URBAN | CROSSROADS

HARVILL & WATER WAREHOUSE (PPT220002)

TRAFFIC ANALYSIS

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Reference Number	Agency	Date
14166-05 TA Report	County of Riverside	November 2, 2022

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CAMUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
DIF	Development Impact Fee
EAP	Existing Plus Ambient Growth Plus Project
EAPC	Existing Plus Ambient Growth Plus Project Plus Cumulative
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
OPR	Office of Planning and Research
PHF	Peak Hour Factor
Project	Harvill & Water Warehouse
RCTC	Riverside County Transportation Commission
RTA	Riverside Transit Authority
SCAG	Southern California Association of Governments
sf	Square Feet
SHS	State Highway System
TA	Traffic Analysis
TUMF	Transportation Uniform Mitigation Fee
WRCOG	Western Riverside Council of Governments
v/c	Volume to Capacity
VMT	Vehicle Miles Traveled
vphgpl	Vehicles per Hour Green per Lane

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1 INTRODUCTION

This report presents the results of the Traffic Analysis (TA) for Harvill & Water Warehouse development ("Project"), which is located on the southwest corner of Harvill Avenue and Water Avenue in the County of Riverside, as shown on Exhibit 1-1. The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and where necessary recommend improvements to achieve acceptable operations consistent with the County's General Plan level of service goals and policies. This TA has been prepared in accordance with the County of Riverside's Transportation Analysis Guidelines for Level of Service and Vehicle Miles Traveled (December 2020) and through consultation with County of Riverside staff during the scoping process. (1) The Project traffic study scoping agreement is provided in Appendix 1.1 of this TA, which has been reviewed and approved by the County of Riverside.

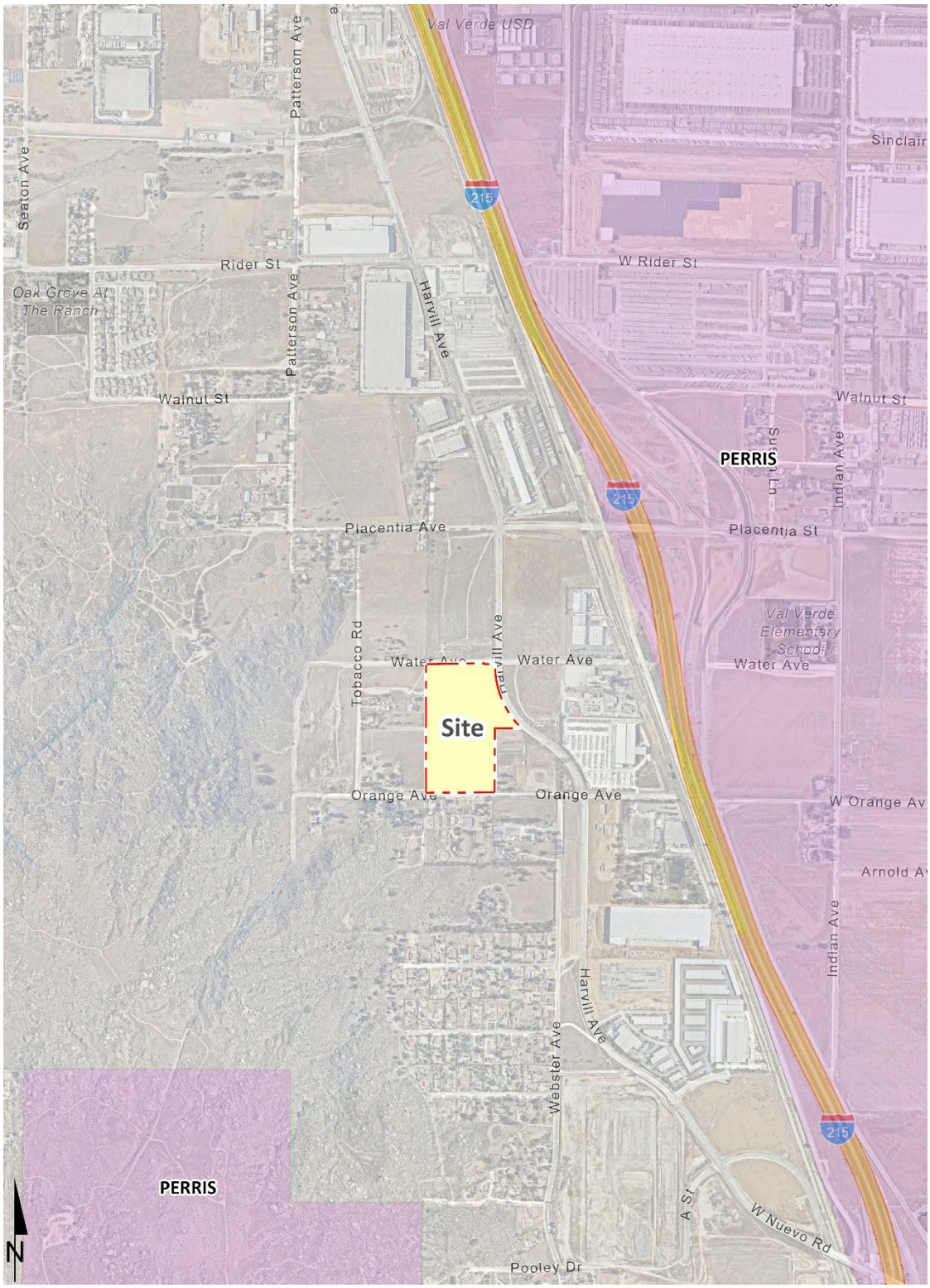
1.1 SUMMARY OF FINDINGS

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

- Project to construct Water Avenue at its ultimate half-section width as an industrial collector (76-foot right-of-way) from the Project's western boundary to Harvill Avenue consistent with the County's standards. Improvement should also include a minimum of 1 lane in the westbound direction along the Project's frontage to facilitate site access.
- Project to construct Orange Avenue at its ultimate half-section width as an industrial collector (76-foot right-of-way) along its southern boundary between the western and eastern property lines consistent with the County's standards.
- Project will ensure a minimum of 1 lane in each direction of travel along Orange Avenue between the Project and Harvill Avenue to facilitate site access.
- Project to install stop controls for all egress traffic from each Project driveway.

Additional details and intersection lane geometrics are provided in Section 1.6 *Recommendations* of this report. The proposed Project is not anticipated to require the construction of any off-site improvements. As such, the Project Applicant's responsibility for the Project's contributions towards deficient off-site intersections is fulfilled through payment into pre-existing fee programs (if applicable) that would be assigned to the future construction of regional roadway infrastructure improvements. The Project Applicant would be required to pay requisite fees consistent with the County's requirements (see Section 7 *Local and Regional Funding Mechanisms*).

EXHIBIT 1-1: LOCATION MAP



1.2 PROJECT OVERVIEW

A preliminary site plan for the proposed Project is shown on Exhibit 1-2. The Project is proposed to consist of the development of 434,823 square feet of high-cube fulfillment center warehouse use. As indicated on Exhibit 1-2, vehicular access will be provided to Water Avenue via a single driveway and on Orange Avenue via two driveways (all will have full access with no turn restrictions). Regional access to the Project site is available from the I-215 Freeway via Placentia Avenue or Nuevo Road interchanges. In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the High Cube Warehouse Trip Generation Study for the proposed high-cube fulfillment center land use. (2) The Project is anticipated to generate a net total of 926 two-way trips per day with 52 AM peak hour trips and 72 PM peak hour trips (actual vehicles). The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

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

- Existing (2022) Conditions
- Existing plus Ambient Growth plus Project (EAP) (2024) Conditions
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2024) Conditions

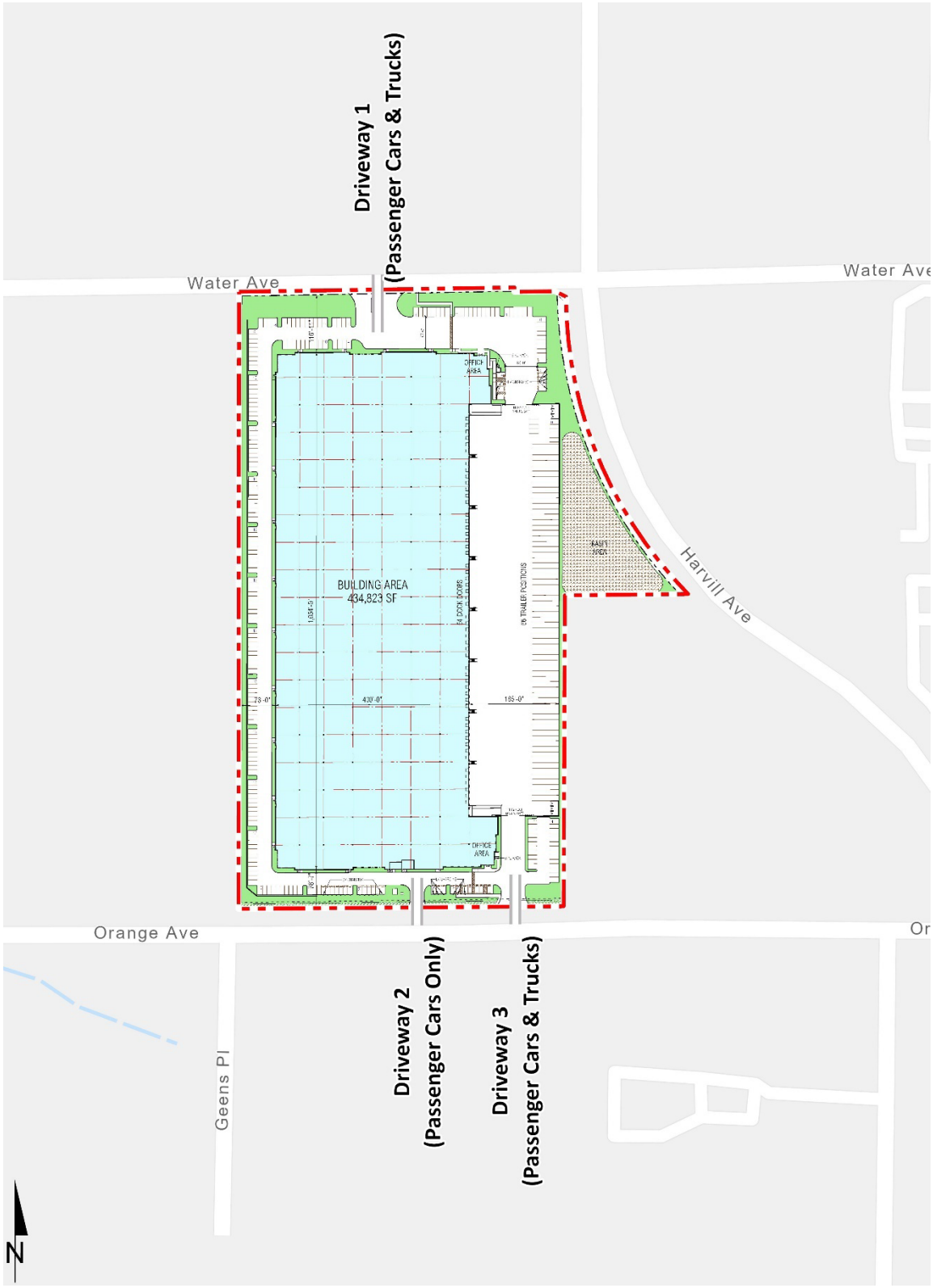
1.3.1 EXISTING (2022) CONDITIONS

Information for Existing (2022) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. For a detailed discussion on the existing traffic counts, see Section 3.7 *Existing Traffic Counts*.

1.3.2 EAP (2024) CONDITIONS

The EAP (2024) conditions analysis determines the potential circulation system deficiencies based on a comparison of the EAP traffic conditions to Existing conditions. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. To account for background traffic growth, an ambient growth factor from Existing (2022) conditions of 4.04% (2 percent per year, compounded over 2 years) is included for EAP (2024) traffic conditions. The assumed ambient growth factor is based on the requirements per the County of Riverside traffic study guidelines. Consistent with Riverside County traffic study guidelines, the EAP analysis is intended to identify "Opening Year" deficiencies associated with the development of the proposed Project based on the expected background growth within the study area.

EXHIBIT 1-2: PRELIMINARY SITE PLAN



1.3.3 EAPC (2024) CONDITIONS

The EAPC (2024) traffic conditions analysis determines the potential near-term cumulative circulation system deficiencies. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. To account for background traffic growth, an ambient growth factor from Existing (2022) conditions of 4.04% (2 percent per year, compounded over 2 years) is included for EAPC (2024) traffic. Conservatively, this TA estimates the area ambient traffic growth and then adds traffic generated by other known or probable related projects. These related projects are at least in part already accounted for in the assumed ambient growth rates; and some of these related projects may not be implemented and operational within the 2024 Opening Year time frame assumed for the Project. The resulting traffic growth utilized in the TA (ambient growth factor plus traffic generated by related projects) would therefore tend to overstate rather than understate background cumulative traffic deficiencies under 2024 conditions.

1.4 STUDY AREA

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

The 9 study area intersections shown on Exhibit 1-3 and listed in Table 1-1 were selected for evaluation in this TA based on consultation with County of Riverside staff. At a minimum, the study area includes intersections where the Project is anticipated to contribute 50 or more peak hour trips per the County's Guidelines. (1) The "50 peak hour trip" criterion represents a minimum number of trips at which a typical intersection would have the potential to be affected by a given development proposal. The 50 peak hour trip criterion is a traffic engineering rule of thumb that is accepted and used throughout the County for the purposes of estimating a potential area of influence (i.e., study area).

The intent of a Congestion Management Program (CMP) is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. The County of Riverside CMP became effective with the passage of Proposition 111 in 1990 and most recently updated in 2019 as part of the Riverside County Long Range Transportation Study. The Riverside County Transportation Commission (RCTC) adopted the 2019 CMP for the County of Riverside in December 2019. (3) There are no study area intersections identified as a Riverside County CMP intersection.

EXHIBIT 1-3: STUDY AREA

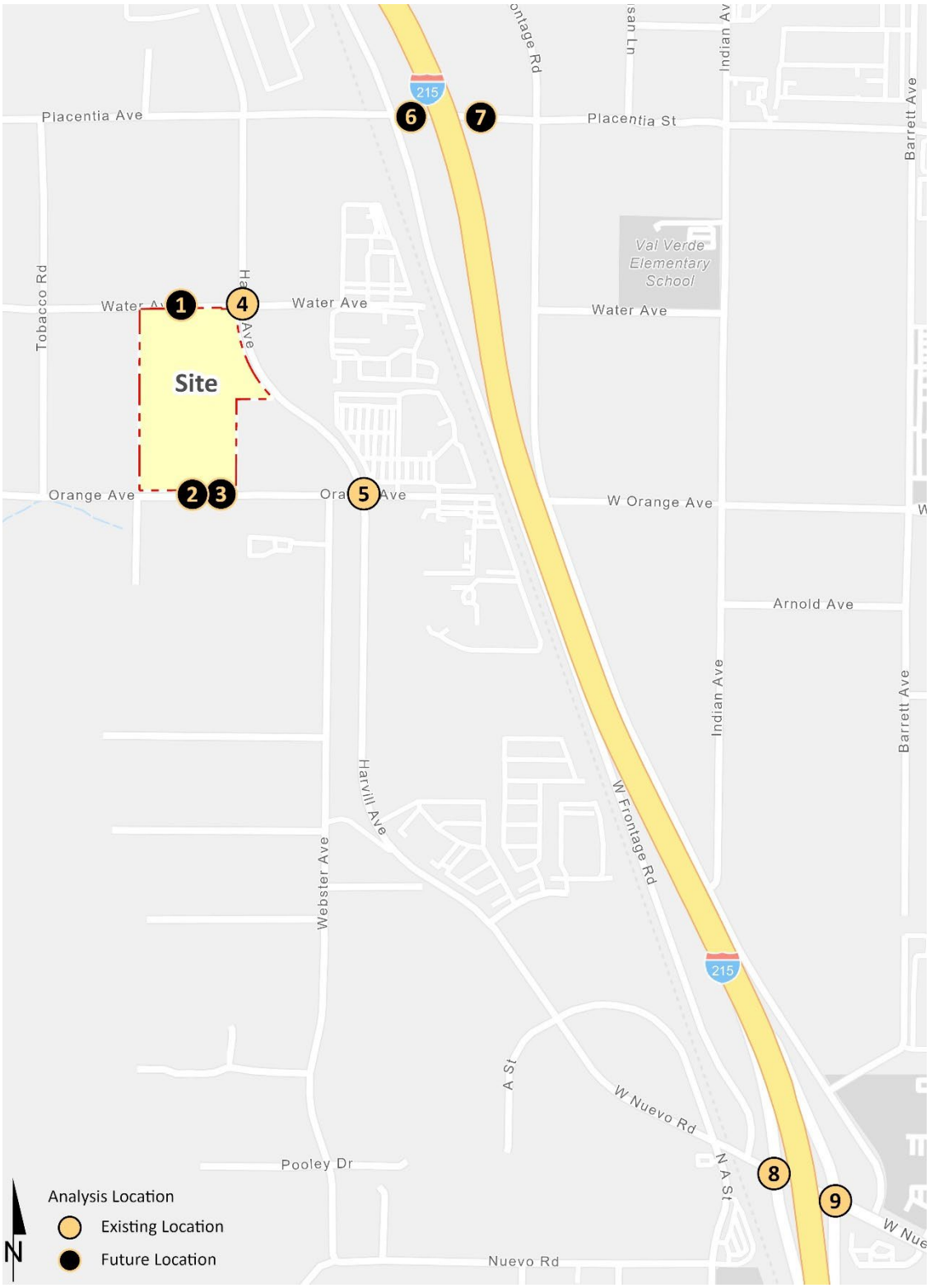


TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection	Jurisdiction	CMP?
1	Driveway 1 & Water St.	County of Riverside	No
2	Driveway 2 & Orange Av.	County of Riverside	No
3	Driveway 3 & Orange Av.	County of Riverside	No
4	Harvill Av. & Water Av.	County of Riverside	No
5	Harvill Av. & Orange Av.	County of Riverside	No
6	I-215 SB Ramps & Placentia Av.	County, Perris, Caltrans	No
7	I-215 NB Ramps & Placentia Av.	Perris, Caltrans	No
8	I-215 SB Ramps & Nuevo Rd.	County, Perris, Caltrans	No
9	I-215 NB Ramps & Nuevo Rd.	Perris, Caltrans	No

1.5 DEFICIENCIES

This section provides a summary of deficiencies by analysis scenario. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 5 *EAP (2024) Traffic Conditions* and Section 6 *EAPC (2024) Traffic Conditions* include the detailed analysis. A summary of LOS results for all analysis scenarios is presented on Table 1-2.

TABLE 1-2: SUMMARY OF LOS

		Existing		EAP		EAPC	
#	Intersection	AM	PM	AM	PM	AM	PM
1	Driveway 1 & Water St.	N/A	N/A	●	●	●	●
2	Driveway 2 & Orange Av.	N/A	N/A	●	●	●	●
3	Driveway 3 & Orange Av.	N/A	N/A	●	●	●	●
4	Harvill Av. & Water Av.	●	●	●	●	●	●
5	Harvill Av. & Orange Av.	●	●	●	●	●	●
6	I-215 SB Ramps & Placentia Av.	N/A	N/A	●	●	●	●
7	I-215 NB Ramps & Placentia Av.	N/A	N/A	●	●	●	●
8	I-215 SB Ramps & Nuevo Rd.	●	●	●	●	●	●
9	I-215 NB Ramps & Nuevo Rd.	●	●	●	●	●	●

● = A - D ● = E ● = F

1.5.1 EXISTING (2022) CONDITIONS

Intersections

The study area intersections are currently operating at an acceptable LOS during the peak hours.

Queues

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

1.5.2 EAP (2024) CONDITIONS

Intersections

The study area intersections are anticipated to continue to operate at an acceptable LOS with the addition of Project traffic under EAP (2024) traffic conditions.

Queues

Consistent with Existing traffic conditions, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project traffic for EAP (2024) traffic conditions.

1.5.3 EAPC (2024) CONDITIONS

Intersections

The study area intersections are anticipated to continue to operate at an acceptable LOS under EAPC (2024) traffic conditions.

Queues

Consistent with Existing traffic conditions, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAPC (2024) traffic conditions.

1.6 RECOMMENDATIONS

1.6.1 SITE ADJACENT AND SITE ACCESS RECOMMENDATIONS

The following recommendations are based on the minimum improvements needed to accommodate site access and maintain acceptable peak hour operations for the proposed Project. The site adjacent recommendations are shown on Exhibit 1-4. The site adjacent queuing analysis worksheets are provided in Appendix 1.2. No site adjacent queues are anticipated with the proposed improvements.

Recommendation 1 – Driveway 1 & Water Avenue (#1) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the northbound approach (egress Project traffic) to implement a cross-street stop-controlled intersection.
- Project should construct and accommodate a westbound left turn lane within the painted median (two-way left turn lane). This will be accommodated through the frontage roadway improvement of accommodating the half-section roadway improvements for an industrial collector.

Recommendation 2 – Driveway 2 & Orange Avenue (#2) – The following improvements are necessary to accommodate site access:

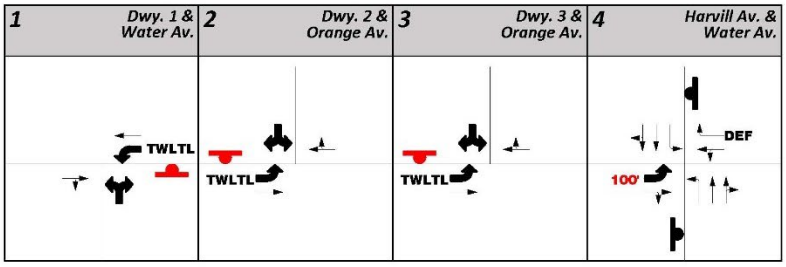
- Project to install a stop control on the southbound approach (egress Project traffic) to implement a cross-street stop-controlled intersection.
- Project should construct and accommodate an eastbound left turn lane within the painted median (two-way left turn lane). This will be accommodated through the frontage roadway improvement of accommodating the half-section roadway improvements for an industrial collector.

Recommendation 3 – Driveway 3 & Orange Avenue (#3) – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the southbound approach (egress Project traffic) to implement a cross-street stop-controlled intersection.
- Project should construct and accommodate an eastbound left turn lane within the painted median (two-way left turn lane). This will be accommodated through the frontage roadway improvement of accommodating the half-section roadway improvements for an industrial collector.

Recommendation 4 – Water Avenue is an east-west oriented roadway located on the Project's northern boundary. Project to construct Water Avenue at its ultimate half-section width as an Industrial Collector (76-foot right-of-way) from the Project's western boundary to Harvill Avenue consistent with the County's standards. The Project should also construct a minimum of one lane in the westbound direction (north side) in order to facilitate site access.

EXHIBIT 1-4: SITE ACCESS RECOMMENDATIONS



= Stop Sign
= Stop Sign Improvement
= Existing Lane
= Lane Improvement
100' = Recommended Turn Pocket Length
DEF = Defacto Right Turn
TWLTL = Two Way Left turn Lane

Recommendation 5 – Orange Avenue is an east-west oriented roadway located on the Project's southern boundary. Project to construct Orange Avenue at its ultimate half-section width as an Industrial Collector (76-foot right-of-way) from the Project's western boundary to the Project's eastern boundary consistent with the County's standards. Project is to improve Orange Avenue to accommodate 1 lane in each direction to Harvill Avenue to facilitate site access.

Recommendation 6 – Harvill Avenue is a north-south oriented roadway located on the Project's eastern boundary. Project to construct Harvill Avenue at its ultimate half-width as a Major Highway (118-foot right-of-way) from Water Avenue to the Project's southern boundary consistent with the County's standards.

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

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

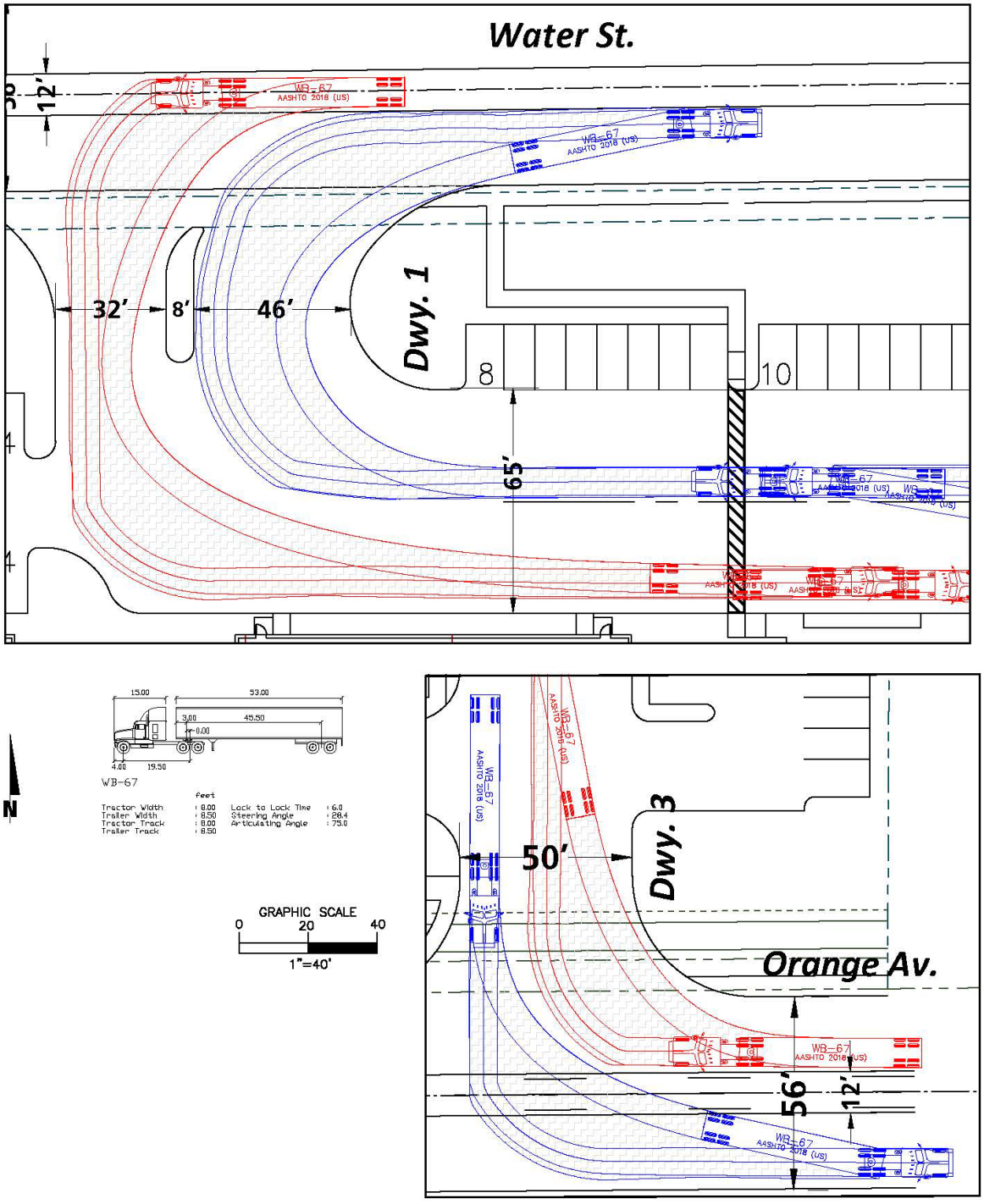
1.6.2 OFF-SITE RECOMMENDATIONS

There are no off-site improvements recommended as all study area intersections are anticipated to operate at an acceptable LOS for all analysis scenarios during all evaluated peak hours. However, the Project Applicant would be required to pay requisite fees for pre-existing fee programs consistent with the County's requirements (see Section 7 *Local and Regional Funding Mechanisms*).

1.7 TRUCK ACCESS

Due to the typical wide turning radius of large trucks, a truck turning template has been overlaid on the site plan at each applicable Project driveway anticipated to be utilized by heavy trucks in order to determine appropriate curb radii and to verify that trucks will have sufficient space to execute turning maneuvers (see Exhibit 1-5). A WB-67 truck (53-foot trailer) has been utilized for the purposes of this analysis. As shown on Exhibit 1-5, the driveways as currently designed are anticipated to accommodate the ingress and egress of heavy trucks.

EXHIBIT 1-5: TRUCK ACCESS



1.8 SIGHT DISTANCE ANALYSIS

Horizontal sight distance has been evaluated for the Project driveways on Water Avenue and Orange Avenue as they would be cross-street stop-controlled intersections with full access. Project driveways along Water Avenue and Orange Avenue have been evaluated based on the County of Riverside Standard Drawing No. 821. As defined by the California Department of Transportation (Caltrans) Highway Design Manual, sight distance is the continuous length of highway ahead visible to the driver. At unsignalized intersections, stopping sight distance must provide a substantially clear line of sight between the driver of the vehicle waiting on the minor road (driveway) and the driver of an approaching vehicle. For the purposes of this analysis, a 7 ½ second criterion has been applied to the outside travel lanes in either direction to provide the most conservative sight distance. The 7 ½ second criterion allows waiting vehicles to either cross all lanes of through traffic by turning left or cross the near lanes by turning right without requiring through traffic to radically alter their speed. The sight distance is based on the posted speed limit. Adequate visibility for vehicular and pedestrian traffic can be provided at each Project driveway by limiting sight obstructions within the limited use area. Any landscaping/hardscape within the limited use area should not exceed 30-inches (2.5-feet) in height. The limited use area should be kept clear of any landscaping or any other obstructions that may impede the visibility of the driver. It is anticipated that the minimum 440-foot sight distance could be accommodated at Driveway 1 on Water Avenue, Driveway 2 on Orange Avenue, and Driveway 3 on Water Avenue based on a speed limit of 40 miles per hour (per County Standard No. 114 for an industrial collector). The sight distance lines, limited use area, and clear sight triangles per County of Riverside Standard Drawing No. 821 are illustrated on Exhibit 1-6. However, sight distance should be re-evaluated in the field once the driveway has been constructed.

1.9 QUEUING ANALYSIS

The traffic modeling and signal timing optimization software package SimTraffic has been utilized to assess the queues. SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. SimTraffic uses the input parameters from Synchro to generate random simulations. These random simulations generated by SimTraffic have been utilized to determine the 95th percentile queue lengths observed for each applicable turn lane. A SimTraffic simulation has been recorded up to 5 times, during the weekday AM and weekday PM peak hours, and has been seeded for 15-minute periods with 60-minute recording intervals. The results of the queuing analysis are shown in Table 1-3 and the worksheets for the weekday AM and PM peak hours are provided in Appendix 1.2 of this report for EAPC (2024) traffic conditions.

TABLE 1-3: PEAK HOUR QUEUING ANALYSIS FOR SITE ADJACENT INTERSECTIONS

Intersection	Movement	Available Stacking Distance	95th Percentile Queue (Feet)		Acceptable? [1]	
			AM Peak	PM Peak	AM	PM
Driveway 1 & Water Av.	WBL*	50	5	5	Yes	Yes
	NBL/R	50	31	47	Yes	Yes
Driveway 2 & Orange Av.	SBL/R	50	17	33	Yes	Yes
Driveway 3 & Orange Av.	SBL/R	50	25	38	Yes	Yes
Harvill Av. & Water Av.	NBL	100	22	17	Yes	Yes
	SBL	100	17	10	Yes	Yes
	EBL*	100	39	50	Yes	Yes
	EBT/R	300	20	30	Yes	Yes
	WBR	150	35	42	Yes	Yes

* Storage to be accommodated within a striped two-way left-turn lane.

[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.

EXHIBIT 1-6: SIGHT DISTANCE RECOMMENDATIONS (PAGE 1 OF 2)

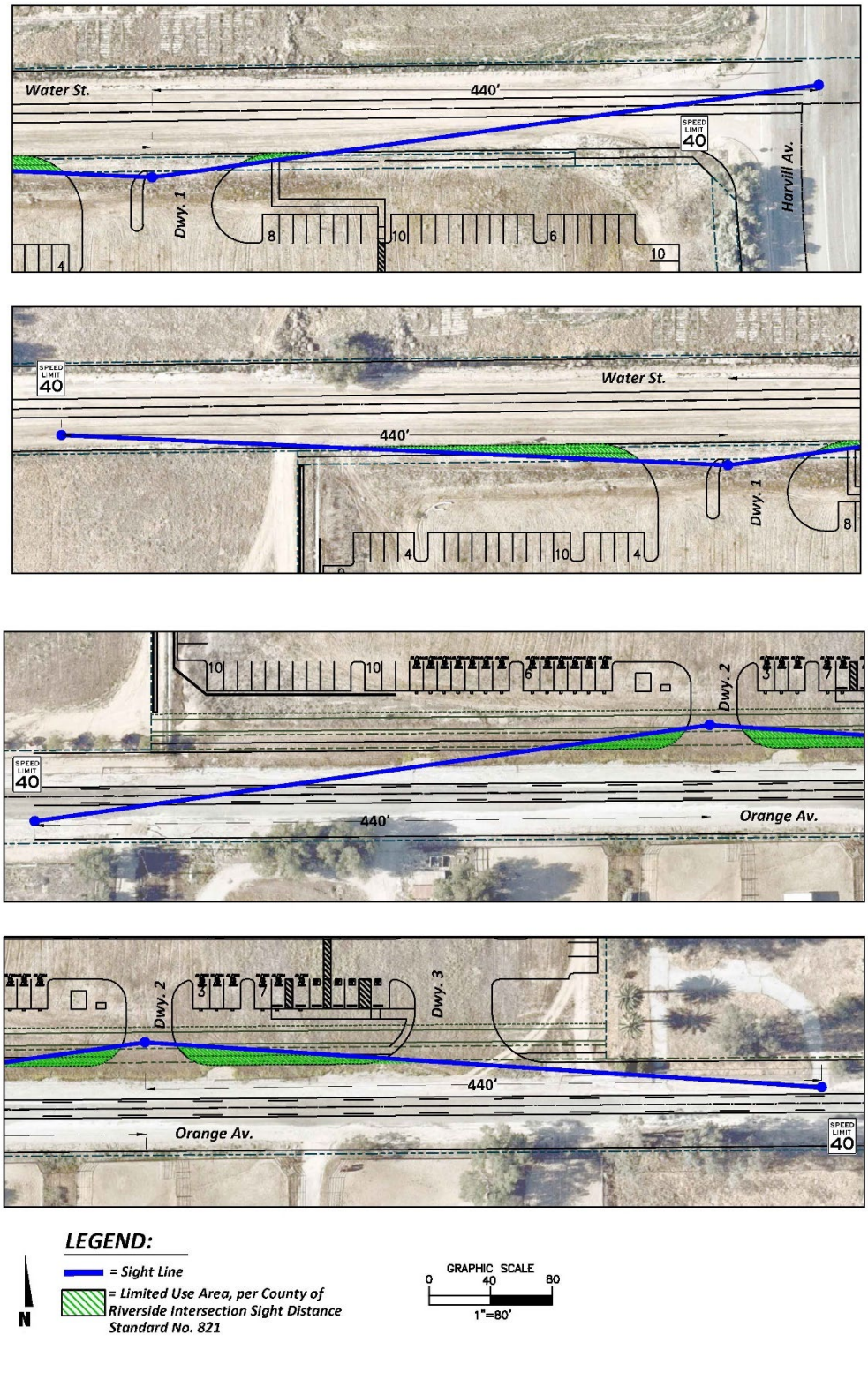
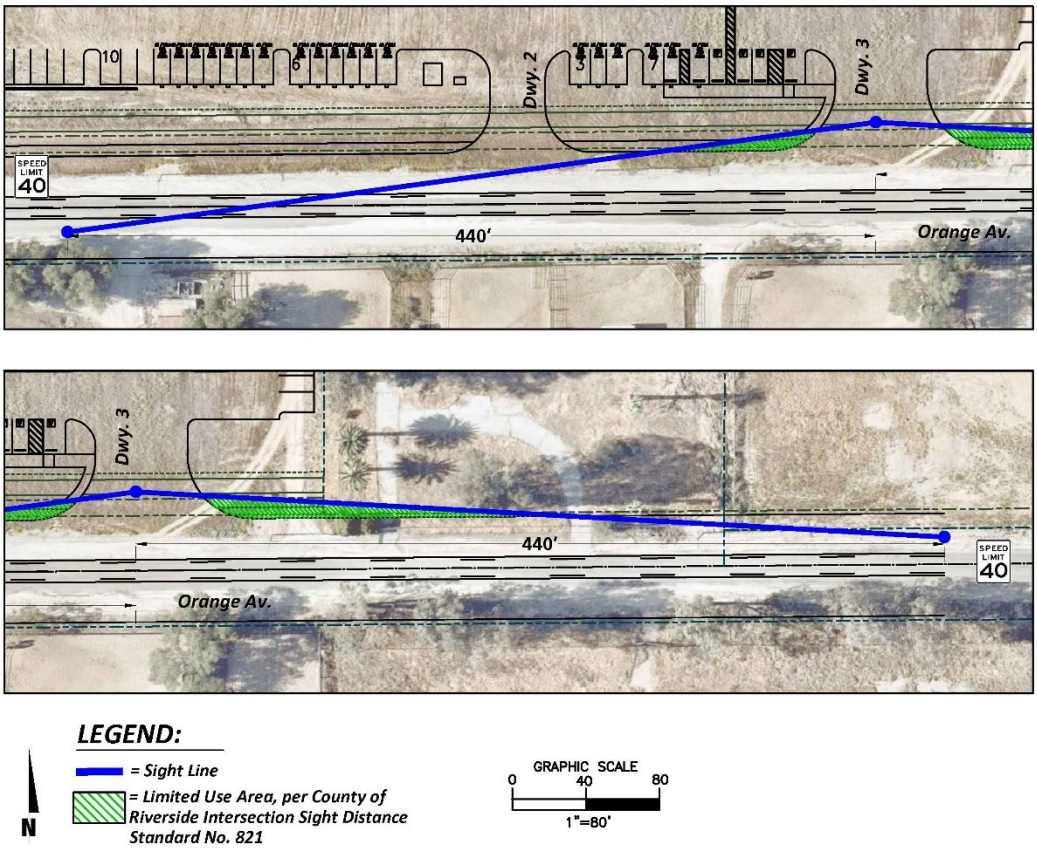


EXHIBIT 1-6: SIGHT DISTANCE RECOMMENDATIONS (PAGE 2 OF 2)



2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with County of Riverside's Traffic Study Guidelines.

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 6th Edition Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (4) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The County of Riverside, City of Perris, and California Department of Transportation (Caltrans) require signalized intersection operations analysis based on the methodology described in the HCM. (4) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is related to the average control delay per vehicle and is correlated to a LOS designation as described on Table 2-1.

The traffic modeling and signal timing optimization software package Synchro (Version 11) has been utilized to analyze signalized intersections. 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[1]
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B
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
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
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
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F

Source: HCM, 6th Edition

[1] If V/C is greater than 1.0 then LOS is F per HCM.

A saturation flow rate of 1900 has been utilized for all study area intersections located within the County of Riverside and City of Perris. The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Customary 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. (4)

2.2.2 UNSIGNALIZED INTERSECTIONS

The County of Riverside and City of Perris require the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (4) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2). 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. Delay for the intersection is reported for the worst individual movement at a two-way stop-controlled intersection. For all-way stop controlled intersections, LOS is computed for the intersection as a whole (average delay).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0[1]
Little or no delays.	0 to 10.00	A
Short traffic delays.	10.01 to 15.00	B
Average traffic delays.	15.01 to 25.00	C
Long traffic delays.	25.01 to 35.00	D
Very long traffic delays.	35.01 to 50.00	E
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F

Source: HCM, 6th Edition

[1] If V/C is greater than 1.0 then LOS is F per HCM.

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or determine the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (5)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (5) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions and for all future analysis scenarios for existing unsignalized intersections. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics. 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. Rural warrants have been used as posted speed limits on the major roadways with unsignalized intersections are over 40 miles per hour while urban warrants have been used where speeds are 40 miles per hour or below.

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. Similarly, the speed limit has been used as the basis for determining the use of Urban and Rural warrants. 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

#	Intersection
1	Driveway 1 & Water St.
2	Driveway 2 & Orange Av.
3	Driveway 3 & Orange Av.
4	Harvill Av. & Water Av.
5	Harvill Av. & Orange Av.

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *EAP (2024) Traffic Conditions* and Section 6 *EAPC (2024) Traffic Conditions* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 QUEUING ANALYSIS

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

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the Synchro progression analysis. The footnote from the Synchro output sheets indicates if the 95th percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95th percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95th percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The 95th percentile queue is derived from the average queue plus 1.65 standard deviations.

2.5 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

Minimum Acceptable LOS and associated definitions of intersection deficiencies has been obtained from each of the applicable surrounding jurisdictions.

2.5.1 COUNTY OF RIVERSIDE

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

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

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

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

2.5.2 CITY OF PERRIS

Required LOS for roadway segments and intersections within the City of Perris is LOS D. An exception to the local road standard is LOS E, at intersections of any Arterials and Expressways with SR-74, the Ramona-Cajalco Expressway or at I-215 Freeway ramps. For the purposes of this traffic impact analysis, LOS D has also been considered the acceptable threshold for all intersections within the study area

2.5.3 CALTRANS

Senate Bill 743 (SB 743), approved in 2013, endeavors to change the way transportation impacts will be determined according to the California Environmental Quality Act (CEQA). The Office of Planning and Research (OPR) has recommended the use of vehicle miles traveled (VMT) as the replacement for automobile delay-based LOS. Caltrans acknowledges automobile delay will no longer be considered a CEQA impact for development projects and will use VMT as the metric for determining impacts on the State Highway System (SHS). However, LOS D has been utilized as the target LOS for Caltrans facilities, consistent with the County of Riverside.

2.6 DEFICIENCY CRITERIA

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

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

3 AREA CONDITIONS

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

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the scoping agreement with County of Riverside staff (Appendix 1.1), the study area includes a total of 9 existing and future intersections as shown previously on Exhibit 1-3, where the Project is anticipated to contribute 50 or more peak hour trips or were added at the County's request during the scoping process. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 COUNTY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT

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

Arterials are four-lane divided roadways (typically divided by a raised median or painted two-way turn-lane) with a 128-foot right-of-way and an 86-foot curb-to-curb measurement. These roadways serve both regional through-traffic and inter-city traffic and typically direct traffic onto and off-of the freeways. The following study area roadway within the County of Riverside is classified as an Arterial:

- Placentia Avenue, east of Harvill Avenue

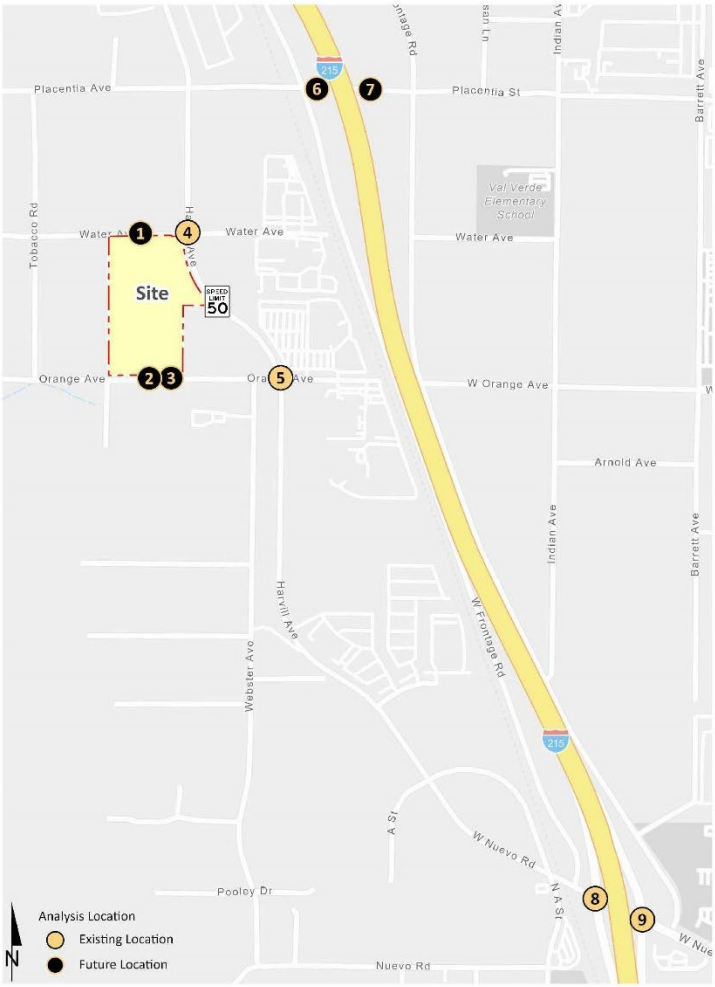
Major Highways are four-lane roadways and may include a painted median. These roadways typically have a 118-foot right-of-way and a 76-foot curb-to-curb measurement. These roadways typically direct traffic through major development areas. The following study area roadway within the County of Riverside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

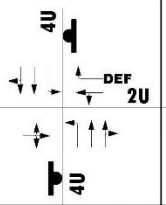
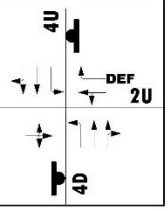
- Harvill Avenue

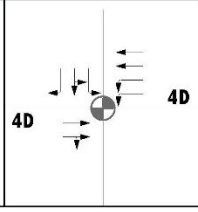
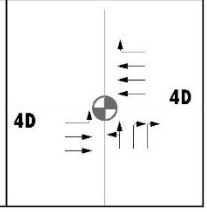
Secondary Highways are four-lane roadways. These roadways typically have a 100-foot right-of-way and a 64-foot curb-to-curb measurement. The following study area roadway within the County of Riverside is classified as a Secondary Highway:

- Placentia Avenue, west of Harvill Avenue

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



1 Dwy. 1 & Water Av.	2 Dwy. 2 & Orange Av.	3 Dwy. 3 & Orange Av.	4 Harvill Av. & Water Av.	5 Harvill Av. & Orange Av.
Future Intersection	Future Intersection	Future Intersection		

6 I-215 SB Ramps & Placentia St.	7 I-215 NB Ramps & Placentia St.	8 I-215 SB Ramps & Nuevo Rd.	9 I-215 NB Ramps & Nuevo Rd.
Future Intersection	Future Intersection		

= Traffic Signal
= Stop Sign
4 = Number of Lanes
D = Divided
U = Undivided
DEF = Defacto Right Turn
SPEED LIMIT 25 = Speed Limit (MPH)

EXHIBIT 3-2: COUNTY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT

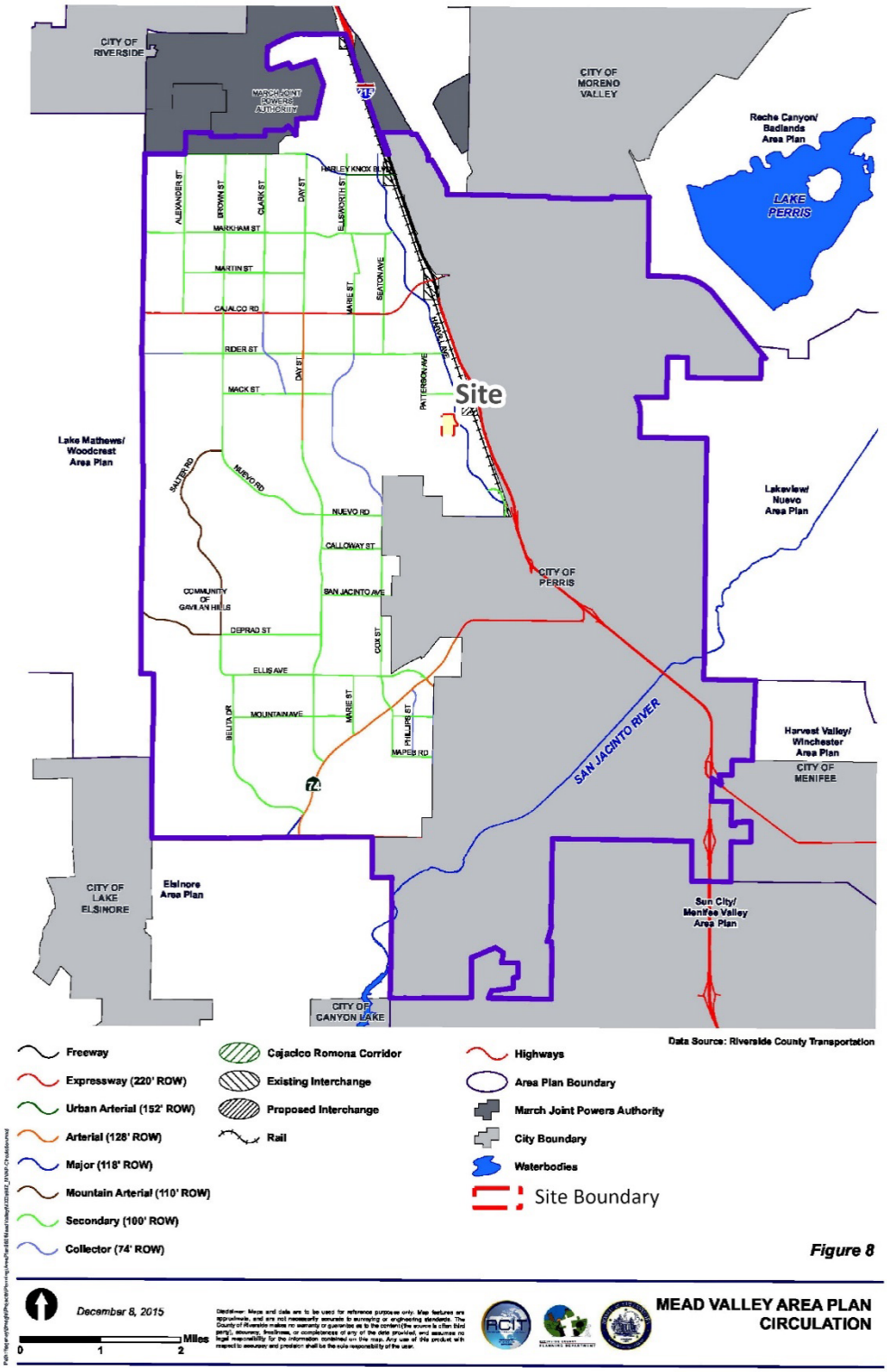
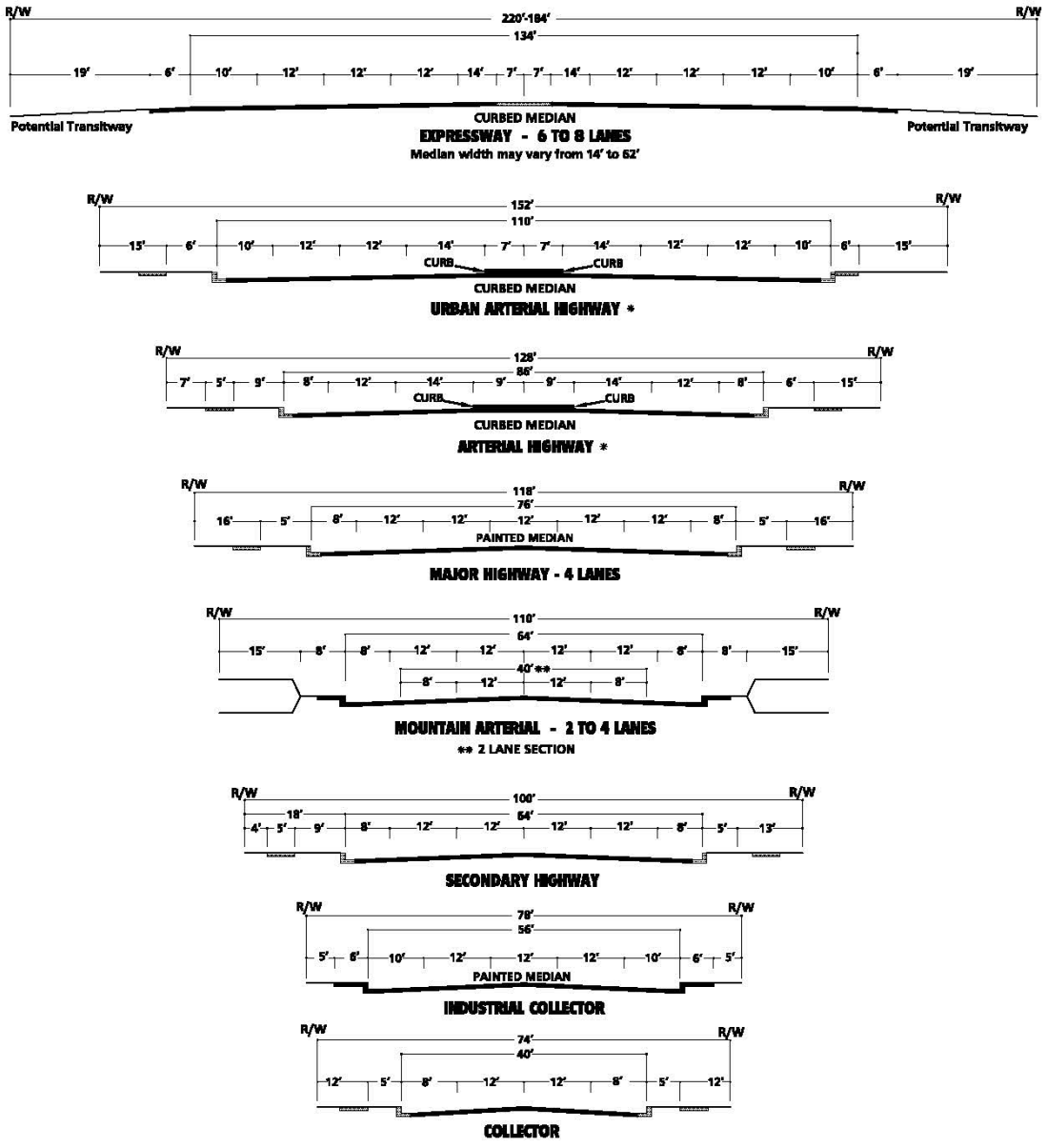


EXHIBIT 3-3: COUNTY OF RIVERSIDE GENERAL PLAN ROADWAY CROSS-SECTIONS



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

NOT TO SCALE

SOURCE: COUNTY OF RIVERSIDE
July 7, 2020

3.3 CITY OF PERRIS GENERAL PLAN CIRCULATION ELEMENT

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

3.4 BICYCLE & PEDESTRIAN FACILITIES

The County of Riverside and City of Perris bike networks are shown on Exhibit 3-6 and Exhibit 3-7, respectively. As shown on Exhibit 3-6, there is a planned Regional Trail (Urban/Suburban) trail proposed along Placentia Avenue and a Community Trail that runs along Orange Avenue and down Webster Avenue (west of Harvill Avenue). Exhibit 3-8 illustrates the existing crosswalks throughout the study area. As shown on Exhibit 3-8, there are limited pedestrian facilities in the vicinity of the Project site. The development of the proposed Project would result in new sidewalk improvements as part of the frontage improvements (as required per the County's standards).

3.5 TRANSIT SERVICE

The study area is currently served by Riverside Transit Agency (RTA) with bus service along the I-215 Freeway and on Nuevo Road east of the I-215 Freeway. RTA Route 27 runs along the I-215 Freeway and stops at Perris High School (on Nuevo Road) and runs between the Perris Station Transit Center and the Galleria at Tyler in the City of Riverside. There are currently no transit routes or stops along the Harvill Avenue corridor near the proposed Project. The transit services are illustrated on Exhibit 3-9. As shown, there are no existing transit routes that could potentially serve the 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.

3.6 TRUCK ROUTES

The County of Riverside's General Plan does not provide designated truck routes, and the City of Perris' truck routes are shown on Exhibit 3-10. Trucks are prohibited on certain County roadways through the Municipal Code through weight restrictions. Truck routes for the proposed Project have been determined based on discussions with County staff and takes into consideration the approved truck routes within the adjacent City of Perris. These truck routes serve both the proposed Project and future cumulative development projects throughout the study area. Sensitive land uses have also been taken into consideration as part of determining the best routes for future trucks.

EXHIBIT 3-4: CITY OF PERRIS GENERAL PLAN CIRCULATION ELEMENT

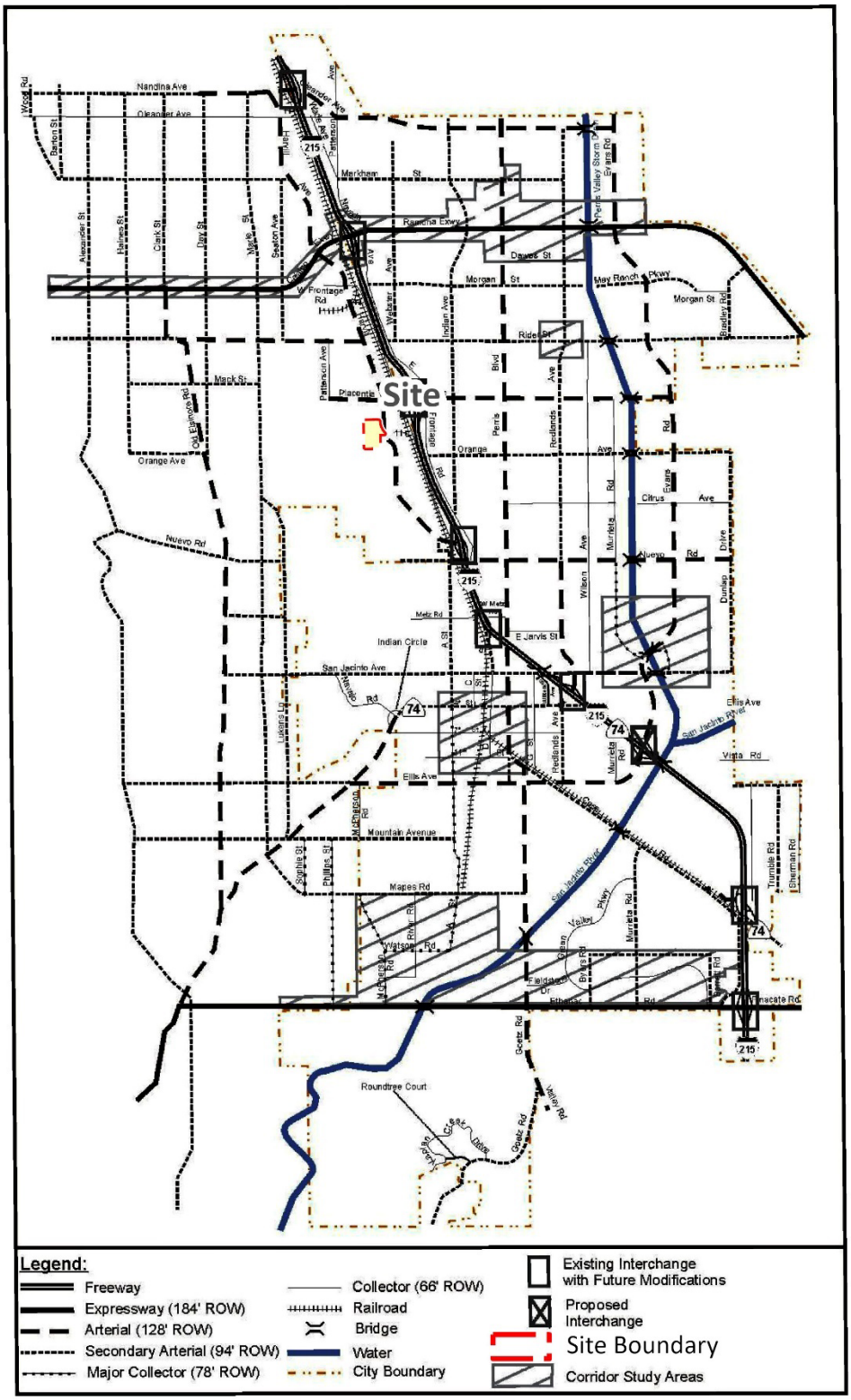
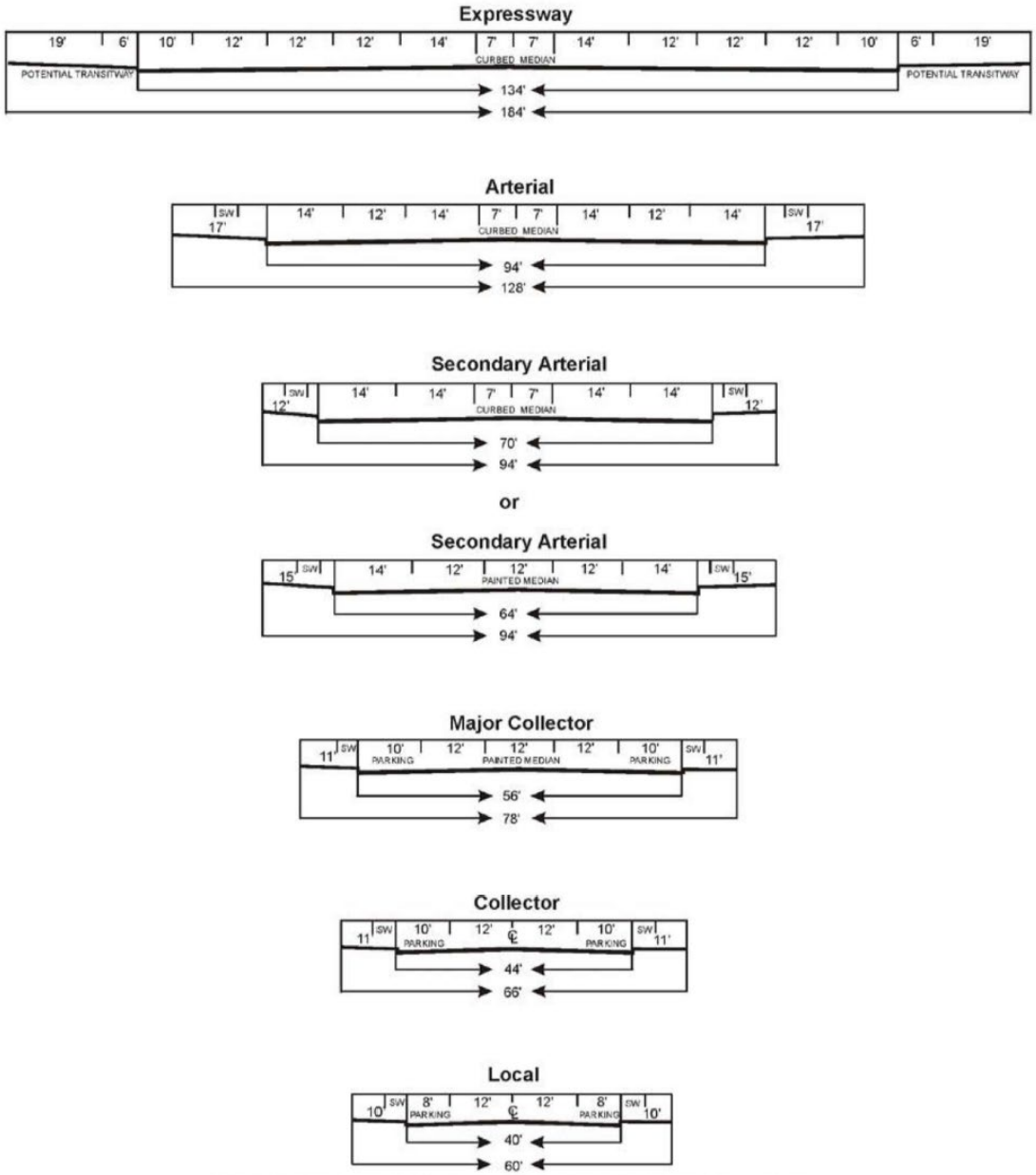


EXHIBIT 3-5: CITY OF PERRIS GENERAL PLAN ROADWAY CROSS-SECTIONS



Specific details for each cross-section follow in Figures 4.1 A - 4.1 F

Legend

SW	Sidewalk or Trail (at least 4 feet)	CURBED MEDIAN	Landscaped Center Median
PARKING	Parking or Bike Lane		
PAINTED MEDIAN	Center Median and/or Continuous Left Turning Lane		

Source: City of Perris General Plan 1-11-2022

EXHIBIT 3-6: COUNTY OF RIVERSIDE GENERAL PLAN BIKE NETWORK

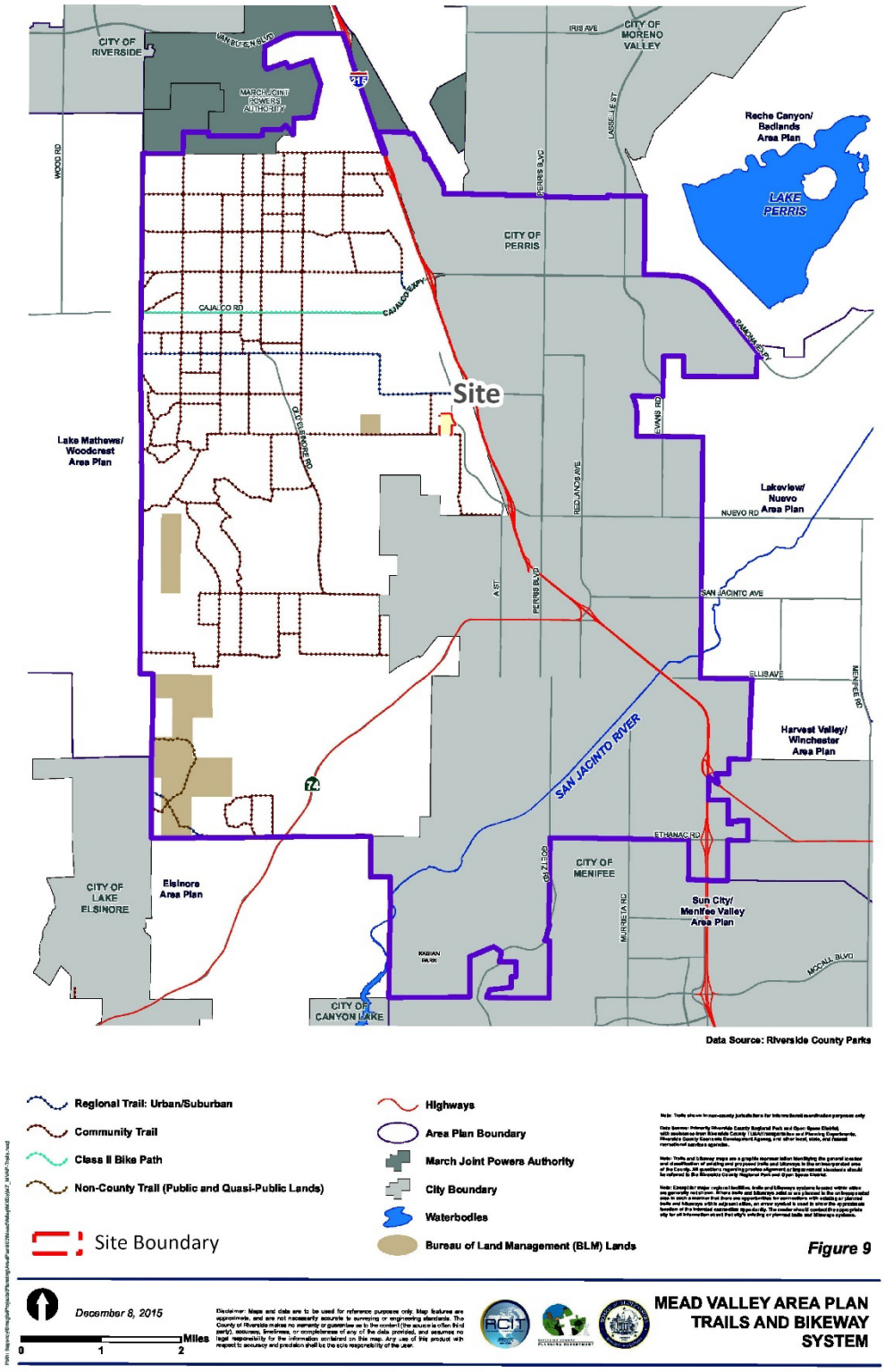


EXHIBIT 3-7: CITY OF PERRIS BIKE PLAN

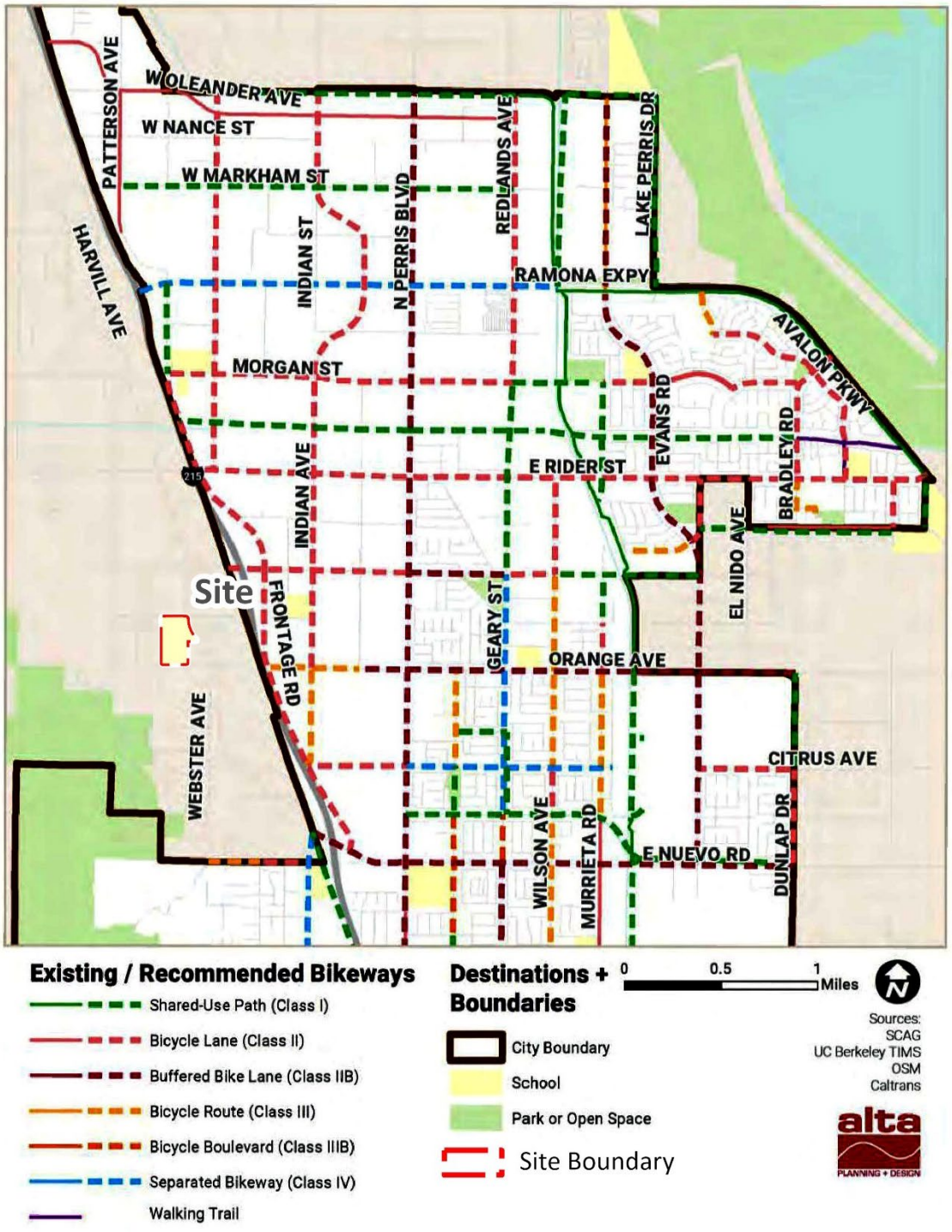
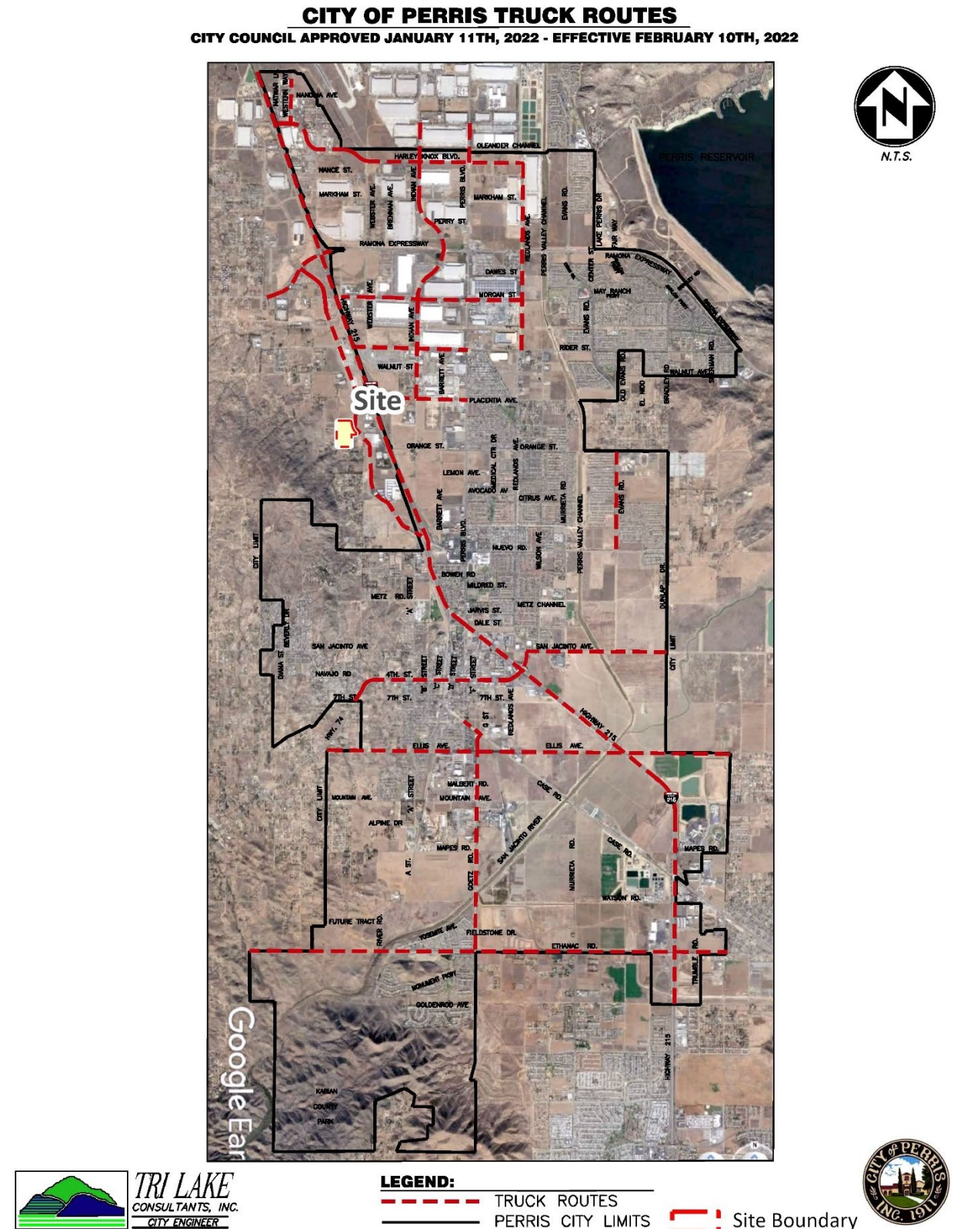


EXHIBIT 3-8: EXISTING PEDESTRIAN FACILITIES

EXHIBIT 3-9: EXISTING TRANSIT ROUTES

EXHIBIT 3-10: CITY OF PERRIS TRUCK ROUTES



3.7 EXISTING (2022) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in April 2022 when local schools were in session and operating on normal bell schedules. 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)

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.

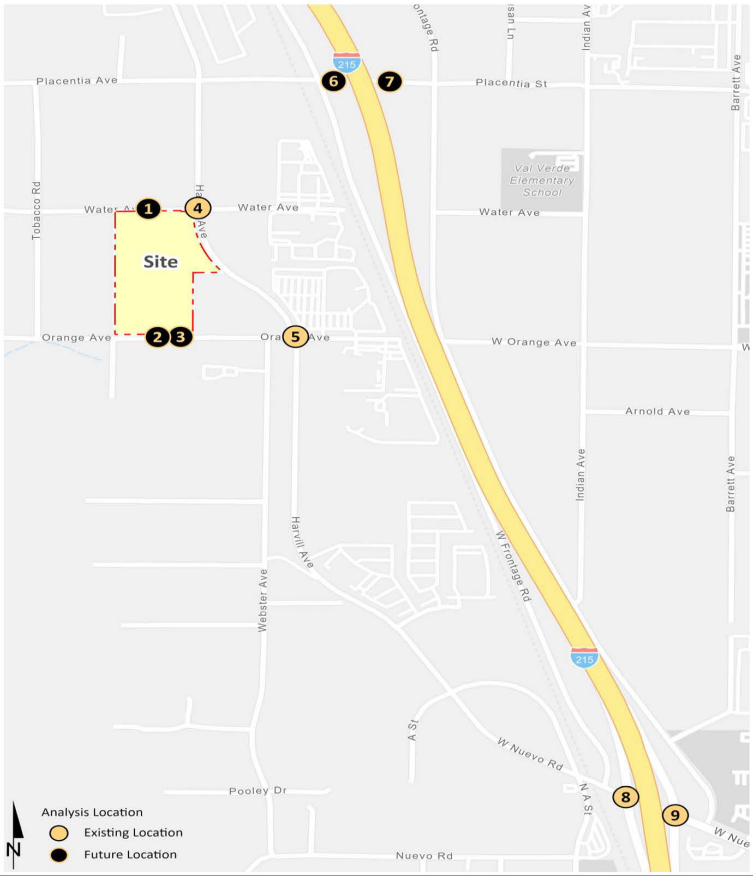
Existing weekday ADT volumes on arterial highways throughout the study area are shown on Exhibit 3-11. Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 15.69 = 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 6.37 percent. As such, the above equation utilizing a factor of 15.69 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 6.37 percent (i.e., 1/0.0637 = 15.69) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. This factor is consistent with that used for other traffic studies within the study area. Existing weekday AM and weekday PM peak hour intersection volumes are shown on Exhibit 3-11.

Volumes reported on the exhibits are expressed in actual vehicles. However, consistent with the County's guidelines, the peak hour intersection operations analysis utilizes passenger car equivalent (PCE) volumes. 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 the County's Guidelines.

EXHIBIT 3-11: EXISTING (2022) TRAFFIC VOLUMES



1 Driveway 1 & Water St.	2 Driveway 2 & Orange Av.	3 Driveway 3 & Orange Av.	4 Harvill Av. & Water St.	5 Harvill Av. & Orange Av.
Nominal ← 6(3) 4(1) →	*700* ← 13(26) 33(19) →	*700* ← 13(26) 33(19) →	*12,250* 3(0) ↲ ↓ 214(455) ↳ 9(3) 3(1) ⇁ 1(0) ⇂ *500* ↰ 4(17) ↰ 6(10) 3(3) ↰ ↑ 594(306) ↱ 9(2) *12,200*	*12,200* 11(23) ↲ ↓ 200(431) ↳ 10(11) 30(13) ⇁ 0(1) → 3(5) ⇂ *1,550* ↰ 5(18) ← 0(1) ↰ 2(41) 2(2) ↰ ↑ 571(280) ↱ 20(27)
Nominal	*700*	*700*	*150*	*700* *8,150*

6 I-215 SB Ramps & Placentia Av.	7 I-215 NB Ramps & Placentia Av.	8 I-215 SB Ramps & Nuevo Rd.	9 I-215 NB Ramps & Nuevo Rd.
		8,550 74(75) ↲ ↓ 3(3) ↳ 206(466) 421(537) → 95(187) ⇂ *32,100* ← 498(497) ↰ 211(544) *11,500*	*6,800* *42,050* ↱ 424(379) ← 600(961) 45(53) ⇁ 582(950) → 109(80) ↰ ↑ 2(0) ↱ 364(390) *7,400*
		20,350	*32,100*

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

3.8 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 on Table 3-1, which indicates that all existing study area intersections are currently operating at acceptable LOS during the peak hours. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2022) CONDITIONS

#	Intersection	Traffic Control[2]	Delay[1] (secs.) AM	Delay[1] (secs.) PM	Level of Service AM	Level of Service PM
1	Driveway 1 & Water St.	CSS	Future Intersection			
2	Driveway 2 & Orange Av.	CSS	Future Intersection			
3	Driveway 3 & Orange Av.	CSS	Future Intersection			
4	Harvill Av. & Water Av.	CSS	15.0	17.8	C	C
5	Harvill Av. & Orange Av.	CSS	12.8	13.6	B	B
6	I-215 SB Ramps & Placentia Av.	TS	Future Intersection			
7	I-215 NB Ramps & Placentia Av.	TS	Future Intersection			
8	I-215 SB Ramps & Nuevo Rd.	TS	10.2	16.6	B	B
9	I-215 NB Ramps & Nuevo Rd.	TS	13.1	10.9	B	B

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. HCM delay reported in seconds.

2 TS = Traffic Signal; CSS = Cross-street Stop

3.9 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. There are no unsignalized study area intersections that currently warrant a traffic signal for Existing traffic conditions. Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

3.10 QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the I-215 Freeway at Nuevo Road interchange. Queuing analysis findings are presented in Table 3-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 3-2, there are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows. Worksheets for Existing (2022) traffic conditions off-ramp queuing analysis are provided in Appendix 3.4.

TABLE 3-2: PEAK HOUR QUEUING SUMMARY FOR EXISTING (2022) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet) AM Peak Hour	95th Percentile Queue (Feet) PM Peak Hour	Acceptable? [1] AM	Acceptable? [1] PM
I-215 SB Ramps & Placentia Av. (#6)	Future Intersection		Future Intersection			
I-215 NB Ramps & Placentia Av. (#7)	Future Intersection		Future Intersection			
I-215 SB Ramps & Nuevo Rd. (#8)	SBL	1,030	88	176	Yes	Yes
	SBT	645	87	182 [2]	Yes	Yes
	SBR	390	21	20	Yes	Yes
I-215 NB Ramps & Nuevo Rd. (#9)	NBL/T	1,430	91	67	Yes	Yes
	NBR	405	44	90	Yes	Yes

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

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

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 consists of the development of 434,823 square feet of high-cube fulfillment center warehouse use within a single building. Access to the Project site will be accommodated via Water Avenue and Orange Avenue. Regional access to the Project site is available from the I-215 Freeway via the existing Nuevo Road and future Placentia Avenue interchanges.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development. In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the High Cube Warehouse Trip Generation Study (WSP, January 2019) was used to estimate the trip generation. The following trip generation rates and vehicle mixes were utilized for calculating the trip generation for the proposed Project:

- High-Cube Fulfillment Center Warehouse has been used to derive site specific trip generation estimates for the Project. The Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) has trip generation rates for high-cube fulfillment center use for both non-sort and sort facilities (ITE land use code 155). (6) While there is sufficient data to support use of the trip generation rates for non-sort facilities, the sort facility rate appears to be unreliable because they are based on limited data (i.e., one to two surveyed sites). The proposed Project is speculative and whether a non-sort or sort facility end-user would occupy the buildings is not known at this time. Lastly, the ITE Trip Generation Handbook recommends the use of local data sources where available. As such, the best available source for high-cube fulfilment center use would be the trip-generation statistics published in the High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019) which was commissioned by the Western Riverside Council of Governments (WRCOG) in support of the Transportation Uniform Mitigation Fee (TUMF) update in the County of Riverside. The WSP trip generation rates were published in January 2019 and are based on data collected at 11 local high-cube fulfillment center sites located throughout Southern California (specifically Riverside County and San Bernardino County). However, the WSP study does not include a split for inbound and outbound vehicles, as such, the inbound and outbound splits per the ITE Trip Generation Manual (11th Edition, 2021) for Land Use Code 154 have been utilized.
- High-Cube Cold Storage Warehouse (ITE land use code 157) has been used to derive site specific trip generation estimates for the Project Alternative. High-cube warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's Trip Generation Manual. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.

The PCE factors are consistent with the recommended PCE factors in the County's Guidelines. Trip generation rates are summarized on Table 4-1 for actual vehicles and PCE.

TABLE 4-1: TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicle Trip Generation Rates:									
High-Cube Fulfillment Center Warehouse	TSF	--[3]	0.089	0.033	0.122	0.050	0.115	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks			0.004	0.004	0.008	0.005	0.006	0.011	0.162
5+-Axle Trucks			0.005	0.006	0.011	0.005	0.005	0.010	0.217
High-Cube Cold Storage Warehouse[4]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks			0.005	0.011	0.016	0.008	0.008	0.016	0.407
Passenger Car Equivalent (PCE) Trip Generation Rates:[5]									
High-Cube Fulfillment Center Warehouse	TSF	--[3]	0.089	0.033	0.122	0.050	0.115	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (PCE = 2.0)			0.008	0.008	0.016	0.010	0.012	0.022	0.324
5+-Axle Trucks (PCE = 3.0)			0.016	0.017	0.033	0.014	0.016	0.030	0.651
High-Cube Cold Storage Warehouse[4]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks (PCE = 1.5)			0.005	0.011	0.016	0.008	0.008	0.016	0.390
3-Axle Trucks (PCE = 2.0)			0.002	0.005	0.007	0.004	0.003	0.007	0.165
4+-Axle Trucks (PCE = 3.0)			0.015	0.034	0.049	0.024	0.025	0.049	1.222

[1] Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = thousand square feet

[3] Trip Generation and Vehicle Mix Source: High Cube Warehouse Trip Generation Study, WSP, January 29, 2019.
Inbound and outbound split source: ITE Trip Generation Manual, Eleventh Edition (2021) for ITE Land Use Code 154.

[4] Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.
Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

[5] PCE factors per County TIA Guidelines: 2-axle = 1.5; 3-axle = 2.0; 4+-axle = 3.0.

Per the County's Guidelines, any operations analysis is to utilize the PCE trip generation. The trip generation summary illustrating daily and peak hour trip generation estimates for the Project in actual vehicles and PCE are shown on Table 4-2. The proposed Project is anticipated to generate 926 two-way trip-ends per day with 52 AM peak hour trips and 72 PM peak hour trips (see Table 2). PCE based trip generation for the Project is also summarized on Table 4-2.

TABLE 4-2: PROJECT TRIP GENERATION SUMMARY

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Trip Generation Summary (Actual Vehicles):									
High-Cube Fulfillment (WSP)	434.823	TSF							
Passenger Cars:			34	10	44	18	45	63	762
2-4 axle Trucks:			2	2	4	2	3	5	70
5+-axle Trucks:			2	2	4	2	2	4	94
Total Trucks:			4	4	8	4	5	9	164
Total Trips (Actual Vehicles)[2]			**38**	**14**	**52**	**22**	**50**	**72**	**926**
Trip Generation Summary (PCE):									
High-Cube Fulfillment (WSP)	434.823	TSF							
Passenger Cars:			34	10	44	18	45	63	762
2-4 axle Trucks:			3	4	7	4	5	9	142
5+-axle Trucks:			7	7	14	6	7	13	284
Total Trucks:			10	11	21	10	12	22	426
Total Trips (PCE)[2]			**44**	**21**	**65**	**28**	**57**	**85**	**1,188**

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

As an alternative the Project trip generation has also been calculated assuming 70% of the overall square footage assuming high-cube fulfillment center warehousing use and the remaining 30% of the overall square footage accounting for a component of high-cube cold storage warehouse use. The trip generation summary illustrating daily and peak hour trip generation estimates for the Project in actual vehicles and PCE are shown on Table 4-3 assuming the mix of high-cube fulfillment center and high-cube cold storage use. The proposed Project is anticipated to generate 930 two-way trip-ends per day with 51 AM peak hour trips and 66 PM peak hour trips (see Table 4-3). PCE based trip generation for the Project is also summarized on Table 4-3.

In order to evaluate the most conservative peak hour trip generation, the TA is based on the 100% high-cube fulfillment use, however, other technical areas may consider the use of the trip generation data presented in Table 4-3 due to the conservative nature of the average daily traffic and proposed vehicle/truck types applicable to that mix of uses.

TABLE 4-3: PROJECT TRIP GENERATION SUMMARY (ALTERNATIVE)

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Trip Generation Summary (Actual Vehicles):									
High-Cube Cold Storage (30%)	130.447	TSF							
Passenger Cars:			10	1	11	2	9	11	180
2-axle Trucks:			0	1	1	1	1	2	34
3-axle Trucks:			0	0	0	0	0	0	12
4+-axle Trucks:			1	1	2	1	1	2	54
Total Trucks:			1	2	3	2	2	4	100
High-Cube Cold Storage Total Trips (Actual Vehicles)[2]			11	3	14	4	11	15	280
High-Cube Fulfillment (70%)	304.376	TSF							
Passenger Cars:			24	7	31	12	32	44	534
2-4 axle Trucks:			1	1	2	2	2	4	50
5+-axle Trucks:			2	2	4	1	2	3	66
Total Trucks:			3	3	6	3	4	7	116
High-Cube Fulfillment Total Trips (Actual Vehicles)[2]			27	10	37	15	36	51	650
Total Passenger Cars			**34**	**8**	**42**	**14**	**41**	**55**	**714**
Total Trucks			**4**	**5**	**9**	**5**	**6**	**11**	**216**
Total Trips (Actual Vehicles)[2]			**38**	**13**	**51**	**19**	**47**	**66**	**930**
Trip Generation Summary (PCE):									
High-Cube Cold Storage (30%)	130.447	TSF							
Passenger Cars:			10	1	11	2	9	11	180
2-axle Trucks:			1	1	2	1	1	2	52
3-axle Trucks:			0	1	1	1	0	1	22
4+-axle Trucks:			2	4	6	3	3	6	160
Total Trucks:			3	6	9	5	4	9	234
High-Cube Cold Storage Total Trips (PCE)[2]			13	7	20	7	13	20	414
High-Cube Fulfillment (70%)	304.376	TSF							
Passenger Cars:			24	7	31	12	32	44	534
2-4 axle Trucks:			2	2	4	3	4	7	100
5+-axle Trucks:			5	5	10	4	5	9	198
Total Trucks:			7	7	14	7	9	16	298
High-Cube Fulfillment Total Trips (PCE)[2]			31	14	45	19	41	60	832
Total Passenger Cars			**34**	**8**	**42**	**14**	**41**	**55**	**714**
Total Trucks			**10**	**13**	**23**	**12**	**13**	**25**	**532**
Total Trips (PCE)[2]			**44**	**21**	**65**	**26**	**54**	**80**	**1,246**

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. In addition, truck routes for neighboring agencies have been taken into consideration in the development of the trip distribution patterns for heavy trucks. Exhibits 4-1 and 4-2 show the Project truck and passenger car trip distribution patterns, respectively.

4.3 MODAL SPLIT

The potential for Project trips (non-truck) to be reduced by the use of public transit, walking or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes.

4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, the Project only ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-3.

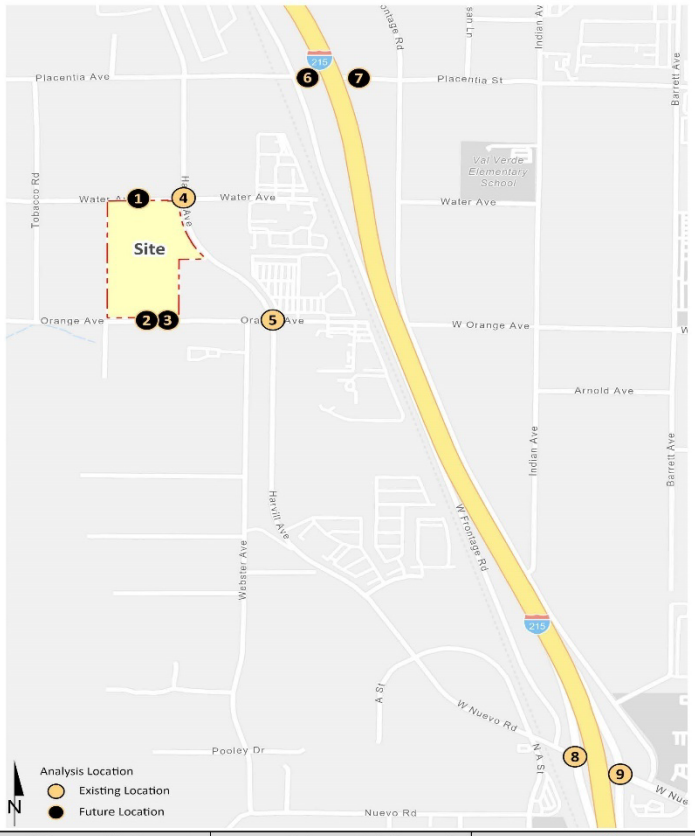
4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year, compounded annually, for 2024 conditions. The total ambient growth is 4.04% for 2024 traffic conditions (compounded growth of 2 percent per year over 2 years or $1.02^{2\ years}$). The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

EXHIBIT 4-1: PROJECT (TRUCK) TRIP DISTRIBUTION

EXHIBIT 4-2: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION

EXHIBIT 4-3: PROJECT ONLY TRAFFIC VOLUMES



1 Driveway 1 & Water St.	2 Driveway 2 & Orange Av.	3 Driveway 3 & Orange Av.	4 Harvill Av. & Water St.	5 Harvill Av. & Orange Av.
450	250	250	700	300
← 19(11)	3(13) ↳	4(12) ↳	17(10) ↳	11(7) ↳
↱ 7(25)	← 10(5)	← 10(5)	11(7) ↓	1(2) ↓
		3(13) →	7(23) →	5(14) →
			1(2) ↳	2(11) ↳
			↰ 2(1) ↑ 5(14)	↰ 8(4) ↑ 2(1)
450 450	250	250 450	450 300	450 250

6 I-215 SB Ramps & Placentia Av.	7 I-215 NB Ramps & Placentia Av.	8 I-215 SB Ramps & Nuevo Rd.	9 I-215 NB Ramps & Nuevo Rd.
200 250	200	150	100
15(9) ↳	6(19) →	← 10(5)	← 3(2)
← 7(4)	↰ 7(4)	1(5) →	↰
6(19) →		2(9) ↴	1(5) → 7(4)
3(9) ↴			
550 100	250 100	250 100	150 100

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

The currently adopted Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (May 2020) growth forecasts for the County of Riverside identifies projected growth in population of 370,500 in 2016 to 525,600 in 2045, or a 41.9 percent increase over the 29-year period. (7) The change in population equates to roughly a 1.21 percent growth rate, compounded annually. Similarly, growth over the same 29-year period in households is projected to increase by 59.2 percent, or 1.62 percent annual growth rate. Finally, growth in employment over the same 29-year period is projected to increase by 83.4 percent, or a 2.11 percent annual growth rate. This results in an average of 1.65 percent annual growth rate. As such, the 2.0 percent per year ambient growth rate utilized in this TA would appear to conservatively estimate annual traffic growth and overstate as opposed to understate future traffic forecasts.

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

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

Where applicable, cumulative projects anticipated to contribute measurable traffic (i.e., 50 or more peak hour trips) to study area intersections have been manually added to the study area network to generate EAPC forecasts. In other words, this list of cumulative development projects has been reviewed to determine which projects would likely contribute measurable traffic through the study area intersections (e.g., those cumulative projects in close proximity to the proposed Project). For the purposes of this analysis, the cumulative projects that were determined to affect one or more of the study area intersections are shown on Exhibit 4-4, listed in Table 4-4, and have been considered for inclusion. Any additional traffic generated by other projects not on the cumulative projects list is likely accounted for through background ambient growth factors that have been applied to the peak hour volumes at study area intersections as discussed in Section 4.5 *Background Traffic*. Cumulative development projects shown in Exhibit 4-4 and listed in Table 4-4. Cumulative Only ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-5.

EXHIBIT 4-4: CUMULATIVE DEVELOPMENT LOCATION MAP

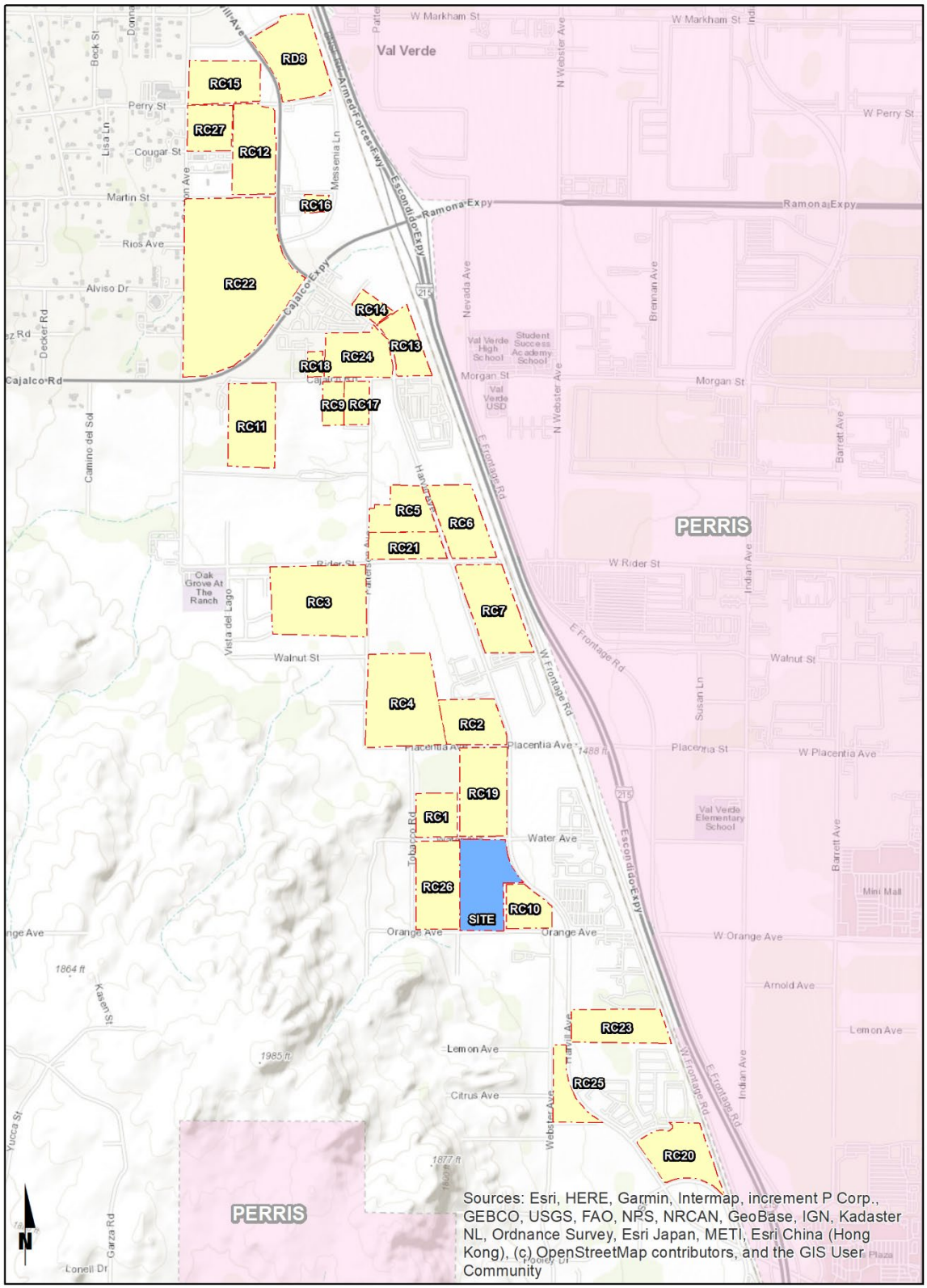
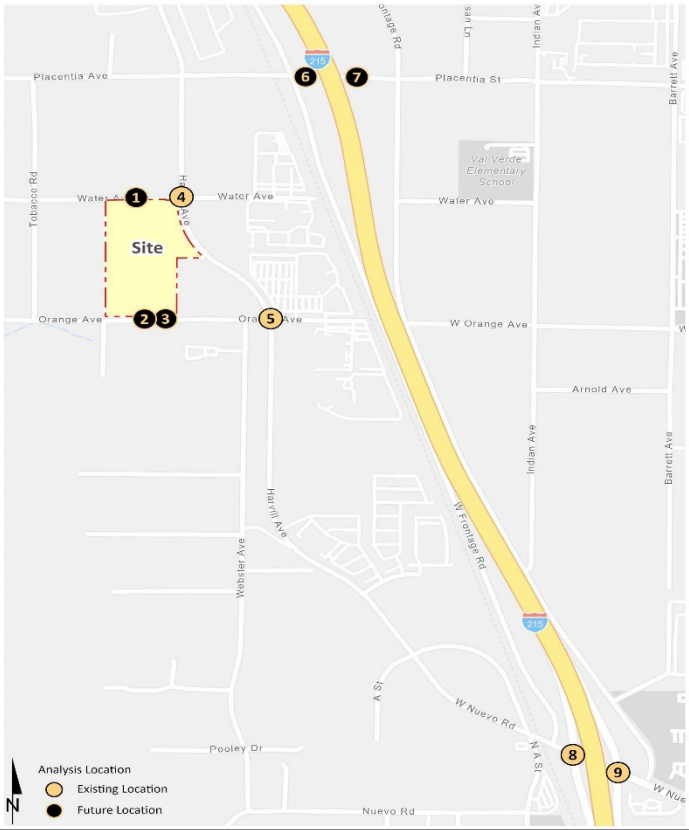


EXHIBIT 4-5: CUMULATIVE ONLY TRAFFIC VOLUMES



1 Driveway 1 & Water St.

Nominal

← 7(2)

2(7) →

Nominal

2 Driveway 2 & Orange Av.

800

← 12(39)

36(23) →

800

3 Driveway 3 & Orange Av.

800

← 12(39)

36(23) →

800

4 Harvill Av. & Water St.

6,450

← 234(260)

2(7) ↴ 7(2) ↰ 215(263) →

4,900 *1,650*

5 Harvill Av. & Orange Av.

6,500

8(27) ↲ ↓ 227(239)

25(16) ↳

11(7) ↴ 4(12) ↰ 197(249) →

5,650 *1,350*

6 I-215 SB Ramps & Placentia Av.

4,000 *8,200*

148(77) ↲ 157(196) ↳

← 137(83)

↰ 69(247)

94(200) →

67(152) ↴

5,950 *3,900*

7 I-215 NB Ramps & Placentia Av.

4,250 *10,400*

↰ 131(226)

← 79(255)

88(189) ↴

164(207) →

↰ 127(76) ↱ 201(133)

8,200 *3,800*

8 I-215 SB Ramps & Nuevo Rd.

200 *5,950*

77(12) ↲ 92(0) ↳

← 362(321)

↰ 74(214)

126(363) →

40(61) ↴

5,000 *2,050*

9 I-215 NB Ramps & Nuevo Rd.

200 *6,850*

← 376(504)

9(25) ↴

209(339) →

↰ 59(30) ↱ 179(98)

5,950 *2,050*

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

Average Daily Trips

TABLE 4-4: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

No.	Project Name	Address/Location	Land Use[1]	Quantity	Units[2]
RC1	Thrifty Oil Warehouse	NEC of Tobacco Rd. & Water Av.	Warehousing	194.479	TSF
RC2	Placentia Truck Drop Lot	NWC of Harvill Av. & Placentia Av.	Truck Trailer Storage	8.06	AC
RC3	Rider & Patterson Business Center	SWC of Patterson Av. & Rider St.	High-Cube Fulfillment Center Warehouse	591.203	TSF
			Single Family Detached Residential	2	DU
RC4	Barker Logistics	NWC of Patterson Av. & Placentia Av.	High-Cube Fulfillment Center Warehouse	699.630	TSF
RC5	Dedeaux Harvill Truck Terminal	North of Rider St., west of Harvill Av.	Truck Terminal	55.700	TSF
RC6	Harvill & Rider Warehouse	NEC of Harvill Av. & Rider St.	General Light Industrial	50.249	TSF
			High-Cube Transload Short-Term Warehouse	284.746	TSF
RC7	WPC Perris	SEC of Harvill Av. & Rider St.	High-Cube Fulfillment Center Warehouse	384.448	TSF
			High-Cube Cold Storage Warehouse	96.112	TSF
RC8	Majestic Freeway Busines Center (Building 11)	NEC of Harvill Av. & Perry St.	High-Cube Fulfillment Center Warehouse	391.045	TSF
RC9	PPT190029	South of Morgan St., west of Patterson Av.	Warehousing	36.000	TSF
RC10	PPT210021	NWC of Harvill Av. & Orange Av.	Trailer Maintenance Facility/Storage	16.200	TSF
RC11	PPT210133	SEC of Seaton Av. & Cajalco Exwy.	Warehousing	365.046	TSF
RC12	Majestic Freeway Busines Center (Building 13)	SWC of Harvill Av. & Perry St.	High-Cube Fulfillment Center Warehouse	322.997	TSF
RC13	Harvill Logistics	NEC of Harvill Av. & Cajalco Rd.	Warehousing	99.770	TSF
			Truck Trailer Storage	133	Spaces
RC14	CUP03599	North of Cajalco Rd., east of Harvill Av.	Hotel	103	RM
RC15	Majestic Freeway Busines Center (Buildings 14A,14B)	SWC of Harvill Av. & Commerce Center Dr.	Warehousing	354.583	TSF
RC16	PP16763	NEC of Harvill Av. & Messenia Ln.	Warehousing	19.500	TSF
RC17	PP16823	South of Morgan St., west of Harvill Av.	Manufacturing	22.000	TSF
RC18	PP16932	North of Morgan St., east of Cajalco Exwy.	Manufacturing	12.000	TSF
RC19	PP21207	SWC of Harvill Av. & Placentia Av.	Warehousing	311.412	TSF
RC20	PP23170	NEC of Harvill Av. & A St.	Warehousing	286.829	TSF
RC21	PP23342	NWC of Harvill Av. & Rider St.	Warehousing	180.551	TSF
RC22	Majestic Freeway Busines Center (Buildings 1,3,4)	NWC of Harvill Av. & Cajalco Exwy.	High-Cube Fulfillment Center Warehouse	1,195.740	TSF
RC23	PPT190005	NEC of Harvill Av. & Lemon St.	Warehousing	333.553	TSF
RC24	PPT190006	NWC of Harvill Av. & Cajalco Rd.	Warehousing	289.556	TSF
RC25	PPT190028	NWC of Harvill Av. & Citrus Av.	Warehousing	197.856	TSF
RC26	TR27997	NEC of Patterson Av. & Orange Av.	Multifamily Housing	120	DU
RC27	Seaton Commerce Center	SEC of Seaton Av. & Perry St.	High-Cube Fulfillment Center Warehouse	210.800	TSF

[1] TSF = Thousand Square Feet; DU = Dwelling Units; RM = Rooms; TPY = Tons per Year

4.7 NEAR-TERM TRAFFIC CONDITIONS

The "buildup" approach combines existing traffic counts with a background ambient growth factor to forecast EAP (2024) and EAPC (2024) traffic conditions. An ambient growth factor accounts for background (area-wide) traffic increases that occur over time up to the year 2024 from the year 2022. Traffic volumes generated by the Project are then added to assess the near-term traffic conditions. The 2024 roadway network is similar to the Existing conditions roadway network, with the exception of future driveways proposed to be developed by the Project. The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- Existing Plus Ambient Growth Plus Project (2024)
    - Existing 2022 counts
    - Ambient growth traffic (4.04%)
    - Project traffic
- Existing Plus Ambient Growth Plus Project Plus Cumulative (2024)
    - Existing 2022 counts
    - Ambient growth traffic (4.04%)
    - Cumulative Development traffic
    - Project traffic

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5 EAP (2024) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAP (2024) conditions and the resulting intersection operations, traffic signal warrant, and queuing analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAP (2024) 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).
- The I-215 Freeway at Placentia Avenue interchange which is anticipated to be completed and open in Summer of 2022 has been assumed to be completed with improvements in place for EAP (2024) traffic conditions.

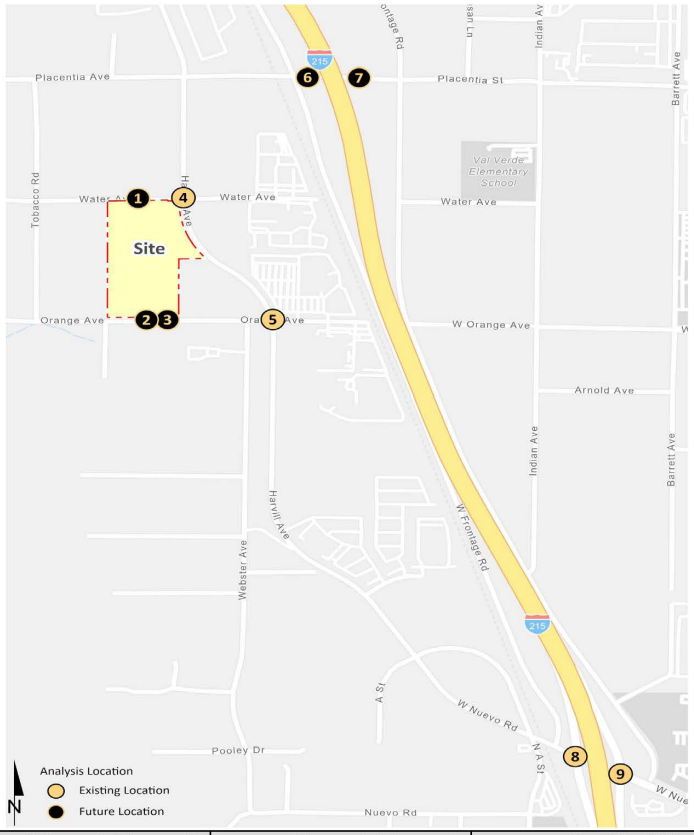
5.2 EAP (2024) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2022) traffic volumes plus an ambient growth factor of 4.04% and the addition of Project traffic. The weekday ADT volumes and peak hour volumes which can be expected for EAP (2024) traffic conditions are shown on Exhibit 5-1.

5.3 INTERSECTION OPERATIONS ANALYSIS

EAP (2024) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized on Table 5-1 for EAP traffic conditions, which indicate that all of the study area intersections are anticipated to continue to operate at an acceptable LOS under EAP traffic conditions. The intersection operations analysis worksheets for EAP traffic conditions are included in Appendix 5.1 of this TA.

EXHIBIT 5-1: EAP (2024) TRAFFIC VOLUMES



1 Driveway 1 & Water St.

		550
	← 6(3)	
	↰ 19(11)	
		↱
4(1) →		7(25)
		450

Nominal

2 Driveway 2 & Orange Av.

250		950
	3(13)	↱ 10(5)
	↳	← 14(27)
34(20) →		
750		

3 Driveway 3 & Orange Av.

250		1,200
	4(12)	↱ 9(6)
	↳	← 24(32)
37(33) →		
950		

4 Harvill Av. & Water St.

13,450			500
	20(10)	234(480)	9(3)	↱ 4(18)
	↲	↓	↳	↰ 6(10)
10(24) →				
2(2) ↲				
	↰	↑	↱	
	5(4)	623(332)	9(2)	
600				13,000

5 Harvill Av. & Orange Av.

13,000			1,600
	22(31)	209(450)	10(11)	↱ 5(19)
	↲	↓	↳	← 0(1)
36(28) →				↰ 2(43)
0(1) →				
5(16) ↲				
	↰	↑	↱	
	10(6)	596(292)	21(28)	
1,200				8,700

6 I-215 SB Ramps & Placentia Av.

6,050			29,150
	72(64)	0(1)	215(319)	← 402(516)
	↲	↓	↳	↰ 128(231)
440(631) →				
108(142) ↲				
	↰	↑	↱	
				5,800
26,300				

7 I-215 NB Ramps & Placentia Av.

5,050			31,350
			↱ 266(250)
			← 378(601)
62(80) →			
592(870) →			
	↰	↑	↱
	152(147)	238(212)	
29,150			5,650

8 I-215 SB Ramps & Nuevo Rd.

6,650			25,200
	58(59)	3(2)	161(364)	← 437(402)
	↲	↓	↳	↰ 165(424)
367(451) →				
76(155) ↲				
	↰	↑	↱	
				9,050
16,100				

9 I-215 NB Ramps & Nuevo Rd.

5,300			33,450
			↱ 331(296)
			← 510(760)
35(41) →			
492(773) →			
	↰	↑	↱
	92(66)	2(0)	284(304)
25,750			5,850

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

TABLE 5-1: INTERSECTION ANALYSIS FOR EAP (2024) CONDITIONS

#	Intersection	Traffic Control[2]	Existing (2022) Delay[1] (secs.) AM	PM	Level of Service AM	PM	EAP (2024) Delay[1] (secs.) AM	PM	Level of Service AM	PM
1	Driveway 1 & Water St.	CSS	Future Intersection				8.4	8.4	A	A
2	Driveway 2 & Orange Av.	CSS	Future Intersection				9.1	9.1	A	A
3	Driveway 3 & Orange Av.	CSS	Future Intersection				8.9	8.9	A	A
4	Harvill Av. & Water Av.	CSS	15.0	17.8	C	C	21.0	16.0	C	C
5	Harvill Av. & Orange Av.	CSS	12.8	13.6	B	B	16.1	14.3	C	B
6	I-215 SB Ramps & Placentia Av.	TS	Future Intersection				11.7	14.1	B	B
7	I-215 NB Ramps & Placentia Av.	TS	Future Intersection				15.7	13.3	B	B
8	I-215 SB Ramps & Nuevo Rd.	TS	10.2	16.6	B	B	9.4	13.0	A	B
9	I-215 NB Ramps & Nuevo Rd.	TS	13.1	10.9	B	B	10.3	9.4	B	A

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. HCM delay

2 TS = Traffic Signal; CSS = Cross-street Stop

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAP (2024) traffic conditions are based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. No study area intersections are anticipated to meet either peak hour volume or ADT volume-based warrants with the addition of Project traffic (see Appendix 5.2).

5.5 QUEUING ANALYSIS

Queuing analysis findings for EAP (2024) are presented on Table 5-2. As shown on Table 5-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project traffic. Worksheets for EAP (2024) traffic conditions queuing analysis are provided in Appendix 5.3.

TABLE 5-2: PEAK HOUR QUEUING SUMMARY FOR EAP (2024) CONDITIONS

			Existing (2022)				EAP (2024)			
		Available Stacking	95th Percentile Queue (Feet)		Acceptable? [1]		95th Percentile Queue (Feet)		Acceptable? [1]	
Intersection	Movement	Distance (Feet)	AM Peak	PM Peak	AM	PM	AM Peak	PM Peak	AM	PM
I-215 SB Ramps & Placentia Av. (#6)	SBL	1,530	Future Intersection				96	122	Yes	Yes
	SBT	1,530					96	122	Yes	Yes
	SBR	350					21	15	Yes	Yes
I-215 NB Ramps & Placentia Av. (#7)	NBL	575	Future Intersection				71	66	Yes	Yes
	NBT	1,600					72	67	Yes	Yes
	NBR	1,600					88	96	Yes	Yes
I-215 SB Ramps & Nuevo Rd. (#8)	SBL	1,030	88	176	Yes	Yes	69	138	Yes	Yes
	SBT	645	87	182 [2]	Yes	Yes	69	141	Yes	Yes
	SBR	390	21	20	Yes	Yes	11	11	Yes	Yes
I-215 NB Ramps & Nuevo Rd. (#9)	NBL/T	1,430	91	67	Yes	Yes	78	59	Yes	Yes
	NBR	405	44	90	Yes	Yes	22	42	Yes	Yes

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

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

5.5 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

The study area intersections are anticipated to operate at an acceptable LOS with the addition of Project traffic. As such, no additional improvements aside from those that are needed to facilitate site access have been recommended. As shown previously in Table 5-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAP (2024) traffic conditions. As such, no improvements have been identified for the off-ramps.

6 EAPC (2024) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAPC (2024) conditions and the resulting intersection operations, traffic signal warrant, and queuing analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAPC (2024) 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 (2024) conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for EAPC (2024) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages).
- The I-215 Freeway at Placentia Avenue interchange which is anticipated to be completed and open in Summer of 2022 has been assumed to be completed with improvements in place for EAPC (2024) traffic conditions.

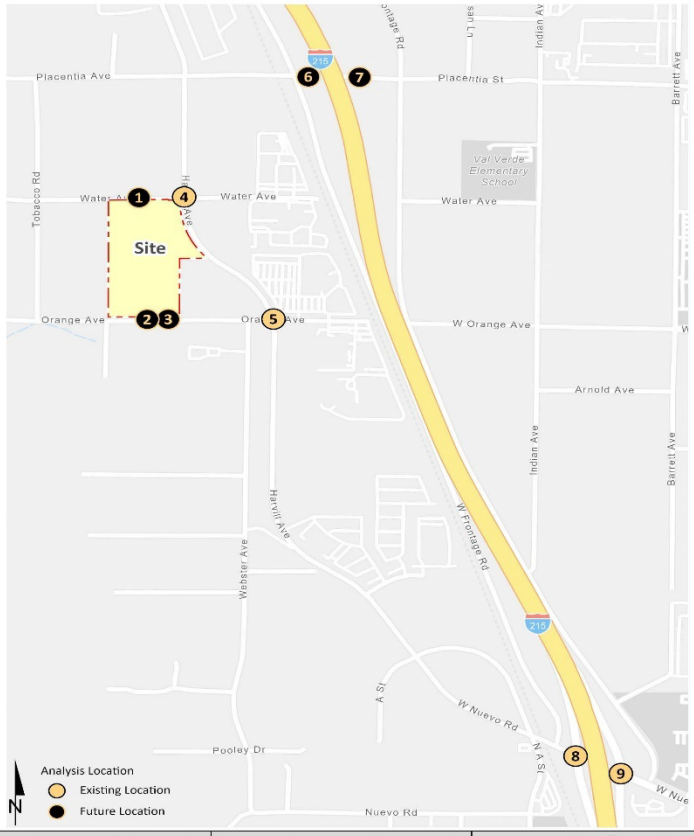
6.2 EAPC (2024) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2022) traffic volumes plus an ambient growth factor of 4.04%, traffic from pending and approved cumulative development projects, and the addition of Project traffic. The weekday ADT volumes and peak hour volumes which can be expected for EAPC (2024) traffic conditions are shown on Exhibit 6-1.

6.3 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under EAPC (2024) conditions with roadway and intersection geometrics consistent with Section 6.1 *Roadway Improvements*. As shown on Table 6-1, the study area intersections are anticipated to operate at an acceptable LOS under EAPC (2024) traffic conditions. The intersection operations analysis worksheets for EAPC (2024) traffic conditions are included in Appendix 6.1 of this TA.

EXHIBIT 6-1: EAPC (2024) TRAFFIC VOLUMES



1 Driveway 1 & Water St. — 150 / 450 / 600

		← 13(5)
		↰ 19(11)
6(8) →		↱ 7(25)

2 Driveway 2 & Orange Av. — 1,550 / 250 / 1,750

	↱ 3(13)	↱ 10(5)
	↳	← 26(66)
70(43) →		

3 Driveway 3 & Orange Av. — 1,750 / 250 / 2,000

	↳ 4(12)	↱ 9(6)
		← 36(71)
73(56) →		

4 Harvill Av. & Water St. — 5,500 / 19,900 / 500 / 14,650

	↲ 20(10)		↱ 4(18)
	← 468(740)		↰ 6(10)
10(24) →	↳ 9(3)	↰ 12(6)	↑ 838(595)
4(9) ↲		↱ 9(2)	

5 Harvill Av. & Orange Av. — 6,800 / 19,450 / 1,600 / 10,050

	↲ 30(58)		↱ 5(19)
	← 436(689)		← 0(1)
61(44) →	↳ 10(11)	↰ 14(18)	↑ 793(541)
0(1) →		↱ 21(28)	
16(23) ↲			

6 I-215 SB Ramps & Placentia Av. — 32,250 / 6,250 / 36,000 / 7,850

	↲ 220(141)		
	← 0(1)		← 539(599)
534(831) →	↳ 372(515)		↰ 197(478)
175(294) ↲			

7 I-215 NB Ramps & Placentia Av. — 37,350 / 9,300 / 41,750 / 9,450

			↱ 397(476)
			← 457(856)
150(269) →		↰ 279(223)	↱ 439(345)
756(1077) →			

8 I-215 SB Ramps & Nuevo Rd. — 21,100 / 6,850 / 31,100 / 11,100

	↲ 135(71)		
	← 3(2)		← 1045(829)
618(1102) →	↳ 253(364)		↰ 239(638)
116(216) ↲			

9 I-215 NB Ramps & Nuevo Rd. — 31,650 / 5,500 / 40,300 / 7,900

			↱ 331(296)
			← 1096(1363)
52(82) →		↰ 188(104)	↑ 2(0)
819(1383) →			↱ 463(402)

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

TABLE 6-1: INTERSECTION ANALYSIS FOR EAPC (2024) CONDITIONS

#	Intersection	Traffic Control[2]	EAPC (2024) Delay[1] (secs.) AM	PM	Level of Service AM	PM
1	Driveway 1 & Water St.	CSS	8.4	8.4	A	A
2	Driveway 2 & Orange Av.	CSS	9.3	9.4	A	A
3	Driveway 3 & Orange Av.	CSS	9.2	9.3	A	A
4	Harvill Av. & Water Av.	CSS	22.3	23.8	C	C
5	Harvill Av. & Orange Av.	CSS	21.1	22.6	C	C
6	I-215 SB Ramps & Placentia Av.	TS	13.8	26.3	B	C
7	I-215 NB Ramps & Placentia Av.	TS	16.3	16.0	B	B
8	I-215 SB Ramps & Nuevo Rd.	TS	11.0	41.9	B	D
9	I-215 NB Ramps & Nuevo Rd.	TS	14.4	12.1	B	B

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. HCM delay reported in seconds.

2 TS = Traffic Signal; CSS = Cross-street Stop

6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAPC (2024) traffic conditions are based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. No study area intersections are anticipated to meet either peak hour volume or ADT volume-based warrants for EAPC (2024) traffic conditions (see Appendix 6.2).

6.5 QUEUING ANALYSIS

Queuing analysis findings for EAPC (2024) are presented on Table 6-2. As shown on Table 6-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project traffic. Worksheets for EAPC (2024) traffic conditions queuing analysis are provided in Appendix 6.3.

TABLE 6-2: PEAK HOUR QUEUING SUMMARY FOR EAPC (2024) CONDITIONS

Intersection	Movement	Available Stacking Distance	95th Percentile Queue (Feet)		Acceptable? [1]	
			AM Peak	PM Peak	AM	PM
I-215 SB Ramps & Placentia Av. (#6)	SBL	1,530	150 [2]	258 [2]	Yes	Yes
	SBT	1,530	150 [2]	260 [2]	Yes	Yes
	SBR	350	62	46	Yes	Yes
I-215 NB Ramps & Placentia Av. (#7)	NBL	575	107	90	Yes	Yes
	NBT	1,600	107	90	Yes	Yes
	NBR	1,600	419 [2]	267 [2]	Yes	Yes
I-215 SB Ramps & Nuevo Rd. (#8)	SBL	1,030	104	140	Yes	Yes
	SBT	645	102	142	Yes	Yes
	SBR	390	58	20	Yes	Yes
I-215 NB Ramps & Nuevo Rd. (#9)	NBL/T	1,430	139	82	Yes	Yes
	NBR	405	117	109	Yes	Yes

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

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

6.6 NEAR-TERM DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

The study area intersections are anticipated to operate at an acceptable LOS under EAPC (2024) traffic conditions. As such, no additional improvements aside from those that are needed to facilitate site access have been recommended. As shown previously in Table 6-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAPC (2024) traffic conditions. As such, no improvements have been identified for the off-ramps.

7 LOCAL AND REGIONAL FUNDING MECHANISMS

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

7.1 RIVERSIDE COUNTY TRANSPORTATION UNIFORM MITIGATION FEE (TUMF)

The TUMF program is administered by the WRCOG based upon a regional Nexus Study most recently updated in 2016 to address major changes in right of way acquisition and improvement cost factors. (8) 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.

7.2 RIVERSIDE COUNTY 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 DIF in an effort by the County to address development throughout its unincorporated area. The DIF program consists of two separate transportation components: the Roads, Bridges and Major Improvements component and the Traffic Signals component. Eligible facilities for funding by the County DIF program are identified on the County's Public Needs List, which currently extends through the year 2020. (9) A comprehensive review of the DIF program is now planned in order to update the nexus study. This will result in development of a revised "needs list" extending the program time horizon from 2010 to 2030.

The cost of 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.

7.3 MEASURE A

Measure A, Riverside County's half-cent sales tax for transportation, was adopted by voters in 1988 and extended in 2002. It will continue to fund transportation improvements through 2038. Measure A funds a wide variety of transportation projects and services throughout the County. Riverside County Transportation Commission (RCTC) is responsible for administering the program. Measure A dollars are spent in accordance with a voter-approved expenditure plan that was adopted as part of the 1988 election.

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8 REFERENCES

1. **County of Riverside Transportation Department.** *Transportation Analysis Guidelines for Level of Service and Vehicle Miles Traveled.* County of Riverside : s.n., December 2020.
2. **WSP.** *TUMF High-Cube Warehouse Trip Generation Study.* County of Riverside : s.n., January 29, 2019.
3. **VRPA Technologies, Inc. for Riverside County Transportation Commission.** *Riverside County Long Range Transportation Study.* County of Riverside : VRPA Technologies, Inc., December 2019.
4. **Transportation Research Board.** *Highway Capacity Manual (HCM).* 6th Edition. s.l. : National Academy of Sciences, 2016.
5. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CA MUTCD).* 2014, Updated March 30, 2021 (Revision 6).
6. **Institute of Transportation Engineers.** *Trip Generation Manual.* 11th Edition. 2021.
7. **Southern California Association of Governments (SCAG).** *2020 Regional Transportation Plan / Sustainable Communities Strategy.* Adopted September 2020.
8. **Western Riverside Council of Governments.** *TUMF Nexus Study, 2016 Program Update.* July 2017.
9. **Willdan Financial Services.** *County of Riverside Development Impact Fee Study Update.* County of Riverside : s.n., 2013.

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APPENDIX 1.1: APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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EXHIBIT B

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

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

Case No. PPT220002
Related Cases-
SP No.
EIR No.
GPA No.
CZ No.
Project Name: Harvill and Water Warehouse
Project Address: Southwest corner of Harvill Avenue and Water Street
Project Description: 434,823 square foot warehouse

	Consultant	Developer
Name:	Urban Crossroads Inc. - Charlene So	BCIF Harvill Business Center LP - Peter Schafer
Address:	1133 Camelback St. #8329	4675 MacArthur Ct. Suite 625
	Newport Beach, CA 92658	Newport Beach, CA 92660
Telephone:	(949) 861-0177	(949) 892-4900
Email:	cso@urbanxroads.com	pschafer@aresmgmt.com

A. Trip Generation Source: WSP, January 2019

Current GP Land Use	BP		Proposed Land Use	BP		
Current Zoning	M-SC		Proposed Zoning	M-SC		

	Current Trip Generation			Proposed Trip Generation			
	In	Out	Total	In	Out	Total	
AM Trips				**38**	**14**	**52**	(Actual)
PM Trips				**22**	**50**	**72**	(Actual)

Internal Trip Allowance ☐ Yes ■ No (0 % Trip Discount)
Pass-By Trip Allowance ☐ Yes ■ No (0 % Trip Discount)

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

B. Trip Geographic Distribution:

N **varies** % S **varies** % E **varies** % W **varies** %

C. Background Traffic

Project Build-out Year: 2024 Annual Ambient Growth Rate: 2 %
Phase Year(s) N/A

Other area Projects to be analyzed: To be provided by the County
Model/Forecast Methodology:

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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 & Water St.
2. Driveway 2 & Orange Av.
3. Driveway 3 & Orange Av.
4. Harvill Av. & Water St.
5. Harvill Av. & Orange Av.
6. I-215 SB Ramps & Placentia Av.
7. I-215 NB Ramps & Placentia Av.
8. I-215 SB Ramps & Nuevo Rd.
9. I-215 NB Ramps & Nuevo Rd.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.

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

1. 2.

F. Other Jurisdictional Impacts

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

If so, name of City jurisdiction: Caltrans - I-215 Freeway

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.

VMT to be addressed in a separate document.

I. Existing Conditions
Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.
Date of counts: New counts to be conducted once scope has been approved.

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

Recommended by:

Charlene So 10/27/2021

Consultant's Representative Date

Approved Scoping Agreement:

Eva Covarrubias 4/21/2022

Riverside County Transportation Department Date

Scoping Agreement Revised on 4/11/2022

URBAN CROSSROADS

April 11, 2022

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

SUBJECT: HARVILL AND WATER WAREHOUSE TRAFFIC ANALYSIS SCOPING AGREEMENT

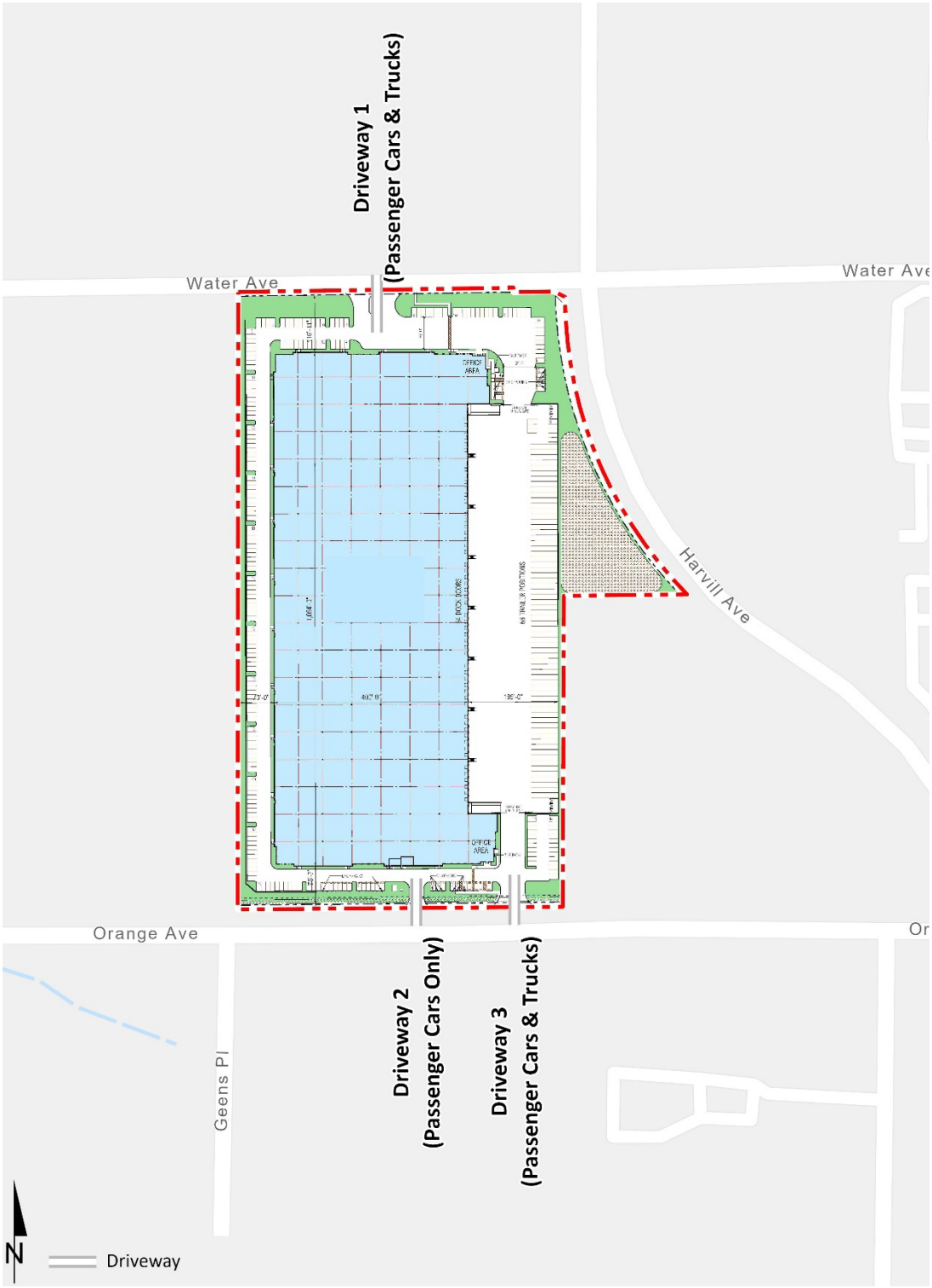
Dear Mr. Kevin Tsang:

The firm of Urban Crossroads, Inc. is pleased to submit this scoping letter regarding the traffic analysis for Harvill and Water Warehouse development (**Project**), which is located on the southwest corner of Harvill Avenue and Water Street in the County of Riverside. This letter describes the proposed Project trip generation, trip distribution, and analysis methodology, which have been used to establish the draft proposed Project study area and analysis locations.

PROJECT DESCRIPTION

The Project is anticipated to have an Opening Year of 2024. The Project consists of the development of 434,823 square feet of high-cube fulfillment center warehouse use. A preliminary land use plan for the proposed Project is shown on Exhibit 1. Access to the Project site will be accommodated via Water Street to the north and Orange Avenue to the south.

EXHIBIT 1: PRELIMINARY SITE PLAN



TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development and is based upon the specific land uses planned for a given project. In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the High Cube Warehouse Trip Generation Study (WSP, January 2019) was used to estimate the trip generation. The following trip generation rates and vehicle mixes were utilized for calculating the trip generation for the proposed Project:

- High-Cube Fulfillment Center Warehouse has been used to derive site specific trip generation estimates for the Project. The Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) has trip generation rates for high-cube fulfillment center use for both non-sort and sort facilities (ITE land use code 155). While there is sufficient data to support use of the trip generation rates for non-sort facilities, the sort facility rate appears to be unreliable because they are based on limited data (i.e., one to two surveyed sites). The proposed Project is speculative and whether a non-sort or sort facility end-user would occupy the buildings is not known at this time. Lastly, the ITE Trip Generation Handbook recommends the use of local data sources where available. As such, the best available source for high-cube fulfilment center use would be the trip-generation statistics published in the High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019) which was commissioned by the Western Riverside Council of Governments (WRCOG) in support of the Transportation Uniform Mitigation Fee (TUMF) update in the County of Riverside. The WSP trip generation rates were published in January 2019 and are based on data collected at 11 local high-cube fulfillment center sites located throughout Southern California (specifically Riverside County and San Bernardino County). However, the WSP study does not include a split for inbound and outbound vehicles, as such, the inbound and outbound splits per the ITE Trip Generation Manual (11th Edition, 2021) for Land Use Code 154 have been utilized.
- High-Cube Cold Storage Warehouse (ITE land use code 157) has been used to derive site specific trip generation estimates for the Project. High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's Trip Generation Manual. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.

Passenger car equivalent (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 the County's Guidelines. Trip generation rates are summarized on Table 1 for actual vehicles and PCE.

TABLE 1: TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicle Trip Generation Rates:									
High-Cube Fulfillment Center Warehouse	TSF	--[3]	0.089	0.033	0.122	0.050	0.115	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks			0.004	0.004	0.008	0.005	0.006	0.011	0.162
5+-Axle Trucks			0.005	0.006	0.011	0.005	0.005	0.010	0.217
High-Cube Cold Storage Warehouse[4]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks			0.005	0.011	0.016	0.008	0.008	0.016	0.407
Passenger Car Equivalent (PCE) Trip Generation Rates:[5]									
High-Cube Fulfillment Center Warehouse	TSF	--[3]	0.089	0.033	0.122	0.050	0.115	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (PCE = 2.0)			0.008	0.008	0.016	0.010	0.012	0.022	0.324
5+-Axle Trucks (PCE = 3.0)			0.016	0.017	0.033	0.014	0.016	0.030	0.651
High-Cube Cold Storage Warehouse[4]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.076	0.004	0.080	0.019	0.071	0.090	1.370
2-Axle Trucks (PCE = 1.5)			0.005	0.011	0.016	0.008	0.008	0.016	0.390
3-Axle Trucks (PCE = 2.0)			0.002	0.005	0.007	0.004	0.003	0.007	0.165
4+-Axle Trucks (PCE = 3.0)			0.015	0.034	0.049	0.024	0.025	0.049	1.222

[1] Trip Generation Source (unless noted otherwise): Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = thousand square feet

[3] Vehicle Mix Source: High Cube Warehouse Trip Generation Study, WSP, January 29, 2019.
Inbound and outbound split source: ITE Trip Generation Manual, Eleventh Edition (2021) for ITE Land Use Code 154.

[4] Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.
Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

[5] PCE factors per County TIA Guidelines: 2-axle = 1.5; 3-axle = 2.0; 4+-axle = 3.0.

Per the County's Guidelines, any operations analysis is to utilize the PCE trip generation. The trip generation summary illustrating daily and peak hour trip generation estimates for the Project in actual vehicles and PCE are shown on Table 2 if we were to assume 100% high-cube fulfillment center use. The proposed Project is anticipated to generate 926 two-way trip-ends per day with 52 AM peak hour trips and 72 PM peak hour trips (see Table 2). PCE based trip generation for the Project is also summarized on Table 2.

TABLE 2: TRIP GENERATION SUMMARY – HIGH-CUBE FULFILLMENT CENTER

Land Use	Quantity Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Trip Generation Summary (Actual Vehicles):								
High-Cube Fulfillment (WSP)	434.823 TSF							
Passenger Cars:		34	10	44	18	45	63	762
2-4 axle Trucks:		2	2	4	2	3	5	70
5+-axle Trucks:		2	2	4	2	2	4	94
Total Trucks:		4	4	8	4	5	9	164
Total Trips (Actual Vehicles)[2]		**38**	**14**	**52**	**22**	**50**	**72**	**926**
Trip Generation Summary (PCE):								
High-Cube Fulfillment (WSP)	434.823 TSF							
Passenger Cars:		34	10	44	18	45	63	762
2-4 axle Trucks:		3	4	7	4	5	9	142
5+-axle Trucks:		7	7	14	6	7	13	284
Total Trucks:		10	11	21	10	12	22	426
Total Trips (PCE)[2]		**44**	**21**	**65**	**28**	**57**	**85**	**1,188**

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

As an alternative the Project trip generation has also been calculated assuming 70% of the overall square footage assuming high-cube fulfillment center warehousing use and the remaining 30% of the overall square footage accounting for a component of high-cube cold storage use. The trip generation summary illustrating daily and peak hour trip generation estimates for the Project in actual vehicles and PCE are shown on Table 3 assuming the mix of high-cube fulfillment center and high-cube cold storage use. The proposed Project is anticipated to generate 930 two-way trip-ends per day with 51 AM peak hour trips and 66 PM peak hour trips (see Table 3). PCE based trip generation for the Project is also summarized on Table 3.

It is recommended that in order to evaluate the most conservative peak hour trip generation, the traffic study analysis should be based on the 100% high-cube fulfillment use, however, other technical areas may want to consider the use of the trip generation data presented in Table 3 due to the conservative nature of the average daily traffic and proposed vehicle/truck types applicable to that mix of uses.

TABLE 3: TRIP GENERATION SUMMARY – HIGH-CUBE FULFILLMENT CENTER & HIGH-CUBE COLD STORAGE

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Trip Generation Summary (Actual Vehicles):									
High-Cube Cold Storage (30%)	130.447	TSF							
Passenger Cars:			10	1	11	2	9	11	180
2-axle Trucks:			0	1	1	1	1	2	34
3-axle Trucks:			0	0	0	0	0	0	12
4+-axle Trucks:			1	1	2	1	1	2	54
Total Trucks:			1	2	3	2	2	4	100
High-Cube Cold Storage Total Trips (Actual Vehicles)[2]			**11**	**3**	**14**	**4**	**11**	**15**	**280**
High-Cube Fulfillment (70%)	304.376	TSF							
Passenger Cars:			24	7	31	12	32	44	534
2-4 axle Trucks:			1	1	2	2	2	4	50
5+-axle Trucks:			2	2	4	1	2	3	66
Total Trucks:			3	3	6	3	4	7	116
High-Cube Fulfillment Total Trips (Actual Vehicles)[2]			**27**	**10**	**37**	**15**	**36**	**51**	**650**
Total Trips (Actual Vehicles)[2]			**38**	**13**	**51**	**19**	**47**	**66**	**930**
Trip Generation Summary (PCE):									
High-Cube Cold Storage (30%)	130.447	TSF							
Passenger Cars:			10	1	11	2	9	11	180
2-axle Trucks:			1	1	2	1	1	2	52
3-axle Trucks:			0	1	1	1	0	1	22
4+-axle Trucks:			2	4	6	3	3	6	160
Total Trucks:			3	6	9	5	4	9	234
High-Cube Cold Storage Total Trips (PCE)[2]			**13**	**7**	**20**	**7**	**13**	**20**	**414**
High-Cube Fulfillment (70%)	304.376	TSF							
Passenger Cars:			24	7	31	12	32	44	534
2-4 axle Trucks:			2	2	4	3	4	7	100
5+-axle Trucks:			5	5	10	4	5	9	198
Total Trucks:			7	7	14	7	9	16	298
High-Cube Fulfillment Total Trips (PCE)[2]			**31**	**14**	**45**	**19**	**41**	**60**	**832**
Total Trips (PCE)[2]			**44**	**21**	**65**	**26**	**54**	**80**	**1,246**

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. In addition, truck routes for neighboring agencies have been taken into consideration in the development of the trip distribution patterns for heavy trucks. Exhibits 2 and 3 show the Project truck and passenger car trip distribution patterns, respectively. Note that the Project Truck distribution shows two alternatives that will be evaluated in the Traffic Study.

EXHIBIT 2: PROJECT (TRUCK) TRIP DISTRIBUTION

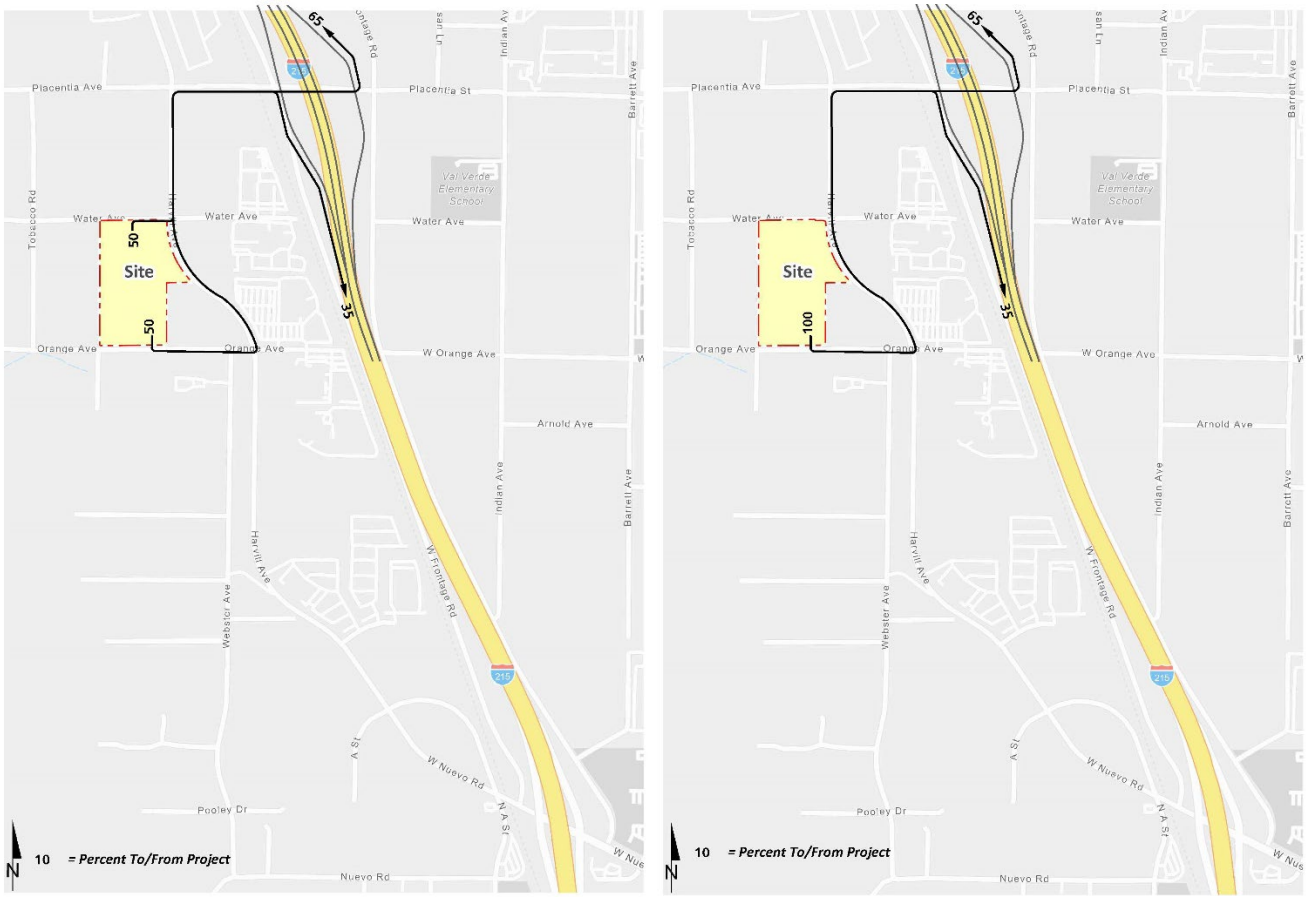


EXHIBIT 3: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION

ANALYSIS SCENARIOS

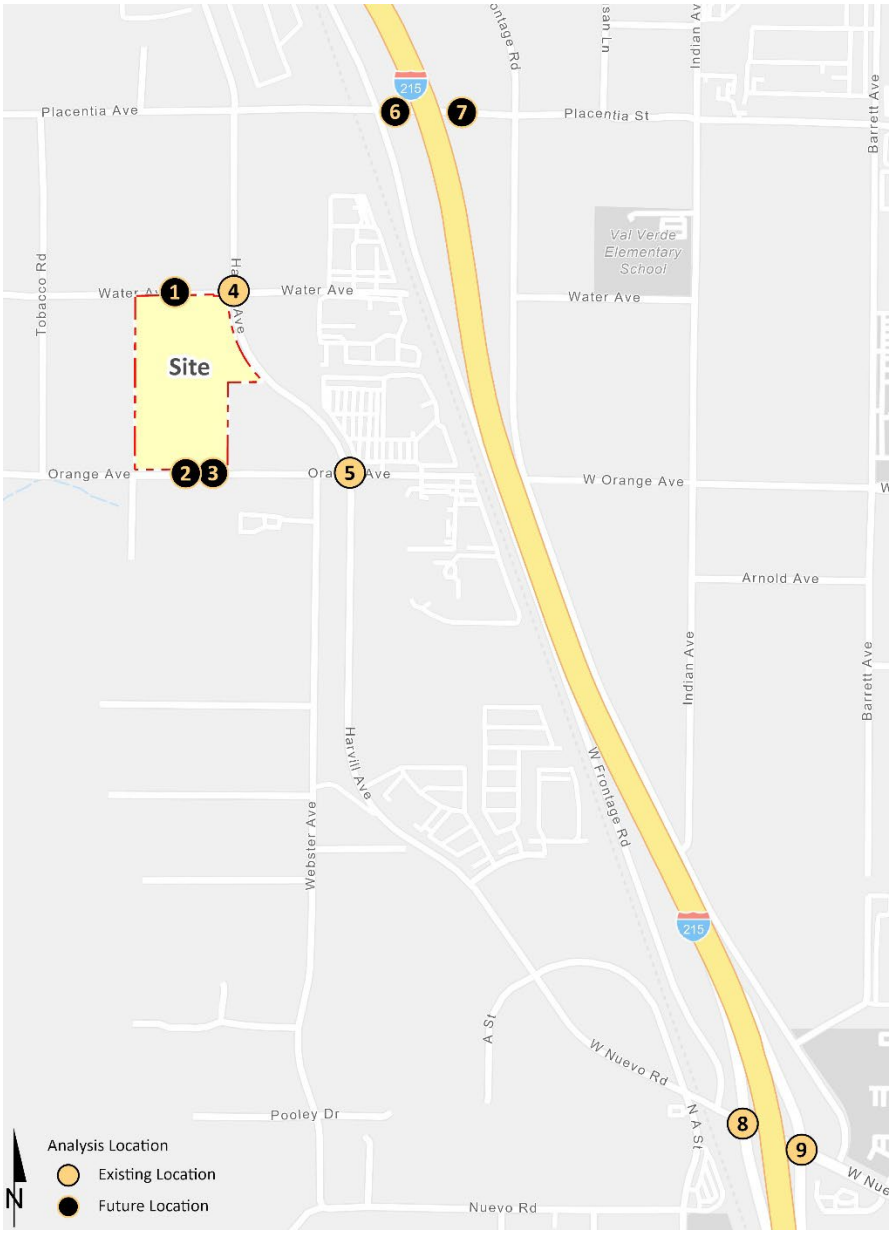
Consistent with the County's Guidelines, intersection analysis will be provided for the following analysis scenarios:

- Existing (2022) Conditions
- Existing plus Ambient Growth plus Project (EAP) (2024) Conditions – two alternatives for the truck access

- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2024) Conditions – two alternatives for the truck access

All study area intersections will be evaluated using the Highway Capacity Manual (HCM) 6th Edition analysis methodology. The study area that is proposed to be evaluated is shown on Exhibit 4. The truck access alternative with 100% of the trucks utilizing Driveway 3 on Orange will only affect Intersection #s 1, 3, 4 and 5 (all other locations will be the same).

EXHIBIT 4: STUDY AREA



CUMULATIVE PROJECTS

It is requested that the County of Riverside provide current cumulative projects within the study area for inclusion in the Focused Traffic Analysis.

TRAFFIC COUNTS

Traffic counts (classified by vehicle type) will be conducted during a typical Tuesday, Wednesday, or Thursday when local schools are in session and operating on a typical bell schedule. No adjustments are proposed to the new traffic counts for the baseline traffic condition.

SPECIAL ISSUES

The following special issues will also be addressed:

- VMT analysis will be evaluated in a separate document.
- Provide a queuing analysis for the eastbound left turn movement at Driveway 1. Analysis will be conducted for the most conservative traffic condition (EAPC traffic conditions).
- Demonstrate back-to-back left-turn queues can be accommodated on Water Street between Driveway 1 and Harvill Avenue. Analysis will be conducted for the most conservative traffic condition (EAPC traffic conditions).
- Assess sight distance at the intersections of Harvill Avenue at Water Street and Harvill Avenue at Orange Avenue.

CONCLUSION

Urban Crossroads, Inc. is pleased to submit this letter documenting the Project trip generation and trip distribution for the Harvill and Water Warehouse development. The County's Guidelines indicates that any use that can demonstrate a project would generate fewer than 100 vehicle trips during the peak hours would be exempt from traffic operations analysis. However, operations analysis is proposed for the Project driveways and off-site intersections identified in this scoping document to address any potential deficiencies at nearby intersections.

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

Respectfully submitted,

URBAN CROSSROADS, INC.

Charlene So

Charlene So, PE
Principal

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APPENDIX 1.2: SITE ADJACENT QUEUES

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Intersection: 1: Driveway 1 & Water Av.

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	8	30
Average Queue (ft)	0	9
95th Queue (ft)	5	31
Link Distance (ft)		79
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	50	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Orange Av. & Driveway 2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	3
95th Queue (ft)	17
Link Distance (ft)	54
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Orange Av. & Driveway 3

Movement	SB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	219
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Harvill Av. & Water Av.

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	L	TR	L
Maximum Queue (ft)	36	31	36	40	29	6	22
Average Queue (ft)	14	4	10	10	5	0	4
95th Queue (ft)	39	20	34	35	22	4	17
Link Distance (ft)		340	1185			1573	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100			150	100		150
Storage Blk Time (%)							
Queuing Penalty (veh)							

Zone Summary

Zone wide Queuing Penalty: 0

Intersection: 1: Driveway 1 & Water Av.

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	8	49
Average Queue (ft)	0	21
95th Queue (ft)	5	47
Link Distance (ft)		79
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	50	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Orange Av. & Driveway 2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	36
Average Queue (ft)	10
95th Queue (ft)	33
Link Distance (ft)	54
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Orange Av. & Driveway 3

Movement	SB
Directions Served	LR
Maximum Queue (ft)	41
Average Queue (ft)	12
95th Queue (ft)	38
Link Distance (ft)	219
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Harvill Av. & Water Av.

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	LT	R	L	L
Maximum Queue (ft)	57	31	31	37	28	19
Average Queue (ft)	24	8	9	17	3	2
95th Queue (ft)	50	30	32	42	17	10
Link Distance (ft)		340	1185			
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100			150	100	150
Storage Blk Time (%)						
Queuing Penalty (veh)						

Zone Summary

Zone wide Queuing Penalty: 0

APPENDIX 3.1: TRAFFIC COUNTS – APRIL 2022

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Volume Development
AM Peak Hour

1: Driveway 1 & Water St.

PHF: 0.920 Count Date:

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:								4			6		10
2-Axle:								1			2		3
3-Axle:								1			1		2
4+-Axle:								0			0		0
2022 Trucks:	0	0	0	0	0	0	0	2	0	0	3	0	5
2022 Truck %:	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	50%	0%	
2022 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**8**	**0**	**14**
RTOR													
Peds:													
Bikes:													
2022 ADT:		0			0			63			63		
2022 Pk-Daily:		0%			0%			22%			22%		
Project:	0	0	7	0	0	0	0	0	0	19	0	0	26
Project PCE:	0	0	11	0	0	0	0	0	0	22	0	0	33
Project Trucks:													0
Project ADT:		464			0			0			464		
Cumulative:	0	0	0	0	0	0	0	2	0	0	7	0	9
Cumulative PCE	0	0	0	0	0	0	0	2	0	0	7	0	9
Cumulative Trucks:													0
Cumulative ADT:		0			0			64			64		
EAP 2024:	0	0	7	0	0	0	0	4	0	19	6	0	36
EAP 2024 PCE:	0	0	11	0	0	0	0	6	0	22	8	0	47
EAP ADT:		464			0			65			529		
EAPC 2024:	0	0	7	0	0	0	0	6	0	19	13	0	45
EAPC 2024 PCE:	0	0	11	0	0	0	0	8	0	22	15	0	56
EAPC ADT:		464			0			129			593		

2: Driveway 2 & Orange Av.

PHF: 0.920 Count Date:

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:								33			13		46
2-Axle:								4			1		5
3-Axle:								0			0		0
4+-Axle:								0			0		0
2022 Trucks:	0	0	0	0	0	0	0	4	0	0	1	0	5
2022 Truck %:	0%	0%	0%	0%	0%	0%	0%	12%	0%	0%	8%	0%	
2022 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**35**	**0**	**0**	**14**	**0**	**49**
RTOR													
Peds:													
Bikes:													
2022 ADT:		0			0			706			706		
2022 Pk-Daily:		0%			0%			7%			7%		
Project:	0	0	0	3	0	0	0	0	0	0	0	10	13
Project PCE:	0	0	0	3	0	0	0	0	0	0	0	10	13
Project Trucks:													0
Project ADT:		0			228			0			228		
Cumulative:	0	0	0	0	0	0	0	36	0	0	12	0	48
Cumulative PCE	0	0	0	0	0	0	0	36	0	0	12	0	48
Cumulative Trucks:													0
Cumulative ADT:		0			0			810			810		
EAP 2024:	0	0	0	3	0	0	0	34	0	0	14	10	61
EAP 2024 PCE:	0	0	0	3	0	0	0	36	0	0	14	10	63
EAP ADT:		0			228			735			963		
EAPC 2024:	0	0	0	3	0	0	0	70	0	0	26	10	109
EAPC 2024 PCE:	0	0	0	3	0	0	0	72	0	0	26	10	111
EAPC ADT:		0			228			1,545			1,773		

Volume Development
AM Peak Hour

3: Driveway 3 & Orange Av.

		PHF:	0.920							Count Date:			
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:								33			13		46
2-Axle:								4			1		5
3-Axle:								0			0		0
4+-Axle:								0			0		0
2022 Trucks:	0	0	0	0	0	0	0	4	0	0	1	0	5
2022 Truck %:	0%	0%	0%	0%	0%	0%	0%	12%	0%	0%	8%	0%	
2022 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**35**	**0**	**0**	**14**	**0**	**49**
RTOR													
Peds:													
Bikes:													
2022 ADT:		0			0			706			706		
2022 Pk-Daily:		0%			0%			7%			7%		
Project:	0	0	0	4	0	0	0	3	0	0	10	9	26
Project PCE:	0	0	0	7	0	0	0	3	0	0	10	12	32
Project Trucks:													0
Project ADT:		0			234			228			462		
Cumulative:	0	0	0	0	0	0	0	36	0	0	12	0	48
Cumulative PCE	0	0	0	0	0	0	0	36	0	0	12	0	48
Cumulative Trucks:													0
Cumulative ADT:		0			0			810			810		
EAP 2024:	0	0	0	4	0	0	0	37	0	0	24	9	74
EAP 2024 PCE:	0	0	0	7	0	0	0	39	0	0	24	12	82
EAP ADT:		0			234			963			1,197		
EAPC 2024:	0	0	0	4	0	0	0	73	0	0	36	9	122
EAPC 2024 PCE:	0	0	0	7	0	0	0	75	0	0	36	12	130
EAPC ADT:		0			234			1,773			2,007		

4: Harvill Av. & Water Av.

		PHF:	0.915		**7:00 AM**					Count Date:	4/5/2022		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:	3	**594**	9	9	214	3	3	0	1	6	0	4	846
2-Axle:	1	18	4	3	5	1	1	0	0	4	0	3	40
3-Axle:	1	2	0	0	1	0	1	0	0	0	0	0	5
4+-Axle:	0	4	0	1	9	0	0	0	0	0	0	1	15
2022 Trucks:	2	24	4	4	15	1	2	0	0	4	0	4	60
2022 Truck %:	67%	4%	44%	44%	7%	33%	67%	0%	0%	67%	0%	100%	
2022 PCE:	**5**	**613**	**11**	**13**	**236**	**4**	**5**	**0**	**1**	**8**	**0**	**8**	**901**
RTOR													
Peds:		0			2			0			0		
Bikes:		0			0			0			0		
2022 ADT:		12,178			12,272			138			502		
2022 Pk-Daily:		7%			7%			10%			8%		
Project:	2	5	0	0	11	17	7	0	1	0	0	0	43
Project PCE:	2	8	0	0	14	20	10	0	1	0	0	0	55
Project Trucks:													0
Project ADT:		310			696			462			0		
Cumulative:	7	215	0	0	234	0	0	0	2	0	0	0	458
Cumulative PCE	7	218	0	0	237	0	0	0	2	0	0	0	464
Cumulative Trucks:													0
Cumulative ADT:		1,666			6,428			4,890			0		
EAP 2024:	5	623	9	9	234	20	10	0	2	6	0	4	923
EAP 2024 PCE:	7	646	11	13	259	24	15	0	2	8	0	8	992
EAP ADT:		12,980			13,464			606			522		
EAPC 2024:	12	838	9	9	468	20	10	0	4	6	0	4	1,381
EAPC 2024 PCE:	14	864	11	13	496	24	15	0	4	8	0	8	1,456
EAPC ADT:		14,646			19,892			5,496			522		

Volume Development
AM Peak Hour

5: Harvill Av. & Orange Av.

	PHF:	0.914		**7:00 AM**					Count Date:	4/5/2022			
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:	2	571	20	10	**200**	11	30	0	3	2	0	5	854
2-Axle:	0	18	3	1	7	1	3	0	1	1	0	2	37
3-Axle:	0	3	0	1	0	0	0	0	0	0	0	0	4
4+-Axle:	0	3	2	2	7	0	0	0	0	0	0	1	15
2022 Trucks:	0	24	5	4	14	1	3	0	1	1	0	3	56
2022 Truck %:	0%	4%	25%	40%	7%	9%	10%	0%	33%	50%	0%	60%	
2022 PCE:	**2**	**589**	**26**	**16**	**218**	**12**	**32**	**0**	**4**	**3**	**0**	**8**	**907**
RTOR													
Peds:		0			0			0			0		
Bikes:		0			0			0			0		
2022 ADT:		8,138			12,178			686			1,554		
2022 Pk-Daily:		10%			7%			7%			3%		
Project:	8	2	0	0	1	11	5	0	2	0	0	0	29
Project PCE:	8	2	0	0	1	14	8	0	2	0	0	0	35
Project Trucks:													0
Project ADT:		228			310			462			0		
Cumulative:	4	197	0	0	227	8	25	0	11	0	0	0	472
Cumulative PCE	4	199	0	0	230	8	25	0	11	0	0	0	477
Cumulative Trucks:													0
Cumulative ADT:		1,340			6,492			5,636			0		
EAP 2024:	10	596	21	10	209	22	36	0	5	2	0	5	918
EAP 2024 PCE:	10	615	27	16	227	26	41	0	6	3	0	8	978
EAP ADT:		8,695			12,980			1,176			1,616		
EAPC 2024:	14	793	21	10	436	30	61	0	16	2	0	5	1,390
EAPC 2024 PCE:	14	814	27	16	457	34	66	0	17	3	0	8	1,455
EAPC ADT:		10,035			19,472			6,812			1,616		

6. I-215 SB Ramps & Placentia Av.

	PHF:	0.920							Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:	0	0	0	206	0	55	0	417	101	123	380	0	1,281
2-Axle:	0	0	0	24	0	5	0	43	9	13	36	0	130
3-Axle:	0	0	0	4	0	1	0	11	4	1	6	0	26
4+-Axle:	0	0	0	18	0	7	0	31	4	4	17	0	81
2022 Trucks:	0	0	0	46	0	13	0	85	17	18	60	0	238
2022 Truck %:	0%	0%	0%	22%	0%	23%	0%	20%	17%	14%	16%	0%	
2022 PCE:	**0**	**0**	**0**	**258**	**0**	**72**	**0**	**512**	**116**	**138**	**439**	**0**	**1,536**
RTOR													
Peds:													
Bikes:													
2022 ADT:		5,504			5,646			24,768			27,745		
2022 Pk-Daily:		5%			6%			5%			5%		
Project:	0	0	0	0	0	15	0	6	3	0	7	0	31
Project PCE:	0	0	0	0	0	18	0	11	5	0	9	0	43
Project Trucks:													0
Project ADT:		86			187			546			273		
Cumulative:	0	0	0	157	0	148	0	94	67	69	137	0	672
Cumulative PCE	0	0	0	157	0	162	0	108	71	101	147	0	746
Cumulative Trucks:													0
Cumulative ADT:		2,045			205			5,932			6,846		
EAP 2024:	0	0	0	215	0	72	0	440	108	128	402	0	1,364
EAP 2024 PCE:	0	0	0	269	0	93	0	544	126	144	465	0	1,641
EAP ADT:		5,813			6,061			26,314			29,139		
EAPC 2024:	0	0	0	372	0	220	0	534	175	197	539	0	2,036
EAPC 2024 PCE:	0	0	0	426	0	255	0	652	197	245	612	0	2,387
EAPC ADT:		7,858			6,266			32,246			35,985		

Volume Development
AM Peak Hour

7. I-215 NB Ramps & Placentia Av.

	PHF:	0.920							Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:	140	0	229	0	0	0	54	569	0	0	363	256	1,611
2-Axle:	14	0	13	0	0	0	6	62	0	0	35	20	149
3-Axle:	4	0	2	0	0	0	7	8	0	0	4	3	27
4+-Axle:	11	0	6	0	0	0	6	43	0	0	11	14	91
2022 Trucks:	28	0	21	0	0	0	19	113	0	0	50	37	267
2022 Truck %:	20%	0%	9%	0%	0%	0%	35%	20%	0%	0%	14%	14%	
2022 PCE:	**171**	**0**	**250**	**0**	**0**	**0**	**76**	**694**	**0**	**0**	**406**	**297**	**1,894**
RTOR													
Peds:													
Bikes:													
2022 ADT:		5,351			4,688			27,750			30,154		
2022 Pk-Daily:		8%			8%			5%			5%		
Project:	7	0	0	0	0	0	6	0	0	0	0	0	13
Project PCE:	9	0	0	0	0	0	11	0	0	0	0	0	20
Project Trucks:													0
Project ADT:		86			187			273			0		
Cumulative:	127	0	201	0	0	0	88	164	0	0	79	131	790
Cumulative PCE	135	0	304	0	0	0	96	169	0	0	112	131	947
Cumulative Trucks:													0
Cumulative ADT:		3,811			4,255			8,195			10,395		
EAP 2024:	152	0	238	0	0	0	62	592	0	0	378	266	1,689
EAP 2024 PCE:	187	0	260	0	0	0	90	722	0	0	422	309	1,991
EAP ADT:		5,654			5,065			29,144			31,372		
EAPC 2024:	279	0	439	0	0	0	150	756	0	0	457	397	2,479
EAPC 2024 PCE:	322	0	564	0	0	0	186	891	0	0	534	440	2,938
EAPC ADT:		9,465			9,320			37,339			41,767		

8. I-215 SB Ramps & Nuevo Rd.

	PHF:	0.763		7:00 AM					Count Date:		4/5/2022		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:	0	0	0	206	3	74	0	421	95	211	**498**	0	1,508
2-Axle:	0	0	0	17	0	4	0	25	6	14	32	0	98
3-Axle:	0	0	0	0	0	0	0	0	1	2	2	0	5
4+-Axle:	0	0	0	1	0	1	0	4	1	3	12	0	22
2022 Trucks:	0	0	0	18	0	5	0	29	8	19	46	0	125
2022 Truck %:	0%	0%	0%	9%	0%	7%	0%	7%	8%	9%	9%	0%	
2022 PCE:	**0**	**0**	**0**	**217**	**3**	**78**	**0**	**442**	**101**	**226**	**540**	**0**	**1,606**
RTOR		0			43			30			0		
Peds:		0			0			0			0		
Bikes:		0			0			0			0		
2022 ADT:		11,519			8,537			20,338			32,077		
2022 Pk-Daily:		3%			3%			6%			4%		
Project:	0	0	0	0	0	0	0	1	2	0	10	0	13
Project PCE:	0	0	0	0	0	0	0	1	2	0	10	0	13
Project Trucks:													0
Project ADT:		76			0			228			152		
Cumulative:	0	0	0	92	0	77	0	126	40	74	362	0	771
Cumulative PCE	0	0	0	92	0	82	0	129	42	74	364	0	783
Cumulative Trucks:													0
Cumulative ADT:		2,045			205			5,018			5,932		
EAP 2024:	0	0	0	161	3	58	0	367	76	165	437	0	1,267
EAP 2024 PCE:	0	0	0	169	3	61	0	384	81	176	472	0	1,347
EAP ADT:		9,064			6,661			16,098			25,181		
EAPC 2024:	0	0	0	253	3	135	0	618	116	239	1,045	0	2,409
EAPC 2024 PCE:	0	0	0	261	3	143	0	639	123	250	1,082	0	2,502
EAPC ADT:		11,109			6,866			21,116			31,113		

Volume Development
AM Peak Hour

9. I-215 NB Ramps & Nuevo Rd.

	PHF:	0.808		7:00 AM					Count Date:		4/5/2022		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:	109	2	364	0	0	0	45	**582**	0	0	600	424	2,126
2-Axle:	7	0	29	0	0	0	4	38	0	0	39	27	144
3-Axle:	1	0	4	0	0	0	0	0	0	0	3	3	11
4+-Axle:	7	0	3	0	0	0	0	5	0	0	8	4	27
2022 Trucks:	15	0	36	0	0	0	4	43	0	0	50	34	182
2022 Truck %:	14%	0%	10%	0%	0%	0%	9%	7%	0%	0%	8%	8%	
2022 PCE:	**128**	**2**	**389**	**0**	**0**	**0**	**47**	**611**	**0**	**0**	**639**	**449**	**2,263**
RTOR		214			0			0			41		
Peds:		0			0			0			0		
Bikes:		0			0			0			0		
2022 ADT:		7,376			6,779			32,077			42,057		
2022 Pk-Daily:		7%			7%			4%			5%		
Project:	7	0	0	0	0	0	0	1	0	0	3	0	11
Project PCE:	7	0	0	0	0	0	0	1	0	0	3	0	11
Project Trucks:													0
Project ADT:		76			0			152			76		
Cumulative:	59	0	179	0	0	0	9	209	0	0	376	0	832
Cumulative PCE	61	0	179	0	0	0	12	209	0	0	376	0	837
Cumulative Trucks:													0
Cumulative ADT:		2,045			205			5,932			6,846		
EAP 2024:	92	2	284	0	0	0	35	492	0	0	510	331	1,746
EAP 2024 PCE:	106	2	303	0	0	0	37	517	0	0	542	350	1,857
EAP ADT:		5,831			5,290			25,739			33,451		
EAPC 2024:	**188**	2	463	0	0	0	**52**	**819**	0	0	**1,096**	331	2,951
EAPC 2024 PCE:	**204**	2	482	0	0	0	**57**	**844**	0	0	**1,128**	350	3,067
EAPC ADT:		7,876			5,495			31,671			40,297		

Volume Development
PM Peak Hour

1: Driveway 1 & Water St.

PHF: 0.920 Count Date:

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:								1			3		4
2-Axle:								0			0		0
3-Axle:								0			0		0
4+-Axle:								1			0		1
2022 Trucks:	0	0	0	0	0	0	0	1	0	0	0	0	1
2022 Truck %:	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
2022 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**	**0**	**6**
RTOR													
Peds:													
Bikes:													
2022 ADT:		0			0			63			63		
2022 Pk-Daily:		0%			0%			6%			6%		
Project:	0	0	25	0	0	0	0	0	0	11	0	0	36
Project PCE:	0	0	29	0	0	0	0	0	0	14	0	0	43
Project Trucks:													0
Project ADT:		464			0			0			464		
Cumulative:	0	0	0	0	0	0	0	7	0	0	2	0	0
Cumulative PCE	0	0	0	0	0	0	0	7	0	0	2	0	9
Cumulative Trucks:													0
Cumulative ADT:		0			0			64			64		
EAP 2024:	0	0	25	0	0	0	0	1	0	11	3	0	40
EAP 2024 PCE:	0	0	29	0	0	0	0	3	0	14	3	0	49
EAP ADT:		464			0			65			529		
EAPC 2024:	0	0	25	0	0	0	0	8	0	11	5	0	49
EAPC 2024 PCE:	0	0	29	0	0	0	0	10	0	14	5	0	58
EAPC ADT:		464			0			129			593		

2: Driveway 2 & Orange Av.

PHF: 0.920 Count Date:

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:								19			26		45
2-Axle:								1			0		1
3-Axle:								0			0		0
4+-Axle:								0			0		0
2022 Trucks:	0	0	0	0	0	0	0	1	0	0	0	0	1
2022 Truck %:	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	
2022 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**0**	**0**	**26**	**0**	**46**
RTOR													
Peds:													
Bikes:													
2022 ADT:		0			0			706			706		
2022 Pk-Daily:		0%			0%			6%			6%		
Project:	0	0	0	13	0	0	0	0	0	0	0	5	18
Project PCE:	0	0	0	13	0	0	0	0	0	0	0	5	18
Project Trucks:													0
Project ADT:		0			228			0			228		
Cumulative:	0	0	0	0	0	0	0	23	0	0	39	0	62
Cumulative PCE	0	0	0	0	0	0	0	23	0	0	39	0	62
Cumulative Trucks:													0
Cumulative ADT:		0			0			810			810		
EAP 2024:	0	0	0	13	0	0	0	20	0	0	27	5	65
EAP 2024 PCE:	0	0	0	13	0	0	0	20	0	0	27	5	65
EAP ADT:		0			228			735			963		
EAPC 2024:	0	0	0	13	0	0	0	43	0	0	66	5	127
EAPC 2024 PCE:	0	0	0	13	0	0	0	43	0	0	66	5	127
EAPC ADT:		0			228			1,545			1,773		

Volume Development
PM Peak Hour

3: Driveway 3 & Orange Av.

PHF: 0.920 Count Date:

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:								19			26		45
2-Axle:								1			0		1
3-Axle:								0			0		0
4+-Axle:								0			0		0
2022 Trucks:	0	0	0	0	0	0	0	1	0	0	0	0	1
2022 Truck %:	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	
2022 PCE:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**0**	**0**	**26**	**0**	**46**
RTOR													
Peds:													
Bikes:													
2022 ADT:		0			0			706			706		
2022 Pk-Daily:		0%			0%			6%			6%		
Project:	0	0	0	12	0	0	0	13	0	0	5	6	36
Project PCE:	0	0	0	15	0	0	0	13	0	0	5	9	42
Project Trucks:													0
Project ADT:		0			234			228			462		
Cumulative:	0	0	0	0	0	0	0	23	0	0	39	0	62
Cumulative PCE	0	0	0	0	0	0	0	23	0	0	39	0	62
Cumulative Trucks:													0
Cumulative ADT:		0			0			810			810		
EAP 2024:	0	0	0	12	0	0	0	33	0	0	32	6	83
EAP 2024 PCE:	0	0	0	15	0	0	0	33	0	0	32	9	89
EAP ADT:		0			234			963			1,197		
EAPC 2024:	0	0	0	12	0	0	0	56	0	0	71	6	145
EAPC 2024 PCE:	0	0	0	15	0	0	0	56	0	0	71	9	151
EAPC ADT:		0			234			1,773			2,007		

4: Harvill Av. & Water Av.

PHF: 0.878 **4:00 PM** Count Date: 4/5/2022

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:	3	306	2	3	455	0	1	0	0	10	0	17	797
2-Axle:	0	20	1	1	33	0	0	0	0	1	0	4	60
3-Axle:	0	3	0	0	5	0	0	0	0	0	0	1	9
4+-Axle:	0	2	0	1	9	0	1	0	0	0	0	1	14
2022 Trucks:	0	25	1	2	47	0	1	0	0	1	0	6	83
2022 Truck %:	0%	8%	50%	67%	10%	0%	100%	0%	0%	10%	0%	35%	
2022 PCE:	**3**	**323**	**3**	**6**	**495**	**0**	**3**	**0**	**0**	**11**	**0**	**22**	**864**
RTOR													
Peds:		0			1			0			0		
Bikes:		0			0			0			0		
2022 ADT:		12,178			12,272			**138**			502		
2022 Pk-Daily:		6%			6%			3%			6%		
Project:	1	14	0	0	7	10	23	0	2	0	0	0	57
Project PCE:	1	17	0	0	10	13	26	0	2	0	0	0	69
Project Trucks:													0
Project ADT:		310			696			462			0		
Cumulative:	2	263	0	0	260	0	0	0	7	0	0	0	532
Cumulative PCE	2	267	0	0	265	0	0	0	7	0	0	0	541
Cumulative Trucks:													0
Cumulative ADT:		1,666			6,428			4,890			0		
EAP 2024:	4	332	2	3	480	10	24	0	2	10	0	18	886
EAP 2024 PCE:	4	353	3	6	524	13	29	0	2	11	0	23	968
EAP ADT:		12,980			13,464			606			522		
EAPC 2024:	6	595	2	3	740	10	24	0	9	10	0	18	1,418
EAPC 2024 PCE:	6	620	3	6	789	13	29	0	9	11	0	23	1,509
EAPC ADT:		14,646			19,892			5,496			522		

Volume Development
PM Peak Hour

5: Harvill Av. & Orange Av.

		PHF:	0.885		4:00 PM				Count Date:	4/5/2022			
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:	2	280	27	11	431	23	13	1	5	41	1	18	853
2-Axle:	0	19	0	1	33	0	1	0	0	1	0	1	56
3-Axle:	0	3	0	0	5	0	0	0	0	0	0	0	8
4+-Axle:	0	1	0	0	9	0	0	0	0	0	0	1	11
2022 Trucks:	0	23	0	1	47	0	1	0	0	1	0	2	75
2022 Truck %:	0%	8%	0%	9%	11%	0%	8%	0%	0%	2%	0%	11%	
2022 PCE:	**2**	**295**	**27**	**12**	**471**	**23**	**14**	**1**	**5**	**42**	**1**	**21**	**911**
RTOR													
Peds:		0			1			0			0		
Bikes:		0			0			0			0		
2022 ADT:		**8,138**			12,178			**686**			1,554		
2022 Pk-Daily:		10%			6%			7%			6%		
Project:	4	1	0	0	2	7	14	0	11	0	0	0	39
Project PCE:	4	1	0	0	2	10	17	0	11	0	0	0	45
Project Trucks:													0
Project ADT:		228			310			462			0		
Cumulative:	12	249	0	0	239	27	16	0	7	0	0	0	550
Cumulative PCE	12	253	0	0	244	27	16	0	7	0	0	0	559
Cumulative Trucks:													0
Cumulative ADT:		1,340			6,492			5,636			0		
EAP 2024:	6	292	28	11	450	31	28	1	16	43	1	19	926
EAP 2024 PCE:	6	307	28	12	492	34	31	1	16	43	1	21	993
EAP ADT:		8,695			12,980			1,176			1,616		
EAPC 2024:	18	541	28	11	689	58	44	1	23	43	1	19	1,476
EAPC 2024 PCE:	18	560	28	12	736	61	47	1	23	43	1	21	1,552
EAPC ADT:		10,035			19,472			6,812			1,616		

6. I-215 SB Ramps & Placentia Av.

		PHF:	0.920						Count Date:				
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:	0	0	0	307	1	53	0	**588**	128	223	**492**	0	1,789
2-Axle:	0	0	0	15	0	5	0	**30**	8	5	**19**	0	83
3-Axle:	0	0	0	2	0	1	0	7	1	1	2	0	12
4+-Axle:	0	0	0	9	0	5	0	15	3	4	**12**	0	48
2022 Trucks:	0	0	0	26	0	10	0	52	12	9	33	0	143
2022 Truck %:	0%	0%	0%	9%	33%	20%	0%	9%	9%	4%	7%	0%	
2022 PCE:	**0**	**0**	**0**	**334**	**1**	**66**	**0**	**640**	**138**	**233**	**527**	**0**	**1,938**
RTOR													
Peds:													
Bikes:													
2022 ADT:		5,504			5,646			24,768			27,745		
2022 Pk-Daily:		6%			6%			5%			6%		
Project:	0	0	0	0	0	9	0	19	9	0	4	0	41
Project PCE:	0	0	0	0	0	13	0	24	11	0	6	0	54
Project Trucks:													0
Project ADT:		86			187			546			273		
Cumulative:	0	0	0	196	0	77	0	200	152	247	83	0	955
Cumulative PCE	0	0	0	196	0	91	0	217	159	341	94	0	1,098
Cumulative Trucks:													0
Cumulative ADT:		2,045			205			5,932			6,846		
EAP 2024:	0	0	0	319	1	64	0	631	142	231	516	0	1,903
EAP 2024 PCE:	0	0	0	348	1	81	0	690	154	242	554	0	2,071
EAP ADT:		5,813			6,061			26,314			29,139		
EAPC 2024:	0	0	0	515	1	141	0	831	294	478	599	0	2,858
EAPC 2024 PCE:	0	0	0	544	1	172	0	907	313	583	648	0	3,169
EAPC ADT:		7,858			6,266			32,246			35,985		

Volume Development
PM Peak Hour

7. I-215 NB Ramps & Placentia Av.

		PHF:	0.920							Count Date:			
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:	137	0	204	0	0	0	58	836	0	0	577	241	2,053
2-Axle:	11	0	12	0	0	0	2	43	0	0	14	10	92
3-Axle:	1	0	2	0	0	0	2	6	0	0	2	2	15
4+-Axle:	7	0	3	0	0	0	3	22	0	0	8	8	50
2022 Trucks:	19	0	17	0	0	0	7	72	0	0	24	19	157
2022 Truck %:	14%	0%	8%	0%	0%	0%	12%	9%	0%	0%	4%	8%	
2022 PCE:	**158**	**0**	**217**	**0**	**0**	**0**	**67**	**909**	**0**	**0**	**602**	**262**	**2,215**
RTOR													
Peds:													
Bikes:													
2022 ADT:		5,351			4,688			27,750			30,154		
2022 Pk-Daily:		6%			6%			6%			6%		
Project:	4	0	0	0	0	0	19	0	0	0	0	0	23
Project PCE:	6	0	0	0	0	0	24	0	0	0	0	0	30
Project Trucks:													0
Project ADT:		86			187			273			0		
Cumulative:	76	0	133	0	0	0	189	207	0	0	255	226	1,086
Cumulative PCE	82	0	169	0	0	0	204	209	0	0	354	226	1,244
Cumulative Trucks:													0
Cumulative ADT:		3,811			4,255			8,195			10,395		
EAP 2024:	147	0	212	0	0	0	80	870	0	0	601	250	2,159
EAP 2024 PCE:	170	0	226	0	0	0	93	946	0	0	626	273	2,334
EAP ADT:		5,654			5,065			29,144			31,372		
EAPC 2024:	223	0	345	0	0	0	269	1,077	0	0	856	476	3,245
EAPC 2024 PCE:	252	0	395	0	0	0	297	1,155	0	0	980	499	3,578
EAPC ADT:		9,465			9,320			37,339			41,767		

8. I-215 SB Ramps & Nuevo Rd.

		PHF:	0.968		**4:00 PM**					Count Date:	4/5/2022		
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:	0	0	0	466	3	75	0	537	187	**544**	**497**	0	2,309
2-Axle:	0	0	0	23	1	6	0	20	14	12	14	0	90
3-Axle:	0	0	0	1	0	0	0	4	1	0	2	0	8
4+-Axle:	0	0	0	3	0	0	0	4	4	6	3	0	20
2022 Trucks:	0	0	0	27	1	6	0	28	19	18	19	0	118
2022 Truck %:	0%	0%	0%	6%	33%	8%	0%	5%	10%	3%	4%	0%	
2022 PCE:	**0**	**0**	**0**	**485**	**4**	**78**	**0**	**559**	**203**	**562**	**512**	**0**	**2,402**
RTOR		0			46			28			0		
Peds:		0			0			0			0		
Bikes:		0			0			0			0		
2022 ADT:		11,519			8,537			20,338			32,077		
2022 Pk-Daily:		6%			6%			6%			6%		
Project:	0	0	0	0	0	0	0	5	9	0	5	0	19
Project PCE:	0	0	0	0	0	0	0	5	9	0	5	0	19
Project Trucks:													0
Project ADT:		76			0			228			152		
Cumulative:	0	0	0	0	0	12	0	363	61	214	321	0	971
Cumulative PCE	0	0	0	0	0	18	0	369	63	214	323	0	987
Cumulative Trucks:													0
Cumulative ADT:		2,045			205			5,018			5,932		
EAP 2024:	0	0	0	364	2	59	0	451	155	424	402	0	1,857
EAP 2024 PCE:	0	0	0	378	3	61	0	469	167	439	413	0	1,929
EAP ADT:		9,064			6,661			16,098			25,181		
EAPC 2024:	0	0	0	364	2	71	0	1,102	216	638	829	0	3,222
EAPC 2024 PCE:	0	0	0	378	3	79	0	1,126	230	653	841	0	3,309
EAPC ADT:		11,109			6,866			21,116			31,113		

Volume Development
PM Peak Hour

9. I-215 NB Ramps & Nuevo Rd.

PHF: 0.938 **4:00 PM** Count Date: 4/5/2022

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
Existing 2022:	80	0	390	0	0	0	53	**950**	0	0	961	379	2,813
2-Axle:	2	0	17	0	0	0	0	43	0	0	24	9	95
3-Axle:	0	0	0	0	0	0	0	5	0	0	2	1	8
4+-Axle:	5	0	5	0	0	0	1	6	0	0	4	6	27
2022 Trucks:	7	0	22	0	0	0	1	54	0	0	30	16	130
2022 Truck %:	9%	0%	6%	0%	0%	0%	2%	6%	0%	0%	3%	4%	
2022 PCE:	**91**	**0**	**409**	**0**	**0**	**0**	**55**	**989**	**0**	**0**	**983**	**397**	**2,923**
RTOR		241			0			0			64		
Peds:		0			0			0			0		
Bikes:		0			0			0			0		
2022 ADT:		7,376			6,779			32,077			42,057		
2022 Pk-Daily:		6%			6%			6%			6%		
Project:	4	0	0	0	0	0	0	5	0	0	2	0	11
Project PCE:	4	0	0	0	0	0	0	5	0	0	2	0	11
Project Trucks:													0
Project ADT:		76			0			152			76		
Cumulative:	30	0	98	0	0	0	25	339	0	0	504	0	996
Cumulative PCE	33	0	98	0	0	0	31	339	0	0	504	0	1,005
Cumulative Trucks:													0
Cumulative ADT:		2,045			205			5,932			6,846		
EAP 2024:	66	0	304	0	0	0	41	773	0	0	760	296	2,242
EAP 2024 PCE:	75	0	319	0	0	0	43	805	0	0	776	309	2,327
EAP ADT:		5,831			5,290			25,739			33,451		
EAPC 2024:	**104**	0	402	0	0	0	**82**	**1,383**	0	0	**1,363**	296	3,632
EAPC 2024 PCE:	**116**	0	417	0	0	0	**92**	**1,413**	0	0	**1,377**	309	3,724
EAPC ADT:		7,876			5,495			31,671			40,297		

T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Apr 5, 22

LOCATION: Perris
NORTH & SOUTH: Harvill
EAST & WEST: Water

PROJECT #: SC3361
LOCATION #: 1
CONTROL: STOP E/W

NOTES:

AM / PM / MD / OTHER / OTHER — N / W / E / S

Add U-Turns to Left Turns

		NORTHBOUND Harvill			SOUTHBOUND Harvill			EASTBOUND Water			WESTBOUND Water			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	170	1	2	34	0	1	0	0	0	0	1	209
	7:15 AM	2	150	3	4	42	1	1	0	1	4	0	1	209
	7:30 AM	1	145	2	3	74	2	1	0	0	1	0	0	229
	7:45 AM	0	121	3	0	64	0	0	0	0	1	0	2	191
	8:00 AM	0	108	1	0	58	2	0	0	2	1	0	3	175
	8:15 AM	1	64	3	1	55	1	0	0	0	0	0	0	125
	8:30 AM	0	56	1	0	54	1	0	1	0	0	1	0	114
	8:45 AM	0	52	2	1	49	0	1	0	1	1	0	4	111
	VOLUMES	4	866	16	11	430	7	4	1	4	8	1	11	1,363
	APPROACH %	0%	98%	2%	2%	96%	2%	44%	11%	44%	40%	5%	55%	
	APP/DEPART	886	/	881	448	/	442	9	/	28	20	/	12	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	3	586	9	9	214	3	3	0	1	6	0	4	838
	APPROACH %	1%	98%	2%	4%	95%	1%	75%	0%	25%	60%	0%	40%	
	PEAK HR FACTOR		0.874			0.715			0.500			0.500		0.915
	APP/DEPART	598	/	593	226	/	221	4	/	18	10	/	6	0
PM	4:00 PM	2	88	0	0	100	0	0	0	0	2	0	6	198
	4:15 PM	1	64	0	1	111	0	1	0	0	8	0	5	191
	4:30 PM	0	84	0	1	139	0	0	0	0	0	0	3	227
	4:45 PM	0	70	2	1	105	0	0	0	0	0	0	3	181
	5:00 PM	0	60	2	0	98	1	1	0	0	2	0	0	164
	5:15 PM	1	57	0	1	104	1	1	0	1	0	0	0	166
	5:30 PM	0	60	1	0	113	1	2	0	0	1	0	1	179
	5:45 PM	0	49	0	0	98	2	1	0	0	1	0	1	152
	VOLUMES	4	532	5	4	868	5	6	0	1	14	0	19	1,458
	APPROACH %	1%	98%	1%	0%	99%	1%	86%	0%	14%	42%	0%	58%	
	APP/DEPART	541	/	557	877	/	883	7	/	9	33	/	9	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	3	306	2	3	455	0	1	0	0	10	0	17	797
	APPROACH %	1%	98%	1%	1%	99%	0%	100%	0%	0%	37%	0%	63%	
	PEAK HR FACTOR		0.864			0.818			0.250			0.519		0.878
	APP/DEPART	311	/	324	458	/	465	1	/	5	27	/	3	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Harvill

NORTH SIDE

Water WEST SIDE EAST SIDE **Water**

SOUTH SIDE

Harvill

ALL PED AND BIKE

	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	1	0	0	1
7:15 AM	0	2	0	0	2
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	3	0	0	3
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	0	0	0	0	0

PEDESTRIAN CROSSINGS

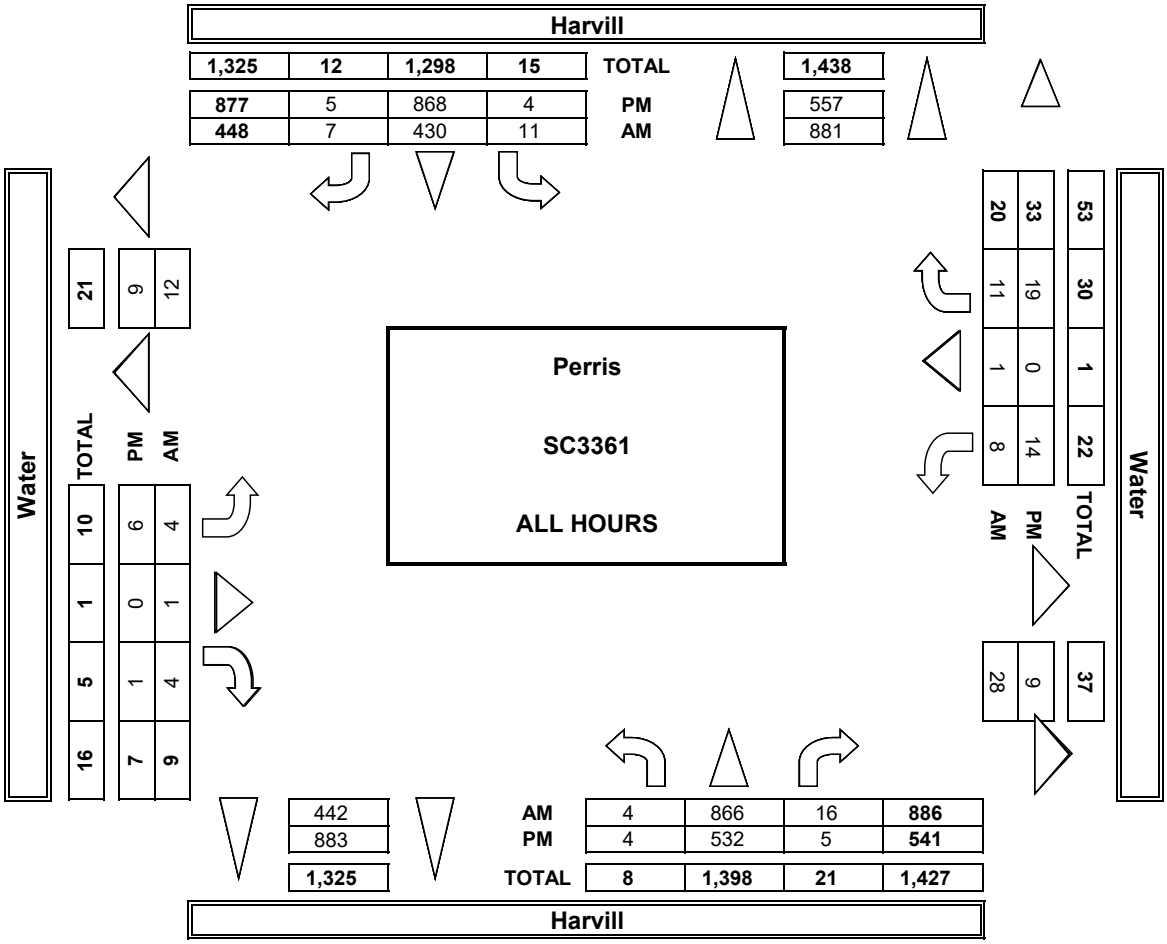
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
0	1	0	0	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

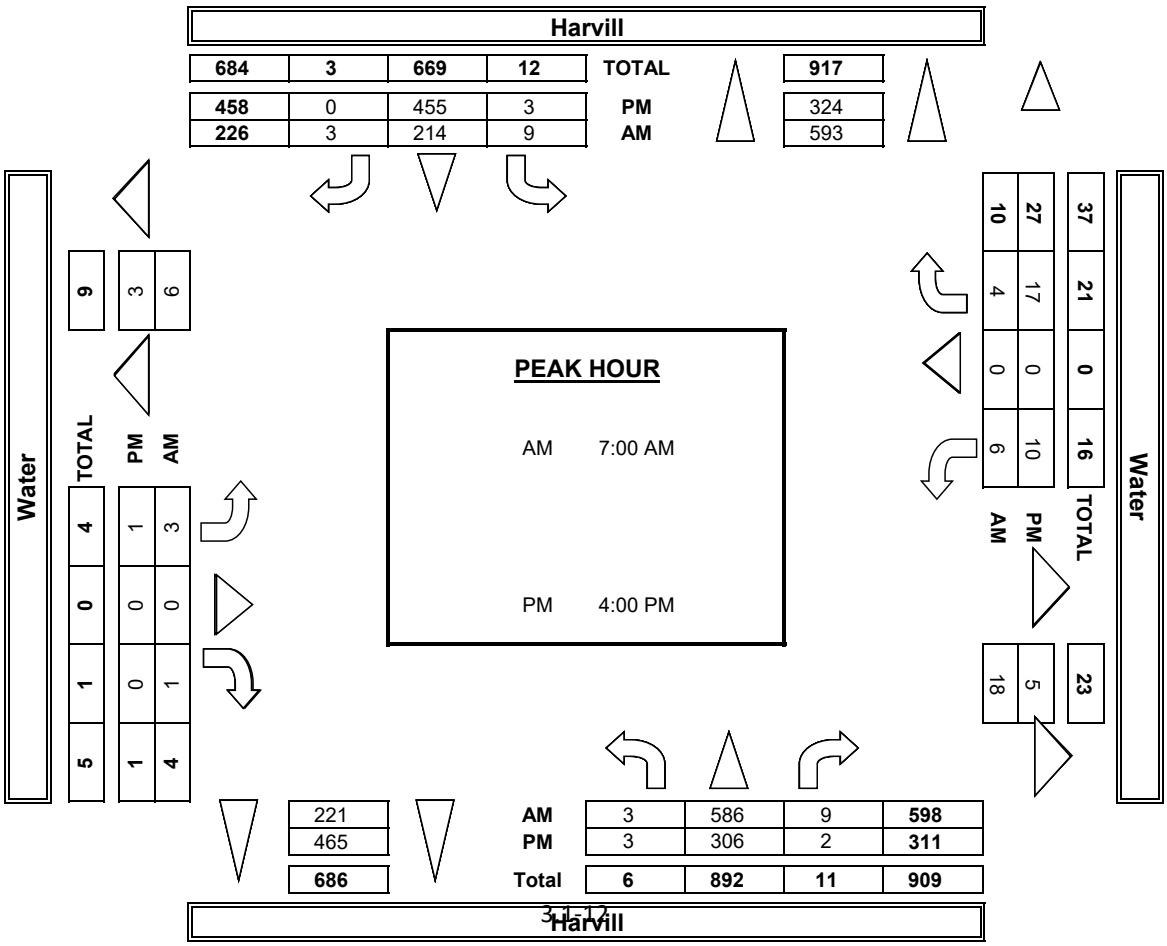
BICYCLE CROSSINGS

ES	WS	SS	NS	TOTAL
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
4/5/22	LOCATION:	Perris	PROJECT #:	SC3361
TUESDAY	NORTH & SOUTH:	Harvill	LOCATION #:	1
	EAST & WEST:	Water	CONTROL:	STOP E/W

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N, ◄ W, E ►, S ▼

		NORTHBOUND (Harvill)			SOUTHBOUND (Harvill)			EASTBOUND (Water)			WESTBOUND (Water)			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0	
AM	7:00 AM	0	10	0	1	1	0	0	0	0	0	0	1	13
AM	7:15 AM	0	5	2	1	1	1	1	0	0	2	0	1	14
AM	7:30 AM	1	1	0	1	1	0	0	0	0	1	0	0	5
AM	7:45 AM	0	2	2	0	2	0	0	0	0	1	0	1	8
AM	8:00 AM	0	4	0	0	5	1	0	0	1	1	0	2	14
AM	8:15 AM	0	0	1	1	8	0	0	0	0	0	0	0	10
AM	8:30 AM	0	1	0	0	7	0	0	0	0	0	0	0	8
AM	8:45 AM	0	0	2	0	5	0	1	0	0	1	0	1	10
AM	VOLUMES	1	23	7	4	30	2	2	0	1	6	0	6	82
AM	APPROACH %	3%	74%	23%	11%	83%	6%	67%	0%	33%	50%	0%	50%	
AM	APP/DEPART	31	/	31	36	/	37	3	/	11	12	/	3	0
AM	BEGIN PEAK HR		7:00 AM											
AM	VOLUMES	1	18	4	3	5	1	1	0	0	4	0	3	40
AM	APPROACH %	4%	78%	17%	33%	56%	11%	100%	0%	0%	57%	0%	43%	
AM	PEAK HR FACTOR		0.575			0.750			0.250			0.583		0.714
AM	APP/DEPART	23	/	22	9	/	9	1	/	7	7	/	2	0
PM	4:00 PM	0	5	0	0	6	0	0	0	0	1	0	2	14
PM	4:15 PM	0	6	0	1	11	0	0	0	0	0	0	1	19
PM	4:30 PM	0	7	0	0	5	0	0	0	0	0	0	0	12
PM	4:45 PM	0	2	1	0	11	0	0	0	0	0	0	1	15
PM	5:00 PM	0	2	0	0	8	0	0	0	0	0	0	0	10
PM	5:15 PM	0	4	0	0	2	0	0	0	1	0	0	0	7
PM	5:30 PM	0	4	0	0	6	0	0	0	0	0	0	0	10
PM	5:45 PM	0	2	0	0	7	0	0	0	0	0	0	0	9
PM	VOLUMES	0	32	1	1	56	0	0	0	1	1	0	4	96
PM	APPROACH %	0%	97%	3%	2%	98%	0%	0%	0%	100%	20%	0%	80%	
PM	APP/DEPART	33	/	36	57	/	58	1	/	2	5	/	0	0
PM	BEGIN PEAK HR		4:00 PM											
PM	VOLUMES	0	20	1	1	33	0	0	0	0	1	0	4	60
PM	APPROACH %	0%	95%	5%	3%	97%	0%	0%	0%	0%	20%	0%	80%	
PM	PEAK HR FACTOR		0.750			0.708			0.000			0.417		0.789
PM	APP/DEPART	21	/	24	34	/	34	0	/	2	5	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
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
VOLUMES	0	0	0	0	0
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
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
AM PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PM PEAK HR VOLUMES	0	0	0	0

Harvill

NORTH SIDE

Water WEST SIDE — EAST SIDE **Water**

SOUTH SIDE

Harvill

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 4/5/22 TUESDAY	LOCATION:	Perris	PROJECT #:	SC3361
	NORTH & SOUTH:	Harvill	LOCATION #:	1
	EAST & WEST:	Water	CONTROL:	STOP E/W

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Harvill			SOUTHBOUND Harvill			EASTBOUND Water			WESTBOUND Water				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0							X	X	X	X
AM	7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
AM	7:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	2	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	2	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	1	4	0	0	3	0	1	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0
AM	APPROACH %	20%	80%	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%										
AM	APP/DEPART	5	/	5	3	/	3	1	/	0	0	/	1	0									
AM	BEGIN PEAK HR		7:00 AM																				
AM	VOLUMES	1	2	0	0	1	0	1	0	0	0	0	0	5						0	0	0	0
AM	APPROACH %	33%	67%	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%										
AM	PEAK HR FACTOR		0.375			0.250			0.250			0.000		0.417									
AM	APP/DEPART	3	/	3	1	/	1	1	/	0	0	/	1	0									
PM	4:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	2	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	5	0	0	8	0	0	0	0	0	0	1	14	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%										
PM	APP/DEPART	5	/	6	8	/	8	0	/	0	1	/	0	0									
PM	BEGIN PEAK HR		4:00 PM																				
PM	VOLUMES	0	3	0	0	5	0	0	0	0	0	0	1	9						0	0	0	0
PM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%										
PM	PEAK HR FACTOR		0.375			0.417			0.000			0.250		0.750									
PM	APP/DEPART	3	/	4	5	/	5	0	/	0	1	/	0	0									

Harvill

NORTH SIDE

Water WEST SIDE

EAST SIDE **Water**

SOUTH SIDE

Harvill

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Perris	PROJECT #:	SC3361
4/5/22	NORTH & SOUTH:	Harvill	LOCATION #:	1
TUESDAY	EAST & WEST:	Water	CONTROL:	STOP E/W

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N / ◄ W / E ► / S ▼

		NORTHBOUND (Harvill)			SOUTHBOUND (Harvill)			EASTBOUND (Water)			WESTBOUND (Water)			TOTAL	U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0							X	X	X	X
AM	7:00 AM	0	0	0	1	4	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	2	0	0	3	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	2	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	2	0	0	3	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	3	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	3	0	0	1	1	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	4	0	0	2	0	0	0	0	0	0	1	7	0	0	0	0	0	0	0	0	0
AM	VOLUMES	0	16	1	1	15	1	0	0	0	0	0	2	36	0	0	0	0	0	0	0	0	0
AM	APPROACH %	0%	94%	6%	6%	88%	6%	0%	0%	0%	0%	0%	100%										
AM	APP/DEPART	17	/	18	17	/	15	0	/	2	2	/	1	0									
AM	BEGIN PEAK HR		7:00 AM																				
AM	VOLUMES	0	4	0	1	9	0	0	0	0	0	0	1	15						0	0	0	0
AM	APPROACH %	0%	100%	0%	10%	90%	0%	0%	0%	0%	0%	0%	100%										
AM	PEAK HR FACTOR		0.500			0.500			0.000			0.250		0.750									
AM	APP/DEPART	4	/	5	10	/	9	0	/	1	1	/	0	0									
PM	4:00 PM	0	1	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	2	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	7	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	4	0	0	1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	2	0	1	1	1	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	1	1	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	1	0	0	1	1	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	10	1	2	13	2	2	0	0	0	0	1	31	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	91%	9%	12%	76%	12%	100%	0%	0%	0%	0%	100%										
PM	APP/DEPART	11	/	13	17	/	13	2	/	3	1	/	2	0									
PM	BEGIN PEAK HR		4:00 PM																				
PM	VOLUMES	0	2	0	1	9	0	1	0	0	0	0	1	14						0	0	0	0
PM	APPROACH %	0%	100%	0%	10%	90%	0%	100%	0%	0%	0%	0%	100%										
PM	PEAK HR FACTOR		0.500			0.357			0.250			0.250		0.500									
PM	APP/DEPART	2	/	4	10	/	9	1	/	1	1	/	0	0									

Harvill

NORTH SIDE

Water WEST SIDE EAST SIDE **Water**

SOUTH SIDE

Harvill

INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Perris	PROJECT #:	SC3361
Tue, Apr 5, 22	NORTH & SOUTH:	Harvill	LOCATION #:	2
	EAST & WEST:	Orange	CONTROL:	STOP E/W

NOTES:

AM / PM / MD / OTHER / OTHER — N ▲ / ◄ W / E ► / S ▼

Add U-Turns to Left Turns

		NORTHBOUND Harvill			SOUTHBOUND Harvill			EASTBOUND Orange			WESTBOUND Orange			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0	
AM	7:00 AM	1	171	3	0	33	1	7	0	0	0	0	1	217
	7:15 AM	0	148	9	3	38	0	6	0	0	1	0	1	206
	7:30 AM	0	134	5	2	68	5	14	0	3	1	0	0	232
	7:45 AM	1	118	3	5	55	5	3	0	0	0	0	3	193
	8:00 AM	0	99	4	2	57	2	6	0	2	4	0	4	180
	8:15 AM	0	60	6	0	52	3	5	0	1	1	0	3	131
	8:30 AM	1	49	4	2	51	1	5	0	2	5	0	3	123
	8:45 AM	3	46	7	3	47	1	5	0	4	0	0	3	119
	VOLUMES	6	825	41	17	401	18	51	0	12	12	0	18	1,401
	APPROACH %	1%	95%	5%	4%	92%	4%	81%	0%	19%	40%	0%	60%	
	APP/DEPART	872	/	894	436	/	425	63	/	58	30	/	24	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	2	571	20	10	194	11	30	0	3	2	0	5	848
	APPROACH %	0%	96%	3%	5%	90%	5%	91%	0%	9%	29%	0%	71%	
	PEAK HR FACTOR		0.847			0.717			0.485			0.583		0.914
	APP/DEPART	593	/	606	215	/	199	33	/	30	7	/	13	0
PM	4:00 PM	1	75	9	3	95	4	4	0	1	14	1	11	218
	4:15 PM	0	62	9	3	112	4	0	0	2	9	0	3	204
	4:30 PM	0	75	6	5	126	8	6	1	1	10	0	3	241
	4:45 PM	1	68	3	0	98	7	3	0	1	8	0	1	190
	5:00 PM	1	59	6	3	81	6	1	0	2	9	0	2	170
	5:15 PM	5	51	1	2	100	3	3	0	3	5	0	4	177
	5:30 PM	0	61	4	2	105	7	3	0	1	7	0	3	193
	5:45 PM	3	48	2	0	92	7	0	0	2	8	0	1	163
	VOLUMES	11	499	40	18	809	46	20	1	13	70	1	28	1,556
	APPROACH %	2%	91%	7%	2%	93%	5%	59%	3%	38%	71%	1%	28%	
	APP/DEPART	550	/	547	873	/	892	34	/	59	99	/	58	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	2	280	27	11	431	23	13	1	5	41	1	18	853
	APPROACH %	1%	91%	9%	2%	93%	5%	68%	5%	26%	68%	2%	30%	
	PEAK HR FACTOR		0.909			0.836			0.594			0.577		0.885
	APP/DEPART	309	/	311	465	/	477	19	/	39	60	/	26	0

U-TURNS

	NB	SB	EB	WB	TTL
	0	0	0	0	
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
VOLUMES	0	0	0	0	0
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
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

Harvill

NORTH SIDE

Orange WEST SIDE — EAST SIDE Orange

SOUTH SIDE

Harvill

ALL PED AND BIKE

		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	1	0	0	1
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	0	1	0	0	1
PM	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	0	0	0	0	0

PEDESTRIAN CROSSINGS

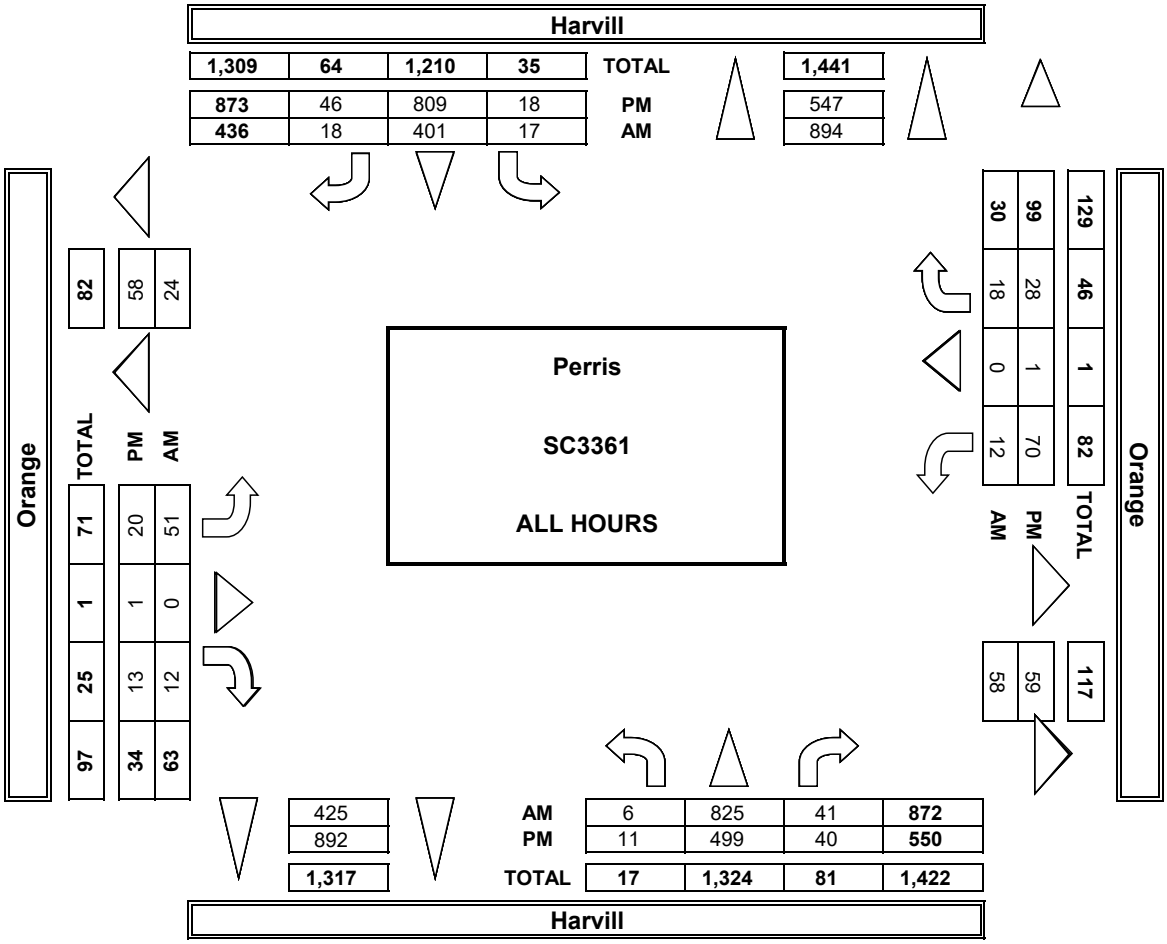
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	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	0	0	0	0	0

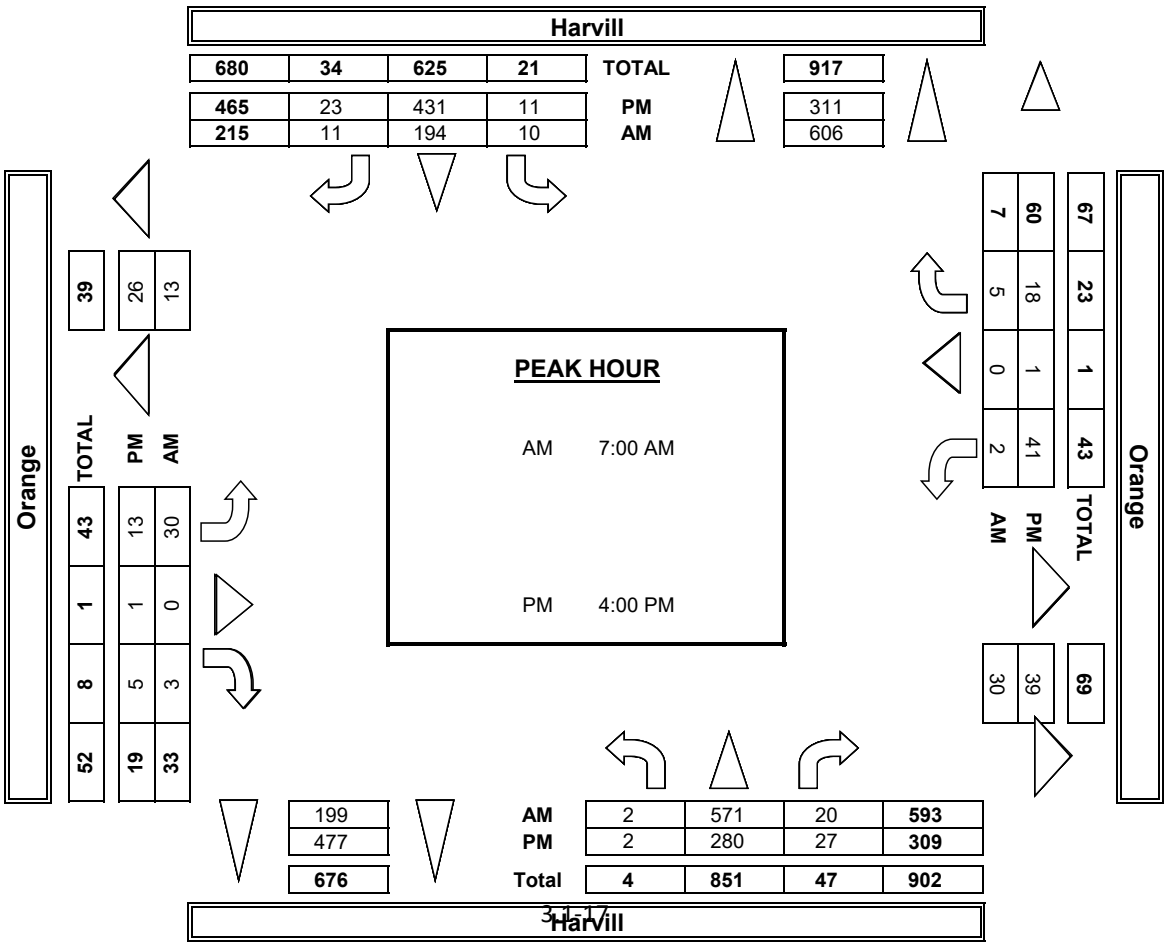
BICYCLE CROSSINGS

		ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	1	0	0	1
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	0	1	0	0	1
PM	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	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Perris	PROJECT #:	SC3361
4/5/22	NORTH & SOUTH:	Harvill	LOCATION #:	2
TUESDAY	EAST & WEST:	Orange	CONTROL:	STOP E/W

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N / ◄ W / E ► / S ▼

		NORTHBOUND (Harvill)			SOUTHBOUND (Harvill)			EASTBOUND (Orange)			WESTBOUND (Orange)			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0	
AM	7:00 AM	0	8	1	0	1	0	1	0	0	0	0	1	12
AM	7:15 AM	0	7	0	0	3	0	0	0	0	0	0	0	10
AM	7:30 AM	0	0	2	0	2	0	2	0	1	1	0	0	8
AM	7:45 AM	0	3	0	1	1	1	0	0	0	0	0	1	7
AM	8:00 AM	0	3	0	0	7	0	0	0	0	0	0	1	11
AM	8:15 AM	0	0	0	0	8	0	1	0	0	0	0	0	9
AM	8:30 AM	0	0	0	0	7	0	1	0	0	1	0	0	9
AM	8:45 AM	0	2	0	0	6	0	0	0	1	0	0	0	9
AM	VOLUMES	0	23	3	1	35	1	5	0	2	2	0	3	75
AM	APPROACH %	0%	88%	12%	3%	95%	3%	71%	0%	29%	40%	0%	60%	
AM	APP/DEPART	26	/	31	37	/	39	7	/	4	5	/	1	0
AM	BEGIN PEAK HR		7:00 AM											
AM	VOLUMES	0	18	3	1	7	1	3	0	1	1	0	2	37
AM	APPROACH %	0%	86%	14%	11%	78%	11%	75%	0%	25%	33%	0%	67%	
AM	PEAK HR FACTOR		0.583			0.750			0.333			0.750		0.771
AM	APP/DEPART	21	/	23	9	/	9	4	/	4	3	/	1	0
PM	4:00 PM	0	3	0	1	6	0	1	0	0	1	0	1	13
PM	4:15 PM	0	6	0	0	11	0	0	0	0	0	0	0	17
PM	4:30 PM	0	7	0	0	5	0	0	0	0	0	0	0	12
PM	4:45 PM	0	3	0	0	11	0	0	0	0	0	0	0	14
PM	5:00 PM	0	2	0	2	6	0	0	0	0	1	0	0	11
PM	5:15 PM	0	4	1	0	3	0	0	0	0	2	0	0	10
PM	5:30 PM	0	4	0	0	5	1	0	0	0	0	0	0	10
PM	5:45 PM	0	2	0	0	6	1	0	0	0	2	0	0	11
PM	VOLUMES	0	31	1	3	53	2	1	0	0	6	0	1	98
PM	APPROACH %	0%	97%	3%	5%	91%	3%	100%	0%	0%	86%	0%	14%	
PM	APP/DEPART	32	/	33	58	/	59	1	/	4	7	/	2	0
PM	BEGIN PEAK HR		4:00 PM											
PM	VOLUMES	0	19	0	1	33	0	1	0	0	1	0	1	56
PM	APPROACH %	0%	100%	0%	3%	97%	0%	100%	0%	0%	50%	0%	50%	
PM	PEAK HR FACTOR		0.679			0.773			0.250			0.250		0.824
PM	APP/DEPART	19	/	21	34	/	34	1	/	1	2	/	0	0

U-TURNS

Time	NB	SB	EB	WB	TTL
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
AM VOLUMES	0	0	0	0	0
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
PM VOLUMES	0	0	0	0	0

RTOR

Time	NRR	SRR	ERR	WRR
LANES	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
AM VOLUMES	0	0	0	0
AM PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
PM VOLUMES	0	0	0	0
PM PEAK HR VOLUMES	0	0	0	0

Harvill
NORTH SIDE

Orange WEST SIDE EAST SIDE **Orange**

SOUTH SIDE
Harvill

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Perris	PROJECT #:	SC3361
4/5/22	NORTH & SOUTH:	Harvill	LOCATION #:	2
TUESDAY	EAST & WEST:	Orange	CONTROL:	STOP E/W

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Harvill			SOUTHBOUND Harvill			EASTBOUND Orange			WESTBOUND Orange			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
AM	7:30 AM	0	2	0	1	0	0	0	0	0	0	0	0	3
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	3
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	0	4	0	1	2	0	0	0	0	0	0	1	8
AM	APPROACH %	0%	100%	0%	33%	67%	0%	0%	0%	0%	0%	0%	100%	
AM	APP/DEPART	4	/	5	3	/	2	0	/	1	1	/	0	0
AM	BEGIN PEAK HR		7:00 AM											
AM	VOLUMES	0	3	0	1	0	0	0	0	0	0	0	0	4
AM	APPROACH %	0%	100%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	
AM	PEAK HR FACTOR		0.375			0.250			0.000			0.000		0.333
AM	APP/DEPART	3	/	3	1	/	0	0	/	1	0	/	0	0
PM	4:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
PM	4:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
PM	4:30 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
PM	4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
PM	5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
PM	5:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
PM	5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	5	0	0	8	0	0	0	0	0	0	0	13
PM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
PM	APP/DEPART	5	/	5	8	/	8	0	/	0	0	/	0	0
PM	BEGIN PEAK HR		4:00 PM											
PM	VOLUMES	0	3	0	0	5	0	0	0	0	0	0	0	8
PM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
PM	PEAK HR FACTOR		0.375			0.417			0.000			0.000		0.667
PM	APP/DEPART	3	/	3	5	/	5	0	/	0	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
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
AM VOLUMES	0	0	0	0	0
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
PM VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
AM VOLUMES	0	0	0	0
AM PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
PM VOLUMES	0	0	0	0
PM PEAK HR VOLUMES	0	0	0	0

Harvill

NORTH SIDE

Orange WEST SIDE

EAST SIDE **Orange**

SOUTH SIDE

Harvill

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 4/5/22 TUESDAY			
LOCATION:	Perris	PROJECT #:	SC3361
NORTH & SOUTH:	Harvill	LOCATION #:	2
EAST & WEST:	Orange	CONTROL:	STOP E/W

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

N ▲ ◄ W E ► S ▼

		NORTHBOUND Harvill			SOUTHBOUND Harvill			EASTBOUND Orange			WESTBOUND Orange			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	0	1	0	0	1	0	
AM	7:00 AM	0	0	0	0	4	0	0	0	0	0	0	0	4
AM	7:15 AM	0	2	1	1	2	0	0	0	0	0	0	0	6
AM	7:30 AM	0	0	0	1	1	0	0	0	0	0	0	0	2
AM	7:45 AM	0	1	1	0	0	0	0	0	0	0	0	1	3
AM	8:00 AM	0	1	0	1	2	0	0	0	0	0	0	1	5
AM	8:15 AM	0	3	1	0	0	0	0	0	0	0	0	1	5
AM	8:30 AM	0	2	1	0	1	0	0	0	0	0	0	1	5
AM	8:45 AM	0	0	3	0	2	0	1	0	0	0	0	3	9
AM	VOLUMES	0	9	7	3	12	0	1	0	0	0	0	7	39
AM	APPROACH %	0%	56%	44%	20%	80%	0%	100%	0%	0%	0%	0%	100%	
AM	APP/DEPART	16	/	17	15	/	12	1	/	10	7	/	0	0
AM	BEGIN PEAK HR		7:00 AM											
AM	VOLUMES	0	3	2	2	7	0	0	0	0	0	0	1	15
AM	APPROACH %	0%	60%	40%	22%	78%	0%	0%	0%	0%	0%	0%	100%	
AM	PEAK HR FACTOR		0.417			0.563			0.000			0.250		0.625
AM	APP/DEPART	5	/	4	9	/	7	0	/	4	1	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
PM	4:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
PM	4:30 PM	0	0	0	0	7	0	0	0	0	0	0	0	7
PM	4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
PM	5:00 PM	0	4	0	0	1	0	0	0	0	0	0	0	5
PM	5:15 PM	0	2	0	0	1	0	0	0	1	0	0	0	4
PM	5:30 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
PM	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
PM	VOLUMES	0	10	0	0	13	0	0	0	1	0	0	1	25
PM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	100%	
PM	APP/DEPART	10	/	11	13	/	14	1	/	0	1	/	0	0
PM	BEGIN PEAK HR		4:00 PM											
PM	VOLUMES	0	1	0	0	9	0	0	0	0	0	0	1	11
PM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%	
PM	PEAK HR FACTOR		0.250			0.321			0.000			0.250		0.393
PM	APP/DEPART	1	/	2	9	/	9	0	/	0	1	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
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
VOLUMES	0	0	0	0	0
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
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES	X	X	X	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

Harvill

NORTH SIDE

Orange WEST SIDE

EAST SIDE **Orange**

SOUTH SIDE

Harvill

T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Apr 5, 22

LOCATION: Perris
NORTH & SOUTH: I-215 SB Ramps
EAST & WEST: Nuevo

PROJECT #: SC3361
LOCATION #: 3
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

☐ Add U-Turns to Left Turns

		NORTHBOUND I-215 SB Ramps			SOUTHBOUND I-215 SB Ramps			EASTBOUND Nuevo			WESTBOUND Nuevo			
	LANES:	NL X	NT X	NR X	SL 1.5	ST 0.5	SR 1	EL X	ET 2	ER 0	WL 2	WT 2	WR X	TOTAL
AM	7:00 AM	0	0	0	95	2	20	0	144	17	85	130	0	493
	7:15 AM	0	0	0	45	0	19	0	92	22	42	123	0	343
	7:30 AM	0	0	0	35	1	19	0	85	28	38	136	0	342
	7:45 AM	0	0	0	31	0	16	0	100	28	46	105	0	326
	8:00 AM	0	0	0	46	0	13	0	98	29	71	113	0	370
	8:15 AM	0	0	0	59	1	14	0	82	18	65	96	0	335
	8:30 AM	0	0	0	45	0	11	0	84	21	58	91	0	310
	8:45 AM	0	0	0	43	0	11	0	99	16	75	64	0	308
	VOLUMES	0	0	0	399	4	123	0	784	179	480	858	0	2,827
	APPROACH %	0%	0%	0%	76%	1%	23%	0%	81%	19%	36%	64%	0%	
	APP/DEPART	0	/	0	526	/	661	963	/	1,185	1,338	/	981	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	0	0	0	206	3	74	0	421	95	211	494	0	1,504
	APPROACH %	0%	0%	0%	73%	1%	26%	0%	82%	18%	30%	70%	0%	
	PEAK HR FACTOR		0.000			0.605			0.801			0.820		0.763
	APP/DEPART	0	/	0	283	/	307	516	/	629	705	/	568	0
PM	4:00 PM	0	0	0	122	1	17	0	126	39	137	152	0	594
	4:15 PM	0	0	0	91	0	19	0	161	59	127	120	0	577
	4:30 PM	0	0	0	148	0	19	0	97	50	135	113	0	562
	4:45 PM	0	0	0	105	2	20	0	153	39	141	108	0	568
	5:00 PM	0	0	0	134	0	17	0	107	36	145	74	0	513
	5:15 PM	0	0	0	120	0	20	0	115	50	127	81	0	513
	5:30 PM	0	0	0	149	0	17	0	86	25	142	59	0	478
	5:45 PM	0	0	0	134	0	15	0	82	24	122	47	0	424
	VOLUMES	0	0	0	1,003	3	144	0	927	322	1,076	754	0	4,229
	APPROACH %	0%	0%	0%	87%	0%	13%	0%	74%	26%	59%	41%	0%	
	APP/DEPART	0	/	0	1,150	/	1,401	1,249	/	1,930	1,830	/	898	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	466	3	75	0	537	187	540	493	0	2,301
	APPROACH %	0%	0%	0%	86%	1%	14%	0%	74%	26%	52%	48%	0%	
	PEAK HR FACTOR		0.000			0.814			0.823			0.894		0.968
	APP/DEPART	0	/	0	544	/	730	724	/	1,003	1,033	/	568	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR 0	ERR 0	WRR X
0	9	6	0
0	11	8	0
0	12	7	0
0	11	9	0
0	7	8	0
0	5	7	0
0	6	6	0
0	7	4	0
0	68	55	0
0	43	30	0
0	10	5	0
0	13	7	0
0	12	6	0
0	11	10	0
0	14	6	0
0	15	8	0
0	6	10	0
0	7	8	0
0	88	60	0
0	46	28	0

I-215 SB Ramps

NORTH SIDE

Nuevo WEST SIDE EAST SIDE **Nuevo**

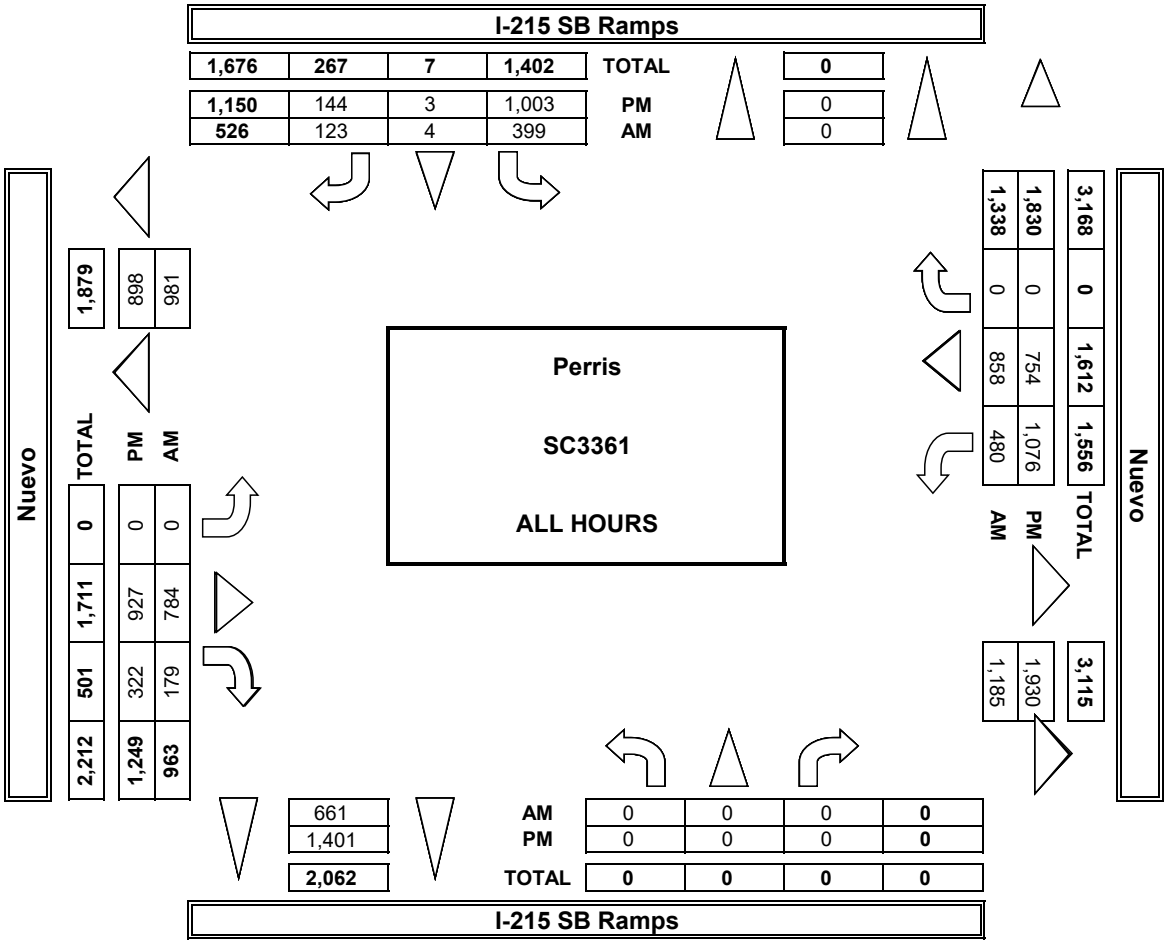
SOUTH SIDE

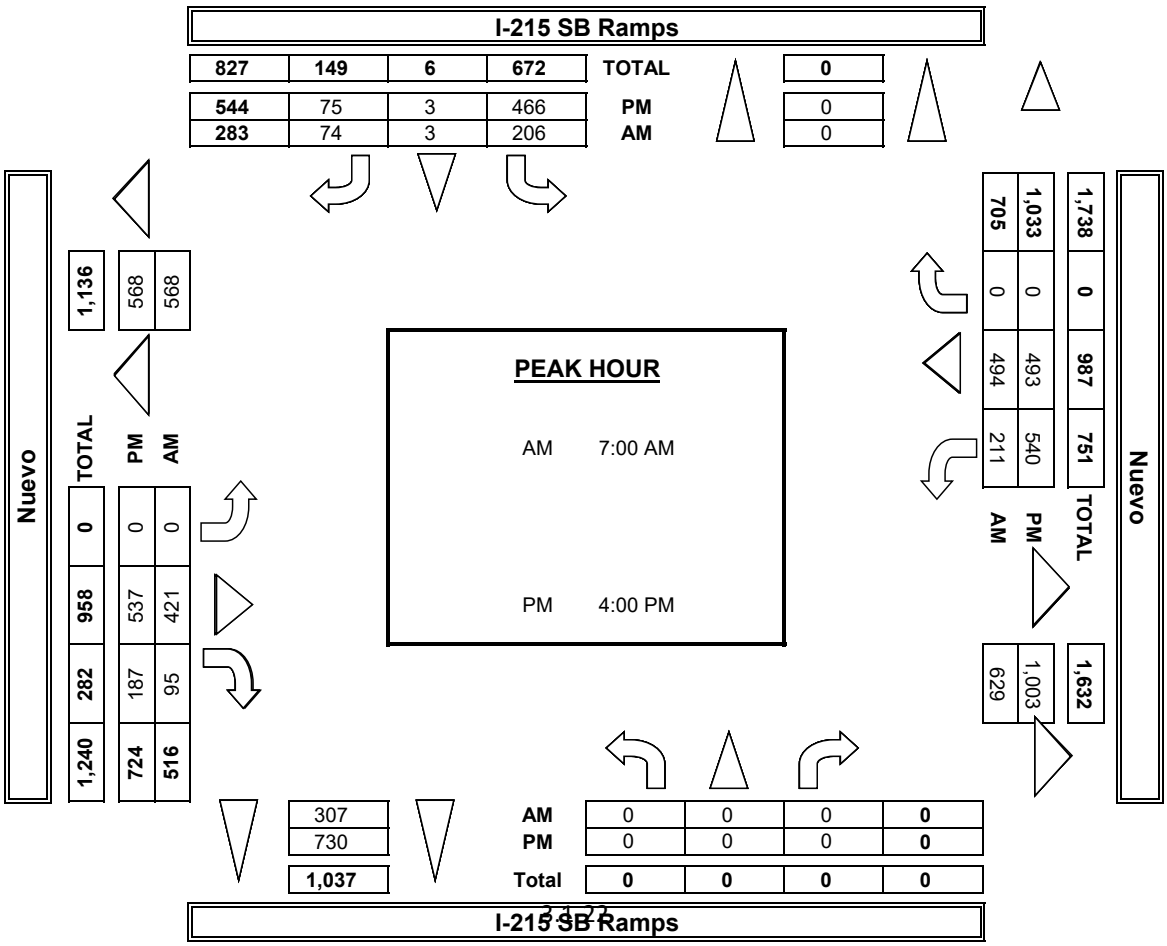
I-215 SB Ramps

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	TOTAL	0	0	1	1	2	0	0	0	0	1	0	0	0	0	1

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 4/5/22 TUESDAY			
LOCATION:	Perris	PROJECT #:	SC3361
NORTH & SOUTH:	I-215 SB Ramps	LOCATION #:	3
EAST & WEST:	Nuevo	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND (I-215 SB Ramps)			SOUTHBOUND (I-215 SB Ramps)			EASTBOUND (Nuevo)			WESTBOUND (Nuevo)			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	X	X	1.5	0.5	1	X	2	0	2	2	X	
AM 7:00 AM	0	0	0	6	0	1	0	3	2	3	12	0	27
7:15 AM	0	0	0	5	0	1	0	7	2	5	8	0	28
7:30 AM	0	0	0	4	0	2	0	6	0	4	6	0	22
7:45 AM	0	0	0	2	0	0	0	9	2	2	6	0	21
8:00 AM	0	0	0	1	0	0	0	6	0	1	6	0	14
8:15 AM	0	0	0	3	0	1	0	5	2	5	5	0	21
8:30 AM	0	0	0	5	0	1	0	5	4	2	5	0	22
8:45 AM	0	0	0	2	0	0	0	6	1	3	8	0	20
VOLUMES	0	0	0	28	0	6	0	47	13	25	56	0	175
APPROACH %	0%	0%	0%	82%	0%	18%	0%	78%	22%	31%	69%	0%	
APP/DEPART	0	/	0	34	/	38	60	/	75	81	/	62	0
BEGIN PEAK HR		7:00 AM											
VOLUMES	0	0	0	17	0	4	0	25	6	14	32	0	98
APPROACH %	0%	0%	0%	81%	0%	19%	0%	81%	19%	30%	70%	0%	
PEAK HR FACTOR		0.000			0.750			0.705			0.767		0.875
APP/DEPART	0	/	0	21	/	20	31	/	42	46	/	36	0
PM 4:00 PM	0	0	0	1	1	1	0	2	3	4	7	0	19
4:15 PM	0	0	0	6	0	2	0	6	2	2	3	0	21
4:30 PM	0	0	0	7	0	2	0	2	5	2	3	0	21
4:45 PM	0	0	0	9	0	1	0	10	4	4	1	0	29
5:00 PM	0	0	0	7	0	1	0	6	2	1	2	0	19
5:15 PM	0	0	0	4	0	1	0	4	7	2	11	0	29
5:30 PM	0	0	0	7	0	2	0	3	3	3	7	0	25
5:45 PM	0	0	0	5	0	0	0	3	2	2	2	0	14
VOLUMES	0	0	0	46	1	10	0	36	28	20	36	0	177
APPROACH %	0%	0%	0%	81%	2%	18%	0%	56%	44%	36%	64%	0%	
APP/DEPART	0	/	0	57	/	49	64	/	82	56	/	46	0
BEGIN PEAK HR		4:00 PM											
VOLUMES	0	0	0	23	1	6	0	20	14	12	14	0	90
APPROACH %	0%	0%	0%	77%	3%	20%	0%	59%	41%	46%	54%	0%	
PEAK HR FACTOR		0.000			0.750			0.607			0.591		0.776
APP/DEPART	0	/	0	30	/	27	34	/	43	26	/	20	0

U-TURNS

	NB	SB	EB	WB	TTL
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
VOLUMES	0	0	0	0	0
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
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES	X	0	0	X
7:00 AM	0	1	0	0
7:15 AM	0	1	1	0
7:30 AM	0	0	0	0
7:45 AM	0	0	1	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	1	2	0
8:45 AM	0	0	0	0
VOLUMES	0	3	4	0
PEAK HR VOLUMES	0	2	2	0
4:00 PM	0	1	0	0
4:15 PM	0	2	0	0
4:30 PM	0	2	1	0
4:45 PM	0	0	2	0
5:00 PM	0	1	0	0
5:15 PM	0	0	2	0
5:30 PM	0	1	2	0
5:45 PM	0	0	1	0
VOLUMES	0	7	8	0
PEAK HR VOLUMES	0	5	3	0

I-215 SB Ramps

NORTH SIDE

Nuevo WEST SIDE

EAST SIDE **Nuevo**

SOUTH SIDE

I-215 SB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Perris	PROJECT #:	SC3361
4/5/22	NORTH & SOUTH:	I-215 SB Ramps	LOCATION #:	3
TUESDAY	EAST & WEST:	Nuevo	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N, ◄ W, E ►, S ▼

		NORTHBOUND I-215 SB Ramps			SOUTHBOUND I-215 SB Ramps			EASTBOUND Nuevo			WESTBOUND Nuevo			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	X	X	1.5	0.5	1	X	2	0	2	2	X	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
	7:15 AM	0	0	0	0	0	0	0	0	0	1	1	0	2
	7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
	8:15 AM	0	0	0	1	0	0	0	0	0	0	2	0	3
	8:30 AM	0	0	0	0	0	0	0	1	0	0	4	0	5
	8:45 AM	0	0	0	2	0	0	0	1	0	1	2	0	6
	VOLUMES	0	0	0	3	0	0	0	2	2	3	10	0	20
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	50%	50%	23%	77%	0%	
	APP/DEPART	0	/	0	3	/	5	4	/	5	13	/	10	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	0	0	0	0	0	0	0	0	1	2	2	0	5
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	50%	50%	0%	
	PEAK HR FACTOR		0.000			0.000			0.250			0.500		0.625
	APP/DEPART	0	/	0	0	/	3	1	/	0	4	/	2	0
PM	4:00 PM	0	0	0	1	0	0	0	1	0	0	0	0	2
	4:15 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
	4:30 PM	0	0	0	0	0	0	0	0	1	0	2	0	3
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	1	0	0	0	0	0	0	2	0	3
	5:15 PM	0	0	0	0	0	0	0	0	1	0	2	0	3
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	2	0	0	0	4	2	0	6	0	14
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	67%	33%	0%	100%	0%	
	APP/DEPART	0	/	0	2	/	2	6	/	6	6	/	6	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	1	0	0	0	4	1	0	2	0	8
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	80%	20%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.250			0.417			0.250		0.667
	APP/DEPART	0	/	0	1	/	1	5	/	5	2	/	2	0

U-TURNS

	NB	SB	EB	WB	TTL
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
VOLUMES	0	0	0	0	0
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
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES:	X	0	0	X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

I-215 SB Ramps

NORTH SIDE

Nuevo WEST SIDE

EAST SIDE **Nuevo**

SOUTH SIDE

I-215 SB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Perris	PROJECT #:	SC3361
4/5/22	NORTH & SOUTH:	I-215 SB Ramps	LOCATION #:	3
TUESDAY	EAST & WEST:	Nuevo	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

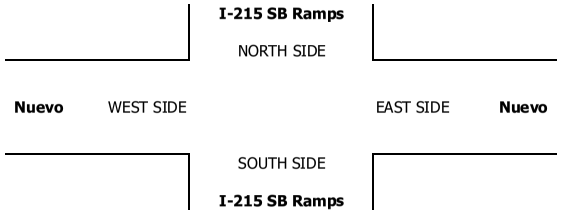
		NORTHBOUND I-215 SB Ramps			SOUTHBOUND I-215 SB Ramps			EASTBOUND Nuevo			WESTBOUND Nuevo			
	LANES:	NL X	NT X	NR X	SL 1.5	ST 0.5	SR 1	EL X	ET 2	ER 0	WL 2	WT 2	WR X	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	2
	7:15 AM	0	0	0	1	0	0	0	2	0	0	6	0	9
	7:30 AM	0	0	0	0	0	1	0	2	0	1	2	0	6
	7:45 AM	0	0	0	0	0	0	0	0	1	0	4	0	5
	8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
	8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:30 AM	0	0	0	0	0	0	0	3	0	1	0	0	4
	8:45 AM	0	0	0	1	0	0	0	0	1	0	2	0	4
	VOLUMES	0	0	0	3	0	1	0	8	2	4	14	0	32
	APPROACH %	0%	0%	0%	75%	0%	25%	0%	80%	20%	22%	78%	0%	
	APP/DEPART	0	/	0	4	/	6	10	/	11	18	/	15	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	0	0	0	1	0	1	0	4	1	3	12	0	22
	APPROACH %	0%	0%	0%	50%	0%	50%	0%	80%	20%	20%	80%	0%	
	PEAK HR FACTOR		0.000			0.500			0.625			0.625		0.611
	APP/DEPART	0	/	0	2	/	4	5	/	5	15	/	13	0
PM	4:00 PM	0	0	0	1	0	0	0	1	1	3	3	0	9
	4:15 PM	0	0	0	1	0	0	0	1	3	1	0	0	6
	4:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	2
	4:45 PM	0	0	0	1	0	0	0	1	0	1	0	0	3
	5:00 PM	0	0	0	1	0	0	0	0	0	2	3	0	6
	5:15 PM	0	0	0	2	0	0	0	3	1	0	1	0	7
	5:30 PM	0	0	0	0	0	0	0	0	1	0	1	0	2
	5:45 PM	0	0	0	1	0	0	0	2	2	1	0	0	6
	VOLUMES	0	0	0	7	0	0	0	9	8	9	8	0	41
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	53%	47%	53%	47%	0%	
	APP/DEPART	0	/	0	7	/	17	17	/	16	17	/	8	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	3	0	0	0	4	4	6	3	0	20
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	50%	50%	67%	33%	0%	
	PEAK HR FACTOR		0.000			0.750			0.500			0.375		0.556
	APP/DEPART	0	/	0	3	/	10	8	/	7	9	/	3	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR 0	ERR 0	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	1	0
0	0	0	0
0	0	3	0
0	0	1	0



T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Apr 5, 22

LOCATION: Perris
NORTH & SOUTH: I-215 NB Ramps
EAST & WEST: Nuevo

PROJECT #: SC3361
LOCATION #: 4
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Nuevo			WESTBOUND Nuevo			
	LANES:	NL 0.5	NT 0.5	NR 2	SL X	ST X	SR X	EL 1	ET 2	ER X	WL X	WT 2	WR 1	TOTAL
AM	7:00 AM	46	0	104	0	0	0	16	223	0	0	173	94	656
	7:15 AM	25	0	101	0	0	0	10	128	0	0	140	126	530
	7:30 AM	22	1	91	0	0	0	7	106	0	0	152	103	482
	7:45 AM	16	1	68	0	0	0	12	120	0	0	135	101	453
	8:00 AM	29	2	75	0	0	0	12	132	0	0	155	104	509
	8:15 AM	21	0	84	0	0	0	18	123	0	0	140	106	492
	8:30 AM	17	1	71	0	0	0	14	115	0	0	132	108	458
	8:45 AM	16	0	75	0	0	0	15	127	0	0	123	107	463
	VOLUMES	192	5	669	0	0	0	104	1,074	0	0	1,150	849	4,043
	APPROACH %	22%	1%	77%	0%	0%	0%	9%	91%	0%	0%	58%	42%	
	APP/DEPART	866	/	958	0	/	0	1,178	/	1,743	1,999	/	1,342	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	109	2	364	0	0	0	45	577	0	0	600	424	2,121
	APPROACH %	23%	0%	77%	0%	0%	0%	7%	93%	0%	0%	59%	41%	
	PEAK HR FACTOR		0.792			0.000			0.651			0.959		0.808
	APP/DEPART	475	/	471	0	/	0	622	/	941	1,024	/	709	0
PM	4:00 PM	36	0	101	0	0	0	23	225	0	0	261	102	748
	4:15 PM	19	0	110	0	0	0	9	243	0	0	228	108	717
	4:30 PM	17	0	87	0	0	0	13	227	0	0	231	75	650
	4:45 PM	8	0	92	0	0	0	8	250	0	0	241	94	693
	5:00 PM	21	1	81	0	0	0	15	226	0	0	198	100	642
	5:15 PM	15	0	77	0	0	0	15	220	0	0	193	99	619
	5:30 PM	17	0	65	0	0	0	11	224	0	0	184	93	594
	5:45 PM	7	0	80	0	0	0	8	208	0	0	162	84	549
	VOLUMES	140	1	693	0	0	0	102	1,823	0	0	1,698	755	5,213
	APPROACH %	17%	0%	83%	0%	0%	0%	5%	95%	0%	0%	69%	31%	
	APP/DEPART	834	/	858	0	/	0	1,925	/	2,517	2,454	/	1,838	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	80	0	390	0	0	0	53	945	0	0	961	379	2,809
	APPROACH %	17%	0%	83%	0%	0%	0%	5%	95%	0%	0%	72%	28%	
	PEAK HR FACTOR		0.858			0.000			0.967			0.921		0.938
	APP/DEPART	470	/	432	0	/	0	998	/	1,336	1,341	/	1,041	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1

RTOR

NRR 0	SRR X	ERR X	WRR 0
54	0	0	14
60	0	0	15
54	0	0	6
46	0	0	6
44	0	0	5
46	0	0	11
36	0	0	12
44	0	0	13
384	0	0	82
214	0	0	41
58	0	0	17
66	0	0	17
56	0	0	19
61	0	0	11
53	0	0	11
38	0	0	19
31	0	0	11
49	0	0	9
412	0	0	114
241	0	0	64

ALL PED AND BIKE

	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
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	0	0	0	0	0
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	1	1
5:00 PM	0	0	1	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	1	1	2

PEDESTRIAN CROSSINGS

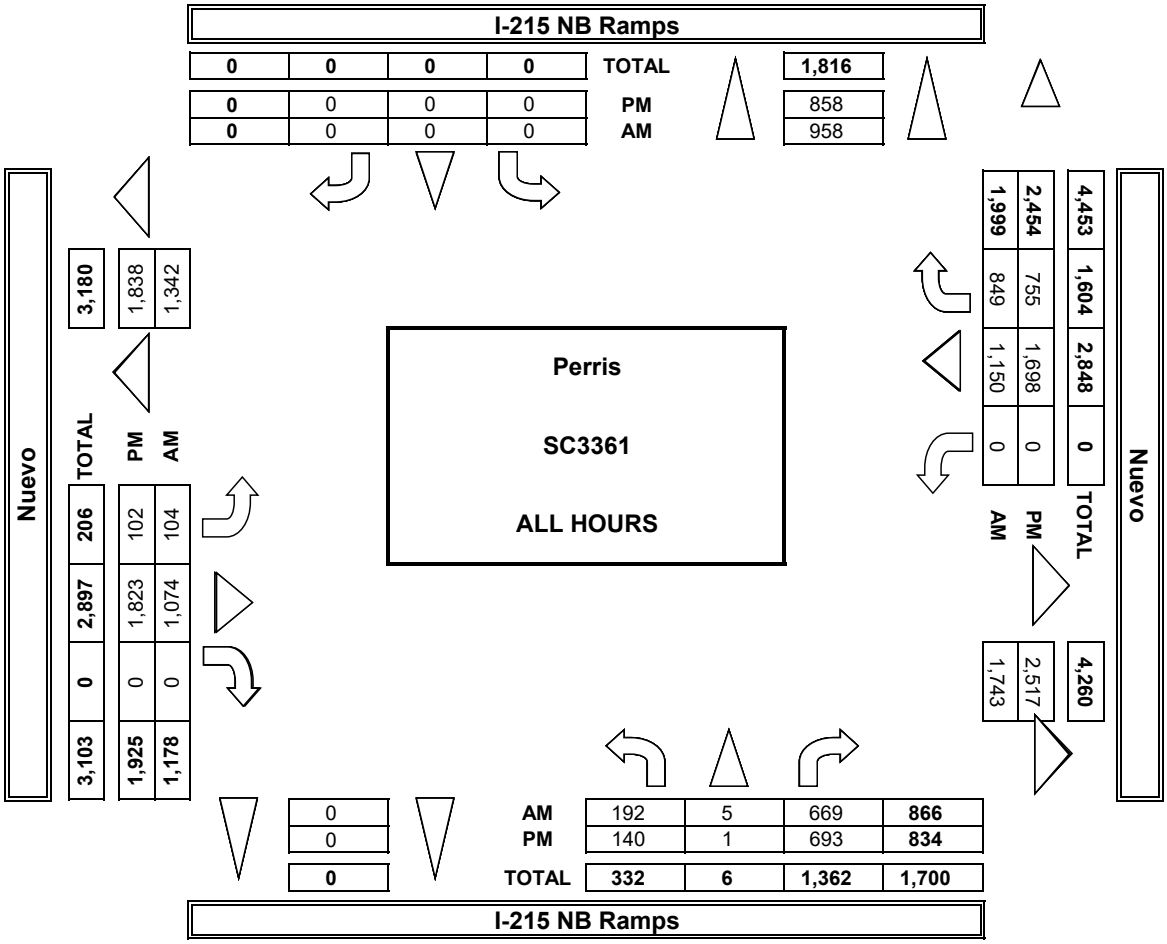
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

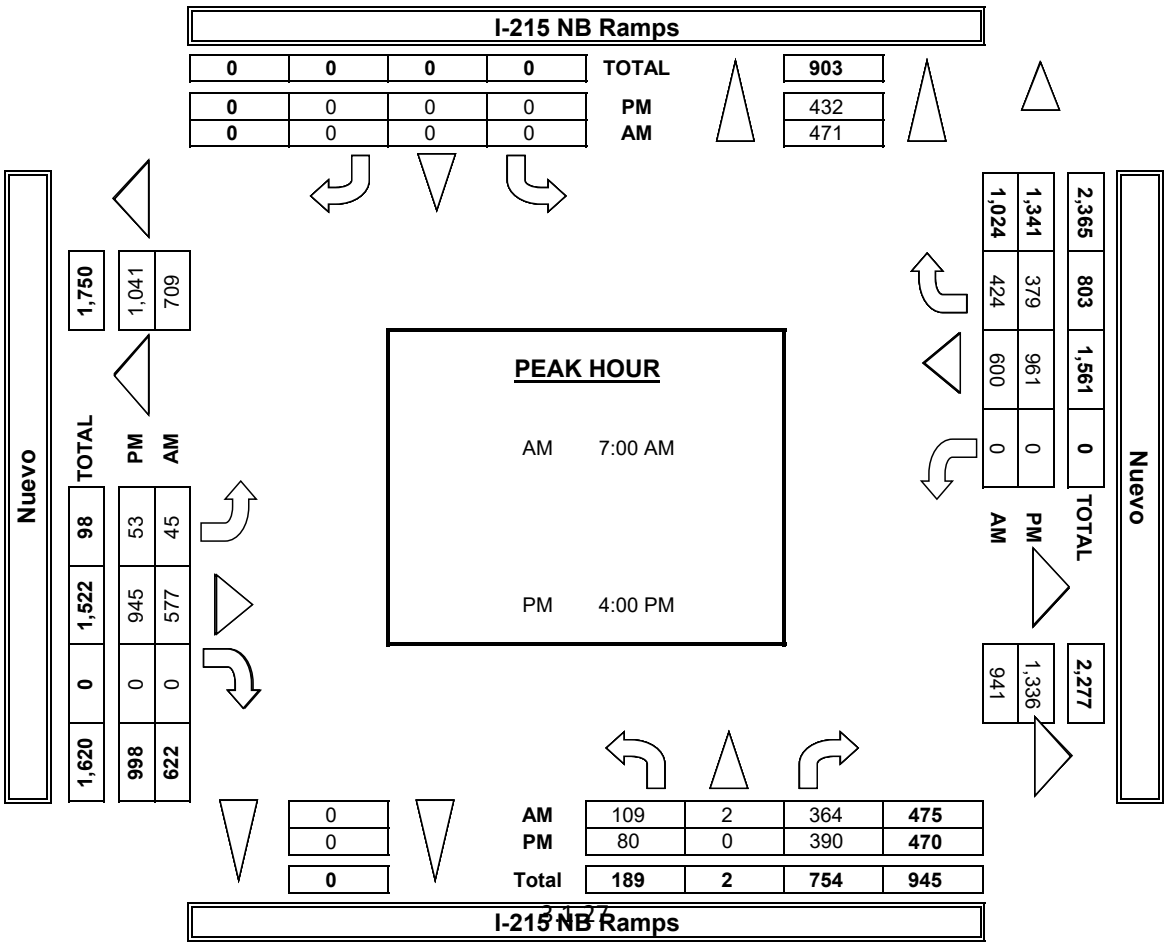
BICYCLE CROSSINGS

ES	WS	SS	NS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Perris	PROJECT #:	SC3361
4/5/22	NORTH & SOUTH:	I-215 NB Ramps	LOCATION #:	4
TUESDAY	EAST & WEST:	Nuevo	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

AM PM MD OTHER OTHER

▲ N, ◄ W, E ►, S ▼

		NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Nuevo			WESTBOUND Nuevo			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0.5	0.5	2	X	X	X	1	2	X	X	2	1	
AM	7:00 AM	3	0	15	0	0	0	2	7	0	0	12	9	48
AM	7:15 AM	1	0	5	0	0	0	0	12	0	0	12	7	37
AM	7:30 AM	3	0	6	0	0	0	0	10	0	0	7	5	31
AM	7:45 AM	0	0	3	0	0	0	2	9	0	0	8	6	28
AM	8:00 AM	0	0	4	0	0	0	1	6	0	0	7	4	22
AM	8:15 AM	1	0	2	0	0	0	0	8	0	0	9	6	26
AM	8:30 AM	0	0	2	0	0	0	0	10	0	0	7	4	23
AM	8:45 AM	0	0	2	0	0	0	1	7	0	0	11	5	26
AM	VOLUMES	8	0	39	0	0	0	6	69	0	0	73	46	241
AM	APPROACH %	17%	0%	83%	0%	0%	0%	8%	92%	0%	0%	61%	39%	
AM	APP/DEPART	47	/	52	0	/	0	75	/	108	119	/	81	0
AM	BEGIN PEAK HR		7:00 AM											
AM	VOLUMES	7	0	29	0	0	0	4	38	0	0	39	27	144
AM	APPROACH %	19%	0%	81%	0%	0%	0%	10%	90%	0%	0%	59%	41%	
AM	PEAK HR FACTOR		0.500			0.000			0.875			0.786		0.750
AM	APP/DEPART	36	/	31	0	/	0	42	/	67	66	/	46	0
PM	4:00 PM	1	0	2	0	0	0	0	3	0	0	10	3	19
PM	4:15 PM	0	0	5	0	0	0	0	12	0	0	5	3	25
PM	4:30 PM	0	0	5	0	0	0	0	9	0	0	5	1	20
PM	4:45 PM	1	0	5	0	0	0	0	19	0	0	4	2	31
PM	5:00 PM	0	0	4	0	0	0	0	13	0	0	3	4	24
PM	5:15 PM	1	0	2	0	0	0	1	7	0	0	12	5	28
PM	5:30 PM	2	0	2	0	0	0	0	10	0	0	8	5	27
PM	5:45 PM	0	0	4	0	0	0	0	8	0	0	4	2	18
PM	VOLUMES	5	0	29	0	0	0	1	81	0	0	51	25	192
PM	APPROACH %	15%	0%	85%	0%	0%	0%	1%	99%	0%	0%	67%	33%	
PM	APP/DEPART	34	/	26	0	/	0	82	/	110	76	/	56	0
PM	BEGIN PEAK HR		4:00 PM											
PM	VOLUMES	2	0	17	0	0	0	0	43	0	0	24	9	95
PM	APPROACH %	11%	0%	89%	0%	0%	0%	0%	100%	0%	0%	73%	27%	
PM	PEAK HR FACTOR		0.792			0.000			0.566			0.635		0.766
PM	APP/DEPART	19	/	9	0	/	0	43	/	60	33	/	26	0

U-TURNS						RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
LANES						0	X	X	0
7:00 AM	0	0	0	0	0	4	0	0	1
7:15 AM	0	0	0	0	0	3	0	0	0
7:30 AM	0	0	0	0	0	5	0	0	0
7:45 AM	0	0	0	0	0	3	0	0	0
8:00 AM	0	0	0	0	0	2	0	0	0
8:15 AM	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	0	0	0	2	0	0	0
8:45 AM	0	0	0	0	0	1	0	0	0
VOLUMES	0	0	0	0	0	21	0	0	2
AM PEAK HR VOLUMES						15	0	0	1
4:00 PM	0	0	0	0	0	1	0	0	1
4:15 PM	0	0	0	0	0	4	0	0	0
4:30 PM	0	0	0	0	0	4	0	0	0
4:45 PM	0	0	0	0	0	2	0	0	0
5:00 PM	0	0	0	0	0	3	0	0	0
5:15 PM	0	0	0	0	0	2	0	0	0
5:30 PM	0	0	0	0	0	2	0	0	0
5:45 PM	0	0	0	0	0	2	0	0	0
VOLUMES	0	0	0	0	0	20	0	0	1
PM PEAK HR VOLUMES						11	0	0	1

I-215 NB Ramps

NORTH SIDE

Nuevo WEST SIDE EAST SIDE **Nuevo**

SOUTH SIDE

I-215 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:			
4/5/22	LOCATION: Perris	PROJECT #:	SC3361
TUESDAY	NORTH & SOUTH: I-215 NB Ramps	LOCATION #:	4
	EAST & WEST: Nuevo	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Nuevo			WESTBOUND Nuevo			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0.5	0.5	2	X	X	X	1	2	X	X	2	1	
AM	7:00 AM	0	0	2	0	0	0	0	0	0	0	1	0	3
	7:15 AM	0	0	1	0	0	0	0	0	0	0	2	0	3
	7:30 AM	0	0	1	0	0	0	0	0	0	0	0	2	3
	7:45 AM	1	0	0	0	0	0	0	0	0	0	0	1	2
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	2
	8:15 AM	0	0	1	0	0	0	0	1	0	0	2	0	4
	8:30 AM	0	0	0	0	0	0	0	1	0	0	4	1	6
	8:45 AM	0	0	1	0	0	0	0	3	0	0	3	1	8
	VOLUMES	1	0	6	0	0	0	0	5	0	0	12	7	31
	APPROACH %	14%	0%	86%	0%	0%	0%	0%	100%	0%	0%	63%	37%	
	APP/DEPART	7	/	7	0	/	0	5	/	11	19	/	13	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	1	0	4	0	0	0	0	0	0	0	3	3	11
	APPROACH %	20%	0%	80%	0%	0%	0%	0%	0%	0%	0%	50%	50%	
	PEAK HR FACTOR		0.625			0.000			0.000			0.750		0.917
	APP/DEPART	5	/	3	0	/	0	0	/	4	6	/	4	0
PM	4:00 PM	0	0	0	0	0	0	0	2	0	0	0	1	3
	4:15 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
	4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	1	0	0	0	1	0	0	0	2	0	4
	5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	1	0	0	0	1	5	0	0	6	1	14
	APPROACH %	0%	0%	100%	0%	0%	0%	17%	83%	0%	0%	86%	14%	
	APP/DEPART	1	/	2	0	/	0	6	/	6	7	/	6	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	0	0	0	0	5	0	0	2	1	8
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	67%	33%	
	PEAK HR FACTOR		0.000			0.000			0.417			0.375		0.667
	APP/DEPART	0	/	1	0	/	0	5	/	5	3	/	2	0

U-TURNS

	NB	SB	EB	WB	TTL
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
VOLUMES	0	0	0	0	0
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
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES	0	X	X	0
7:00 AM	1	0	0	0
7:15 AM	1	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	1	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
VOLUMES	3	0	0	0
PEAK HR VOLUMES	2	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	1	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	1	0	0	0
PEAK HR VOLUMES	0	0	0	0

I-215 NB Ramps

NORTH SIDE

Nuevo WEST SIDE

EAST SIDE **Nuevo**

SOUTH SIDE

I-215 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Perris	PROJECT #:	SC3361
4/5/22	NORTH & SOUTH:	I-215 NB Ramps	LOCATION #:	4
TUESDAY	EAST & WEST:	Nuevo	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Nuevo			WESTBOUND Nuevo			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0.5	0.5	2	X	X	X	1	2	X	X	2	1	
AM	7:00 AM	1	0	0	0	0	0	0	0	0	0	1	3	5
AM	7:15 AM	2	0	1	0	0	0	0	3	0	0	4	0	10
AM	7:30 AM	2	0	1	0	0	0	0	2	0	0	1	0	6
AM	7:45 AM	2	0	1	0	0	0	0	0	0	0	2	1	6
AM	8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
AM	8:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	2
AM	8:30 AM	1	0	2	0	0	0	0	3	0	0	0	1	7
AM	8:45 AM	2	0	0	0	0	0	0	1	0	0	0	1	4
AM	VOLUMES	10	0	5	0	0	0	0	11	0	0	8	7	41
AM	APPROACH %	67%	0%	33%	0%	0%	0%	0%	100%	0%	0%	53%	47%	
AM	APP/DEPART	15	/	7	0	/	0	11	/	16	15	/	18	0
AM	BEGIN PEAK HR		7:00 AM											
AM	VOLUMES	7	0	3	0	0	0	0	5	0	0	8	4	27
AM	APPROACH %	70%	0%	30%	0%	0%	0%	0%	100%	0%	0%	67%	33%	
AM	PEAK HR FACTOR		0.833			0.000			0.417			0.750		0.675
AM	APP/DEPART	10	/	4	0	/	0	5	/	8	12	/	15	0
PM	4:00 PM	3	0	1	0	0	0	1	1	0	0	3	3	12
PM	4:15 PM	1	0	2	0	0	0	0	2	0	0	0	1	6
PM	4:30 PM	1	0	1	0	0	0	0	1	0	0	0	2	5
PM	4:45 PM	0	0	1	0	0	0	0	2	0	0	1	0	4
PM	5:00 PM	3	0	0	0	0	0	1	0	0	0	2	0	6
PM	5:15 PM	1	0	0	0	0	0	0	5	0	0	0	0	6
PM	5:30 PM	1	0	0	0	0	0	0	0	0	0	0	1	2
PM	5:45 PM	0	0	0	0	0	0	1	2	0	0	1	0	4
PM	VOLUMES	10	0	5	0	0	0	3	13	0	0	7	7	45
PM	APPROACH %	67%	0%	33%	0%	0%	0%	19%	81%	0%	0%	50%	50%	
PM	APP/DEPART	15	/	10	0	/	0	16	/	18	14	/	17	0
PM	BEGIN PEAK HR		4:00 PM											
PM	VOLUMES	5	0	5	0	0	0	1	6	0	0	4	6	27
PM	APPROACH %	50%	0%	50%	0%	0%	0%	14%	86%	0%	0%	40%	60%	
PM	PEAK HR FACTOR		0.625			0.000			0.875			0.417		0.563
PM	APP/DEPART	10	/	7	0	/	0	7	/	11	10	/	9	0

U-TURNS

	NB	SB	EB	WB	TTL
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
VOLUMES	0	0	0	0	0
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
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
LANES	0	X	X	0
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	1	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	1	0	0	1
8:45 AM	0	0	0	0
VOLUMES	2	0	0	1
PEAK HR VOLUMES	1	0	0	0
4:00 PM	0	0	0	0
4:15 PM	1	0	0	0
4:30 PM	1	0	0	0
4:45 PM	1	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	1
5:45 PM	0	0	0	0
VOLUMES	3	0	0	1
PEAK HR VOLUMES	3	0	0	0

I-215 NB Ramps

NORTH SIDE

Nuevo WEST SIDE

EAST SIDE **Nuevo**

SOUTH SIDE

I-215 NB Ramps

A1119

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, April 05, 2022
JOB #: SC3361

CITY# Perris
CLASS1 Water west of Harvill

AM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30	0	0	0	0	0	0	0	0	1	0	0	0	0	1
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30	0	0	0	0	0	0	0	1	0	0	0	0	0	1
3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	1	0	0	0	0	1	0	0	1	0	0	0	0	3
4:45	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
6:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
6:45	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1
7:15	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7:30	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	2	0	0	0	0	0	0	0	0	2
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
8:45	0	0	2	0	0	0	0	0	0	0	0	0	0	2
9:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30	0	0	0	0	2	0	0	0	0	0	0	0	0	2
9:45	0	0	0	0	1	0	0	0	0	0	0	0	0	1
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	2	0	0	0	0	0	0	0	0	2
10:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	2	0	0	0	0	2	0	0	0	0	0	0	0	4
11:15	0	1	1	0	0	0	0	0	0	0	0	0	0	2
11:30	0	0	0	0	0	0	0	0	1	0	0	0	0	1
11:45	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL	3	6	7	0	10	4	0	2	3	0	0	0	0	35

AM PEAK HOUR	11:00 AM
AM PEAK VOLUME	8

PM	EASTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
12:15	0	0	0	0	0	1	0	0	0	0	0	0	0	1
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	1	0	0	0	0	0	0	0	0	0	0	1
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	1	0	0	0	0	0	0	0	0	0	0	1
13:30	0	0	1	0	0	0	0	0	0	0	0	0	0	1
13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
14:15	0	0	1	0	0	0	0	0	0	0	0	0	0	1
14:30	0	0	0	0	0	0	0	1	0	0	0	0	0	1
14:45	0	1	0	0	1	0	0	0	0	0	0	0	0	2
15:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	1	0	0	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	1	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
17:15	0	0	0	0	2	0	0	0	0	0	0	0	0	2
17:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2
17:45	1	0	0	0	0	1	0	0	0	0	0	0	0	2
18:00	0	1	1	0	1	0	0	0	0	0	0	0	0	3
18:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
18:30	0	1	0	0	1	0	0	0	0	0	0	0	0	2
18:45	0	0	0	0	1	0	0	0	0	0	0	0	0	1
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15	0	0	0	0	1	0	0	0	0	0	0	0	0	1
19:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
19:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	1	0	0	0	0	0	0	0	0	1
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	1	0	0	1	0	0	0	0	0	0	0	0	2
22:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
22:15	0	0	0	0	0	0	0	0	1	0	0	0	0	1
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	1	1	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	1	14	9	0	14	2	0	1	2	0	0	0	0	43

PM PEAK HOUR	5:45 PM
PM PEAK VOLUME	9

TOTAL: AM+PM	4	20	16	0	24	6	0	3	5	0	0	0	0	78
% OF TOTAL	5.1%	25.6%	20.5%	0.0%	30.8%	7.7%	0.0%	3.8%	6.4%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	6	62	25	0	25	7	1	6	6	0	0	0	0	138
% OF TOTAL	4.3%	44.9%	18.1%	0.0%	18.1%	5.1%	0.7%	4.3%	4.3%	0.0%	0.0%	0.0%	0.0%	100.0%

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, April 05, 2022
JOB #: SC3361

CITY# Perris
CLASS1 Water west of Harvill

AM	WESTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:45	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	1	2	0	0	0	0	0	0	0	0	0	0	0	3
7:30	0	2	1	0	0	0	0	0	0	0	0	0	0	3
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
8:15	0	1	1	0	0	0	0	0	0	0	0	0	0	2
8:30	0	1	0	0	0	0	0	1	0	0	0	0	0	2
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
9:45	0	1	1	0	0	0	0	1	0	0	0	0	0	3
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	1	0	0	0	0	0	0	0	0	0	0	1
10:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
11:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	1	19	7	0	0	0	0	2	0	0	0	0	0	29

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	8

PM	WESTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	1	1	0	0	0	0	0	0	0	0	0	0	0	2
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
13:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
14:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	1	0	0	0	0	0	0	1
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
16:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
17:15	0	1	0	0	0	0	0	0	1	0	0	0	0	2
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
18:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
18:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
19:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
19:30	0	1	0	0	0	0	0	1	0	0	0	0	0	2
19:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3
21:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	1	0	0	1	0	0	0	0	0	0	0	2
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	23	2	0	1	1	1	1	1	0	0	0	0	31

PM PEAK HOUR	5:15 PM
PM PEAK VOLUME	7

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	2	42	9	0	1	1	1	3	1	0	0	0	0	60
% OF TOTAL	3.3%	70.0%	15.0%	0.0%	1.7%	1.7%	1.7%	5.0%	1.7%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**

A1119

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, April 05, 2022
JOB #: SC3361

CITY# Perris
CLASS2 Orange west of Harvill

AM	EASTBOUND														PM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	12:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
0:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12:15	0	5	1	0	0	0	0	0	0	0	0	0	0	6
0:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12:30	0	1	3	0	1	0	0	0	0	0	0	0	0	5
0:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12:45	0	5	0	0	1	0	0	0	0	0	0	0	0	6
1:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	13:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13:15	0	8	0	0	1	0	0	0	0	0	0	0	0	9
1:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:30	1	2	0	0	0	0	0	0	0	0	0	0	0	3
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
2:15	0	0	0	0	1	0	0	0	0	0	0	0	0	1	14:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:30	0	4	1	0	0	0	0	0	0	0	0	0	0	5
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	15:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13
3:15	0	0	0	0	0	0	0	0	1	0	0	0	0	1	15:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:45	0	6	0	0	1	0	0	0	0	0	0	0	0	7
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16:00	0	4	0	0	1	0	0	0	0	0	0	0	0	5
4:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2	16:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9
4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
5:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	17:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
5:15	0	1	0	0	1	0	0	0	0	0	0	0	0	2	17:15	0	4	1	0	0	0	0	0	0	0	0	0	0	5
5:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	17:30	0	3	2	0	0	0	0	0	0	0	0	0	0	5
5:45	0	1	1	0	1	0	0	0	0	0	0	0	0	3	17:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
6:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2	18:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
6:15	0	5	1	0	0	0	0	0	0	0	0	0	0	6	18:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
6:30	0	7	1	0	0	0	0	0	0	0	0	0	0	8	18:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3
6:45	0	7	0	0	0	0	0	0	0	1	0	0	0	8	18:45	0	3	1	0	0	0	0	0	0	0	0	0	0	4
7:00	0	4	3	0	0	0	0	0	0	0	0	0	0	7	19:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
7:15	0	4	1	0	0	0	0	0	0	0	0	0	0	5	19:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
7:30	0	14	2	0	1	0	0	0	0	0	0	0	0	17	19:30	0	4	1	0	0	0	0	0	0	0	0	0	0	5
7:45	0	3	1	0	0	0	0	0	0	0	0	0	0	4	19:45	0	1	1	0	1	0	0	0	0	0	0	0	0	3
8:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6	20:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
8:15	0	7	0	0	1	0	0	0	0	0	0	0	0	8	20:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
8:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6	20:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5
8:45	0	7	2	0	1	0	0	0	0	0	0	0	0	10	20:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
9:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4	21:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
9:15	0	3	1	0	0	0	0	0	0	0	0	0	0	4	21:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
9:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2	21:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
9:45	0	4	1	0	0	0	0	0	0	0	0	0	0	5	21:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
10:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2	22:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
10:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2	22:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
10:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	22:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
10:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6	22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4	23:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
11:15	0	1	2	0	1	0	0	0	0	0	0	0	0	4	23:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
11:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	6	1	0	0	0	0	0	0	0	0	0	0	7	23:45	0	1	0	0	0	1	0	0	0	0	0	0	0	2
TOTAL	0	126	24	0	8	0	0	0	1	1	0	0	0	160	TOTAL	1	154	19	0	6	1	0	0	0	0	0	0	0	181

AM PEAK HOUR	6:45 AM
AM PEAK VOLUME	37

PM PEAK HOUR	3:00 PM
PM PEAK VOLUME	27

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	1	280	43	0	14	1	0	0	1	1	0	0	0	341
% OF TOTAL	0.3%	82.1%	12.6%	0.0%	4.1%	0.3%	0.0%	0.0%	0.3%	0.3%	0.0%	0.0%	0.0%	100.0%

Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	
TOTAL: ALL	6	534	83	0	49	4	0	3	4	1	1	1	0	686
% OF TOTAL	0.9%	77.8%	12.1%	0.0%	7.1%	0.6%	0.0%	0.4%	0.6%	0.1%	0.1%	0.1%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, April 05, 2022
JOB #: SC3361

CITY# Perris
CLASS2 Orange west of Harvill

AM	WESTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
1:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
1:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
1:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
6:45	0	1	0	0	0	1	0	0	0	0	0	0	0	2
7:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:15	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7:30	0	3	1	0	0	0	0	0	0	0	0	0	0	4
7:45	0	6	0	0	1	0	0	0	0	0	0	0	0	7
8:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
8:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3
8:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
8:45	0	3	0	0	2	0	0	0	0	0	0	0	0	5
9:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
9:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
9:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
9:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
10:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
10:15	0	4	0	0	1	0	0	0	0	0	0	0	0	5
10:30	0	1	0	0	1	0	0	0	0	0	0	0	0	2
10:45	0	0	2	0	1	0	0	0	0	0	0	0	0	3
11:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5
11:15	0	4	2	0	0	0	0	0	0	0	0	0	0	6
11:30	1	1	0	0	1	1	0	0	0	0	0	0	0	4
11:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL	1	60	8	0	9	2	0	0	0	0	0	0	0	80

AM PEAK HOUR	10:45 AM
AM PEAK VOLUME	18

PM	WESTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
12:15	0	3	0	0	1	0	0	0	0	0	0	1	0	5
12:30	0	5	1	0	0	0	0	0	0	0	0	0	0	6
12:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
13:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
13:15	0	2	0	0	0	0	0	1	1	0	0	0	0	4
13:30	0	2	0	0	0	0	0	0	0	0	1	0	0	3
13:45	0	3	1	0	1	0	0	1	1	0	0	0	0	7
14:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
14:15	0	6	0	0	1	0	0	0	0	0	0	0	0	7
14:30	0	6	0	0	1	0	0	0	0	0	0	0	0	7
14:45	0	5	2	0	2	0	0	0	0	0	0	0	0	9
15:00	0	8	2	0	1	0	0	0	0	0	0	0	0	11
15:15	0	3	1	0	0	0	0	0	0	0	0	0	0	4
15:30	0	7	1	0	1	0	0	0	0	0	0	0	0	9
15:45	0	7	2	0	1	0	0	1	0	0	0	0	0	11
16:00	0	5	0	0	1	0	0	0	0	0	0	0	0	6
16:15	1	4	0	0	0	0	0	0	0	0	0	0	0	5
16:30	0	4	2	0	1	0	0	0	0	0	0	0	0	7
16:45	0	6	2	0	0	0	0	0	0	0	0	0	0	8
17:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
17:15	0	8	1	0	0	0	0	0	0	0	0	0	0	9
17:30	0	4	0	0	2	0	0	0	0	0	0	0	0	6
17:45	0	6	4	0	0	0	0	0	0	0	0	0	0	10
18:00	0	15	1	0	2	0	0	0	0	0	0	0	0	18
18:15	1	4	0	0	2	0	0	0	0	0	0	0	0	7
18:30	0	4	0	0	1	0	0	0	0	0	0	0	0	5
18:45	0	4	1	0	1	0	0	0	0	0	0	0	0	6
19:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
19:15	0	4	1	0	0	0	0	0	0	0	0	0	0	5
19:30	0	4	0	0	1	0	0	0	0	0	0	0	0	5
19:45	0	2	2	0	0	0	0	0	0	0	0	0	0	4
20:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
20:15	0	4	0	0	1	0	0	0	0	0	0	0	0	5
20:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2
20:45	0	2	1	0	1	0	0	0	0	0	0	0	0	4
21:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
21:15	0	2	2	0	0	0	0	0	1	0	0	0	0	5
21:30	0	3	0	0	2	0	0	0	0	0	0	0	0	5
21:45	1	1	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
22:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
23:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:30	0	0	1	0	0	0	0	0	0	0	0	0	0	1
23:45	1	1	0	0	0	1	0	0	0	0	0	0	0	3
TOTAL	4	194	32	0	26	1	0	3	3	0	1	1	0	265

PM PEAK HOUR	5:15 PM
PM PEAK VOLUME	43

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	5	254	40	0	35	3	0	3	3	0	1	1	0	345
% OF TOTAL	1.4%	73.6%	11.6%	0.0%	10.1%	0.9%	0.0%	0.9%	0.9%	0.0%	0.3%	0.3%	0.0%	100.0%

Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**

A1119

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, April 05, 2022
JOB #: SC3361

CITY# Perris
CLASS3 Harvill south of Orange

AM	NORTHBOUND														PM	NORTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL	Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	5	2	0	0	0	0	0	0	0	0	0	0	6	12:00	0	41	14	1	7	0	0	0	0	0	0	0	0	62
0:15	0	4	0	0	1	0	0	0	0	0	0	0	0	5	12:15	0	32	13	0	10	0	0	0	0	0	0	0	0	54
0:30	0	6	1	0	3	0	0	0	1	0	0	0	0	10	12:30	0	34	10	0	5	0	0	1	0	0	0	0	0	50
0:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6	12:45	0	36	10	0	5	0	0	0	0	0	0	0	0	50
1:00	0	2	1	0	2	0	0	0	0	0	0	0	0	4	13:00	0	43	11	0	7	2	0	0	1	0	0	0	0	64
1:15	0	3	1	0	0	0	0	0	0	0	0	0	0	4	13:15	0	32	6	0	6	1	0	1	1	0	0	0	0	47
1:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3	13:30	1	32	7	0	12	1	1	0	1	0	1	0	0	56
1:45	0	7	1	0	0	0	0	0	0	0	0	0	0	7	13:45	0	41	13	1	4	0	0	0	1	0	0	0	0	60
2:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6	14:00	1	39	14	0	9	1	0	1	0	0	0	0	0	64
2:15	0	2	1	0	0	0	0	0	0	0	0	0	0	2	14:15	0	32	10	0	4	0	0	0	0	0	0	0	0	45
2:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3	14:30	0	38	14	0	13	0	0	1	0	0	0	0	0	65
2:45	0	3	1	0	1	0	0	0	0	0	0	0	0	4	14:45	0	35	8	1	5	0	0	1	2	0	0	0	0	52
3:00	0	8	3	0	0	0	0	0	0	0	0	0	0	10	15:00	0	38	10	0	7	0	0	0	0	0	0	0	0	55
3:15	0	8	2	0	1	0	0	0	0	0	0	0	0	10	15:15	1	48	17	0	6	1	0	2	0	0	0	0	0	75
3:30	0	10	3	1	0	0	0	0	0	0	0	0	0	13	15:30	1	56	12	1	8	1	0	0	0	0	0	0	0	78
3:45	0	27	9	0	2	1	0	0	0	0	0	0	0	39	15:45	0	53	14	0	11	0	1	0	0	0	0	0	0	79
4:00	0	16	6	0	2	0	0	0	0	0	0	0	0	23	16:00	0	62	11	0	10	0	0	0	0	0	0	0	0	83
4:15	0	15	6	0	1	0	0	1	0	0	0	0	0	22	16:15	0	54	11	0	2	0	0	0	0	0	0	0	0	67
4:30	0	19	5	0	3	0	0	0	0	0	0	0	0	27	16:30	0	57	8	0	7	0	0	0	0	0	0	0	0	71
4:45	0	17	7	0	5	0	0	0	0	0	0	0	0	28	16:45	0	58	15	0	4	0	0	1	0	0	0	0	0	78
5:00	0	39	4	0	0	0	0	0	1	0	0	0	0	44	17:00	0	54	13	0	6	0	0	1	0	0	0	0	0	73
5:15	0	47	8	2	1	0	0	0	0	0	0	0	0	57	17:15	0	45	8	0	9	0	0	0	0	0	0	0	0	62
5:30	0	47	9	0	0	0	0	0	1	0	0	0	0	57	17:30	0	46	8	0	5	0	0	1	0	0	0	0	0	60
5:45	0	52	8	1	3	0	0	0	0	0	0	0	0	64	17:45	0	40	6	0	7	0	0	0	0	0	0	0	0	53
6:00	0	48	10	1	1	0	0	0	0	0	0	0	0	60	18:00	0	31	8	0	4	0	0	0	0	0	0	0	0	42
6:15	0	42	6	0	1	0	0	0	0	0	0	0	0	48	18:15	0	28	10	0	5	0	0	1	0	0	0	0	0	44
6:30	0	56	9	0	7	0	0	0	0	0	0	0	0	72	18:30	0	36	9	0	2	0	0	0	1	0	0	0	0	47
6:45	0	70	16	0	4	0	0	0	0	0	0	0	0	89	18:45	0	14	4	0	2	0	0	0	0	0	0	0	0	20
7:00	0	106	11	2	7	0	0	2	0	0	0	0	0	128	19:00	0	20	7	0	2	1	0	0	0	0	0	0	0	29
7:15	0	93	16	1	14	0	0	1	1	0	0	0	0	125	19:15	1	16	4	0	2	1	0	0	0	0	0	0	0	23
7:30	0	93	15	1	14	0	0	1	0	0	0	0	0	124	19:30	0	23	7	0	1	0	0	0	0	0	0	0	0	30
7:45	0	95	12	0	10	1	0	0	1	0	0	0	0	118	19:45	1	21	6	0	2	0	0	0	0	0	0	0	0	30
8:00	0	87	10	0	7	0	0	0	0	0	0	1	0	104	20:00	0	20	5	0	0	0	0	0	0	0	0	0	0	25
8:15	0	76	10	0	2	1	0	1	2	0	0	0	0	92	20:15	0	12	5	0	1	0	0	0	0	0	0	0	0	17
8:30	2	71	7	0	2	3	0	0	0	0	0	0	0	84	20:30	0	18	3	0	0	0	0	1	0	0	0	0	0	22
8:45	1	78	6	0	3	1	0	1	2	0	0	0	0	92	20:45	1	12	5	0	1	0	0	0	0	0	0	0	0	18
9:00	1	54	4	0	0	2	0	0	2	0	0	0	0	63	21:00	0	11	4	0	2	0	0	0	0	0	0	0	0	17
9:15	0	48	9	1	2	0	0	2	2	0	0	0	0	63	21:15	0	10	4	0	1	0	0	0	0	0	0	0	0	14
9:30	0	37	6	0	0	0	0	1	1	0	1	0	1	46	21:30	0	14	3	0	0	0	0	0	0	0	0	0	0	17
9:45	0	40	9	0	0	1	0	1	0	0	0	0	0	50	21:45	0	11	4	0	2	0	0	0	0	0	0	0	0	16
10:00	1	47	6	0	0	2	0	0	0	0	0	0	0	55	22:00	0	6	2	0	1	1	0	0	0	0	0	0	0	9
10:15	1	46	8	1	3	1	0	1	0	0	0	0	0	60	22:15	0	11	3	0	0	0	0	0	0	0	0	0	0	13
10:30	0	41	5	0	6	1	0	0	2	0	0	0	0	54	22:30	0	5	1	1	0	0	0	0	1	0	0	0	0	8
10:45	1	40	6	0	1	1	0	0	2	0	0	0	0	50	22:45	0	10	3	0	0	0	0	0	0	0	0	0	0	12
11:00	0	28	4	1	3	0	0	0	1	0	0	0	0	37	23:00	0	10	3	0	0	0	0	0	0	0	0	0	0	13
11:15	0	22	7	2	7	0	0	0	1	0	0	0	0	39	23:15	0	8	1	0	0	0	0	0	0	0	0	0	0	9
11:30	1	27	6	0	9	2	0	0	1	0	0	0	0	45	23:30	0	10	1	0	1	0	0	0	0	0	0	0	0	11
11:45	0	29	10	1	7	0	0	0	0	0	0	0	0	47	23:45	0	6	1	1	0	0	0	1	0	0	0	0	0	9
TOTAL	8	1,715	274	15	135	17	0	12	21	0	1	1	1	2,199	TOTAL	7	1,398	355	6	198	10	2	13	8	0	1	0	0	1,998

AM PEAK HOUR	7:00 AM
AM PEAK VOLUME	495

PM PEAK HOUR	3:15 PM
PM PEAK VOLUME	315

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	15	3,113	628	21	333	27	2	25	29	0	2	1	1	4,197
% OF TOTAL	0.4%	74.2%	15.0%	0.5%	7.9%	0.6%	0.0%	0.6%	0.7%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	
TOTAL: ALL	53	6,044	1,127	32	664	50	6	43	100	1	10	4	4	8,138
% OF TOTAL	0.7%	74.3%	13.8%	0.4%	8.2%	0.6%	0.1%	0.5%	1.2%	0.0%	0.1%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, April 05, 2022
JOB #: SC3361

CITY# Perris
CLASS3 Harvill south of Orange

AM	SOUTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
0:15	0	8	0	0	0	0	0	0	0	0	0	0	0	8
0:30	0	12	3	0	0	0	0	1	0	0	0	0	0	16
0:45	0	6	2	0	2	0	0	1	1	0	0	0	0	12
1:00	0	6	0	0	0	1	0	0	0	0	0	0	0	7
1:15	0	3	0	0	2	0	0	0	0	0	0	0	0	5
1:30	0	5	0	0	0	0	0	0	1	0	0	0	0	6
1:45	0	4	0	0	0	0	0	0	1	0	0	0	0	5
2:00	0	5	1	0	0	0	0	0	1	0	0	0	0	7
2:15	0	4	0	0	0	0	0	1	1	0	0	0	0	6
2:30	0	6	1	0	0	0	0	0	2	0	0	0	0	9
2:45	0	2	0	0	0	0	0	0	1	0	0	0	0	3
3:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
3:15	0	1	1	0	2	0	0	0	0	0	0	0	0	4
3:30	0	7	0	0	1	0	0	0	1	0	0	0	0	9
3:45	0	7	0	0	0	0	0	0	1	0	0	0	0	8
4:00	0	4	3	0	2	0	0	0	0	0	0	0	0	9
4:15	0	4	2	0	1	0	0	0	0	0	0	0	0	7
4:30	0	10	4	0	2	0	0	0	0	0	0	0	0	16
4:45	0	11	3	2	3	0	0	2	2	0	0	0	0	23
5:00	0	11	4	0	3	0	0	0	2	0	0	0	0	20
5:15	0	10	6	2	6	0	0	0	2	0	0	0	0	26
5:30	0	17	8	0	3	1	0	0	0	0	0	0	0	29
5:45	0	24	4	0	3	2	0	1	1	0	0	0	0	35
6:00	0	15	7	0	3	1	0	0	0	0	0	0	0	26
6:15	0	11	3	0	1	0	0	0	3	0	0	0	0	18
6:30	0	12	5	1	2	0	0	1	1	0	0	0	0	22
6:45	0	19	6	2	1	0	0	0	3	0	0	0	0	31
7:00	0	28	4	0	2	0	0	0	2	0	0	0	0	36
7:15	0	32	4	0	5	0	0	0	2	0	0	0	0	43
7:30	0	50	10	0	7	0	1	0	0	0	0	0	0	68
7:45	0	45	8	0	2	0	0	0	0	0	0	0	0	55
8:00	0	39	6	0	10	0	0	0	1	0	0	0	0	56
8:15	0	44	5	0	5	0	0	0	0	0	0	0	0	54
8:30	1	43	7	1	9	0	0	0	0	0	0	0	0	61
8:45	0	39	5	0	3	0	0	0	2	0	0	0	0	49
9:00	0	31	4	1	4	0	0	0	0	0	0	0	0	40
9:15	0	21	7	0	4	0	0	0	2	0	0	0	0	34
9:30	1	17	5	0	3	0	0	0	1	0	0	0	0	27
9:45	0	26	8	0	4	0	0	0	4	0	0	0	0	42
10:00	1	24	7	0	2	0	0	0	1	0	0	0	0	35
10:15	0	29	8	0	1	0	0	0	0	0	0	0	0	38
10:30	1	25	9	0	3	1	0	1	3	0	0	0	0	43
10:45	0	27	7	1	5	0	0	0	2	0	0	0	1	43
11:00	1	26	3	0	4	0	0	0	2	0	1	0	0	37
11:15	1	34	8	0	3	1	0	0	2	0	0	1	0	50
11:30	1	24	9	0	4	0	1	0	2	0	0	0	0	41
11:45	2	30	9	0	5	0	0	1	0	0	0	0	0	47
TOTAL	9	866	196	10	122	7	2	9	50	0	1	1	1	1,274

AM PEAK HOUR	7:30 AM
AM PEAK VOLUME	233

PM	SOUTHBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	38	8	0	4	0	0	0	1	0	0	0	0	51
12:15	1	44	4	0	2	0	0	0	0	0	0	0	0	51
12:30	1	30	3	0	4	0	1	0	1	0	0	0	0	40
12:45	3	32	4	0	11	0	0	3	4	0	0	0	0	57
13:00	0	21	5	0	2	0	0	0	0	0	0	0	0	28
13:15	0	34	9	0	3	0	0	0	0	1	0	0	0	47
13:30	1	30	4	0	5	0	0	0	1	0	0	0	0	41
13:45	1	35	8	0	2	1	0	0	1	0	0	0	1	49
14:00	1	42	6	0	3	0	0	0	2	0	0	0	0	54
14:15	0	49	6	0	5	0	0	0	0	0	0	0	0	60
14:30	0	93	17	0	11	1	1	1	0	0	0	0	0	124
14:45	2	71	8	0	8	0	0	0	0	0	0	0	0	89
15:00	2	66	10	1	12	0	0	0	0	0	0	0	0	91
15:15	1	66	9	0	9	1	0	1	1	0	1	0	1	90
15:30	0	84	11	0	3	2	0	0	1	0	1	0	0	102
15:45	3	79	21	0	9	2	0	0	1	0	0	0	0	115
16:00	1	99	10	0	8	1	0	0	0	0	1	0	0	120
16:15	3	77	12	0	9	1	0	1	0	0	0	0	0	103
16:30	2	105	15	0	7	1	0	1	1	0	0	1	0	133
16:45	2	93	8	0	4	1	0	0	1	0	0	0	0	109
17:00	1	82	9	0	5	1	0	0	0	0	0	0	0	98
17:15	1	92	12	0	6	0	0	0	0	0	0	0	0	111
17:30	0	78	16	0	7	1	0	0	0	0	1	0	0	103
17:45	1	87	8	0	11	0	0	0	1	0	1	0	0	109
18:00	1	60	5	0	2	0	0	0	0	0	1	0	0	69
18:15	0	40	4	0	8	0	0	0	0	0	0	0	0	52
18:30	0	49	5	0	5	0	0	0	0	0	0	0	0	59
18:45	1	35	6	0	6	0	0	0	0	0	1	0	0	49
19:00	0	35	7	0	1	0	0	0	0	0	0	0	0	43
19:15	0	17	5	0	5	0	0	0	0	0	0	0	0	27
19:30	0	29	4	0	2	0	0	0	0	0	0	0	0	35
19:45	0	27	3	0	2	0	0	0	0	0	0	0	0	32
20:00	0	21	5	0	2	0	0	0	0	0	0	0	0	28
20:15	0	20	2	0	2	0	0	0	0	0	0	0	0	24
20:30	0	10	3	0	1	0	0	0	0	0	0	0	0	14
20:45	0	10	1	0	1	0	0	0	0	0	0	0	0	12
21:00	0	15	3	0	0	1	0	0	0	0	0	0	0	19
21:15	0	7	1	0	0	0	0	0	0	0	0	0	0	8
21:30	0	13	0	0	2	0	0	0	0	0	0	0	0	15
21:45	0	9	4	0	1	0	0	0	0	0	0	0	0	14
22:00	0	15	4	0	4	0	0	0	0	0	0	0	0	23
22:15	0	13	1	0	1	0	0	0	0	0	0	0	0	15
22:30	0	21	1	0	0	1	0	0	1	0	0	0	0	24
22:45	0	28	7	0	2	1	0	0	0	0	0	1	0	39
23:00	0	18	2	0	7	0	0	1	1	0	0	0	0	29
23:15	0	16	5	0	1	0	0	0	2	0	0	0	0	24
23:30	0	16	1	0	3	0	0	1	1	0	0	0	0	22
23:45	0	14	1	0	1	0	0	0	0	0	0	0	0	16
TOTAL	29	2,065	303	1	209	16	2	9	21	1	7	2	2	2,667

PM PEAK HOUR	3:45 PM
PM PEAK VOLUME	471

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	38	2,931	499	11	331	23	4	18	71	1	8	3	3	3,941
% OF TOTAL	1.0%	74.4%	12.7%	0.3%	8.4%	0.6%	0.1%	0.5%	1.8%	0.0%	0.2%	0.1%	0.1%	100.0%

Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**

APPENDIX 3.2: EXISTING (2022) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	1	8	0	8	5	613	11	13	236	4
Future Vol, veh/h	5	0	1	8	0	8	5	613	11	13	236	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	100	-	-	150	-	-
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	5	0	1	9	0	9	5	666	12	14	257	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	630	975	131	839	971	339	261	0	0	678	0	0
Stage 1	287	287	-	682	682	-	-	-	-	-	-	-
Stage 2	343	688	-	157	289	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	370	253	901	262	255	663	1315	-	-	923	-	-
Stage 1	702	678	-	411	453	-	-	-	-	-	-	-
Stage 2	651	450	-	835	677	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	360	248	901	258	250	663	1315	-	-	923	-	-
Mov Cap-2 Maneuver	360	248	-	258	250	-	-	-	-	-	-	-
Stage 1	699	668	-	409	451	-	-	-	-	-	-	-
Stage 2	640	448	-	821	667	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	15	0.1	0.5
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1315	-	-	400	258	663	923	-	-
HCM Lane V/C Ratio	0.004	-	-	0.016	0.034	0.013	0.015	-	-
HCM Control Delay (s)	7.7	-	-	14.1	19.4	10.5	9	-	-
HCM Lane LOS	A	-	-	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	0	4	3	0	8	2	589	26	16	218	12
Future Vol, veh/h	32	0	4	3	0	8	2	589	26	16	218	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	160	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	35	0	4	3	0	9	2	647	29	18	240	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	611	963	127	822	955	338	253	0	0	676	0	0
Stage 1	283	283	-	666	666	-	-	-	-	-	-	-
Stage 2	328	680	-	156	289	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	382	258	906	269	260	664	1324	-	-	925	-	-
Stage 1	706	681	-	420	460	-	-	-	-	-	-	-
Stage 2	664	454	-	836	677	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	371	253	906	263	255	664	1324	-	-	925	-	-
Mov Cap-2 Maneuver	474	346	-	351	357	-	-	-	-	-	-	-
Stage 1	705	668	-	419	459	-	-	-	-	-	-	-
Stage 2	654	453	-	816	664	-	-	-	-	-	-	-

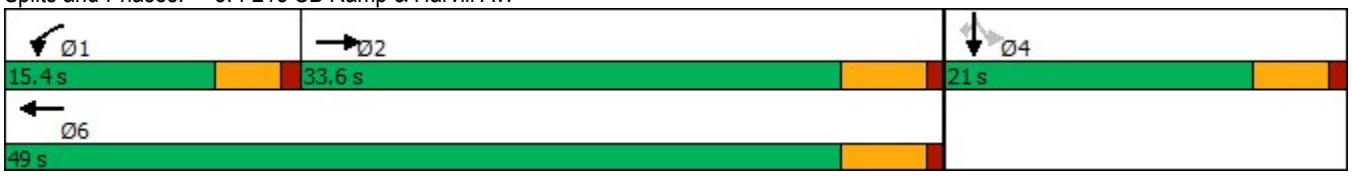
Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	11.8	0	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1324	-	-	501	351	664	925	-	-
HCM Lane V/C Ratio	0.002	-	-	0.079	0.009	0.013	0.019	-	-
HCM Control Delay (s)	7.7	-	-	12.8	15.4	10.5	9	-	-
HCM Lane LOS	A	-	-	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0	0.1	-	-

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	442	226	540	217	3	78
Future Volume (vph)	442	226	540	217	3	78
Turn Type	NA	Prot	NA	Perm	NA	Perm
Protected Phases	2	1	6		4	
Permitted Phases				4		4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	33.5	9.5	44.5	21.0	21.0	21.0
Total Split (s)	33.6	15.4	49.0	21.0	21.0	21.0
Total Split (%)	48.0%	22.0%	70.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.5	3.5	4.5	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)	5.5	4.5	5.5	5.0	5.0	5.0
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	Min	Min	Min	Min
Act Effct Green (s)	15.3	9.4	29.4	10.0	10.0	10.0
Actuated g/C Ratio	0.30	0.19	0.58	0.20	0.20	0.20
v/c Ratio	0.65	0.45	0.34	0.43	0.42	0.25
Control Delay	17.3	22.9	6.0	24.1	23.9	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	22.9	6.0	24.1	23.9	6.6
LOS	B	C	A	C	C	A
Approach Delay	17.3		11.0		19.4	
Approach LOS	B		B		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 50.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 52.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: I-215 SB Ramp & Harvill Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	442	101	226	540	0	0	0	0	217	3	78
Future Volume (veh/h)	0	442	101	226	540	0	0	0	0	217	3	78
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	582	133	297	711	0				289	0	0
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76				0.76	0.76	0.76
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	861	196	495	2023	0				540	0	
Arrive On Green	0.00	0.29	0.29	0.14	0.56	0.00				0.15	0.00	0.00
Sat Flow, veh/h	0	3015	665	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	359	356	297	711	0				289	0	0
Grp Sat Flow(s),veh/h/ln	0	1805	1780	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	6.3	6.4	2.9	3.9	0.0				2.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.3	6.4	2.9	3.9	0.0				2.7	0.0	0.0
Prop In Lane	0.00		0.37	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	532	525	495	2023	0				540	0	
V/C Ratio(X)	0.00	0.68	0.68	0.60	0.35	0.00				0.54	0.00	
Avail Cap(c_a), veh/h	0	1403	1384	1059	4345	0				1602	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	11.2	11.2	14.6	4.3	0.0				14.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.6	1.2	0.0	0.0				0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.5	1.5	0.9	0.3	0.0				0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.8	11.8	15.7	4.4	0.0				15.0	0.0	0.0
LnGrp LOS	A	B	B	B	A	A				B	A	
Approach Vol, veh/h		715			1008						289	A
Approach Delay, s/veh		11.8			7.7						15.0	
Approach LOS		B			A						B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.6	16.2		10.4		25.8
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5
Max Green Setting (Gmax), s	10.9	28.1		16.0		43.5
Max Q Clear Time (g_c+I1), s	4.9	8.4		4.7		5.9
Green Ext Time (p_c), s	0.5	2.3		0.7		2.9

Intersection Summary		
HCM 6th Ctrl Delay		10.2
HCM 6th LOS		B

Notes

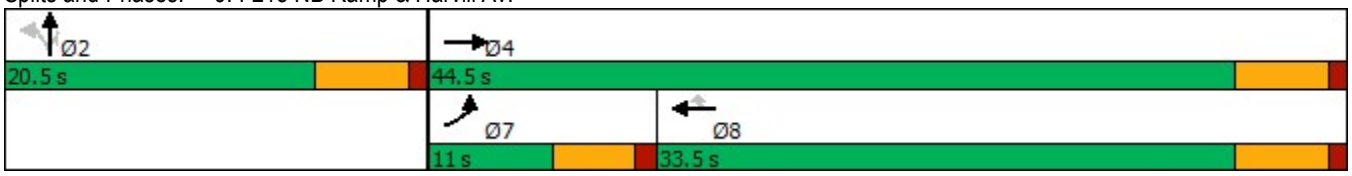
User approved volume balancing among the lanes for turning movement.

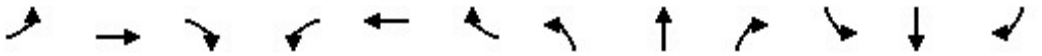
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	47	611	639	449	2	389
Future Volume (vph)	47	611	639	449	2	389
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	7	4	8		2	
Permitted Phases				8		2
Detector Phase	7	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	44.5	28.5	28.5	20.5	20.5
Total Split (s)	11.0	44.5	33.5	33.5	20.5	20.5
Total Split (%)	16.9%	68.5%	51.5%	51.5%	31.5%	31.5%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	Min	None	None	None	None
Act Effct Green (s)	6.3	17.7	14.6	14.6	9.0	9.0
Actuated g/C Ratio	0.16	0.45	0.37	0.37	0.23	0.23
v/c Ratio	0.20	0.46	0.41	0.58	0.39	0.51
Control Delay	23.0	7.7	10.5	4.2	19.2	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	7.7	10.5	4.2	19.2	6.9
LOS	C	A	B	A	B	A
Approach Delay		8.8	7.9		10.0	
Approach LOS		A	A		A	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 39.4	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 8.7	Intersection LOS: A
Intersection Capacity Utilization 52.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: I-215 NB Ramp & Harvill Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	611	0	0	639	449	128	2	389	0	0	0
Future Volume (veh/h)	47	611	0	0	639	449	128	2	389	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	58	754	0	0	789	554	158	2	480			
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	100	2046	0	0	2143	665	387	5	613			
Arrive On Green	0.06	0.57	0.00	0.00	0.41	0.41	0.22	0.22	0.22			
Sat Flow, veh/h	1810	3705	0	0	5358	1610	1788	23	2834			
Grp Volume(v), veh/h	58	754	0	0	789	554	160	0	480			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1729	1610	1811	0	1417			
Q Serve(g_s), s	1.6	5.8	0.0	0.0	5.3	15.6	3.9	0.0	8.1			
Cycle Q Clear(g_c), s	1.6	5.8	0.0	0.0	5.3	15.6	3.9	0.0	8.1			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	100	2046	0	0	2143	665	391	0	613			
V/C Ratio(X)	0.58	0.37	0.00	0.00	0.37	0.83	0.41	0.00	0.78			
Avail Cap(c_a), veh/h	214	2777	0	0	2865	889	536	0	839			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	23.4	6.0	0.0	0.0	10.3	13.3	17.1	0.0	18.7			
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.0	3.9	0.3	0.0	2.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.6	1.1	0.0	0.0	1.4	4.5	1.3	0.0	2.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	6.1	0.0	0.0	10.3	17.2	17.3	0.0	21.0			
LnGrp LOS	C	A	A	A	B	B	B	A	C			
Approach Vol, veh/h		812			1343			640				
Approach Delay, s/veh		7.4			13.2			20.1				
Approach LOS		A			B			C				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		16.5		34.2			7.8	26.4				
Change Period (Y+Rc), s		5.5		5.5			5.0	5.5				
Max Green Setting (Gmax), s		15.0		39.0			6.0	28.0				
Max Q Clear Time (g_c+I1), s		10.1		7.8			3.6	17.6				
Green Ext Time (p_c), s		0.9		3.0			0.0	3.3				
Intersection Summary												
HCM 6th Ctrl Delay			13.1									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	0	11	0	22	3	323	3	6	495	0
Future Vol, veh/h	3	0	0	11	0	22	3	323	3	6	495	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	0	0	13	0	25	3	367	3	7	563	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	767	953	282	671	952	185	563	0	0	370	0	0
Stage 1	577	577	-	375	375	-	-	-	-	-	-	-
Stage 2	190	376	-	296	577	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	295	261	721	346	261	832	1019	-	-	1200	-	-
Stage 1	474	505	-	624	621	-	-	-	-	-	-	-
Stage 2	799	620	-	694	505	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	284	259	721	344	259	832	1019	-	-	1200	-	-
Mov Cap-2 Maneuver	284	259	-	344	259	-	-	-	-	-	-	-
Stage 1	473	502	-	622	619	-	-	-	-	-	-	-
Stage 2	773	618	-	690	502	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.8	11.6	0.1	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1019	-	-	284	344	832	1200	-	-
HCM Lane V/C Ratio	0.003	-	-	0.012	0.036	0.03	0.006	-	-
HCM Control Delay (s)	8.5	-	-	17.8	15.9	9.5	8	-	-
HCM Lane LOS	A	-	-	C	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	1	5	42	1	21	2	295	27	12	471	23
Future Vol, veh/h	14	1	5	42	1	21	2	295	27	12	471	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	160	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	16	1	6	47	1	24	2	331	30	13	529	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	738	933	278	641	931	181	555	0	0	361	0	0
Stage 1	568	568	-	350	350	-	-	-	-	-	-	-
Stage 2	170	365	-	291	581	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	310	268	725	364	269	837	1026	-	-	1209	-	-
Stage 1	480	510	-	645	636	-	-	-	-	-	-	-
Stage 2	821	627	-	698	503	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	298	265	725	357	266	837	1026	-	-	1209	-	-
Mov Cap-2 Maneuver	392	371	-	465	372	-	-	-	-	-	-	-
Stage 1	479	504	-	644	635	-	-	-	-	-	-	-
Stage 2	795	626	-	684	497	-	-	-	-	-	-	-

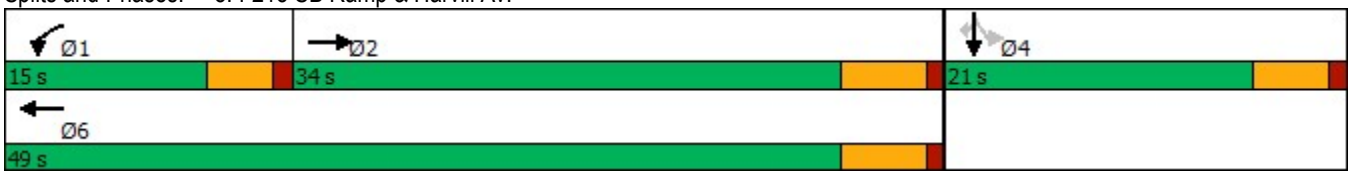
Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	12.3	0.1	0.2
HCM LOS	B	B		

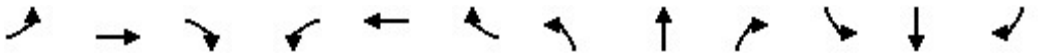
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1026	-	-	441	462	837	1209	-	-
HCM Lane V/C Ratio	0.002	-	-	0.051	0.105	0.028	0.011	-	-
HCM Control Delay (s)	8.5	-	-	13.6	13.7	9.4	8	-	-
HCM Lane LOS	A	-	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	0	-	-

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	559	562	512	485	4	78
Future Volume (vph)	559	562	512	485	4	78
Turn Type	NA	Prot	NA	Perm	NA	Perm
Protected Phases	2	1	6		4	
Permitted Phases				4		4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	33.5	9.5	44.5	21.0	21.0	21.0
Total Split (s)	34.0	15.0	49.0	21.0	21.0	21.0
Total Split (%)	48.6%	21.4%	70.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.5	3.5	4.5	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)	5.5	4.5	5.5	5.0	5.0	5.0
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	Min	Min	Min	Min
Act Effct Green (s)	16.9	10.8	32.3	12.9	12.9	12.9
Actuated g/C Ratio	0.30	0.19	0.58	0.23	0.23	0.23
v/c Ratio	0.71	0.86	0.25	0.63	0.64	0.18
Control Delay	19.0	40.6	6.4	28.8	29.1	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	40.6	6.4	28.8	29.1	4.0
LOS	B	D	A	C	C	A
Approach Delay	19.0		24.3		25.5	
Approach LOS	B		C		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 56	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 22.9	Intersection LOS: C
Intersection Capacity Utilization 64.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: I-215 SB Ramp & Harvill Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	559	203	562	512	0	0	0	0	485	4	78
Future Volume (veh/h)	0	559	203	562	512	0	0	0	0	485	4	78
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	576	209	579	528	0				503	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	764	277	712	2129	0				704	0	
Arrive On Green	0.00	0.29	0.29	0.20	0.59	0.00				0.19	0.00	0.00
Sat Flow, veh/h	0	2691	940	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	400	385	579	528	0				503	0	0
Grp Sat Flow(s),veh/h/ln	0	1805	1731	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	9.8	9.8	7.7	3.4	0.0				6.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.8	9.8	7.7	3.4	0.0				6.3	0.0	0.0
Prop In Lane	0.00		0.54	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	531	510	712	2129	0				704	0	
V/C Ratio(X)	0.00	0.75	0.76	0.81	0.25	0.00				0.71	0.00	
Avail Cap(c_a), veh/h	0	1056	1013	757	3224	0				1189	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	15.6	15.6	18.5	4.8	0.0				18.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.9	6.4	0.0	0.0				1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.1	3.0	3.1	0.5	0.0				2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.4	16.5	25.0	4.8	0.0				19.7	0.0	0.0
LnGrp LOS	A	B	B	C	A	A				B	A	
Approach Vol, veh/h		785			1107						503	A
Approach Delay, s/veh		16.4			15.4						19.7	
Approach LOS		B			B						B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.4	19.8		14.5		34.2
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5
Max Green Setting (Gmax), s	10.5	28.5		16.0		43.5
Max Q Clear Time (g_c+I1), s	9.7	11.8		8.3		5.4
Green Ext Time (p_c), s	0.2	2.5		1.1		2.0

Intersection Summary	
HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

Notes

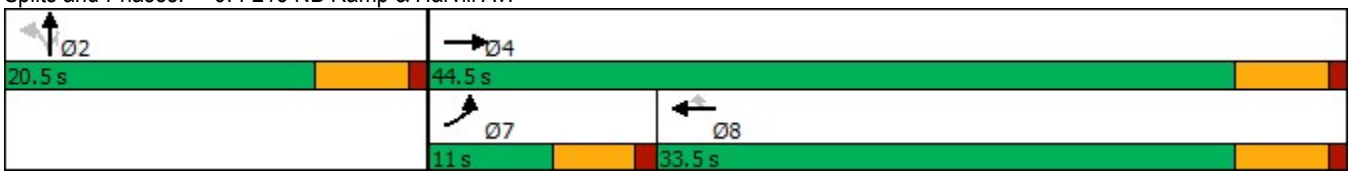
User approved volume balancing among the lanes for turning movement.

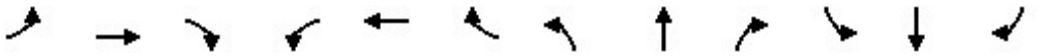
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	55	989	983	397	0	409
Future Volume (vph)	55	989	983	397	0	409
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	7	4	8		2	
Permitted Phases				8		2
Detector Phase	7	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	44.5	28.5	28.5	20.5	20.5
Total Split (s)	11.0	44.5	33.5	33.5	20.5	20.5
Total Split (%)	16.9%	68.5%	51.5%	51.5%	31.5%	31.5%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	Min	None	None	None	None
Act Effct Green (s)	6.1	23.0	17.6	17.6	9.1	9.1
Actuated g/C Ratio	0.14	0.52	0.40	0.40	0.20	0.20
v/c Ratio	0.24	0.56	0.51	0.47	0.26	0.60
Control Delay	25.8	8.1	12.0	3.5	20.1	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.8	8.1	12.0	3.5	20.1	14.2
LOS	C	A	B	A	C	B
Approach Delay		9.0	9.5		15.3	
Approach LOS		A	A		B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 44.4	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 10.3	Intersection LOS: B
Intersection Capacity Utilization 64.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 9: I-215 NB Ramp & Harvill Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	989	0	0	983	397	91	0	409	0	0	0
Future Volume (veh/h)	55	989	0	0	983	397	91	0	409	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	59	1052	0	0	1046	422	97	0	435			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	105	1970	0	0	1944	604	374	0	586			
Arrive On Green	0.06	0.55	0.00	0.00	0.37	0.37	0.21	0.00	0.21			
Sat Flow, veh/h	1810	3705	0	0	5358	1610	1810	0	2834			
Grp Volume(v), veh/h	59	1052	0	0	1046	422	97	0	435			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1729	1610	1810	0	1417			
Q Serve(g_s), s	1.4	8.3	0.0	0.0	7.0	9.9	2.0	0.0	6.4			
Cycle Q Clear(g_c), s	1.4	8.3	0.0	0.0	7.0	9.9	2.0	0.0	6.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	105	1970	0	0	1944	604	374	0	586			
V/C Ratio(X)	0.56	0.53	0.00	0.00	0.54	0.70	0.26	0.00	0.74			
Avail Cap(c_a), veh/h	244	3170	0	0	3270	1015	611	0	957			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	20.4	6.5	0.0	0.0	10.9	11.8	14.8	0.0	16.5			
Incr Delay (d2), s/veh	1.7	0.1	0.0	0.0	0.1	0.6	0.1	0.0	0.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.5	1.4	0.0	0.0	1.7	2.3	0.6	0.0	1.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	6.6	0.0	0.0	11.0	12.3	14.9	0.0	17.2			
LnGrp LOS	C	A	A	A	B	B	B	A	B			
Approach Vol, veh/h		1111			1468			532				
Approach Delay, s/veh		7.4			11.3			16.8				
Approach LOS		A			B			B				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		14.7		29.7			7.6	22.1				
Change Period (Y+Rc), s		5.5		5.5			5.0	5.5				
Max Green Setting (Gmax), s		15.0		39.0			6.0	28.0				
Max Q Clear Time (g_c+I1), s		8.4		10.3			3.4	11.9				
Green Ext Time (p_c), s		0.8		4.6			0.0	4.8				
Intersection Summary												
HCM 6th Ctrl Delay			10.9									
HCM 6th LOS			B									

APPENDIX 3.3: EXISTING (2022) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

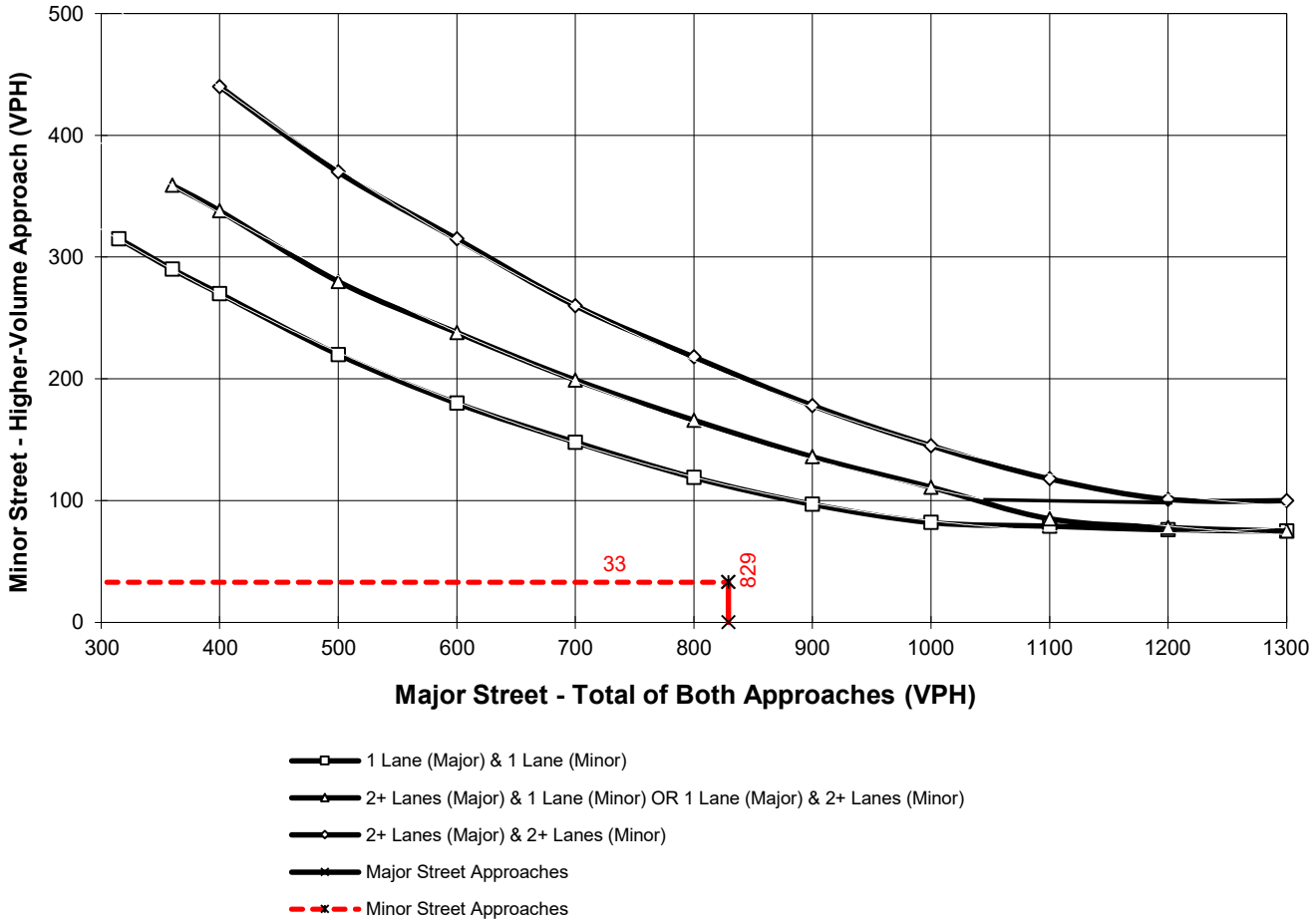
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2022) Conditions - Weekday PM Peak Hour**

Major Street Name = **Harvill Avenue** — Total of Both Approaches (VPH) = **829**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Water Avenue** — High Volume Approach (VPH) = **33**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

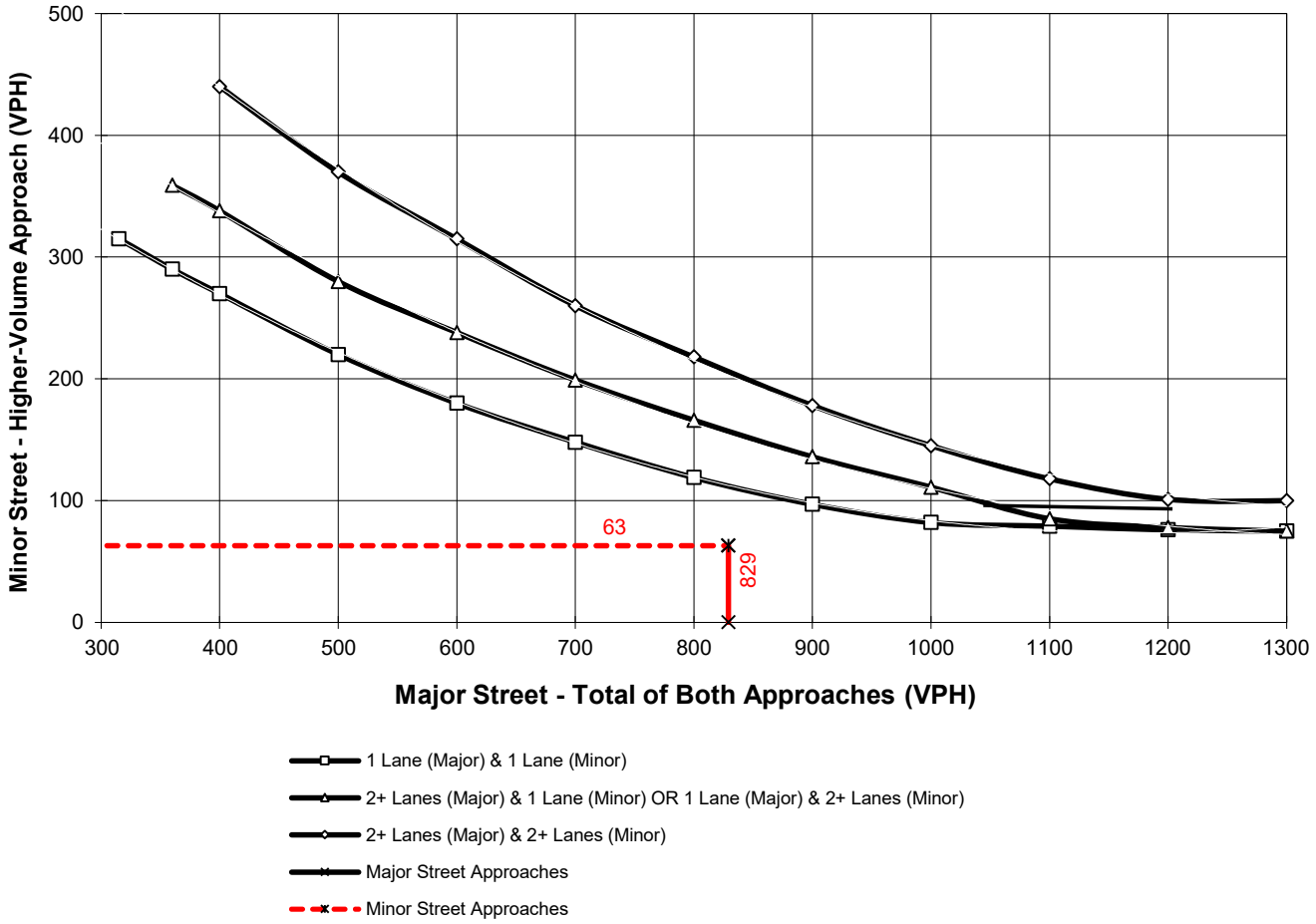
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2022) Conditions - Weekday PM Peak Hour**

Major Street Name = **Harvill Avenue** — Total of Both Approaches (VPH) = **829**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Orange Avenue** — High Volume Approach (VPH) = **63**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 3.4: EXISTING (2022) CONDITIONS FREEWAY OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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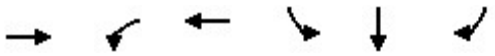
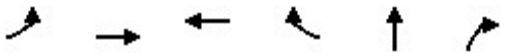


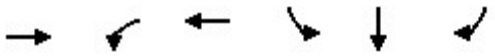
Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	715	297	711	146	144	103
v/c Ratio	0.65	0.45	0.34	0.43	0.42	0.25
Control Delay	17.3	22.9	6.0	24.1	23.9	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	22.9	6.0	24.1	23.9	6.6
Queue Length 50th (ft)	84	37	45	37	36	0
Queue Length 95th (ft)	123	80	74	88	87	21
Internal Link Dist (ft)	1755		372		1076	
Turn Bay Length (ft)		115		550		250
Base Capacity (vph)	2070	793	3128	570	573	610
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	0.35	0.37	0.23	0.26	0.25	0.17

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	58	754	789	554	160	480
v/c Ratio	0.20	0.46	0.41	0.58	0.39	0.51
Control Delay	23.0	7.7	10.5	4.2	19.2	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	7.7	10.5	4.2	19.2	6.9
Queue Length 50th (ft)	9	46	31	0	23	8
Queue Length 95th (ft)	48	85	87	30	91	44
Internal Link Dist (ft)		372	1792		1123	
Turn Bay Length (ft)	105			200		165
Base Capacity (vph)	316	3174	4003	1373	793	1453
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	0.18	0.24	0.20	0.40	0.20	0.33

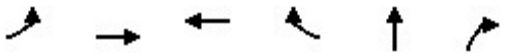
Intersection Summary



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	785	579	528	250	254	80
v/c Ratio	0.71	0.86	0.25	0.63	0.64	0.18
Control Delay	19.0	40.6	6.4	28.8	29.1	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	40.6	6.4	28.8	29.1	4.0
Queue Length 50th (ft)	108	100	42	77	78	0
Queue Length 95th (ft)	164	#241	67	176	#182	20
Internal Link Dist (ft)	1755		372		1076	
Turn Bay Length (ft)		115		550		250
Base Capacity (vph)	1853	674	2878	502	504	550
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.86	0.18	0.50	0.50	0.15

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)	59	1052	1046	422	97	435
v/c Ratio	0.24	0.56	0.51	0.47	0.26	0.60
Control Delay	25.8	8.1	12.0	3.5	20.1	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.8	8.1	12.0	3.5	20.1	14.2
Queue Length 50th (ft)	15	75	82	0	24	35
Queue Length 95th (ft)	55	149	136	45	67	90
Internal Link Dist (ft)		372	1792		1123	
Turn Bay Length (ft)	105			200		165
Base Capacity (vph)	273	2998	3602	1250	684	1194
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	0.22	0.35	0.29	0.34	0.14	0.36

Intersection Summary

APPENDIX 5.1: EAP (2024) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	6	0	22	8	0	11
Future Vol, veh/h	6	0	22	8	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	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	7	0	24	9	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	7	0	64	7
Stage 1	-	-	-	-	7	-
Stage 2	-	-	-	-	57	-
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	-	947	1081
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1627	-	933	1081
Mov Cap-2 Maneuver	-	-	-	-	868	-
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	956	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.3	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1081	-	-	1627	-
HCM Lane V/C Ratio	0.011	-	-	0.015	-
HCM Control Delay (s)	8.4	-	-	7.2	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	36	14	10	3	0
Future Vol, veh/h	0	36	14	10	3	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	50	-	-	-	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	39	15	11	3	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	26	0	-	0	60	21
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	39	-
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	1601	-	-	-	952	1062
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	989	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1601	-	-	-	952	1062
Mov Cap-2 Maneuver	-	-	-	-	889	-
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	989	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1601	-	-	-	889
HCM Lane V/C Ratio	-	-	-	-	0.004
HCM Control Delay (s)	0	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	39	24	12	7	0
Future Vol, veh/h	0	39	24	12	7	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	50	-	-	-	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	42	26	13	8	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	75	33
Stage 1	-	-	-	-	33	-
Stage 2	-	-	-	-	42	-
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	-	-	-	933	1046
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	986	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1584	-	-	-	933	1046
Mov Cap-2 Maneuver	-	-	-	-	933	-
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	986	-

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)	1584	-	-	-	933
HCM Lane V/C Ratio	-	-	-	-	0.008
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	2	8	0	8	7	646	11	13	259	24
Future Vol, veh/h	15	0	2	8	0	8	7	646	11	13	259	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	150	100	-	-	150	-	-
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	16	0	2	9	0	9	8	702	12	14	282	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	690	1053	154	893	1060	357	308	0	0	714	0	0
Stage 1	323	323	-	724	724	-	-	-	-	-	-	-
Stage 2	367	730	-	169	336	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	335	228	871	239	226	645	1264	-	-	895	-	-
Stage 1	669	654	-	388	433	-	-	-	-	-	-	-
Stage 2	630	431	-	822	645	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	325	223	871	234	221	645	1264	-	-	895	-	-
Mov Cap-2 Maneuver	325	223	-	234	221	-	-	-	-	-	-	-
Stage 1	665	644	-	386	430	-	-	-	-	-	-	-
Stage 2	618	428	-	807	635	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.8	15.8	0.1	0.4
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1264	-	-	325	871	234	645	895	-	-
HCM Lane V/C Ratio	0.006	-	-	0.05	0.002	0.037	0.013	0.016	-	-
HCM Control Delay (s)	7.9	-	-	16.7	9.1	21	10.7	9.1	-	-
HCM Lane LOS	A	-	-	C	A	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	0	6	3	0	8	10	615	27	16	227	26
Future Vol, veh/h	41	0	6	3	0	8	10	615	27	16	227	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	160	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	45	0	7	3	0	9	11	676	30	18	249	29

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	660	1028	139	874	1027	353	278	0	0	706	0	0
Stage 1	300	300	-	713	713	-	-	-	-	-	-	-
Stage 2	360	728	-	161	314	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	352	236	890	247	236	649	1296	-	-	902	-	-
Stage 1	690	669	-	394	438	-	-	-	-	-	-	-
Stage 2	636	432	-	831	660	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	340	229	890	240	229	649	1296	-	-	902	-	-
Mov Cap-2 Maneuver	447	326	-	328	333	-	-	-	-	-	-	-
Stage 1	684	656	-	391	434	-	-	-	-	-	-	-
Stage 2	622	429	-	808	647	-	-	-	-	-	-	-

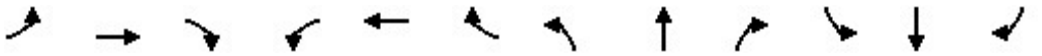
Approach	EB	WB	NB	SB
HCM Control Delay, s	13.5	12.1	0.1	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1296	-	-	477	328	649	902	-	-
HCM Lane V/C Ratio	0.008	-	-	0.108	0.01	0.014	0.019	-	-
HCM Control Delay (s)	7.8	-	-	13.5	16.1	10.6	9.1	-	-
HCM Lane LOS	A	-	-	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0	0	0.1	-	-

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	544	126	144	465	269	0	93
Future Volume (vph)	544	126	144	465	269	0	93
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	27.8	15.8	15.8	15.8
Total Split (s)	29.8	29.8	11.6	41.4	18.6	18.6	18.6
Total Split (%)	49.7%	49.7%	19.3%	69.0%	31.0%	31.0%	31.0%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	None	None	None	C-Max	Max	Max	Max
Act Effct Green (s)	26.5	26.5	6.4	35.6	12.8	12.8	12.8
Actuated g/C Ratio	0.44	0.44	0.11	0.59	0.21	0.21	0.21
v/c Ratio	0.37	0.17	0.42	0.24	0.40	0.40	0.22
Control Delay	12.9	3.2	27.3	4.8	24.2	24.2	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	3.2	27.3	4.8	24.2	24.2	4.0
LOS	B	A	C	A	C	C	A
Approach Delay	11.1			10.2		19.0	
Approach LOS	B			B		B	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.42	
Intersection Signal Delay: 12.5	Intersection LOS: B
Intersection Capacity Utilization 45.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: I-215 SB Ramps & Placentia Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	544	126	144	465	0	0	0	0	269	0	93
Future Volume (veh/h)	0	544	126	144	465	0	0	0	0	269	0	93
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	591	137	157	505	0				292	0	101
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	1586	708	271	2142	0				772	0	344
Arrive On Green	0.00	0.44	0.44	0.15	1.00	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	3705	1610	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	591	137	157	505	0				292	0	101
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	6.6	3.1	2.5	0.0	0.0				4.1	0.0	3.2
Cycle Q Clear(g_c), s	0.0	6.6	3.1	2.5	0.0	0.0				4.1	0.0	3.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1586	708	271	2142	0				772	0	344
V/C Ratio(X)	0.00	0.37	0.19	0.58	0.24	0.00				0.38	0.00	0.29
Avail Cap(c_a), veh/h	0	1586	708	410	2142	0				772	0	344
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.97	0.97	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.3	10.3	24.5	0.0	0.0				20.2	0.0	19.8
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.7	0.3	0.0				1.4	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	0.9	0.9	0.1	0.0				1.7	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.4	10.4	25.2	0.3	0.0				21.6	0.0	22.0
LnGrp LOS	A	B	B	C	A	A				C	A	C
Approach Vol, veh/h		728			662						393	
Approach Delay, s/veh		11.2			6.2						21.7	
Approach LOS		B			A						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.2	32.2		18.6		41.4
Change Period (Y+Rc), s	4.6	5.8		5.8		5.8
Max Green Setting (Gmax), s	7.0	24.0		12.8		35.6
Max Q Clear Time (g_c+I1), s	4.5	8.6		6.1		2.0
Green Ext Time (p_c), s	0.1	3.6		0.8		3.3

Intersection Summary		
HCM 6th Ctrl Delay		11.7
HCM 6th LOS		B

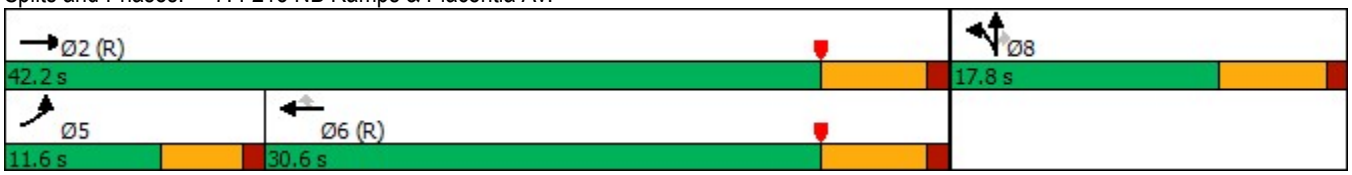
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	90	722	422	309	187	0	260
Future Volume (vph)	90	722	422	309	187	0	260
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	27.8	27.8	27.8	15.8	15.8	15.8
Total Split (s)	11.6	42.2	30.6	30.6	17.8	17.8	17.8
Total Split (%)	19.3%	70.3%	51.0%	51.0%	29.7%	29.7%	29.7%
Yellow Time (s)	3.6	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	5.8	5.8	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	6.0	37.6	28.9	28.9	10.8	10.8	10.8
Actuated g/C Ratio	0.10	0.63	0.48	0.48	0.18	0.18	0.18
v/c Ratio	0.28	0.35	0.26	0.35	0.33	0.33	0.62
Control Delay	21.8	4.5	10.9	2.8	24.4	24.4	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	4.5	10.9	2.8	24.4	24.4	14.1
LOS	C	A	B	A	C	C	B
Approach Delay		6.4	7.5			18.4	
Approach LOS		A	A			B	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 9.5	Intersection LOS: A
Intersection Capacity Utilization 45.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: I-215 NB Ramps & Placentia Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	722	0	0	422	309	187	0	260	0	0	0
Future Volume (veh/h)	90	722	0	0	422	309	187	0	260	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	98	785	0	0	459	336	203	0	283			
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	235	2190	0	0	1671	745	724	0	322			
Arrive On Green	0.07	0.61	0.00	0.00	0.46	0.46	0.20	0.00	0.20			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	98	785	0	0	459	336	203	0	283			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	1.6	6.6	0.0	0.0	4.7	8.5	2.9	0.0	10.2			
Cycle Q Clear(g_c), s	1.6	6.6	0.0	0.0	4.7	8.5	2.9	0.0	10.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	235	2190	0	0	1671	745	724	0	322			
V/C Ratio(X)	0.42	0.36	0.00	0.00	0.27	0.45	0.28	0.00	0.88			
Avail Cap(c_a), veh/h	410	2190	0	0	1671	745	724	0	322			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.93	0.93	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	26.9	5.9	0.0	0.0	9.9	10.9	20.3	0.0	23.3			
Incr Delay (d2), s/veh	0.4	0.4	0.0	0.0	0.4	2.0	0.2	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	0.6	1.6	0.0	0.0	1.5	2.7	1.1	0.0	5.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	6.4	0.0	0.0	10.3	12.9	20.6	0.0	46.4			
LnGrp LOS	C	A	A	A	B	B	C	A	D			
Approach Vol, veh/h		883			795			486				
Approach Delay, s/veh		8.7			11.4			35.6				
Approach LOS		A			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		42.2			8.6	33.6		17.8				
Change Period (Y+Rc), s		5.8			4.6	5.8		5.8				
Max Green Setting (Gmax), s		36.4			7.0	24.8		12.0				
Max Q Clear Time (g_c+I1), s		8.6			3.6	10.5		12.2				
Green Ext Time (p_c), s		5.4			0.0	3.4		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

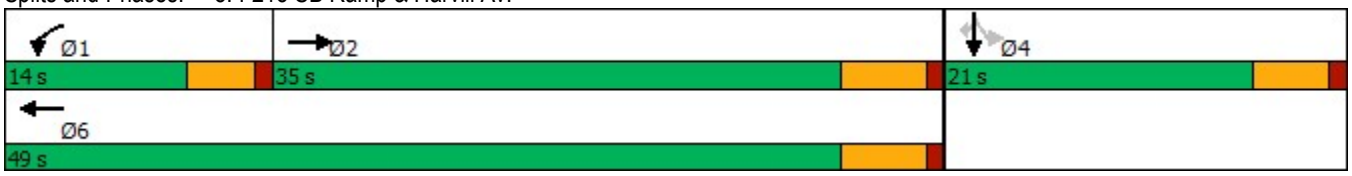
Notes

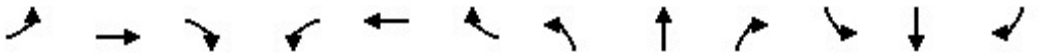
User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	384	176	472	169	3	61
Future Volume (vph)	384	176	472	169	3	61
Turn Type	NA	Prot	NA	Perm	NA	Perm
Protected Phases	2	1	6		4	
Permitted Phases				4		4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	33.5	9.5	44.5	21.0	21.0	21.0
Total Split (s)	35.0	14.0	49.0	21.0	21.0	21.0
Total Split (%)	50.0%	20.0%	70.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.5	3.5	4.5	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)	5.5	4.5	5.5	5.0	5.0	5.0
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	Min	Min	Min	Min
Act Effct Green (s)	13.4	8.3	26.5	8.8	8.8	8.8
Actuated g/C Ratio	0.29	0.18	0.57	0.19	0.19	0.19
v/c Ratio	0.58	0.37	0.30	0.35	0.35	0.20
Control Delay	15.3	21.0	5.6	21.6	21.6	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	21.0	5.6	21.6	21.6	4.6
LOS	B	C	A	C	C	A
Approach Delay	15.3		9.7		17.1	
Approach LOS	B		A		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 46.3	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 12.9	Intersection LOS: B
Intersection Capacity Utilization 45.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: I-215 SB Ramp & Harvill Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	384	81	176	472	0	0	0	0	169	3	61
Future Volume (veh/h)	0	384	81	176	472	0	0	0	0	169	3	61
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	505	107	232	621	0				225	0	0
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76				0.76	0.76	0.76
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	796	168	465	1933	0				542	0	
Arrive On Green	0.00	0.27	0.27	0.13	0.54	0.00				0.15	0.00	0.00
Sat Flow, veh/h	0	3062	626	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	306	306	232	621	0				225	0	0
Grp Sat Flow(s),veh/h/ln	0	1805	1787	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	5.0	5.0	2.0	3.2	0.0				1.9	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.0	5.0	2.0	3.2	0.0				1.9	0.0	0.0
Prop In Lane	0.00		0.35	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	484	480	465	1933	0				542	0	
V/C Ratio(X)	0.00	0.63	0.64	0.50	0.32	0.00				0.41	0.00	
Avail Cap(c_a), veh/h	0	1596	1580	999	4706	0				1735	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.8	10.8	13.4	4.3	0.0				12.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.8	0.0	0.0				0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.2	1.2	0.6	0.2	0.0				0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.3	11.3	14.3	4.4	0.0				13.4	0.0	0.0
LnGrp LOS	A	B	B	B	A	A				B	A	
Approach Vol, veh/h		612			853						225	A
Approach Delay, s/veh		11.3			7.1						13.4	
Approach LOS		B			A						B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	8.9	14.5		10.0		23.4						
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5						
Max Green Setting (Gmax), s	9.5	29.5		16.0		43.5						
Max Q Clear Time (g_c+I1), s	4.0	7.0		3.9		5.2						
Green Ext Time (p_c), s	0.3	1.9		0.5		2.4						

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Notes

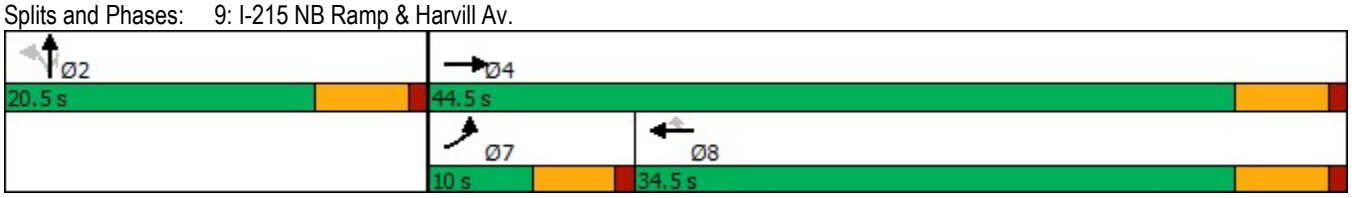
User approved volume balancing among the lanes for turning movement.

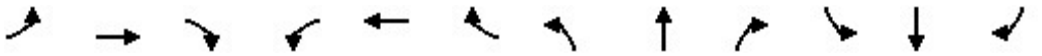
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	37	517	542	350	2	303
Future Volume (vph)	37	517	542	350	2	303
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	7	4	8		2	
Permitted Phases				8		2
Detector Phase	7	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	44.5	28.5	28.5	20.5	20.5
Total Split (s)	10.0	44.5	34.5	34.5	20.5	20.5
Total Split (%)	15.4%	68.5%	53.1%	53.1%	31.5%	31.5%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	Min	None	None	None	None
Act Effct Green (s)	5.7	16.0	13.2	13.2	8.1	8.1
Actuated g/C Ratio	0.15	0.43	0.36	0.36	0.22	0.22
v/c Ratio	0.16	0.41	0.36	0.51	0.33	0.41
Control Delay	22.0	7.0	9.7	3.7	18.1	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	7.0	9.7	3.7	18.1	4.2
LOS	C	A	A	A	B	A
Approach Delay		8.1	7.3		7.9	
Approach LOS		A	A		A	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 36.8	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 7.7	Intersection LOS: A
Intersection Capacity Utilization 45.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: I-215 NB Ramp & Harvill Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	517	0	0	542	350	106	2	303	0	0	0
Future Volume (veh/h)	37	517	0	0	542	350	106	2	303	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	46	638	0	0	669	432	131	2	374			
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	90	1934	0	0	1881	584	344	5	547			
Arrive On Green	0.05	0.54	0.00	0.00	0.36	0.36	0.19	0.19	0.19			
Sat Flow, veh/h	1810	3705	0	0	5358	1610	1784	27	2834			
Grp Volume(v), veh/h	46	638	0	0	669	432	133	0	374			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1729	1610	1811	0	1417			
Q Serve(g_s), s	1.0	4.0	0.0	0.0	3.8	9.5	2.6	0.0	5.0			
Cycle Q Clear(g_c), s	1.0	4.0	0.0	0.0	3.8	9.5	2.6	0.0	5.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	90	1934	0	0	1881	584	349	0	547			
V/C Ratio(X)	0.51	0.33	0.00	0.00	0.36	0.74	0.38	0.00	0.68			
Avail Cap(c_a), veh/h	223	3473	0	0	3710	1152	670	0	1048			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.8	5.3	0.0	0.0	9.5	11.3	14.3	0.0	15.2			
Incr Delay (d2), s/veh	1.7	0.0	0.0	0.0	0.0	0.7	0.3	0.0	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.4	0.6	0.0	0.0	0.9	2.1	0.8	0.0	1.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	5.3	0.0	0.0	9.5	12.0	14.5	0.0	15.8			
LnGrp LOS	C	A	A	A	A	B	B	A	B			
Approach Vol, veh/h		684			1101			507				
Approach Delay, s/veh		6.4			10.5			15.4				
Approach LOS		A			B			B				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		13.3		27.2			7.0	20.2				
Change Period (Y+Rc), s		5.5		5.5			5.0	5.5				
Max Green Setting (Gmax), s		15.0		39.0			5.0	29.0				
Max Q Clear Time (g_c+I1), s		7.0		6.0			3.0	11.5				
Green Ext Time (p_c), s		0.9		2.5			0.0	3.2				
Intersection Summary												
HCM 6th Ctrl Delay			10.3									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	7.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	0	14	3	0	29
Future Vol, veh/h	3	0	14	3	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	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	3	0	15	3	0	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	3	0	36	3
Stage 1	-	-	-	-	3	-
Stage 2	-	-	-	-	33	-
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	-	982	1087
Stage 1	-	-	-	-	1025	-
Stage 2	-	-	-	-	995	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1632	-	973	1087
Mov Cap-2 Maneuver	-	-	-	-	898	-
Stage 1	-	-	-	-	1025	-
Stage 2	-	-	-	-	986	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1087	-	-	1632	-
HCM Lane V/C Ratio	0.029	-	-	0.009	-
HCM Control Delay (s)	8.4	-	-	7.2	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	20	27	5	13	0
Future Vol, veh/h	0	20	27	5	13	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	50	-	-	-	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	22	29	5	14	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	34	0	-	0	54	32
Stage 1	-	-	-	-	32	-
Stage 2	-	-	-	-	22	-
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	1591	-	-	-	959	1048
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	1006	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1591	-	-	-	959	1048
Mov Cap-2 Maneuver	-	-	-	-	894	-
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	1006	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1591	-	-	-	894
HCM Lane V/C Ratio	-	-	-	-	0.016
HCM Control Delay (s)	0	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	33	32	9	15	0
Future Vol, veh/h	0	33	32	9	15	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	50	-	-	-	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	36	35	10	16	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	45	0	-	0	76	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	36	-
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	1576	-	-	-	932	1037
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	992	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1576	-	-	-	932	1037
Mov Cap-2 Maneuver	-	-	-	-	932	-
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	992	-

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)	1576	-	-	-	932
HCM Lane V/C Ratio	-	-	-	-	0.017
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	0	2	11	0	23	4	353	3	6	524	13
Future Vol, veh/h	29	0	2	11	0	23	4	353	3	6	524	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	150	100	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	33	0	2	13	0	26	5	401	3	7	595	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	828	1031	305	725	1037	202	610	0	0	404	0	0
Stage 1	617	617	-	413	413	-	-	-	-	-	-	-
Stage 2	211	414	-	312	624	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	267	235	697	317	233	811	979	-	-	1166	-	-
Stage 1	449	484	-	592	597	-	-	-	-	-	-	-
Stage 2	777	597	-	679	481	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	256	232	697	313	230	811	979	-	-	1166	-	-
Mov Cap-2 Maneuver	359	345	-	427	343	-	-	-	-	-	-	-
Stage 1	447	481	-	589	594	-	-	-	-	-	-	-
Stage 2	748	594	-	673	478	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.6	10.9	0.1	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	979	-	-	359	697	427	811	1166	-	-
HCM Lane V/C Ratio	0.005	-	-	0.092	0.003	0.029	0.032	0.006	-	-
HCM Control Delay (s)	8.7	-	-	16	10.2	13.7	9.6	8.1	-	-
HCM Lane LOS	A	-	-	C	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	1	16	43	1	21	6	307	28	12	492	34
Future Vol, veh/h	31	1	16	43	1	21	6	307	28	12	492	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	160	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	35	1	18	48	1	24	7	345	31	13	553	38

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	785	988	296	678	992	188	591	0	0	376	0	0
Stage 1	598	598	-	375	375	-	-	-	-	-	-	-
Stage 2	187	390	-	303	617	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	287	249	706	342	248	828	995	-	-	1194	-	-
Stage 1	461	494	-	624	621	-	-	-	-	-	-	-
Stage 2	803	611	-	687	484	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	274	245	706	328	244	828	995	-	-	1194	-	-
Mov Cap-2 Maneuver	372	355	-	440	352	-	-	-	-	-	-	-
Stage 1	458	489	-	620	617	-	-	-	-	-	-	-
Stage 2	773	607	-	661	479	-	-	-	-	-	-	-

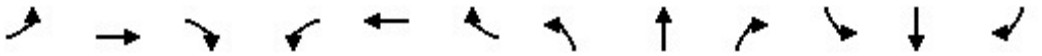
Approach	EB	WB	NB	SB
HCM Control Delay, s	14.3	12.7	0.2	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	995	-	-	441	438	828	1194	-	-
HCM Lane V/C Ratio	0.007	-	-	0.122	0.113	0.028	0.011	-	-
HCM Control Delay (s)	8.6	-	-	14.3	14.3	9.5	8.1	-	-
HCM Lane LOS	A	-	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.4	0.1	0	-	-

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	593	154	242	414	348	1	81
Future Volume (vph)	593	154	242	414	348	1	81
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	27.8	15.8	15.8	15.8
Total Split (s)	29.8	29.8	11.6	41.4	18.6	18.6	18.6
Total Split (%)	49.7%	49.7%	19.3%	69.0%	31.0%	31.0%	31.0%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	None	None	None	C-Max	Max	Max	Max
Act Effct Green (s)	24.2	24.2	6.8	35.6	12.8	12.8	12.8
Actuated g/C Ratio	0.40	0.40	0.11	0.59	0.21	0.21	0.21
v/c Ratio	0.44	0.22	0.66	0.21	0.52	0.52	0.20
Control Delay	14.3	3.2	35.3	4.7	26.7	26.7	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	3.2	35.3	4.7	26.7	26.7	3.0
LOS	B	A	D	A	C	C	A
Approach Delay	12.0			16.0		22.3	
Approach LOS	B			B		C	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 15.8	Intersection LOS: B
Intersection Capacity Utilization 49.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: I-215 SB Ramps & Placentia Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	593	154	242	414	0	0	0	0	348	1	81
Future Volume (veh/h)	0	593	154	242	414	0	0	0	0	348	1	81
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	645	167	263	450	0				379	0	88
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	1494	666	361	2142	0				772	0	344
Arrive On Green	0.00	0.41	0.41	0.21	1.00	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	3705	1610	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	645	167	263	450	0				379	0	88
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	7.7	4.1	4.2	0.0	0.0				5.5	0.0	2.7
Cycle Q Clear(g_c), s	0.0	7.7	4.1	4.2	0.0	0.0				5.5	0.0	2.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1494	666	361	2142	0				772	0	344
V/C Ratio(X)	0.00	0.43	0.25	0.73	0.21	0.00				0.49	0.00	0.26
Avail Cap(c_a), veh/h	0	1494	666	410	2142	0				772	0	344
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.93	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.5	11.5	23.1	0.0	0.0				20.7	0.0	19.6
Incr Delay (d2), s/veh	0.0	0.2	0.2	4.1	0.2	0.0				2.2	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	2.5	1.2	1.6	0.1	0.0				2.3	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.7	11.7	27.2	0.2	0.0				23.0	0.0	21.4
LnGrp LOS	A	B	B	C	A	A				C	A	C
Approach Vol, veh/h		812			713						467	
Approach Delay, s/veh		12.5			10.2						22.7	
Approach LOS		B			B						C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.8	30.6		18.6		41.4						
Change Period (Y+Rc), s	4.6	5.8		5.8		5.8						
Max Green Setting (Gmax), s	7.0	24.0		12.8		35.6						
Max Q Clear Time (g_c+I1), s	6.2	9.7		7.5		2.0						
Green Ext Time (p_c), s	0.0	3.9		0.8		2.9						

Intersection Summary			
HCM 6th Ctrl Delay		14.1	
HCM 6th LOS		B	

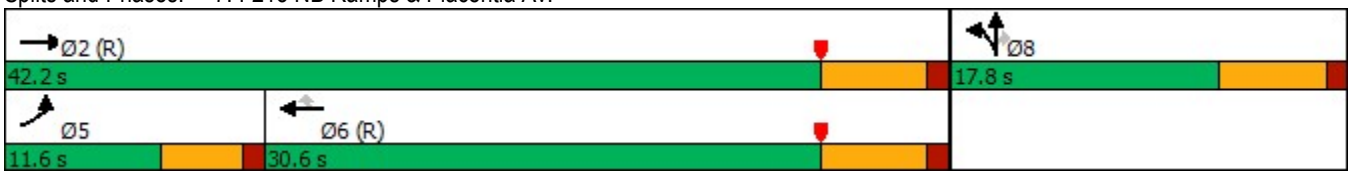
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	93	946	626	273	170	0	226
Future Volume (vph)	93	946	626	273	170	0	226
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	27.8	27.8	27.8	15.8	15.8	15.8
Total Split (s)	11.6	42.2	30.6	30.6	17.8	17.8	17.8
Total Split (%)	19.3%	70.3%	51.0%	51.0%	29.7%	29.7%	29.7%
Yellow Time (s)	3.6	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	5.8	5.8	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	6.1	37.6	28.9	28.9	10.8	10.8	10.8
Actuated g/C Ratio	0.10	0.63	0.48	0.48	0.18	0.18	0.18
v/c Ratio	0.29	0.45	0.39	0.32	0.30	0.30	0.61
Control Delay	21.2	5.4	11.9	2.8	23.9	23.9	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	5.4	11.9	2.8	23.9	23.9	17.9
LOS	C	A	B	A	C	C	B
Approach Delay		6.8	9.1			20.5	
Approach LOS		A	A			C	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.0	Intersection LOS: B
Intersection Capacity Utilization 49.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: I-215 NB Ramps & Placentia Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	946	0	0	626	273	170	0	226	0	0	0
Future Volume (veh/h)	93	946	0	0	626	273	170	0	226	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	101	1028	0	0	680	297	185	0	246			
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	238	2249	0	0	1727	770	665	0	296			
Arrive On Green	0.07	0.62	0.00	0.00	0.48	0.48	0.18	0.00	0.18			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	101	1028	0	0	680	297	185	0	246			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	1.7	9.0	0.0	0.0	7.3	7.1	2.6	0.0	8.8			
Cycle Q Clear(g_c), s	1.7	9.0	0.0	0.0	7.3	7.1	2.6	0.0	8.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	238	2249	0	0	1727	770	665	0	296			
V/C Ratio(X)	0.42	0.46	0.00	0.00	0.39	0.39	0.28	0.00	0.83			
Avail Cap(c_a), veh/h	410	2249	0	0	1727	770	724	0	322			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.89	0.89	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	26.8	6.0	0.0	0.0	10.1	10.0	21.1	0.0	23.6			
Incr Delay (d2), s/veh	0.4	0.6	0.0	0.0	0.7	1.5	0.2	0.0	15.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.6	2.2	0.0	0.0	2.3	2.2	1.0	0.0	4.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	6.6	0.0	0.0	10.7	11.5	21.3	0.0	39.2			
LnGrp LOS	C	A	A	A	B	B	C	A	D			
Approach Vol, veh/h		1129			977			431				
Approach Delay, s/veh		8.4			11.0			31.5				
Approach LOS		A			B			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		43.2			8.7	34.5		16.8				
Change Period (Y+Rc), s		5.8			4.6	5.8		5.8				
Max Green Setting (Gmax), s		36.4			7.0	24.8		12.0				
Max Q Clear Time (g_c+I1), s		11.0			3.7	9.3		10.8				
Green Ext Time (p_c), s		7.3			0.0	4.7		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

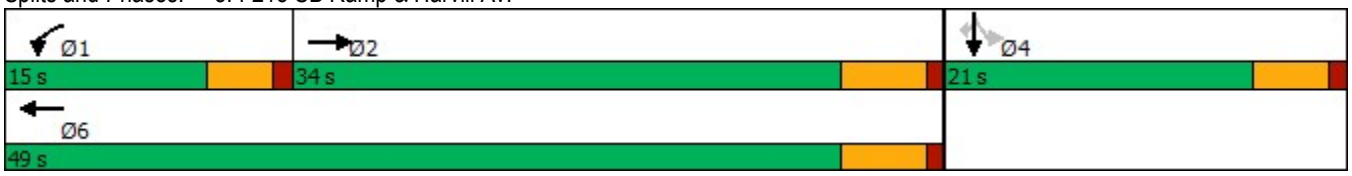
Notes

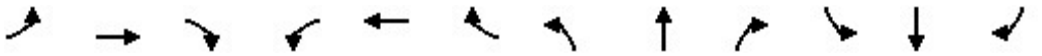
User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	469	439	413	378	3	61
Future Volume (vph)	469	439	413	378	3	61
Turn Type	NA	Prot	NA	Perm	NA	Perm
Protected Phases	2	1	6		4	
Permitted Phases				4		4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	33.5	9.5	44.5	21.0	21.0	21.0
Total Split (s)	34.0	15.0	49.0	21.0	21.0	21.0
Total Split (%)	48.6%	21.4%	70.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.5	3.5	4.5	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)	5.5	4.5	5.5	5.0	5.0	5.0
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	Min	Min	Min	Min
Act Effct Green (s)	14.5	10.5	29.7	11.2	11.2	11.2
Actuated g/C Ratio	0.28	0.20	0.57	0.22	0.22	0.22
v/c Ratio	0.63	0.64	0.21	0.53	0.53	0.15
Control Delay	16.9	27.2	5.8	25.3	25.4	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	27.2	5.8	25.3	25.4	2.5
LOS	B	C	A	C	C	A
Approach Delay	16.9		16.8		22.2	
Approach LOS	B		B		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 51.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 18.1	Intersection LOS: B
Intersection Capacity Utilization 53.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: I-215 SB Ramp & Harvill Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	469	167	439	413	0	0	0	0	378	3	61
Future Volume (veh/h)	0	469	167	439	413	0	0	0	0	378	3	61
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	484	172	453	426	0				392	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	704	248	646	2039	0				631	0	
Arrive On Green	0.00	0.27	0.27	0.18	0.56	0.00				0.17	0.00	0.00
Sat Flow, veh/h	0	2710	923	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	333	323	453	426	0				392	0	0
Grp Sat Flow(s),veh/h/ln	0	1805	1734	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	6.7	6.7	4.9	2.3	0.0				4.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.7	6.7	4.9	2.3	0.0				4.0	0.0	0.0
Prop In Lane	0.00		0.53	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	486	466	646	2039	0				631	0	
V/C Ratio(X)	0.00	0.69	0.69	0.70	0.21	0.00				0.62	0.00	
Avail Cap(c_a), veh/h	0	1278	1227	915	3900	0				1438	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	13.2	13.2	15.4	4.3	0.0				15.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.7	1.4	0.0	0.0				1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.9	1.8	1.5	0.3	0.0				1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.8	13.9	16.8	4.3	0.0				16.4	0.0	0.0
LnGrp LOS	A	B	B	B	A	A				B	A	
Approach Vol, veh/h		656			879						392	A
Approach Delay, s/veh		13.9			10.8						16.4	
Approach LOS		B			B						B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	11.9	16.3		12.0		28.2						
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5						
Max Green Setting (Gmax), s	10.5	28.5		16.0		43.5						
Max Q Clear Time (g_c+I1), s	6.9	8.7		6.0		4.3						
Green Ext Time (p_c), s	0.6	2.1		1.0		1.6						

Intersection Summary												
HCM 6th Ctrl Delay			13.0									
HCM 6th LOS			B									

Notes

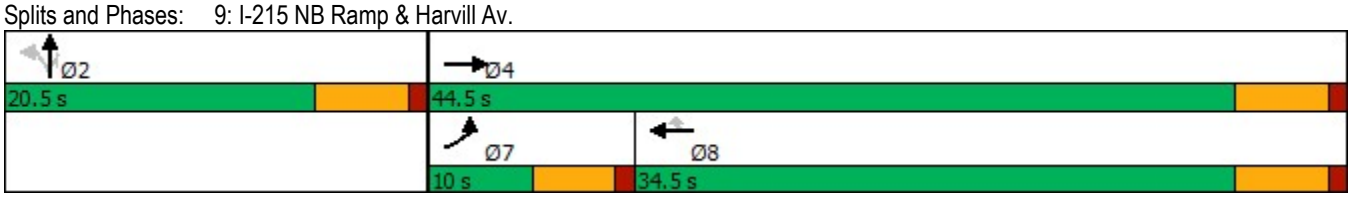
User approved volume balancing among the lanes for turning movement.

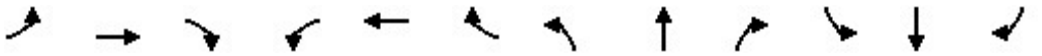
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	43	805	776	309	0	319
Future Volume (vph)	43	805	776	309	0	319
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	7	4	8		2	
Permitted Phases				8		2
Detector Phase	7	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	44.5	28.5	28.5	20.5	20.5
Total Split (s)	10.0	44.5	34.5	34.5	20.5	20.5
Total Split (%)	15.4%	68.5%	53.1%	53.1%	31.5%	31.5%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	Min	None	None	None	None
Act Effct Green (s)	5.5	18.4	15.4	15.4	6.8	6.8
Actuated g/C Ratio	0.15	0.49	0.41	0.41	0.18	0.18
v/c Ratio	0.17	0.48	0.39	0.38	0.24	0.45
Control Delay	21.3	6.6	8.7	2.9	18.7	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	6.6	8.7	2.9	18.7	6.6
LOS	C	A	A	A	B	A
Approach Delay		7.4	7.1		8.9	
Approach LOS		A	A		A	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 37.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay: 7.5	Intersection LOS: A
Intersection Capacity Utilization 53.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: I-215 NB Ramp & Harvill Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	805	0	0	776	309	75	0	319	0	0	0
Future Volume (veh/h)	43	805	0	0	776	309	75	0	319	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	46	856	0	0	826	329	80	0	339			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	92	1870	0	0	1716	533	330	0	517			
Arrive On Green	0.05	0.52	0.00	0.00	0.33	0.33	0.18	0.00	0.18			
Sat Flow, veh/h	1810	3705	0	0	5358	1610	1810	0	2834			
Grp Volume(v), veh/h	46	856	0	0	826	329	80	0	339			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1729	1610	1810	0	1417			
Q Serve(g_s), s	0.9	5.5	0.0	0.0	4.7	6.3	1.4	0.0	4.1			
Cycle Q Clear(g_c), s	0.9	5.5	0.0	0.0	4.7	6.3	1.4	0.0	4.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	92	1870	0	0	1716	533	330	0	517			
V/C Ratio(X)	0.50	0.46	0.00	0.00	0.48	0.62	0.24	0.00	0.66			
Avail Cap(c_a), veh/h	246	3835	0	0	4097	1272	739	0	1158			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	17.0	5.6	0.0	0.0	9.8	10.3	12.8	0.0	13.9			
Incr Delay (d2), s/veh	1.5	0.1	0.0	0.0	0.1	0.4	0.1	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	0.3	0.6	0.0	0.0	1.0	1.3	0.4	0.0	1.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	5.7	0.0	0.0	9.9	10.8	13.0	0.0	14.5			
LnGrp LOS	B	A	A	A	A	B	B	A	B			
Approach Vol, veh/h		902			1155			419				
Approach Delay, s/veh		6.3			10.1			14.2				
Approach LOS		A			B			B				

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		12.2		24.5			6.9	17.6				
Change Period (Y+Rc), s		5.5		5.5			5.0	5.5				
Max Green Setting (Gmax), s		15.0		39.0			5.0	29.0				
Max Q Clear Time (g_c+I1), s		6.1		7.5			2.9	8.3				
Green Ext Time (p_c), s		0.7		3.6			0.0	3.8				

Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			A									

APPENDIX 5.2: EAP (2024) 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 (2024)
				CALC JB	DATE 06/08/22
Jurisdiction: City of Perris				CHK JB	DATE 06/08/22
Major Street: Water Street				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 = **297** vpd Minor Street Future ADT = **232** 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			
	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
XX Satisfied / XX Not Satisfied				
Number of lanes for moving traffic on each approach				
Major Street: *1* **297** / Minor Street: *1* **232**	8,000	5,600	2,400	1,680
Major Street: *2* + / Minor Street: *1*	9,600	6,720	2,400	1,680
Major Street: *2* + / Minor Street: *2* +	9,600	6,720	3,200	2,240
Major Street: *1* / Minor Street: *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 / XX Not Satisfied	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach				
Major Street: *1* **297** / Minor Street: *1* **232**	12,000	8,400	1,200	850
Major Street: *2* + / Minor Street: *1*	14,400	10,080	1,200	850
Major Street: *2* + / Minor Street: *2* +	14,400	10,080	1,600	1,120
Major Street: *1* / Minor Street: *2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / XX Not Satisfied				
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 4% 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.

URBAN CROSSROADS

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

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		EAP (2024)
				CALC JB	DATE	06/08/22
Jurisdiction: **City of Perris**				CHK JB	DATE	06/08/22
Major Street: **Orange 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 = **849** vpd Minor Street Future ADT = **114** 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			
	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
XX Satisfied / XX Not Satisfied				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **849** / *1* **114**	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 / XX Not Satisfied				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **849** / *1* **114**	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 / XX Not Satisfied				
No one condition satisfied, but following conditions fulfilled 80% of more ….. **A** 5% **B** 7%	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 (2024)
				CALC JB	DATE 06/08/22
Jurisdiction: **City of Perris**				CHK JB	DATE 06/08/22
Major Street: **Orange 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 = **1,080** vpd Minor Street Future ADT = **117** 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			
	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: XX				
Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street: 1 **1,080** / Minor Street: 1 **117**	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	Urban	Rural	Urban	Rural
Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street: 1 **1,080** / Minor Street: 1 **117**	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: 5% B: 9%				

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-4. Warrant 3, Peak Hour (70% Factor)

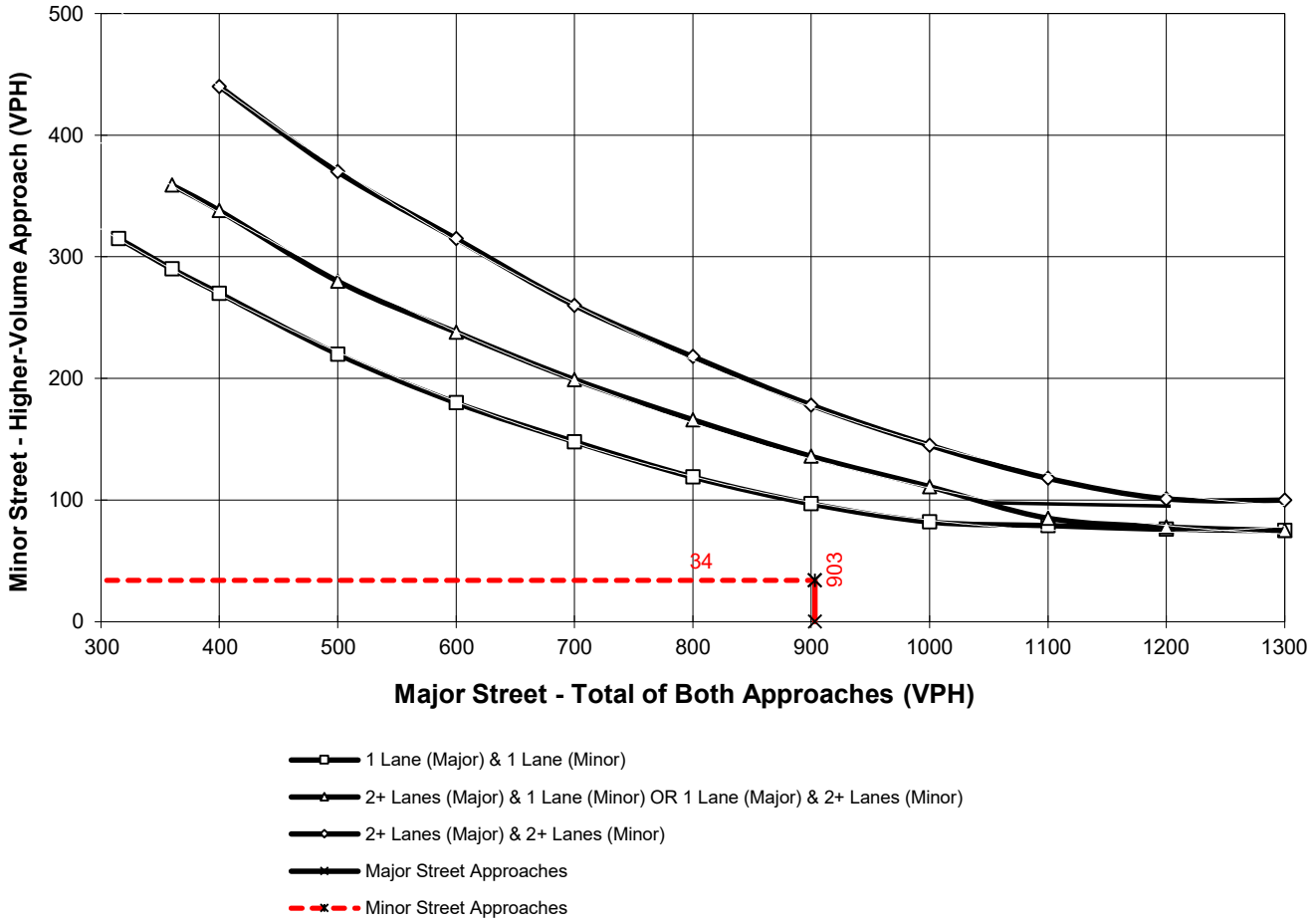
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2024) Conditions - Weekday PM Peak Hour**

Major Street Name = **Harvill Avenue** — Total of Both Approaches (VPH) = **903**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Water Avenue** — High Volume Approach (VPH) = **34**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

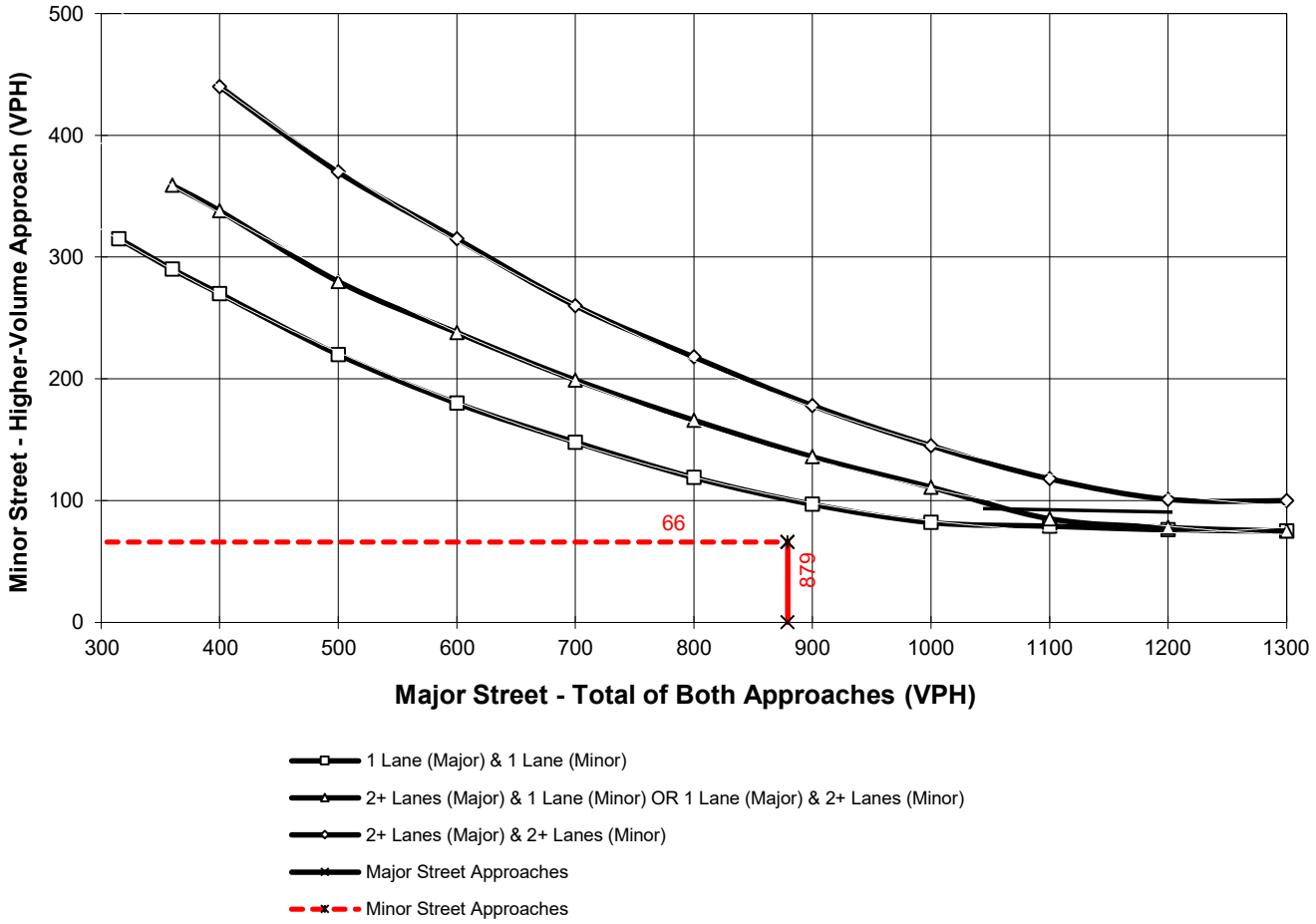
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2024) Conditions - Weekday PM Peak Hour**

Major Street Name = **Harvill Avenue** — Total of Both Approaches (VPH) = **879**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Orange Avenue** — High Volume Approach (VPH) = **66**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 5.3: EAP (2024) CONDITIONS FREEWAY OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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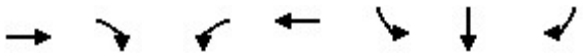
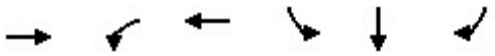


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	591	137	157	505	146	146	101
v/c Ratio	0.37	0.17	0.42	0.24	0.40	0.40	0.22
Control Delay	12.9	3.2	27.3	4.8	24.2	24.2	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	3.2	27.3	4.8	24.2	24.2	4.0
Queue Length 50th (ft)	77	0	29	46	48	48	0
Queue Length 95th (ft)	114	27	53	44	96	96	21
Internal Link Dist (ft)	826			769		2180	
Turn Bay Length (ft)		230	250				330
Base Capacity (vph)	1593	789	408	2141	365	365	450
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.17	0.38	0.24	0.40	0.40	0.22

Intersection Summary

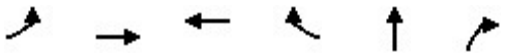
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	98	785	459	336	101	102	283
v/c Ratio	0.28	0.35	0.26	0.35	0.33	0.33	0.62
Control Delay	21.8	4.5	10.9	2.8	24.4	24.4	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	4.5	10.9	2.8	24.4	24.4	14.1
Queue Length 50th (ft)	14	24	50	0	34	34	26
Queue Length 95th (ft)	31	62	86	40	71	72	88
Internal Link Dist (ft)		769	1397			1284	
Turn Bay Length (ft)	260			365	575		
Base Capacity (vph)	408	2262	1737	951	343	343	483
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.35	0.26	0.35	0.29	0.30	0.59

Intersection Summary



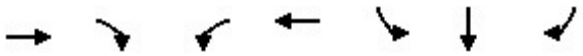
Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	612	232	621	113	113	80
v/c Ratio	0.58	0.37	0.30	0.35	0.35	0.20
Control Delay	15.3	21.0	5.6	21.6	21.6	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	21.0	5.6	21.6	21.6	4.6
Queue Length 50th (ft)	63	25	35	25	25	0
Queue Length 95th (ft)	95	63	59	69	69	11
Internal Link Dist (ft)	1755		372		1076	
Turn Bay Length (ft)		115		550		250
Base Capacity (vph)	2367	754	3302	622	625	655
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	0.26	0.31	0.19	0.18	0.18	0.12

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	46	638	669	432	133	374
v/c Ratio	0.16	0.41	0.36	0.51	0.33	0.41
Control Delay	22.0	7.0	9.7	3.7	18.1	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	7.0	9.7	3.7	18.1	4.2
Queue Length 50th (ft)	6	34	24	0	16	0
Queue Length 95th (ft)	41	66	68	27	78	22
Internal Link Dist (ft)		372	1792		1123	
Turn Bay Length (ft)	105			200		165
Base Capacity (vph)	281	3265	4269	1405	847	1528
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	0.16	0.20	0.16	0.31	0.16	0.24

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	645	167	263	450	189	190	88
v/c Ratio	0.44	0.22	0.66	0.21	0.52	0.52	0.20
Control Delay	14.3	3.2	35.3	4.7	26.7	26.7	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	3.2	35.3	4.7	26.7	26.7	3.0
Queue Length 50th (ft)	86	0	55	30	64	64	0
Queue Length 95th (ft)	126	30	#93	38	122	122	15
Internal Link Dist (ft)	826			769		2180	
Turn Bay Length (ft)		230	250				330
Base Capacity (vph)	1454	750	408	2141	365	366	450
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.22	0.64	0.21	0.52	0.52	0.20

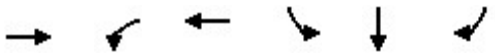
Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	101	1028	680	297	92	93	246
v/c Ratio	0.29	0.45	0.39	0.32	0.30	0.30	0.61
Control Delay	21.2	5.4	11.9	2.8	23.9	23.9	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	5.4	11.9	2.8	23.9	23.9	17.9
Queue Length 50th (ft)	14	34	80	0	31	31	36
Queue Length 95th (ft)	m30	121	130	38	66	67	96
Internal Link Dist (ft)		769	1397			1284	
Turn Bay Length (ft)	260			365	575		
Base Capacity (vph)	408	2262	1736	930	343	343	431
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.45	0.39	0.32	0.27	0.27	0.57

Intersection Summary

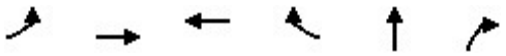
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	656	453	426	195	198	63
v/c Ratio	0.63	0.64	0.21	0.53	0.53	0.15
Control Delay	16.9	27.2	5.8	25.3	25.4	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	27.2	5.8	25.3	25.4	2.5
Queue Length 50th (ft)	75	60	26	51	52	0
Queue Length 95th (ft)	131	#173	54	138	141	11
Internal Link Dist (ft)	1755		372		1076	
Turn Bay Length (ft)		115		550		250
Base Capacity (vph)	2015	736	3151	549	550	591
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.62	0.14	0.36	0.36	0.11

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)	46	856	826	329	80	339
v/c Ratio	0.17	0.48	0.39	0.38	0.24	0.45
Control Delay	21.3	6.6	8.7	2.9	18.7	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	6.6	8.7	2.9	18.7	6.6
Queue Length 50th (ft)	6	46	28	0	10	2
Queue Length 95th (ft)	43	85	85	34	59	42
Internal Link Dist (ft)		372	1792		1123	
Turn Bay Length (ft)	105			200		165
Base Capacity (vph)	265	3300	4310	1397	797	1419
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	0.17	0.26	0.19	0.24	0.10	0.24

Intersection Summary

APPENDIX 6.1: EAPC (2024) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	0	22	15	0	11
Future Vol, veh/h	8	0	22	15	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	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	9	0	24	16	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	9	0	73	9
Stage 1	-	-	-	-	9	-
Stage 2	-	-	-	-	64	-
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	-	-	1624	-	936	1079
Stage 1	-	-	-	-	1019	-
Stage 2	-	-	-	-	964	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1624	-	922	1079
Mov Cap-2 Maneuver	-	-	-	-	861	-
Stage 1	-	-	-	-	1019	-
Stage 2	-	-	-	-	950	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.3	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1079	-	-	1624	-
HCM Lane V/C Ratio	0.011	-	-	0.015	-
HCM Control Delay (s)	8.4	-	-	7.2	-
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	72	26	10	3	0
Future Vol, veh/h	0	72	26	10	3	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	50	-	-	-	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	78	28	11	3	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	112	34
Stage 1	-	-	-	-	34	-
Stage 2	-	-	-	-	78	-
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	-	-	-	890	1045
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	950	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1584	-	-	-	890	1045
Mov Cap-2 Maneuver	-	-	-	-	847	-
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	950	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1584	-	-	-	847
HCM Lane V/C Ratio	-	-	-	-	0.004
HCM Control Delay (s)	0	-	-	-	9.3
HCM Lane LOS	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	75	36	12	7	0
Future Vol, veh/h	0	75	36	12	7	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	50	-	-	-	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	82	39	13	8	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	52	0	-	0	128	46
Stage 1	-	-	-	-	46	-
Stage 2	-	-	-	-	82	-
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	1567	-	-	-	871	1029
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	946	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1567	-	-	-	871	1029
Mov Cap-2 Maneuver	-	-	-	-	871	-
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	946	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1567	-	-	-	871
HCM Lane V/C Ratio	-	-	-	-	0.009
HCM Control Delay (s)	0	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	4	8	0	8	14	864	11	13	496	24
Future Vol, veh/h	15	0	4	8	0	8	14	864	11	13	496	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	150	100	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	16	0	4	9	0	9	15	939	12	14	539	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1080	1561	283	1273	1568	476	565	0	0	951	0	0
Stage 1	580	580	-	975	975	-	-	-	-	-	-	-
Stage 2	500	981	-	298	593	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	175	113	720	126	112	541	1017	-	-	730	-	-
Stage 1	472	503	-	274	332	-	-	-	-	-	-	-
Stage 2	527	330	-	692	497	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	168	109	720	122	108	541	1017	-	-	730	-	-
Mov Cap-2 Maneuver	296	220	-	217	224	-	-	-	-	-	-	-
Stage 1	465	493	-	270	327	-	-	-	-	-	-	-
Stage 2	511	325	-	675	488	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.2	17.1	0.1	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1017	-	-	296	720	217	541	730	-	-
HCM Lane V/C Ratio	0.015	-	-	0.055	0.006	0.04	0.016	0.019	-	-
HCM Control Delay (s)	8.6	-	-	17.9	10	22.3	11.8	10	-	-
HCM Lane LOS	A	-	-	C	B	C	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0.1	0	0.1	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	66	0	17	3	0	8	14	814	27	16	457	34
Future Vol, veh/h	66	0	17	3	0	8	14	814	27	16	457	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	160	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	73	0	19	3	0	9	15	895	30	18	502	37

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1035	1512	270	1227	1515	463	539	0	0	925	0	0
Stage 1	557	557	-	940	940	-	-	-	-	-	-	-
Stage 2	478	955	-	287	575	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	189	121	734	137	121	551	1040	-	-	747	-	-
Stage 1	487	515	-	287	345	-	-	-	-	-	-	-
Stage 2	543	339	-	702	506	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	180	116	734	130	116	551	1040	-	-	747	-	-
Mov Cap-2 Maneuver	308	226	-	227	232	-	-	-	-	-	-	-
Stage 1	480	503	-	283	340	-	-	-	-	-	-	-
Stage 2	527	334	-	668	494	-	-	-	-	-	-	-

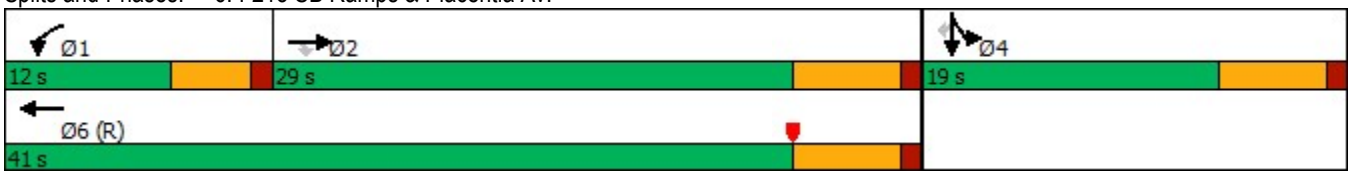
Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	14.2	0.1	0.3
HCM LOS	C	B		

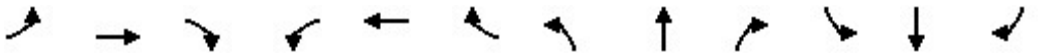
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1040	-	-	350	227	551	747	-	-
HCM Lane V/C Ratio	0.015	-	-	0.261	0.015	0.016	0.024	-	-
HCM Control Delay (s)	8.5	-	-	18.9	21.1	11.6	9.9	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1	0	0	0.1	-	-

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	652	197	245	612	426	0	255
Future Volume (vph)	652	197	245	612	426	0	255
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	27.8	15.8	15.8	15.8
Total Split (s)	29.0	29.0	12.0	41.0	19.0	19.0	19.0
Total Split (%)	48.3%	48.3%	20.0%	68.3%	31.7%	31.7%	31.7%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	None	None	None	C-Max	Max	Max	Max
Act Effct Green (s)	23.4	23.4	7.2	35.2	13.2	13.2	13.2
Actuated g/C Ratio	0.39	0.39	0.12	0.59	0.22	0.22	0.22
v/c Ratio	0.50	0.28	0.64	0.31	0.61	0.62	0.50
Control Delay	15.5	3.3	28.6	5.1	29.2	29.3	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	3.3	28.6	5.1	29.2	29.3	8.0
LOS	B	A	C	A	C	C	A
Approach Delay	12.7			11.8		21.3	
Approach LOS	B			B		C	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 14.8	Intersection LOS: B
Intersection Capacity Utilization 69.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: I-215 SB Ramps & Placentia Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	652	197	245	612	0	0	0	0	426	0	255
Future Volume (veh/h)	0	652	197	245	612	0	0	0	0	426	0	255
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	709	111	266	665	0				463	0	141
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	1466	654	365	2118	0				796	0	354
Arrive On Green	0.00	0.41	0.41	0.21	1.00	0.00				0.22	0.00	0.22
Sat Flow, veh/h	0	3705	1610	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	709	111	266	665	0				463	0	141
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	8.7	2.6	4.2	0.0	0.0				6.9	0.0	4.5
Cycle Q Clear(g_c), s	0.0	8.7	2.6	4.2	0.0	0.0				6.9	0.0	4.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1466	654	365	2118	0				796	0	354
V/C Ratio(X)	0.00	0.48	0.17	0.73	0.31	0.00				0.58	0.00	0.40
Avail Cap(c_a), veh/h	0	1466	654	433	2118	0				796	0	354
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.92	0.92	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.2	11.4	23.0	0.0	0.0				20.9	0.0	20.0
Incr Delay (d2), s/veh	0.0	0.2	0.1	3.5	0.4	0.0				3.1	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	0.8	1.6	0.1	0.0				2.8	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.4	11.5	26.4	0.4	0.0				24.0	0.0	23.3
LnGrp LOS	A	B	B	C	A	A				C	A	C
Approach Vol, veh/h		820			931						604	
Approach Delay, s/veh		13.2			7.8						23.9	
Approach LOS		B			A						C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.8	30.2		19.0		41.0						
Change Period (Y+Rc), s	4.6	5.8		5.8		5.8						
Max Green Setting (Gmax), s	7.4	23.2		13.2		35.2						
Max Q Clear Time (g_c+I1), s	6.2	10.7		8.9		2.0						
Green Ext Time (p_c), s	0.1	3.8		1.0		4.5						

Intersection Summary			
HCM 6th Ctrl Delay		13.8	
HCM 6th LOS		B	

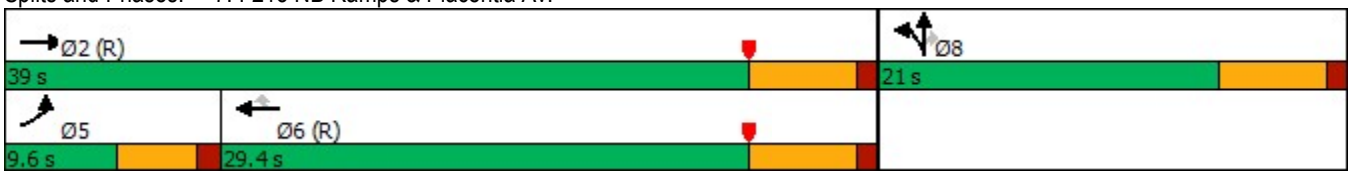
Notes

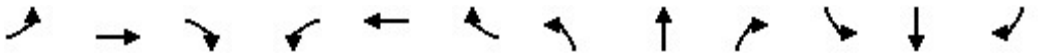
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	186	891	534	440	322	0	564
Future Volume (vph)	186	891	534	440	322	0	564
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	27.8	27.8	27.8	15.8	15.8	15.8
Total Split (s)	9.6	39.0	29.4	29.4	21.0	21.0	21.0
Total Split (%)	16.0%	65.0%	49.0%	49.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	5.8	5.8	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	5.0	33.2	23.6	23.6	15.2	15.2	15.2
Actuated g/C Ratio	0.08	0.55	0.39	0.39	0.25	0.25	0.25
v/c Ratio	0.69	0.48	0.41	0.52	0.40	0.40	1.20
Control Delay	34.1	8.0	14.3	3.7	22.0	22.0	130.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	8.0	14.3	3.7	22.0	22.0	130.5
LOS	C	A	B	A	C	C	F
Approach Delay		12.5	9.5			91.1	
Approach LOS		B	A			F	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 35.2	Intersection LOS: D
Intersection Capacity Utilization 69.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: I-215 NB Ramps & Placentia Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	891	0	0	534	440	322	0	564	0	0	0
Future Volume (veh/h)	186	891	0	0	534	440	322	0	564	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	202	968	0	0	580	261	350	0	314			
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	293	2084	0	0	1506	672	830	0	369			
Arrive On Green	0.08	0.58	0.00	0.00	0.42	0.42	0.23	0.00	0.23			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	202	968	0	0	580	261	350	0	314			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	3.4	9.3	0.0	0.0	6.7	6.8	5.0	0.0	11.2			
Cycle Q Clear(g_c), s	3.4	9.3	0.0	0.0	6.7	6.8	5.0	0.0	11.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	293	2084	0	0	1506	672	830	0	369			
V/C Ratio(X)	0.69	0.46	0.00	0.00	0.39	0.39	0.42	0.00	0.85			
Avail Cap(c_a), veh/h	293	2084	0	0	1506	672	917	0	408			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.83	0.83	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	26.7	7.3	0.0	0.0	12.1	12.2	19.7	0.0	22.1			
Incr Delay (d2), s/veh	4.7	0.6	0.0	0.0	0.7	1.7	0.3	0.0	14.5			
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	1.4	2.5	0.0	0.0	2.3	2.2	1.8	0.0	5.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.5	7.9	0.0	0.0	12.9	13.8	20.1	0.0	36.7			
LnGrp LOS	C	A	A	A	B	B	C	A	D			
Approach Vol, veh/h		1170			841			664				
Approach Delay, s/veh		12.0			13.2			27.9				
Approach LOS		B			B			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		40.4			9.6	30.8		19.6				
Change Period (Y+Rc), s		5.8			4.6	5.8		5.8				
Max Green Setting (Gmax), s		33.2			5.0	23.6		15.2				
Max Q Clear Time (g_c+I1), s		11.3			5.4	8.8		13.2				
Green Ext Time (p_c), s		6.5			0.0	3.9		0.6				

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

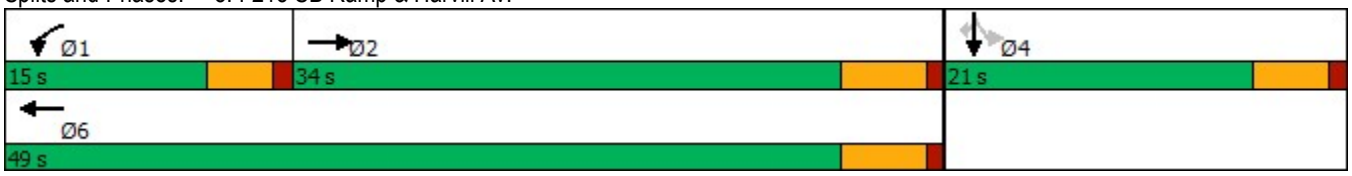
Notes

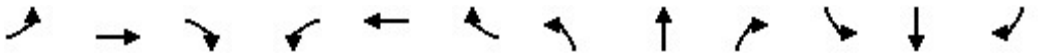
User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	639	250	1082	261	3	143
Future Volume (vph)	639	250	1082	261	3	143
Turn Type	NA	Prot	NA	Perm	NA	Perm
Protected Phases	2	1	6		4	
Permitted Phases				4		4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	33.5	9.5	44.5	21.0	21.0	21.0
Total Split (s)	34.0	15.0	49.0	21.0	21.0	21.0
Total Split (%)	48.6%	21.4%	70.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.5	3.5	4.5	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)	5.5	4.5	5.5	5.0	5.0	5.0
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	Min	Min	Min	Min
Act Effct Green (s)	20.6	9.7	35.0	11.3	11.3	11.3
Actuated g/C Ratio	0.36	0.17	0.61	0.20	0.20	0.20
v/c Ratio	0.78	0.55	0.64	0.52	0.51	0.46
Control Delay	20.5	27.8	9.0	28.0	27.7	14.6
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	20.5	27.8	9.1	28.0	27.7	14.6
LOS	C	C	A	C	C	B
Approach Delay	20.5		12.6		23.2	
Approach LOS	C		B		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 57.2	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 50.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: I-215 SB Ramp & Harvill Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	639	123	250	1082	0	0	0	0	261	3	143
Future Volume (veh/h)	0	639	123	250	1082	0	0	0	0	261	3	143
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	841	162	329	1424	0				346	0	0
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76				0.76	0.76	0.76
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1101	212	499	2197	0				557	0	
Arrive On Green	0.00	0.36	0.36	0.14	0.61	0.00				0.15	0.00	0.00
Sat Flow, veh/h	0	3114	581	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	503	500	329	1424	0				346	0	0
Grp Sat Flow(s),veh/h/ln	0	1805	1795	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	10.8	10.8	3.9	11.3	0.0				4.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.8	10.8	3.9	11.3	0.0				4.0	0.0	0.0
Prop In Lane	0.00		0.32	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	658	655	499	2197	0				557	0	
V/C Ratio(X)	0.00	0.76	0.76	0.66	0.65	0.00				0.62	0.00	
Avail Cap(c_a), veh/h	0	1164	1158	834	3553	0				1310	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	12.4	12.4	17.9	5.6	0.0				17.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.7	1.5	0.1	0.0				1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.9	2.9	1.3	1.2	0.0				1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.1	13.1	19.4	5.7	0.0				18.6	0.0	0.0
LnGrp LOS	A	B	B	B	A	A				B	A	
Approach Vol, veh/h		1003			1753						346	A
Approach Delay, s/veh		13.1			8.3						18.6	
Approach LOS		B			A						B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.8	21.6		11.8		32.4
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5
Max Green Setting (Gmax), s	10.5	28.5		16.0		43.5
Max Q Clear Time (g_c+I1), s	5.9	12.8		6.0		13.3
Green Ext Time (p_c), s	0.5	3.3		0.8		7.2

Intersection Summary		
HCM 6th Ctrl Delay		11.0
HCM 6th LOS		B

Notes

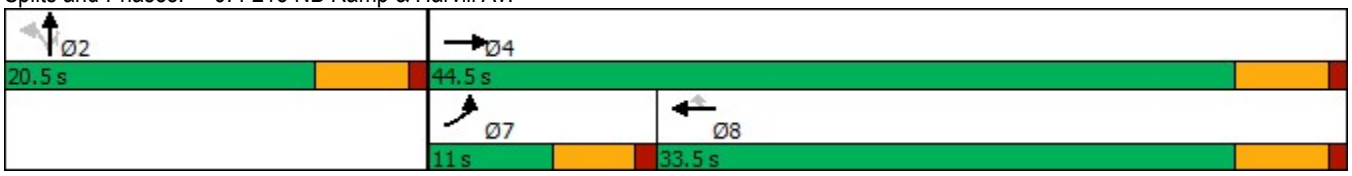
User approved volume balancing among the lanes for turning movement.

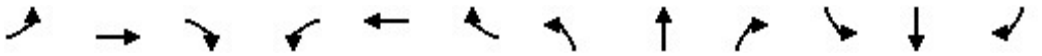
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	57	844	1128	350	2	482
Future Volume (vph)	57	844	1128	350	2	482
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	7	4	8		2	
Permitted Phases				8		2
Detector Phase	7	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	44.5	28.5	28.5	20.5	20.5
Total Split (s)	11.0	44.5	33.5	33.5	20.5	20.5
Total Split (%)	16.9%	68.5%	51.5%	51.5%	31.5%	31.5%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	Min	None	None	None	None
Act Effct Green (s)	6.1	27.5	22.1	22.1	12.1	12.1
Actuated g/C Ratio	0.12	0.53	0.43	0.43	0.23	0.23
v/c Ratio	0.33	0.54	0.63	0.46	0.60	0.73
Control Delay	31.2	8.7	14.0	3.3	27.1	20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	8.7	14.0	3.3	27.1	20.1
LOS	C	A	B	A	C	C
Approach Delay		10.1	11.4		22.2	
Approach LOS		B	B		C	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 51.7	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 50.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: I-215 NB Ramp & Harvill Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	844	0	0	1128	350	204	2	482	0	0	0
Future Volume (veh/h)	57	844	0	0	1128	350	204	2	482	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	70	1042	0	0	1393	432	252	2	595			
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	110	1942	0	0	1978	614	452	4	713			
Arrive On Green	0.06	0.54	0.00	0.00	0.38	0.38	0.25	0.25	0.25			
Sat Flow, veh/h	1810	3705	0	0	5358	1610	1796	14	2834			
Grp Volume(v), veh/h	70	1042	0	0	1393	432	254	0	595			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1729	1610	1810	0	1417			
Q Serve(g_s), s	2.0	9.8	0.0	0.0	11.9	11.9	6.4	0.0	10.4			
Cycle Q Clear(g_c), s	2.0	9.8	0.0	0.0	11.9	11.9	6.4	0.0	10.4			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	110	1942	0	0	1978	614	455	0	713			
V/C Ratio(X)	0.63	0.54	0.00	0.00	0.70	0.70	0.56	0.00	0.83			
Avail Cap(c_a), veh/h	208	2692	0	0	2777	862	519	0	813			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.0	7.8	0.0	0.0	13.7	13.7	17.0	0.0	18.5			
Incr Delay (d2), s/veh	2.2	0.1	0.0	0.0	0.2	0.6	0.4	0.0	6.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	2.2	0.0	0.0	3.3	3.2	2.2	0.0	3.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	7.9	0.0	0.0	13.9	14.2	17.4	0.0	24.5			
LnGrp LOS	C	A	A	A	B	B	B	A	C			
Approach Vol, veh/h		1112			1825			849				
Approach Delay, s/veh		9.1			14.0			22.4				
Approach LOS		A			B			C				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		18.7		33.6			8.2	25.4				
Change Period (Y+Rc), s		5.5		5.5			5.0	5.5				
Max Green Setting (Gmax), s		15.0		39.0			6.0	28.0				
Max Q Clear Time (g_c+I1), s		12.4		11.8			4.0	13.9				
Green Ext Time (p_c), s		0.8		4.5			0.0	6.1				
Intersection Summary												
HCM 6th Ctrl Delay			14.4									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	5.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	0	14	5	0	29
Future Vol, veh/h	10	0	14	5	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	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	11	0	15	5	0	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	11	0	46	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	35	-
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	-	-	1621	-	969	1076
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	993	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1621	-	960	1076
Mov Cap-2 Maneuver	-	-	-	-	892	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	984	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.3	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1076	-	-	1621	-
HCM Lane V/C Ratio	0.029	-	-	0.009	-
HCM Control Delay (s)	8.4	-	-	7.2	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	43	66	5	13	0
Future Vol, veh/h	0	43	66	5	13	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	50	-	-	-	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	47	72	5	14	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	122	75
Stage 1	-	-	-	-	75	-
Stage 2	-	-	-	-	47	-
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	1535	-	-	-	878	992
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	981	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1535	-	-	-	878	992
Mov Cap-2 Maneuver	-	-	-	-	841	-
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	981	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1535	-	-	-	841
HCM Lane V/C Ratio	-	-	-	-	0.017
HCM Control Delay (s)	0	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	56	71	9	15	0
Future Vol, veh/h	0	56	71	9	15	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	50	-	-	-	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	61	77	10	16	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	87	0	-	0	143	82
Stage 1	-	-	-	-	82	-
Stage 2	-	-	-	-	61	-
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	1522	-	-	-	854	983
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1522	-	-	-	854	983
Mov Cap-2 Maneuver	-	-	-	-	854	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1522	-	-	-	854
HCM Lane V/C Ratio	-	-	-	-	0.019
HCM Control Delay (s)	0	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	0	9	11	0	23	6	620	3	6	789	13
Future Vol, veh/h	29	0	9	11	0	23	6	620	3	6	789	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	150	100	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	33	0	10	13	0	26	7	705	3	7	897	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1286	1641	456	1184	1647	354	912	0	0	708	0	0
Stage 1	919	919	-	721	721	-	-	-	-	-	-	-
Stage 2	367	722	-	463	926	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	124	101	557	147	100	648	755	-	-	900	-	-
Stage 1	296	353	-	389	435	-	-	-	-	-	-	-
Stage 2	630	434	-	554	350	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	117	99	557	142	98	648	755	-	-	900	-	-
Mov Cap-2 Maneuver	224	219	-	266	217	-	-	-	-	-	-	-
Stage 1	293	350	-	385	431	-	-	-	-	-	-	-
Stage 2	599	430	-	540	347	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.9	13.5	0.1	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	755	-	-	224	557	266	648	900	-	-
HCM Lane V/C Ratio	0.009	-	-	0.147	0.018	0.047	0.04	0.008	-	-
HCM Control Delay (s)	9.8	-	-	23.8	11.6	19.2	10.8	9	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.1	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	1	23	43	1	21	18	560	28	12	736	61
Future Vol, veh/h	47	1	23	43	1	21	18	560	28	12	736	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	160	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	53	1	26	48	1	24	20	629	31	13	827	69

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1243	1588	448	1125	1607	330	896	0	0	660	0	0
Stage 1	888	888	-	685	685	-	-	-	-	-	-	-
Stage 2	355	700	-	440	922	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	133	109	564	162	106	672	766	-	-	938	-	-
Stage 1	309	365	-	409	451	-	-	-	-	-	-	-
Stage 2	641	444	-	571	352	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	124	105	564	149	102	672	766	-	-	938	-	-
Mov Cap-2 Maneuver	230	224	-	271	216	-	-	-	-	-	-	-
Stage 1	301	360	-	398	439	-	-	-	-	-	-	-
Stage 2	601	432	-	536	347	-	-	-	-	-	-	-

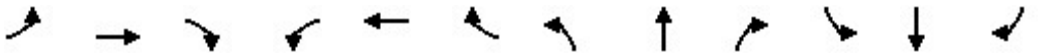
Approach	EB	WB	NB	SB
HCM Control Delay, s	22.6	17.9	0.3	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	766	-	-	284	269	672	938	-	-
HCM Lane V/C Ratio	0.026	-	-	0.281	0.184	0.035	0.014	-	-
HCM Control Delay (s)	9.8	-	-	22.6	21.4	10.6	8.9	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.1	0.7	0.1	0	-	-

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	907	313	583	648	544	1	172
Future Volume (vph)	907	313	583	648	544	1	172
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	27.8	15.8	15.8	15.8
Total Split (s)	28.5	28.5	15.4	43.9	16.1	16.1	16.1
Total Split (%)	47.5%	47.5%	25.7%	73.2%	26.8%	26.8%	26.8%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8	5.8	5.8
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	None	None	None	C-Max	Max	Max	Max
Act Effct Green (s)	22.7	22.7	10.8	38.1	10.3	10.3	10.3
Actuated g/C Ratio	0.38	0.38	0.18	0.64	0.17	0.17	0.17
v/c Ratio	0.72	0.41	1.01	0.31	1.00	1.01	0.43
Control Delay	19.7	3.5	60.0	7.3	83.5	84.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	3.5	60.0	7.3	83.5	84.2	7.7
LOS	B	A	E	A	F	F	A
Approach Delay	15.5			32.3		65.6	
Approach LOS	B			C		E	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 33.4	Intersection LOS: C
Intersection Capacity Utilization 70.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: I-215 SB Ramps & Placentia Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	907	313	583	648	0	0	0	0	544	1	172
Future Volume (veh/h)	0	907	313	583	648	0	0	0	0	544	1	172
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	986	177	634	704	0				592	0	105
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	1366	609	632	2292	0				621	0	276
Arrive On Green	0.00	0.38	0.38	0.36	1.00	0.00				0.17	0.00	0.17
Sat Flow, veh/h	0	3705	1610	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	986	177	634	704	0				592	0	105
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	14.0	4.6	10.8	0.0	0.0				9.7	0.0	3.5
Cycle Q Clear(g_c), s	0.0	14.0	4.6	10.8	0.0	0.0				9.7	0.0	3.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1366	609	632	2292	0				621	0	276
V/C Ratio(X)	0.00	0.72	0.29	1.00	0.31	0.00				0.95	0.00	0.38
Avail Cap(c_a), veh/h	0	1366	609	632	2292	0				621	0	276
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.66	0.66	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.0	13.0	19.2	0.0	0.0				24.6	0.0	22.0
Incr Delay (d2), s/veh	0.0	1.9	0.3	29.9	0.2	0.0				26.2	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.0	1.4	5.5	0.1	0.0				5.9	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.9	13.3	49.1	0.2	0.0				50.8	0.0	26.0
LnGrp LOS	A	B	B	F	A	A				D	A	C
Approach Vol, veh/h		1163			1338						697	
Approach Delay, s/veh		17.2			23.4						47.1	
Approach LOS		B			C						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.4	28.5		16.1		43.9
Change Period (Y+Rc), s	4.6	5.8		5.8		5.8
Max Green Setting (Gmax), s	10.8	22.7		10.3		38.1
Max Q Clear Time (g_c+I1), s	12.8	16.0		11.7		2.0
Green Ext Time (p_c), s	0.0	3.6		0.0		4.9

Intersection Summary		
HCM 6th Ctrl Delay		26.3
HCM 6th LOS		C

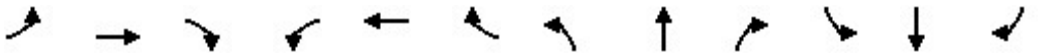
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	297	1155	980	499	252	0	395
Future Volume (vph)	297	1155	980	499	252	0	395
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	27.8	27.8	27.8	15.8	15.8	15.8
Total Split (s)	11.2	41.0	29.8	29.8	19.0	19.0	19.0
Total Split (%)	18.7%	68.3%	49.7%	49.7%	31.7%	31.7%	31.7%
Yellow Time (s)	3.6	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	5.8	5.8	5.8	5.8
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	6.7	35.3	24.0	24.0	13.1	13.1	13.1
Actuated g/C Ratio	0.11	0.59	0.40	0.40	0.22	0.22	0.22
v/c Ratio	0.83	0.59	0.74	0.56	0.37	0.37	0.94
Control Delay	32.9	10.8	19.1	3.9	23.2	23.2	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	10.8	19.1	3.9	23.2	23.2	48.3
LOS	C	B	B	A	C	C	D
Approach Delay		15.3	14.0			38.5	
Approach LOS		B	B			D	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 19.0	Intersection LOS: B
Intersection Capacity Utilization 70.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: I-215 NB Ramps & Placentia Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	297	1155	0	0	980	499	252	0	395	0	0	0
Future Volume (veh/h)	297	1155	0	0	980	499	252	0	395	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	323	1255	0	0	1065	297	274	0	239			
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	386	2247	0	0	1573	702	667	0	297			
Arrive On Green	0.11	0.62	0.00	0.00	0.44	0.44	0.18	0.00	0.18			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	323	1255	0	0	1065	297	274	0	239			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	5.4	12.1	0.0	0.0	14.2	7.7	4.0	0.0	8.5			
Cycle Q Clear(g_c), s	5.4	12.1	0.0	0.0	14.2	7.7	4.0	0.0	8.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	386	2247	0	0	1573	702	667	0	297			
V/C Ratio(X)	0.84	0.56	0.00	0.00	0.68	0.42	0.41	0.00	0.81			
Avail Cap(c_a), veh/h	386	2247	0	0	1573	702	796	0	354			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.52	0.52	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	26.2	6.6	0.0	0.0	13.6	11.7	21.6	0.0	23.4			
Incr Delay (d2), s/veh	7.8	0.5	0.0	0.0	2.4	1.9	0.4	0.0	10.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.4	2.8	0.0	0.0	4.9	2.5	1.5	0.0	3.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	7.1	0.0	0.0	15.9	13.6	22.0	0.0	34.4			
LnGrp LOS	C	A	A	A	B	B	C	A	C			
Approach Vol, veh/h		1578			1362			513				
Approach Delay, s/veh		12.6			15.4			27.8				
Approach LOS		B			B			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		43.1			11.2	31.9		16.9				
Change Period (Y+Rc), s		5.8			4.6	5.8		5.8				
Max Green Setting (Gmax), s		35.2			6.6	24.0		13.2				
Max Q Clear Time (g_c+I1), s		14.1			7.4	16.2		10.5				
Green Ext Time (p_c), s		8.8			0.0	4.6		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	16.0
HCM 6th LOS	B

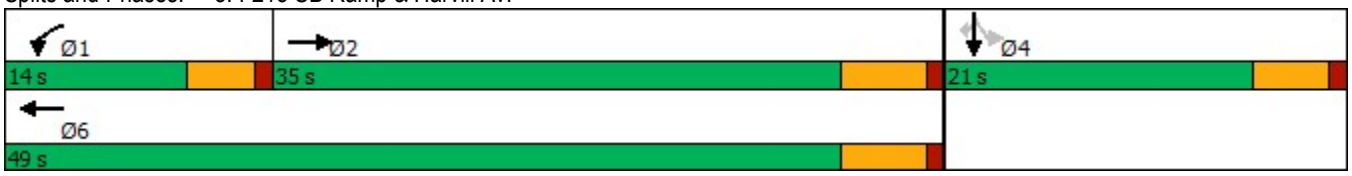
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1126	653	841	378	3	79
Future Volume (vph)	1126	653	841	378	3	79
Turn Type	NA	Prot	NA	Perm	NA	Perm
Protected Phases	2	1	6		4	
Permitted Phases				4		4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	33.5	9.5	44.5	21.0	21.0	21.0
Total Split (s)	35.0	14.0	49.0	21.0	21.0	21.0
Total Split (%)	50.0%	20.0%	70.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.5	3.5	4.5	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)	5.5	4.5	5.5	5.0	5.0	5.0
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	None	None	Min	Min	Min	Min
Act Effct Green (s)	28.3	9.6	42.4	12.5	12.5	12.5
Actuated g/C Ratio	0.43	0.15	0.65	0.19	0.19	0.19
v/c Ratio	0.91	1.31	0.37	0.60	0.61	0.20
Control Delay	27.7	183.0	6.3	32.5	32.8	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	183.0	6.3	32.5	32.8	4.4
LOS	C	F	A	C	C	A
Approach Delay	27.7		83.5		27.8	
Approach LOS	C		F		C	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 65.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.31	
Intersection Signal Delay: 52.9	Intersection LOS: D
Intersection Capacity Utilization 80.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: I-215 SB Ramp & Harvill Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1126	230	653	841	0	0	0	0	378	3	79
Future Volume (veh/h)	0	1126	230	653	841	0	0	0	0	378	3	79
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	1161	237	673	867	0				392	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1319	267	556	2434	0				546	0	
Arrive On Green	0.00	0.44	0.44	0.16	0.67	0.00				0.15	0.00	0.00
Sat Flow, veh/h	0	3085	606	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	698	700	673	867	0				392	0	0
Grp Sat Flow(s),veh/h/ln	0	1805	1791	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	21.1	21.5	9.5	6.2	0.0				6.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	21.1	21.5	9.5	6.2	0.0				6.2	0.0	0.0
Prop In Lane	0.00		0.34	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	796	790	556	2434	0				546	0	
V/C Ratio(X)	0.00	0.88	0.89	1.21	0.36	0.00				0.72	0.00	
Avail Cap(c_a), veh/h	0	887	880	556	2616	0				965	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	15.3	15.4	25.3	4.2	0.0				24.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	8.5	9.4	111.0	0.0	0.0				1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.2	8.4	11.9	0.9	0.0				2.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.8	24.8	136.2	4.2	0.0				26.1	0.0	0.0
LnGrp LOS	A	C	C	F	A	A				C	A	
Approach Vol, veh/h		1398			1540						392	A
Approach Delay, s/veh		24.3			61.9						26.1	
Approach LOS		C			E						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.0	32.0		14.0		46.0
Change Period (Y+Rc), s	4.5	5.5		5.0		5.5
Max Green Setting (Gmax), s	9.5	29.5		16.0		43.5
Max Q Clear Time (g_c+I1), s	11.5	23.5		8.2		8.2
Green Ext Time (p_c), s	0.0	2.9		0.9		3.7

Intersection Summary		
HCM 6th Ctrl Delay		41.9
HCM 6th LOS		D

Notes

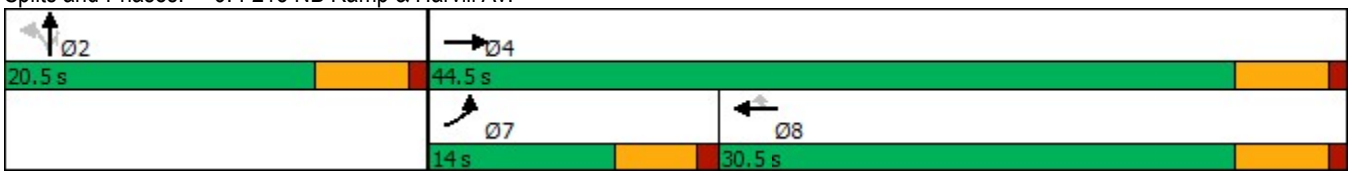
User approved volume balancing among the lanes for turning movement.

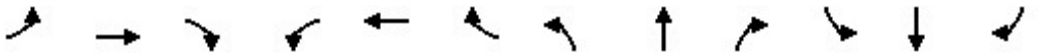
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	92	1413	1377	309	0	417
Future Volume (vph)	92	1413	1377	309	0	417
Turn Type	Prot	NA	NA	Perm	NA	Perm
Protected Phases	7	4	8		2	
Permitted Phases				8		2
Detector Phase	7	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	44.5	28.5	28.5	20.5	20.5
Total Split (s)	14.0	44.5	30.5	30.5	20.5	20.5
Total Split (%)	21.5%	68.5%	46.9%	46.9%	31.5%	31.5%
Yellow Time (s)	4.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	Min	None	None	None	None
Act Effct Green (s)	7.4	32.0	22.6	22.6	10.8	10.8
Actuated g/C Ratio	0.14	0.59	0.41	0.41	0.20	0.20
v/c Ratio	0.40	0.71	0.68	0.38	0.35	0.67
Control Delay	30.0	10.1	16.3	3.4	23.9	20.9
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0
Total Delay	30.0	10.3	16.3	3.4	23.9	20.9
LOS	C	B	B	A	C	C
Approach Delay		11.5	13.9		21.6	
Approach LOS		B	B		C	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 54.5	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 14.1	Intersection LOS: B
Intersection Capacity Utilization 80.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: I-215 NB Ramp & Harvill Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	1413	0	0	1377	309	116	0	417	0	0	0
Future Volume (veh/h)	92	1413	0	0	1377	309	116	0	417	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	98	1503	0	0	1465	329	123	0	444			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	136	2057	0	0	2034	631	371	0	581			
Arrive On Green	0.08	0.57	0.00	0.00	0.39	0.39	0.21	0.00	0.21			
Sat Flow, veh/h	1810	3705	0	0	5358	1610	1810	0	2834			
Grp Volume(v), veh/h	98	1503	0	0	1465	329	123	0	444			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1729	1610	1810	0	1417			
Q Serve(g_s), s	2.6	15.0	0.0	0.0	11.7	7.6	2.8	0.0	7.2			
Cycle Q Clear(g_c), s	2.6	15.0	0.0	0.0	11.7	7.6	2.8	0.0	7.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	136	2057	0	0	2034	631	371	0	581			
V/C Ratio(X)	0.72	0.73	0.00	0.00	0.72	0.52	0.33	0.00	0.76			
Avail Cap(c_a), veh/h	333	2881	0	0	2653	824	555	0	870			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	22.1	7.8	0.0	0.0	12.6	11.3	16.6	0.0	18.3			
Incr Delay (d2), s/veh	2.7	0.3	0.0	0.0	0.4	0.2	0.2	0.0	1.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.0	2.7	0.0	0.0	3.1	1.9	1.0	0.0	2.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	8.0	0.0	0.0	13.0	11.6	16.8	0.0	19.3			
LnGrp LOS	C	A	A	A	B	B	B	A	B			
Approach Vol, veh/h		1601			1794			567				
Approach Delay, s/veh		9.1			12.7			18.7				
Approach LOS		A			B			B				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		15.5		33.3			8.7	24.7				
Change Period (Y+Rc), s		5.5		5.5			5.0	5.5				
Max Green Setting (Gmax), s		15.0		39.0			9.0	25.0				
Max Q Clear Time (g_c+I1), s		9.2		17.0			4.6	13.7				
Green Ext Time (p_c), s		0.8		7.2			0.0	5.5				
Intersection Summary												
HCM 6th Ctrl Delay			12.1									
HCM 6th LOS			B									

APPENDIX 6.2: EAPC (2024) 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 (2024)
				CALC JB	DATE	06/08/22
Jurisdiction: City of Perris				CHK JB	DATE	06/08/22
Major Street: Water Street				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 = **361** vpd Minor Street Future ADT = **232** 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			
	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
XX Satisfied / XX Not Satisfied				
Number of lanes for moving traffic on each approach				
Major Street: *1* **361** / Minor Street: *1* **232**	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 / XX Not Satisfied				
Number of lanes for moving traffic on each approach				
Major Street: *1* **361** / Minor Street: *1* **232**	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 / XX Not Satisfied	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 5% B: 3%				

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.

URBAN CROSSROADS

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

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		EAPC (2024)
				CALC JB	DATE	06/08/22
Jurisdiction: **City of Perris**				CHK JB	DATE	06/08/22
Major Street: **Orange 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 = **1,659** vpd Minor Street Future ADT = **114** 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			
	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 **1,659** / *1* **114**	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 **1,659** / *1* **114**	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: 5% B: 10%	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	EAPC (2024)
				CALC JB	DATE 06/08/22
Jurisdiction: City of Perris				CHK JB	DATE 06/08/22
Major Street: Orange 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 = **1,890** vpd Minor Street Future ADT = **117** 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			
	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
XX Satisfied / XX Not Satisfied				
Number of lanes for moving traffic on each approach				
Major Street: *1* **1,890** / Minor Street: *1* **117**	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 / XX Not Satisfied				
Number of lanes for moving traffic on each approach				
Major Street: *1* **1,890** / Minor Street: *1* **117**	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 / XX Not Satisfied				
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 5% B: 10%	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-4. Warrant 3, Peak Hour (70% Factor)

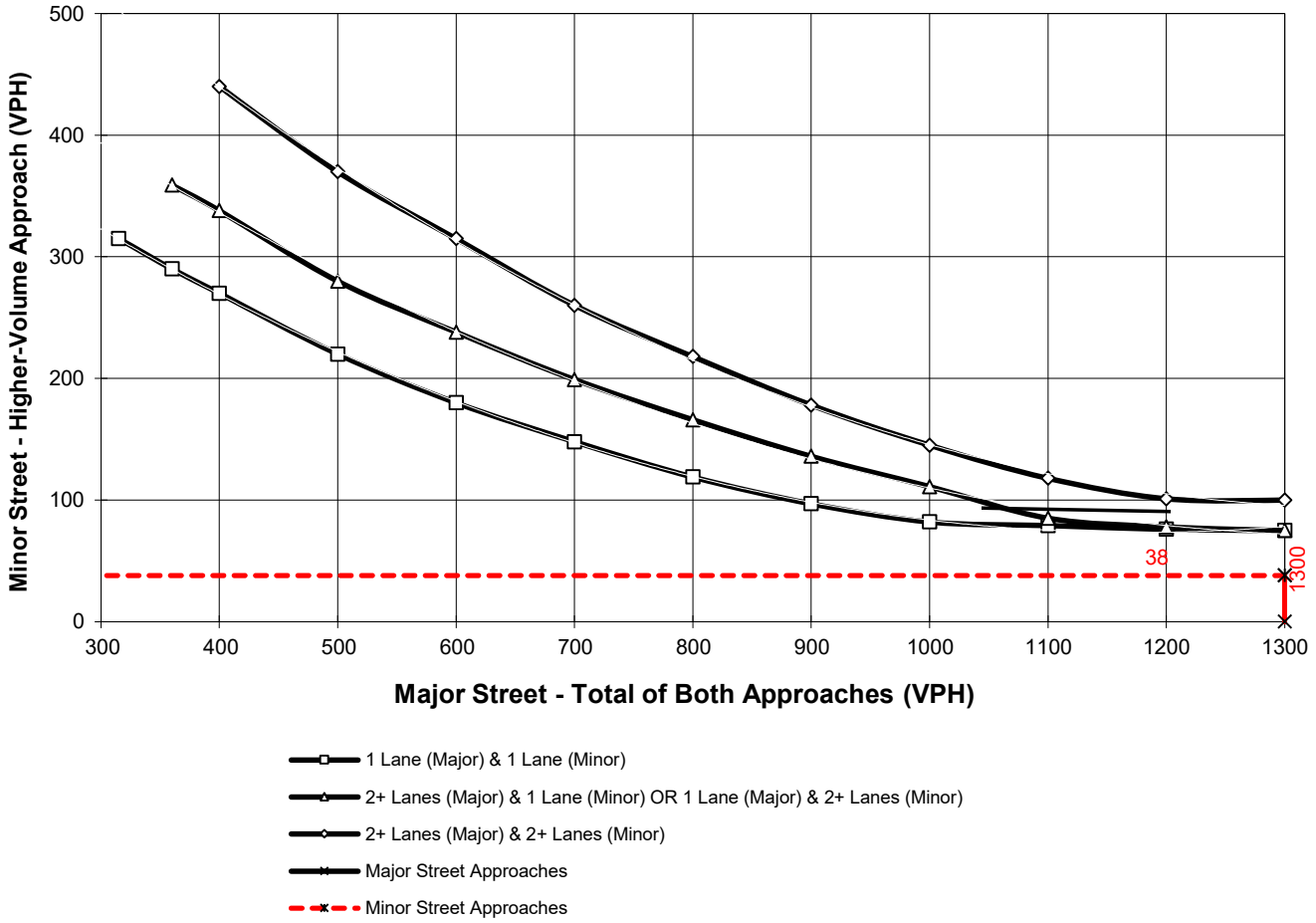
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAPC (2024) Conditions - Weekday PM Peak Hour**

Major Street Name = **Harvill Avenue**
Total of Both Approaches (VPH) = **1437**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Water Avenue**
High Volume Approach (VPH) = **38**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

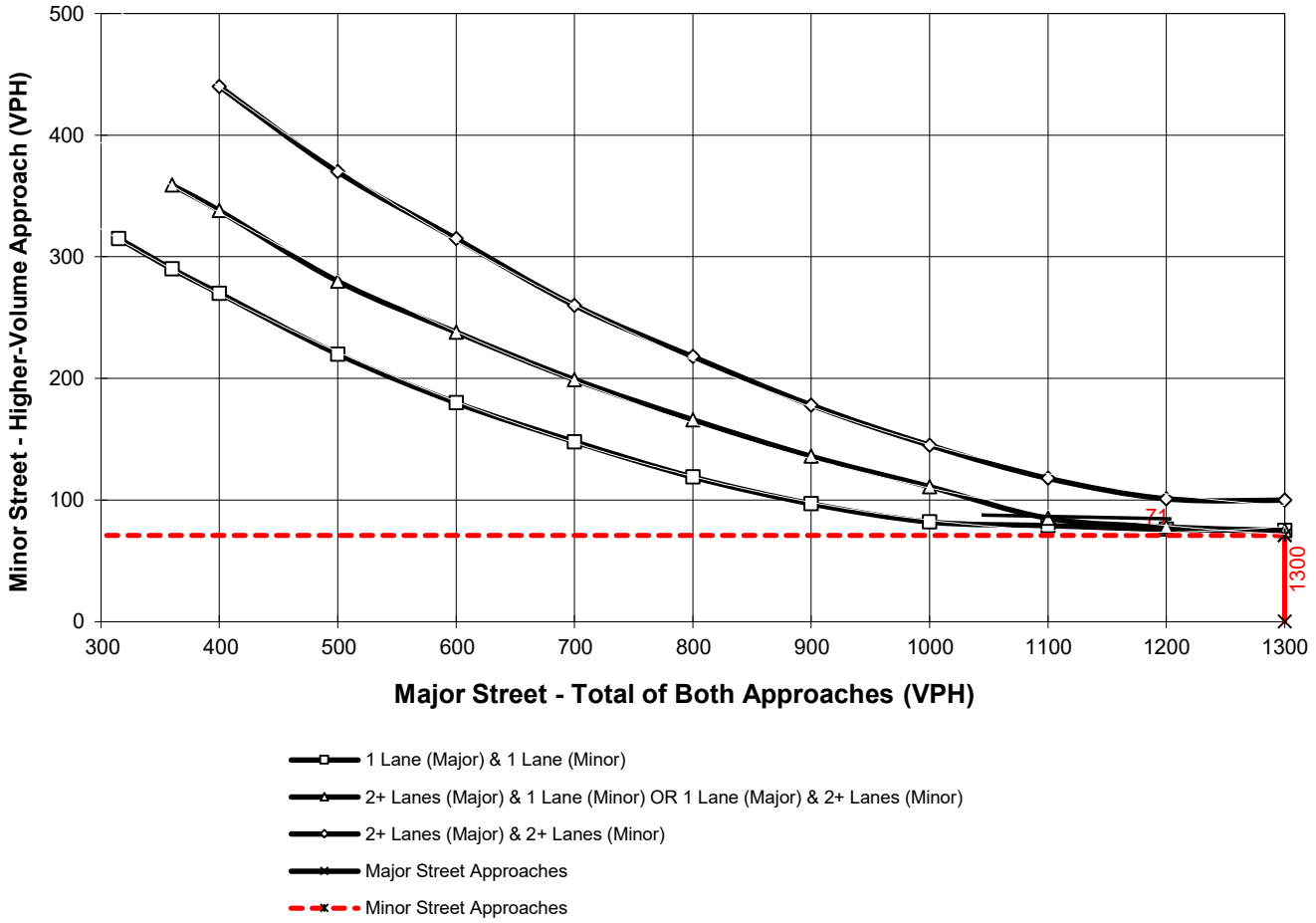
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAPC (2024) Conditions - Weekday PM Peak Hour**

Major Street Name = **Harvill Avenue** — Total of Both Approaches (VPH) = **1415**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Orange Avenue** — High Volume Approach (VPH) = **71**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 6.3: EAPC (2024) CONDITIONS FREEWAY OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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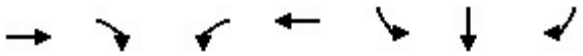


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	709	214	266	665	231	232	277
v/c Ratio	0.50	0.28	0.64	0.31	0.61	0.62	0.50
Control Delay	15.5	3.3	28.6	5.1	29.2	29.3	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	3.3	28.6	5.1	29.2	29.3	8.0
Queue Length 50th (ft)	99	0	51	65	80	80	8
Queue Length 95th (ft)	143	34	78	57	#150	#150	62
Internal Link Dist (ft)	826			769		2180	
Turn Bay Length (ft)		230	250				330
Base Capacity (vph)	1410	761	431	2117	377	377	549
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.28	0.62	0.31	0.61	0.62	0.50

Intersection Summary

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

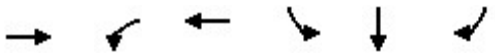
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	202	968	580	478	175	175	613
v/c Ratio	0.69	0.48	0.41	0.52	0.40	0.40	1.20
Control Delay	34.1	8.0	14.3	3.7	22.0	22.0	130.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	8.0	14.3	3.7	22.0	22.0	130.5
Queue Length 50th (ft)	37	107	76	0	54	54	~240
Queue Length 95th (ft)	m#74	165	113	49	107	107	#419
Internal Link Dist (ft)		769	1397			1284	
Turn Bay Length (ft)	260			365	575		
Base Capacity (vph)	291	1997	1419	925	434	434	509
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.48	0.41	0.52	0.40	0.40	1.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

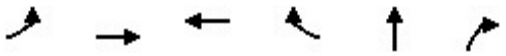
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



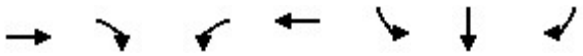
Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1003	329	1424	175	172	188
v/c Ratio	0.78	0.55	0.64	0.52	0.51	0.46
Control Delay	20.5	27.8	9.0	28.0	27.7	14.6
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	20.5	27.8	9.1	28.0	27.7	14.6
Queue Length 50th (ft)	150	53	135	56	55	23
Queue Length 95th (ft)	185	89	175	104	102	58
Internal Link Dist (ft)	1755		372		1076	
Turn Bay Length (ft)		115		550		250
Base Capacity (vph)	1835	665	2809	496	498	545
Starvation Cap Reductn	0	0	334	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	0.55	0.49	0.58	0.35	0.35	0.34

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	70	1042	1393	432	254	595
v/c Ratio	0.33	0.54	0.63	0.46	0.60	0.73
Control Delay	31.2	8.7	14.0	3.3	27.1	20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	8.7	14.0	3.3	27.1	20.1
Queue Length 50th (ft)	25	104	147	0	84	76
Queue Length 95th (ft)	56	125	166	29	139	117
Internal Link Dist (ft)		372	1792		1123	
Turn Bay Length (ft)	105			200		165
Base Capacity (vph)	231	2768	3111	1141	581	1044
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.38	0.45	0.38	0.44	0.57

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	986	340	634	704	295	297	187
v/c Ratio	0.72	0.41	1.01	0.31	1.00	1.01	0.43
Control Delay	19.7	3.5	60.0	7.3	83.5	84.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	3.5	60.0	7.3	83.5	84.2	7.7
Queue Length 50th (ft)	155	0	~134	54	~114	~115	0
Queue Length 95th (ft)	217	44	m#232	112	#258	#260	46
Internal Link Dist (ft)	826			769		2180	
Turn Bay Length (ft)		230	250				330
Base Capacity (vph)	1365	822	630	2292	294	295	432
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.41	1.01	0.31	1.00	1.01	0.43

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

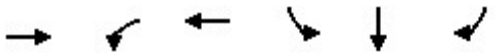
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	323	1255	1065	542	137	137	429
v/c Ratio	0.83	0.59	0.74	0.56	0.37	0.37	0.94
Control Delay	32.9	10.8	19.1	3.9	23.2	23.2	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	10.8	19.1	3.9	23.2	23.2	48.3
Queue Length 50th (ft)	55	172	165	0	44	44	106
Queue Length 95th (ft)	m#84	m224	231	51	90	90	#267
Internal Link Dist (ft)		769	1397			1284	
Turn Bay Length (ft)	260			365	575		
Base Capacity (vph)	390	2122	1444	971	377	377	460
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.59	0.74	0.56	0.36	0.36	0.93

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.

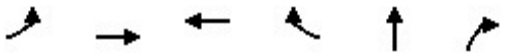


Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1398	673	867	195	198	81
v/c Ratio	0.91	1.31	0.37	0.60	0.61	0.20
Control Delay	27.7	183.0	6.3	32.5	32.8	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	183.0	6.3	32.5	32.8	4.4
Queue Length 50th (ft)	256	~190	72	76	78	0
Queue Length 95th (ft)	#431	#304	117	140	142	20
Internal Link Dist (ft)	1755		372		1076	
Turn Bay Length (ft)		115		550		250
Base Capacity (vph)	1622	512	2418	422	423	480
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	0.86	1.31	0.36	0.46	0.47	0.17

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)	98	1503	1465	329	123	444
v/c Ratio	0.40	0.71	0.68	0.38	0.35	0.67
Control Delay	30.0	10.1	16.3	3.4	23.9	20.9
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0
Total Delay	30.0	10.3	16.3	3.4	23.9	20.9
Queue Length 50th (ft)	33	153	150	0	39	60
Queue Length 95th (ft)	77	256	227	44	82	109
Internal Link Dist (ft)		372	1792		1123	
Turn Bay Length (ft)	105			200		165
Base Capacity (vph)	318	2617	2541	959	530	924
Starvation Cap Reductn	0	326	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	0.66	0.58	0.34	0.23	0.48

Intersection Summary