	0	115			
Arrive On Green	0.37	1.00	0.00	0.00	0.53	0.53	0.07	0.00	0.07			
Sat Flow, veh/h	1810	3705	0	0	3705	1610	1810	0	1610			
Grp Volume(v), veh/h	301	720	0	0	337	709	12	0	22			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	10.9	0.0	0.0	0.0	3.4	25.6	0.4	0.0	0.9			
Cycle Q Clear(g_c), s	10.9	0.0	0.0	0.0	3.4	25.6	0.4	0.0	0.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	338	2836	0	0	1930	861	129	0	115			
V/C Ratio(X)	0.89	0.25	0.00	0.00	0.17	0.82	0.09	0.00	0.19			
Avail Cap(c_a), veh/h	447	2836	0	0	1930	861	129	0	115			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.90	0.90	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	21.2	0.0	0.0	0.0	8.4	13.5	30.4	0.0	30.6			
Incr Delay (d2), s/veh	12.4	0.2	0.0	0.0	0.2	8.8	1.4	0.0	3.7			
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	4.4	0.1	0.0	0.0	1.1	9.0	0.2	0.0	0.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.6	0.2	0.0	0.0	8.6	22.3	31.8	0.0	34.3			
LnGrp LOS	C	A	A	A	A	C	C	A	C			
Approach Vol, veh/h		1021			1046			34				
Approach Delay, s/veh		10.1			17.9			33.4				
Approach LOS		B			B			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		60.0			17.6	42.4		10.0				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		55.0			17.3	33.2		5.0				
Max Q Clear Time (g_c+I1), s		2.0			12.9	27.6		2.9				
Green Ext Time (p_c), s		3.1			0.2	1.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			14.3									
HCM 6th LOS			B									

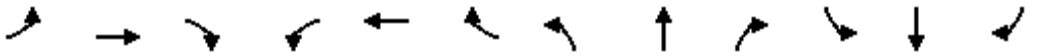
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	1	34	3	322	1	10	1	3	332	11	9
Future Volume (vph)	1	34	3	322	1	10	1	3	332	11	9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	41.8	41.8	9.6	38.8	38.8	9.6	48.2	48.2	9.6	52.2
Total Split (s)	9.6	42.2	42.2	11.0	43.6	43.6	9.6	52.2	52.2	9.6	52.2
Total Split (%)	8.3%	36.7%	36.7%	9.6%	37.9%	37.9%	8.3%	45.4%	45.4%	8.3%	45.4%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	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	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Max	C-Max	None	Max	Max	None	Min

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 7: Harvill Av. & Harley Knox Bl.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	34	3	322	1	10	1	3	332	11	9	1
Future Volume (veh/h)	1	34	3	322	1	10	1	3	332	11	9	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	37	0	346	1	7	1	3	88	12	10	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	257	173	77	1243	1187	523	629	760	1134	25	238	0
Arrive On Green	0.07	0.05	0.00	0.35	0.33	0.33	0.35	0.40	0.40	0.01	0.07	0.00
Sat Flow, veh/h	3510	3610	1610	3510	3610	1590	1810	1900	2834	1810	3705	0
Grp Volume(v), veh/h	1	37	0	346	1	7	1	3	88	12	10	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1590	1810	1900	1417	1810	1805	0
Q Serve(g_s), s	0.0	1.1	0.0	8.1	0.0	0.3	0.0	0.1	2.2	0.8	0.3	0.0
Cycle Q Clear(g_c), s	0.0	1.1	0.0	8.1	0.0	0.3	0.0	0.1	2.2	0.8	0.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	257	173	77	1243	1187	523	629	760	1134	25	238	0
V/C Ratio(X)	0.00	0.21	0.00	0.28	0.00	0.01	0.00	0.00	0.08	0.48	0.04	0.00
Avail Cap(c_a), veh/h	257	1143	510	1243	1187	523	629	760	1134	79	1444	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	1.00	0.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.4	52.7	0.0	26.6	25.9	26.0	24.5	20.7	21.4	56.3	50.3	0.0
Incr Delay (d2), s/veh	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.6	0.0	3.3	0.0	0.1	0.0	0.0	0.7	0.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	55.5	0.0	26.7	25.9	26.1	24.5	20.7	21.5	61.5	50.4	0.0
LnGrp LOS	D	E	A	C	C	C	C	C	C	E	D	A
Approach Vol, veh/h		38			354			92			22	
Approach Delay, s/veh		55.3			26.7			21.5			56.4	
Approach LOS		E			C			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.3	11.3	44.6	13.8	13.0	43.6	6.2	52.2
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.4	36.4	5.0	46.0	5.0	37.8	5.0	46.0
Max Q Clear Time (g_c+I1), s	10.1	3.1	2.0	2.3	2.0	2.3	2.8	4.2
Green Ext Time (p_c), s	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.3

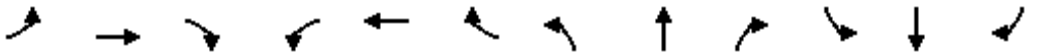
Intersection Summary	
HCM 6th Ctrl Delay	29.2
HCM 6th LOS	C

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	363	14	258	172	7	162
Future Volume (vph)	363	14	258	172	7	162
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)	25.5	25.5	9.5	25.5	10.5	10.5
Total Split (s)	26.4	26.4	28.4	54.8	35.2	35.2
Total Split (%)	29.3%	29.3%	31.6%	60.9%	39.1%	39.1%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
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)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 8: I-215 SB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	363	14	258	172	0	0	0	0	378	7	162
Future Volume (veh/h)	0	363	14	258	172	0	0	0	0	378	7	162
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	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	395	12	280	187	0				411	8	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1453	648	313	2258	0				468	9	424
Arrive On Green	0.00	0.40	0.40	0.29	1.00	0.00				0.26	0.26	0.26
Sat Flow, veh/h	0	3705	1610	1810	3705	0				1777	35	1610
Grp Volume(v), veh/h	0	395	12	280	187	0				419	0	100
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1810	1805	0				1811	0	1610
Q Serve(g_s), s	0.0	6.6	0.4	13.3	0.0	0.0				20.0	0.0	4.4
Cycle Q Clear(g_c), s	0.0	6.6	0.4	13.3	0.0	0.0				20.0	0.0	4.4
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	1453	648	313	2258	0				477	0	424
V/C Ratio(X)	0.00	0.27	0.02	0.89	0.08	0.00				0.88	0.00	0.24
Avail Cap(c_a), veh/h	0	1453	648	481	2258	0				608	0	540
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.98	0.98	0.95	0.95	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.0	16.2	31.2	0.0	0.0				31.8	0.0	26.0
Incr Delay (d2), s/veh	0.0	0.5	0.1	8.9	0.1	0.0				11.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.6	0.1	5.5	0.0	0.0				9.6	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.5	16.2	40.1	0.1	0.0				43.3	0.0	26.3
LnGrp LOS	A	B	B	D	A	A				D	A	C
Approach Vol, veh/h		407			467						519	
Approach Delay, s/veh		18.4			24.1						40.1	
Approach LOS		B			C						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.1	41.2		28.7		61.3						
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0						
Max Green Setting (Gmax), s	23.9	21.4		30.2		49.8						
Max Q Clear Time (g_c+I1), s	15.3	8.6		22.0		2.0						
Green Ext Time (p_c), s	0.3	1.2		1.7		0.7						

Intersection Summary												
HCM 6th Ctrl Delay			28.4									
HCM 6th LOS			C									

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	226	515	410	549	4	241
Future Volume (vph)	226	515	410	549	4	241
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)	9.5	26.0	24.0	24.0	10.0	10.0
Total Split (s)	24.0	62.0	38.0	38.0	28.0	28.0
Total Split (%)	26.7%	68.9%	42.2%	42.2%	31.1%	31.1%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
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)	4.5	5.0	5.0	5.0	5.0	5.0
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: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 9: I-215 NB Ramp & Harley Knox Bl.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	226	515	0	0	410	549	20	4	241	0	0	0
Future Volume (veh/h)	226	515	0	0	410	549	20	4	241	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	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	272	620	0	0	494	609	24	5	91			
Peak Hour Factor	0.83	0.83	0.92	0.92	0.83	0.83	0.83	0.83	0.83			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	302	2286	0	0	1503	670	386	80	411			
Arrive On Green	0.33	1.00	0.00	0.00	0.42	0.42	0.26	0.26	0.26			
Sat Flow, veh/h	1810	3705	0	0	3705	1610	1510	315	1610			
Grp Volume(v), veh/h	272	620	0	0	494	609	29	0	91			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1610	1825	0	1610			
Q Serve(g_s), s	12.9	0.0	0.0	0.0	8.3	32.0	1.1	0.0	4.0			
Cycle Q Clear(g_c), s	12.9	0.0	0.0	0.0	8.3	32.0	1.1	0.0	4.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.83		1.00			
Lane Grp Cap(c), veh/h	302	2286	0	0	1503	670	466	0	411			
V/C Ratio(X)	0.90	0.27	0.00	0.00	0.33	0.91	0.06	0.00	0.22			
Avail Cap(c_a), veh/h	392	2286	0	0	1503	670	466	0	411			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.96	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	29.2	0.0	0.0	0.0	17.8	24.7	25.3	0.0	26.4			
Incr Delay (d2), s/veh	16.4	0.3	0.0	0.0	0.6	18.4	0.3	0.0	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.6	0.1	0.0	0.0	3.3	14.2	0.5	0.0	1.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.7	0.3	0.0	0.0	18.3	43.1	25.6	0.0	27.7			
LnGrp LOS	D	A	A	A	B	D	C	A	C			
Approach Vol, veh/h		892			1103			120				
Approach Delay, s/veh		14.1			32.0			27.2				
Approach LOS		B			C			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		62.0			19.5	42.5		28.0				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		57.0			19.5	33.0		23.0				
Max Q Clear Time (g_c+I1), s		2.0			14.9	34.0		6.0				
Green Ext Time (p_c), s		2.6			0.2	0.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			24.2									
HCM 6th LOS			C									

APPENDIX 3.3:

EXISTING (2019) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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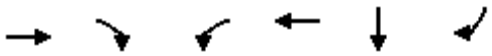


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	520	8	158	193	514	177
v/c Ratio	0.43	0.01	0.72	0.10	0.84	0.27
Control Delay	20.3	0.0	47.6	3.6	35.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	0.0	47.6	3.6	35.1	3.9
Queue Length 50th (ft)	94	0	73	25	191	0
Queue Length 95th (ft)	138	0	#157	12	#336	35
Internal Link Dist (ft)	813			329	1352	
Turn Bay Length (ft)			60			265
Base Capacity (vph)	1204	599	219	1875	672	711
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.01	0.72	0.10	0.76	0.25

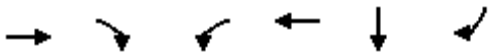
Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	301	720	337	772	12	87
v/c Ratio	0.79	0.25	0.18	0.75	0.09	0.42
Control Delay	46.5	0.8	10.2	12.3	32.2	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	0.8	10.2	12.3	32.2	12.7
Queue Length 50th (ft)	123	8	40	107	5	0
Queue Length 95th (ft)	m177	11	65	#278	20	33
Internal Link Dist (ft)		329	1505		1112	
Turn Bay Length (ft)	60					270
Base Capacity (vph)	446	2836	1839	1027	128	209
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.25	0.18	0.75	0.09	0.42

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.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	395	15	280	187	419	176
v/c Ratio	0.31	0.02	0.77	0.09	0.82	0.30
Control Delay	24.2	0.1	75.3	3.4	43.3	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	0.1	75.3	3.4	43.3	5.0
Queue Length 50th (ft)	86	0	175	6	217	0
Queue Length 95th (ft)	145	0	244	11	310	43
Internal Link Dist (ft)	813			329	1352	
Turn Bay Length (ft)			60			265
Base Capacity (vph)	1282	624	479	2187	607	658
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.02	0.58	0.09	0.69	0.27

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	272	620	494	661	29	290
v/c Ratio	0.81	0.27	0.34	0.64	0.06	0.46
Control Delay	53.6	9.0	20.4	4.9	25.9	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.6	9.0	20.4	4.9	25.9	6.1
Queue Length 50th (ft)	168	104	103	0	13	0
Queue Length 95th (ft)	229	107	134	41	31	44
Internal Link Dist (ft)		329	1505		1112	
Turn Bay Length (ft)	60					270
Base Capacity (vph)	391	2286	1434	1039	466	628
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.27	0.34	0.64	0.06	0.46

Intersection Summary

APPENDIX 3.4:

EXISTING (2019) CONDITIONS FREEWAY FACILITY ANALYSIS WORKSHEETS

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HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	Existing 2019
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 SB, North of Harley Knox	5280	3
2	Diverge	Diverge	I-215 SB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 SB, Between Ramps	2350	3
4	Merge	Merge	I-215 SB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 SB, South of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4343	7200	0.60	69.3	20.9	C

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.826	4343	654	7200	2100	0.60	0.31	64.2	60.0	22.5	27.8	C

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	3677	7200	0.51	70.0	17.5	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.862	3837	160	7200	2100	0.53	0.08	62.7	60.6	20.4	21.9	C

Segment 5: Basic

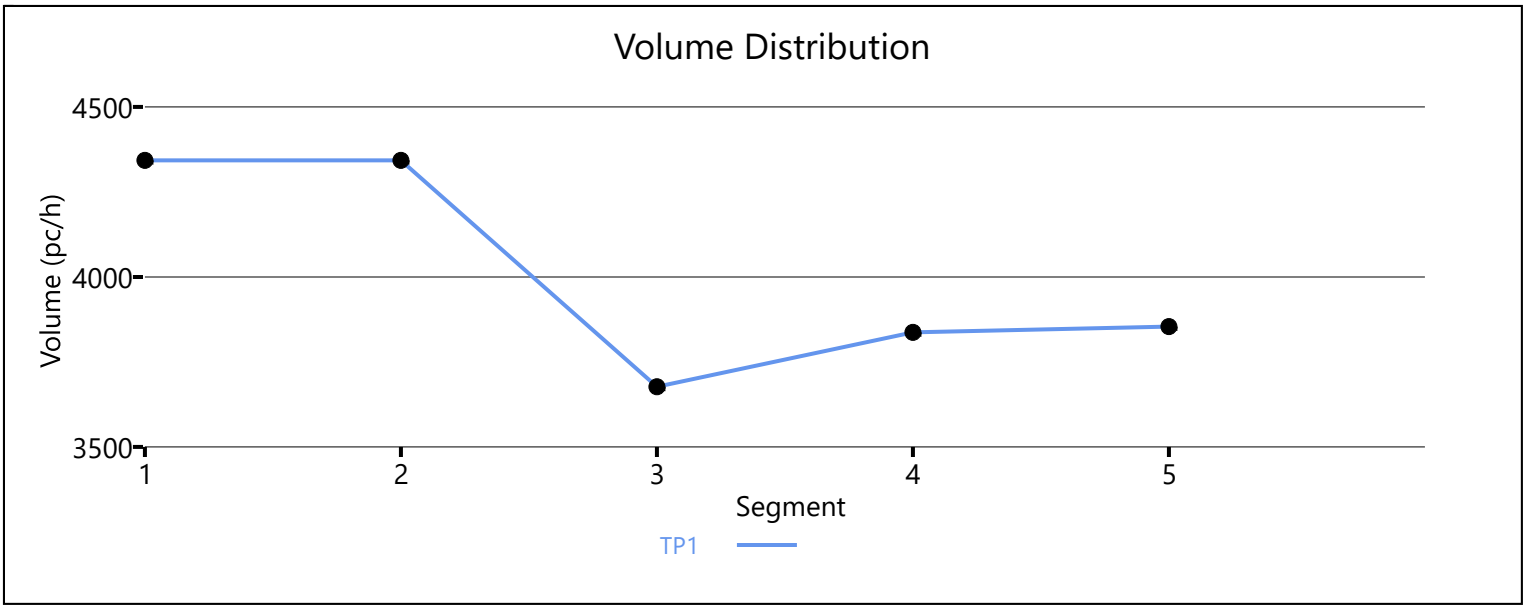
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	3854	7200	0.54	69.9	18.4	C

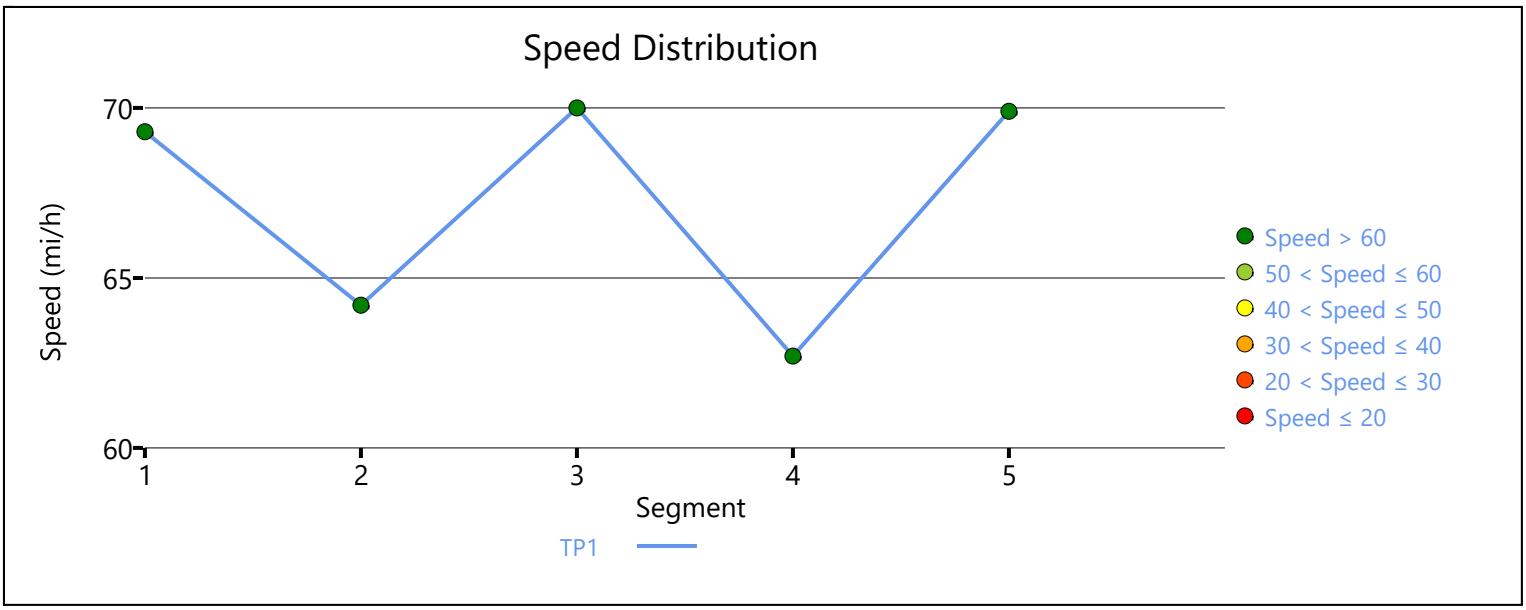
Facility Time Period Results

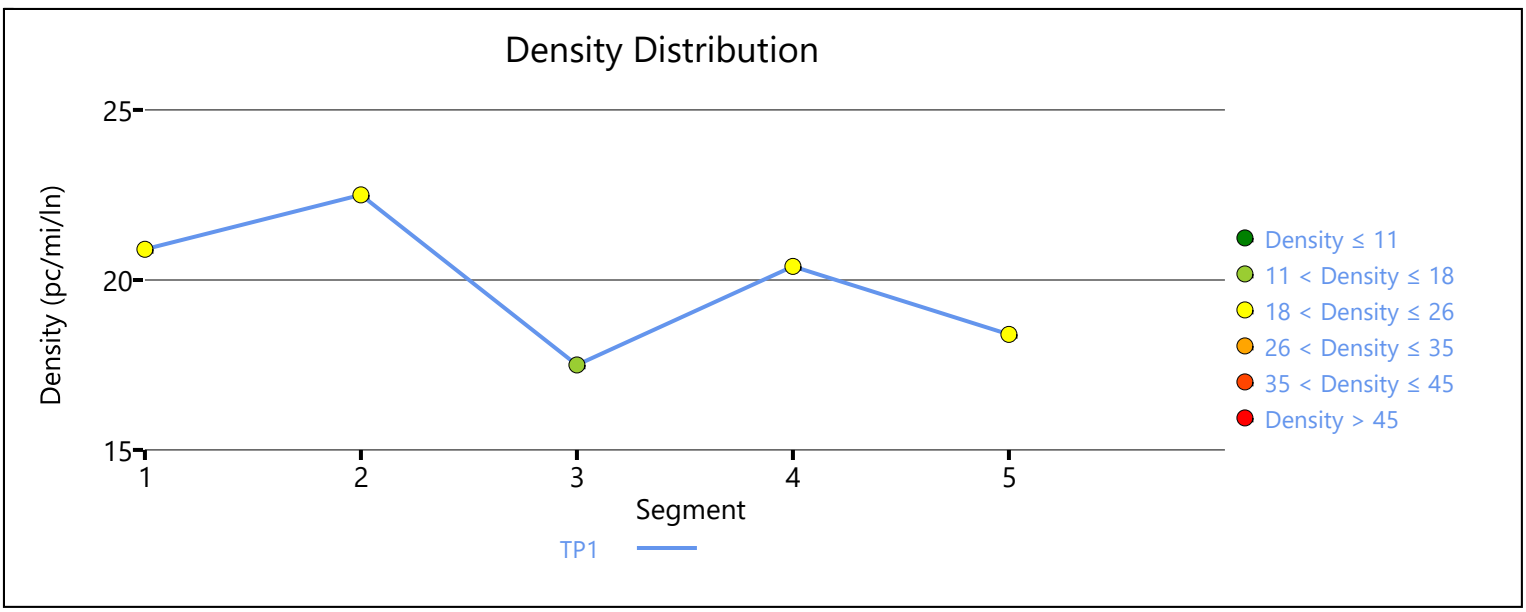
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	68.4	19.7	19.3	2.6	C

Facility Overall Results

Space Mean Speed, mi/h	68.4	Density, veh/mi/ln	19.3
Average Travel Time, min	2.6	Density, pc/mi/ln	19.7







HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	Existing 2019
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 NB, South of Harley Knox	5280	3
2	Diverge	Diverge	I-215 NB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 NB, Between Ramps	2350	3
4	Merge	Merge	I-215 NB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 NB, North of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	7073	7200	0.98	54.5	43.3	E

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.885	7073	1040	7200	2100	0.98	0.50	62.8	59.0	37.5	39.3	E

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	6059	7200	0.84	62.2	32.5	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.909	6159	100	7200	2100	0.86	0.05	59.4	57.6	34.6	32.1	D

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	6153	7200	0.85	61.6	33.3	D

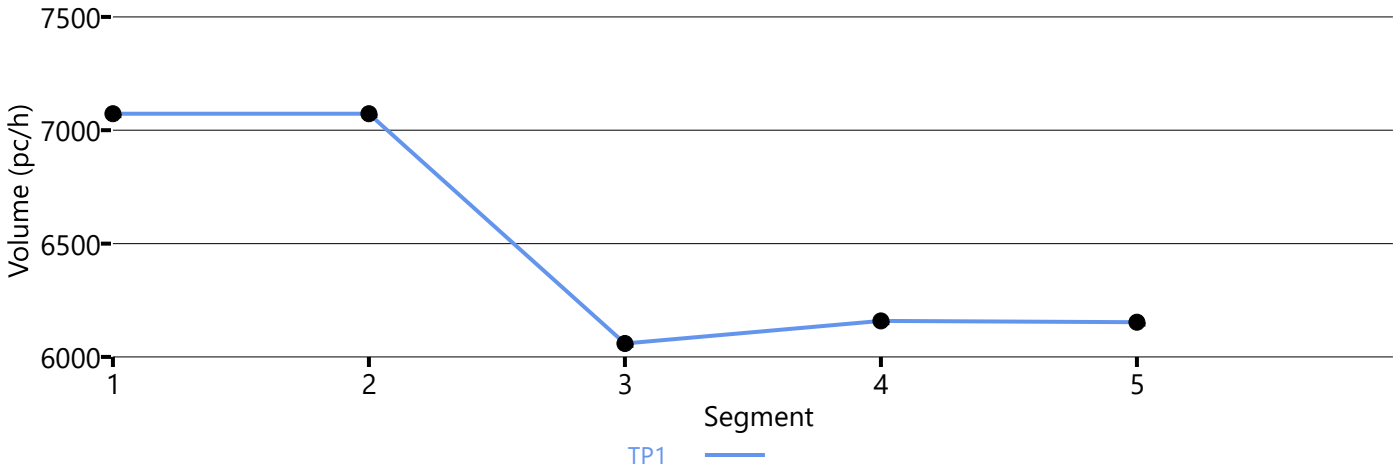
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.9	37.0	35.8	3.1	E

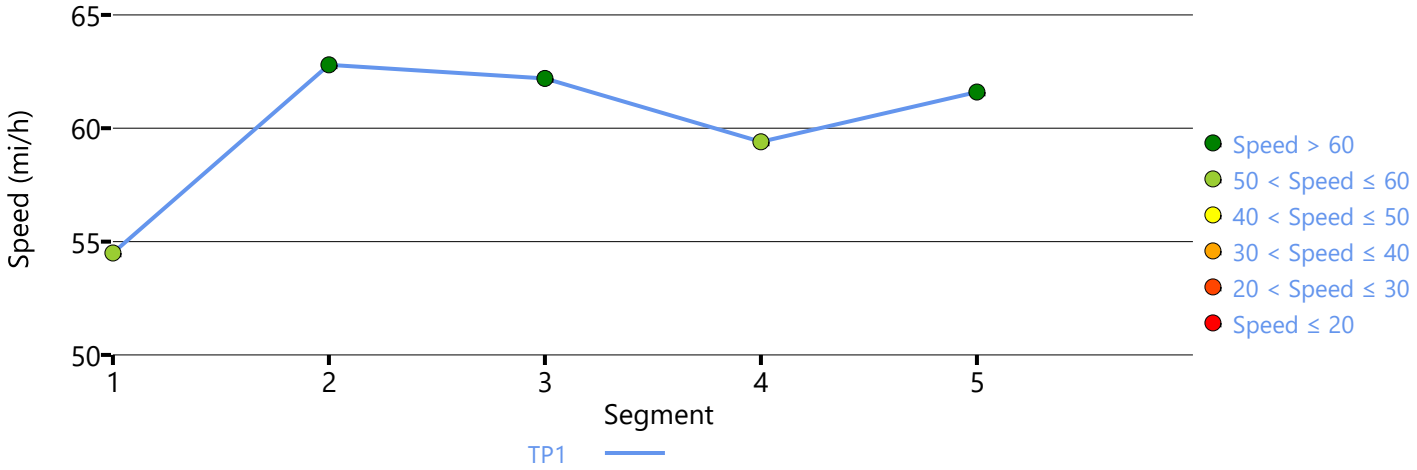
Facility Overall Results

Space Mean Speed, mi/h	58.9	Density, veh/mi/ln	35.8
Average Travel Time, min	3.1	Density, pc/mi/ln	37.0

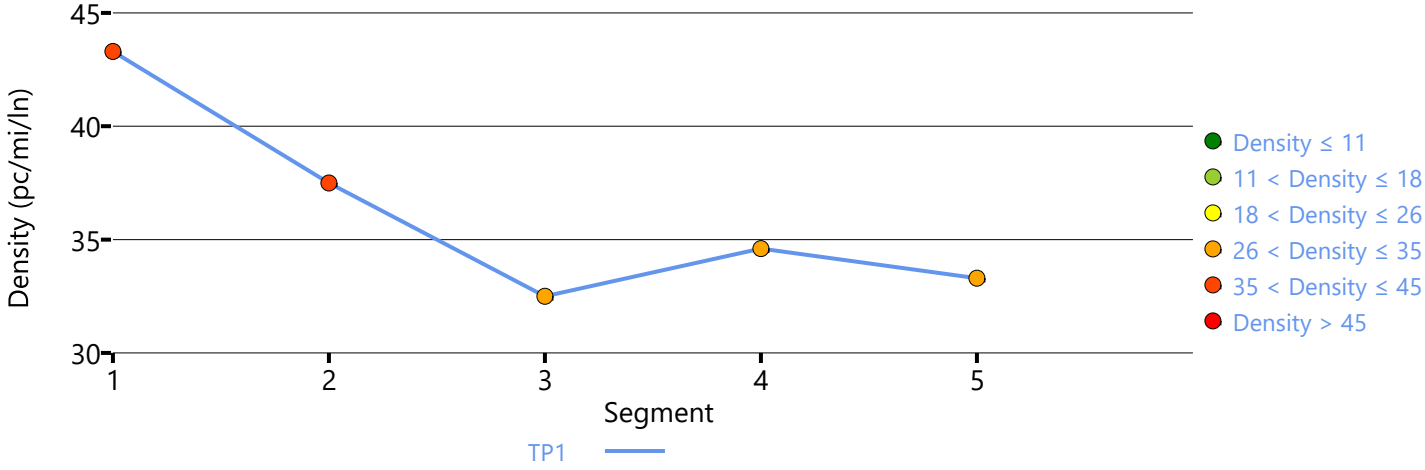
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	Existing 2019
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 SB, North of Harley Knox	5280	3
2	Diverge	Diverge	I-215 SB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 SB, Between Ramps	2350	3
4	Merge	Merge	I-215 SB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 SB, South of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.980	5852	7200	0.81	63.5	30.7	D

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.833	5852	549	7200	2100	0.81	0.26	64.3	60.3	30.3	34.0	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	5277	7200	0.73	66.4	26.5	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.962	5579	302	7200	2100	0.77	0.14	60.4	58.4	30.8	30.2	D

Segment 5: Basic

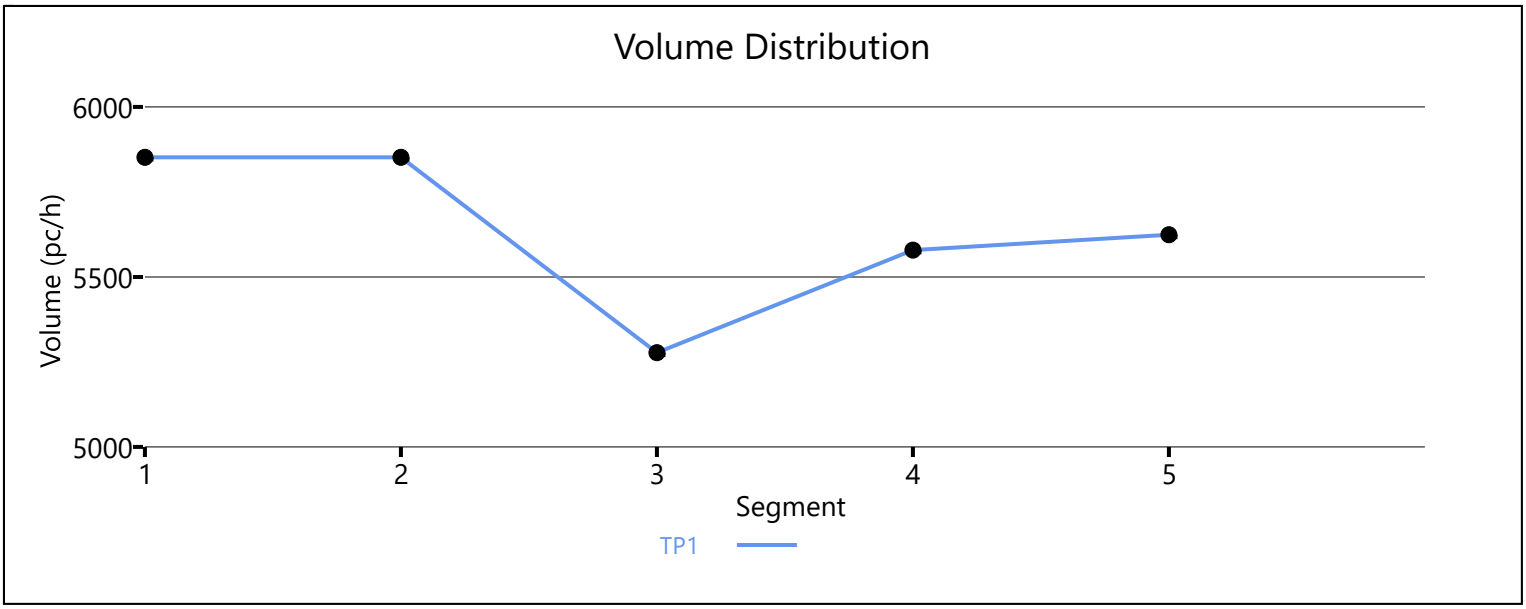
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	5624	7200	0.78	64.7	29.0	D

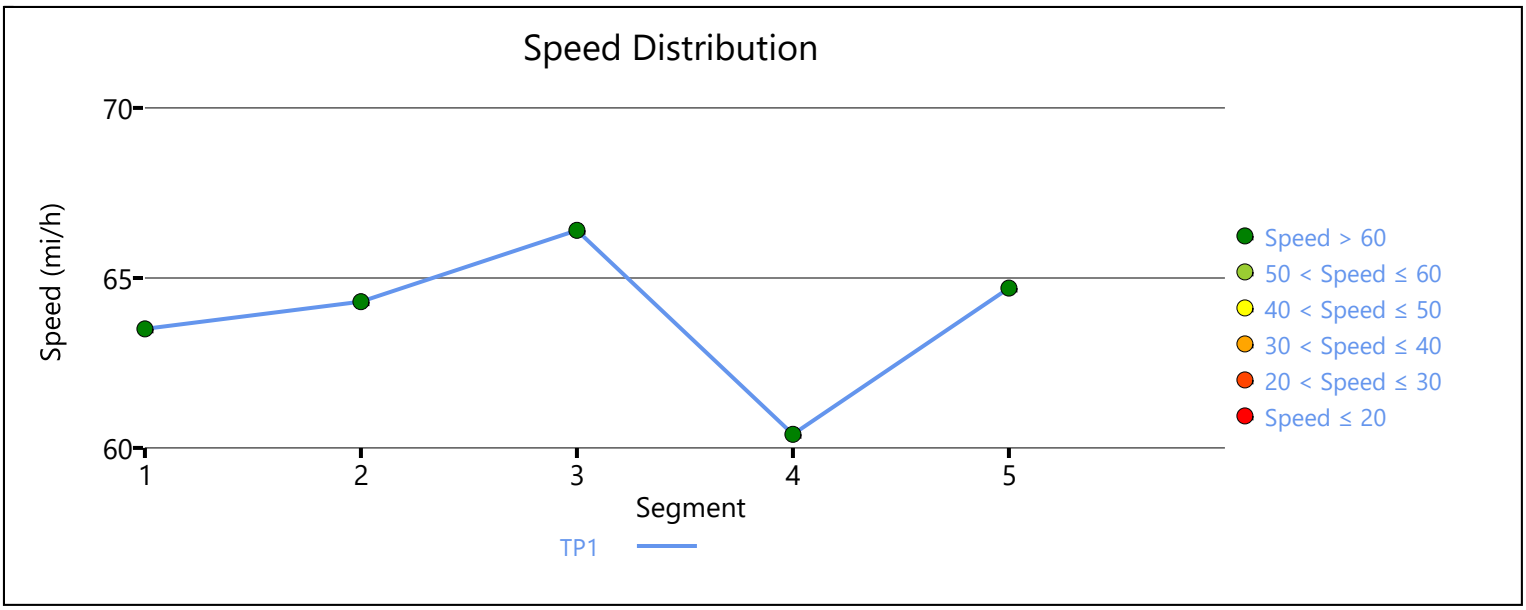
Facility Time Period Results

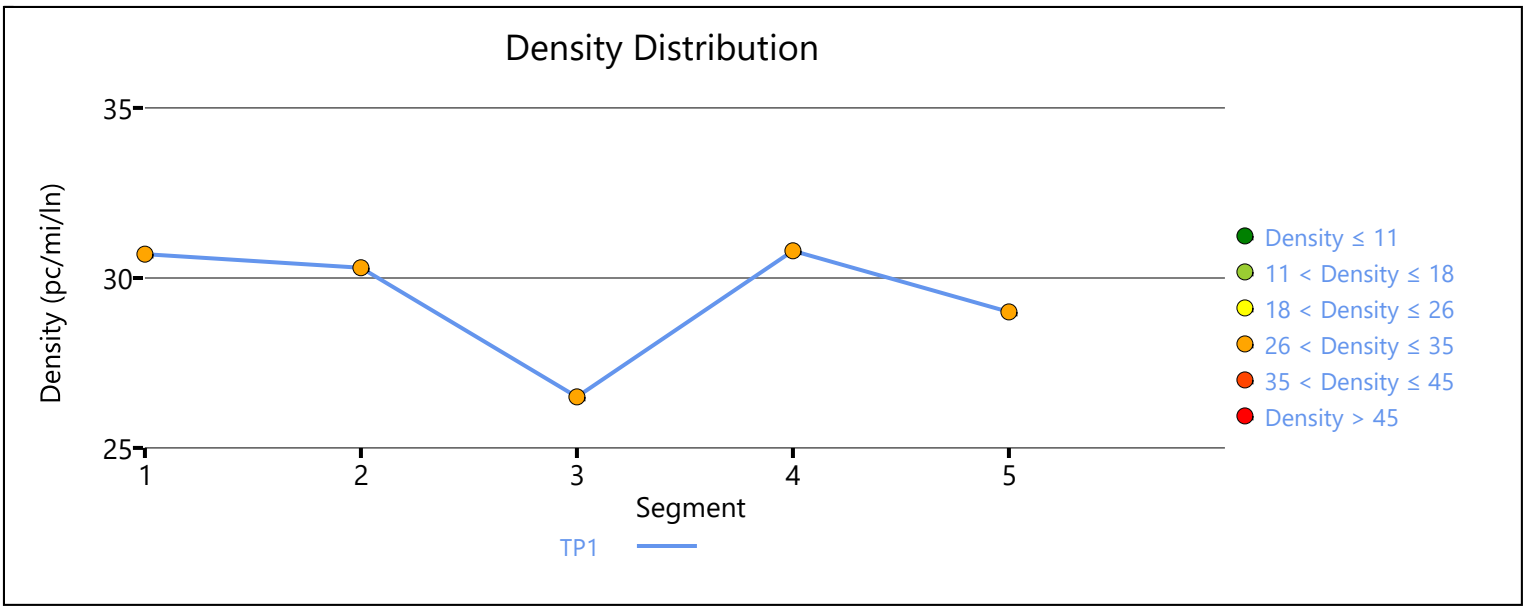
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	64.1	29.5	29.1	2.8	D

Facility Overall Results

Space Mean Speed, mi/h	64.1	Density, veh/mi/ln	29.1
Average Travel Time, min	2.8	Density, pc/mi/ln	29.5







HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	Existing 2019
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 NB, South of Harley Knox	5280	3
2	Diverge	Diverge	I-215 NB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 NB, Between Ramps	2350	3
4	Merge	Merge	I-215 NB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 NB, North of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	5793	7200	0.80	63.8	30.3	D

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.877	5793	796	7200	2100	0.80	0.38	63.7	59.6	30.3	33.5	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	4977	7200	0.69	67.6	24.5	C

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.990	0.833	5267	290	7200	2100	0.73	0.14	61.1	59.1	28.7	28.5	D

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.980	5274	7200	0.73	66.4	26.5	D

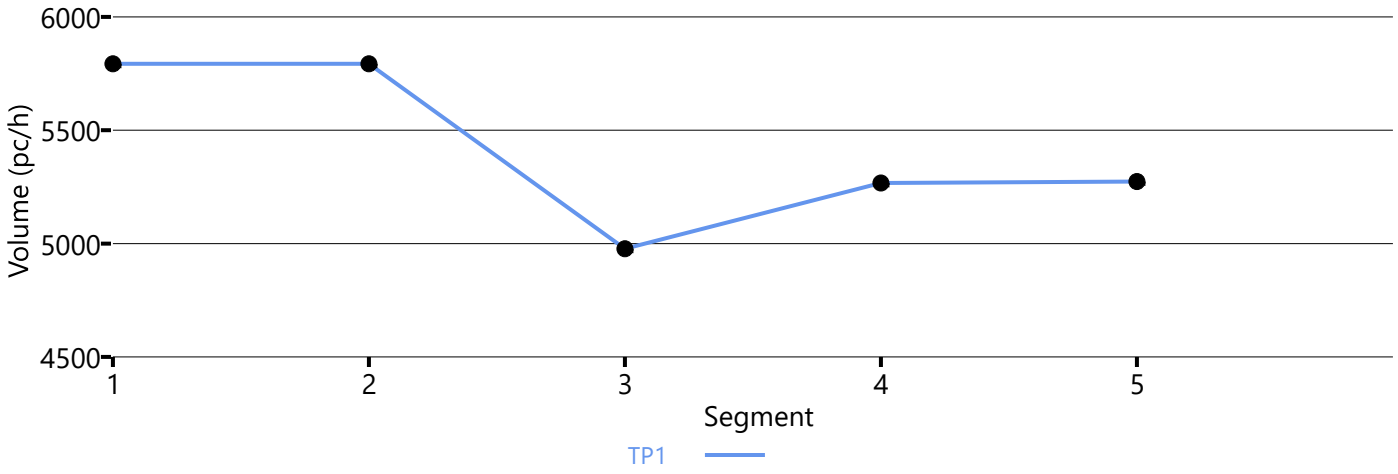
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	64.8	28.0	27.4	2.8	D

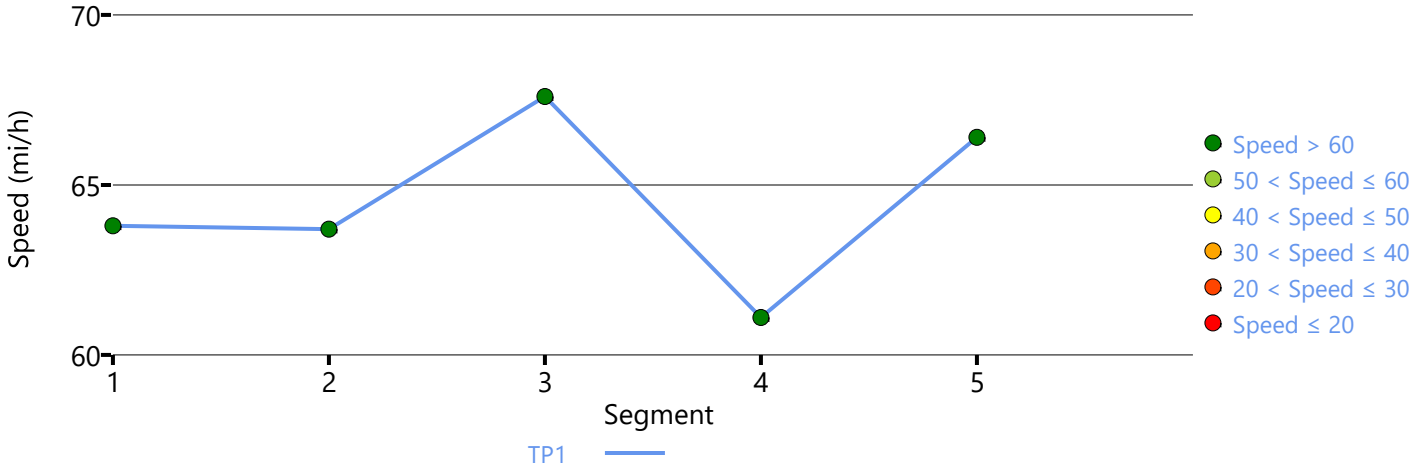
Facility Overall Results

Space Mean Speed, mi/h	64.8	Density, veh/mi/ln	27.4
Average Travel Time, min	2.8	Density, pc/mi/ln	28.0

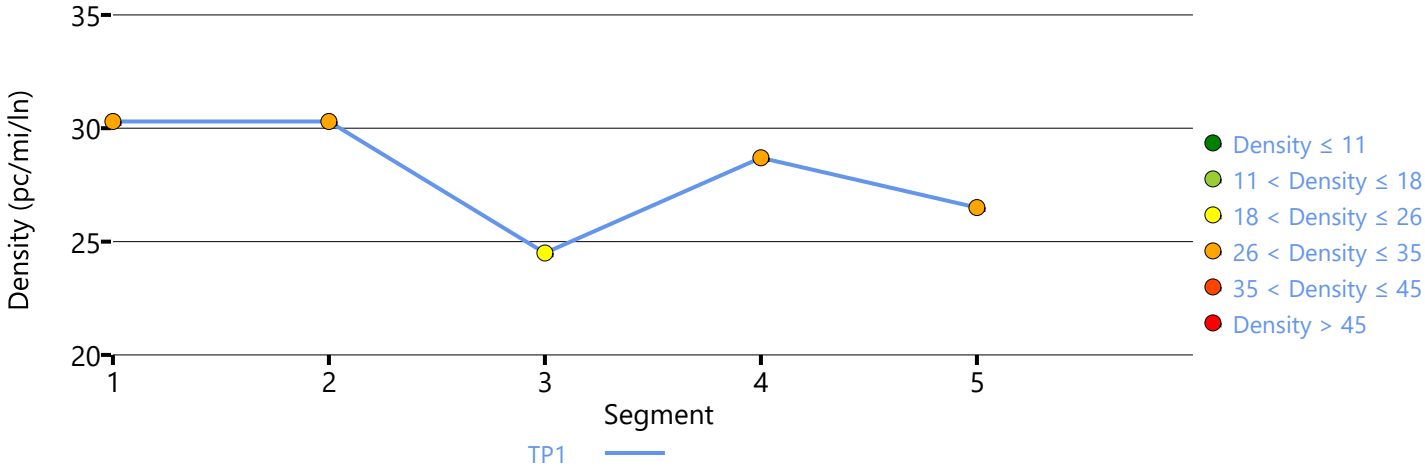
Volume Distribution



Speed Distribution



Density Distribution



APPENDIX 5.1:

E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	7.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	14	0	0	5
Future Vol, veh/h	0	0	14	0	0	5
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, %	0	0	0	0	0	0
Mvmt Flow	0	0	15	0	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	31	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	30	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1635	-	988	1090
Stage 1	-	-	-	-	1028	-
Stage 2	-	-	-	-	998	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1635	-	979	1090
Mov Cap-2 Maneuver	-	-	-	-	979	-
Stage 1	-	-	-	-	1028	-
Stage 2	-	-	-	-	989	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1090	-	-	1635	-
HCM Lane V/C Ratio	0.005	-	-	0.009	-
HCM Control Delay (s)	8.3	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	6	2	0
Future Vol, veh/h	0	0	0	6	2	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	7	2	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	7	0	-	0	4	4
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1627	-	-	-	1023	1085
Stage 1	-	-	-	-	1024	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1627	-	-	-	1023	1085
Mov Cap-2 Maneuver	-	-	-	-	935	-
Stage 1	-	-	-	-	1024	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1627	-	-	-	935
HCM Lane V/C Ratio	-	-	-	-	0.002
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	6	8	2	0
Future Vol, veh/h	0	2	6	8	2	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	2	7	9	2	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	16	0	-	0	14	12
Stage 1	-	-	-	-	12	-
Stage 2	-	-	-	-	2	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1615	-	-	-	1010	1074
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	1026	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1615	-	-	-	1010	1074
Mov Cap-2 Maneuver	-	-	-	-	926	-
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	1026	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1615	-	-	-	926
HCM Lane V/C Ratio	-	-	-	-	0.002
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	14	0	0
Future Vol, veh/h	5	0	0	14	0	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	-	0	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	0	0	15	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	5	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1630	-	1002	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1630	-	1002	1084
Mov Cap-2 Maneuver	-	-	-	-	921	-
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	1630	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	0	0	113	0	0	0	0	0	0	0
Future Vol, veh/h	0	37	0	0	113	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	40	0	0	123	0	0	0	0	0	0	0
Number of Lanes	1	1	0	1	1	1	1	1	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	7.7	8.1	0	0
HCM LOS	A	A	-	-

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	37	0	113	0	0	0	0
LT Vol	0	0	0	0	0	0	0	0	0	0
Through Vol	0	0	0	37	0	113	0	0	0	0
RT Vol	0	0	0	0	0	0	0	0	0	0
Lane Flow Rate	0	0	0	40	0	123	0	0	0	0
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0	0	0	0.052	0	0.155	0	0	0	0
Departure Headway (Hd)	4.943	4.943	4.667	4.667	4.555	4.555	4.555	4.943	4.943	3.2
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	0	0	761	0	787	0	0	0	0
Service Time	2.643	2.643	2.438	2.438	2.28	2.28	2.28	2.643	2.643	0.937
HCM Lane V/C Ratio	0	0	0	0.053	0	0.156	0	0	0	0
HCM Control Delay	7.6	7.6	7.4	7.7	7.3	8.1	7.3	7.6	7.6	5.9
HCM Lane LOS	N	N	N	A	N	A	N	N	N	N
HCM 95th-tile Q	0	0	0	0.2	0	0.5	0	0	0	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	0	0	14	0	0	0	0	0	0	0
Future Vol, veh/h	0	5	0	0	14	0	0	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	50	-	-	100	-	-	-	-	-	0	-	-
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	5	0	0	15	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	15	0	-	5	0	0	20	20	5	20	20	15
Stage 1	-	-	-	-	-	-	5	5	-	15	15	-
Stage 2	-	-	-	-	-	-	15	15	-	5	5	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1616	-	0	1630	-	-	998	878	1084	998	878	1070
Stage 1	-	-	0	-	-	-	1022	896	-	1010	887	-
Stage 2	-	-	0	-	-	-	1010	887	-	1022	896	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1616	-	-	1630	-	-	998	878	1084	998	878	1070
Mov Cap-2 Maneuver	-	-	-	-	-	-	998	878	-	998	878	-
Stage 1	-	-	-	-	-	-	1022	896	-	1010	887	-
Stage 2	-	-	-	-	-	-	1010	887	-	1022	896	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

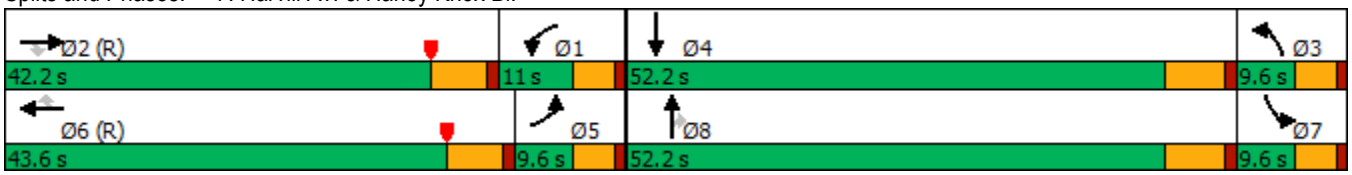
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1616	-	1630	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	0	-	-	0	0
HCM Lane LOS	A	A	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	0	-	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	1	39	4	304	139	27	9	5	476	14	2
Future Volume (vph)	1	39	4	304	139	27	9	5	476	14	2
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	41.8	41.8	9.6	38.8	38.8	9.6	48.2	48.2	9.6	52.2
Total Split (s)	9.6	42.2	42.2	11.0	43.6	43.6	9.6	52.2	52.2	9.6	52.2
Total Split (%)	8.3%	36.7%	36.7%	9.6%	37.9%	37.9%	8.3%	45.4%	45.4%	8.3%	45.4%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	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	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Max	C-Max	None	Max	Max	None	Min

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 7: Harvill Av. & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	39	4	304	139	27	9	5	476	14	2	0
Future Volume (veh/h)	1	39	4	304	139	27	9	5	476	14	2	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	41	1	317	145	23	9	5	162	15	2	0
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	247	157	70	1248	1187	529	675	760	1134	30	157	0
Arrive On Green	0.07	0.04	0.04	0.36	0.33	0.33	0.37	0.40	0.40	0.02	0.04	0.00
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	1810	1900	2834	1810	3705	0
Grp Volume(v), veh/h	1	41	1	317	145	23	9	5	162	15	2	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1810	1900	1417	1810	1805	0
Q Serve(g_s), s	0.0	1.3	0.1	7.4	3.2	1.1	0.4	0.2	4.2	0.9	0.1	0.0
Cycle Q Clear(g_c), s	0.0	1.3	0.1	7.4	3.2	1.1	0.4	0.2	4.2	0.9	0.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	247	157	70	1248	1187	529	675	760	1134	30	157	0
V/C Ratio(X)	0.00	0.26	0.01	0.25	0.12	0.04	0.01	0.01	0.14	0.50	0.01	0.00
Avail Cap(c_a), veh/h	247	1143	510	1248	1187	529	675	760	1134	79	1444	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	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.7	53.2	52.6	26.2	27.0	26.3	22.7	20.8	22.0	56.1	52.6	0.0
Incr Delay (d2), s/veh	0.0	4.0	0.4	0.0	0.2	0.2	0.0	0.0	0.3	4.7	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	0.0	0.6	0.0	3.0	1.4	0.4	0.1	0.1	1.4	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	57.2	53.0	26.3	27.2	26.4	22.7	20.8	22.2	60.8	52.7	0.0
LnGrp LOS	D	E	D	C	C	C	C	C	C	E	D	A
Approach Vol, veh/h		43			485			176			17	
Approach Delay, s/veh		56.9			26.6			22.2			59.9	
Approach LOS		E			C			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.5	10.8	47.5	11.2	12.7	43.6	6.5	52.2
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.4	36.4	5.0	46.0	5.0	37.8	5.0	46.0
Max Q Clear Time (g_c+I1), s	9.4	3.3	2.4	2.1	2.0	5.2	2.9	6.2
Green Ext Time (p_c), s	0.0	0.2	0.0	0.0	0.0	1.3	0.0	0.6

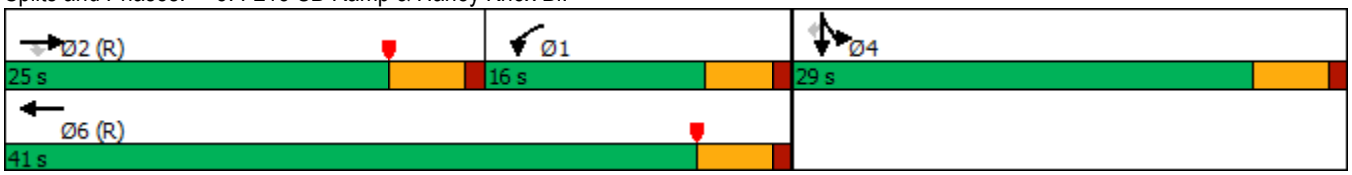
Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

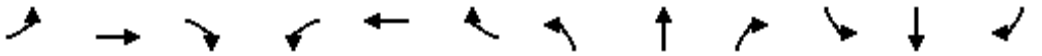
Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	509	19	145	229	2	242
Future Volume (vph)	509	19	145	229	2	242
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.5	25.5	9.5	25.5	10.5	10.5
Total Split (s)	25.0	25.0	16.0	41.0	29.0	29.0
Total Split (%)	35.7%	35.7%	22.9%	58.6%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
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)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0.5 (1%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 8: I-215 SB Ramp & Harley Knox Bl.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	509	19	145	229	0	0	0	0	471	2	242
Future Volume (veh/h)	0	509	19	145	229	0	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	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	553	20	158	249	0				512	2	206
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1031	459	333	1953	0				570	2	509
Arrive On Green	0.00	0.29	0.29	0.06	0.18	0.00				0.32	0.32	0.32
Sat Flow, veh/h	0	3705	1607	1810	3705	0				1803	7	1610
Grp Volume(v), veh/h	0	553	20	158	249	0				514	0	206
Grp Sat Flow(s),veh/h/ln	0	1805	1607	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	9.0	0.6	5.9	4.1	0.0				19.0	0.0	7.0
Cycle Q Clear(g_c), s	0.0	9.0	0.6	5.9	4.1	0.0				19.0	0.0	7.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1031	459	333	1953	0				572	0	509
V/C Ratio(X)	0.00	0.54	0.04	0.47	0.13	0.00				0.90	0.00	0.40
Avail Cap(c_a), veh/h	0	1031	459	333	1953	0				621	0	552
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	0.97	0.97	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.1	18.1	29.6	14.9	0.0				22.9	0.0	18.8
Incr Delay (d2), s/veh	0.0	1.9	0.2	0.4	0.1	0.0				15.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.6	0.2	2.5	1.4	0.0				9.4	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.0	18.3	30.0	15.0	0.0				38.1	0.0	19.3
LnGrp LOS	A	C	B	C	B	A				D	A	B
Approach Vol, veh/h		573			407						720	
Approach Delay, s/veh		22.9			20.8						32.7	
Approach LOS		C			C						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.9	25.0		27.1		42.9
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	11.5	* 20		24.0		36.0
Max Q Clear Time (g_c+I1), s	7.9	11.0		21.0		6.1
Green Ext Time (p_c), s	0.1	1.6		1.1		0.9

Intersection Summary		
HCM 6th Ctrl Delay		26.5
HCM 6th LOS		C

Notes

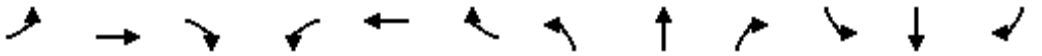
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	306	675	328	718	0	81
Future Volume (vph)	306	675	328	718	0	81
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)	9.5	26.0	24.0	24.0	10.0	10.0
Total Split (s)	21.8	60.0	38.2	38.2	10.0	10.0
Total Split (%)	31.1%	85.7%	54.6%	54.6%	14.3%	14.3%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
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)	4.5	5.0	5.0	5.0	5.0	5.0
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: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 9: I-215 NB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	306	675	0	0	328	718	47	0	81	0	0	0
Future Volume (veh/h)	306	675	0	0	328	718	47	0	81	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	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	329	726	0	0	353	709	51	0	22			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	364	2836	0	0	1877	837	129	0	115			
Arrive On Green	0.40	1.00	0.00	0.00	0.52	0.52	0.07	0.00	0.07			
Sat Flow, veh/h	1810	3705	0	0	3705	1610	1810	0	1610			
Grp Volume(v), veh/h	329	726	0	0	353	709	51	0	22			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	11.9	0.0	0.0	0.0	3.6	26.4	1.9	0.0	0.9			
Cycle Q Clear(g_c), s	11.9	0.0	0.0	0.0	3.6	26.4	1.9	0.0	0.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	364	2836	0	0	1877	837	129	0	115			
V/C Ratio(X)	0.90	0.26	0.00	0.00	0.19	0.85	0.39	0.00	0.19			
Avail Cap(c_a), veh/h	447	2836	0	0	1877	837	129	0	115			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.86	0.86	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.3	0.0	0.0	0.0	8.9	14.4	31.1	0.0	30.6			
Incr Delay (d2), s/veh	15.1	0.2	0.0	0.0	0.2	10.3	8.8	0.0	3.7			
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	4.9	0.1	0.0	0.0	1.2	9.7	1.1	0.0	0.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	0.2	0.0	0.0	9.2	24.7	39.8	0.0	34.3			
LnGrp LOS	D	A	A	A	A	C	D	A	C			
Approach Vol, veh/h		1055			1062			73				
Approach Delay, s/veh		11.1			19.6			38.2				
Approach LOS		B			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		60.0			18.6	41.4		10.0				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		55.0			17.3	33.2		5.0				
Max Q Clear Time (g_c+I1), s		2.0			13.9	28.4		3.9				
Green Ext Time (p_c), s		3.1			0.2	1.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			16.1									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	7.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	6	0	0	14
Future Vol, veh/h	0	0	6	0	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	7	0	0	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	15	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	14	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1635	-	1009	1090
Stage 1	-	-	-	-	1028	-
Stage 2	-	-	-	-	1014	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1635	-	1005	1090
Mov Cap-2 Maneuver	-	-	-	-	1005	-
Stage 1	-	-	-	-	1028	-
Stage 2	-	-	-	-	1010	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1090	-	-	1635	-
HCM Lane V/C Ratio	0.014	-	-	0.004	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	3	6	0
Future Vol, veh/h	0	0	0	3	6	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	3	7	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	3	0	-	0	2	2
Stage 1	-	-	-	-	2	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1632	-	-	-	1026	1088
Stage 1	-	-	-	-	1026	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1632	-	-	-	1026	1088
Mov Cap-2 Maneuver	-	-	-	-	937	-
Stage 1	-	-	-	-	1026	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1632	-	-	-	937
HCM Lane V/C Ratio	-	-	-	-	0.007
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	3	4	9	0
Future Vol, veh/h	0	6	3	4	9	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	7	3	4	10	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	7	0	-	0	12	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	7	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1627	-	-	-	1013	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1627	-	-	-	1013	1084
Mov Cap-2 Maneuver	-	-	-	-	929	-
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1021	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1627	-	-	-	929
HCM Lane V/C Ratio	-	-	-	-	0.011
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	14	0	0	6	0	0
Future Vol, veh/h	14	0	0	6	0	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	-	0	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	0	0	7	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	15	0	22	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	7	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1616	-	1000	1070
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1616	-	1000	1070
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1021	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	1616	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

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	0	114	0	0	49	0	0	0	0	0	0	0
Future Vol, veh/h	0	114	0	0	49	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	124	0	0	53	0	0	0	0	0	0	0
Number of Lanes	1	1	0	1	1	1	1	1	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	8.2	7.8	0	0
HCM LOS	A	A	-	-

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	114	0	49	0	0	0	0
LT Vol	0	0	0	0	0	0	0	0	0	0
Through Vol	0	0	0	114	0	49	0	0	0	0
RT Vol	0	0	0	0	0	0	0	0	0	0
Lane Flow Rate	0	0	0	124	0	53	0	0	0	0
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0	0	0	0.157	0	0.069	0	0	0	0
Departure Headway (Hd)	4.982	4.982	4.572	4.572	4.669	4.669	4.669	4.982	4.982	3.2
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	0	0	783	0	760	0	0	0	0
Service Time	2.682	2.682	2.306	2.306	2.441	2.441	2.441	2.682	2.682	0.976
HCM Lane V/C Ratio	0	0	0	0.158	0	0.07	0	0	0	0
HCM Control Delay	7.7	7.7	7.3	8.2	7.4	7.8	7.4	7.7	7.7	6
HCM Lane LOS	N	N	N	A	N	A	N	N	N	N
HCM 95th-tile Q	0	0	0	0.6	0	0.2	0	0	0	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	14	0	0	6	0	0	0	0	0	0	0
Future Vol, veh/h	0	14	0	0	6	0	0	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	50	-	-	100	-	-	-	-	-	0	-	-
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	15	0	0	7	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	7	0	0	15	0	0	22	22	15	22	22	7
Stage 1	-	-	-	-	-	-	15	15	-	7	7	-
Stage 2	-	-	-	-	-	-	7	7	-	15	15	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1627	-	-	1616	-	-	995	876	1070	995	876	1081
Stage 1	-	-	-	-	-	-	1010	887	-	1020	894	-
Stage 2	-	-	-	-	-	-	1020	894	-	1010	887	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1627	-	-	1616	-	-	995	876	1070	995	876	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	995	876	-	995	876	-
Stage 1	-	-	-	-	-	-	1010	887	-	1020	894	-
Stage 2	-	-	-	-	-	-	1020	894	-	1010	887	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

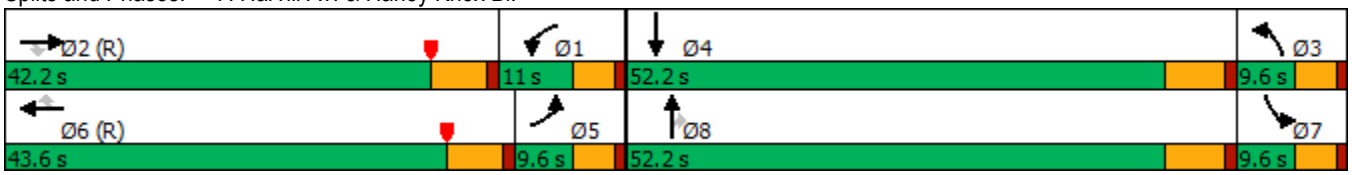
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1627	-	-	1616	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0	0
HCM Lane LOS	A	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-	-

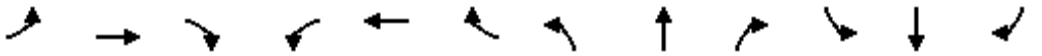
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	1	148	3	323	50	16	1	3	335	25	9
Future Volume (vph)	1	148	3	323	50	16	1	3	335	25	9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	41.8	41.8	9.6	38.8	38.8	9.6	48.2	48.2	9.6	52.2
Total Split (s)	9.6	42.2	42.2	11.0	43.6	43.6	9.6	52.2	52.2	9.6	52.2
Total Split (%)	8.3%	36.7%	36.7%	9.6%	37.9%	37.9%	8.3%	45.4%	45.4%	8.3%	45.4%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	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	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Max	C-Max	None	Max	Max	None	Min

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 7: Harvill Av. & Harley Knox Bl.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	148	3	323	50	16	1	3	335	25	9	1
Future Volume (veh/h)	1	148	3	323	50	16	1	3	335	25	9	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	159	0	347	54	13	1	3	91	27	10	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	217	270	120	1109	1187	523	650	760	1134	45	238	0
Arrive On Green	0.06	0.07	0.00	0.32	0.33	0.33	0.36	0.40	0.40	0.03	0.07	0.00
Sat Flow, veh/h	3510	3610	1610	3510	3610	1590	1810	1900	2834	1810	3705	0
Grp Volume(v), veh/h	1	159	0	347	54	13	1	3	91	27	10	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1590	1810	1900	1417	1810	1805	0
Q Serve(g_s), s	0.0	4.9	0.0	8.6	1.2	0.6	0.0	0.1	2.3	1.7	0.3	0.0
Cycle Q Clear(g_c), s	0.0	4.9	0.0	8.6	1.2	0.6	0.0	0.1	2.3	1.7	0.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	217	270	120	1109	1187	523	650	760	1134	45	238	0
V/C Ratio(X)	0.00	0.59	0.00	0.31	0.05	0.02	0.00	0.00	0.08	0.59	0.04	0.00
Avail Cap(c_a), veh/h	217	1143	510	1109	1187	523	650	760	1134	79	1444	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	1.00	0.00	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.6	51.5	0.0	29.9	26.3	26.1	23.6	20.7	21.4	55.5	50.3	0.0
Incr Delay (d2), s/veh	0.0	9.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	4.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	0.0	3.5	0.5	0.2	0.0	0.0	0.7	0.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	60.6	0.0	29.9	26.4	26.2	23.6	20.7	21.5	60.0	50.4	0.0
LnGrp LOS	D	E	A	C	C	C	C	C	C	E	D	A
Approach Vol, veh/h		160			414			95			37	
Approach Delay, s/veh		60.6			29.3			21.5			57.4	
Approach LOS		E			C			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	40.9	14.4	45.9	13.8	11.7	43.6	7.5	52.2
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.4	36.4	5.0	46.0	5.0	37.8	5.0	46.0
Max Q Clear Time (g_c+I1), s	10.6	6.9	2.0	2.3	2.0	3.2	3.7	4.3
Green Ext Time (p_c), s	0.0	1.2	0.0	0.0	0.0	0.4	0.0	0.3

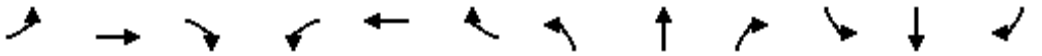
Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	458	51	258	194	7	196
Future Volume (vph)	458	51	258	194	7	196
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)	25.5	25.5	9.5	25.5	10.5	10.5
Total Split (s)	31.8	31.8	23.0	54.8	35.2	35.2
Total Split (%)	35.3%	35.3%	25.6%	60.9%	39.1%	39.1%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
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)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 8: I-215 SB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	458	51	258	194	0	0	0	0	378	7	196
Future Volume (veh/h)	0	458	51	258	194	0	0	0	0	378	7	196
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	498	52	280	211	0				411	8	137
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1453	635	312	2255	0				469	9	425
Arrive On Green	0.00	0.40	0.40	0.29	1.00	0.00				0.26	0.26	0.26
Sat Flow, veh/h	0	3705	1576	1810	3705	0				1777	35	1610
Grp Volume(v), veh/h	0	498	52	280	211	0				419	0	137
Grp Sat Flow(s),veh/h/ln	0	1805	1576	1810	1805	0				1811	0	1610
Q Serve(g_s), s	0.0	8.6	1.8	13.4	0.0	0.0				19.9	0.0	6.2
Cycle Q Clear(g_c), s	0.0	8.6	1.8	13.4	0.0	0.0				19.9	0.0	6.2
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	1453	635	312	2255	0				478	0	425
V/C Ratio(X)	0.00	0.34	0.08	0.90	0.09	0.00				0.88	0.00	0.32
Avail Cap(c_a), veh/h	0	1453	635	372	2255	0				608	0	540
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.98	0.98	0.93	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.6	16.6	31.3	0.0	0.0				31.7	0.0	26.6
Incr Delay (d2), s/veh	0.0	0.6	0.2	18.5	0.1	0.0				11.3	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.4	0.7	6.4	0.0	0.0				9.6	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.3	16.9	49.8	0.1	0.0				43.0	0.0	27.1
LnGrp LOS	A	B	B	D	A	A				D	A	C
Approach Vol, veh/h		550			491						556	
Approach Delay, s/veh		19.0			28.4						39.1	
Approach LOS		B			C						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.0	41.2		28.8		61.2						
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0						
Max Green Setting (Gmax), s	18.5	26.8		30.2		49.8						
Max Q Clear Time (g_c+I1), s	15.4	10.6		21.9		2.0						
Green Ext Time (p_c), s	0.1	1.8		1.8		0.8						

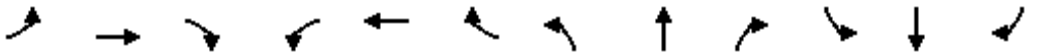
Intersection Summary												
HCM 6th Ctrl Delay			28.9									
HCM 6th LOS			C									

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	305	531	417	549	4	241
Future Volume (vph)	305	531	417	549	4	241
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)	9.5	26.0	24.0	24.0	10.0	10.0
Total Split (s)	24.0	62.0	38.0	38.0	28.0	28.0
Total Split (%)	26.7%	68.9%	42.2%	42.2%	31.1%	31.1%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
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)	4.5	5.0	5.0	5.0	5.0	5.0
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: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 9: I-215 NB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	305	531	0	0	417	549	36	4	241	0	0	0
Future Volume (veh/h)	305	531	0	0	417	549	36	4	241	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	367	640	0	0	502	609	43	5	91			
Peak Hour Factor	0.83	0.83	0.92	0.92	0.83	0.83	0.83	0.83	0.83			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	391	2286	0	0	1326	579	416	48	411			
Arrive On Green	0.43	1.00	0.00	0.00	0.37	0.37	0.26	0.26	0.26			
Sat Flow, veh/h	1810	3705	0	0	3705	1576	1629	189	1610			
Grp Volume(v), veh/h	367	640	0	0	502	609	48	0	91			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1576	1819	0	1610			
Q Serve(g_s), s	17.4	0.0	0.0	0.0	9.2	33.1	1.8	0.0	4.0			
Cycle Q Clear(g_c), s	17.4	0.0	0.0	0.0	9.2	33.1	1.8	0.0	4.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.90		1.00			
Lane Grp Cap(c), veh/h	391	2286	0	0	1326	579	465	0	411			
V/C Ratio(X)	0.94	0.28	0.00	0.00	0.38	1.05	0.10	0.00	0.22			
Avail Cap(c_a), veh/h	392	2286	0	0	1326	579	465	0	411			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.93	0.93	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.0	0.0	0.0	0.0	20.9	28.5	25.6	0.0	26.4			
Incr Delay (d2), s/veh	28.5	0.3	0.0	0.0	0.8	51.8	0.4	0.0	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.1	0.1	0.0	0.0	3.7	19.6	0.8	0.0	1.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.5	0.3	0.0	0.0	21.7	80.2	26.1	0.0	27.7			
LnGrp LOS	D	A	A	A	C	F	C	A	C			
Approach Vol, veh/h		1007			1111			139				
Approach Delay, s/veh		19.7			53.8			27.1				
Approach LOS		B			D			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		62.0			23.9	38.1		28.0				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		57.0			19.5	33.0		23.0				
Max Q Clear Time (g_c+I1), s		2.0			19.4	35.1		6.0				
Green Ext Time (p_c), s		2.7			0.0	0.0		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			36.9									
HCM 6th LOS			D									

APPENDIX 5.2:

E+P CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		E+P
				CALC RV	DATE	04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE	04/29/19
Major Street: **Nandina Avenue**				Critical Approach Speed (Major)		25 mph
Minor Street: **Driveway 1**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **194** vpd Minor Street Future ADT = **194** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population …… [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	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	Urban	Rural	Urban	Rural
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **194** / *1* **194**	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)	
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **194** / *1* **194**	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				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. **A** 2% **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.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		E+P
				CALC RV	DATE	04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE	04/29/19
Major Street: **Oleander Avenue**				Critical Approach Speed (Major)		25 mph
Minor Street: **Driveway 2**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **94** vpd Minor Street Future ADT = **94** 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)

URBAN: XX RURAL:

CONDITION A - Minimum Vehicular Volume

Satisfied: Not Satisfied: **XX**

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **94**	*1* **94**	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

Satisfied: Not Satisfied: **XX**

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **94**	*1* **94**	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

Satisfied: Not Satisfied: **XX**

No one condition satisfied, but following conditions fulfilled 80% of more ….. **A** **1%** **B** **1%**

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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		E+P
				CALC RV	DATE	04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE	04/29/19
Major Street: **Oleander Avenue**				Critical Approach Speed (Major)		25 mph
Minor Street: **Driveway 3**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **144** vpd Minor Street Future ADT = **50** 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)

URBAN / RURAL	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied: XX / Not Satisfied: XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **144** / 1 **50**	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)	
Satisfied / Not Satisfied: XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **144** / 1 **50**	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				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 2% B: 1%				

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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		E+P
				CALC RV	DATE	04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE	04/29/19
Major Street: **Decker Road**				Critical Approach Speed (Major)		25 mph
Minor Street: **Nandina Avenue**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **194** vpd Minor Street Future ADT = **194** 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)

URBAN: XX RURAL:

CONDITION A - Minimum Vehicular Volume

Satisfied: Not Satisfied: **XX**

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **194**	*1* **194**	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

Satisfied: Not Satisfied: **XX**

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **194**	*1* **194**	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

Satisfied: Not Satisfied: **XX**

No one condition satisfied, but following conditions fulfilled 80% of more ….. **A** **2%** **B** **2%**

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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		E+P
				CALC RV	DATE	04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE	04/29/19
Major Street: **Harley Knox Boulevard**				Critical Approach Speed (Major)		25 mph
Minor Street: **Decker Road**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **4** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **1,548** vpd Minor Street Future ADT = **0** 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)

URBAN XX RURAL

CONDITION A - Minimum Vehicular Volume

Satisfied Not Satisfied XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	*1*	8,000	5,600	2,400	1,680
2 + **1,548**	*1* **0**	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

Satisfied Not Satisfied XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	*1*	12,000	8,400	1,200	850
2 + **1,548**	*1* **0**	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

Satisfied Not Satisfied XX

No one condition satisfied, but following conditions fulfilled 80% of more ….. A 16% B 11%

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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		E+P	
				CALC	RV	DATE	04/29/19
Jurisdiction:	**County of Riverside**			CHK	RV	DATE	04/29/19
Major Street:	**Decker Road**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Oleander Avenue**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **194** vpd Minor Street Future ADT = **0** 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)

URBAN	RURAL	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)	
Satisfied	Not Satisfied				
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **194**	*1* **0**	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)	
Satisfied	Not Satisfied				
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **194**	*1* **0**	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					
Satisfied	Not Satisfied				
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more ….. **A** **2%** **B** **2%**		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.

APPENDIX 5.3:

E+P CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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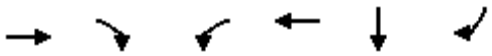


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	553	21	158	249	514	263
v/c Ratio	0.50	0.04	0.53	0.13	0.88	0.38
Control Delay	22.4	0.1	30.6	4.0	40.5	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	0.1	30.6	4.0	40.5	4.2
Queue Length 50th (ft)	105	0	66	32	200	0
Queue Length 95th (ft)	151	0	117	38	#360	45
Internal Link Dist (ft)	813			329	1352	
Turn Bay Length (ft)			60			265
Base Capacity (vph)	1100	557	296	1925	620	726
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.04	0.53	0.13	0.83	0.36

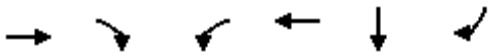
Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	329	726	353	772	51	87
v/c Ratio	0.82	0.26	0.20	0.77	0.40	0.42
Control Delay	49.2	0.8	10.6	13.7	40.7	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	0.8	10.6	13.7	40.7	12.7
Queue Length 50th (ft)	142	9	44	124	22	0
Queue Length 95th (ft)	m197	m12	67	#311	54	33
Internal Link Dist (ft)		329	1505		1112	
Turn Bay Length (ft)	60					270
Base Capacity (vph)	446	2836	1800	1002	128	209
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.26	0.20	0.77	0.40	0.42

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.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	498	55	280	211	419	213
v/c Ratio	0.37	0.09	0.83	0.10	0.82	0.35
Control Delay	23.5	3.3	79.1	4.0	43.3	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	3.3	79.1	4.0	43.3	4.9
Queue Length 50th (ft)	113	0	175	10	217	0
Queue Length 95th (ft)	167	16	#280	15	310	47
Internal Link Dist (ft)	813			329	1352	
Turn Bay Length (ft)			60			265
Base Capacity (vph)	1330	632	374	2187	607	683
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.09	0.75	0.10	0.69	0.31

Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	367	640	502	661	48	290
v/c Ratio	0.95	0.28	0.38	0.67	0.10	0.46
Control Delay	73.5	8.2	21.9	6.4	26.4	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.5	8.2	21.9	6.4	26.4	6.1
Queue Length 50th (ft)	228	97	108	12	21	0
Queue Length 95th (ft)	#343	98	136	55	45	44
Internal Link Dist (ft)		329	1505		1112	
Turn Bay Length (ft)	60					270
Base Capacity (vph)	391	2286	1331	980	464	628
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.28	0.38	0.67	0.10	0.46

Intersection Summary

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

APPENDIX 5.4:

E+P CONDITIONS FREEWAY FACILITY ANALYSIS WORKSHEETS

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HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	E+P
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 SB, North of Harley Knox	5280	3
2	Diverge	Diverge	I-215 SB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 SB, Between Ramps	2350	3
4	Merge	Merge	I-215 SB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 SB, South of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4402	7200	0.61	69.2	21.2	C

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.826	4402	722	7200	2100	0.61	0.34	64.0	59.8	22.9	28.2	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	3677	7200	0.51	70.0	17.5	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.862	3847	170	7200	2100	0.53	0.08	62.7	60.6	20.5	21.9	C

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	3863	7200	0.54	69.9	18.4	C

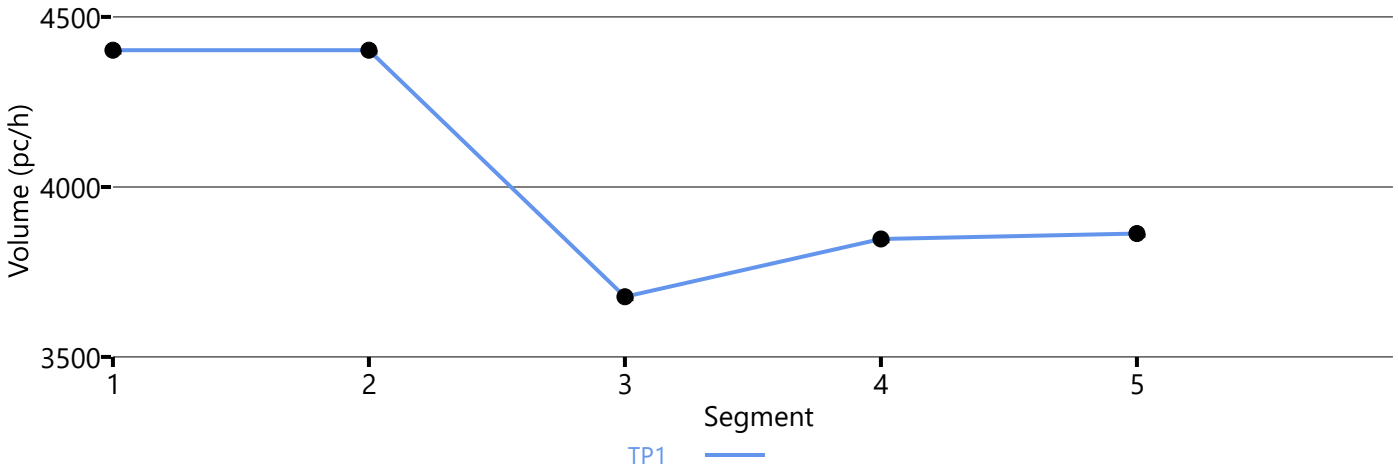
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	68.3	19.8	19.5	2.6	C

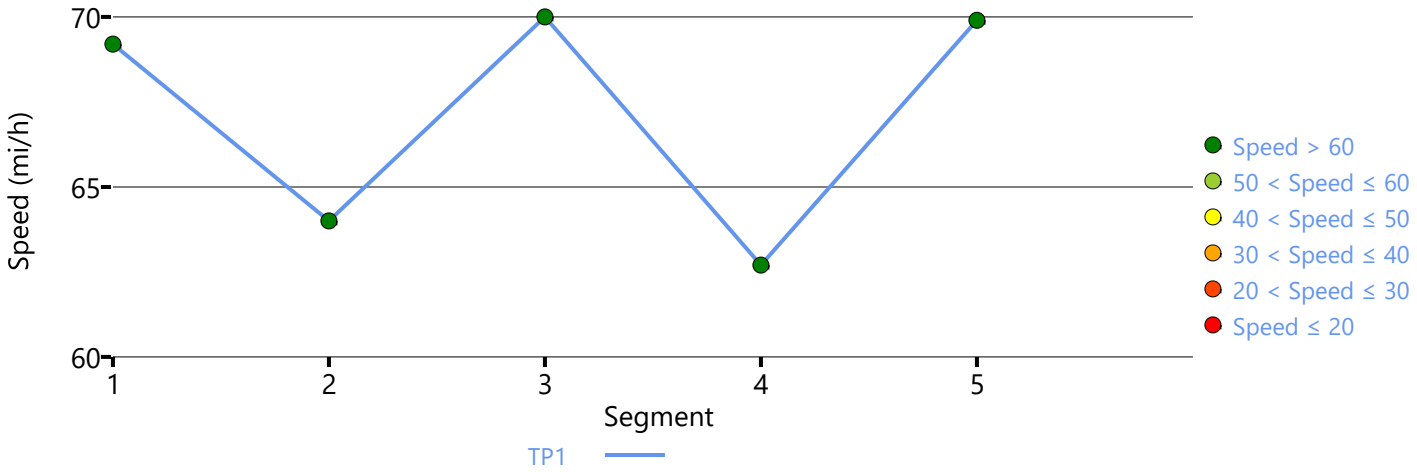
Facility Overall Results

Space Mean Speed, mi/h	68.3	Density, veh/mi/ln	19.5
Average Travel Time, min	2.6	Density, pc/mi/ln	19.8

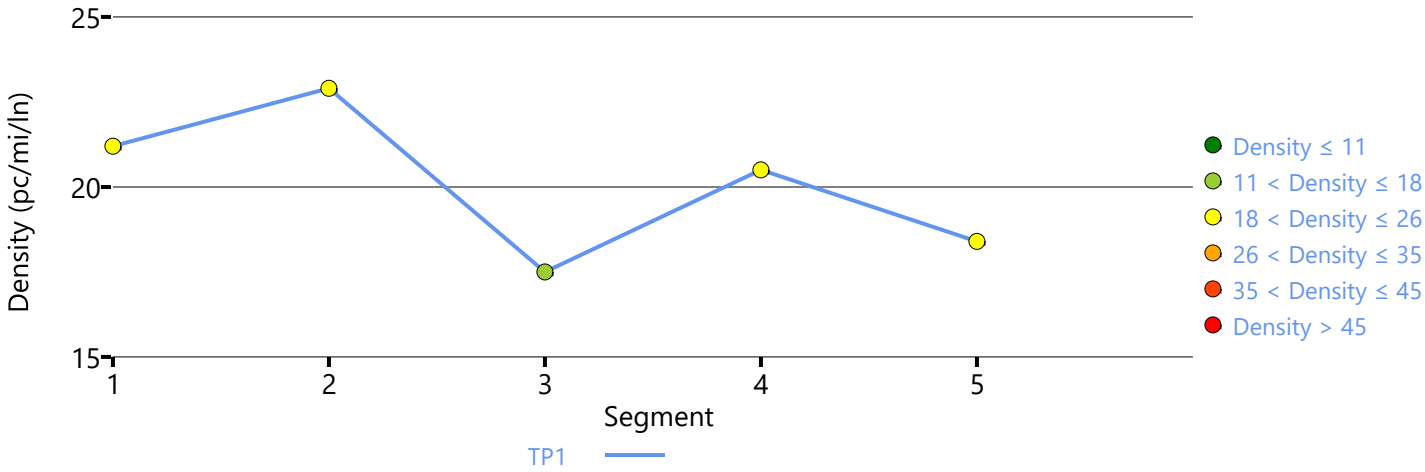
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	E+P
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 NB, South of Harley Knox	5280	3
2	Diverge	Diverge	I-215 NB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 NB, Between Ramps	2350	3
4	Merge	Merge	I-215 NB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 NB, North of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	7105	7200	0.99	54.2	43.7	E

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.885	7105	1075	7200	2100	0.99	0.51	62.7	58.9	37.8	39.6	E

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	6059	7200	0.84	62.2	32.5	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.893	6178	119	7200	2100	0.86	0.06	59.3	57.5	34.7	32.2	D

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	6169	7200	0.86	61.5	33.4	D

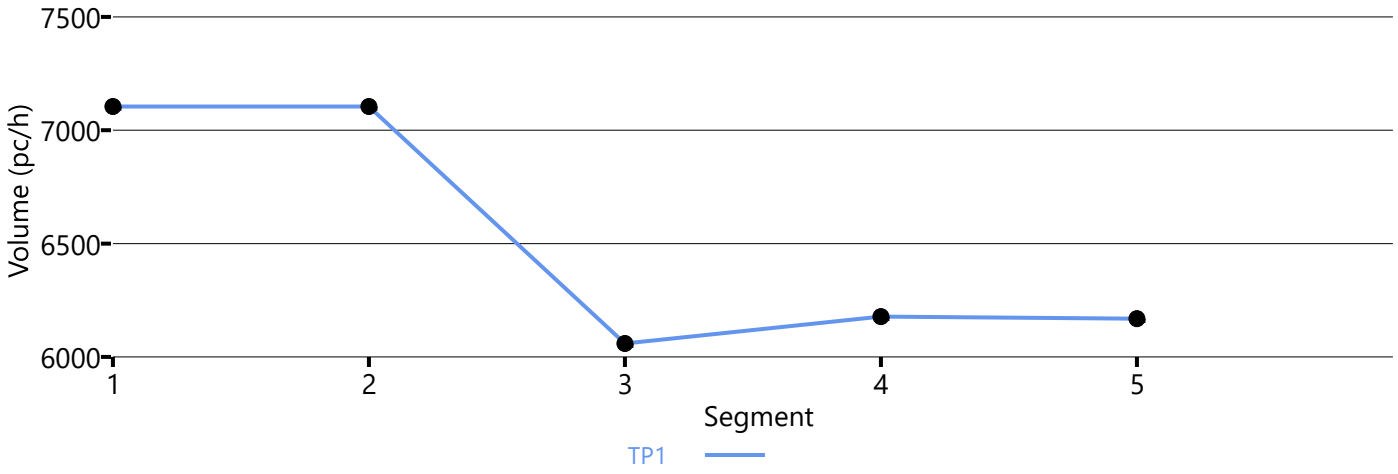
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.7	37.2	36.0	3.1	E

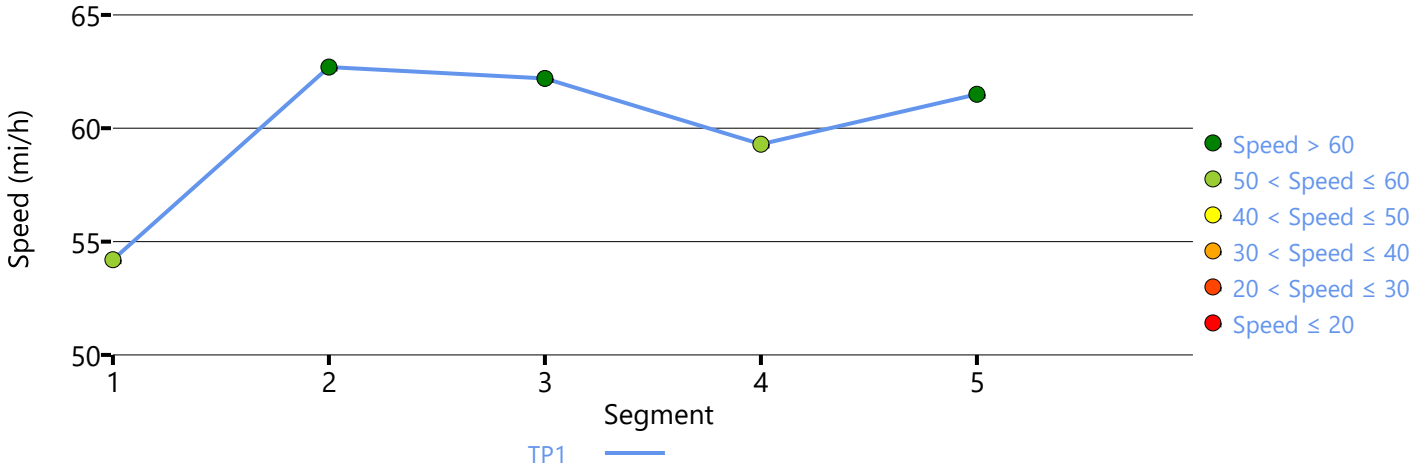
Facility Overall Results

Space Mean Speed, mi/h	58.7	Density, veh/mi/ln	36.0
Average Travel Time, min	3.1	Density, pc/mi/ln	37.2

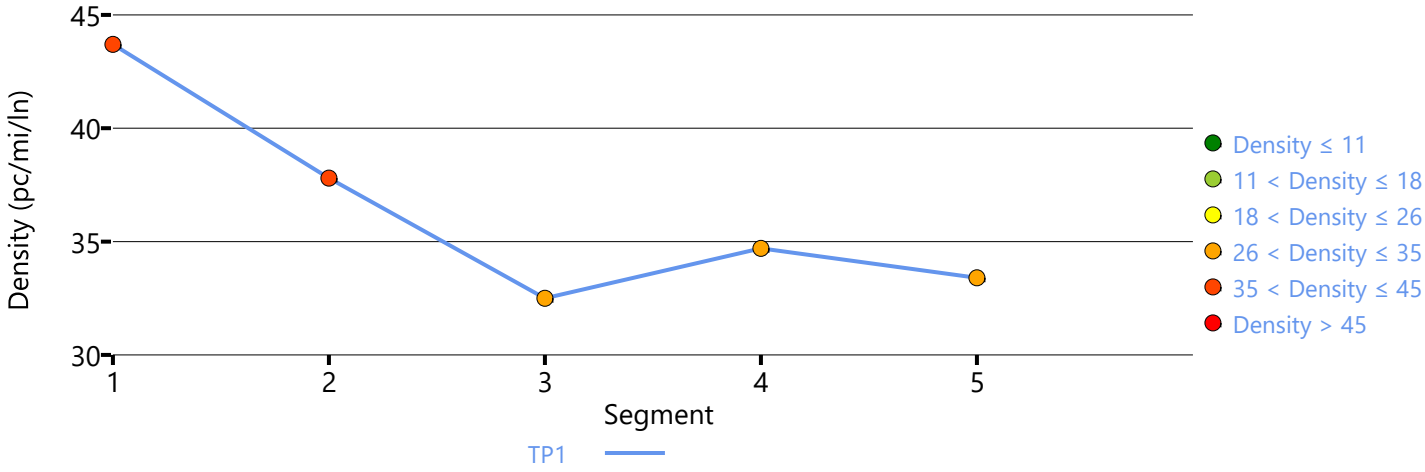
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	E+P
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 SB, North of Harley Knox	5280	3
2	Diverge	Diverge	I-215 SB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 SB, Between Ramps	2350	3
4	Merge	Merge	I-215 SB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 SB, South of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.980	5876	7200	0.82	63.3	30.9	D

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.980	0.826	5876	583	7200	2100	0.82	0.28	64.1	60.2	30.6	34.2	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	5277	7200	0.73	66.4	26.5	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.952	5616	339	7200	2100	0.78	0.16	60.4	58.3	31.0	30.5	D

Segment 5: Basic

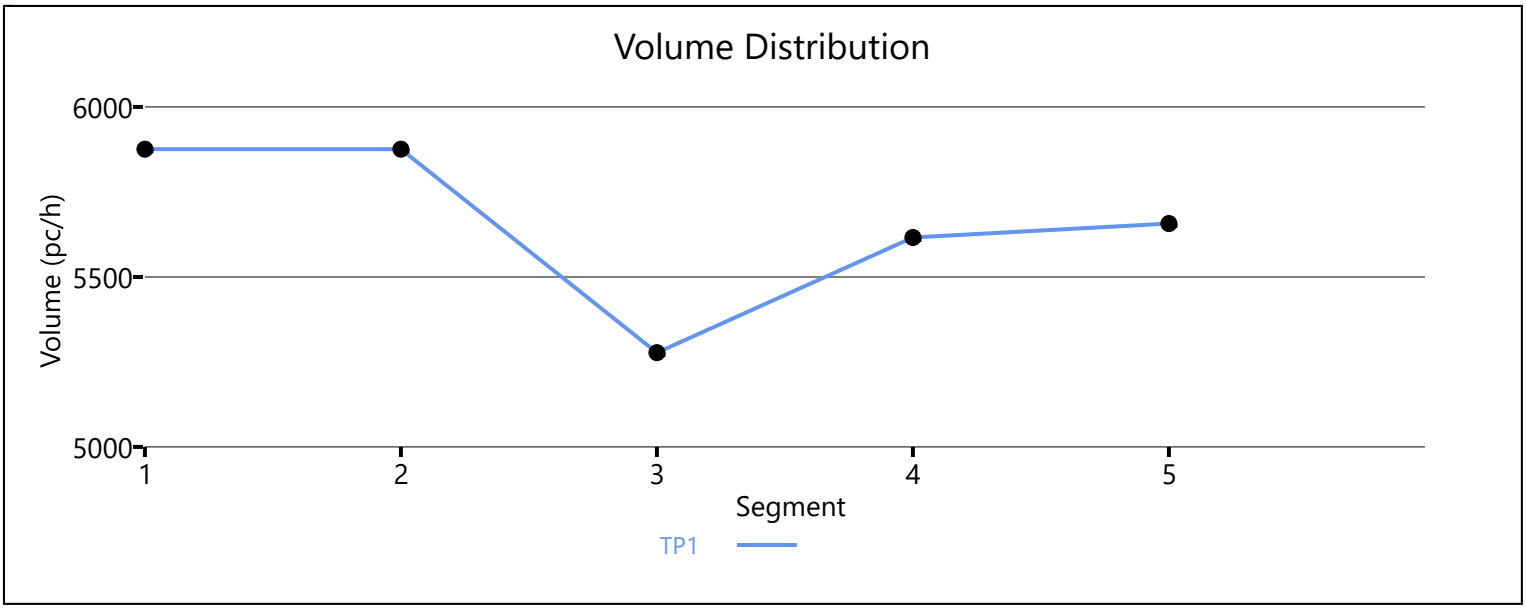
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	5657	7200	0.79	64.6	29.2	D

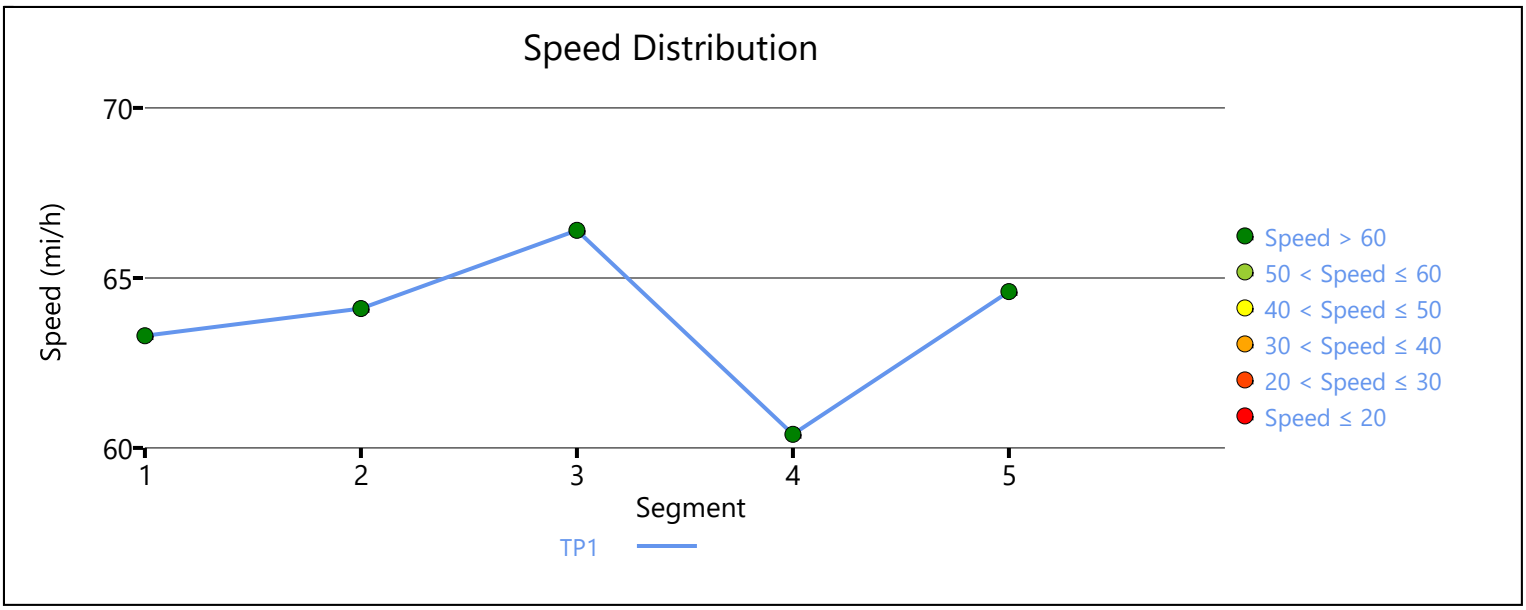
Facility Time Period Results

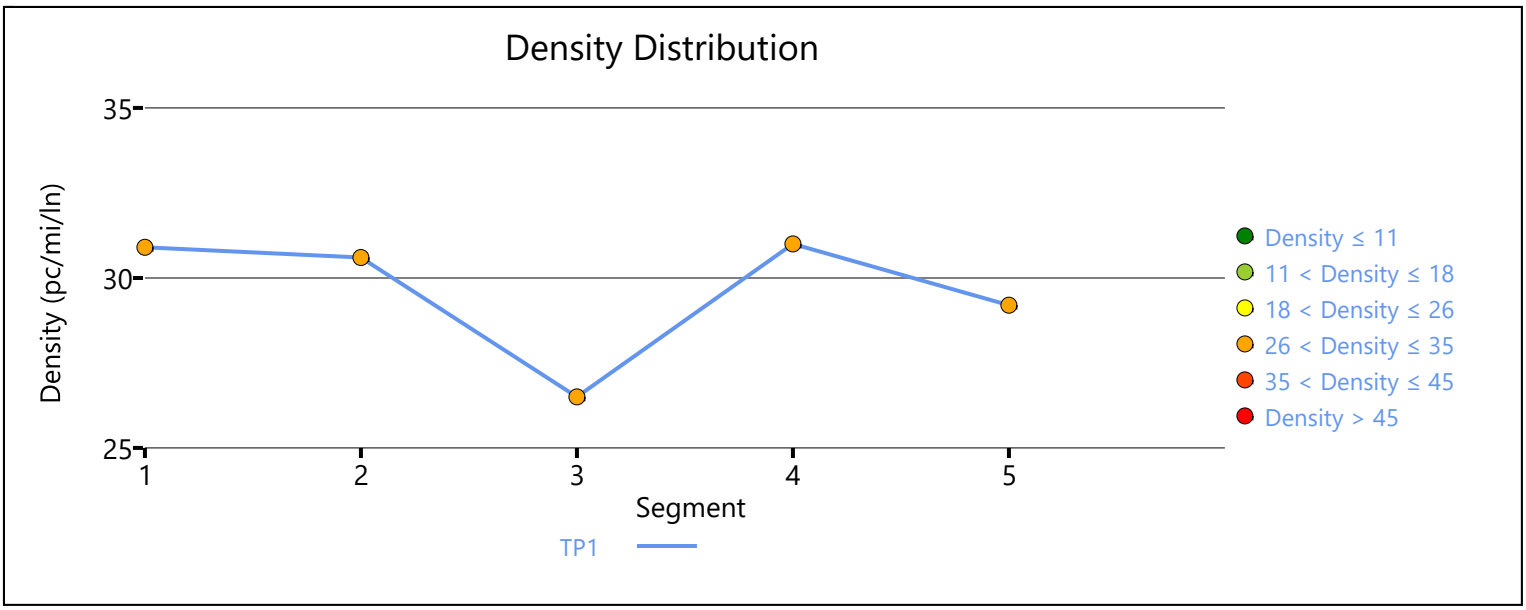
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.9	29.7	29.3	2.8	D

Facility Overall Results

Space Mean Speed, mi/h	63.9	Density, veh/mi/ln	29.3
Average Travel Time, min	2.8	Density, pc/mi/ln	29.7







HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	E+P
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 NB, South of Harley Knox	5280	3
2	Diverge	Diverge	I-215 NB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 NB, Between Ramps	2350	3
4	Merge	Merge	I-215 NB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 NB, North of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	5806	7200	0.81	63.7	30.4	D

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.877	5806	811	7200	2100	0.81	0.39	63.7	59.6	30.4	33.5	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	4977	7200	0.69	67.6	24.5	C

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.990	0.820	5343	366	7200	2100	0.74	0.17	60.9	58.9	29.2	29.1	D

Segment 5: Basic

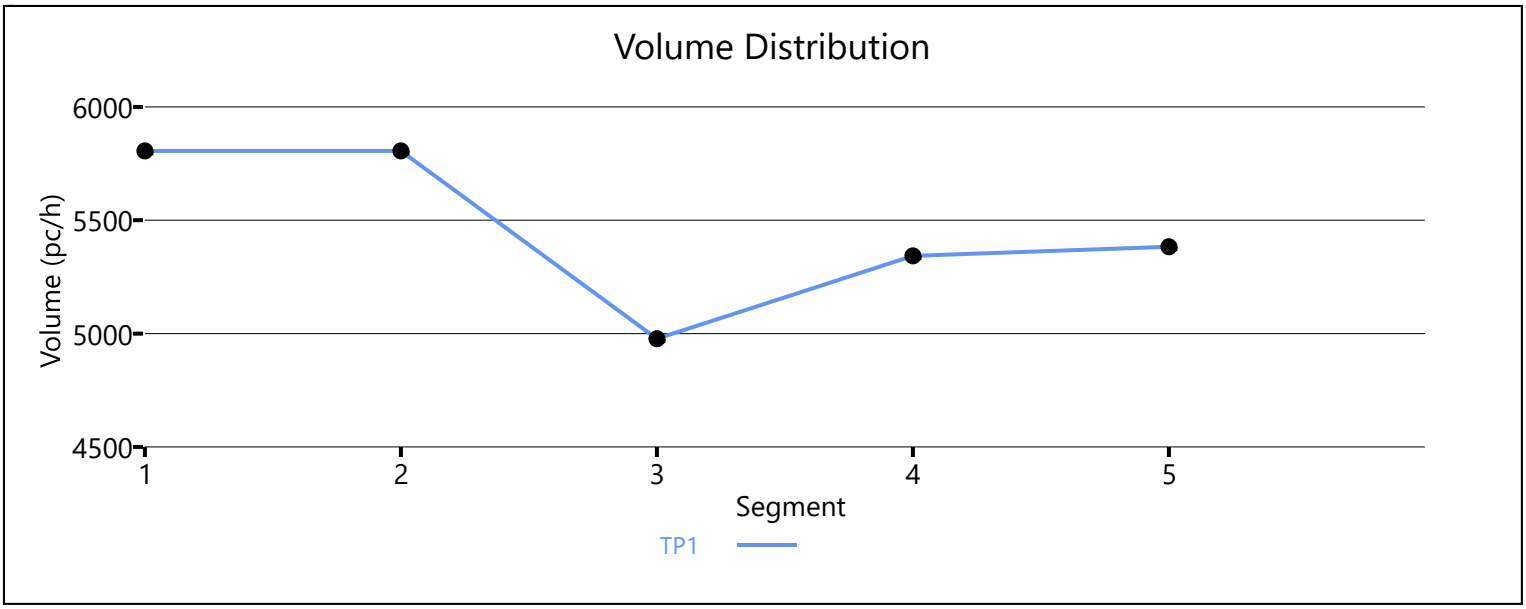
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	5383	7200	0.75	65.9	27.2	D

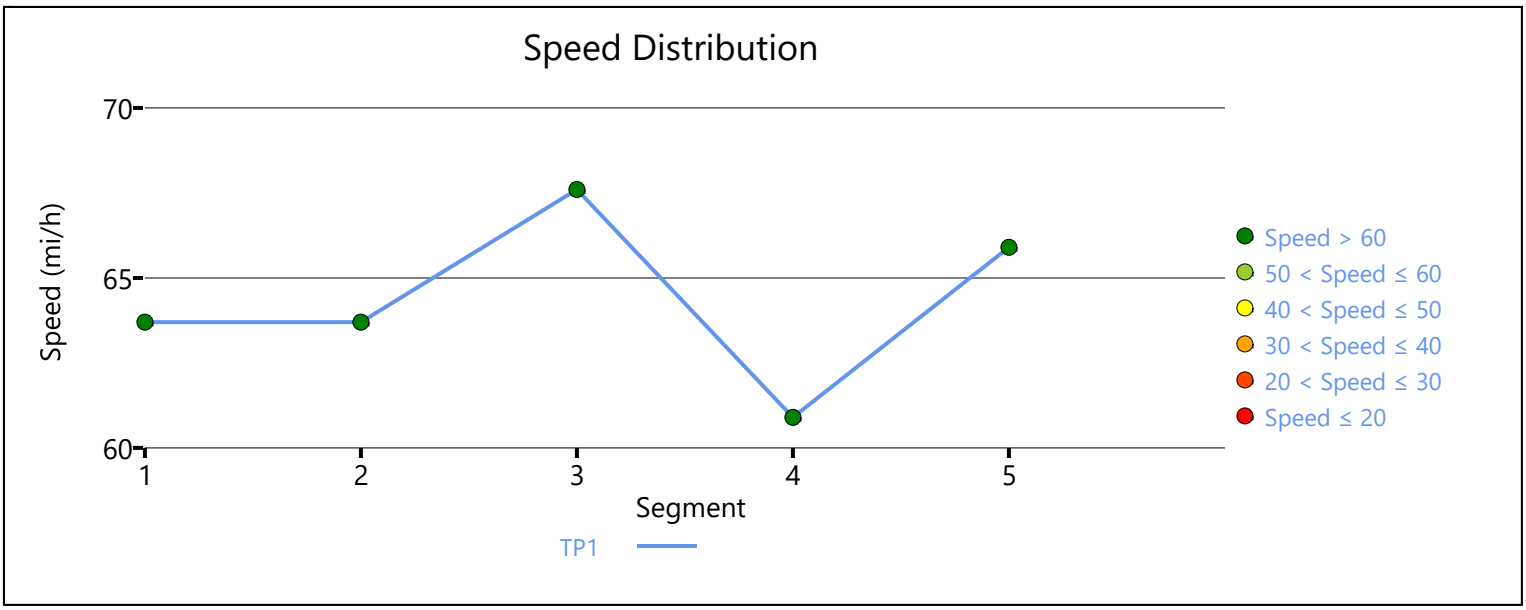
Facility Time Period Results

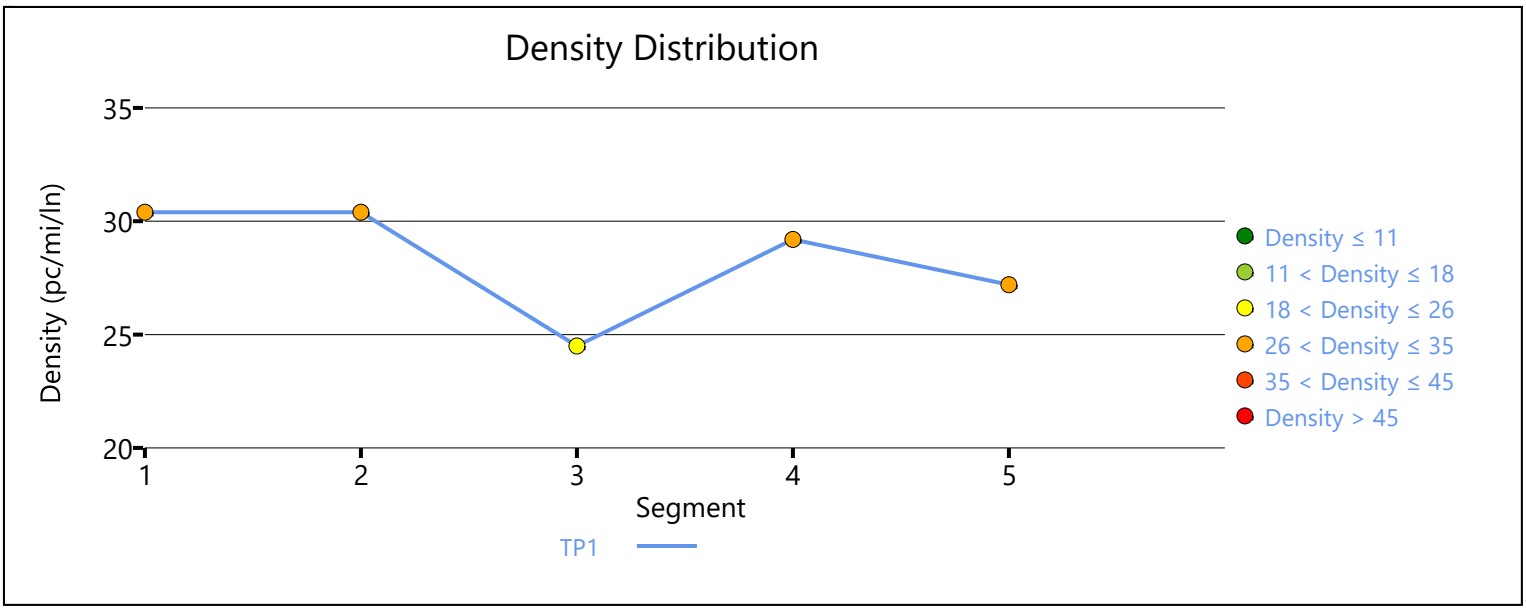
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	64.6	28.4	27.7	2.8	D

Facility Overall Results

Space Mean Speed, mi/h	64.6	Density, veh/mi/ln	27.7
Average Travel Time, min	2.8	Density, pc/mi/ln	28.4







APPENDIX 6.1:

EAP (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	7.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	14	0	0	5
Future Vol, veh/h	0	0	14	0	0	5
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, %	0	0	0	0	0	0
Mvmt Flow	0	0	15	0	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	31	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	30	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1635	-	988	1090
Stage 1	-	-	-	-	1028	-
Stage 2	-	-	-	-	998	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1635	-	979	1090
Mov Cap-2 Maneuver	-	-	-	-	979	-
Stage 1	-	-	-	-	1028	-
Stage 2	-	-	-	-	989	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1090	-	-	1635	-
HCM Lane V/C Ratio	0.005	-	-	0.009	-
HCM Control Delay (s)	8.3	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	6	2	0
Future Vol, veh/h	0	0	0	6	2	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	7	2	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	7	0	-	0	4	4
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1627	-	-	-	1023	1085
Stage 1	-	-	-	-	1024	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1627	-	-	-	1023	1085
Mov Cap-2 Maneuver	-	-	-	-	935	-
Stage 1	-	-	-	-	1024	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1627	-	-	-	935
HCM Lane V/C Ratio	-	-	-	-	0.002
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	6	8	2	0
Future Vol, veh/h	0	2	6	8	2	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	2	7	9	2	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	16	0	-	0	14	12
Stage 1	-	-	-	-	12	-
Stage 2	-	-	-	-	2	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1615	-	-	-	1010	1074
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	1026	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1615	-	-	-	1010	1074
Mov Cap-2 Maneuver	-	-	-	-	926	-
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	1026	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1615	-	-	-	926
HCM Lane V/C Ratio	-	-	-	-	0.002
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	14	0	0
Future Vol, veh/h	5	0	0	14	0	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	-	0	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	0	0	15	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	5	0	20	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	15	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1630	-	1002	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1630	-	1002	1084
Mov Cap-2 Maneuver	-	-	-	-	921	-
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1013	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	1630	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	0	0	113	0	0	0	0	0	0	0
Future Vol, veh/h	0	37	0	0	113	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	40	0	0	123	0	0	0	0	0	0	0
Number of Lanes	1	1	0	1	1	1	1	1	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	7.7	8.1	0	0
HCM LOS	A	A	-	-

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	37	0	113	0	0	0	0
LT Vol	0	0	0	0	0	0	0	0	0	0
Through Vol	0	0	0	37	0	113	0	0	0	0
RT Vol	0	0	0	0	0	0	0	0	0	0
Lane Flow Rate	0	0	0	40	0	123	0	0	0	0
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0	0	0	0.052	0	0.155	0	0	0	0
Departure Headway (Hd)	4.943	4.943	4.667	4.667	4.555	4.555	4.555	4.943	4.943	3.2
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	0	0	761	0	787	0	0	0	0
Service Time	2.643	2.643	2.438	2.438	2.28	2.28	2.28	2.643	2.643	0.937
HCM Lane V/C Ratio	0	0	0	0.053	0	0.156	0	0	0	0
HCM Control Delay	7.6	7.6	7.4	7.7	7.3	8.1	7.3	7.6	7.6	5.9
HCM Lane LOS	N	N	N	A	N	A	N	N	N	N
HCM 95th-tile Q	0	0	0	0.2	0	0.5	0	0	0	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	0	0	14	0	0	0	0	0	0	0
Future Vol, veh/h	0	5	0	0	14	0	0	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	50	-	-	100	-	-	-	-	-	0	-	-
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	5	0	0	15	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	15	0	-	5	0	0	20	20	5	20	20	15
Stage 1	-	-	-	-	-	-	5	5	-	15	15	-
Stage 2	-	-	-	-	-	-	15	15	-	5	5	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1616	-	0	1630	-	-	998	878	1084	998	878	1070
Stage 1	-	-	0	-	-	-	1022	896	-	1010	887	-
Stage 2	-	-	0	-	-	-	1010	887	-	1022	896	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1616	-	-	1630	-	-	998	878	1084	998	878	1070
Mov Cap-2 Maneuver	-	-	-	-	-	-	998	878	-	998	878	-
Stage 1	-	-	-	-	-	-	1022	896	-	1010	887	-
Stage 2	-	-	-	-	-	-	1010	887	-	1022	896	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

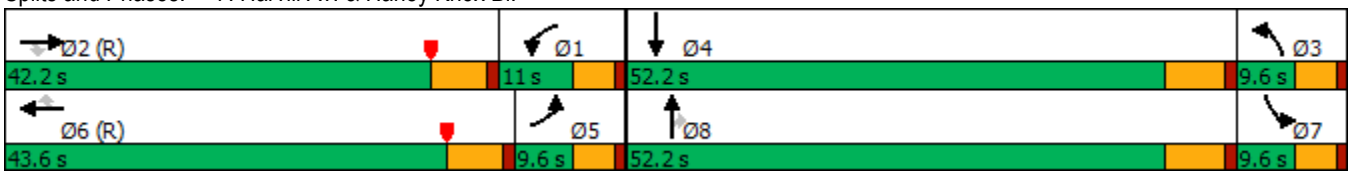
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1616	-	1630	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	0	-	-	0	0
HCM Lane LOS	A	A	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	0	-	-	-	-

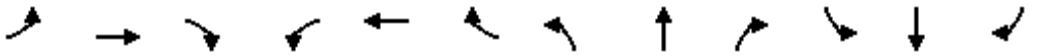
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	1	39	4	317	140	28	10	5	495	15	2
Future Volume (vph)	1	39	4	317	140	28	10	5	495	15	2
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	41.8	41.8	9.6	38.8	38.8	9.6	48.2	48.2	9.6	52.2
Total Split (s)	9.6	42.2	42.2	11.0	43.6	43.6	9.6	52.2	52.2	9.6	52.2
Total Split (%)	8.3%	36.7%	36.7%	9.6%	37.9%	37.9%	8.3%	45.4%	45.4%	8.3%	45.4%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	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	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Max	C-Max	None	Max	Max	None	Min

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 7: Harvill Av. & Harley Knox Bl.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	39	4	317	140	28	10	5	495	15	2	0
Future Volume (veh/h)	1	39	4	317	140	28	10	5	495	15	2	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	41	1	330	146	24	10	5	182	16	2	0
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	244	157	70	1245	1187	529	677	760	1134	31	157	0
Arrive On Green	0.07	0.04	0.04	0.35	0.33	0.33	0.37	0.40	0.40	0.02	0.04	0.00
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	1810	1900	2834	1810	3705	0
Grp Volume(v), veh/h	1	41	1	330	146	24	10	5	182	16	2	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1810	1900	1417	1810	1805	0
Q Serve(g_s), s	0.0	1.3	0.1	7.7	3.3	1.2	0.4	0.2	4.7	1.0	0.1	0.0
Cycle Q Clear(g_c), s	0.0	1.3	0.1	7.7	3.3	1.2	0.4	0.2	4.7	1.0	0.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	244	157	70	1245	1187	529	677	760	1134	31	157	0
V/C Ratio(X)	0.00	0.26	0.01	0.26	0.12	0.05	0.01	0.01	0.16	0.51	0.01	0.00
Avail Cap(c_a), veh/h	244	1143	510	1245	1187	529	677	760	1134	79	1444	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	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.8	53.2	52.6	26.4	27.0	26.3	22.7	20.8	22.1	56.0	52.6	0.0
Incr Delay (d2), s/veh	0.0	4.0	0.4	0.0	0.2	0.2	0.0	0.0	0.3	4.6	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	0.0	0.6	0.0	3.1	1.4	0.5	0.2	0.1	1.5	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	57.2	53.0	26.5	27.2	26.5	22.7	20.8	22.4	60.7	52.7	0.0
LnGrp LOS	D	E	D	C	C	C	C	C	C	E	D	A
Approach Vol, veh/h		43			500			197			18	
Approach Delay, s/veh		56.9			26.7			22.4			59.8	
Approach LOS		E			C			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.4	10.8	47.6	11.2	12.6	43.6	6.6	52.2
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.4	36.4	5.0	46.0	5.0	37.8	5.0	46.0
Max Q Clear Time (g_c+I1), s	9.7	3.3	2.4	2.1	2.0	5.3	3.0	6.7
Green Ext Time (p_c), s	0.0	0.2	0.0	0.0	0.0	1.3	0.0	0.7

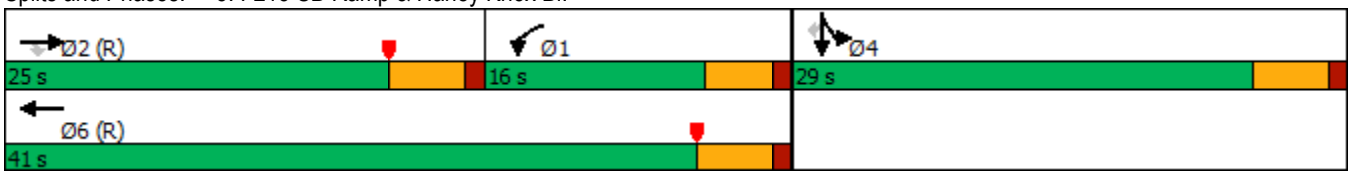
Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	529	19	151	237	2	248
Future Volume (vph)	529	19	151	237	2	248
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)	25.5	25.5	9.5	25.5	10.5	10.5
Total Split (s)	25.0	25.0	16.0	41.0	29.0	29.0
Total Split (%)	35.7%	35.7%	22.9%	58.6%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
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)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0.5 (1%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 8: I-215 SB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	529	19	151	237	0	0	0	0	490	2	248
Future Volume (veh/h)	0	529	19	151	237	0	0	0	0	490	2	248
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	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	575	20	164	258	0				533	2	213
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1031	459	317	1922	0				586	2	523
Arrive On Green	0.00	0.29	0.29	0.06	0.18	0.00				0.32	0.32	0.32
Sat Flow, veh/h	0	3705	1607	1810	3705	0				1803	7	1610
Grp Volume(v), veh/h	0	575	20	164	258	0				535	0	213
Grp Sat Flow(s),veh/h/ln	0	1805	1607	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	9.5	0.6	6.2	4.2	0.0				19.8	0.0	7.2
Cycle Q Clear(g_c), s	0.0	9.5	0.6	6.2	4.2	0.0				19.8	0.0	7.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1031	459	317	1922	0				588	0	523
V/C Ratio(X)	0.00	0.56	0.04	0.52	0.13	0.00				0.91	0.00	0.41
Avail Cap(c_a), veh/h	0	1031	459	317	1922	0				621	0	552
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	0.96	0.96	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.2	18.1	30.1	15.2	0.0				22.7	0.0	18.4
Incr Delay (d2), s/veh	0.0	2.1	0.2	0.7	0.1	0.0				17.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.8	0.2	2.7	1.5	0.0				10.0	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.3	18.3	30.8	15.4	0.0				39.8	0.0	18.9
LnGrp LOS	A	C	B	C	B	A				D	A	B
Approach Vol, veh/h		595			422						748	
Approach Delay, s/veh		23.2			21.4						33.8	
Approach LOS		C			C						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.3	25.0		27.7		42.3
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	11.5	* 20		24.0		36.0
Max Q Clear Time (g_c+I1), s	8.2	11.5		21.8		6.2
Green Ext Time (p_c), s	0.1	1.6		0.9		0.9

Intersection Summary		
HCM 6th Ctrl Delay		27.3
HCM 6th LOS		C

Notes

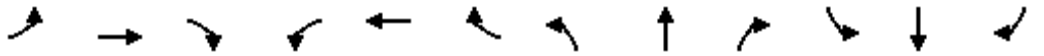
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	317	702	340	747	0	85
Future Volume (vph)	317	702	340	747	0	85
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)	9.5	26.0	24.0	24.0	10.0	10.0
Total Split (s)	21.8	60.0	38.2	38.2	10.0	10.0
Total Split (%)	31.1%	85.7%	54.6%	54.6%	14.3%	14.3%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
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)	4.5	5.0	5.0	5.0	5.0	5.0
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: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 9: I-215 NB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	317	702	0	0	340	747	48	0	85	0	0	0
Future Volume (veh/h)	317	702	0	0	340	747	48	0	85	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	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	341	755	0	0	366	740	52	0	26			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	376	2836	0	0	1855	827	129	0	115			
Arrive On Green	0.42	1.00	0.00	0.00	0.51	0.51	0.07	0.00	0.07			
Sat Flow, veh/h	1810	3705	0	0	3705	1610	1810	0	1610			
Grp Volume(v), veh/h	341	755	0	0	366	740	52	0	26			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	12.4	0.0	0.0	0.0	3.8	28.9	1.9	0.0	1.1			
Cycle Q Clear(g_c), s	12.4	0.0	0.0	0.0	3.8	28.9	1.9	0.0	1.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	376	2836	0	0	1855	827	129	0	115			
V/C Ratio(X)	0.91	0.27	0.00	0.00	0.20	0.89	0.40	0.00	0.23			
Avail Cap(c_a), veh/h	447	2836	0	0	1855	827	129	0	115			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.83	0.83	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	19.8	0.0	0.0	0.0	9.2	15.3	31.1	0.0	30.7			
Incr Delay (d2), s/veh	15.9	0.2	0.0	0.0	0.2	14.2	9.1	0.0	4.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.1	0.1	0.0	0.0	1.3	11.3	1.1	0.0	0.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	0.2	0.0	0.0	9.4	29.5	40.1	0.0	35.2			
LnGrp LOS	D	A	A	A	A	C	D	A	D			
Approach Vol, veh/h		1096			1106			78				
Approach Delay, s/veh		11.3			22.9			38.5				
Approach LOS		B			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		60.0			19.0	41.0		10.0				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		55.0			17.3	33.2		5.0				
Max Q Clear Time (g_c+I1), s		2.0			14.4	30.9		3.9				
Green Ext Time (p_c), s		3.3			0.2	0.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			17.8									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	7.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	6	0	0	14
Future Vol, veh/h	0	0	6	0	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	7	0	0	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	15	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	14	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1635	-	1009	1090
Stage 1	-	-	-	-	1028	-
Stage 2	-	-	-	-	1014	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1635	-	1005	1090
Mov Cap-2 Maneuver	-	-	-	-	1005	-
Stage 1	-	-	-	-	1028	-
Stage 2	-	-	-	-	1010	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1090	-	-	1635	-
HCM Lane V/C Ratio	0.014	-	-	0.004	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	3	6	0
Future Vol, veh/h	0	0	0	3	6	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	3	7	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	3	0	-	0	2	2
Stage 1	-	-	-	-	2	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1632	-	-	-	1026	1088
Stage 1	-	-	-	-	1026	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1632	-	-	-	1026	1088
Mov Cap-2 Maneuver	-	-	-	-	937	-
Stage 1	-	-	-	-	1026	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1632	-	-	-	937
HCM Lane V/C Ratio	-	-	-	-	0.007
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	3	4	9	0
Future Vol, veh/h	0	6	3	4	9	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	7	3	4	10	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	7	0	-	0	12	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	7	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1627	-	-	-	1013	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1627	-	-	-	1013	1084
Mov Cap-2 Maneuver	-	-	-	-	929	-
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1021	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1627	-	-	-	929
HCM Lane V/C Ratio	-	-	-	-	0.011
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	14	0	0	6	0	0
Future Vol, veh/h	14	0	0	6	0	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	-	0	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	0	0	7	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	15	0	22	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	7	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1616	-	1000	1070
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1616	-	1000	1070
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1021	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	1616	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

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	0	114	0	0	49	0	0	0	0	0	0	0
Future Vol, veh/h	0	114	0	0	49	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	124	0	0	53	0	0	0	0	0	0	0
Number of Lanes	1	1	0	1	1	1	1	1	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	8.2	7.8	0	0
HCM LOS	A	A	-	-

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	114	0	49	0	0	0	0
LT Vol	0	0	0	0	0	0	0	0	0	0
Through Vol	0	0	0	114	0	49	0	0	0	0
RT Vol	0	0	0	0	0	0	0	0	0	0
Lane Flow Rate	0	0	0	124	0	53	0	0	0	0
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0	0	0	0.157	0	0.069	0	0	0	0
Departure Headway (Hd)	4.982	4.982	4.572	4.572	4.669	4.669	4.669	4.982	4.982	3.2
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	0	0	783	0	760	0	0	0	0
Service Time	2.682	2.682	2.306	2.306	2.441	2.441	2.441	2.682	2.682	0.976
HCM Lane V/C Ratio	0	0	0	0.158	0	0.07	0	0	0	0
HCM Control Delay	7.7	7.7	7.3	8.2	7.4	7.8	7.4	7.7	7.7	6
HCM Lane LOS	N	N	N	A	N	A	N	N	N	N
HCM 95th-tile Q	0	0	0	0.6	0	0.2	0	0	0	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	14	0	0	6	0	0	0	0	0	0	0
Future Vol, veh/h	0	14	0	0	6	0	0	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	50	-	-	100	-	-	-	-	-	0	-	-
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	15	0	0	7	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	7	0	0	15	0	0	22	22	15	22	22	7
Stage 1	-	-	-	-	-	-	15	15	-	7	7	-
Stage 2	-	-	-	-	-	-	7	7	-	15	15	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1627	-	-	1616	-	-	995	876	1070	995	876	1081
Stage 1	-	-	-	-	-	-	1010	887	-	1020	894	-
Stage 2	-	-	-	-	-	-	1020	894	-	1010	887	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1627	-	-	1616	-	-	995	876	1070	995	876	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	995	876	-	995	876	-
Stage 1	-	-	-	-	-	-	1010	887	-	1020	894	-
Stage 2	-	-	-	-	-	-	1020	894	-	1010	887	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

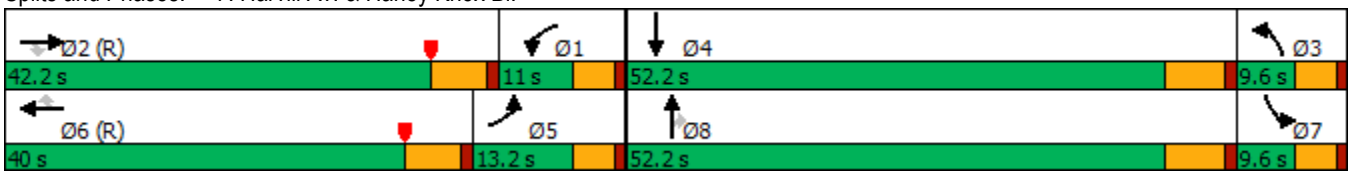
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1627	-	-	1616	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0	0
HCM Lane LOS	A	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-	-

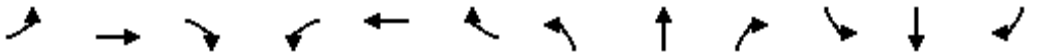
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	1	149	3	336	50	17	1	3	349	26	9
Future Volume (vph)	1	149	3	336	50	17	1	3	349	26	9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	41.8	41.8	9.6	38.8	38.8	9.6	48.2	48.2	9.6	52.2
Total Split (s)	13.2	42.2	42.2	11.0	40.0	40.0	9.6	52.2	52.2	9.6	52.2
Total Split (%)	11.5%	36.7%	36.7%	9.6%	34.8%	34.8%	8.3%	45.4%	45.4%	8.3%	45.4%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	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	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Max	C-Max	None	Max	Max	None	Min

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 7: Harvill Av. & Harley Knox Bl.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	149	3	336	50	17	1	3	349	26	9	1
Future Volume (veh/h)	1	149	3	336	50	17	1	3	349	26	9	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	160	0	361	54	14	1	3	106	28	10	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	325	271	121	1105	1074	473	651	760	1134	47	238	0
Arrive On Green	0.09	0.08	0.00	0.31	0.30	0.30	0.36	0.40	0.40	0.03	0.07	0.00
Sat Flow, veh/h	3510	3610	1610	3510	3610	1590	1810	1900	2834	1810	3705	0
Grp Volume(v), veh/h	1	160	0	361	54	14	1	3	106	28	10	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1590	1810	1900	1417	1810	1805	0
Q Serve(g_s), s	0.0	4.9	0.0	9.0	1.2	0.7	0.0	0.1	2.7	1.8	0.3	0.0
Cycle Q Clear(g_c), s	0.0	4.9	0.0	9.0	1.2	0.7	0.0	0.1	2.7	1.8	0.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	325	271	121	1105	1074	473	651	760	1134	47	238	0
V/C Ratio(X)	0.00	0.59	0.00	0.33	0.05	0.03	0.00	0.00	0.09	0.60	0.04	0.00
Avail Cap(c_a), veh/h	325	1143	510	1105	1074	473	651	760	1134	79	1444	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	1.00	0.00	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	47.4	51.5	0.0	30.1	28.8	28.6	23.6	20.7	21.5	55.4	50.3	0.0
Incr Delay (d2), s/veh	0.0	9.1	0.0	0.1	0.1	0.1	0.0	0.0	0.2	4.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	0.0	3.7	0.5	0.3	0.0	0.0	0.9	0.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	60.6	0.0	30.1	28.9	28.8	23.6	20.7	21.7	60.0	50.4	0.0
LnGrp LOS	D	E	A	C	C	C	C	C	C	E	D	A
Approach Vol, veh/h		161			429			110			38	
Approach Delay, s/veh		60.5			29.9			21.7			57.5	
Approach LOS		E			C			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	40.8	14.4	46.0	13.8	15.2	40.0	7.6	52.2
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.4	36.4	5.0	46.0	8.6	34.2	5.0	46.0
Max Q Clear Time (g_c+I1), s	11.0	6.9	2.0	2.3	2.0	3.2	3.8	4.7
Green Ext Time (p_c), s	0.0	1.3	0.0	0.0	0.0	0.4	0.0	0.4

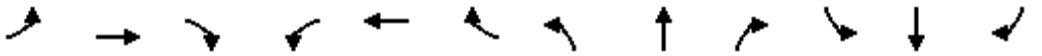
Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	472	52	269	200	7	202
Future Volume (vph)	472	52	269	200	7	202
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)	25.5	25.5	9.5	25.5	10.5	10.5
Total Split (s)	31.8	31.8	23.0	54.8	35.2	35.2
Total Split (%)	35.3%	35.3%	25.6%	60.9%	39.1%	39.1%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
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)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 8: I-215 SB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	472	52	269	200	0	0	0	0	393	7	202
Future Volume (veh/h)	0	472	52	269	200	0	0	0	0	393	7	202
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	513	54	292	217	0				427	8	144
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1401	612	323	2226	0				484	9	439
Arrive On Green	0.00	0.39	0.39	0.30	1.00	0.00				0.27	0.27	0.27
Sat Flow, veh/h	0	3705	1576	1810	3705	0				1778	33	1610
Grp Volume(v), veh/h	0	513	54	292	217	0				435	0	144
Grp Sat Flow(s),veh/h/ln	0	1805	1576	1810	1805	0				1811	0	1610
Q Serve(g_s), s	0.0	9.1	2.0	14.0	0.0	0.0				20.7	0.0	6.4
Cycle Q Clear(g_c), s	0.0	9.1	2.0	14.0	0.0	0.0				20.7	0.0	6.4
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	1401	612	323	2226	0				493	0	439
V/C Ratio(X)	0.00	0.37	0.09	0.90	0.10	0.00				0.88	0.00	0.33
Avail Cap(c_a), veh/h	0	1401	612	372	2226	0				608	0	540
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.98	0.98	0.92	0.92	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.6	17.4	30.8	0.0	0.0				31.4	0.0	26.2
Incr Delay (d2), s/veh	0.0	0.7	0.3	20.0	0.1	0.0				12.3	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.6	0.7	6.7	0.0	0.0				10.0	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.4	17.7	50.8	0.1	0.0				43.6	0.0	26.6
LnGrp LOS	A	C	B	D	A	A				D	A	C
Approach Vol, veh/h		567			509						579	
Approach Delay, s/veh		20.1			29.2						39.4	
Approach LOS		C			C						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.6	39.9		29.5		60.5						
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0						
Max Green Setting (Gmax), s	18.5	26.8		30.2		49.8						
Max Q Clear Time (g_c+I1), s	16.0	11.1		22.7		2.0						
Green Ext Time (p_c), s	0.1	1.9		1.8		0.8						

Intersection Summary												
HCM 6th Ctrl Delay			29.7									
HCM 6th LOS			C									

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	314	552	433	571	4	251
Future Volume (vph)	314	552	433	571	4	251
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)	9.5	26.0	24.0	24.0	10.0	10.0
Total Split (s)	24.0	62.0	38.0	38.0	28.0	28.0
Total Split (%)	26.7%	68.9%	42.2%	42.2%	31.1%	31.1%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
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)	4.5	5.0	5.0	5.0	5.0	5.0
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: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 9: I-215 NB Ramp & Harley Knox Bl.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	552	0	0	433	571	37	4	251	0	0	0
Future Volume (veh/h)	314	552	0	0	433	571	37	4	251	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	378	665	0	0	522	636	45	5	103			
Peak Hour Factor	0.83	0.83	0.92	0.92	0.83	0.83	0.83	0.83	0.83			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	392	2286	0	0	1324	578	418	46	411			
Arrive On Green	0.43	1.00	0.00	0.00	0.37	0.37	0.26	0.26	0.26			
Sat Flow, veh/h	1810	3705	0	0	3705	1576	1636	182	1610			
Grp Volume(v), veh/h	378	665	0	0	522	636	50	0	103			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1576	1818	0	1610			
Q Serve(g_s), s	18.3	0.0	0.0	0.0	9.6	33.0	1.9	0.0	4.6			
Cycle Q Clear(g_c), s	18.3	0.0	0.0	0.0	9.6	33.0	1.9	0.0	4.6			
Prop In Lane	1.00		0.00	0.00		1.00	0.90		1.00			
Lane Grp Cap(c), veh/h	392	2286	0	0	1324	578	465	0	411			
V/C Ratio(X)	0.96	0.29	0.00	0.00	0.39	1.10	0.11	0.00	0.25			
Avail Cap(c_a), veh/h	392	2286	0	0	1324	578	465	0	411			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.92	0.92	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.2	0.0	0.0	0.0	21.1	28.5	25.6	0.0	26.6			
Incr Delay (d2), s/veh	34.1	0.3	0.0	0.0	0.9	67.9	0.5	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	8.9	0.1	0.0	0.0	3.9	22.1	0.8	0.0	1.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.2	0.3	0.0	0.0	22.0	96.4	26.1	0.0	28.1			
LnGrp LOS	E	A	A	A	C	F	C	A	C			
Approach Vol, veh/h		1043			1158			153				
Approach Delay, s/veh		21.7			62.8			27.4				
Approach LOS		C			E			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		62.0			24.0	38.0		28.0				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		57.0			19.5	33.0		23.0				
Max Q Clear Time (g_c+I1), s		2.0			20.3	35.0		6.6				
Green Ext Time (p_c), s		2.8			0.0	0.0		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			42.3									
HCM 6th LOS			D									

APPENDIX 6.2:

EAP (2021) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS	EAP 2021
				CALC RV	DATE 04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE 04/29/19
Major Street: **Nandina Avenue**				Critical Approach Speed (Major)	25 mph
Minor Street: **Driveway 1**				Critical Approach Speed (Minor)	25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **194** vpd Minor Street Future ADT = **194** 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)

URBAN / RURAL	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	Urban	Rural	Urban	Rural
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **194** / *1* **194**	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)	
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **194** / *1* **194**	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				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 2% 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.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		EAP 2021
				CALC RV	DATE	04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE	04/29/19
Major Street: **Oleander Avenue**				Critical Approach Speed (Major)		25 mph
Minor Street: **Driveway 2**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **94** vpd Minor Street Future ADT = **94** 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)

URBAN: XX RURAL:

CONDITION A - Minimum Vehicular Volume

Satisfied: Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **94**	*1* **94**	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

Satisfied: Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **94**	*1* **94**	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

Satisfied: Not Satisfied: XX

No one condition satisfied, but following conditions fulfilled 80% of more ….. **A** 1% **B** 1%

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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS	EAP 2021
				CALC RV	DATE 04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE 04/29/19
Major Street: **Oleander Avenue**				Critical Approach Speed (Major)	25 mph
Minor Street: **Driveway 3**				Critical Approach Speed (Minor)	25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **144** vpd Minor Street Future ADT = **50** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population …… [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied: XX / Not Satisfied: XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **144** / 1 **50**	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)	
Satisfied / Not Satisfied: XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **144** / 1 **50**	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				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 2% B: 1%				

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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		EAP 2021
				CALC RV	DATE	04/29/19
Jurisdiction: County of Riverside				CHK RV	DATE	04/29/19
Major Street: Decker Road				Critical Approach Speed (Major)		25 mph
Minor Street: Nandina Avenue				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **194** vpd Minor Street Future ADT = **194** 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)

URBAN: XX RURAL:

CONDITION A - Minimum Vehicular Volume

Satisfied: Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **194**	*1* **194**	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

Satisfied: Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **194**	*1* **194**	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

Satisfied: Not Satisfied: XX

No one condition satisfied, but following conditions fulfilled 80% of more ….. **A** 2% **B** 2%

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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		EAP 2021
				CALC RV	DATE	04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE	04/29/19
Major Street: **Harley Knox Boulevard**				Critical Approach Speed (Major)		25 mph
Minor Street: **Decker Road**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **4** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **1,548** vpd Minor Street Future ADT = **0** 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)

URBAN XX RURAL

CONDITION A - Minimum Vehicular Volume

Satisfied Not Satisfied XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	*1*	8,000	5,600	2,400	1,680
2 + **1,548**	*1* **0**	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

Satisfied Not Satisfied XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	*1*	12,000	8,400	1,200	850
2 + **1,548**	*1* **0**	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

Satisfied Not Satisfied XX

No one condition satisfied, but following conditions fulfilled 80% of more ….. **A** 16% **B** 11%

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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		EAP 2021
				CALC RV	DATE	04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE	04/29/19
Major Street: **Decker Road**				Critical Approach Speed (Major)		25 mph
Minor Street: **Oleander Avenue**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **194** vpd Minor Street Future ADT = **0** 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)

URBAN / RURAL	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	Urban	Rural	Urban	Rural
Satisfied / Not Satisfied XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **194** / *1* **0**	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)	
Satisfied / Not Satisfied XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **194** / *1* **0**	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				
Satisfied / Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A 2% 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.

APPENDIX 6.3:

EAP (2021) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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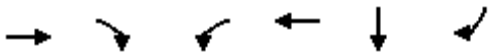


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	575	21	164	258	535	270
v/c Ratio	0.53	0.04	0.55	0.14	0.90	0.38
Control Delay	23.0	0.1	31.3	4.0	42.7	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	0.1	31.3	4.0	42.7	4.2
Queue Length 50th (ft)	110	0	69	33	211	0
Queue Length 95th (ft)	158	0	121	38	#382	45
Internal Link Dist (ft)	813			329	1352	
Turn Bay Length (ft)			60			265
Base Capacity (vph)	1079	549	296	1904	620	731
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.04	0.55	0.14	0.86	0.37

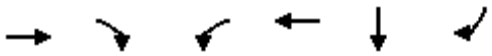
Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	341	755	366	803	52	91
v/c Ratio	0.84	0.27	0.20	0.81	0.41	0.44
Control Delay	49.9	0.9	10.7	16.2	41.0	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	0.9	10.7	16.2	41.0	13.7
Queue Length 50th (ft)	148	9	45	148	22	0
Queue Length 95th (ft)	m#202	m16	70	#398	54	36
Internal Link Dist (ft)		329	1505		1112	
Turn Bay Length (ft)	60					270
Base Capacity (vph)	446	2836	1790	994	128	209
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.27	0.20	0.81	0.41	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.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	513	57	292	217	435	220
v/c Ratio	0.40	0.09	0.85	0.10	0.83	0.35
Control Delay	24.2	3.6	81.1	4.1	44.0	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	3.6	81.1	4.1	44.0	4.9
Queue Length 50th (ft)	121	0	183	10	225	0
Queue Length 95th (ft)	173	18	#297	15	325	47
Internal Link Dist (ft)	813			329	1352	
Turn Bay Length (ft)			60			265
Base Capacity (vph)	1297	619	375	2166	607	688
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.09	0.78	0.10	0.72	0.32

Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	378	665	522	688	50	302
v/c Ratio	0.97	0.29	0.39	0.71	0.11	0.49
Control Delay	76.7	8.1	22.2	7.6	26.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.7	8.1	22.2	7.6	26.5	7.7
Queue Length 50th (ft)	234	101	113	23	22	10
Queue Length 95th (ft)	#358	99	142	72	46	56
Internal Link Dist (ft)		329	1505		1112	
Turn Bay Length (ft)	60					270
Base Capacity (vph)	391	2286	1323	975	464	619
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.29	0.39	0.71	0.11	0.49

Intersection Summary

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

APPENDIX 6.4:

EAP (2021) CONDITIONS FREEWAY FACILITY ANALYSIS WORKSHEETS

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HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	EAP 2021
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 SB, North of Harley Knox	5280	3
2	Diverge	Diverge	I-215 SB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 SB, Between Ramps	2350	3
4	Merge	Merge	I-215 SB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 SB, South of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4577	7200	0.64	68.8	22.2	C

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.826	4577	749	7200	2100	0.64	0.36	64.0	59.8	23.8	29.1	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	3826	7200	0.53	69.9	18.2	C

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.862	4003	177	7200	2100	0.56	0.08	62.6	60.5	21.3	22.7	C

Segment 5: Basic

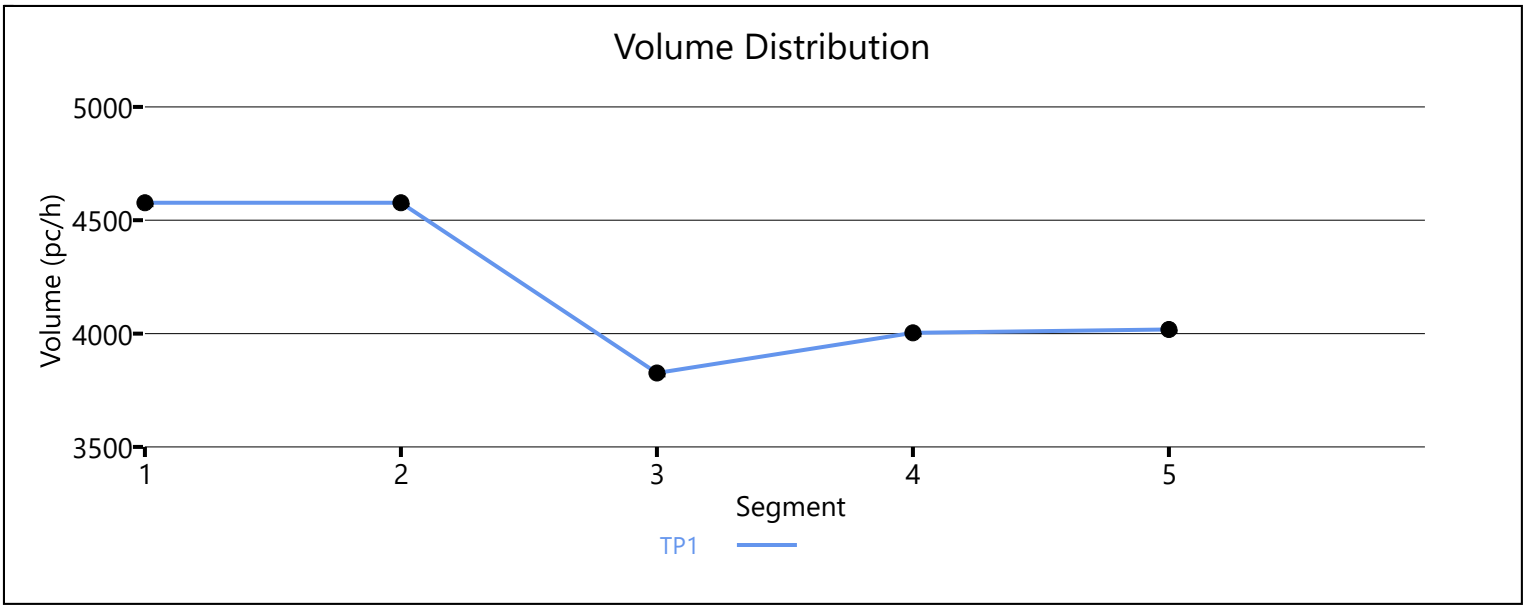
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	4018	7200	0.56	69.8	19.2	C

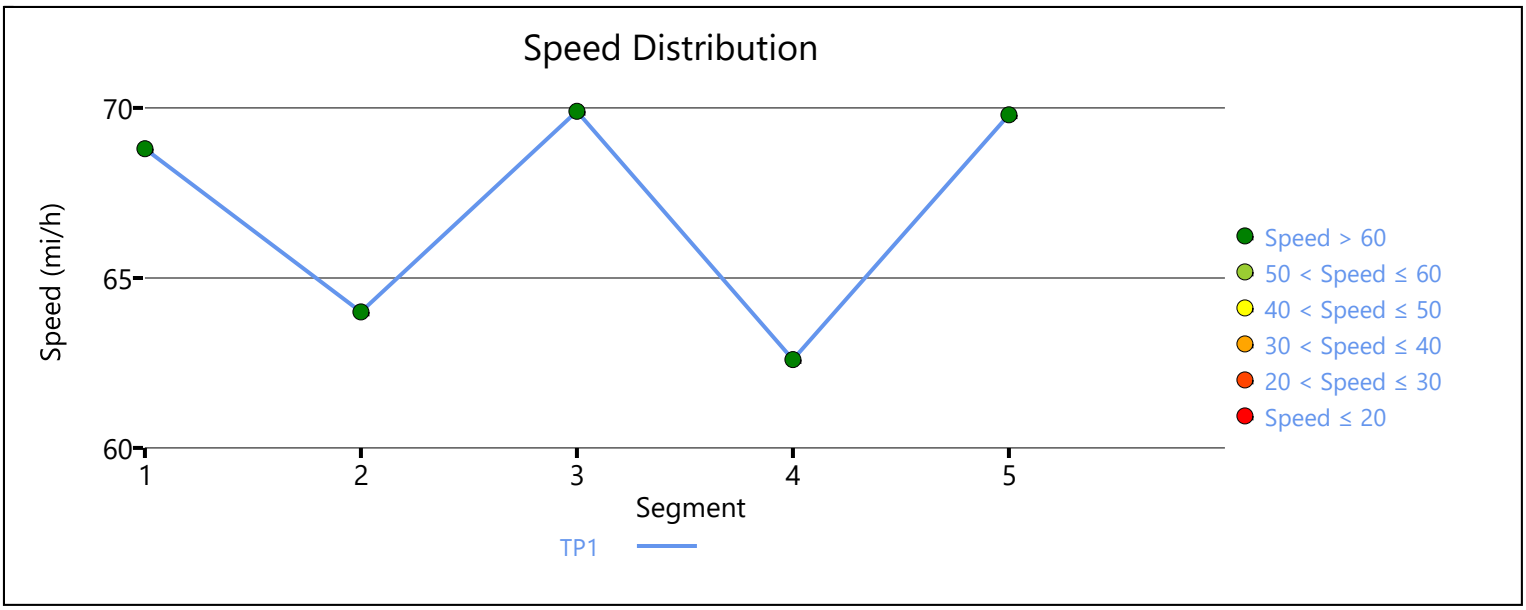
Facility Time Period Results

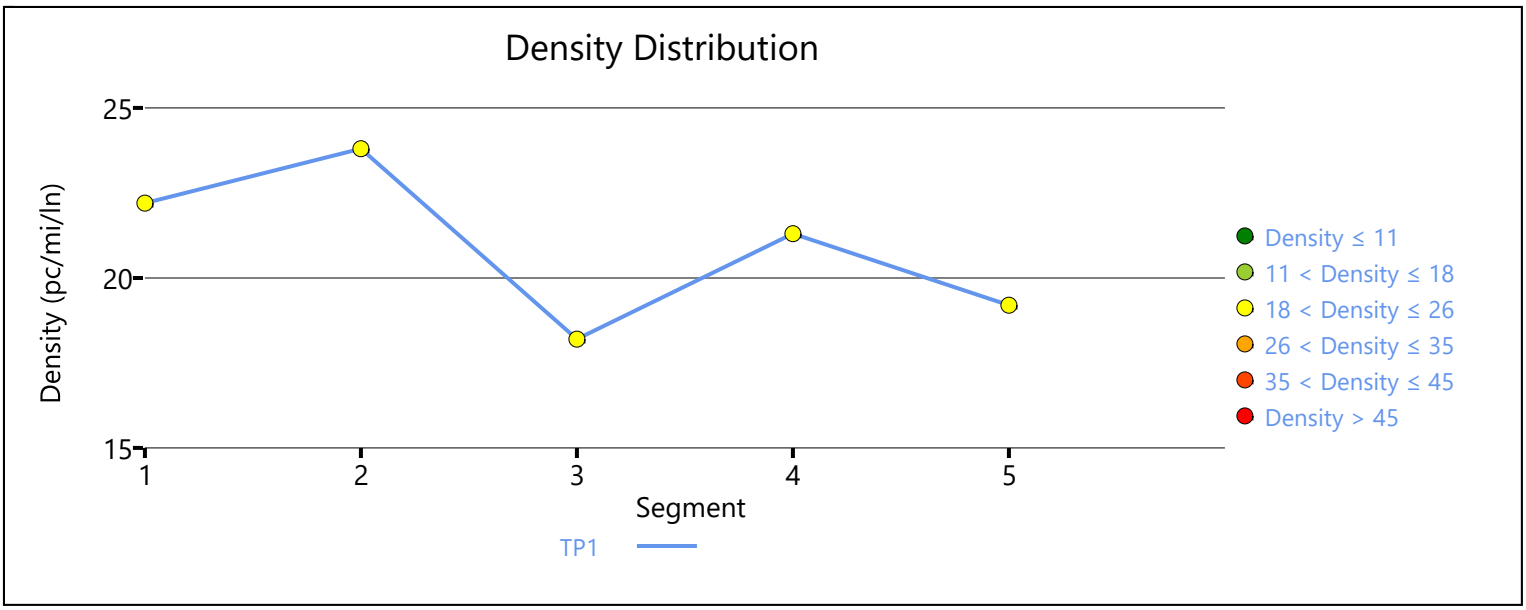
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	68.1	20.7	20.4	2.7	C

Facility Overall Results

Space Mean Speed, mi/h	68.1	Density, veh/mi/ln	20.4
Average Travel Time, min	2.7	Density, pc/mi/ln	20.7







HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	EAP 2021
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 NB, South of Harley Knox	5280	3
2	Diverge	Diverge	I-215 NB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 NB, Between Ramps	2350	3
4	Merge	Merge	I-215 NB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 NB, North of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	7391	7200	1.03	53.3	45.0	F

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.885	7200	1116	7200	2100	1.03	0.53	62.7	58.9	38.3	40.4	F

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	6084	7200	0.88	62.1	32.7	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.893	6207	123	7200	2100	0.89	0.06	59.3	57.4	34.9	32.4	D

Segment 5: Basic

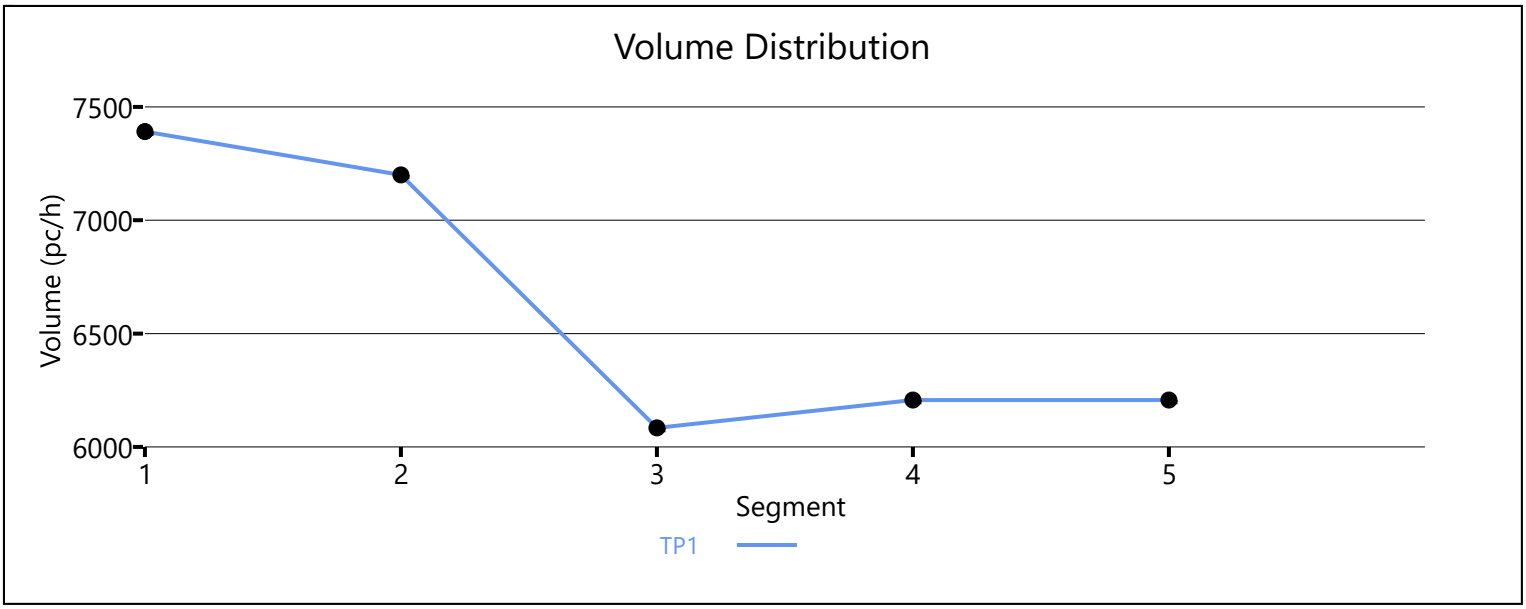
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	6207	7200	0.89	61.3	33.8	D

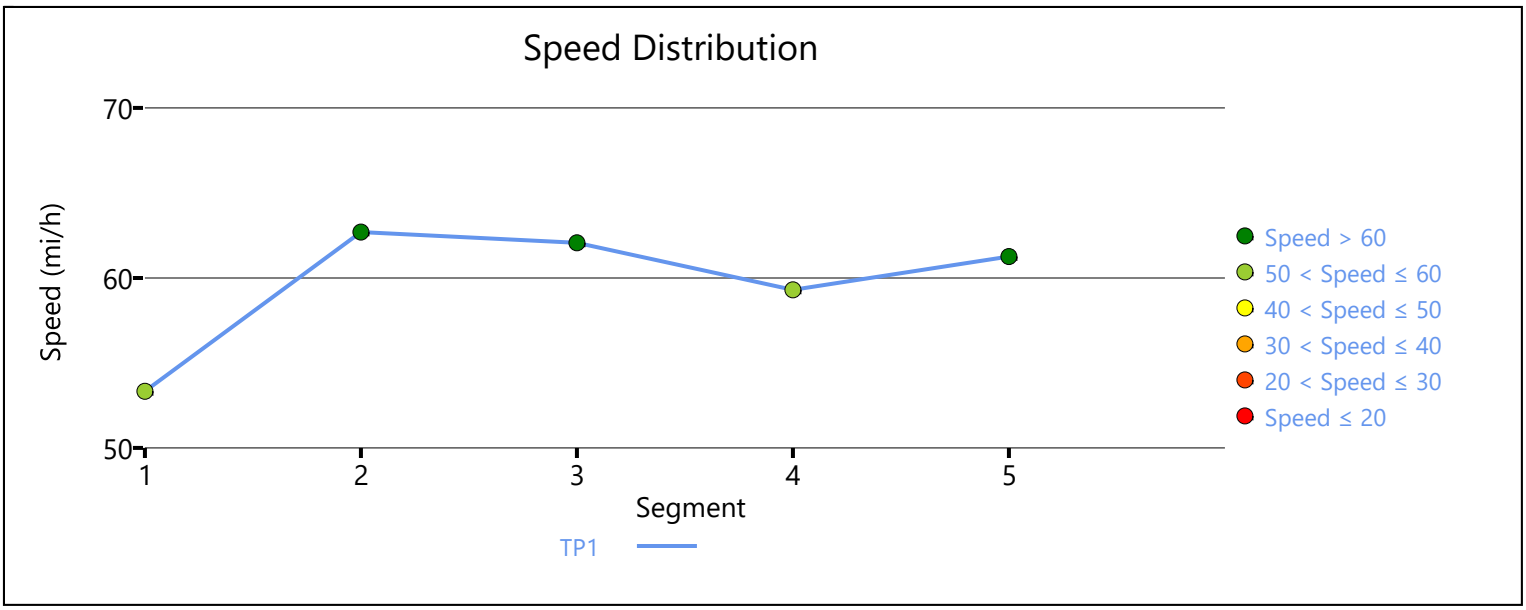
Facility Time Period Results

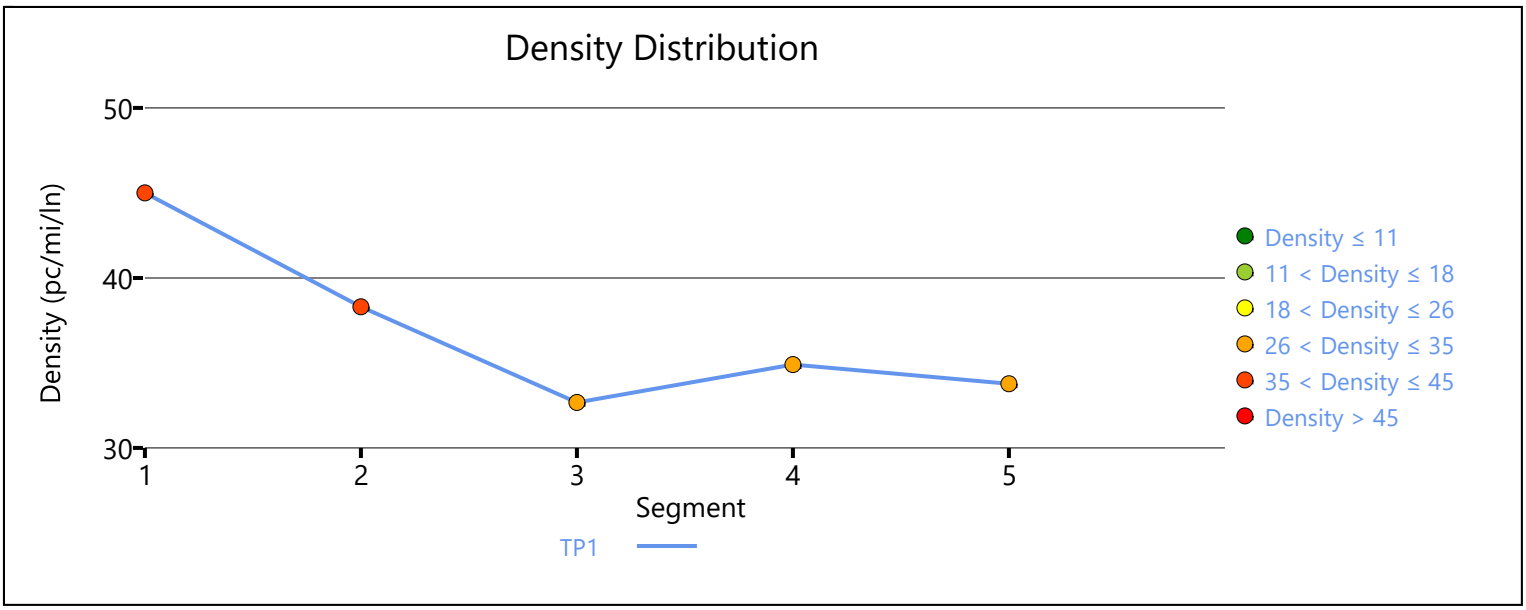
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.2	37.9	36.6	3.1	F

Facility Overall Results

Space Mean Speed, mi/h	58.2	Density, veh/mi/ln	36.6
Average Travel Time, min	3.1	Density, pc/mi/ln	37.9







HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	EAP 2021
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 SB, North of Harley Knox	5280	3
2	Diverge	Diverge	I-215 SB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 SB, Between Ramps	2350	3
4	Merge	Merge	I-215 SB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 SB, South of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.980	6114	7200	0.85	61.9	32.9	D

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.990	0.826	6052	605	7200	2100	0.84	0.29	64.0	60.1	31.5	34.9	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	5491	7200	0.76	65.4	28.0	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.952	5843	352	7200	2100	0.81	0.17	59.9	57.8	32.5	31.6	D

Segment 5: Basic

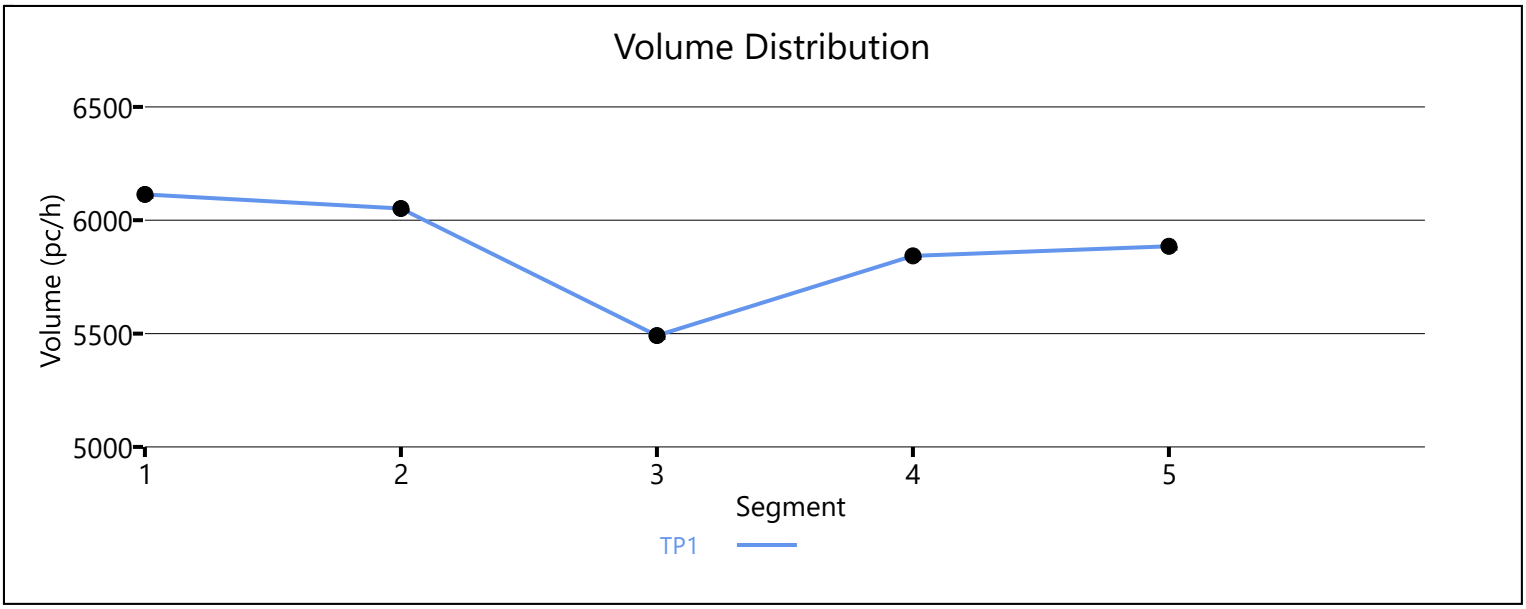
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	5885	7200	0.82	63.3	31.0	D

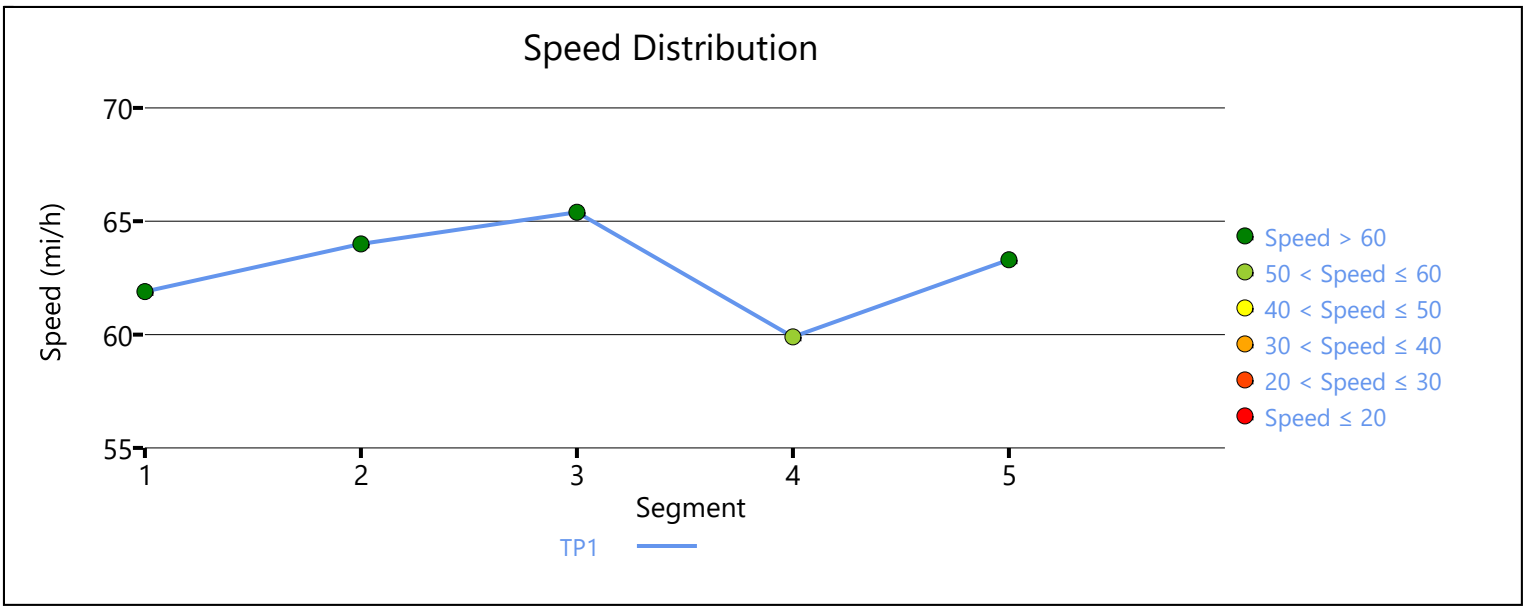
Facility Time Period Results

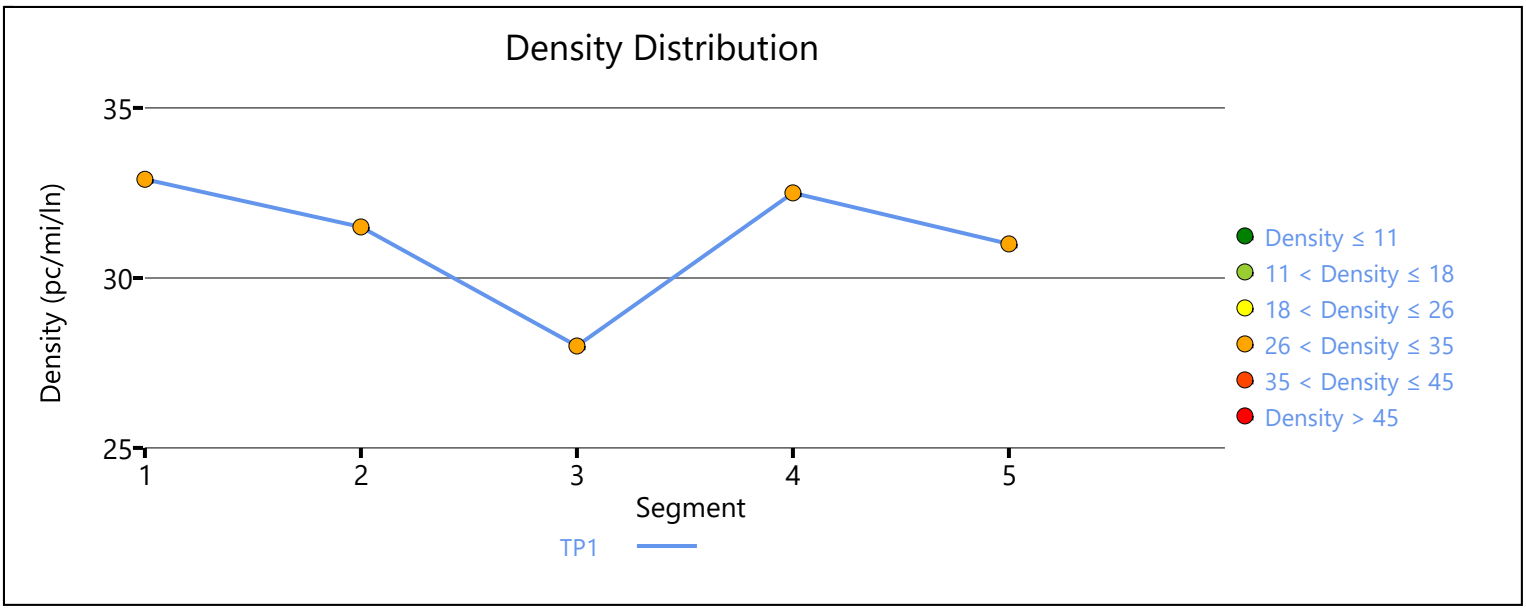
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	62.8	31.4	31.0	2.9	D

Facility Overall Results

Space Mean Speed, mi/h	62.8	Density, veh/mi/ln	31.0
Average Travel Time, min	2.9	Density, pc/mi/ln	31.4







HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	EAP 2021
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 NB, South of Harley Knox	5280	3
2	Diverge	Diverge	I-215 NB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 NB, Between Ramps	2350	3
4	Merge	Merge	I-215 NB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 NB, North of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	6040	7200	0.84	62.3	32.3	D

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.877	6040	843	7200	2100	0.84	0.40	63.6	59.5	31.7	34.5	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	5178	7200	0.72	66.8	25.8	C

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.990	0.820	5556	378	7200	2100	0.77	0.18	60.5	58.5	30.6	30.1	D

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	5598	7200	0.78	64.9	28.8	D

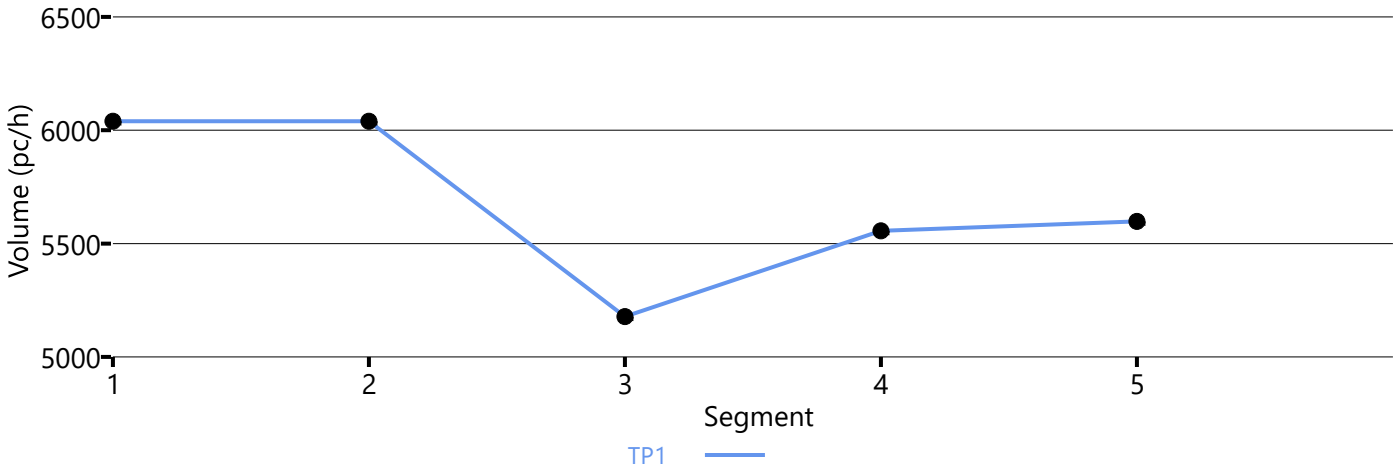
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.7	30.0	29.2	2.8	D

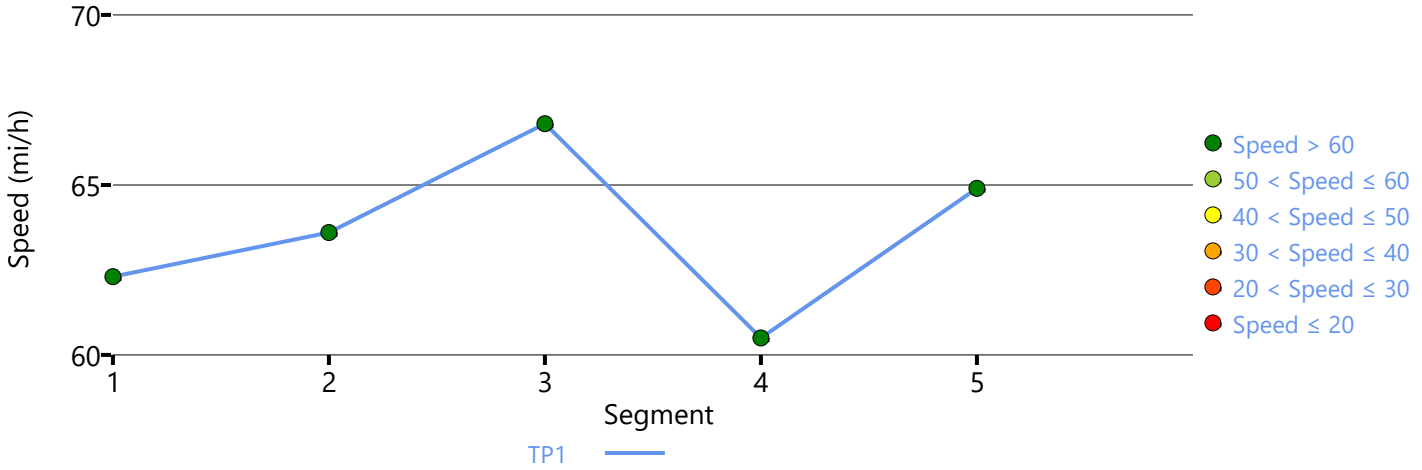
Facility Overall Results

Space Mean Speed, mi/h	63.7	Density, veh/mi/ln	29.2
Average Travel Time, min	2.8	Density, pc/mi/ln	30.0

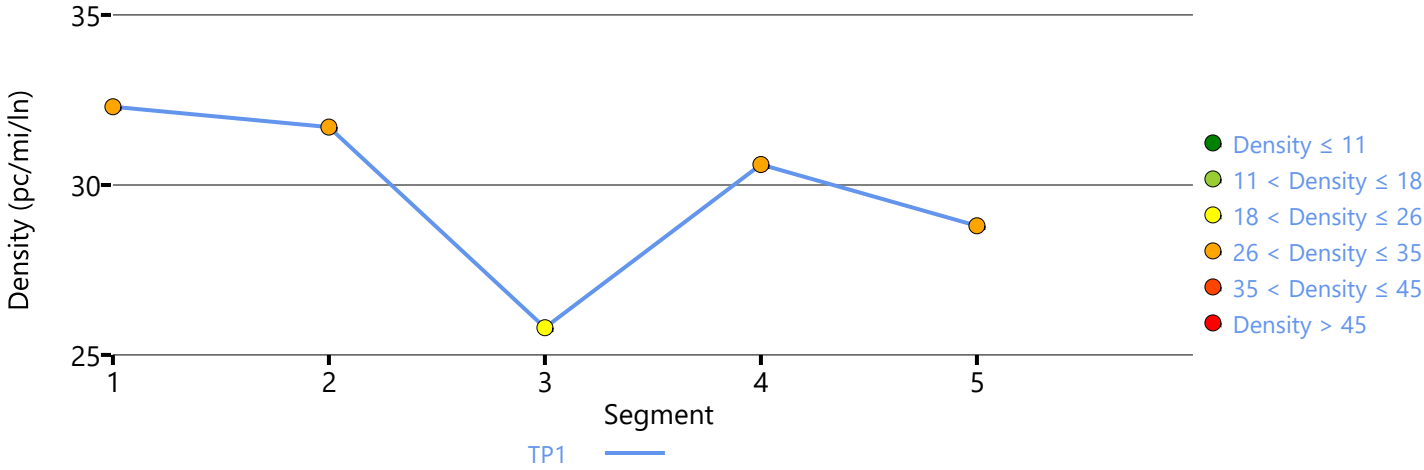
Volume Distribution



Speed Distribution



Density Distribution



APPENDIX 7.1:

EAPC (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	9	0	14	19	0	5
Future Vol, veh/h	9	0	14	19	0	5
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, %	0	0	0	0	0	0
Mvmt Flow	10	0	15	21	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	10	0	61	10
Stage 1	-	-	-	-	10	-
Stage 2	-	-	-	-	51	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1623	-	950	1077
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	977	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1623	-	941	1077
Mov Cap-2 Maneuver	-	-	-	-	941	-
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.1	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1077	-	-	1623	-
HCM Lane V/C Ratio	0.005	-	-	0.009	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	22	6	2	0
Future Vol, veh/h	0	10	22	6	2	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	11	24	7	2	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	31	0	-	0	39	28
Stage 1	-	-	-	-	28	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1595	-	-	-	978	1053
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1017	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1595	-	-	-	978	1053
Mov Cap-2 Maneuver	-	-	-	-	906	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	1017	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1595	-	-	-	906
HCM Lane V/C Ratio	-	-	-	-	0.002
HCM Control Delay (s)	0	-	-	-	9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	28	8	2	0
Future Vol, veh/h	0	12	28	8	2	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	13	30	9	2	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	48	35
Stage 1	-	-	-	-	35	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1584	-	-	-	967	1044
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1584	-	-	-	967	1044
Mov Cap-2 Maneuver	-	-	-	-	967	-
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	1015	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1584	-	-	-	967
HCM Lane V/C Ratio	-	-	-	-	0.002
HCM Control Delay (s)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	9	5	14	19	5
Future Vol, veh/h	5	9	5	14	19	5
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	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	10	5	15	21	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	15	0	30	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	25	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1616	-	989	1084
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1616	-	986	1084
Mov Cap-2 Maneuver	-	-	-	-	986	-
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1000	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	986	1084	-	-	1616	-
HCM Lane V/C Ratio	0.021	0.005	-	-	0.003	-
HCM Control Delay (s)	8.7	8.3	-	-	7.2	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	0	3	113	24	0	0	2	14	0	0
Future Vol, veh/h	0	37	0	3	113	24	0	0	2	14	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	40	0	3	123	26	0	0	2	15	0	0
Number of Lanes	1	1	0	1	1	1	1	1	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	7.8	8	7	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	100%	0%	100%	100%	0%	100%	0%	0%	100%	100%
Vol Right, %	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	2	0	37	3	113	24	14	0	0
LT Vol	0	0	0	0	3	0	0	14	0	0
Through Vol	0	0	0	37	0	113	0	0	0	0
RT Vol	0	2	0	0	0	0	24	0	0	0
Lane Flow Rate	0	2	0	40	3	123	26	15	0	0
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0	0.003	0	0.054	0.005	0.157	0.028	0.023	0	0
Departure Headway (Hd)	5.03	4.329	4.836	4.836	5.09	4.59	3.89	5.499	4.998	3.2
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	831	0	745	700	777	914	655	0	0
Service Time	2.732	2.031	2.536	2.536	2.84	2.339	1.639	3.201	2.7	0.998
HCM Lane V/C Ratio	0	0.002	0	0.054	0.004	0.158	0.028	0.023	0	0
HCM Control Delay	7.7	7	7.5	7.8	7.9	8.2	6.8	8.3	7.7	6
HCM Lane LOS	N	A	N	A	A	A	A	A	N	N
HCM 95th-tile Q	0	0	0	0.2	0	0.6	0.1	0.1	0	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	20	0	0	48	2	0	0	0	3	0	0
Future Vol, veh/h	0	20	0	0	48	2	0	0	0	3	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	50	-	-	100	-	-	0	-	0	0	-	-
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	22	0	0	52	2	0	0	0	3	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	54	0	0	22	0	0	75	76	22	75	75	53
Stage 1	-	-	-	-	-	-	22	22	-	53	53	-
Stage 2	-	-	-	-	-	-	53	54	-	22	22	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1564	-	-	1607	-	-	920	818	1061	920	819	1020
Stage 1	-	-	-	-	-	-	1002	881	-	965	855	-
Stage 2	-	-	-	-	-	-	965	854	-	1002	881	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1564	-	-	1607	-	-	920	818	1061	920	819	1020
Mov Cap-2 Maneuver	-	-	-	-	-	-	920	818	-	920	819	-
Stage 1	-	-	-	-	-	-	1002	881	-	965	855	-
Stage 2	-	-	-	-	-	-	965	854	-	1002	881	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	8.9
HCM LOS			A	A

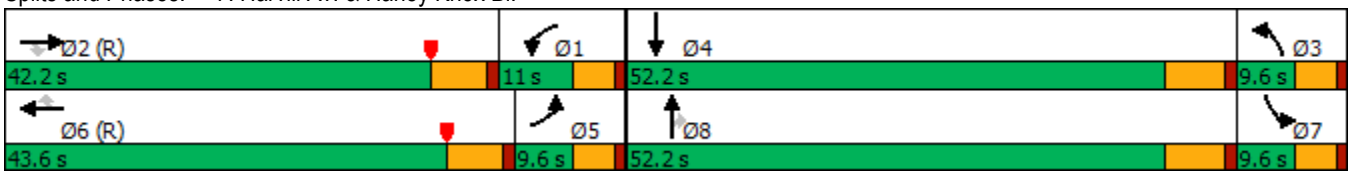
Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	-	1564	-	-	1607	-	-	920	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-	-	0.004	-
HCM Control Delay (s)	0	0	0	0	-	-	0	-	-	8.9	0
HCM Lane LOS	A	A	A	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-	-	0	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	1	50	6	460	161	73	13	9	563	36	5
Future Volume (vph)	1	50	6	460	161	73	13	9	563	36	5
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	41.8	41.8	9.6	38.8	38.8	9.6	48.2	48.2	9.6	52.2
Total Split (s)	9.6	42.2	42.2	11.0	43.6	43.6	9.6	52.2	52.2	9.6	52.2
Total Split (%)	8.3%	36.7%	36.7%	9.6%	37.9%	37.9%	8.3%	45.4%	45.4%	8.3%	45.4%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	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	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Max	C-Max	None	Max	Max	None	Min

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 7: Harvill Av. & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	50	6	460	161	73	13	9	563	36	5	0
Future Volume (veh/h)	1	50	6	460	161	73	13	9	563	36	5	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	52	3	479	168	71	14	9	252	38	5	0
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	198	157	70	1199	1187	529	700	760	1134	55	157	0
Arrive On Green	0.06	0.04	0.04	0.34	0.33	0.33	0.39	0.40	0.40	0.03	0.04	0.00
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	1810	1900	2834	1810	3705	0
Grp Volume(v), veh/h	1	52	3	479	168	71	14	9	252	38	5	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1810	1900	1417	1810	1805	0
Q Serve(g_s), s	0.0	1.6	0.2	12.0	3.8	3.6	0.5	0.3	6.7	2.4	0.2	0.0
Cycle Q Clear(g_c), s	0.0	1.6	0.2	12.0	3.8	3.6	0.5	0.3	6.7	2.4	0.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	198	157	70	1199	1187	529	700	760	1134	55	157	0
V/C Ratio(X)	0.01	0.33	0.04	0.40	0.14	0.13	0.02	0.01	0.22	0.69	0.03	0.00
Avail Cap(c_a), veh/h	198	1143	510	1199	1187	529	700	760	1134	79	1444	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	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	51.2	53.4	52.7	28.9	27.2	27.1	21.8	20.8	22.7	55.2	52.7	0.0
Incr Delay (d2), s/veh	0.0	5.6	1.1	0.1	0.2	0.5	0.0	0.0	0.5	5.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.8	0.1	4.9	1.6	1.4	0.2	0.1	2.2	1.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	59.0	53.9	28.9	27.4	27.6	21.8	20.8	23.2	60.7	52.8	0.0
LnGrp LOS	D	E	D	C	C	C	C	C	C	E	D	A
Approach Vol, veh/h		56			718			275			43	
Approach Delay, s/veh		58.5			28.4			23.0			59.8	
Approach LOS		E			C			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.9	10.8	49.1	11.2	11.1	43.6	8.1	52.2
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.4	36.4	5.0	46.0	5.0	37.8	5.0	46.0
Max Q Clear Time (g_c+I1), s	14.0	3.6	2.5	2.2	2.0	5.8	4.4	8.7
Green Ext Time (p_c), s	0.0	0.3	0.0	0.0	0.0	1.8	0.0	1.0

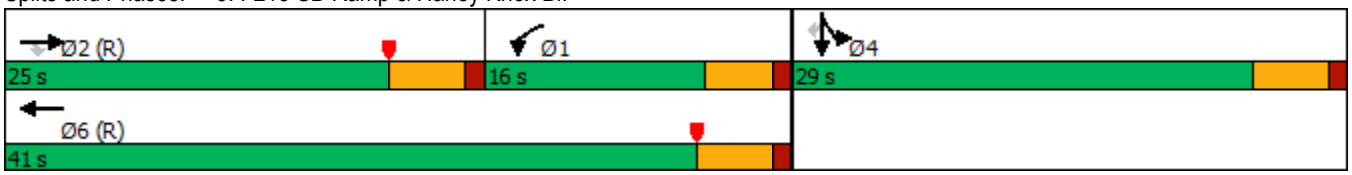
Intersection Summary	
HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

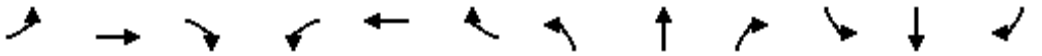
Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	607	41	220	309	2	384
Future Volume (vph)	607	41	220	309	2	384
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2				4
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.5	25.5	9.5	25.5	10.5	10.5
Total Split (s)	25.0	25.0	16.0	41.0	29.0	29.0
Total Split (%)	35.7%	35.7%	22.9%	58.6%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
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)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0.5 (1%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 8: I-215 SB Ramp & Harley Knox Bl.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	607	41	220	309	0	0	0	0	948	2	384
Future Volume (veh/h)	0	607	41	220	309	0	0	0	0	948	2	384
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	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	660	44	239	336	0				1030	2	360
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1031	459	318	1923	0				619	1	552
Arrive On Green	0.00	0.29	0.29	0.06	0.18	0.00				0.34	0.34	0.34
Sat Flow, veh/h	0	3705	1607	1810	3705	0				1806	4	1610
Grp Volume(v), veh/h	0	660	44	239	336	0				1032	0	360
Grp Sat Flow(s),veh/h/ln	0	1805	1607	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	11.2	1.4	9.1	5.5	0.0				24.0	0.0	13.2
Cycle Q Clear(g_c), s	0.0	11.2	1.4	9.1	5.5	0.0				24.0	0.0	13.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1031	459	318	1923	0				620	0	552
V/C Ratio(X)	0.00	0.64	0.10	0.75	0.17	0.00				1.66	0.00	0.65
Avail Cap(c_a), veh/h	0	1031	459	318	1923	0				620	0	552
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	0.94	0.94	0.97	0.97	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.9	18.4	31.5	15.8	0.0				23.0	0.0	19.5
Incr Delay (d2), s/veh	0.0	2.9	0.4	8.4	0.2	0.0				305.6	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.6	0.5	4.8	2.0	0.0				61.4	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.7	18.7	39.9	16.0	0.0				328.6	0.0	22.2
LnGrp LOS	A	C	B	D	B	A				F	A	C
Approach Vol, veh/h		704			575						1392	
Approach Delay, s/veh		24.3			25.9						249.3	
Approach LOS		C			C						F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.3	25.0		29.0		42.3
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	11.5	* 20		24.0		36.0
Max Q Clear Time (g_c+I1), s	11.1	13.2		26.0		7.5
Green Ext Time (p_c), s	0.0	1.7		0.0		1.3

Intersection Summary		
HCM 6th Ctrl Delay		141.9
HCM 6th LOS		F

Notes

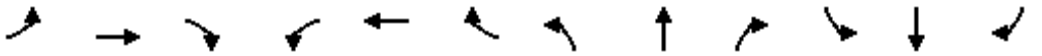
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	382	1174	434	903	0	301
Future Volume (vph)	382	1174	434	903	0	301
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)	9.5	26.0	24.0	24.0	10.0	10.0
Total Split (s)	21.8	60.0	38.2	38.2	10.0	10.0
Total Split (%)	31.1%	85.7%	54.6%	54.6%	14.3%	14.3%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
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)	4.5	5.0	5.0	5.0	5.0	5.0
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: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 9: I-215 NB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	382	1174	0	0	434	903	95	0	301	0	0	0
Future Volume (veh/h)	382	1174	0	0	434	903	95	0	301	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	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	411	1262	0	0	467	908	102	0	259			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	440	2836	0	0	1727	770	129	0	115			
Arrive On Green	0.49	1.00	0.00	0.00	0.48	0.48	0.07	0.00	0.07			
Sat Flow, veh/h	1810	3705	0	0	3705	1610	1810	0	1610			
Grp Volume(v), veh/h	411	1262	0	0	467	908	102	0	259			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	15.0	0.0	0.0	0.0	5.4	33.5	3.9	0.0	5.0			
Cycle Q Clear(g_c), s	15.0	0.0	0.0	0.0	5.4	33.5	3.9	0.0	5.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	440	2836	0	0	1727	770	129	0	115			
V/C Ratio(X)	0.94	0.44	0.00	0.00	0.27	1.18	0.79	0.00	2.25			
Avail Cap(c_a), veh/h	447	2836	0	0	1727	770	129	0	115			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.72	0.72	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	17.5	0.0	0.0	0.0	10.9	18.3	32.0	0.0	32.5			
Incr Delay (d2), s/veh	21.0	0.4	0.0	0.0	0.4	93.6	37.4	0.0	590.2			
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	6.2	0.1	0.0	0.0	1.9	29.8	2.9	0.0	20.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	0.4	0.0	0.0	11.3	111.8	69.4	0.0	622.7			
LnGrp LOS	D	A	A	A	B	F	E	A	F			
Approach Vol, veh/h		1673			1375			361				
Approach Delay, s/veh		9.7			77.7			466.4				
Approach LOS		A			E			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		60.0			21.5	38.5		10.0				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		55.0			17.3	33.2		5.0				
Max Q Clear Time (g_c+I1), s		2.0			17.0	35.5		7.0				
Green Ext Time (p_c), s		6.6			0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			85.5									
HCM 6th LOS			F									

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	20	0	6	10	0	14
Future Vol, veh/h	20	0	6	10	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	22	0	7	11	0	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	22	0	47	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	25	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1607	-	968	1061
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1607	-	964	1061
Mov Cap-2 Maneuver	-	-	-	-	964	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	999	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1061	-	-	1607	-
HCM Lane V/C Ratio	0.014	-	-	0.004	-
HCM Control Delay (s)	8.4	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	11	3	6	0
Future Vol, veh/h	0	25	11	3	6	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	27	12	3	7	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	15	0	-	0	41	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	27	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1616	-	-	-	975	1072
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	1001	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1616	-	-	-	975	1072
Mov Cap-2 Maneuver	-	-	-	-	904	-
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	1001	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1616	-	-	-	904
HCM Lane V/C Ratio	-	-	-	-	0.007
HCM Control Delay (s)	0	-	-	-	9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	45	21	4	9	0
Future Vol, veh/h	0	45	21	4	9	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	49	23	4	10	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	27	0	-	0	74	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	49	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1600	-	-	-	935	1057
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	979	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1600	-	-	-	935	1057
Mov Cap-2 Maneuver	-	-	-	-	935	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	979	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1600	-	-	-	935
HCM Lane V/C Ratio	-	-	-	-	0.01
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	14	20	5	6	10	5
Future Vol, veh/h	14	20	5	6	10	5
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	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	22	5	7	11	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	37	0	32	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	17	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1587	-	987	1070
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1587	-	984	1070
Mov Cap-2 Maneuver	-	-	-	-	984	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1008	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	984	1070	-	-	1587	-
HCM Lane V/C Ratio	0.011	0.005	-	-	0.003	-
HCM Control Delay (s)	8.7	8.4	-	-	7.3	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	-	-	0	-

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	114	0	3	49	15	0	0	5	25	0	0
Future Vol, veh/h	0	114	0	3	49	15	0	0	5	25	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	124	0	3	53	16	0	0	5	27	0	0
Number of Lanes	1	1	0	1	1	1	1	1	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	3	2
HCM Control Delay	8.4	7.7	7.1	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	100%	0%	100%	100%	0%	100%	0%	0%	100%	100%
Vol Right, %	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	5	0	114	3	49	15	25	0	0
LT Vol	0	0	0	0	3	0	0	25	0	0
Through Vol	0	0	0	114	0	49	0	0	0	0
RT Vol	0	5	0	0	0	0	15	0	0	0
Lane Flow Rate	0	5	0	124	3	53	16	27	0	0
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0	0.007	0	0.16	0.005	0.072	0.019	0.042	0	0
Departure Headway (Hd)	5.082	4.38	4.659	4.659	5.349	4.848	4.146	5.528	5.027	3.324
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	820	0	760	672	743	868	651	0	0
Service Time	2.789	2.088	2.45	2.45	3.054	2.552	1.851	3.235	2.734	1.032
HCM Lane V/C Ratio	0	0.006	0	0.163	0.004	0.071	0.018	0.041	0	0
HCM Control Delay	7.8	7.1	7.5	8.4	8.1	7.9	6.9	8.5	7.7	6
HCM Lane LOS	N	A	N	A	A	A	A	A	N	N
HCM 95th-tile Q	0	0	0	0.6	0	0.2	0.1	0.1	0	0

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	53	0	0	24	5	0	0	0	3	0	0
Future Vol, veh/h	0	53	0	0	24	5	0	0	0	3	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	50	-	-	100	-	-	0	-	0	0	-	-
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	58	0	0	26	5	0	0	0	3	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	31	0	0	58	0	0	87	89	58	87	87	29
Stage 1	-	-	-	-	-	-	58	58	-	29	29	-
Stage 2	-	-	-	-	-	-	29	31	-	58	58	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1595	-	-	1559	-	-	904	805	1014	904	807	1052
Stage 1	-	-	-	-	-	-	959	851	-	993	875	-
Stage 2	-	-	-	-	-	-	993	873	-	959	851	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1595	-	-	1559	-	-	904	805	1014	904	807	1052
Mov Cap-2 Maneuver	-	-	-	-	-	-	904	805	-	904	807	-
Stage 1	-	-	-	-	-	-	959	851	-	993	875	-
Stage 2	-	-	-	-	-	-	993	873	-	959	851	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	9
HCM LOS			A	A

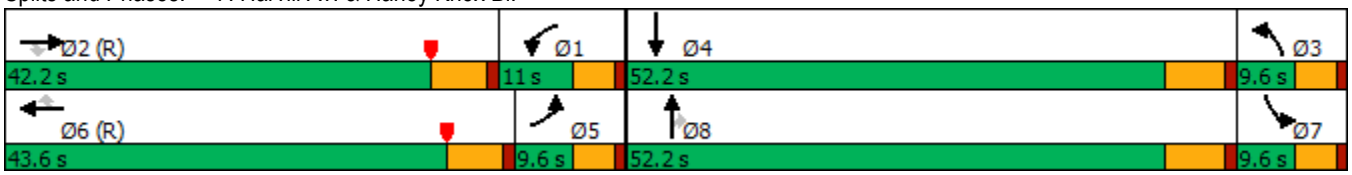
Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	-	1595	-	-	1559	-	-	904	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-	-	0.004	-
HCM Control Delay (s)	0	0	0	0	-	-	0	-	-	9	0
HCM Lane LOS	A	A	A	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-	-	0	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	1	213	9	416	87	17	5	5	523	50	11
Future Volume (vph)	1	213	9	416	87	17	5	5	523	50	11
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6			8		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	41.8	41.8	9.6	38.8	38.8	9.6	48.2	48.2	9.6	52.2
Total Split (s)	9.6	42.2	42.2	11.0	43.6	43.6	9.6	52.2	52.2	9.6	52.2
Total Split (%)	8.3%	36.7%	36.7%	9.6%	37.9%	37.9%	8.3%	45.4%	45.4%	8.3%	45.4%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	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	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Max	C-Max	None	Max	Max	None	Min

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 115
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 7: Harvill Av. & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	213	9	416	87	17	5	5	523	50	11	1
Future Volume (veh/h)	1	213	9	416	87	17	5	5	523	50	11	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	229	7	447	94	14	5	5	293	54	12	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	170	355	158	978	1187	523	674	760	1134	70	238	0
Arrive On Green	0.05	0.10	0.10	0.28	0.33	0.33	0.37	0.40	0.40	0.04	0.07	0.00
Sat Flow, veh/h	3510	3610	1605	3510	3610	1590	1810	1900	2834	1810	3705	0
Grp Volume(v), veh/h	1	229	7	447	94	14	5	5	293	54	12	0
Grp Sat Flow(s),veh/h/ln	1755	1805	1605	1755	1805	1590	1810	1900	1417	1810	1805	0
Q Serve(g_s), s	0.0	7.0	0.5	12.1	2.1	0.7	0.2	0.2	8.0	3.4	0.4	0.0
Cycle Q Clear(g_c), s	0.0	7.0	0.5	12.1	2.1	0.7	0.2	0.2	8.0	3.4	0.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	170	355	158	978	1187	523	674	760	1134	70	238	0
V/C Ratio(X)	0.01	0.64	0.04	0.46	0.08	0.03	0.01	0.01	0.26	0.77	0.05	0.00
Avail Cap(c_a), veh/h	170	1143	508	978	1187	523	674	760	1134	79	1444	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	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.1	49.9	46.9	34.3	26.6	26.1	22.7	20.8	23.1	54.8	50.3	0.0
Incr Delay (d2), s/veh	0.0	8.7	0.5	0.1	0.1	0.1	0.0	0.0	0.6	29.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	0.2	5.0	0.9	0.3	0.1	0.1	2.6	2.1	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.1	58.6	47.5	34.4	26.7	26.2	22.7	20.8	23.6	83.7	50.4	0.0
LnGrp LOS	D	E	D	C	C	C	C	C	C	F	D	A
Approach Vol, veh/h		237			555			303			66	
Approach Delay, s/veh		58.3			32.9			23.6			77.7	
Approach LOS		E			C			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	36.6	17.1	47.5	13.8	10.2	43.6	9.0	52.2
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.4	36.4	5.0	46.0	5.0	37.8	5.0	46.0
Max Q Clear Time (g_c+I1), s	14.1	9.0	2.2	2.4	2.0	4.1	5.4	10.0
Green Ext Time (p_c), s	0.0	1.9	0.0	0.0	0.0	0.8	0.0	1.1

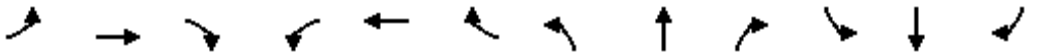
Intersection Summary	
HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D

Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	679	107	532	244	7	275
Future Volume (vph)	679	107	532	244	7	275
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)	25.5	25.5	9.5	25.5	10.5	10.5
Total Split (s)	31.8	31.8	23.0	54.8	35.2	35.2
Total Split (%)	35.3%	35.3%	25.6%	60.9%	39.1%	39.1%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
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)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 8: I-215 SB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	679	107	532	244	0	0	0	0	621	7	275
Future Volume (veh/h)	0	679	107	532	244	0	0	0	0	621	7	275
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	738	113	578	265	0				675	8	223
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1075	469	372	1998	0				600	7	540
Arrive On Green	0.00	0.30	0.30	0.34	0.92	0.00				0.34	0.34	0.34
Sat Flow, veh/h	0	3705	1576	1810	3705	0				1789	21	1610
Grp Volume(v), veh/h	0	738	113	578	265	0				683	0	223
Grp Sat Flow(s),veh/h/ln	0	1805	1576	1810	1805	0				1811	0	1610
Q Serve(g_s), s	0.0	16.2	4.9	18.5	0.6	0.0				30.2	0.0	9.6
Cycle Q Clear(g_c), s	0.0	16.2	4.9	18.5	0.6	0.0				30.2	0.0	9.6
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1075	469	372	1998	0				608	0	540
V/C Ratio(X)	0.00	0.69	0.24	1.55	0.13	0.00				1.12	0.00	0.41
Avail Cap(c_a), veh/h	0	1075	469	372	1998	0				608	0	540
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.92	0.92	0.71	0.71	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	27.9	23.9	29.6	1.5	0.0				29.9	0.0	23.1
Incr Delay (d2), s/veh	0.0	3.3	1.1	258.6	0.1	0.0				75.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.0	1.8	32.8	0.2	0.0				24.7	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.2	25.0	288.1	1.6	0.0				105.6	0.0	23.6
LnGrp LOS	A	C	C	F	A	A				F	A	C
Approach Vol, veh/h		851			843						906	
Approach Delay, s/veh		30.4			198.1						85.4	
Approach LOS		C			F						F	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	23.0	31.8		35.2		54.8						
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0						
Max Green Setting (Gmax), s	18.5	26.8		30.2		49.8						
Max Q Clear Time (g_c+I1), s	20.5	18.2		32.2		2.6						
Green Ext Time (p_c), s	0.0	2.2		0.0		1.0						

Intersection Summary												
HCM 6th Ctrl Delay			103.9									
HCM 6th LOS			F									

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	478	821	713	1064	4	310
Future Volume (vph)	478	821	713	1064	4	310
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)	9.5	26.0	24.0	24.0	10.0	10.0
Total Split (s)	24.0	62.0	38.0	38.0	28.0	28.0
Total Split (%)	26.7%	68.9%	42.2%	42.2%	31.1%	31.1%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
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)	4.5	5.0	5.0	5.0	5.0	5.0
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: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 9: I-215 NB Ramp & Harley Knox Bl.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	478	821	0	0	713	1064	62	4	310	0	0	0
Future Volume (veh/h)	478	821	0	0	713	1064	62	4	310	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	576	989	0	0	859	1230	75	5	174			
Peak Hour Factor	0.83	0.83	0.92	0.92	0.83	0.83	0.83	0.83	0.83			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	392	2286	0	0	1324	578	435	29	411			
Arrive On Green	0.43	1.00	0.00	0.00	0.37	0.37	0.26	0.26	0.26			
Sat Flow, veh/h	1810	3705	0	0	3705	1576	1701	113	1610			
Grp Volume(v), veh/h	576	989	0	0	859	1230	80	0	174			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1576	1815	0	1610			
Q Serve(g_s), s	19.5	0.0	0.0	0.0	17.8	33.0	3.1	0.0	8.1			
Cycle Q Clear(g_c), s	19.5	0.0	0.0	0.0	17.8	33.0	3.1	0.0	8.1			
Prop In Lane	1.00		0.00	0.00		1.00	0.94		1.00			
Lane Grp Cap(c), veh/h	392	2286	0	0	1324	578	464	0	411			
V/C Ratio(X)	1.47	0.43	0.00	0.00	0.65	2.13	0.17	0.00	0.42			
Avail Cap(c_a), veh/h	392	2286	0	0	1324	578	464	0	411			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.67	0.67	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.5	0.0	0.0	0.0	23.7	28.5	26.1	0.0	28.0			
Incr Delay (d2), s/veh	220.3	0.4	0.0	0.0	2.5	513.4	0.8	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			
%ile BackOfQ(50%),veh/ln	29.4	0.1	0.0	0.0	7.4	93.6	1.4	0.0	3.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	245.8	0.4	0.0	0.0	26.2	541.9	26.9	0.0	31.1			
LnGrp LOS	F	A	A	A	C	F	C	A	C			
Approach Vol, veh/h		1565			2089			254				
Approach Delay, s/veh		90.7			329.8			29.8				
Approach LOS		F			F			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		62.0			24.0	38.0		28.0				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		57.0			19.5	33.0		23.0				
Max Q Clear Time (g_c+I1), s		2.0			21.5	35.0		10.1				
Green Ext Time (p_c), s		4.7			0.0	0.0		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			214.6									
HCM 6th LOS			F									

APPENDIX 7.2:

EAPC (2021) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		EAPC 2021	
				CALC	RV	DATE	04/29/19
Jurisdiction:	**County of Riverside**			CHK	RV	DATE	04/29/19
Major Street:	**Nandina Avenue**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Driveway 1**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **733** vpd Minor Street Future ADT = **97** 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)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume					
Satisfied	Not Satisfied	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **733**	*1* **97**	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					
Satisfied	Not Satisfied	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **733**	*1* **97**	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					
Satisfied	Not Satisfied				
	XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 4%	**B** 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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		EAPC 2021
				CALC RV	DATE	04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE	04/29/19
Major Street: **Oleander Avenue**				Critical Approach Speed (Major)		25 mph
Minor Street: **Driveway 2**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **1,073** vpd Minor Street Future ADT = **47** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population …… [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	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	Urban	Rural	Urban	Rural
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **1,073** / *1* **47**	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)	
Satisfied / Not Satisfied: XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **1,073** / *1* **47**	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				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 2% 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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		EAPC 2021	
				CALC	RV	DATE	04/29/19
Jurisdiction:	**County of Riverside**			CHK	RV	DATE	04/29/19
Major Street:	**Oleander Avenue**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Driveway 3**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **1,170** vpd Minor Street Future ADT = **50** 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)

URBAN	RURAL	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)	
Satisfied	Not Satisfied				
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **1,170**	*1* **50**	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)	
Satisfied	Not Satisfied				
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **1,170**	*1* **50**	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					
Satisfied	Not Satisfied				
	XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 2% **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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		EAPC 2021	
				CALC	RV	DATE	04/29/19
Jurisdiction:	**County of Riverside**			CHK	RV	DATE	04/29/19
Major Street:	**Decker Road**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Nandina Avenue**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **592** vpd Minor Street Future ADT = **398** 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)

URBAN	RURAL	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)	
Satisfied	Not Satisfied				
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **592**	*1* **398**	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)	
Satisfied	Not Satisfied				
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **592**	*1* **398**	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					
Satisfied	Not Satisfied				
	XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 7% **B** 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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		EAPC 2021
				CALC RV	DATE	04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE	04/29/19
Major Street: **Harley Knox Boulevard**				Critical Approach Speed (Major)		25 mph
Minor Street: **Decker Road**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **4** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **2,025** vpd Minor Street Future ADT = **398** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population …… [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	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	Urban	Rural	Urban	Rural
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 / *1*	8,000	5,600	2,400	1,680
2 + **2,025** / *1* **398**	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)	
Satisfied / Not Satisfied: XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 / *1*	12,000	8,400	1,200	850
2 + **2,025** / *1* **398**	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				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 17% B: 14%				

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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS	EAPC 2021
				CALC RV	DATE 04/29/19
Jurisdiction: **County of Riverside**				CHK RV	DATE 04/29/19
Major Street: **Decker Road**				Critical Approach Speed (Major)	25 mph
Minor Street: **Oleander Avenue**				Critical Approach Speed (Minor)	25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **1,845** vpd Minor Street Future ADT = **83** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population …… [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	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)	
Satisfied / Not Satisfied: **XX**	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **1,845** / *1* **83**	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)	
Satisfied / Not Satisfied: **XX**	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **1,845** / *1* **83**	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				
Satisfied / Not Satisfied: **XX**	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. **A** **3%** **B** **7%**				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

APPENDIX 7.3:

EAPC (2021) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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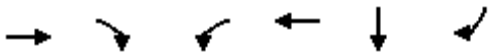


Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	660	45	239	336	1032	417
v/c Ratio	0.64	0.09	0.81	0.18	1.66	0.53
Control Delay	25.2	0.3	44.9	3.6	328.8	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	0.3	44.9	3.6	328.8	6.0
Queue Length 50th (ft)	130	0	95	29	~662	14
Queue Length 95th (ft)	183	1	m#193	m30	#881	75
Internal Link Dist (ft)	813			329	1352	
Turn Bay Length (ft)			60			265
Base Capacity (vph)	1031	529	296	1856	620	794
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.09	0.81	0.18	1.66	0.53

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.

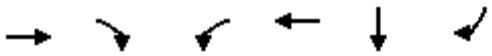
Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	411	1262	467	971	102	324
v/c Ratio	0.94	0.44	0.27	1.02	0.80	1.37
Control Delay	42.6	0.7	11.6	50.4	75.2	210.3
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	42.6	1.0	11.6	50.4	75.2	210.3
Queue Length 50th (ft)	176	12	60	~337	44	~132
Queue Length 95th (ft)	m162	m24	89	#593	#123	#281
Internal Link Dist (ft)		329	1505		1112	
Turn Bay Length (ft)	60					270
Base Capacity (vph)	446	2836	1725	949	128	237
Starvation Cap Reductn	0	794	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.62	0.27	1.02	0.80	1.37

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.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	738	116	578	265	683	299
v/c Ratio	0.69	0.21	1.56	0.13	1.13	0.40
Control Delay	31.8	5.8	300.7	4.6	106.3	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.8	5.8	300.7	4.6	106.3	4.5
Queue Length 50th (ft)	194	0	~492	12	~453	0
Queue Length 95th (ft)	257	37	#700	18	#665	54
Internal Link Dist (ft)	813			329	1352	
Turn Bay Length (ft)			60			265
Base Capacity (vph)	1074	552	371	1997	607	740
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.21	1.56	0.13	1.13	0.40

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	576	989	859	1282	80	373
v/c Ratio	1.47	0.43	0.65	1.35	0.17	0.72
Control Delay	250.4	8.7	26.5	180.5	27.4	28.1
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0
Total Delay	250.4	9.0	26.5	180.5	27.4	28.1
Queue Length 50th (ft)	~475	151	210	~739	35	121
Queue Length 95th (ft)	m#519	m170	245	#851	66	194
Internal Link Dist (ft)		329	1505		1112	
Turn Bay Length (ft)	60					270
Base Capacity (vph)	391	2286	1323	952	463	516
Starvation Cap Reductn	0	694	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.47	0.62	0.65	1.35	0.17	0.72

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 (2021) CONDITIONS FREEWAY FACILITY ANALYSIS WORKSHEETS

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HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC 2021
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 SB, North of Harley Knox	5280	3
2	Diverge	Diverge	I-215 SB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 SB, Between Ramps	2350	3
4	Merge	Merge	I-215 SB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 SB, South of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.885	6848	7200	0.95	56.4	40.5	E

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.885	0.746	6848	1415	7200	2100	0.95	0.67	62.3	58.1	36.6	39.2	E

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.926	5405	7200	0.75	65.8	27.4	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.926	0.800	5700	295	7200	2100	0.79	0.14	60.2	58.2	31.6	30.7	D

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.917	5716	7200	0.79	64.2	29.7	D

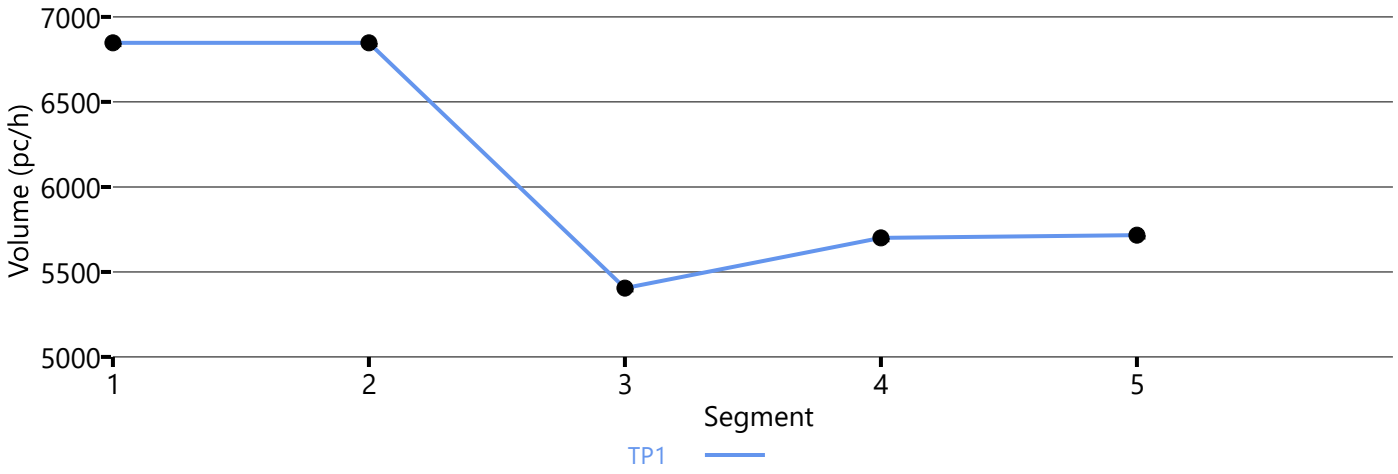
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	60.8	33.8	30.5	3.0	D

Facility Overall Results

Space Mean Speed, mi/h	60.8	Density, veh/mi/ln	30.5
Average Travel Time, min	3.0	Density, pc/mi/ln	33.8

Volume Distribution



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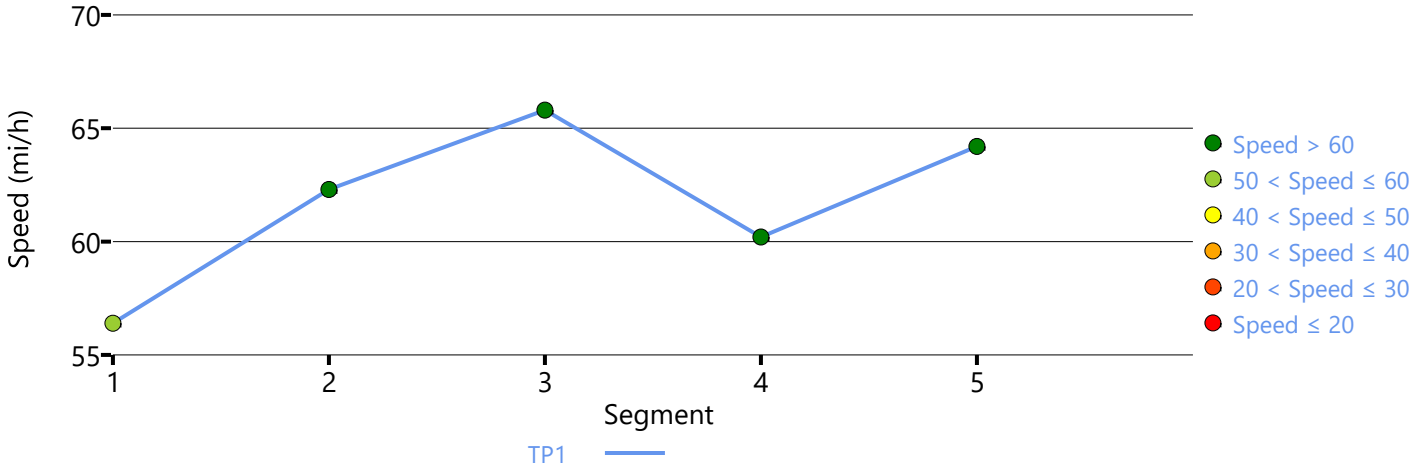
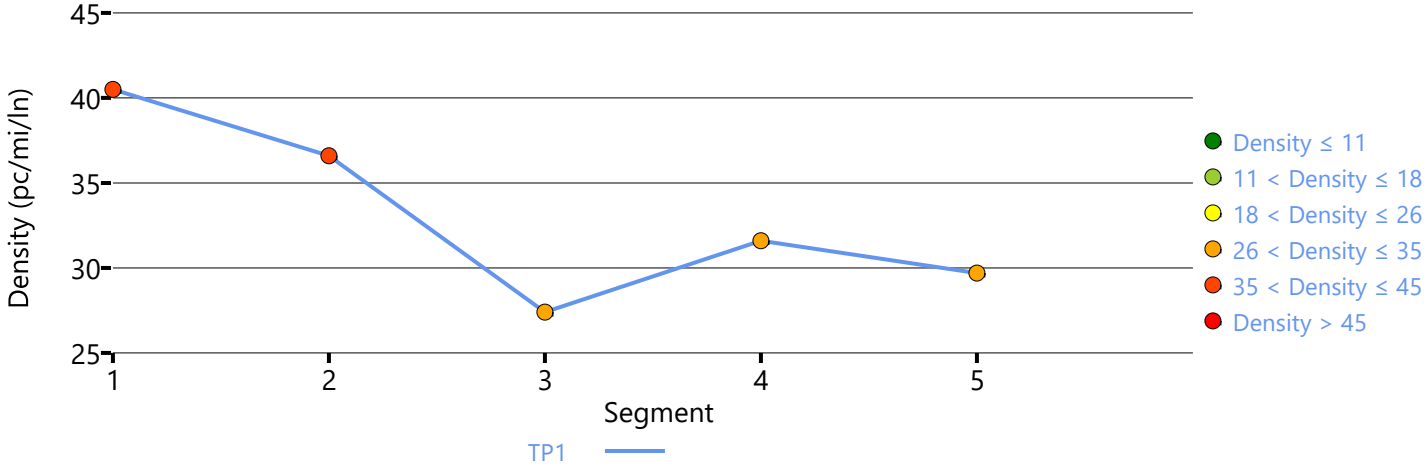


Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC 2021
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 NB, South of Harley Knox	5280	3
2	Diverge	Diverge	I-215 NB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 NB, Between Ramps	2350	3
4	Merge	Merge	I-215 NB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 NB, North of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.926	9129	7200	1.27	53.3	45.0	F

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.926	0.862	7200	1372	7200	2100	1.27	0.65	62.2	58.2	38.6	40.4	F

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.935	5828	7200	1.08	63.6	30.5	F

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.935	0.758	6188	360	7200	2100	1.13	0.17	59.1	57.0	34.9	32.9	F

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.926	6188	7200	1.13	61.4	33.6	F

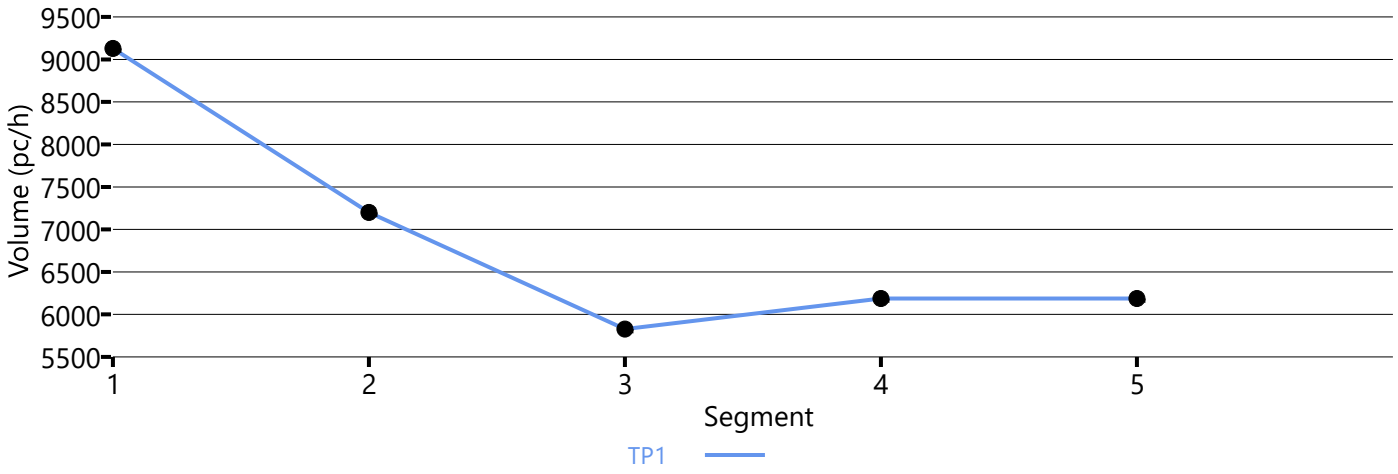
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	58.3	37.5	34.8	3.1	F

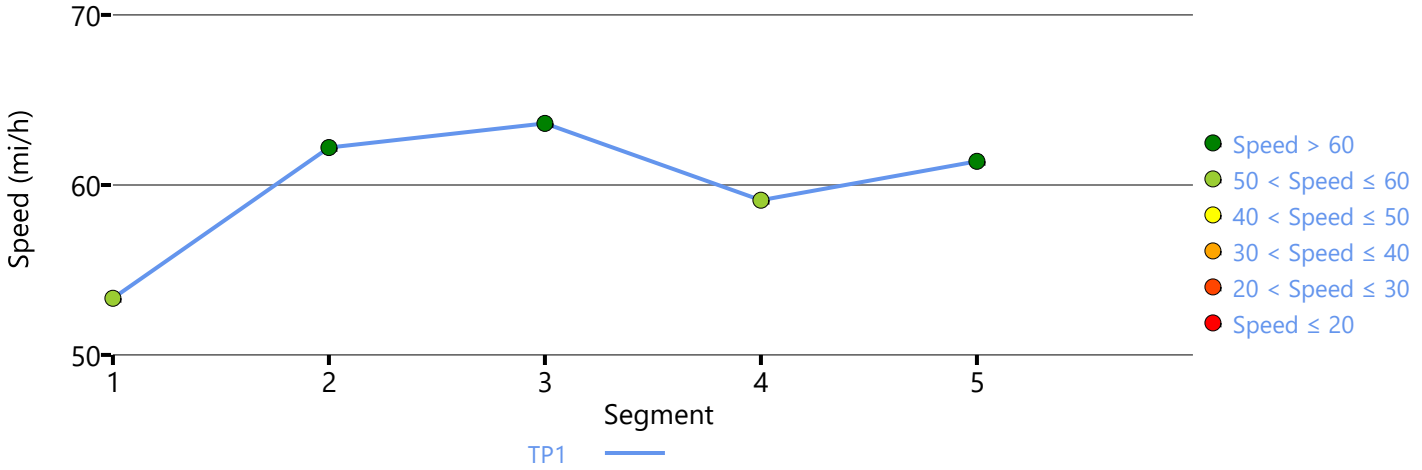
Facility Overall Results

Space Mean Speed, mi/h	58.3	Density, veh/mi/ln	34.8
Average Travel Time, min	3.1	Density, pc/mi/ln	37.5

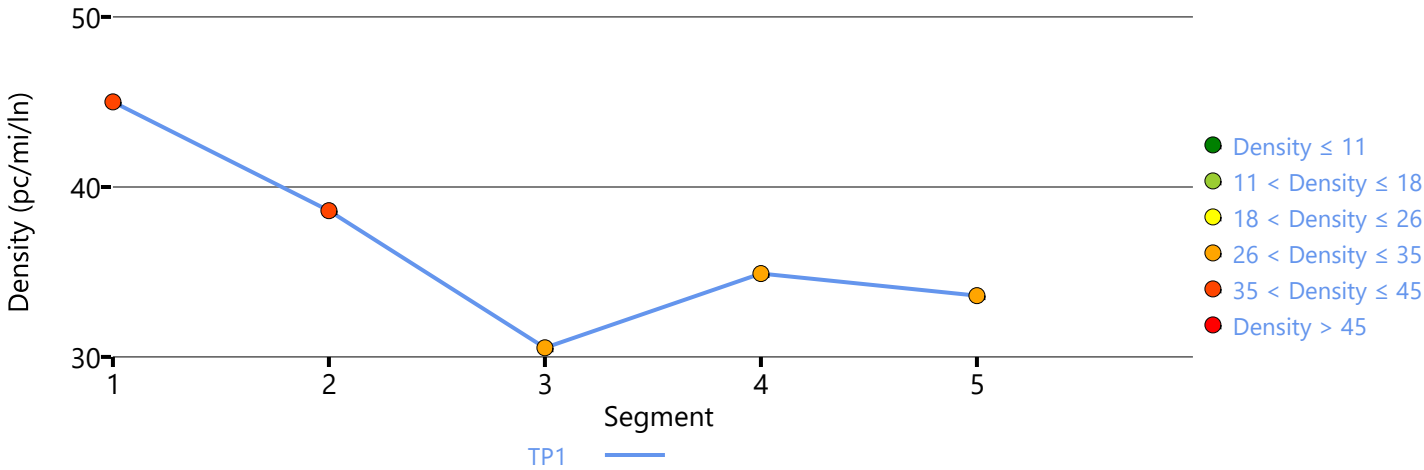
Volume Distribution



Speed Distribution



Density Distribution



HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC 2021
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 SB, North of Harley Knox	5280	3
2	Diverge	Diverge	I-215 SB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 SB, Between Ramps	2350	3
4	Merge	Merge	I-215 SB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 SB, South of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.926	7988	7200	1.11	53.3	45.0	F

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.926	0.775	7200	930	7200	2100	1.11	0.44	63.0	59.3	38.1	41.2	F

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	6270	7200	0.98	60.8	34.4	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.943	0.833	7015	745	7200	2100	1.09	0.35	55.7	52.7	42.0	38.0	F

Segment 5: Basic

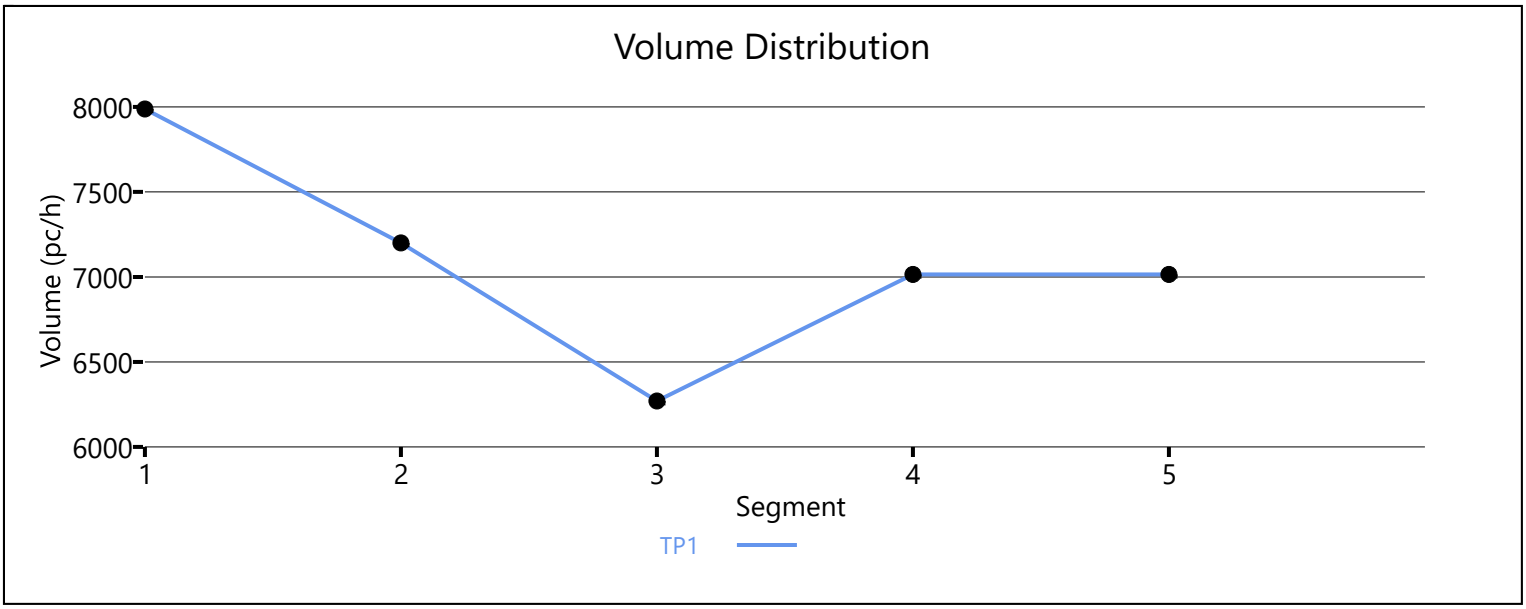
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.935	7015	7200	1.08	55.0	42.5	F

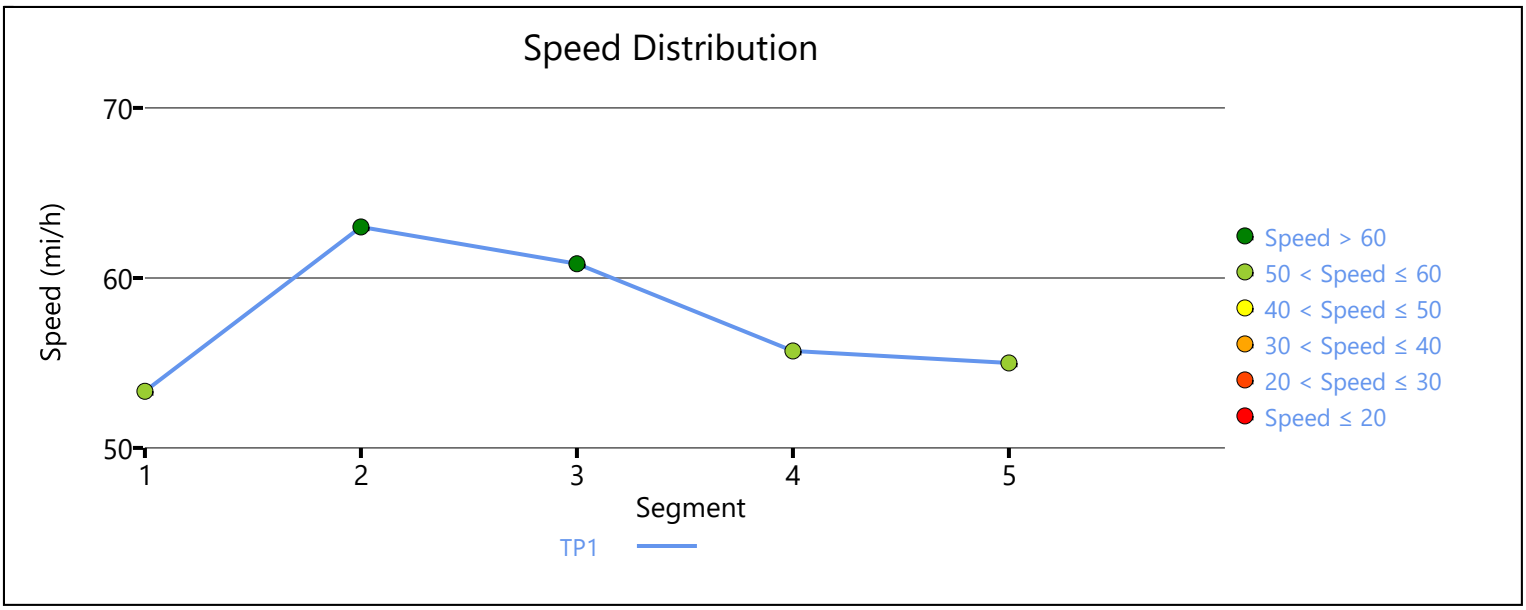
Facility Time Period Results

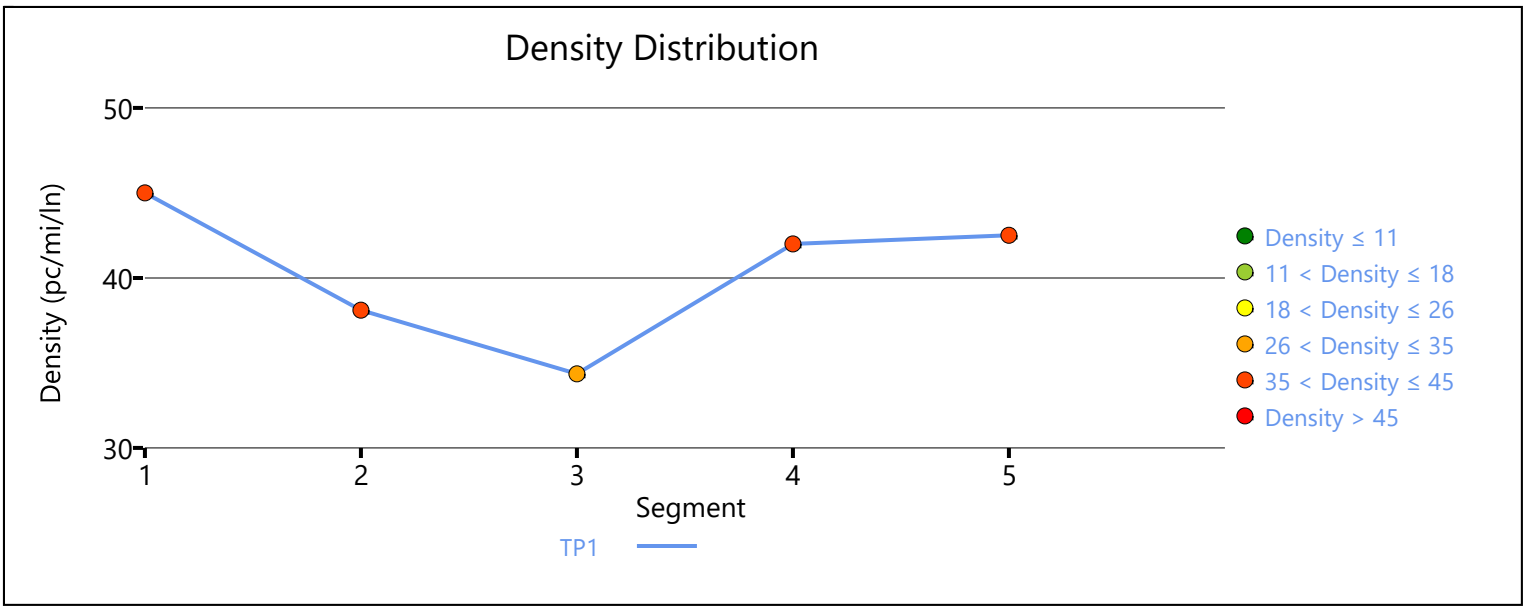
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	55.9	41.7	38.9	3.2	F

Facility Overall Results

Space Mean Speed, mi/h	55.9	Density, veh/mi/ln	38.9
Average Travel Time, min	3.2	Density, pc/mi/ln	41.7







HCS7 Freeway Facilities Report

Project Information

Analyst	RV	Date	4/24/2019
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC 2021
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Oleander Business Park TIA (JN 11006)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-215 NB, South of Harley Knox	5280	3
2	Diverge	Diverge	I-215 NB, Off-Ramp at Harley Knox	1500	3
3	Basic	Basic	I-215 NB, Between Ramps	2350	3
4	Merge	Merge	I-215 NB, On-Ramp at Harley Knox	1500	3
5	Basic	Basic	I-215 NB, North of Harley Knox	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.926	7755	7200	1.08	53.3	45.0	F

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.926	0.870	6751	941	7200	2100	1.08	0.45	41.9	59.3	53.7	45.2	F

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.935	5611	7200	0.95	26.2	71.3	F

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.935	0.719	6704	1093	7200	2100	1.10	0.52	56.2	53.0	39.8	37.3	F

Segment 5: Basic

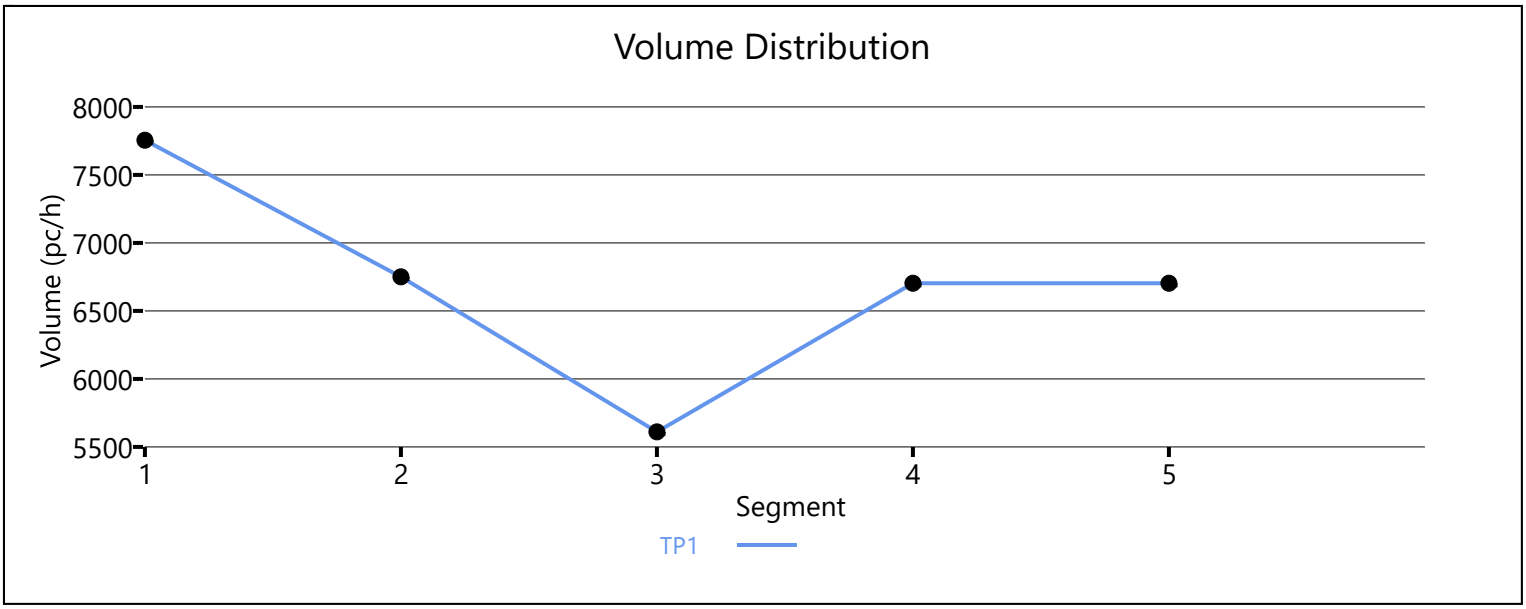
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.901	6704	7200	1.10	57.6	38.8	F

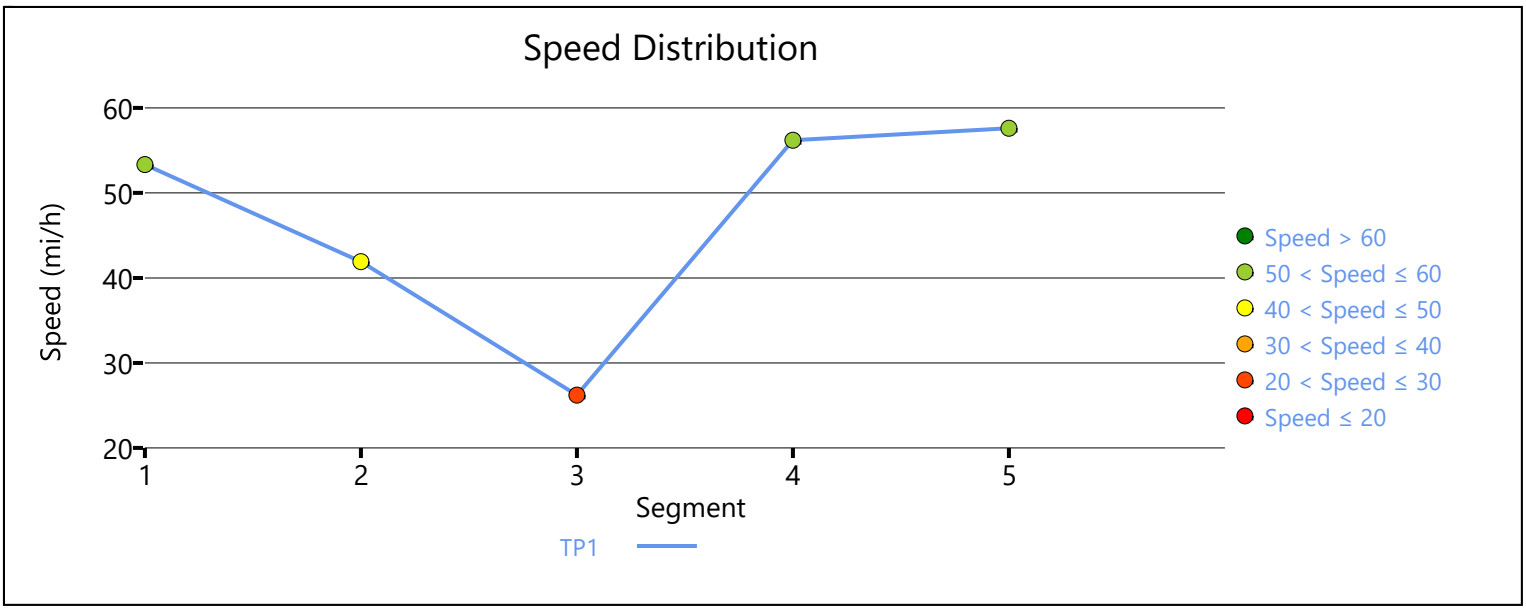
Facility Time Period Results

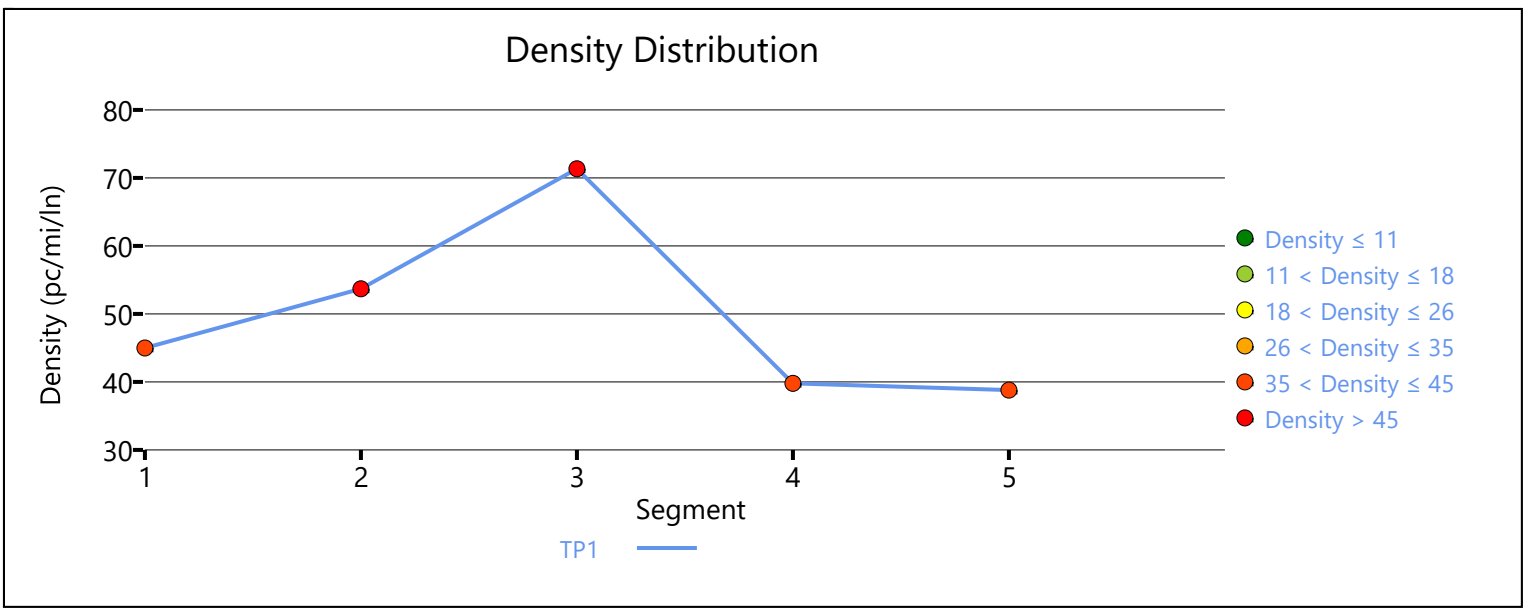
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	43.9	49.9	46.0	4.1	F

Facility Overall Results

Space Mean Speed, mi/h	43.9	Density, veh/mi/ln	46.0
Average Travel Time, min	4.1	Density, pc/mi/ln	49.9







APPENDIX 7.5:

EAPC (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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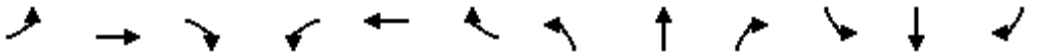
Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	607	41	220	309	948	2
Future Volume (vph)	607	41	220	309	948	2
Turn Type	NA	Perm	Prot	NA	Split	NA
Protected Phases	2		1	6	4	4
Permitted Phases		2				
Detector Phase	2	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.5	25.5	9.5	25.5	10.5	10.5
Total Split (s)	42.0	42.0	20.0	62.0	58.0	58.0
Total Split (%)	35.0%	35.0%	16.7%	51.7%	48.3%	48.3%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
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)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	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: 8: I-215 SB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	607	41	220	309	0	0	0	0	948	2	384
Future Volume (veh/h)	0	607	41	220	309	0	0	0	0	948	2	384
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	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	660	44	239	336	0				1030	2	360
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1113	496	790	2075	0				1200	3	548
Arrive On Green	0.00	0.31	0.31	0.07	0.19	0.00				0.34	0.34	0.34
Sat Flow, veh/h	0	3705	1609	3510	3705	0				3510	9	1603
Grp Volume(v), veh/h	0	660	44	239	336	0				1030	0	362
Grp Sat Flow(s),veh/h/ln	0	1805	1609	1755	1805	0				1755	0	1612
Q Serve(g_s), s	0.0	18.6	2.3	7.7	9.3	0.0				32.8	0.0	22.9
Cycle Q Clear(g_c), s	0.0	18.6	2.3	7.7	9.3	0.0				32.8	0.0	22.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.99
Lane Grp Cap(c), veh/h	0	1113	496	790	2075	0				1200	0	551
V/C Ratio(X)	0.00	0.59	0.09	0.30	0.16	0.00				0.86	0.00	0.66
Avail Cap(c_a), veh/h	0	1113	496	790	2075	0				1550	0	712
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	0.94	0.94	0.98	0.98	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	35.1	29.5	46.6	24.4	0.0				36.8	0.0	33.5
Incr Delay (d2), s/veh	0.0	2.2	0.3	0.1	0.2	0.0				4.1	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
%ile BackOfQ(50%),veh/ln	0.0	8.2	0.9	3.5	4.2	0.0				14.1	0.0	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	37.3	29.8	46.7	24.6	0.0				40.8	0.0	35.0
LnGrp LOS	A	D	C	D	C	A				D	A	C
Approach Vol, veh/h		704			575						1392	
Approach Delay, s/veh		36.8			33.8						39.3	
Approach LOS		D			C						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	32.0	42.0		46.0		74.0
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	15.5	* 37		53.0		57.0
Max Q Clear Time (g_c+I1), s	9.7	20.6		34.8		11.3
Green Ext Time (p_c), s	0.2	2.5		6.2		1.3

Intersection Summary		
HCM 6th Ctrl Delay		37.5
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	382	1174	434	903	0	301
Future Volume (vph)	382	1174	434	903	0	301
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)	9.5	26.0	24.0	24.0	10.0	10.0
Total Split (s)	22.4	92.0	69.6	69.6	28.0	28.0
Total Split (%)	18.7%	76.7%	58.0%	58.0%	23.3%	23.3%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
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)	4.5	5.0	5.0	5.0	5.0	5.0
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: 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: 9: I-215 NB Ramp & Harley Knox Bl.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	382	1174	0	0	434	903	95	0	301	0	0	0
Future Volume (veh/h)	382	1174	0	0	434	903	95	0	301	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	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	411	1262	0	0	467	0	102	0	259			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	461	2617	0	0	2008		347	0	309			
Arrive On Green	0.26	1.00	0.00	0.00	0.56	0.00	0.19	0.00	0.19			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	1810	0	1610			
Grp Volume(v), veh/h	411	1262	0	0	467	0	102	0	259			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	13.5	0.0	0.0	0.0	7.9	0.0	5.8	0.0	18.6			
Cycle Q Clear(g_c), s	13.5	0.0	0.0	0.0	7.9	0.0	5.8	0.0	18.6			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	461	2617	0	0	2008		347	0	309			
V/C Ratio(X)	0.89	0.48	0.00	0.00	0.23		0.29	0.00	0.84			
Avail Cap(c_a), veh/h	524	2617	0	0	2008		347	0	309			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.70	0.70	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	43.4	0.0	0.0	0.0	13.6	0.0	41.5	0.0	46.7			
Incr Delay (d2), s/veh	11.1	0.4	0.0	0.0	0.3	0.0	2.1	0.0	23.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.6	0.2	0.0	0.0	3.1	0.0	2.7	0.0	9.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.5	0.4	0.0	0.0	13.8	0.0	43.7	0.0	69.8			
LnGrp LOS	D	A	A	A	B		D	A	E			
Approach Vol, veh/h		1673			467	A		361				
Approach Delay, s/veh		13.7			13.8			62.4				
Approach LOS		B			B			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		92.0			20.3	71.7		28.0				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		87.0			17.9	64.6		23.0				
Max Q Clear Time (g_c+I1), s		2.0			15.5	9.9		20.6				
Green Ext Time (p_c), s		6.7			0.2	1.9		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

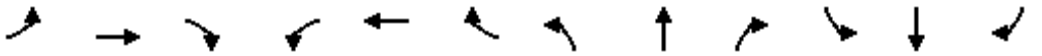
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	679	107	532	244	621	7
Future Volume (vph)	679	107	532	244	621	7
Turn Type	NA	Perm	Prot	NA	Split	NA
Protected Phases	2		1	6	4	4
Permitted Phases		2				
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)	25.5	25.5	9.5	25.5	10.5	10.5
Total Split (s)	44.0	44.0	36.0	80.0	40.0	40.0
Total Split (%)	36.7%	36.7%	30.0%	66.7%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0
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)	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	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: 8: I-215 SB Ramp & Harley Knox Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	679	107	532	244	0	0	0	0	621	7	275
Future Volume (veh/h)	0	679	107	532	244	0	0	0	0	621	7	275
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
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	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	738	113	578	265	0				675	8	223
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1696	747	644	2493	0				794	13	353
Arrive On Green	0.00	0.47	0.47	0.24	0.92	0.00				0.23	0.23	0.23
Sat Flow, veh/h	0	3705	1590	3510	3705	0				3510	56	1563
Grp Volume(v), veh/h	0	738	113	578	265	0				675	0	231
Grp Sat Flow(s),veh/h/ln	0	1805	1590	1755	1805	0				1755	0	1619
Q Serve(g_s), s	0.0	16.4	4.9	19.1	0.8	0.0				22.1	0.0	15.5
Cycle Q Clear(g_c), s	0.0	16.4	4.9	19.1	0.8	0.0				22.1	0.0	15.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.97
Lane Grp Cap(c), veh/h	0	1696	747	644	2493	0				794	0	366
V/C Ratio(X)	0.00	0.44	0.15	0.90	0.11	0.00				0.85	0.00	0.63
Avail Cap(c_a), veh/h	0	1696	747	922	2493	0				1024	0	472
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	0.92	0.92	0.77	0.77	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.2	18.2	44.3	1.5	0.0				44.5	0.0	41.9
Incr Delay (d2), s/veh	0.0	0.8	0.4	5.3	0.1	0.0				5.6	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	6.7	1.8	8.0	0.3	0.0				9.9	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	22.0	18.6	49.6	1.6	0.0				50.1	0.0	43.7
LnGrp LOS	A	C	B	D	A	A				D	A	D
Approach Vol, veh/h		851			843						906	
Approach Delay, s/veh		21.5			34.5						48.4	
Approach LOS		C			C						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	26.5	61.4		32.1		87.9						
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0						
Max Green Setting (Gmax), s	31.5	39.0		35.0		75.0						
Max Q Clear Time (g_c+I1), s	21.1	18.4		24.1		2.8						
Green Ext Time (p_c), s	0.9	3.1		3.0		1.0						

Intersection Summary												
HCM 6th Ctrl Delay			35.1									
HCM 6th LOS			D									

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	478	821	713	1064	4	310
Future Volume (vph)	478	821	713	1064	4	310
Turn Type	Prot	NA	NA	Free	NA	Perm
Protected Phases	5	2	6		8	
Permitted Phases				Free		8
Detector Phase	5	2	6		8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	9.5	26.0	24.0		10.0	10.0
Total Split (s)	33.2	81.0	47.8		39.0	39.0
Total Split (%)	27.7%	67.5%	39.8%		32.5%	32.5%
Yellow Time (s)	3.5	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max		Max	Max

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: 9: I-215 NB Ramp & Harley Knox Bl.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	478	821	0	0	713	1064	62	4	310	0	0	0
Future Volume (veh/h)	478	821	0	0	713	1064	62	4	310	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	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	576	989	0	0	859	0	75	5	174			
Peak Hour Factor	0.83	0.83	0.92	0.92	0.83	0.83	0.83	0.83	0.83			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	631	2286	0	0	1502		482	32	456			
Arrive On Green	0.36	1.00	0.00	0.00	0.42	0.00	0.28	0.28	0.28			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	1701	113	1610			
Grp Volume(v), veh/h	576	989	0	0	859	0	80	0	174			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1815	0	1610			
Q Serve(g_s), s	18.8	0.0	0.0	0.0	21.9	0.0	4.0	0.0	10.4			
Cycle Q Clear(g_c), s	18.8	0.0	0.0	0.0	21.9	0.0	4.0	0.0	10.4			
Prop In Lane	1.00		0.00	0.00		1.00	0.94		1.00			
Lane Grp Cap(c), veh/h	631	2286	0	0	1502		514	0	456			
V/C Ratio(X)	0.91	0.43	0.00	0.00	0.57		0.16	0.00	0.38			
Avail Cap(c_a), veh/h	840	2286	0	0	1502		514	0	456			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.75	0.75	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	37.5	0.0	0.0	0.0	26.8	0.0	32.2	0.0	34.6			
Incr Delay (d2), s/veh	7.9	0.4	0.0	0.0	1.6	0.0	0.6	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	6.8	0.1	0.0	0.0	9.3	0.0	1.8	0.0	4.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	0.4	0.0	0.0	28.4	0.0	32.9	0.0	37.0			
LnGrp LOS	D	A	A	A	C		C	A	D			
Approach Vol, veh/h		1565			859	A		254				
Approach Delay, s/veh		17.0			28.4			35.7				
Approach LOS		B			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		81.0			26.1	54.9		39.0				
Change Period (Y+Rc), s		5.0			4.5	5.0		5.0				
Max Green Setting (Gmax), s		76.0			28.7	42.8		34.0				
Max Q Clear Time (g_c+I1), s		2.0			20.8	23.9		12.4				
Green Ext Time (p_c), s		4.7			0.8	3.5		0.9				

Intersection Summary	
HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

APPENDIX 7.6:

EAPC (2021) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	660	45	239	336	1030	419
v/c Ratio	0.49	0.07	0.53	0.17	0.77	0.48
Control Delay	31.9	3.8	46.4	8.9	36.6	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	3.8	46.4	8.9	36.6	4.0
Queue Length 50th (ft)	207	0	86	73	354	1
Queue Length 95th (ft)	290	17	125	115	392	58
Internal Link Dist (ft)	813			329		1352
Turn Bay Length (ft)			60			
Base Capacity (vph)	1334	629	452	1936	1546	947
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.07	0.53	0.17	0.67	0.44

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	411	1262	467	971	102	324
v/c Ratio	0.84	0.48	0.24	0.83	0.30	0.82
Control Delay	66.6	1.3	14.7	15.1	44.3	47.9
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	66.6	1.6	14.7	15.1	44.3	47.9
Queue Length 50th (ft)	137	11	96	233	68	164
Queue Length 95th (ft)	#213	12	128	485	122	#312
Internal Link Dist (ft)		329	1505		1112	
Turn Bay Length (ft)	60					270
Base Capacity (vph)	522	2617	1975	1166	345	397
Starvation Cap Reductn	0	609	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.63	0.24	0.83	0.30	0.82

Intersection Summary

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

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	738	116	578	265	675	307
v/c Ratio	0.48	0.16	0.82	0.11	0.77	0.49
Control Delay	27.7	5.3	80.6	3.9	47.9	6.9
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	27.7	5.3	80.8	3.9	47.9	6.9
Queue Length 50th (ft)	215	0	248	14	249	5
Queue Length 95th (ft)	314	41	307	20	302	72
Internal Link Dist (ft)	813			329		1352
Turn Bay Length (ft)			60			
Base Capacity (vph)	1543	748	919	2406	1021	685
Starvation Cap Reductn	0	0	30	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.16	0.65	0.11	0.66	0.45

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	576	989	859	1282	80	373
v/c Ratio	0.83	0.43	0.60	0.80	0.16	0.67
Control Delay	65.8	15.4	31.5	4.4	33.3	30.1
Queue Delay	0.1	0.4	0.0	0.0	0.0	0.0
Total Delay	65.9	15.8	31.5	4.4	33.3	30.1
Queue Length 50th (ft)	245	216	274	0	46	162
Queue Length 95th (ft)	279	232	326	0	80	236
Internal Link Dist (ft)		329	1505		1112	
Turn Bay Length (ft)	60					270
Base Capacity (vph)	837	2286	1433	1595	513	557
Starvation Cap Reductn	19	706	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.63	0.60	0.80	0.16	0.67

Intersection Summary

August 25, 2020

Mr. Patrick Russell
SARES-REGIS Group
18802 Bardeen Avenue
Irvine, CA 92612

SUBJECT: OLEANDER BUSINESS PARK VEHICLE MILES TRAVELLED (VMT) ANALYSIS

Dear Mr. Patrick Russell:

The following Vehicle Miles Travelled (VMT) Analysis has been prepared for the proposed Oleander Business Park (**Project**), which is located south of Nandina Avenue, north of Oleander Avenue and west of Decker Road in the County of Riverside.

PROJECT OVERVIEW

The Project proposes construction and operation of approximately 710,736 square feet of light industrial/manufacturing uses 1 within an approximately 93.85-acre site (gross), located within the Mead Valley area of Riverside County. As part of the Project, Parcel Map 5128 (Parcel Map Book [P.M.B.] 8/54) comprising 4 parcels, would be reconfigured via Riverside County Lot Line Adjustment procedures. Project Parcel 1 (approximately 20.90 acres) would be developed with approximately 363,367 square feet of light industrial uses. Project Parcel 2 (approximately 19.59 acres) would be developed with approximately 347,369 square feet of light industrial uses. Project Parcels 3 and 4, totaling approximately 53.36 acres (gross) would remain vacant. 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. (1) The proposed Project is anticipated to generate a total of 1,366 vehicle trip-ends per day (expressed in actual vehicles). (2)

BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which requires all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**). (3) Based on OPR's Technical Advisory, the County of Riverside is currently in development of an updated version to their Transportation Analysis Preparation Guide (**County Guidelines**). The new County Guidelines have yet to be formally released, however, to prepare this VMT analysis, Urban Crossroads consulted with County Transportation staff to obtain an

understanding of the upcoming VMT impact thresholds and analysis methodology requirements. This analysis has been prepared based on those discussions.

PROJECT SCREENING

Consistent with County Guidelines, projects that meet certain screening thresholds based on their location and project type may be presumed to result in a less than significant transportation impact. Consistent with the screening criteria recommended in OPR's Technical Advisory, the County of Riverside will utilize the following project screening thresholds that may be applicable to the Project:

- Transit Priority Area (TPA) Screening
- Map-Based Screening
- Project Type Screening

A land use project need only meet one of the above screening criteria to result in a less than significant impact.

TPA SCREENING

Consistent with guidance identified in the Technical Advisory, projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing "major transit stop"[1] or an existing stop along a "high-quality transit corridor"[2]) may be presumed to have a less than significant impact absent substantial evidence to the contrary. However, the presumption may not be appropriate if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The Project is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

The TPA screening threshold is not met.

[1] Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").
[2] Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

MAP-BASED SCREENING

The Technical Advisory notes that "residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary."[3] County Guidelines also note that the use of map-based screening for low VMT generating areas is also applicable for other employment uses such as the Project's industrial development. Urban Crossroads has obtained a map from County staff that identifies VMT for the traffic analysis zone (TAZ) that contains the Project. The map utilizes the sub-regional Riverside Transportation Analysis Model (RIVTAM) to measure current VMT performance within individual TAZ's and compares them to the applicable impact threshold (e.g., VMT per employee for office or industrial land uses and VMT per capita for residential land uses). As shown in Attachment A, the Project is not located within a TAZ that currently generates lower VMT than the County's threshold of 14.24 VMT per employee.

The Low VMT Area screening threshold is not met.

PROJECT TYPE SCREENING

The County Guidelines identify that local serving retail with buildings less than 50,000 square feet or other local serving essential services (e.g., day care centers, public schools, medical/dental office buildings, etc.) are presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, small projects anticipated to generate low traffic volumes and by association low greenhouse gas (GHG) emissions are also assumed to cause a less than significant impact. The County's small project threshold of 208,000 square feet of industrial warehouse land use would be exceeded by the proposed Project's total building square footage.

The Project Type screening threshold is not met.

PROJECT GENERATED VMT

Project's that do not meet VMT screening criteria should prepare a project level VMT analysis. RIVTAM is a useful tool to estimate VMT as it considers interaction between different land uses based on socio-economic data such as population, households, and employment. RIVTAM is a travel forecasting model that represents a sub-area (Riverside County) of the Southern California Association of Governments (SCAG) regional traffic model. RIVTAM was designed to provide a greater level of detail and sensitivity in the Riverside County area as compared to the regional SCAG model. County Guidelines identifies RIVTAM as the appropriate tool for conducting VMT modeling for land use projects within the County of Riverside.

Project generated VMT has been calculated using the most current version of RIVTAM. Adjustments in socio-economic data (SED) (i.e., employment) for the Project has been made to a separate TAZ within the model to reflect the Project's industrial warehouse land use. A separate TAZ has been utilized to

[3] Page 24 of the City Guidelines

isolate vehicle trips to/from the Project. Table 1 summarizes the employment factors and employment estimates for the Project.

TABLE 1: EMPLOYMENT DENSITY FACTORS

	Project
Building Square Footage	710,736
Employment Density Factor[4]	1 employee/1,030 SF
Employment	690

Adjustments to employment for the Project's TAZ were made to the RIVTAM base year model. Project-generated home-based work VMT was then calculated following the VMT calculation procedures identified in Appendix H of the County Guidelines and includes home-based work trips that are both internal and external to the RIVTAM model boundaries. The home-based work VMT value is then normalized by dividing by the number of Project employees. As shown in Table 2, the Project generated VMT per employee is 14.02.

TABLE 2: PROJECT VMT PER EMPLOYEE

	Project
Home-based Work VMT	9,674
Employment	690
VMT per Employee	14.02

The County Guidelines identifies a threshold of 14.24 VMT per employee for office and industrial uses. The Project would not exceed the County threshold of 14.24 VMT per employee, therefore, the potential impact to VMT is less than significant.

PROJECT'S CUMULATIVE EFFECT ON VMT

The Technical Advisory states that "a project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact."[5] In other words, since the Project generated VMT is less than significant and is consistent with the Light Industrial land use designation in the County of Riverside Land Use Element, the Project's cumulative effect on VMT is also presumed to be less than significant.

[4] Employee Density Factor was obtained from the County of Riverside General Plan Appendix E-2: Socioeconomic Build-Out Assumptions and Methodology (see Table E-5, Commercial Employment Factors, Page 3).
[5] Page 6 of the Technical Advisory.

INDUCED VMT

Use of VMT as an environmental impact metric for transportation projects is discretionary under the Section 15064.3 (b) (2) of the CEQA Guidelines:

(2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

The Technical Advisory states that building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel. The addition of through lanes on existing or new highways, including general purpose lanes, HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges as project types that would likely lead to a measurable and substantial increase in induced vehicle travel. Further, the Technical Advisory acknowledges that addition of capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis.

The Project is proposing to construct site adjacent roadways including sidewalk and bicycle lanes consistent with the Riverside County General Plan. The construction of these site adjacent roadway facilities consistent with the general plan is not likely to significantly alter regional or interregional travel.

If you have any questions, please contact me directly at (949) 480-7788.

Respectfully submitted,

URBAN CROSSROADS, INC.

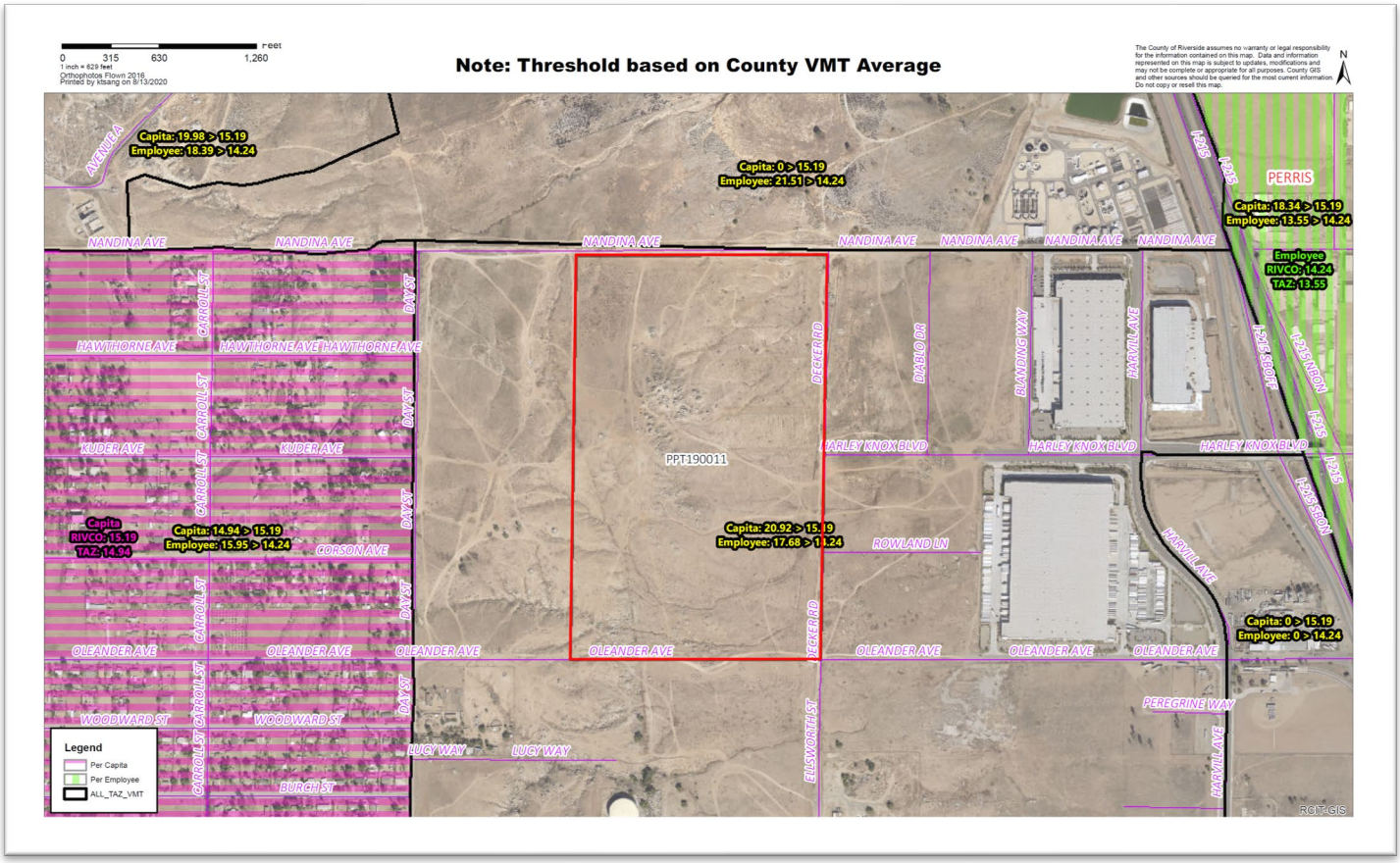
Aric Evatt, PTP
President

Robert Vu, PE
Transportation Engineer

REFERENCES

1. **Institute of Transportation Engineers.** *Trip Generation Manual.* 10th Edition. 2017.
2. **Urban Crossroads, Inc.** *Oleander Business Plark Traffic Impact Analysis.* County of Riverside : s.n., August 2019.
3. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.

ATTACHMENT A
MAP-BASED VMT SCREENING RESULTS



NOTE: This map indicates VMT generated by land use assumptions contained within individual traffic analysis zones (TAZs) in the RIVTAM base year model as compared to the applicable County threshold. For example, Employee: 17.68>14.24 indicates that the land use represented in the subject TAZ generates 17.68 average VMT per employee and the County's threshold is 14.24 average VMT per employee.