

RIDER & PATTERSON BUSINESS CENTER (PPT220004)

TRAFFIC ANALYSIS

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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
MCP	Mid-County Parkway
NCHRP	National Cooperative Highway Research Program
OPR	Office of Planning and Research
PHF	Peak Hour Factor
Project	Rider & Patterson Business Center
RCTC	Riverside County Transportation Commission
RIVCOM	Riverside County Transportation Analysis Model
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

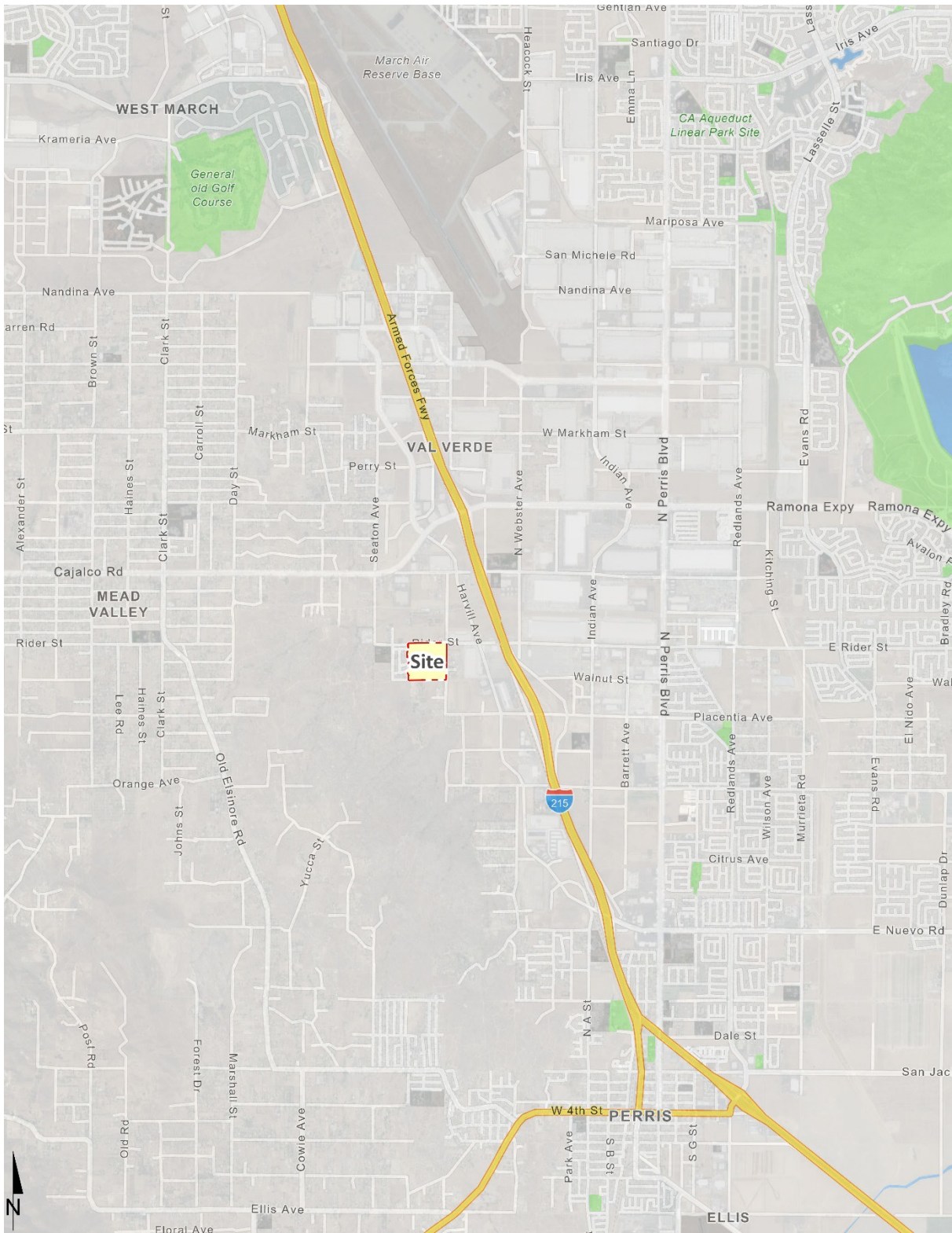
This report presents the results of the Traffic Analysis (TA) for Rider & Patterson Business Center development ("Project"), which is located on the southwest corner of Patterson Avenue and Rider Street in the County of Riverside, as shown on Exhibit 1-1. The purpose of this TA is to evaluate the potential 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 the ultimate half-section of Rider Street as a Secondary Highway (100-foot right-of-way) along the Project's frontage from the western Project boundary to Patterson Avenue consistent with the County's standards. Frontage improvements include pavement, curb-and-gutter, sidewalk, and landscaping improvements. The driveway on Rider Street (Driveway 1) will serve trucks and will accommodate right-out/left-in access only.
- Project to construct the ultimate half-section of Patterson Avenue as a Secondary Highway (100-foot right-of-way) along the Project's frontage from Rider Street to Walnut Avenue consistent with the County's standards. Frontage improvements include pavement, curb-and-gutter, sidewalk, and landscaping improvements. Driveway 2 on Patterson Avenue will serve passenger cars only and will accommodate full access. Driveway 3 (southerly driveway) on Patterson Avenue will serve both passenger cars and trucks and will accommodate right-in/right-out access only.
- Project to construct a minimum of one lane in each direction on Walnut Avenue along the Project's southern frontage between the Project's western boundary (existing terminus of Walnut Avenue) to Patterson Avenue consistent with the County's standards. Frontage improvements include pavement (one lane minimum in each direction), curb-and-gutter, sidewalk, and landscaping improvements. There is no Project access proposed on Walnut Avenue.
- Project to install stop controls for all egress traffic from each Project driveway. Project will construct a raised pork-chop median at Driveway 1 on Rider Street to restrict the access to right-out/left-in access only. Similarly, the Project will construct a raised pork-chop median at Driveway 3 on Patterson Avenue in order to restrict the access to right-in/right-out access only.

EXHIBIT 1-1: LOCATION MAP



Additional details and intersection lane geometrics are provided in Section 1.6 Recommendations of this report. The Project is anticipated to require the construction an off-site improvement at the intersection of Harvill Avenue at Rider Street (traffic signal) and would also contribute to improvement needs identified at off-site intersections for future cumulative traffic conditions. As such, the Project Applicant's responsibility for the Project's contributions towards deficient off-site intersections is fulfilled through construction, payment into pre-existing fee programs (if applicable), and/or fair share contributions that would be assigned to the future construction of the identified recommended improvements. The Project Applicant would be required to pay requisite fees consistent with the County's requirements (see Section 8 Local and Regional Funding Mechanisms).

1.2 PROJECT OVERVIEW

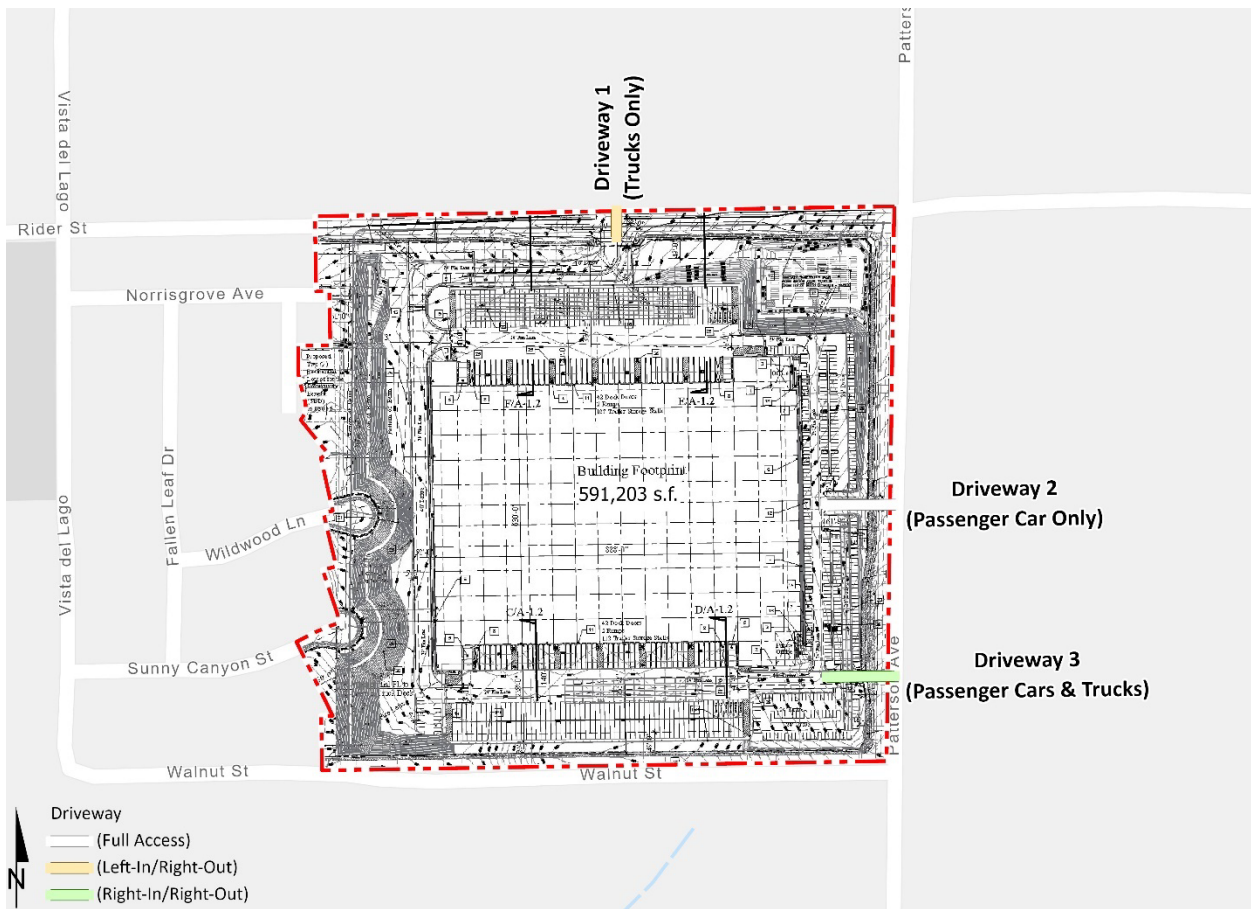
A preliminary site plan for the proposed Project is shown on Exhibit 1-2. The Project is proposed to consist of the development of a 591,203 square foot warehouse building and 2 single family detached residential lots to be located on the existing Swallow Hills Circle. The proposed 2 single family lots will replace 3 existing lots resulting in a net reduction. As indicated on Exhibit 1-2, vehicular access will be provided to Rider Street and Patterson Avenue. Driveway 1 on Rider Street is proposed to serve trucks and will be restricted to right-out/left-in access only, Driveway 2 on Patterson Avenue is proposed to serve passenger cars and will have full access, and Driveway 3 on Patterson Avenue is proposed to serve both passenger cars and trucks and will be restricted to right-in/right-out access only. The residential lots will be accessible via Vista Del Lago (existing) to Rider Street. Regional access to the Project site is available from the I-215 Freeway via Placentia Avenue and Ramona Expressway interchanges. The Placentia Avenue interchange at the I-215 Freeway is currently under construction and is anticipated to open to traffic in Fall 2022. 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) and Institute of Transportation Engineers (ITE) [Trip Generation Manual](#) (11th Edition, 2021). (2) (3) The Project is anticipated to generate a net total of 1,260 two-way trips per day with 71 AM peak hour trips and 97 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) (2025) Conditions
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2025) Conditions
- Horizon Year (2045) Without and With Project Conditions

EXHIBIT 1-2: PRELIMINARY SITE PLAN



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 (2025) CONDITIONS

The EAP (2025) 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 6.12% (2 percent per year, compounded over 3 years) is included for EAP (2025) traffic conditions. The assumed ambient growth factor is based on the requirements per the County of Riverside traffic study guidelines. Consistent with County traffic study guidelines, the EAP analysis is intended to identify "Opening Year" deficiencies associated with the development of the proposed Project based on the expected background growth within the study area.

1.3.3 EAPC (2025) CONDITIONS

The EAPC (2025) 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 6.12% (2 percent per year, compounded over 3 years) is included for EAPC (2025) 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 2025 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 2025 conditions.

1.3.4 HORIZON YEAR (2045) CONDITIONS

Traffic projections for Horizon Year (2045) conditions were derived from the latest County of Riverside Transportation Analysis Model (RIVCOM) using accepted procedures for model forecast refinement and smoothing. The Horizon Year conditions analyses will be utilized to determine if improvements funded through regional transportation mitigation fee programs, such as the Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF) and City Development Impact Fee (DIF) programs, can accommodate the long-range cumulative traffic at the target level of service (LOS) identified in the County of Riverside (lead agency) General Plan. (4) Each of these regional transportation fee programs are discussed in more detail in Section 8 Local and Regional Funding Mechanisms.

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.

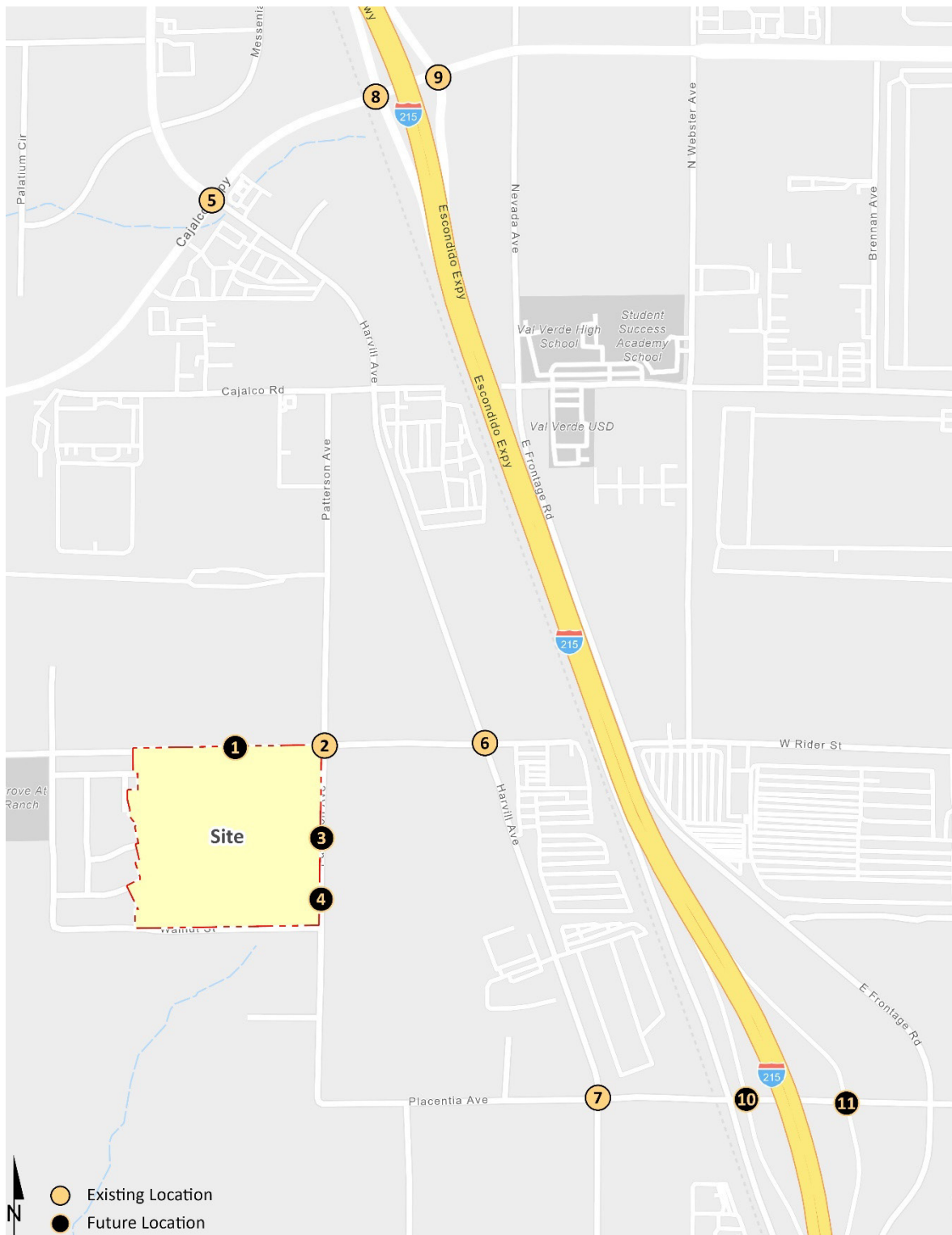
The 11 study area intersections shown on Exhibit 1-3 and listed in Table 1-1 were selected for evaluation in this TA based on consultation with County of Riverside staff. At a minimum, the study area includes intersections where the Project is anticipated to contribute 50 or more peak hour trips per 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).

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection	Jurisdiction	CMP?
1	Driveway 1 & Rider St.	County of Riverside	No
2	Patterson Av. & Rider St.	County of Riverside	No
3	Patterson Av. & Driveway 2	County of Riverside	No
4	Patterson Av. & Driveway 3	County of Riverside	No
5	Harvill Av. & Cajalco Exwy.	County of Riverside	No
6	Harvill Av. & Rider St.	County of Riverside	No
7	Harvill Av. & Placentia Av.	County of Riverside	No
8	I-215 SB Ramps & Ramona Exwy.	County, Perris, Caltrans	No
9	I-215 NB Ramps & Ramona Exwy.	County, Perris, Caltrans	No
10	I-215 SB Ramps & Placentia Av.	County, Perris, Caltrans	No
11	I-215 NB Ramps & Placentia Av.	Perris, Caltrans	No

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. (5) There are no study area intersections identified as a Riverside County CMP intersection.

EXHIBIT 1-3: STUDY AREA



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 (2025) Traffic Conditions, Section 6 EAPC (2025) Traffic Conditions, and Section 7 Horizon Year (2045) 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

# Intersection	Existing		EAP		EAPC		2045 NP		2045 WP	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1 Driveway 1 & Rider St.	N/A	N/A	●	●	●	●	N/A	N/A	●	●
2 Patterson Av. & Rider St.	●	●	●	●	●	●	●	●	●	●
3 Patterson Av. & Driveway 2	N/A	N/A	●	●	●	●	N/A	N/A	●	●
4 Patterson Av. & Driveway 3	N/A	N/A	●	●	●	●	N/A	N/A	●	●
5 Harvill Av. & Cajalco Exwy.	●	●	●	●	●	●	●	●	●	●
6 Harvill Av. & Rider St.	●	●	●	●	●	●	●	●	●	●
7 Harvill Av. & Placentia Av.	●	●	●	●	●	●	●	●	●	●
8 I-215 SB Ramps & Ramona Exwy.	●	●	●	●	●	●	●	●	●	●
9 I-215 NB Ramps & Ramona Exwy.	●	●	●	●	●	●	●	●	●	●
10 I-215 SB Ramps & Placentia Av.	N/A	N/A	●	●	●	●	●	●	●	●
11 I-215 NB Ramps & Placentia Av.	N/A	N/A	●	●	●	●	●	●	●	●

● = 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 (2025) CONDITIONS

Intersections

All future analysis scenarios assume the improvements that are currently under construction as part of the I-215 Freeway and Placentia Avenue interchange project. The interchange is anticipated to open to traffic in Fall 2022 and include improvements to accommodate a new diamond interchange at Placentia Avenue and improvements at the intersections of Harvill Avenue and E. Frontage Road adjacent to the interchange. The following study area intersection is anticipated to operate at an unacceptable LOS with the addition of Project traffic:

- Harvill Av. & Rider St. (#6) – LOS E PM peak hour only

The I-215 Freeway and Placentia Avenue interchange is anticipated to reduce existing volumes at some of the adjacent interchanges at Ramona Expressway and Nuevo Road.

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 (2025) traffic conditions.

1.5.3 EAPC (2025) CONDITIONS

Intersections

The following study area intersections are anticipated to operate at an unacceptable LOS under EAPC (2025) traffic conditions:

- Harvill Av. & Cajalco Exwy. (#5) – LOS F AM and PM peak hours
- Harvill Av. & Rider St. (#6) – LOS F AM and PM peak hours
- Harvill Av. & Placentia Av. (#7) – LOS F AM and PM peak hours
- I-215 SB Ramps & Ramona Exwy. (#8) – LOS F AM and PM peak hours
- I-215 NB Ramps & Ramona Exwy. (#9) – LOS F AM and PM peak hours

Queues

The following turning movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAPC (2025) traffic conditions:

- I-215 SB Ramps & Ramona Exwy. (#9): Southbound Left (AM and PM peak hours, Southbound Left-Through (AM and PM peak hours), and Southbound Right (AM peak hour only)
- I-215 NB Ramps & Ramona Exwy. (#10): Northbound Right (AM peak hour only)

1.5.4 HORIZON YEAR (2045) CONDITIONS

Intersections

The following study area intersections are anticipated to operate at an unacceptable LOS under Horizon Year (2045) Without Project traffic conditions:

- Harvill Av. & Cajalco Exwy. (#5) – LOS F AM and PM peak hours
- Harvill Av. & Rider St. (#6) – LOS F AM and PM peak hours
- Harvill Av. & Placentia Av. (#7) – LOS F AM and PM peak hours
- I-215 SB Ramps & Ramona Exwy. (#8) – LOS F AM and PM peak hours
- I-215 NB Ramps & Ramona Exwy. (#9) – LOS E AM peak hour; LOS F PM peak hour

There are no additional study area intersections anticipated to operate at an unacceptable LOS with the addition of Project traffic.

In addition to the I-215 Freeway and Placentia Avenue interchange, the Horizon Year (2045) traffic conditions also assumes the Mid-County Parkway (MCP). The MCP is a planned 16-mile grade-separated east-west facility from the I-215 Freeway through the City of Perris to the City of San Jacinto. These facilities are anticipated to change existing and near-term travel patterns which could potentially lead to volume reductions at other adjacent roadways and interchanges.

Queues

There are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project traffic for Horizon Year (2045) Without and With Project 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. Exhibit 1-5 illustrates the concept striping plan for the site adjacent roadways of Rider Street and Patterson Avenue.

Recommendation 1 – Driveway 1 & Rider Street (#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. Driveway 1 will accommodate site access for trucks and will be restricted to right-out/left-in access only. Access is to be controlled via the implementation of a raised pork-chop median at the driveway.
- Project should construct and accommodate a minimum 100-foot westbound left turn lane at Driveway 1 within the painted median. Project would also provide an eastbound right turn lane.

Recommendation 2 – Patterson Avenue & Rider Street (#2) – With the development of the proposed Project, the intersection of Patterson Avenue and Rider Street should accommodate a new northbound left turn lane (minimum of 100-feet of storage), eastbound left turn lane (minimum of 100-feet of storage), eastbound right turn lane (minimum of 100-feet of storage), westbound left turn lane (minimum 100-feet of storage), and westbound right turn lane (minimum 100-feet of storage).

Recommendation 3 – Patterson Avenue & Driveway 2 (#3) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the eastbound approach (egress Project traffic) to implement a cross-street stop-controlled intersection. Driveway will allow full access and will serve passenger cars only.
- Project should construct and accommodate a minimum 100-foot northbound left turn lane at Driveway 2 within the painted median.

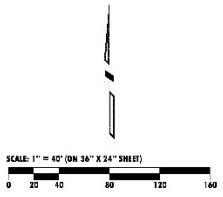
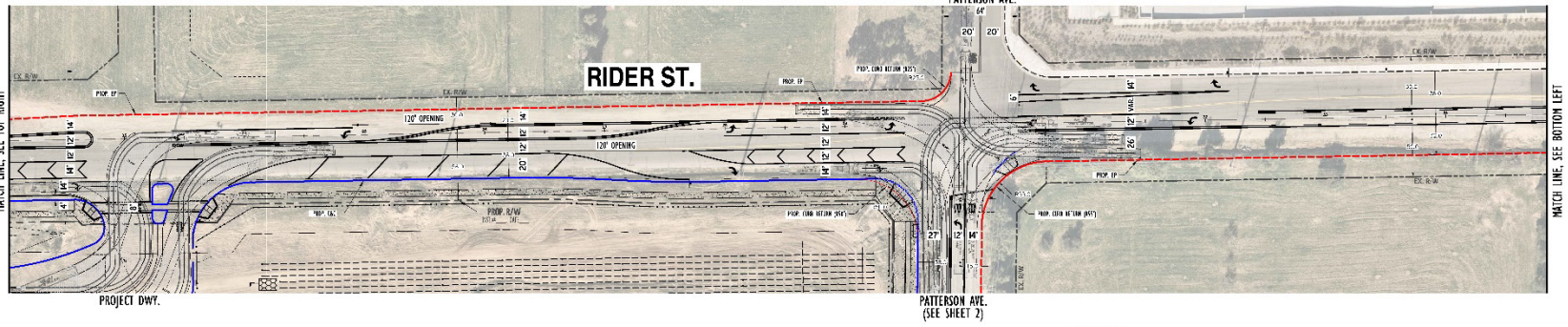
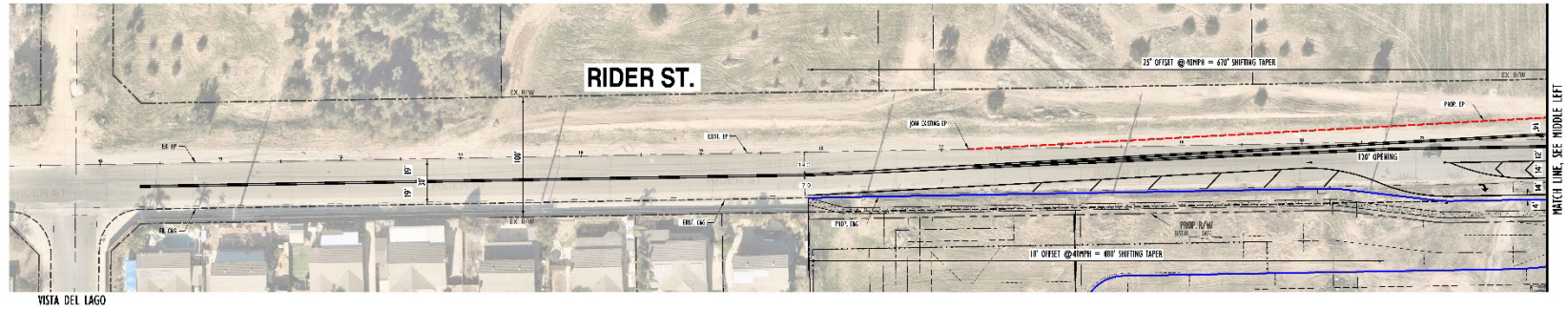
EXHIBIT 1-4: SITE ACCESS RECOMMENDATIONS



1	Dwy. 1 & Rider St.	2	Patterson Av. & Rider St.	3	Patterson Av. & Dwy. 2	4	Patterson Av. & Dwy. 3

- = Stop Sign
- = Stop Sign Improvement
- = Existing Lane
- = Lane Improvement
- 100'** = Recommended Turn Pocket Length
- TWLTL** = Two Way Left turn Lane

EXHIBIT 1-5: CONCEPT STRIPING PLAN



URBAN CROSSROADS
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 TELEPHONE # 949-646-1994

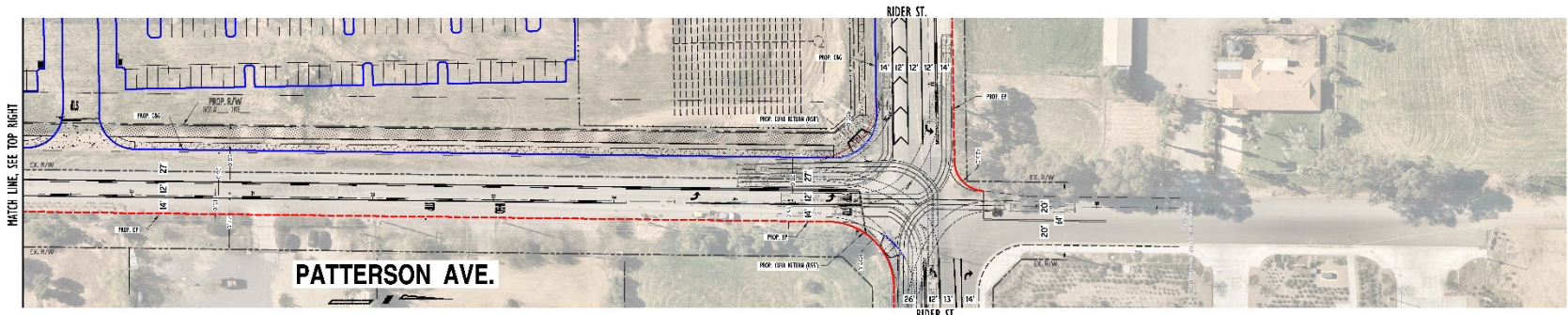
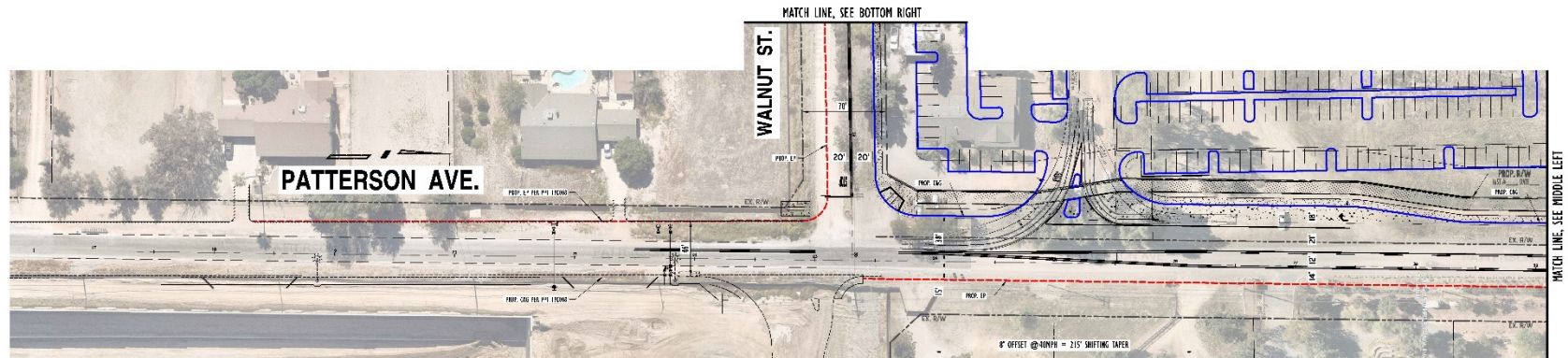
APPROVED BY: _____ DATE: _____
 JML

SCALE: 1" = 40'

COUNTY OF RIVERSIDE
 CONCEPT STRIPING PLAN
 RIDER STREET
 (VISTA DEL LAGO TO PATTERSON AVENUE)

PROJECT NO. 14198

SHEET NO. 1 OF 2



	APPROVED BY: _____ R.C.F. NO. _____ DATE: _____	COUNTY OF RIVERSIDE CONCEPT STRIPING PLAN PATTERSON AVENUE AND WALNUT STREET	SHEET NO. 2 OF 2 SHEETS
	SCALE: 1" = 40'	COUNTY FILE NO. 14198	DATE: _____

Recommendation 4 – Patterson Avenue & Driveway 3 (#4) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the eastbound approach (egress Project traffic) to implement a cross-street stop-controlled intersection. Driveway 3 will accommodate site access for both passenger cars and trucks and will be restricted to right-in/right-out access only. Access is to be controlled via the implementation of a raised pork-chop median at the driveway.

Recommendation 5 – Rider Street is an east-west oriented roadway located along the Project's northern boundary. Project to construct Rider Street at its ultimate half-section width as a Secondary Highway (100-foot right-of-way) between the Project's western boundary and Patterson Avenue consistent with the County's standards. Frontage improvements include pavement, curb-and-gutter, sidewalk, and landscaping improvements.

Recommendation 6 – Patterson Avenue is a north-south oriented roadway located on the Project's eastern boundary. Project to construct Patterson Avenue at its ultimate half-section width as a Secondary Highway (100-foot right-of-way) between Rider Street and the Project's southern boundary consistent with the County's standards. Frontage improvements include pavement, curb-and-gutter, sidewalk, and landscaping improvements.

Recommendation 7 – Walnut Avenue is an east-west oriented roadway located along the Project's southern boundary. Walnut Avenue is not a classified General Plan roadway. Project to construct Walnut Avenue with a minimum of one lane in each direction along the Project's frontage between the existing western terminus and Walnut Avenue to Patterson Avenue consistent with the County's standards. Frontage improvements include pavement (minimum of one lane in each direction), curb-and-gutter, sidewalk, and landscaping improvements.

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

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

1.6.2 OFF-SITE RECOMMENDATIONS

The recommended improvements needed to address the deficiencies identified under Existing (2022), EAP (2025), EAPC (2025), and Horizon Year (2045) traffic conditions are shown in Table 1-3. Improvements that appear under EAP (2025) would be the Project's responsibility to implement/construct in order to maintain acceptable LOS (the recommended traffic signal at the intersection of Harvill Avenue at Rider Street). For those remaining improvements listed in Table 1-3 and not constructed as part of the Project, the Project Applicant's responsibility for the Project's contributions towards deficient intersections is fulfilled through payment of fair share or payment of fees (if applicable) that would be assigned to construction of the identified recommended improvements. The Project Applicant would be required to pay fair share fees and participate in pre-existing fee programs consistent with the County's requirements (see Section 8 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 concept striping plans on Exhibit 1-5). A WB-67 truck (53-foot trailer) has been utilized for the purposes of this analysis. As shown previously on Exhibit 1-5, Driveway 1 on Rider Street and Driveway 3 on Patterson Avenue are anticipated to accommodate the ingress and egress of heavy trucks as currently designed.

1.8 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 1-4 and the worksheets for the weekday AM and PM peak hours are provided in Appendix 1.2 of this report for Horizon Year (2045) traffic conditions. No site adjacent queues are anticipated with the proposed improvements.

TABLE 1-3: SUMMARY OF IMPROVEMENTS BY ANALYSIS SCENARIO

#	Intersection Location	Jurisdiction	Analysis Scenario			Improvements in DIF, TUMF, etc. ¹	Project Responsibility ²	Project Fair Share ³
			EAP	EAPC	2045 With Project			
5	Harvill Av. & Cajalco Exwy.	County	- None	- Add 3rd EB through lane	- Same	Yes	Fees	1.3%
				- Add 3rd WB through lane	- Same	Yes	Fees	
				- Add NB right turn lane	- Same	No	Fair Share	
				- Add SB right turn lane	- Same	No	Fair Share	
				- Modify the TS to implement overlap phasing on the NB and EB right turn lanes	- Same	No	Fair Share	
6	Harvill Av. & Rider St.	County	- Install a traffic signal	- Same	- Same	No	Construct	--
				- Same	- Same	No	Construct	
7	Harvill Av. & Placentia Av.	County	- Improvements per RCTC Interchange Project	- Same	- Same	Yes (TUMF)	Fees	1.4%
				- Add NB right turn lane with overlap phasing	- Same	No	Fair Share	
				- Add 2nd SB left turn lane	- Same	No	Fair Share	
				- Add 2nd EB right turn lane with overlap phasing	- Same	No	Fair Share	
				- Same	- Same	No	Fair Share	
8	I-215 SB Ramps & Ramona Exwy.	Caltrans, Perris, County	- None	- Add 2nd WB left turn lane	- Same	Yes (TUMF)	Fees	0.9%
				- Add 3rd EB through lane	- Same	Yes (TUMF)	Fees	
				- Add 3rd WB through lane	- Same	Yes (TUMF)	Fees	
				- Add 2nd SB left turn lane	- Same	No	Fair Share	
				- Add EB right turn lane	- Same	No	Fair Share	
				- Same	- Same	No	Fair Share	
9	I-215 NB Ramps & Ramona Exwy.	Caltrans, Perris, County	- None	- Add 2nd EB left turn lane	- Same	Yes (TUMF)	Fees	0.8%
				- Add 3rd EB through lane	- Same	Yes (TUMF)	Fees	
				- Add 3rd WB through lane	- Same	Yes (TUMF)	Fees	
				- Add WB free-right turn lane	- Same	No	Fair Share	
				- Same	- Same	No	Fair Share	
10	I-215 SB Ramps & Placentia Av.	County, Perris, Caltrans	- Improvements per RCTC Interchange Project	- Same	- Same	Yes (TUMF)	Fees	--
				- Same	- Same	Yes (TUMF)	Fees	
11	I-215 NB Ramps & Placentia Av.	Perris, Caltrans	- Improvements per RCTC Interchange Project	- Same	- Same	Yes (TUMF)	Fees	--

¹ Improvements included in TUMF Nexus or County DIF programs have been identified as such.

² Program improvements constructed by Project may be eligible for fee credit. In lieu fee payment is at discretion of County.

Represents the fair share percentage for the Project during the most impacted peak hour. Identifies the Project's responsibility to construct an off-site improvement, contribute fair share, or fee payment towards the improvements shown. If identified as a Project construct obligation/in a fee program, then no fair share percentage has been identified.

³ Total project fair share is applicable to the improvements which are not already included in the County DIF/TUMF for those intersections wholly or partially within the County.

TABLE 1-4: PEAK HOUR QUEUING ANALYSIS FOR SITE ADJACENT INTERSECTIONS

Intersection	Movement	Available Stacking Distance (Feet) ³	95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak	PM Peak	AM	PM
Driveway 1 & Rider St.	NBR	200	25	25	Yes	Yes
	WBL	100	10	14	Yes	Yes
Patterson Av. & Rider St.	NBL	100	22	25	Yes	Yes
	NBT/R	600	26	30	Yes	Yes
	SBL/T/R	350	26	28	Yes	Yes
	EBL	100	5	9	Yes	Yes
	WBL	100	21	18	Yes	Yes
Patterson Av. & Driveway 2	NBL	100	7	0	Yes	Yes
	EBL/R	150	32	45	Yes	Yes
Patterson Av. & Driveway 3	EBR	300	24	28	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 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.

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2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are 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. (6) 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. (6) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is 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. 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., $PHF = \frac{Hourly\ Volume}{4 \times Peak\ 15\text{-minute\ Flow\ Rate}}$). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (6)

2.2.2 UNSIGNALIZED INTERSECTIONS

The County of Riverside requires the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (6) 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). (7)

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. (7) 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 & Rider St.
2	Patterson Av. & Rider St.
3	Patterson Av. & Driveway 2
4	Patterson Av. & Driveway 3
6	Harvill Av. & Rider St.
7	Harvill Av. & Placentia Av.
10	I-215 SB Ramps & Placentia Av.
11	I-215 NB Ramps & Placentia 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 (2025) Traffic Conditions, Section 6 EAPC (2025) Traffic Conditions, and Section 7 Horizon Year (2045) 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.

Although the intersections of Harvill Avenue at Placentia Avenue and the I-215 Freeway Ramps at Placentia Avenue are anticipated to be signalized as part of the interchange improvement project, traffic signal warrants have been evaluated starting with EAP traffic conditions.

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 Ramona Expressway 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 both Ramona Expressway and Placentia Avenue (future conditions only) 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 Mead Valley 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.

2.7 PROJECT FAIR SHARE CALCULATION METHODOLOGY

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

$$\text{Project Fair Share \%} = \frac{\text{Project (2045) Traffic}}{\text{(Horizon Year 2045 With Project Total Traffic - Existing Traffic)}}$$

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 10 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.

Expressways are six to eight-lane divided roadways (typically divided by a raised median) with a 220-foot right-of-way and a 134-foot curb-to-curb measurement. These roadways serve regional through-traffic. The following study area roadway within the County of Riverside is classified as an Expressway:

- Ramona Expressway/Cajalco Expressway

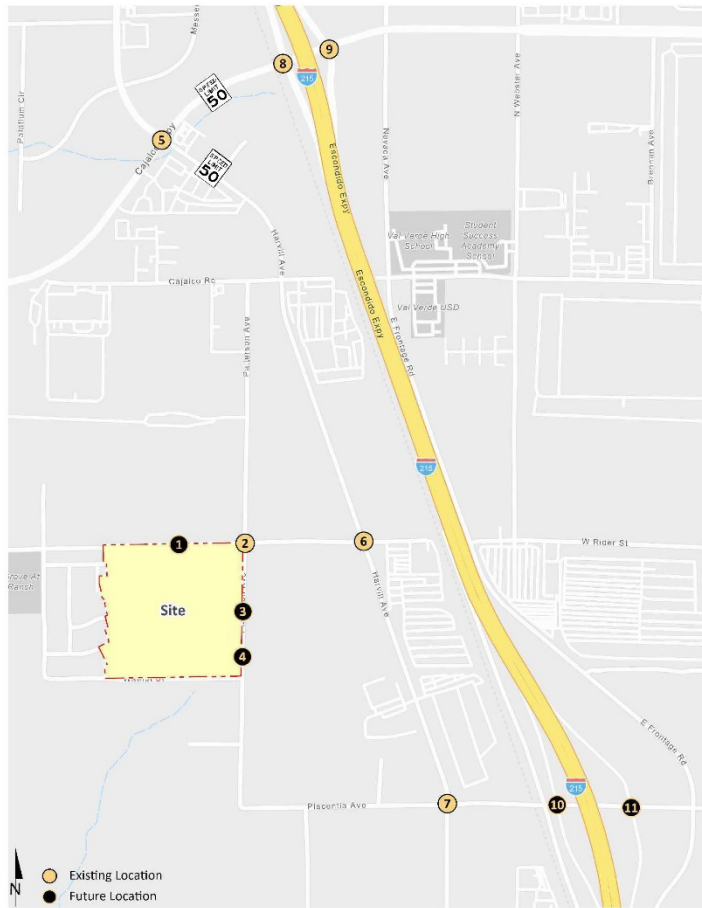
Arterial Highways can accommodate six travel lines. These facilities primarily serve through traffic to which access from abutting property shall be kept at a minimum. The following roadway is classified as an Arterial Highway within the study area:

- Placentia Avenue, Harvill Avenue to I-215 Freeway

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

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



1	2	3	4	5	6
Dwy. 1 & Rider St.	Patterson Av. & Rider St.	Patterson Av. & Dwy. 2	Patterson Av. & Dwy. 3	Harvill Av. & Cajalco Expy	Harvill Av. & Rider St.
Future Intersection		Future Intersection	Future Intersection		
7	8	9	10	11	
Harvill Av. & Placentia Av.	I-215 SB Ramps & Ramona Expy.	I-215 NB Ramps & Ramona Expy.	I-215 SB Ramps & Placentia Av.	I-215 NB Ramps & Placentia Av.	
			Future Intersection	Future Intersection	

= Traffic Signal
 = All Way Stop
 = Stop Sign
4 = Number of Lanes
D = Divided
U = Undivided
DEF = Defacto Right Turn
RTO = Right Turn Overlap
 = Speed Limit (MPH)

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

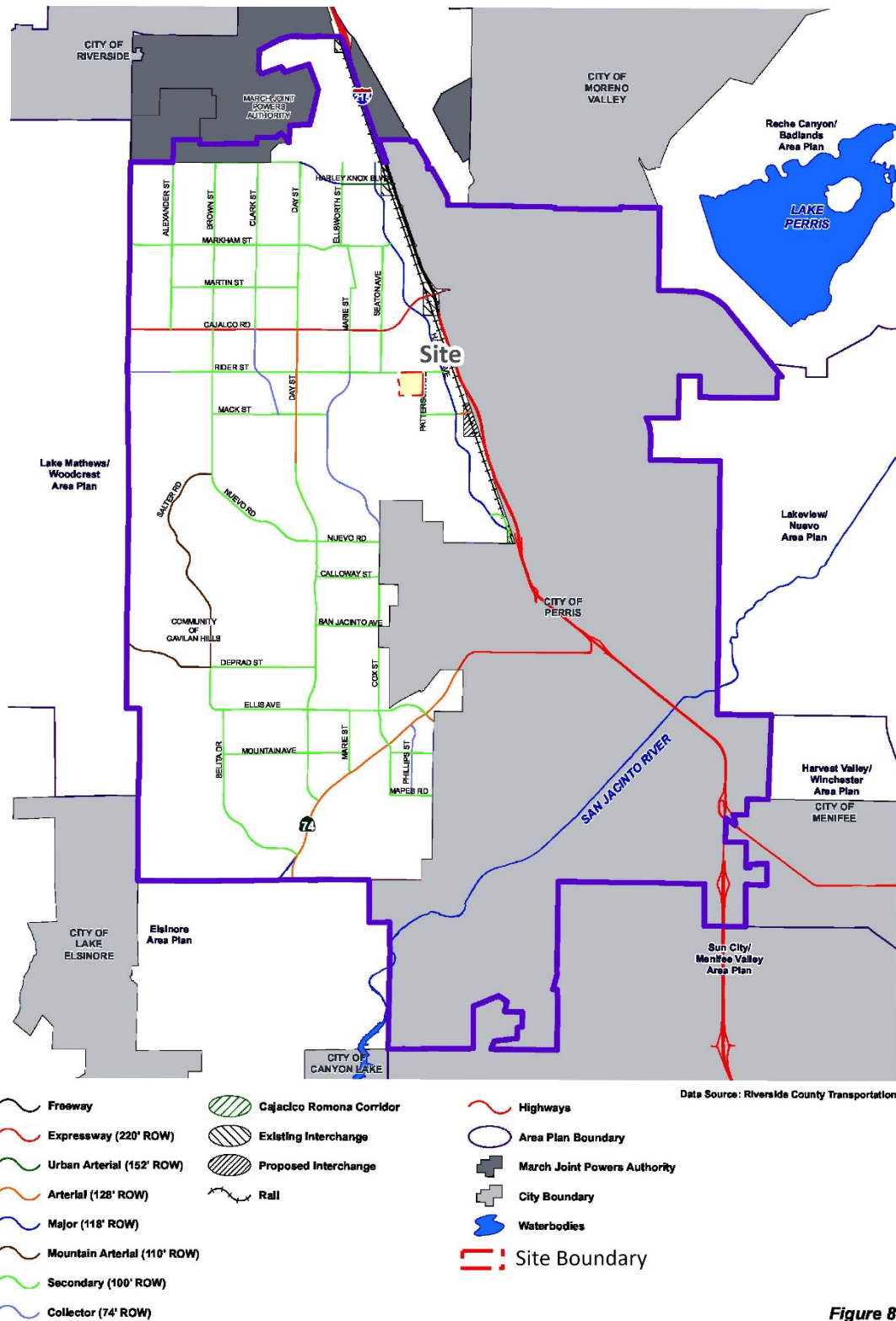
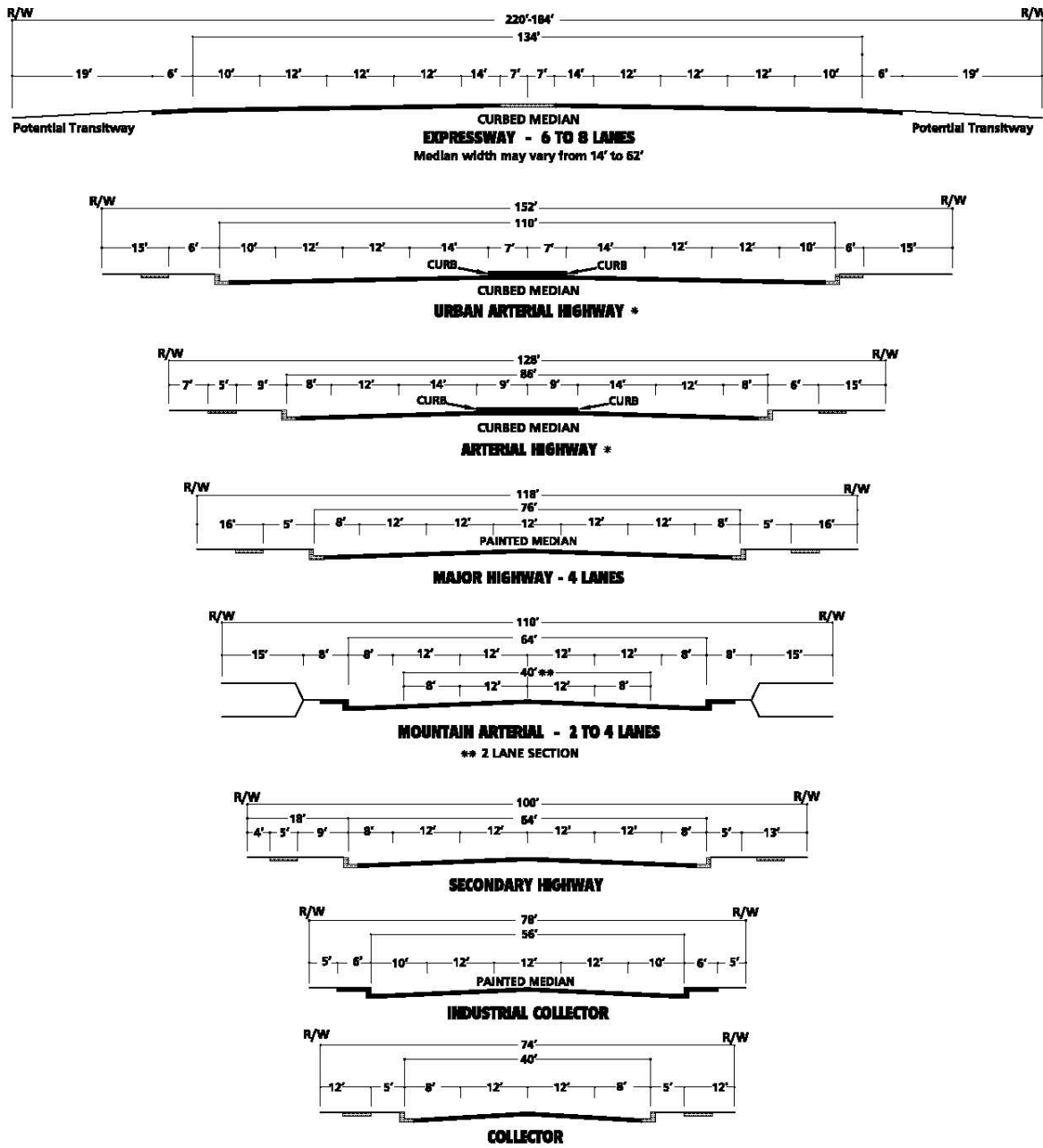


Figure 8

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



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

NOT TO SCALE

SOURCE: COUNTY OF RIVERSIDE
 July 7, 2020

Secondary 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 roadways within the County of Riverside are classified as a Secondary Highway:

- Rider Street
- Patterson Avenue, Rider Street to Placentia Avenue
- Placentia Avenue, Patterson Avenue to Harvill Avenue

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 south of the Project and Class II (on-street, striped) bike lane along Ramona Expressway/Cajalco Expressway. Exhibit 3-8 illustrates the existing crosswalks throughout the study area. As shown on Exhibit 3-8, there are pedestrian facilities in place in the vicinity of the Project site on either side of Harvill Avenue and along Martin Street on the south side of the roadway. Development of the proposed Project would connect to these existing pedestrian facilities to those to be constructed by the Project along its frontages on Perry Street, Martin Street, and Harvill Avenue.

3.5 TRANSIT SERVICE

The study area is currently served by Riverside Transit Agency (RTA) with bus service along the I-215 Freeway and Cajalco Expressway/Ramona Expressway. 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. RTA Route 41 runs along Ramona/Cajalco Expressway and has existing bus stops to the west and east of Harvill Avenue, which is located approximately 0.8-miles from the Project. 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, the closest existing transit route that could potentially serve the site is along Cajalco Expressway. Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

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

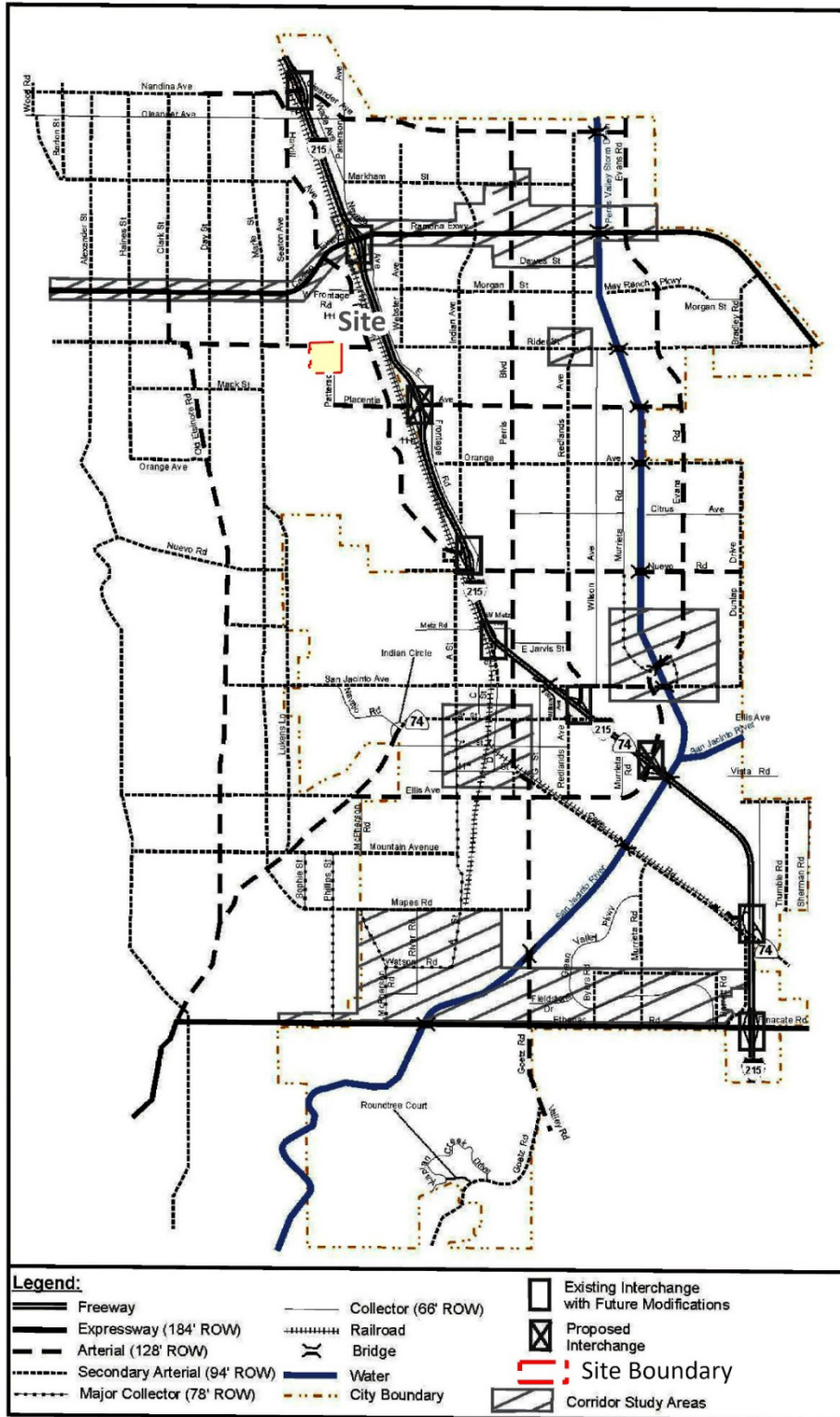
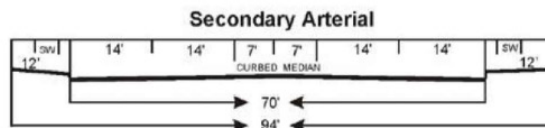
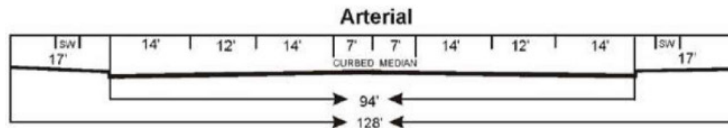
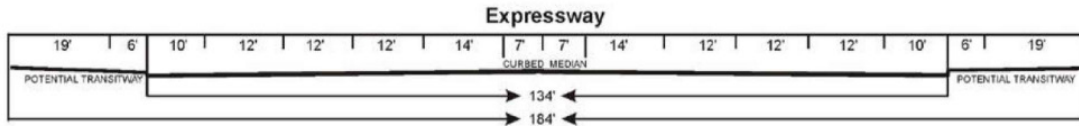
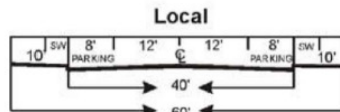
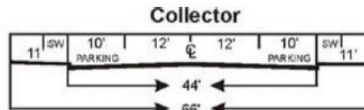
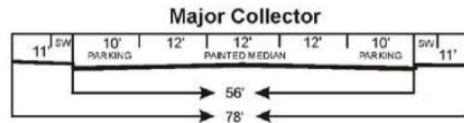
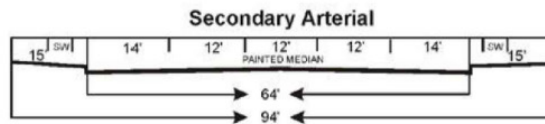


EXHIBIT 3-5: CITY OF PERRIS GENERAL PLAN ROADWAY CROSS-SECTIONS



or



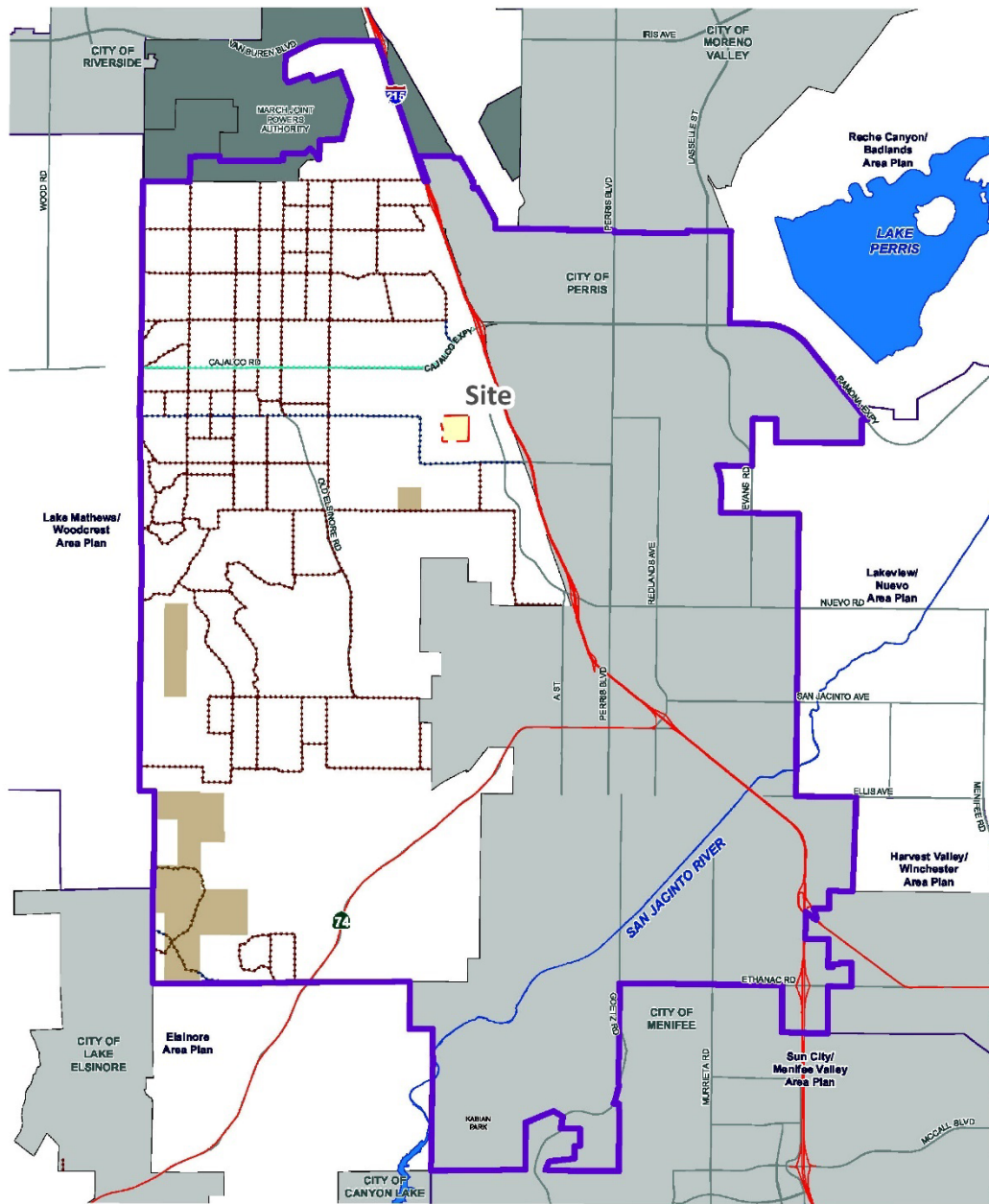
Specific details for each cross-section follow in Figures 4.1 A - 4.1 F

Legend

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

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

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



Data Source: Riverside County Parks

- Regional Trail: Urban/Suburban
- Community Trail
- Class II Bike Path
- Non-County Trail (Public and Quasi-Public Lands)
- Site Boundary
- Highways
- Area Plan Boundary
- March Joint Powers Authority
- City Boundary
- Waterbodies
- Bureau of Land Management (BLM) Lands

Note: Trails shown in non-county jurisdictions for this network are not under Riverside County jurisdiction.
Note: Boundaries of various local agencies (Regional Parks and Open Space Districts, with permission from Riverside County PLM/Transportation and Planning Department, Riverside County Community Development Agency, and other local, state, and federal agencies) are shown for reference only. This map is not intended to be used for legal purposes.
Note: This map and related maps are a graphic representation identifying the general location and classification of existing and proposed trails and bike paths in the subject project area of the County. All conditions regarding project approval and improvement standards shall be determined by the Riverside County Regional Park and Open Space District.
Note: Existing trail regional facilities, trails, and bike paths systems located within cities are shown in blue. Other trails and bike paths are shown in red. The map is not intended to be used for legal purposes. All conditions regarding project approval and improvement standards shall be determined by the Riverside County Regional Park and Open Space District.

Figure 9

EXHIBIT 3-7: CITY OF PERRIS BIKE PLAN

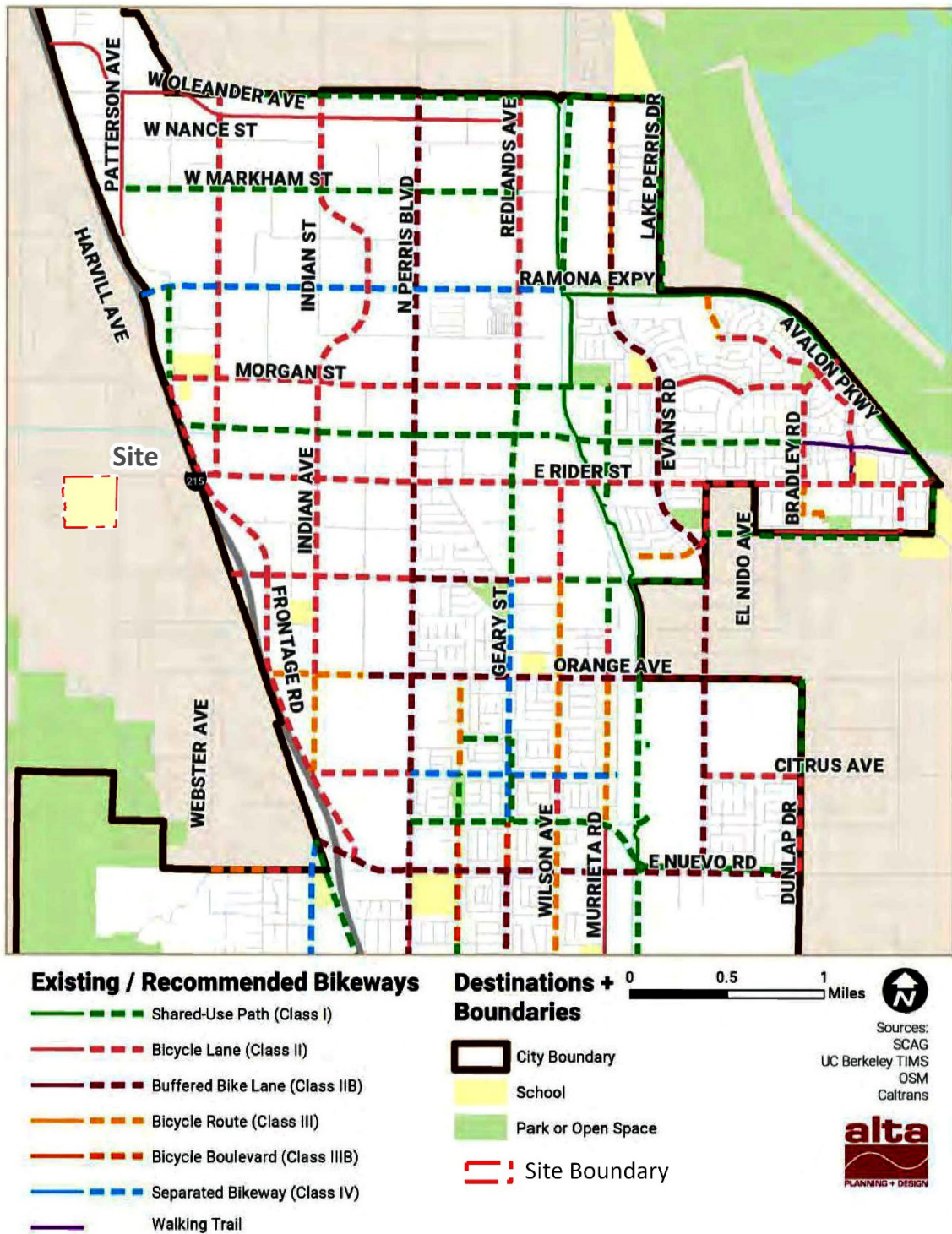


EXHIBIT 3-8: EXISTING PEDESTRIAN FACILITIES

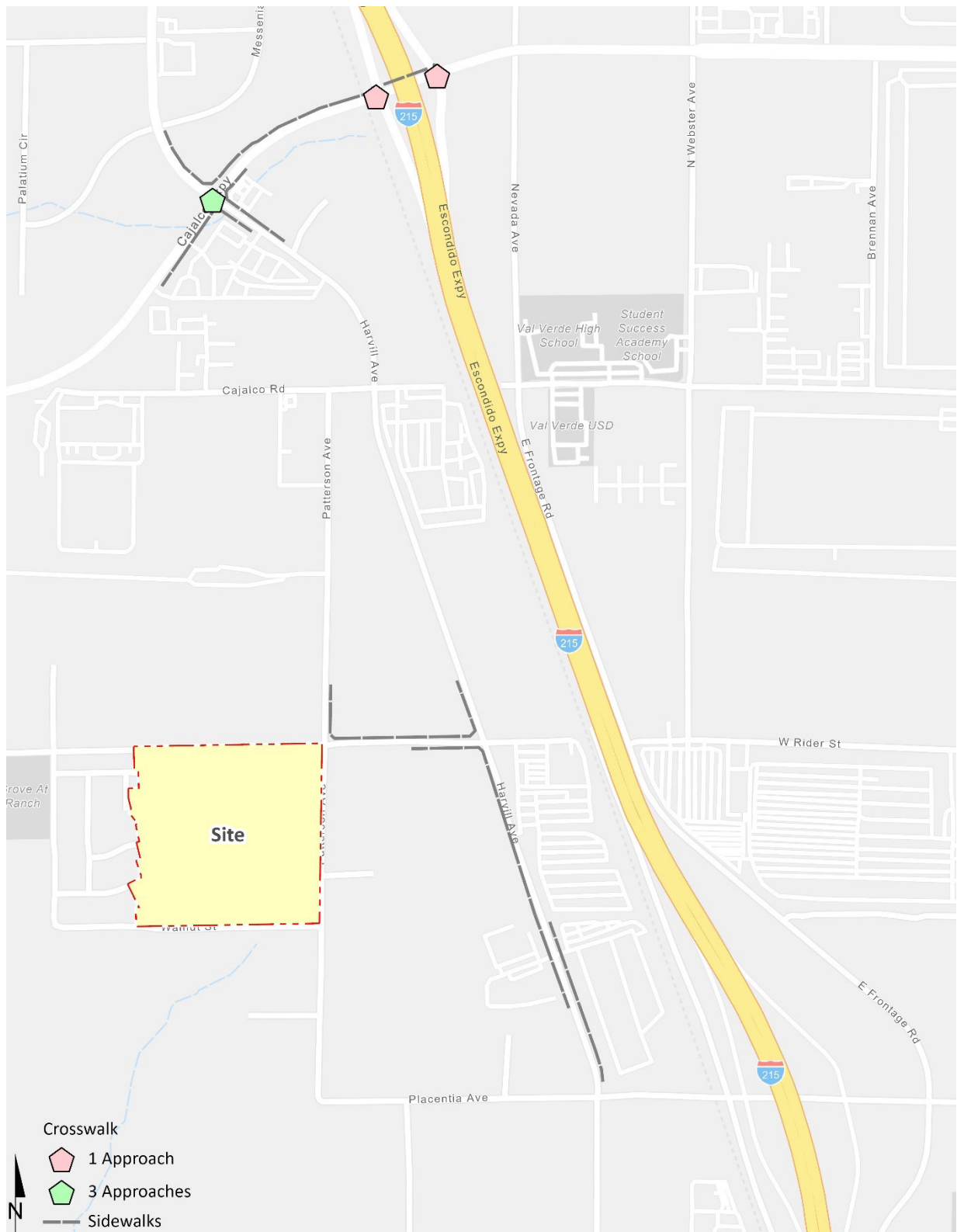
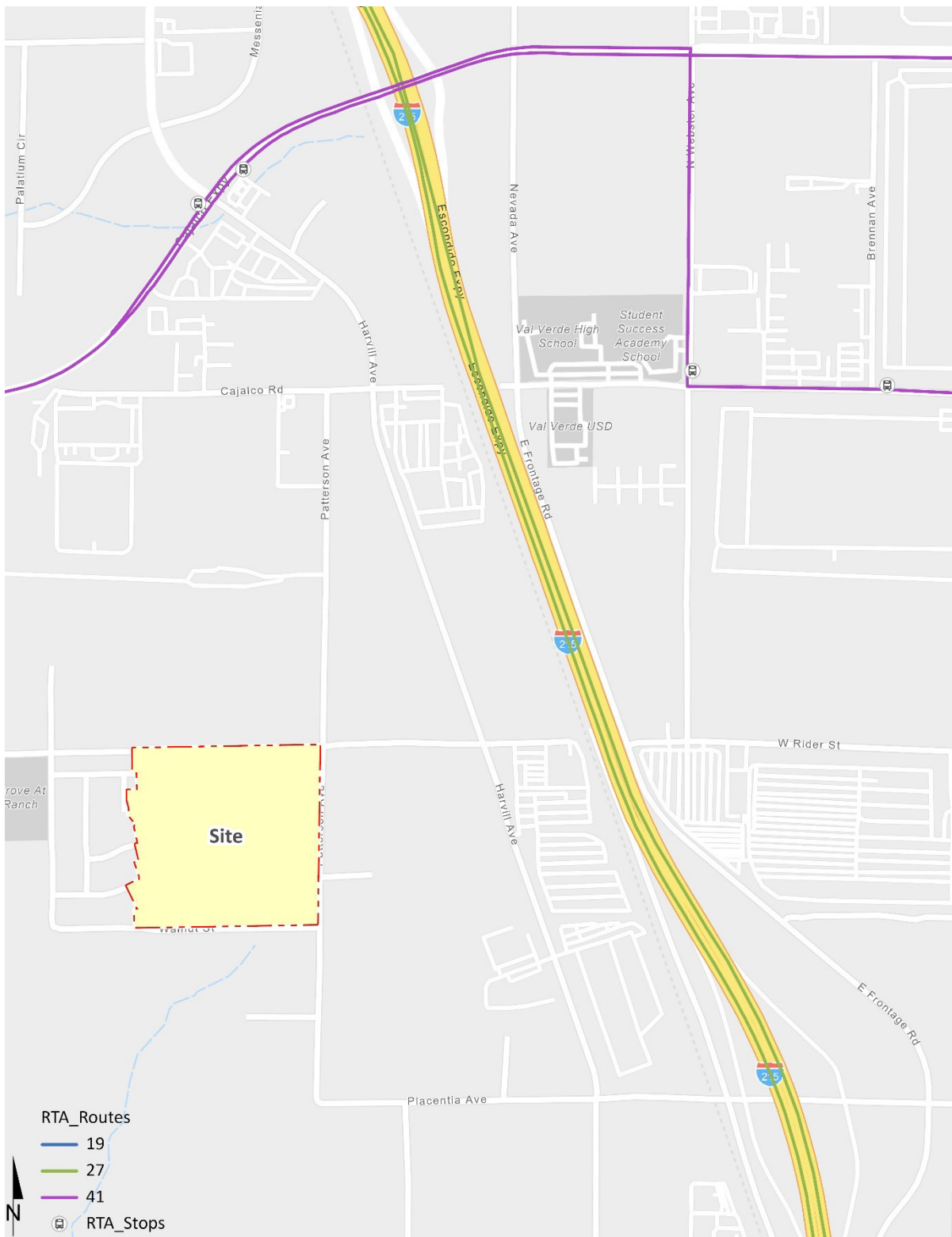


EXHIBIT 3-9: EXISTING TRANSIT ROUTES



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.

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 January and February 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:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 14.6 = \text{Leg Volume}$$

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 6.8 percent. As such, the above equation utilizing a factor of 14.6 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 6.8 percent (i.e., $1/0.068 = 14.6$) 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. PCE volumes can be found in Appendix 3.1.

EXHIBIT 3-10: CITY OF PERRIS TRUCK ROUTES

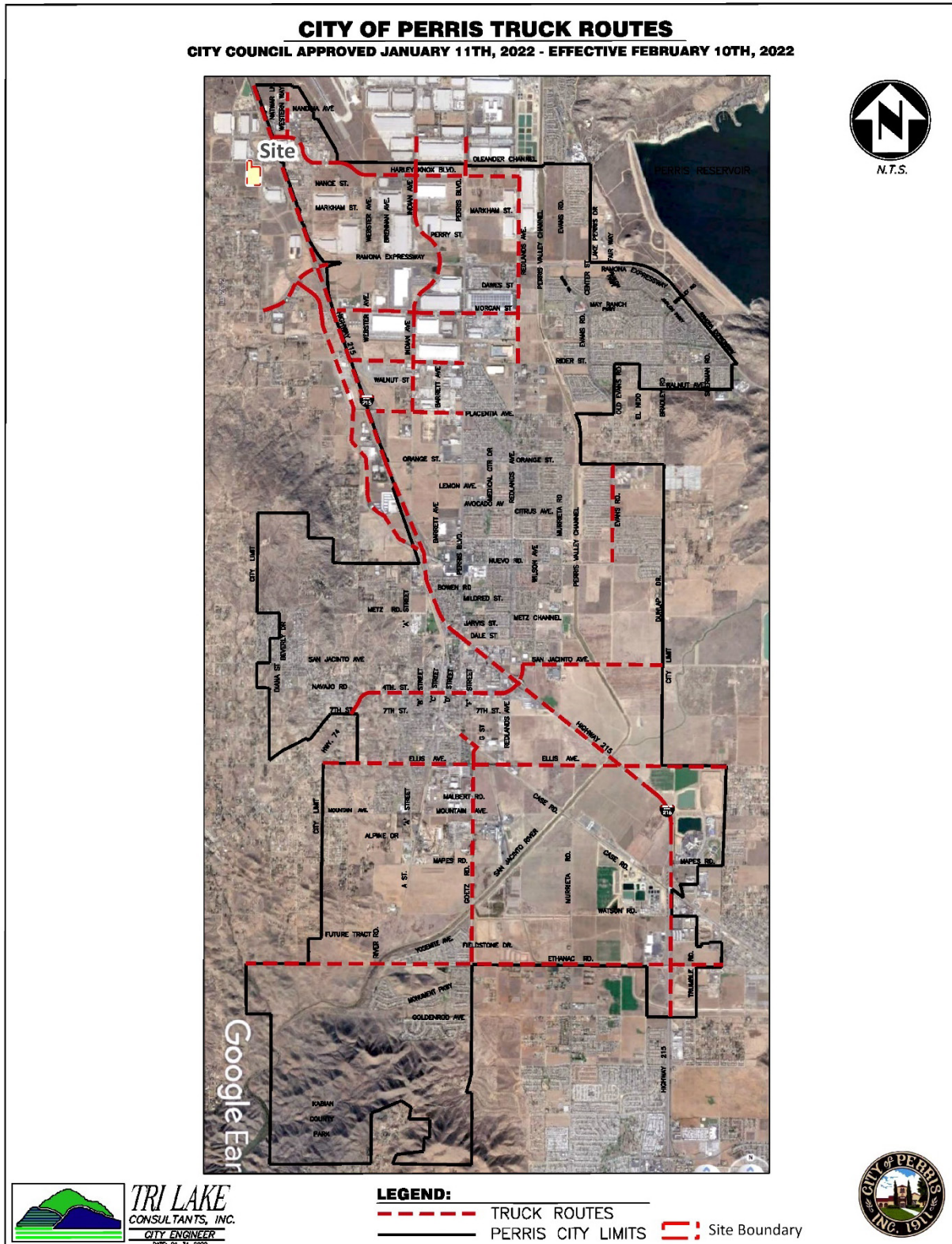
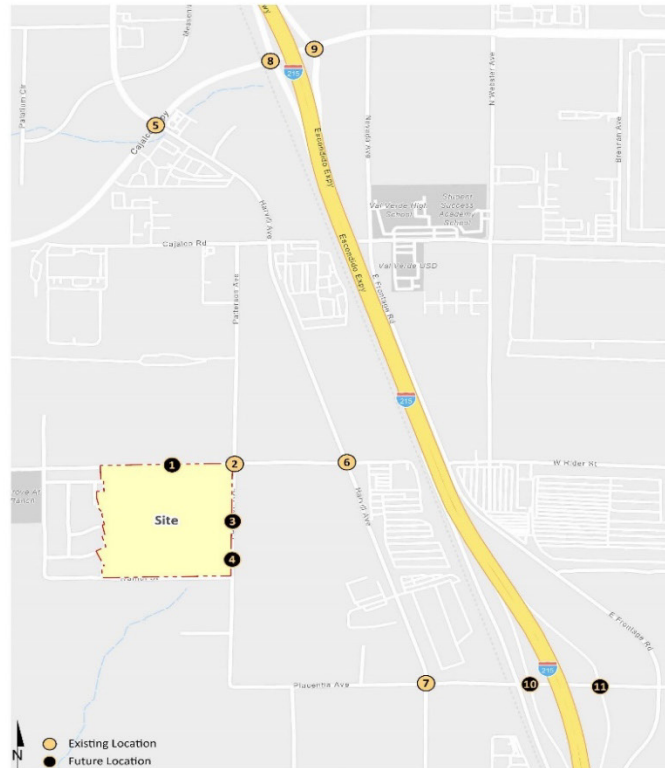


EXHIBIT 3-11: EXISTING (2022) TRAFFIC VOLUMES



1	2	3	4
Driveway 1 & Rider St.	Patterson Av. & Rider St.	Patterson Av. & Driveway	Patterson Av. & Driveway
1,600	Nominal	1,700	300
← 30(45)	0(1) 0(1) 0(1)	0(2) 28(42) 5(8)	11(13)
70(65) →	65(60) → 5(5) ↓	2(2) → 8(4) ↑	10(6) →
1,600	1,600	300	300
5 Harvill Av. & Cajalco Exwy.	6 Harvill Av. & Rider St.	7 Harvill Av. & Placentia Av.	8 I-215 SB Ramps & Ramona Exwy.
10,850	8,700	11,100	13,150
19(32) 102(200) 174(218)	16(31) 182(430) 13(1)	2(3) 206(477)	144(135) 1(4) 619(760)
↑ 94(175) ↑ 628(597) ↑ 135(101)	↑ 13(4) ↑ 2(3)	7(4) → 4(12) ↓	↑ 943(821) ↑ 281(346)
37(22) ↓ 626(686) ↓ 48(200) ↓	43(27) ↓ 1(1) → 29(42) ↓	6(11) ↑ 598(275) →	650(820) → 307(323) ↓
285(159) ↑ 328(140) ↑ 65(116) ↑	23(22) ↑ 272(261) ↑ 4(3) ↑	11,100	30,650
24,750	13,400	450	9,850
9 I-215 NB Ramps & Ramona Exwy.	10 I-215 SB Ramps & Placentia Av.	11 I-215 NB Ramps & Placentia Av.	
10,000	5,250	4,350	27,150
↑ 599(583) ↑ 910(848)	55(53) 0(1) 206(307)	↑ 256(241) ↑ 363(577)	
100(100) → 1169(1480) →	417(588) → 101(128) ↓	54(58) → 569(836) →	
314(319) ↑ 3(3) ↑ 552(425) ↑	123(223)	140(137) ↑ 229(204) ↑	
40,100	10,900	5,700	5,000
	18,400	23,500	

##(##) 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.)		Level of Service	
		AM	PM	AM	PM
1 Driveway 1 & Rider St.		Future Intersection			
2 Patterson Av. & Rider St.	CSS	9.9	9.0	A	A
3 Patterson Av. & Driveway 2		Future Intersection			
4 Patterson Av. & Driveway 3		Future Intersection			
5 Harvill Av. & Cajalco Exwy.	TS	38.4	37.8	D	D
6 Harvill Av. & Rider St.	AWS	9.5	12.2	A	B
7 Harvill Av. & Placentia Av.	AWS	9.4	10.8	A	B
8 I-215 SB Ramps & Ramona Exwy.	TS	36.7	43.9	D	D
9 I-215 NB Ramps & Ramona Exwy.	TS	25.5	18.4	C	B
10 I-215 SB Ramps & Placentia Av.		Future Intersection			
11 I-215 NB Ramps & Placentia Av.		Future Intersection			

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; AWS = All-Way 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 the Ramona Expressway 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	95th Percentile Queue (Feet)		Acceptable? ¹	
		Distance (Feet)	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps & Ramona Exwy.	SBL	530	445 ²	468 ²	Yes	Yes
	SBT	1,100	448 ²	481 ²	Yes	Yes
	SBR	530	138	78	Yes	Yes
I-215 NB Ramps & Ramona Exwy.	NBL	520	184	176	Yes	Yes
	NBT	1,120	187	181	Yes	Yes
	NBR	520	685 ^{2,3}	457 ²	Yes	Yes
I-215 SB Ramps & Placentia Av.	Future Intersection		Future Intersection			
I-215 NB Ramps & Placentia Av.	Future Intersection		Future Intersection			

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 Freeway mainline.

4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. The Project is proposed to consist of the development of a 591,203 square foot warehouse building and 2 single family detached residential lots to be located on the existing Swallow Hills Circle. The proposed 2 single family lots will replace 3 existing lots resulting in a net reduction. Vehicular access will be provided to Rider Street and Patterson Avenue. Driveway 1 on Rider Street is proposed to serve trucks and will be restricted to right-out/left-in access only, Driveway 2 on Patterson Avenue is proposed to serve passenger cars and will have full access, and Driveway 3 on Patterson Avenue is proposed to serve both passenger cars and trucks and will be restricted to right-in/right-out access only. The residential lots will be accessible via Vista Del Lago (existing) to Rider Street. Regional access to the Project site is available from the I-215 Freeway via Placentia Avenue and Ramona Expressway interchanges.

4.1 PROJECT TRIP GENERATION

4.1.1 PROPOSED 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) and Institute of Transportation Engineers (ITE) [Trip Generation Manual](#) (11th Edition, 2021) were used to estimate the Project's trip generation. (2) (3) The following trip generation rates and vehicle mix 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 up to 591,203 square feet. The ITE [Trip Generation Manual](#) 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 fulfillment 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.
- The ITE [Trip Generation Manual](#) has been utilized to calculate the site-specific trip generation associated with 2 single family residential lots based on the Single Family Detached Housing (ITE Land Use Code 210) trip generation rates.

PCE factors were applied to the trip generation rates for heavy trucks (large 2-axes, 3-axes, 4+-axes). 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 LOS analyses. 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	Units ¹	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicle Trip Generation Rates									
High-Cube Fulfillment Center Warehouse ²	TSF	--	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
Single Family Detached Housing ³	DU	210	0.18	0.52	0.70	0.59	0.35	0.94	9.43
Passenger Car Equivalent (PCE) Trip Generation									
High-Cube Fulfillment Center Warehouse ²	TSF	--	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

¹ TSF = thousand square feet; DU = Dwelling Units

² 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.

³ Trip Generation Source: ITE [Trip Generation Manual](#), Eleventh Edition (2021).

Per the County’s Guidelines, peak hour intersection operations analyses are to utilize the PCE trip generation. The trip generation summary illustrating daily and peak hour trip generation estimates for the Project in actual vehicles are shown on Table 4-2. The proposed Project (industrial component only) is anticipated to generate 1,260 two-way trip-ends per day with 71 AM peak hour trips and 97 PM peak hour trips (see actual vehicle trips Table 4-2). PCE based trip generation for the Project is also summarized on Table 2. Table 4-2 also summarizes the net change in trips associated with the residential lots.

TABLE 4-2: PROJECT TRIP GENERATION SUMMARY

Industrial Component:

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
High-Cube Fulfillment Warehouse	591.203 TSF							
Passenger Cars:		47	14	61	24	61	85	1,036
2-4axle Trucks:		2	2	4	3	3	6	96
5+-axle Trucks:		3	3	6	3	3	6	128
Total Truck Trips (Actual Vehicles):		5	5	10	6	6	12	224
Total Trips (Actual Vehicles)²		52	19	71	30	67	97	1,260
Passenger Car Equivalent (PCE):								
High-Cube Fulfillment (WSP)	591.203 TSF							
Passenger Cars:		47	14	61	24	61	85	1,036
2-4axle Trucks:		5	5	10	6	7	13	192
5+-axle Trucks:		10	10	20	8	9	17	386
Total Truck Trips (PCE):		15	15	30	14	16	30	578
Total Trips (PCE)²		62	29	91	38	77	115	1,614

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

Residential Component:

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Existing Single Family Detached Housing	3 DU	1	2	3	2	1	3	28
Proposed Single Family Detached Housing	2 DU	0	1	1	1	1	2	20
Net Change		-1	-1	-2	-1	0	-1	-8

¹ DU = dwelling units

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. Note that the Project Truck distribution shows two alternatives that have been evaluated in this TA.

EXHIBIT 4-1: PROJECT (TRUCK) TRIP DISTRIBUTION

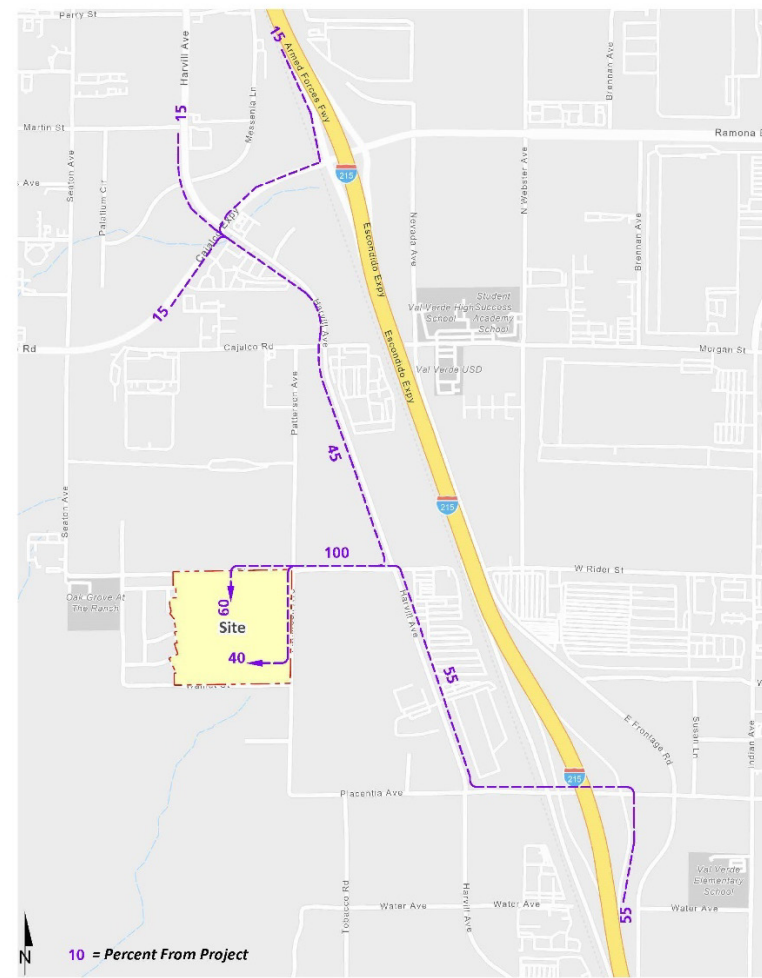
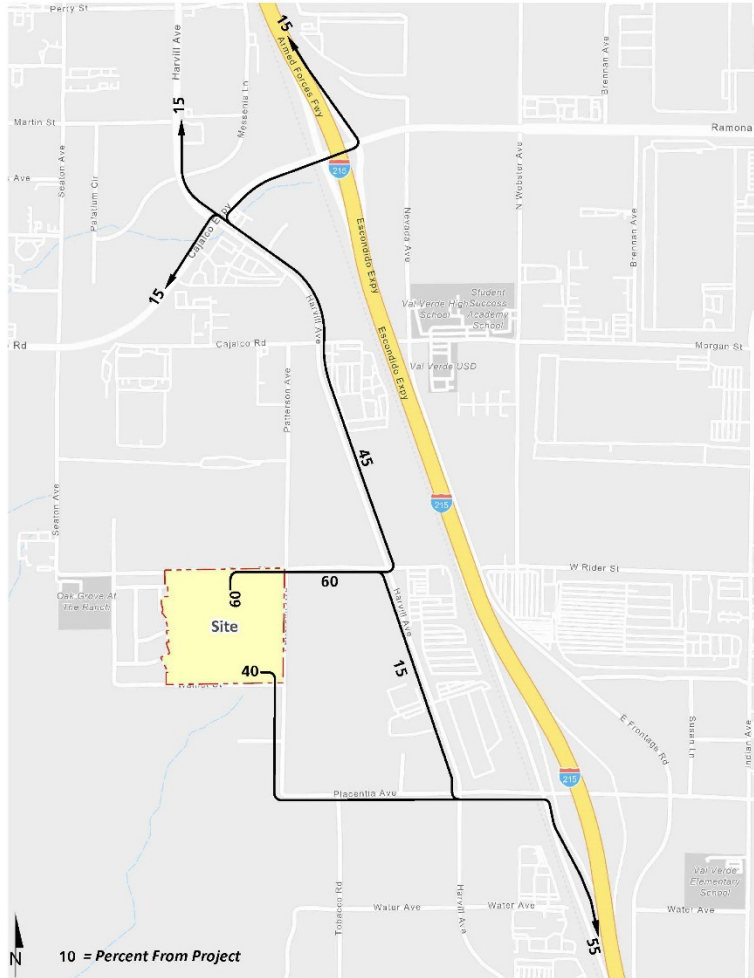
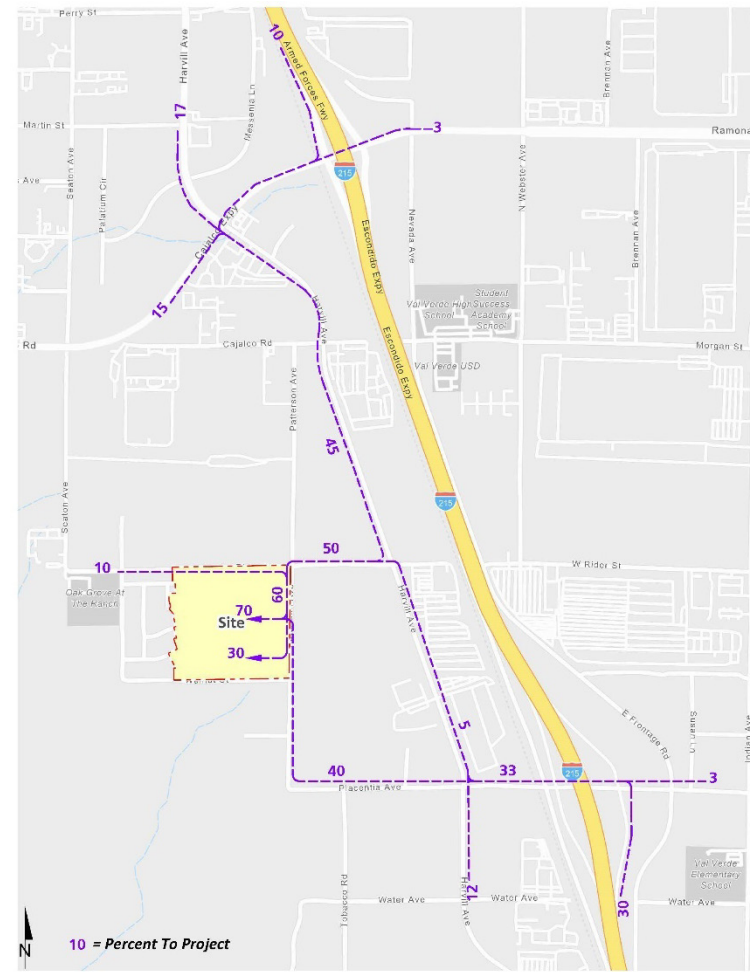
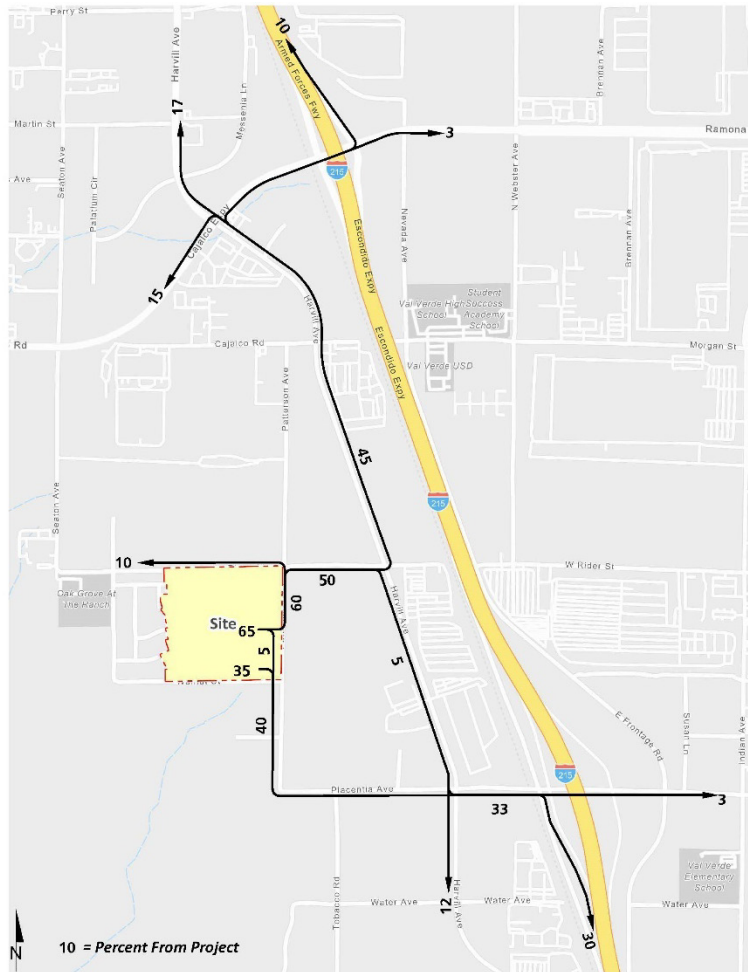


EXHIBIT 4-2: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION



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

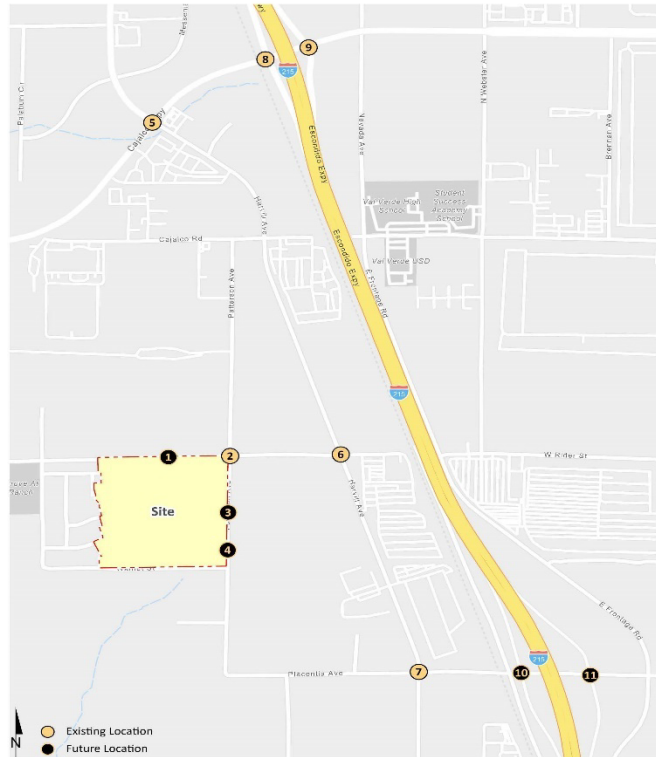
The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project 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 2025 conditions. The total ambient growth is 6.12% for 2025 traffic conditions (compounded growth of 2 percent per year over 3 years or $1.02^{3 \text{ years}}$). The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

The currently adopted Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) 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. (8) 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.

EXHIBIT 4-3: PROJECT ONLY TRAFFIC VOLUMES



1 Driveway 1 & Rider St.		2 Patterson Av. & Rider St.		3 Patterson Av. & Driveway 2		4 Patterson Av. & Driveway 3	
	250		700	650		450	
← 0(5) ↑ 3(4)	4(2) →	← 2(3) ↑ 25(14)	2(4) → 5(2) ↓	14(7) 16(10)	8(37) ↓ 1(3) ↓	16(10) 1(3) ↓	19(10) ↑
100	150	250	650	700	450	450	450
5 Harvill Av. & Cajalco Exwy.		6 Harvill Av. & Rider St.		7 Harvill Av. & Placentia Av.		8 I-215 SB Ramps & Ramona Exwy.	
	150		550	150		Nominal	100
↓ 8(5)	3(10) → 3(11) ↑ 2(9) ↑	↓ 23(13)	8(30) → 1(4) ↓	1(3) 0(1)	2(3) 16(8)	↓ 5(3)	← 1(1)
200	550	700	150	450	100	150	
9 I-215 NB Ramps & Ramona Exwy.		10 I-215 SB Ramps & Placentia Av.		11 I-215 NB Ramps & Placentia Av.			
	Nominal		250		Nominal		
← 1(1)	2(7) → 0(2) →	← 18(11)	0(2) → 7(22) ↓	0(2) →	17(10) ↓		
100		450	200	250	200		

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

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. 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 4-3, and have been considered for inclusion. Any additional traffic generated by other projects not on the cumulative projects list is likely accounted for through background ambient growth factors that have been applied to the peak hour volumes at study area intersections as discussed in Section 4.5 Background Traffic. Cumulative development projects shown in Exhibit 4-4 and listed in Table 4-3. Cumulative Only ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-5.

4.7 NEAR-TERM TRAFFIC CONDITIONS

The “buildup” approach combines existing traffic counts with a background ambient growth factor to forecast EAP (2025) and EAPC (2025) traffic conditions. An ambient growth factor accounts for background (area-wide) traffic increases that occur over time up to the year 2025 from the year 2022. Traffic volumes generated by the Project are then added to assess the near-term traffic conditions. The 2025 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 (2025)
 - Existing 2022 counts
 - Ambient growth traffic (6.12%)
 - Project traffic
- Existing Plus Ambient Growth Plus Project Plus Cumulative (2025)
 - Existing 2022 counts
 - Ambient growth traffic (6.12%)
 - Cumulative Development traffic
 - Project traffic

EXHIBIT 4-4: CUMULATIVE DEVELOPMENT LOCATION MAP

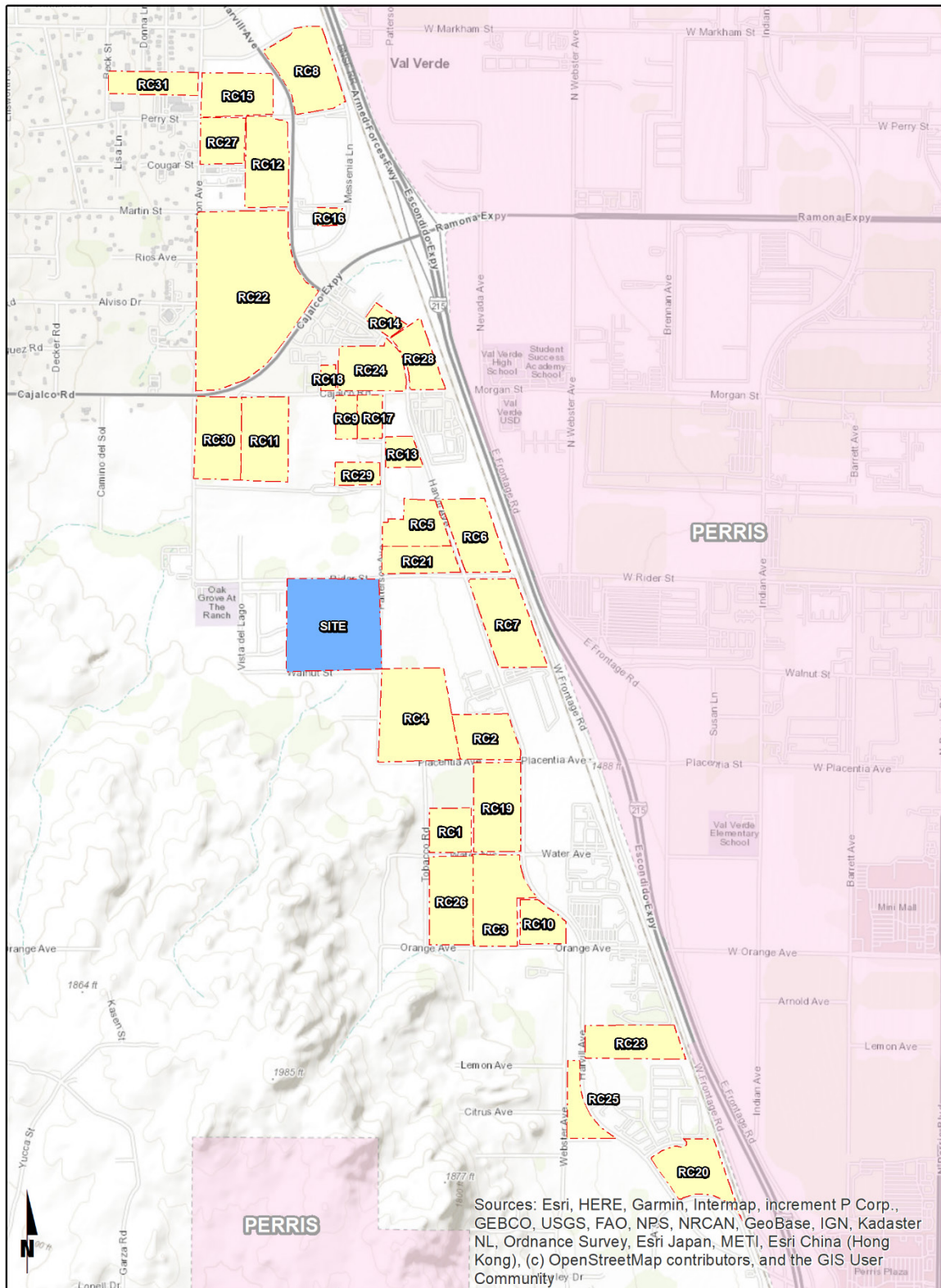
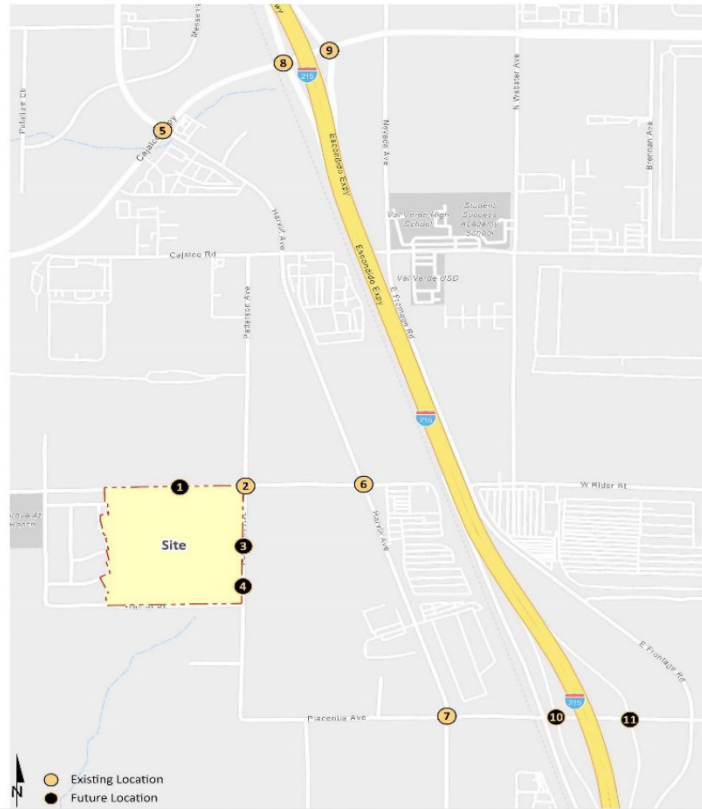


EXHIBIT 4-5: CUMULATIVE ONLY TRAFFIC VOLUMES



1 Driveway 1 & Rider St.		2 Patterson Av. & Rider St.		3 Patterson Av. & Driveway		4 Patterson Av. & Driveway	
		150		150			
		↓ 2(6) ↑ 8(3)					
5 Harvill Av. & Cajalco Exwy.		6 Harvill Av. & Rider St.		7 Harvill Av. & Placentia Av.		8 I-215 SB Ramps & Ramona Exwy.	
15,550 53(132) ↓ 92(85) ↓ 219(662) ↑ 627(271) ↑ 316(189) ↑ 454(201)		41,150 9,450 ↓ 652(410)		9,950 10(5) ↓ 533(142) ↓ 123(280)		6,500 ↑ 229(124) ↑ 96(64) ↑ 86(51)	
134(96) 60(349) ↓ 151(67)		2(8) 8(3) ↑ 312(662)		6(16) 59(120) ↓ 4(12)		39,400 605(264) 889(1144) ↑ 898(489) ↑ 235(420)	
51(156) 68(106) 154(446)		13,500 150 9,650		2,650 12(6) 90(541) 50(109)		8,500 321(976) 174(600)	
26,100		26,100		26,100		26,650	
9 I-215 NB Ramps & Ramona Exwy.		10 I-215 SB Ramps & Placentia Av.		11 I-215 NB Ramps & Placentia Av.			
24,600 189(588) 1022(1532)		4,150 163(86) 157(196)		4,450 94(208) 164(207)		10,400 ↑ 131(226) ↑ 79(255)	
554(285) 218(158)		8,550 100(219) 72(168)		3,950 142(82) 201(133)		3,900	
26,650		26,650		26,650		26,650	

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

TABLE 4-3: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

No.	Project Name	Land Use ¹	Quantity Units ²
RC1	Thrifty Oil Warehouse	Warehousing	194.479 TSF
RC2	Placentia Truck Drop Lot	Truck Trailer Storage	8.06 AC
RC3	Harvill & Water Logistics	High-Cube Fulfillment Center Warehouse	304.376 TSF
		High-Cube Cold Storage Warehouse	130.447 TSF
RC4	Barker Logistics	High-Cube Fulfillment Center Warehouse	699.630 TSF
RC5	Dedeaux Harvill Truck Terminal	Truck Terminal	55.700 TSF
RC6	Harvill & Rider Warehouse	General Light Industrial	50.249 TSF
		High-Cube Transload Short-Term Warehouse	284.746 TSF
RC7	WPC Perris	High-Cube Fulfillment Center Warehouse	384.448 TSF
		High-Cube Cold Storage Warehouse	96.112 TSF
RC8	Majestic Freeway Busines Center (Building 11)	High-Cube Fulfillment Center Warehouse	391.045 TSF
RC9	PPT190029	Warehousing	36.000 TSF
RC10	PPT210021	Trailer Maintenance Facility/Storage	16.200 TSF
RC11	PPT210133	Warehousing	350.481 TSF
RC12	Majestic Freeway Busines Center (Building 13)	High-Cube Fulfillment Center Warehouse	322.997 TSF
RC13	Patterson & Harvill Warehouse	Warehousing & Cold Storage	100.190 TSF
RC14	CUP03599	Hotel	103 RM
RC15	Majestic Freeway Busines Center (Buildings 14A,14B)	Warehousing	354.583 TSF
RC16	PP16763	Warehousing	19.500 TSF
RC17	PP16823	Manufacturing	22.000 TSF
RC18	PP16932	Manufacturing	12.000 TSF
RC19	PP21207	Warehousing	311.412 TSF
RC20	PP23170	Warehousing	286.829 TSF
RC21	PP23342	Warehousing	180.551 TSF
RC22	Majestic Freeway Busines Center (Buildings 1,3,4)	High-Cube Fulfillment Center Warehouse	1,195.740 TSF
RC23	PPT190005	Warehousing	333.553 TSF
RC24	PPT190006	Warehousing	289.556 TSF
RC25	PPT190028	Warehousing	197.856 TSF
RC26	TR27997	Multifamily Housing	120 DU
RC27	Seaton Commerce Center	High-Cube Fulfillment Center Warehouse	210.800 TSF
RC28	Harvill & Cajalco Warehouse	General Light Industrial & Truck Yard	99.770 TSF
RC29	Patterson & Cajalco Warehouse	Warehousing & Cold Storage	107.968 TSF
RC30	Seaton & Cajalco High Cube Warehouse	Warehousing & Cold Storage	350.481 TSF
RC31	PPT210022	General Light Industrial	98.940 TSF

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

4.8 HORIZON YEAR (2045) CONDITIONS

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

The traffic forecasts reflect the area-wide growth anticipated between Existing (2022) conditions and Horizon Year (2045) traffic conditions. In most instances the traffic model zone structure is not designed to provide accurate turning movements along arterial roadways unless refinement and reasonableness checking is performed. Therefore, the Horizon Year peak hour forecasts were refined using the model derived long range forecasts, base (validation) year model forecasts, along with existing peak hour traffic count data collected at each analysis location in January/February 2022. The RIVCOM has a base (validation) year of 2016 and a horizon (future forecast) year of 2045. The RIVCOM 2045 model utilized for the purposes of this analysis assumes buildout of the County of Riverside and includes the future MCP.

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

Since the RIVCOM model includes the MCP network, there may be potential reductions to traffic forecasts in comparison to Existing, EAP, and EAPC traffic conditions. Horizon Year turning volumes were compared to EAPC volumes in order to ensure a minimum growth as a part of the refinement process (to applicable intersections and turning movements). The minimum growth includes any additional growth between EAPC and Horizon Year (2045) traffic conditions that is not accounted for by the traffic generated by cumulative development projects and ambient growth rates assumed between Existing (2022) and EAPC conditions.

The future Horizon Year (2045) Without Project peak hour turning movements were then reviewed by Urban Crossroads, Inc. for reasonableness, and in some cases, were adjusted to achieve flow conservation, reasonable growth, and reasonable diversion between parallel routes. Flow conservation checks ensure that traffic flow between two closely spaced intersections, such as two adjacent driveway locations, is verified in order to make certain that vehicles leaving one intersection are entering the adjacent intersection and that there is no unexplained loss of vehicles. The result of this traffic forecasting procedure is a series of traffic volumes which are suitable for traffic operations analysis. Post-processing worksheets for Horizon Year (2040) Without Project traffic conditions are provided in Appendix 4.1.

5 EAP (2025) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAP (2025) 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 (2025) 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 Fall of 2022 has been assumed to be completed with improvements in place for EAP (2025) traffic conditions. This includes signalization and intersection improvements at the intersection of Harvill Avenue at Placentia Avenue and the I-215 Freeway Ramps on Placentia Avenue (see Exhibit 5-1).

5.2 EAP (2025) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2022) traffic volumes plus an ambient growth factor of 6.12% and the addition of Project traffic. The weekday ADT volumes and peak hour volumes which can be expected for EAP (2025) traffic conditions are shown on Exhibit 5-2.

5.3 INTERSECTION OPERATIONS ANALYSIS

EAP (2025) 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 the following study area intersection is anticipated to operate at an unacceptable LOS with the addition of Project traffic under EAP traffic conditions:

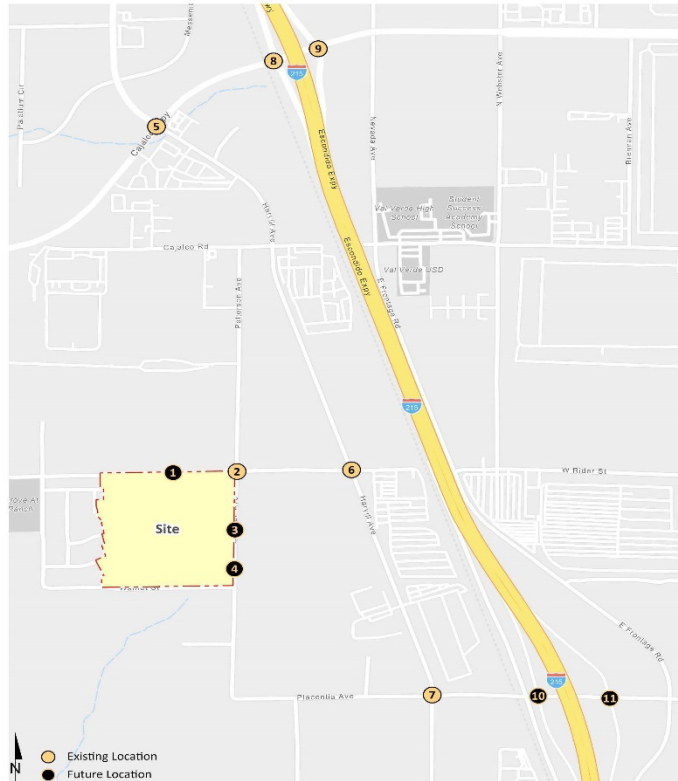
- Harvill Av. & Rider St. (#6) – LOS E PM peak hour only

Intersection operations improve at the I-215 Freeway and Ramona Expressway interchange for EAP traffic conditions as there are reductions to the baseline traffic volumes with the opening of the I-215 Freeway and Placentia Avenue interchange. The intersection operations analysis worksheets for EAP traffic conditions are included in Appendix 5.1 of this TA.

EXHIBIT 5-1: PROPOSED I-215 FREEWAY & PLACENTIA AVENUE INTERCHANGE



EXHIBIT 5-2: EAP (2025) TRAFFIC VOLUMES



1 Driveway 1 & Rider St.		2 Patterson Av. & Rider St.		3 Patterson Av. & Driveway 2		4 Patterson Av. & Driveway 3	
1,950		Nominal		2,500		950	
↑ 32(53) ↓ 3(4)		↓ 0(1) ↓ 1(0) ↓ 0(1)		↑ 0(2) ↓ 32(48) ↑ 30(22)		↓ 14(7) ↓ 28(24)	
78(71) →		71(68) ↓		3(8) ↓		8(37) ↓	
3(4) ↑		10(7) ↓		15(34) ↑		19(10) ↓	
3(4) ↑		3(8) ↓		11(6) ↑		11(6) ↑	
1,800		150		950		750	
5 Harvill Av. & Cajalco Exwy.		6 Harvill Av. & Rider St.		7 Harvill Av. & Placencia Av.		8 I-215 SB Ramps & Ramona Exwy.	
11,750		9,800		25,950		19,950	
20(34)		40(46)		2(3)		10,550	
117(217)		393(756)		223(509)		120(110)	
185(231)		14(1)		284(591)		1(4)	
↑ 100(186)		↑ 14(4)		↑ 364(378)		584(715)	
↑ 666(634)		↓ 2(3)		↑ 24(33)		↑ 803(668)	
↓ 150(111)		54(59)		↓ 110(180)		↓ 241(303)	
39(23) ↓		1(1) ↓		7(4) ↓		447(583) ↓	
664(728) ↓		32(49) ↓		25(42) ↓		244(257) ↓	
59(216) ↓		29(27) ↓		5(17) ↓			
305(179) ↑		589(477) ↑		9(14) ↑			
351(160) ↑		4(3) ↑		637(293) ↑			
71(132) ↑				251(167) ↑			
14,750		11,900		16,900		21,400	
26,450		2,600		1,600		7,850	
9 I-215 NB Ramps & Ramona Exwy.		10 I-215 SB Ramps & Placencia Av.		11 I-215 NB Ramps & Placencia Av.			
8,050		5,600		4,650		28,800	
39,950		58(66)		58(62) ↓		165(156) ↓	
↑ 477(464)		0(1)		604(889) ↓		243(216) ↓	
↑ 796(719)		219(325)					
82(87) ↓		↑ 421(533)					
952(1214) ↓		131(236)					
250(254) ↓		443(626) ↓					
3(3) ↑		114(157) ↓					
439(338) ↑							
8,700		20,000		5,650		5,500	
33,150				25,200			

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

TABLE 5-1: INTERSECTION ANALYSIS FOR EAP (2025) CONDITIONS

# Intersection	Traffic Control ²	Existing (2022)				EAP (2025)			
		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
		AM	PM	AM	PM	AM	PM	AM	PM
1 Driveway 1 & Rider St.	CSS	Future Intersection				8.7	8.7	A	A
2 Patterson Av. & Rider St.	CSS	9.9	9.0	A	A	10.8	9.9	B	A
3 Patterson Av. & Driveway 2	CSS	Future Intersection				9.2	9.0	A	A
4 Patterson Av. & Driveway 3	CSS	Future Intersection				8.4	8.5	A	A
5 Harvill Av. & Cajalco Exwy.	TS	38.4	37.8	D	D	40.2	39.3	D	D
6 Harvill Av. & Rider St.	AWS	9.5	12.2	A	B	16.4	46.4	C	E
7 Harvill Av. & Placentia Av.	AWS/ TS	9.4	10.8	A	B	36.2	47.4	D	D
8 I-215 SB Ramps & Ramona Exwy.	TS	36.7	43.9	D	D	33.6	35.4	C	D
9 I-215 NB Ramps & Ramona Exwy.	TS	25.5	18.4	C	B	18.9	15.5	B	B
10 I-215 SB Ramps & Placentia Av.	TS	Future Intersection				29.1	28.5	C	C
11 I-215 NB Ramps & Placentia Av.	TS	Future Intersection				20.9	16.9	C	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; AWS = All-Way Stop; **CSS** = Improvement

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAP (2025) traffic conditions are based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. The following study area intersections are anticipated to meet peak hour or planning level (ADT) warrants under EAP traffic conditions (see Appendix 5.2):

- Harvill Av. & Rider St. (#6)
- Harvill Av. & Placentia Av. (#7)
- I-215 SB Ramps & Placentia Av. (#10)
- I-215 NB Ramps & Placentia Av. (#11)

5.5 QUEUING ANALYSIS

Queuing analysis findings for EAP (2025) 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 (2025) traffic conditions queuing analysis are provided in Appendix 5.3.

TABLE 5-2: PEAK HOUR QUEUING SUMMARY FOR EAP (2025) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2022)				EAP (2025)			
			95th Percentile Queue (Feet)		Acceptable? ¹		95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak	PM Peak	AM	PM	AM Peak	PM Peak	AM	PM
I-215 SB Ramps & Ramona Exwy.	SBL	530	445 ²	468 ²	Yes	Yes	468 ²	424 ²	Yes	Yes
	SBT	1,100	448 ²	481 ²	Yes	Yes	469 ²	437 ²	Yes	Yes
	SBR	530	138	78	Yes	Yes	82	46	Yes	Yes
I-215 NB Ramps & Ramona Exwy.	NBL	520	184	176	Yes	Yes	150	145	Yes	Yes
	NBT	1,120	187	181	Yes	Yes	149	143	Yes	Yes
	NBR	520	685 ^{2,3}	457 ²	Yes	Yes	478 ²	302	Yes	Yes
I-215 SB Ramps & Placentia Av.	SBL	1,530	Future Intersection				103	158	Yes	Yes
	SBT	1,530					103	158	Yes	Yes
	SBR	350					25	25	Yes	Yes
I-215 NB Ramps & Placentia Av.	NBL	575	Future Intersection				92	91	Yes	Yes
	NBT	1,600					92	91	Yes	Yes
	NBR	1,600					168	152	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 Freeway mainline.

5.6 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. Based on the County of Riverside deficiency criteria discussed in Section 2.6 Deficiency Criteria, roadway intersections were found to be deficient. Improvements necessary to improve project-related traffic deficiencies are shown in Table 5-3. Table 5-3 indicates the physical improvements needed to address LOS deficiencies at each of the study area intersections under EAP (2025) traffic conditions. The improvements have been identified to improve the EAP (2025) deficiencies back to acceptable levels. Intersection analysis worksheets for EAP (2025) traffic conditions, with improvements, are provided in Appendix 5.4.

TABLE 5-3: INTERSECTION ANALYSIS FOR EAP (2025) CONDITIONS WITH IMPROVEMENTS

# Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
		Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
6 Harvill Av. & Rider St.																	
- Without Improvements	AWS	1	2	0	1	2	0	1	1	1	1	1	1	16.4	46.4	C	E
- With Improvements	TS	1	2	0	1	2	0	1	1	1	1	1	1	10.3	10.6	B	B

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

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

L = Left; T = Through; R = Right; **1** = Improvement

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

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

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 (2025) traffic conditions. As such, no improvements have been identified for the off-ramps.

6 EAPC (2025) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAPC (2025) 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 (2025) 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 (2025) 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 (2025) 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 Fall of 2022 has been assumed to be completed with improvements in place for EAPC (2025) traffic conditions. This includes signalization and intersection improvements at the intersection of Harvill Avenue at Placentia Avenue and the I-215 Freeway Ramps on Placentia Avenue.

6.2 EAPC (2025) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2022) traffic volumes plus an ambient growth factor of 6.12%, 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 (2025) traffic conditions are shown on Exhibit 6-1.

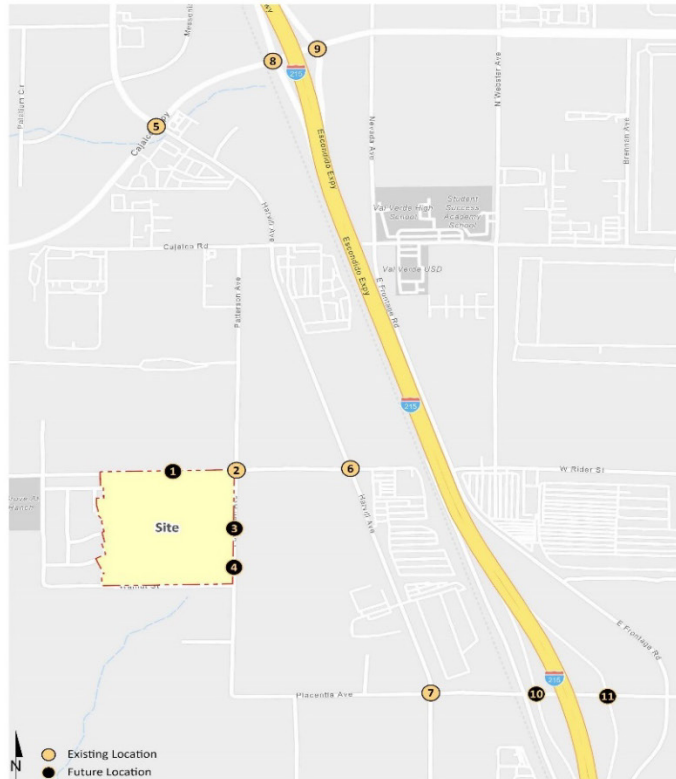
6.3 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under EAPC (2025) 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 (2025) traffic conditions with the exception of the following intersections:

- Harvill Av. & Cajalco Exwy. (#5) – LOS F AM and PM peak hours
- Harvill Av. & Rider St. (#6) – LOS F AM and PM peak hours
- Harvill Av. & Placentia Av. (#7) – LOS F AM and PM peak hours
- I-215 SB Ramps & Ramona Exwy. (#8) – LOS F AM and PM peak hours
- I-215 NB Ramps & Ramona Exwy. (#9) – LOS F AM and PM peak hours

The intersection operations analysis worksheets for EAPC (2025) traffic conditions are included in Appendix 6.1 of this TA.

EXHIBIT 6-1: EAPC (2025) TRAFFIC VOLUMES



1 Driveway 1 & Rider St.		2 Patterson Av. & Rider St.		3 Patterson Av. & Driveway		4 Patterson Av. & Driveway	
1,950		200		2,650		950	
↑ 32(53)		0(1)		↑ 8(5)		14(7)	
↓ 3(4)		↓ 1(0)		↓ 32(48)		28(24)	
78(71) →		↑ 2(8)		↑ 30(22)		8(37)	
↑ 3(4)		71(68) ↓		3(8) →		19(10) ↓	
1,800		150		950		700	
1,950		1,950		700		750	
5 Harvill Av. & Cajalco Exwy.		6 Harvill Av. & Rider St.		7 Harvill Av. & Placentia Av.		8 I-215 SB Ramps & Ramona Exwy.	
27,300		19,300		35,900		49,900	
79(166)		40(46)		12(8)		724(375)	
210(302)		1045(1166)		756(651)		1(4)	
404(893)		14(1)		408(871)		150(61860)	
↑ 727(457)		↑ 14(4)		↑ 593(502)		↑ 1702(1153)	
↑ 982(823)		↓ 2(3)		↑ 120(97)		↓ 475(727)	
↓ 604(313)		54(59) ↓		↓ 176(228)		735(1558) ↓	
173(119) ↓		1(1) ↓		13(20) ↓		418(857) ↓	
724(1077) ↓		34(57) ↓		84(162) ↓			
210(284) ↓		37(30) ↓		9(29) ↓			
356(335) ↓		901(1139) ↑		21(20) ↓			
420(265) ↓		4(3) ↓		727(834) ↑			
225(578) ↓		21,550		297(258) ↓			
28,250		2,750		4,200		25,400	
52,550		2,750		4,200		62,550	
9 I-215 NB Ramps & Ramona Exwy.		10 I-215 SB Ramps & Placentia Av.		11 I-215 NB Ramps & Placentia Av.			
32,650		9,750		9,050			
64,450		221(142)		39,200			
↑ 1313(1529)		↓ 0(1)		↑ 402(481)			
↑ 1363(1340)		376(521)		↑ 465(869)			
271(675) ↓		↑ 573(622)		152(270) ↓			
1975(2746) ↓		200(483)		768(1096) ↓			
814(539) ↑		543(845) ↓		307(238) ↓			
3(3) ↑		186(325) ↓		444(349) ↓			
657(496) ↑							
16,450		26,450		9,600		9,400	
59,800		26,450		33,700		9,400	

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

TABLE 6-1: INTERSECTION ANALYSIS FOR EAPC (2025) CONDITIONS

# Intersection	Traffic Control ²	Delay ¹ (secs.)		Level of Service	
		AM	PM	AM	PM
1 Driveway 1 & Rider St.	CSS	8.7	8.7	A	A
2 Patterson Av. & Rider St.	CSS	10.6	10.1	B	B
3 Patterson Av. & Driveway 2	CSS	9.2	9.0	A	A
4 Patterson Av. & Driveway 3	CSS	8.4	8.5	A	A
5 Harvill Av. & Cajalco Exwy.	TS	151.6	>200.0	F	F
6 Harvill Av. & Rider St.	AWS	139.3	>200.0	F	F
7 Harvill Av. & Placentia Av.	TS	99.4	183.9	F	F
8 I-215 SB Ramps & Ramona Exwy.	TS	183.6	>200.0	F	F
9 I-215 NB Ramps & Ramona Exwy.	TS	>200.0	>200.0	F	F
10 I-215 SB Ramps & Placentia Av.	TS	27.9	25.7	C	C
11 I-215 NB Ramps & Placentia Av.	TS	35.1	24.9	D	C

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; AWS = All-Way Stop; **CSS** = Improvement

6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAPC (2025) traffic conditions are based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. There are no study area additional intersections anticipated to meet either peak hour or planning level (ADT) warrants for EAPC (2025) traffic conditions in addition to the locations previously warranted under EAP traffic conditions (see Appendix 6.2).

6.5 QUEUING ANALYSIS

Queuing analysis findings for EAPC (2025) are presented on Table 6-2. As shown on Table 6-2, the following movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAPC (2025) traffic conditions

- I-215 SB Ramps & Ramona Exwy. (#9): Southbound Left (AM and PM peak hours, Southbound Left-Through (AM and PM peak hours), and Southbound Right (AM peak hour only)
- I-215 NB Ramps & Ramona Exwy. (#10): Northbound Right (AM peak hour only)

Worksheets for EAPC (2025) traffic conditions queuing analysis are provided in Appendix 6.3.

TABLE 6-2: PEAK HOUR QUEUING SUMMARY FOR EAPC (2025) CONDITIONS

Intersection	Movement	Available Stacking Distance	95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak	PM Peak	AM	PM
I-215 SB Ramps & Ramona Exwy.	SBL	530	1,311 ²	1,423 ²	No	No
	SBT	1,100	1,315 ²	1,434 ²	No	No
	SBR	530	980 ²	364 ²	No	Yes
I-215 NB Ramps & Ramona Exwy.	NBL	520	474	282	Yes	Yes
	NBT	1,120	482 ²	286	Yes	Yes
	NBR	520	1,008 ^{2,3}	631 ^{2,3}	No	Yes
I-215 SB Ramps & Placentia Av.	SBL	1,530	185	263 ²	Yes	Yes
	SBT	1,530	185	266 ²	Yes	Yes
	SBR	350	94	41	Yes	Yes
I-215 NB Ramps & Placentia Av.	NBL	575	118	117	Yes	Yes
	NBT	1,600	118	117	Yes	Yes
	NBR	1,600	452 ²	326 ²	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 Freeway mainline.

6.6 NEAR-TERM DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. Based on the County of Riverside deficiency criteria discussed in Section 2.6 Deficiency Criteria, roadway intersections were found to be deficient. Improvements necessary to improve project-related traffic deficiencies are shown in Table 6-3. Table 6-3 indicates the physical improvements needed to address LOS deficiencies at each of the study area intersections under EAPC (2025) traffic conditions. The improvements have been identified to improve the EAPC (2025) deficiencies back to acceptable levels. Intersection analysis worksheets for EAPC (2025) traffic conditions, with improvements, are provided in Appendix 6.4.

TABLE 6-3: INTERSECTION ANALYSIS FOR EAPC (2025) CONDITIONS WITH IMPROVEMENTS

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ²		Level of Service		
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM	
			L	T	R	L	T	R	L	T	R	L	T	R					
1	Harvill Av. & Cajalco Exwy.																		
	- Without Improvements	TS	2	2	0	2	2	0	1	2	1	2	2	1>	151.6	>200.0	F	F	
	- With Improvements	TS	2	2	0	2	2	0	1	3	1	2	3	1>	53.3	53.1	D	D	
6	Harvill Av. & Rider St.																		
	- Without Improvements	AWS	1	2	0	1	2	0	1	1	1	1	1	1	139.3	>200.0	F	F	
	- With Improvements	TS	1	2	0	1	2	0	1	1	1	1	1	1	10.8	11.7	B	B	
7	Harvill Av. & Placentia Av.																		
	- Without Improvements	TS	1	2	0	1	2	0	1	1	0	2	1	1>	99.4	183.9	F	F	
	- With Improvements	TS	1	2	1>	2	2	0	1	1	0	2	1	2>	22.9	45.4	C	D	
8	I-215 SB Ramps & Ramona Exwy.																		
	- Without Improvements	TS	0	0	0	1	1	1	0	2	0	1	2	0	183.6	>200.0	F	F	
	- With Improvements	TS	0	0	0	2	1	1	0	3	1	2	3	0	35.6	54.6	D	D	
9	I-215 NB Ramps & Ramona Exwy.																		
	- Without Improvements	TS	1	1	1	0	0	0	1	2	0	0	2	1	>200.0	>200.0	F	F	
	- With Improvements	TS	1	1	1	0	0	0	2	3	0	0	3	1>>	36.2	33.1	D	C	

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

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

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

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

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

With the proposed intersection improvements at the I-215 Southbound Ramps and Ramona Expressway, the peak hour queues are also anticipated to improve (see Table 6-4). The I-215 Southbound Ramps also require southbound left turn storage of 700-feet to accommodate the anticipated future peak hour queues.

TABLE 6-4: PEAK HOUR QUEUING SUMMARY FOR EAPC (2025) CONDITIONS WITH IMPROVEMENTS

Intersection	Movement	Available Stacking Distance	95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak	PM Peak	AM	PM
I-215 SB Ramps & Ramona Exwy.	SBL	700	429	696 ²	Yes	Yes
	SBT	1,100	481	789 ²	Yes	Yes
	SBR	530	804 ^{2,3}	349	Yes	Yes
I-215 NB Ramps & Ramona Exwy.	NBL	520	377	309	Yes	Yes
	NBT	1,120	382	314	Yes	Yes
	NBR	520	930 ^{2,3}	696 ^{2,3}	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 Freeway mainline.

7 HORIZON YEAR (2045) TRAFFIC CONDITIONS

This section discusses the methods used to develop Horizon Year (2045) Without and With Project traffic forecasts, and the resulting intersection operations, traffic signal warrant, and queuing analyses.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Horizon Year (2045) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Horizon Year (2045) conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Horizon Year (2045) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages).
- The I-215 Freeway/Placentia Avenue interchange is assumed to be completed and in place.
- The MCP is assumed to be constructed and in place.

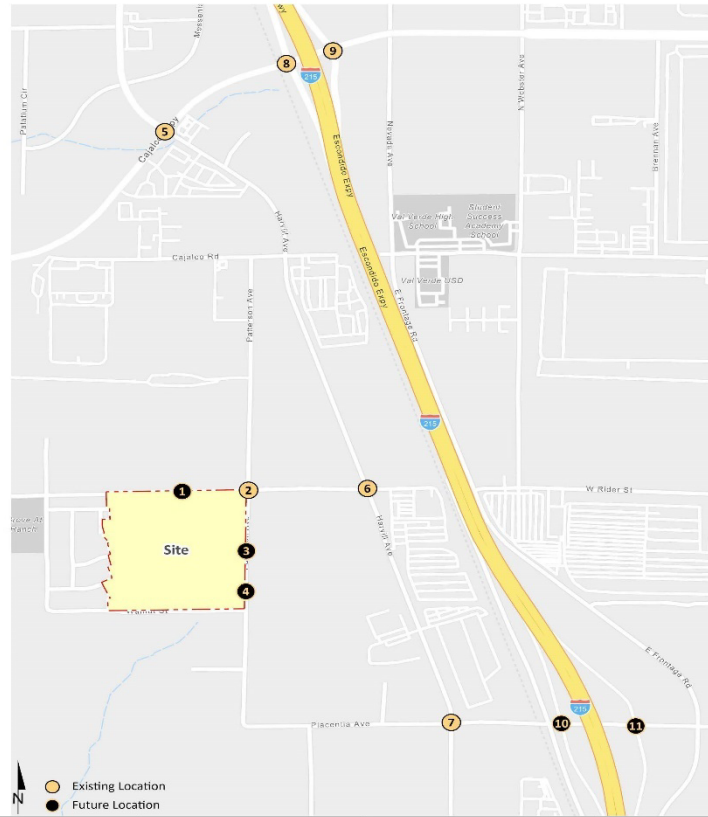
7.2 HORIZON YEAR (2045) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-processed volumes obtained from the RIVCOM consistent with the currently adopted General Plan Circulation Element (see Section 4.8 Horizon Year Volume Development of this TA for a detailed discussion on the post-processing methodology). The Horizon Year (2045) Without Project traffic forecasts reflect the future roadway network contemplated by the County's General Plan, which includes the MCP. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2045) Without Project traffic conditions are shown on Exhibit 7-1.

7.3 HORIZON YEAR (2045) WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-processed volumes obtained from the RIVCOM consistent with the currently adopted General Plan Circulation Element and includes the MCP, plus proposed Project volumes. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2045) With Project traffic conditions are shown on Exhibit 7-2.

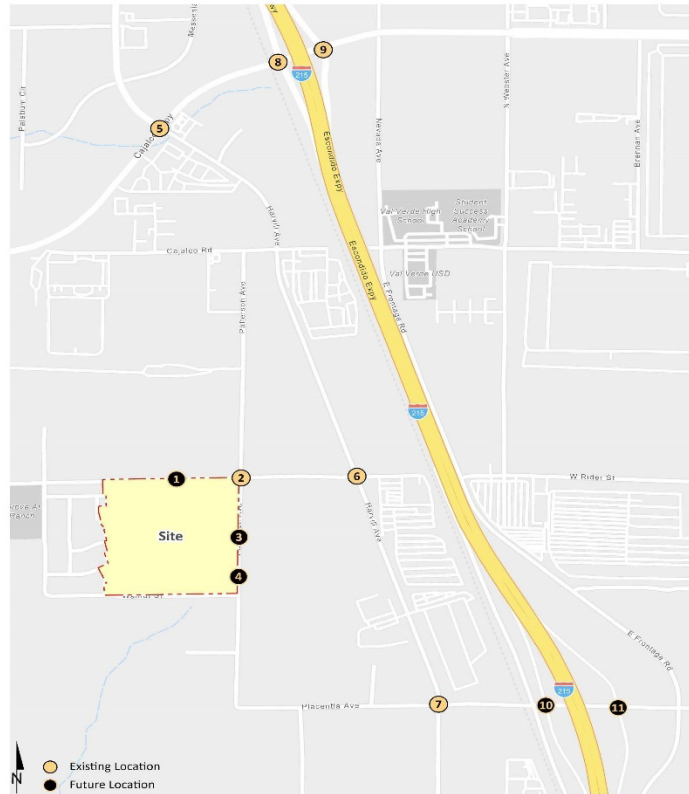
EXHIBIT 7-1: HORIZON YEAR (2045) WITHOUT PROJECT TRAFFIC VOLUMES



1 Driveway 1 & Rider St.		2 Patterson Av. & Rider St.		3 Patterson Av. & Driveway 2		4 Patterson Av. & Driveway 3	
1,750		200		300		300	
← 68(79)		5(5) ↓ 5(5) ↑ 5(9)		16(19) ↓		16(19) ↓	
192(139) →		181(128) ↓ 6(6)		5(5) ↑ 5(5) → 9(5) ↑		19(15) ↑	
1,750		1,750		300		300	
5 Harvill Av. & Cajalco Exwy.		6 Harvill Av. & Rider St.		7 Harvill Av. & Placentia Av.		8 I-215 SB Ramps & Ramona Exwy.	
28,450		19,700		37,600		52,350	
77(174) ↓ 211(520) ↑ 424(938)		24(40) ↓ 1609(1321) ↑ 16(14)		13(9) ↓ 792(1323) ↑ 428(914)		357(390) ↓ 112 ↑ 753(930)	
↑ 763(480) ↑ 1032(864) ↓ 627(324)		64(32) ↓ 11(10) ↓ 120(101)		14(21) ↓ 81(147) 9(26)		↑ 620(524) ↑ 111(94) ↑ 185(239)	
182(125) → 852(1131) ↓ 213(522) ↓		34(28) ↑ 946(1196) ↑ 4(6)		19(19) ↑ 1596(874) ↑ 312(271) ↑		1013(976) ↓ 418(429) ↓	
380(342) 464(267) ↑ 234(598)		29,100		22,500		26,550	
55,000		2,200		3,950		69,000	
9 I-215 NB Ramps & Ramona Exwy.		10 I-215 SB Ramps & Placentia Av.		11 I-215 NB Ramps & Placentia Av.			
34,200		10,250		9,550		41,150	
656(765) ↑ 1363(1733)		232(149) ↓ 0(1) ↑ 395(547)		685(709) ↑ 210(507)		423(505) ↑ 588(977)	
133(331) → 1632(1576) →		633(1013) → 188(320) ↓		159(283) → 868(1277) →		306(240) ↑ 466(367) ↑	
407(346) 2(2) 696(495)		17,250		9,850		9,650	
17,250		27,350		35,150			

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

EXHIBIT 7-2: HORIZON YEAR (2045) WITH PROJECT TRAFFIC VOLUMES



1	2	3	4																																																
Driveway 1 & Rider St.	Patterson Av. & Rider St.	Patterson Av. & Driveway 2	Patterson Av. & Driveway 3																																																
<table border="1"> <tr><td>2,000</td></tr> <tr><td>← 68(84)</td></tr> <tr><td>↑ 3(4)</td></tr> <tr><td>196(141) →</td></tr> <tr><td>3(4) ↑</td></tr> <tr><td>1,850</td></tr> </table>	2,000	← 68(84)	↑ 3(4)	196(141) →	3(4) ↑	1,850	<table border="1"> <tr><td>200</td></tr> <tr><td>5(5) ↓</td></tr> <tr><td>5(5) ↓</td></tr> <tr><td>5(9) ↓</td></tr> <tr><td>5(5) ↓</td></tr> <tr><td>183(132) →</td></tr> <tr><td>11(8) ↓</td></tr> <tr><td>6(11) ↑</td></tr> <tr><td>5(5) →</td></tr> <tr><td>16(95) ↑</td></tr> <tr><td>2,700</td></tr> </table>	200	5(5) ↓	5(5) ↓	5(9) ↓	5(5) ↓	183(132) →	11(8) ↓	6(11) ↑	5(5) →	16(95) ↑	2,700	<table border="1"> <tr><td>950</td></tr> <tr><td>14(7) ↓</td></tr> <tr><td>32(29) ↓</td></tr> <tr><td>8(37) ↓</td></tr> <tr><td>1(3) ↓</td></tr> <tr><td>19(10) ↑</td></tr> <tr><td>19(15) ↑</td></tr> <tr><td>700</td></tr> </table>	950	14(7) ↓	32(29) ↓	8(37) ↓	1(3) ↓	19(10) ↑	19(15) ↑	700	<table border="1"> <tr><td>750</td></tr> <tr><td>16(10) ↓</td></tr> <tr><td>17(22) ↓</td></tr> <tr><td>7(24) ↓</td></tr> <tr><td>38(25) →</td></tr> <tr><td>450</td></tr> </table>	750	16(10) ↓	17(22) ↓	7(24) ↓	38(25) →	450																	
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<table border="1"> <tr><td>34,250</td></tr> <tr><td>656(765) ↑</td></tr> <tr><td>1364(1734) ↑</td></tr> <tr><td>135(338) ↓</td></tr> <tr><td>1632(1578) ↓</td></tr> <tr><td>407(346) ↑</td></tr> <tr><td>2(2) ↑</td></tr> <tr><td>696(495) ↑</td></tr> <tr><td>67,650</td></tr> </table>	34,250	656(765) ↑	1364(1734) ↑	135(338) ↓	1632(1578) ↓	407(346) ↑	2(2) ↑	696(495) ↑	67,650	<table border="1"> <tr><td>10,250</td></tr> <tr><td>232(149) ↓</td></tr> <tr><td>0(1) ↓</td></tr> <tr><td>395(547) ↓</td></tr> <tr><td>703(720) ↑</td></tr> <tr><td>210(507) ↑</td></tr> <tr><td>633(1015) ↓</td></tr> <tr><td>195(342) ↓</td></tr> <tr><td>35,400</td></tr> </table>	10,250	232(149) ↓	0(1) ↓	395(547) ↓	703(720) ↑	210(507) ↑	633(1015) ↓	195(342) ↓	35,400	<table border="1"> <tr><td>9,550</td></tr> <tr><td>423(505) ↑</td></tr> <tr><td>589(978) ↑</td></tr> <tr><td>159(283) ↓</td></tr> <tr><td>868(1279) ↓</td></tr> <tr><td>323(250) ↑</td></tr> <tr><td>466(367) ↑</td></tr> <tr><td>41,200</td></tr> </table>	9,550	423(505) ↑	589(978) ↑	159(283) ↓	868(1279) ↓	323(250) ↑	466(367) ↑	41,200																							
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58,250	17,250	10,100	9,850																																																
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##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

7.4 INTERSECTION OPERATIONS ANALYSIS

7.4.1 HORIZON YEAR (2045) WITHOUT PROJECT TRAFFIC CONDITIONS

Level of service calculations were conducted for the study intersections to evaluate their operations under Horizon Year (2045) Without Project traffic conditions with existing roadway and intersection geometrics consistent with those described under Section 7.1 Roadway Improvements. As shown in Table 7-1, the following study area intersections are anticipated to operate at an unacceptable LOS under Horizon Year (2045) Without Project traffic conditions:

- Harvill Av. & Cajalco Exwy. (#5) – LOS F AM and PM peak hours
- Harvill Av. & Rider St. (#6) – LOS F AM and PM peak hours
- Harvill Av. & Placentia Av. (#7) – LOS F AM and PM peak hours
- I-215 SB Ramps & Ramona Exwy. (#8) – LOS F AM and PM peak hours
- I-215 NB Ramps & Ramona Exwy. (#9) – LOS E AM peak hour; LOS F PM peak hour

TABLE 7-1: INTERSECTION ANALYSIS FOR HORIZON YEAR (2045) WITHOUT MID-COUNTY PARKWAY CONDITIONS

#	Intersection	Traffic Control ²	2045 Without Project				2045 With Project			
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Driveway 1 & Rider St.	CSS	Future Intersection				9.4	9.1	A	A
2	Patterson Av. & Rider St.	CSS	11.4	10.4	B	B	12.6	11.1	B	B
3	Patterson Av. & Driveway 2	CSS	Future Intersection				9.3	9.1	A	A
4	Patterson Av. & Driveway 3	CSS	Future Intersection				8.4	8.5	A	A
5	Harvill Av. & Cajalco Exwy.	TS	168.8	>200.0	F	F	170.0	>200.0	F	F
6	Harvill Av. & Rider St.	AWS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
7	Harvill Av. & Placentia Av.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F
8	I-215 SB Ramps & Ramona Exwy.	TS	96.0	196.3	F	F	96.4	196.8	F	F
9	I-215 NB Ramps & Ramona Exwy.	TS	56.8	150.6	E	F	57.5	151.4	E	F
10	I-215 SB Ramps & Placentia Av.	TS	28.0	25.7	C	C	28.1	25.7	C	C
11	I-215 NB Ramps & Placentia Av.	TS	40.2	27.0	D	C	40.1	27.0	D	C

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; AWS = All-Way Stop; **CSS** = Improvement

The intersection operations analysis worksheets for Horizon Year (2045) Without Project traffic conditions are included in Appendix 7.1 of this report.

7.4.2 HORIZON YEAR (2045) WITH PROJECT TRAFFIC CONDITIONS

As shown in Table 7-1, there are no additional study area intersections anticipated to operate at an unacceptable LOS with the addition of Project traffic, in addition to the intersections previously identified under Horizon Year (2045) Without Project traffic conditions. The intersection operations analysis worksheets for Horizon Year (2045) With Project traffic conditions are included in Appendix 7.2 of this report.

7.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for Horizon Year (2045) traffic conditions are based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. There are no study area additional intersections anticipated to meet either peak hour or planning level (ADT) warrants for Horizon Year (2045) Without and With Project traffic conditions in addition to the locations previously warranted under EAP traffic conditions (see Appendix 7.3 and Appendix 7.4, respectively).

7.6 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for Horizon Year (2045) Without and With Project traffic conditions are presented on Table 7-2. As shown on Table 7-2, the following movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Horizon Year (2045) Without and With Project traffic conditions:

- I-215 SB Ramps & Ramona Exwy. (#9): Southbound Left (AM and PM peak hours, Southbound Left-Through (AM and PM peak hours), and Southbound Right (AM peak hour only)
- I-215 NB Ramps & Ramona Exwy. (#10): Northbound Right (AM peak hour only)

Worksheets for Horizon Year (2045) Without and With Project traffic conditions queuing analysis are provided in Appendix 7.5 and Appendix 7.6, respectively.

TABLE 7-2: PEAK HOUR QUEUING SUMMARY FOR HORIZON YEAR (2045) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	2045 Without Project				2045 With Project			
			95th Percentile Queue (Feet)		Acceptable? ¹		95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak	PM Peak	AM	PM	AM Peak	PM Peak	AM	PM
I-215 SB Ramps & Ramona Exwy.	SBL	530	568 ²	593 ²	Yes	Yes	568 ²	593 ²	Yes	Yes
	SBT	1,100	571 ²	603 ²	Yes	Yes	571 ²	603 ²	Yes	Yes
	SBR	530	317	404 ²	Yes	Yes	325	410 ²	Yes	Yes
I-215 NB Ramps & Ramona Exwy.	NBL	520	204	180	Yes	Yes	204	180	Yes	Yes
	NBT	1,120	206	181	Yes	Yes	206	181	Yes	Yes
	NBR	520	1,083 ²	630 ²	Yes	Yes	1,083 ²	630 ²	Yes	Yes
I-215 SB Ramps & Placentia Av.	SBL	1,530	193	294 ²	Yes	Yes	193	294 ²	Yes	Yes
	SBL/T	1,530	193	296 ²	Yes	Yes	193	296 ²	Yes	Yes
	SBR	350	134	42	Yes	Yes	139	42	Yes	Yes
I-215 NB Ramps & Placentia Av.	NBL	575	117	116	Yes	Yes	125	123	Yes	Yes
	NBL/T	1,600	117	117	Yes	Yes	125	123	Yes	Yes
	NBR	1,600	494 ²	353 ²	Yes	Yes	494 ²	353 ²	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 Freeway mainline.

7.7 LONG-RANGE DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

Improvement strategies have been recommended at intersections and freeway facilities that have been identified as deficient under Horizon Year (2045) traffic conditions in an effort to achieve an acceptable LOS (i.e., LOS D or better).

The effectiveness of the recommended improvement strategies to address Horizon Year (2045) traffic deficiencies are presented in Table 7-3. If not constructed by the Project, the Project Applicant shall contribute to these improvements through payment of County DIF/TUMF fees or fair share contribution as identified in Table 1-3. Worksheets for Horizon Year (2045) With Project conditions, with improvements, HCM calculation worksheets are provided in Appendix 7.7.

With the proposed intersection improvements at the I-215 Southbound Ramps and Ramona Expressway, the peak hour queues are also anticipated to improve (see Table 7-4). The I-215 Southbound Ramps also require southbound left turn storage of 700-feet to accommodate the anticipated future peak hour queues (per EAPC results although not needed for long-range traffic conditions).

TABLE 7-3: INTERSECTION ANALYSIS FOR HORIZON YEAR (2045) WITHOUT MID-COUNTY PARKWAY CONDITIONS WITH IMPROVEMENTS

# Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
		Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
1 Harvill Av. & Cajalco Exwy.																	
- Without Improvements	TS	2	2	0	2	2	0	1	2	1	2	2	1>	170.0	>200.0	F	F
- With Improvements	TS	2	2	1>	2	2	1	1	3	1>	2	3	1>	54.5	52.6	D	D
6 Harvill Av. & Rider St.																	
- Without Improvements	AWS	1	2	0	1	2	0	1	1	1	1	1	1	>200.0	>200.0	F	F
- With Improvements	TS	1	2	0	1	2	0	1	1	1	1	1	1	17.2	14.5	B	B
7 Harvill Av. & Placentia Av.																	
- Without Improvements	TS	1	2	0	1	2	0	1	1	0	2	1	1>	>200.0	>200.0	F	F
- With Improvements	TS	1	2	1>	2	2	0	1	1	0	2	1	2>	53.9	53.6	D	D
8 I-215 SB Ramps & Ramona Exwy.																	
- Without Improvements	TS	0	0	0	1	1	1	0	2	0	1	2	0	96.4	196.8	F	F
- With Improvements	TS	0	0	0	2	1	1	0	3	1	2	3	0	32.1	36.0	C	D
9 I-215 NB Ramps & Ramona Exwy.																	
- Without Improvements	TS	1	1	1	0	0	0	1	2	0	0	2	1	57.5	151.4	E	F
- With Improvements	TS	1	1	1	0	0	0	2	3	0	0	3	1>>	30.9	31.5	C	C

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

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

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

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

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

TABLE 7-4: PEAK HOUR QUEUING SUMMARY FOR HORIZON YEAR (2045) CONDITIONS WITH IMPROVEMENTS

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak	PM Peak	AM	PM
I-215 SB Ramps & Ramona Exwy.	SBL	700	280	303	Yes	Yes
	SBT	1,100	317	348	Yes	Yes
	SBR	530	315	420 ²	Yes	Yes
I-215 NB Ramps & Ramona Exwy.	NBL	520	149	180	Yes	Yes
	NBT	1,120	151	181	Yes	Yes
	NBR	520	898 ²	630 ²	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-215 Freeway mainline.

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8 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.

8.1 RIVERSIDE COUNTY TRANSPORTATION UNIFORM MITIGATION FEE (TUMF)

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

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

8.3 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.

8.4 FAIR SHARE CONTRIBUTION

Project improvements may include a combination of fee payments to established programs, construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate. When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. Detailed fair share calculations, for each peak hour, have been provided in Table 8-1 for the applicable deficient study area intersections. These fees are collected with the proceeds solely used as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected population increases.

TABLE 8-1: PROJECT FAIR SHARE CALCULATIONS

#	Intersection	Existing	Project Only	2045 WP	Net New Traffic	Project % of New Traffic	
5	Harvill Av. & Cajalco Exwy.	AM:	2,761	39	5,960	3,199	1.2%
		PM:	2,811	52	6,708	3,897	1.3%
7	Harvill Av. & Placentia Av.	AM:	857	44	4,500	3,643	1.2%
		PM:	806	54	4,651	3,845	1.4%
8	I-215 SB Ramps & Ramona Exwy.	AM:	3,599	12	4,866	1,267	0.9%
		PM:	3,586	15	5,217	1,631	0.9%
9	I-215 NB Ramps & Ramona Exwy.	AM:	4,379	5	5,599	1,220	0.4%
		PM:	4,164	12	5,756	1,592	0.8%

BOLD = Denotes highest fair share percentage.

9 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. **Institute of Transportation Engineers.** Trip Generation Manual. 11th Edition. 2021.
4. **Western Riverside Council of Governments.** TUMF Nexus Study, 2016 Program Update. July 2017.
5. **VRPA Technologies, Inc. for Riverside County Transportation Commission.** Riverside County Long Range Transportation Study. County of Riverside : VRPA Technologies, Inc., December 2019.
6. **Transportation Research Board.** Highway Capacity Manual (HCM). 6th Edition. s.l. : National Academy of Sciences, 2016.
7. **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).
8. **Southern California Association of Governments (SCAG).** 2020 Regional Transportation Plan / Sustainable Communities Strategy. Adopted September 2020.
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. PPT220004

Related Cases-

 SP No. _____

 EIR No. _____

 GPA No. _____

 CZ No. _____

Project Name: Rider & Patterson Business Center

Project Address: Southwest corner of Patterson Avenue and Rider Street

Project Description: 591,203 square foot warehouse building and 2 single family detached residential Lots

	<u>Consultant</u>	<u>Developer Representative</u>
Name:	<u>Urban Crossroads Inc. - Charlene So</u>	<u>T&B Planning - Tracy Zinn</u>
Address:	<u>1133 Camelback St. #8329</u> <u>Newport Beach, CA 92658</u>	<u>3200 El Camino Real, Suite 100</u> <u>Irvine, CA 92602</u>
Telephone:	<u>(949) 861-0177</u>	<u>714-505-6360</u>
Fax:	_____	_____

A. Trip Generation Source: WSP, January 2019 + ITE Trip Generation Manual (11th Edition, 2021)

Current GP Land Use	<u>Medium Density Residential (MDR)</u>	Proposed Land Use	<u>Light Industrial (IP) on 37.04 ac, 3.44 ac to remain MDR</u>
Current Zoning	<u>R-1, A-1-1, R-R-1</u>	Proposed Zoning	<u>I-P on 37.04 ac, 3.44 ac will remain R-1</u>

	<u>Current Trip Generation</u>			<u>Proposed Trip Generation</u>			
	<u>In</u>	<u>Out</u>	<u>Total</u>	<u>In</u>	<u>Out</u>	<u>Total</u>	
AM Trips	_____	_____	_____	62	30	92	(PCE)
PM Trips	_____	_____	_____	39	78	117	(PCE)

Internal Trip Allowance	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	(<u>0</u> % Trip Discount)
Pass-By Trip Allowance	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	(<u>0</u> % 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: 2025 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: RivTAM



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. <u>Driveway 1 & Rider St.</u> | 11. <u>I-215 NB Ramps & Placentia Av.</u> |
| 2. <u>Patterson Av. & Rider St.</u> | 12. _____ |
| 3. <u>Patterson Av. & Driveway 2</u> | 13. _____ |
| 4. <u>Patterson Av. & Driveway 3</u> | 14. _____ |
| 5. <u>Harvill Av. & Cajalco Exwy.</u> | 15. _____ |
| 6. <u>Harvill Av. & Rider St.</u> | 16. _____ |
| 7. <u>Harvill Av. & Placentia Av.</u> | 17. _____ |
| 8. <u>I-215 SB Ramps & Ramona Exwy.</u> | 18. _____ |
| 9. <u>I-215 NB Ramps & Ramona Exwy.</u> | 19. _____ |
| 10. <u>I-215 SB Ramps & Placentia Av.</u> | 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.

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 S 8/2/2022
 Consultant's Representative Date

Approved Scoping Agreement:

Eva Contreras 08/15/2022
 Riverside County Transportation Department Date

Scoping Agreement Revised on 8/12/2022

August 12, 2022

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

RIDER & PATTERSON BUSINESS CENTER (PPT220004) TRAFFIC ANALYSIS SCOPING AGREEMENT

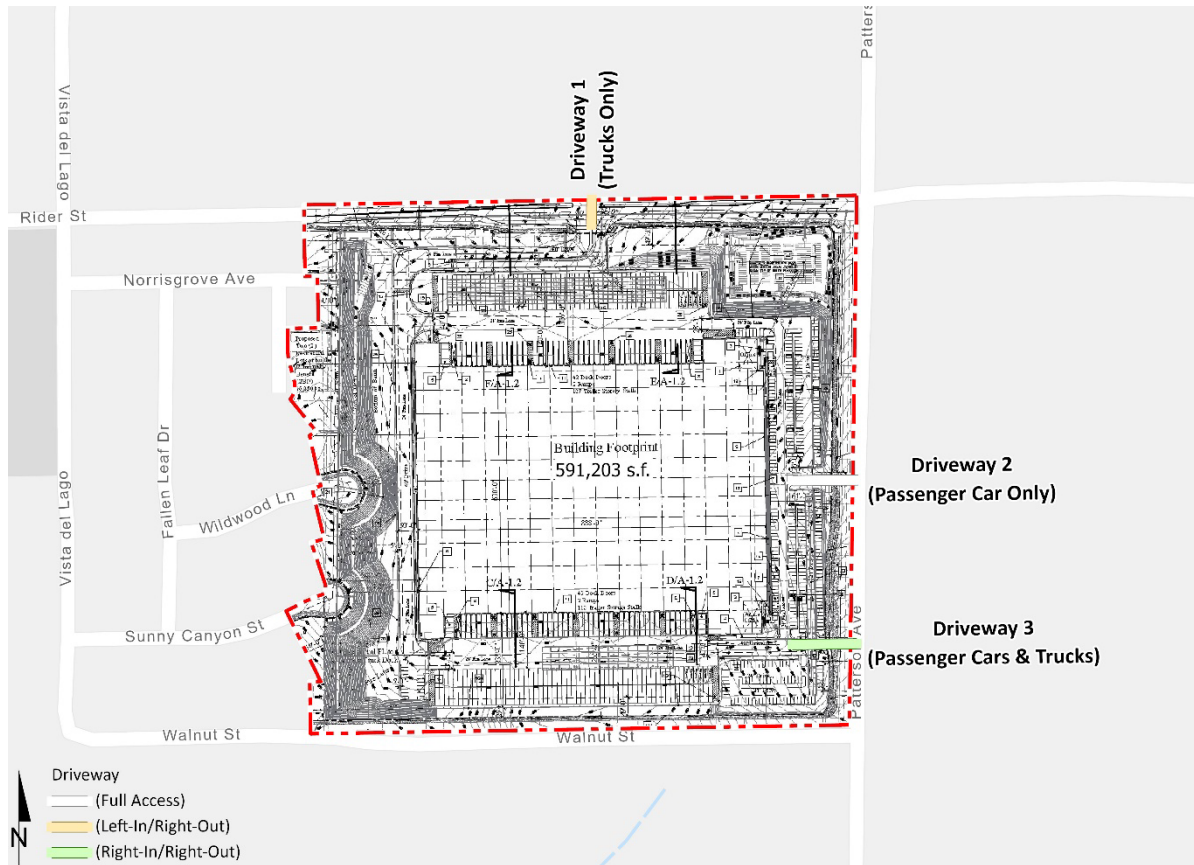
Mr. Kevin Tsang,

The firm of Urban Crossroads, Inc. is pleased to submit this scoping letter regarding the traffic analysis for Rider & Patterson Business Center development (**Project**), which is located on the southwest corner of Patterson Avenue and Rider 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 2025. The Project consists of the development of 591,203 square feet of high-cube fulfillment center warehouse use and 2 single family detached residential lots to be located on the existing Swallow Hills Circle. A preliminary site plan for the proposed Project is shown on Exhibit 1. Access to the Project site will be accommodated via Rider Street at Driveway 1 (trucks only) and via Patterson Avenue at Driveway 2 (passenger car only) and Driveway 3 (passenger cars and trucks).

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) and Institute of Transportation Engineers (ITE) [Trip Generation Manual](#) (11th Edition, 2021) were used to estimate the Project's trip generation. The following trip generation rate and vehicle mix 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 up to 591,203 square feet. The ITE [Trip Generation Manual](#) 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 fulfillment 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.

- The ITE Trip Generation Manual has been utilized to calculate the site-specific trip generation associated with 2 single family residential lots based on the Single Family Detached Housing (ITE Land Use Code 210) trip generation rates.

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			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicle Trip Generation Rates									
High-Cube Fulfillment Center Warehouse ³	TSF	--	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
Single Family Detached Housing	DU	210	0.18	0.52	0.70	0.59	0.35	0.94	9.43
Passenger Car Equivalent (PCE) Trip Generation									
High-Cube Fulfillment Center Warehouse ³	TSF	--	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

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

² TSF = thousand square feet; DU = Dwelling Units

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 PCE factors: 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 proposed Project in actual vehicles and PCE are shown on Table 2. The proposed Project (industrial and residential components) is anticipated to generate 1,280 two-way trip-ends per day with 72 AM peak hour trips and 99 PM peak hour trips (see Table 2). PCE based trip generation for the Project is also summarized on Table 2.

TABLE 2: PROJECT TRIP GENERATION SUMMARY

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
High-Cube Fulfillment Warehouse	591.203 TSF							
Passenger Cars:		47	14	61	24	61	85	1,036
2-4axle Trucks:		2	2	4	3	3	6	96
5+-axle Trucks:		3	3	6	3	3	6	128
Total Truck Trips (Actual Vehicles):		5	5	10	6	6	12	224
Total Trips (Actual Vehicles) ²		52	19	71	30	67	97	1,260
Single Family Detached Housing	2 DU	0	1	1	1	1	2	20
Total Project Trips (Actual Vehicles)²		52	20	72	31	68	99	1,280
Passenger Car Equivalent (PCE):								
High-Cube Fulfillment (WSP)	591.203 TSF							
Passenger Cars:		47	14	61	24	61	85	1,036
2-4axle Trucks:		5	5	10	6	7	13	192
5+-axle Trucks:		10	10	20	8	9	17	386
Total Truck Trips (PCE):		15	15	30	14	16	30	578
Total Trips (PCE) ²		62	29	91	38	77	115	1,614
Single Family Detached Housing	2 DU	0	1	1	1	1	2	20
Total Project Trips (PCE)²		62	30	92	39	78	117	1,634

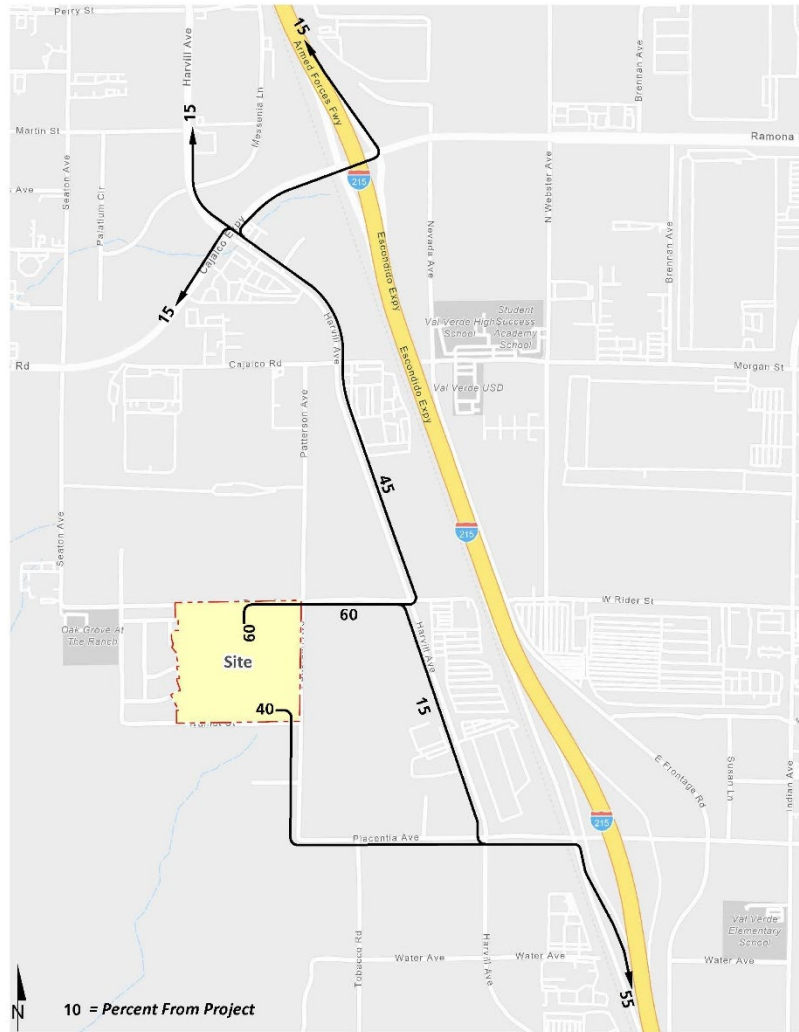
¹ TSF = thousand square feet; DU = dwelling units

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. Exhibit 3 also shows the trip distribution patterns for the residential land use. Although existing passenger car and truck trip distribution patterns have been reviewed based on recent intersection counts conducted for locations along the Harvill Avenue corridor, the proposed Project's travel patterns will be influenced by the Placentia Avenue at I-215 Freeway interchange which is anticipated to open to traffic in the next few months. As such, the Project's distribution patterns are consistent with those used for other similar projects along the Harvill Avenue corridor.

EXHIBIT 2: PROJECT (TRUCK) TRIP DISTRIBUTION



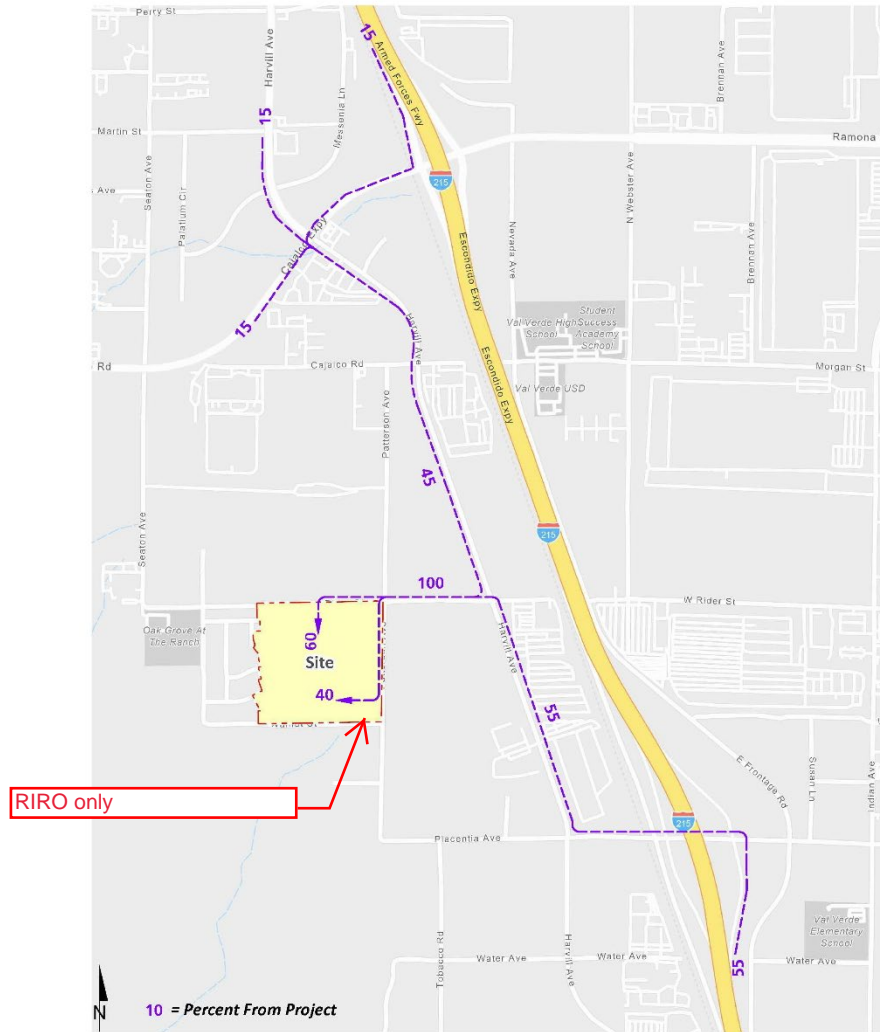
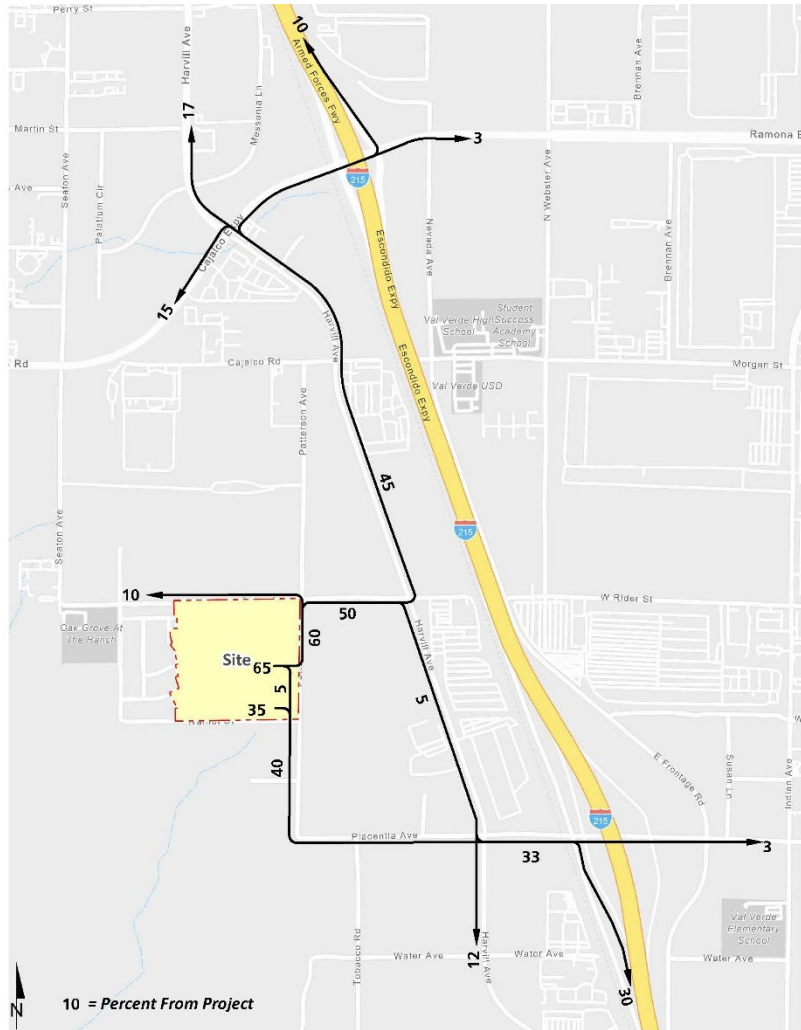
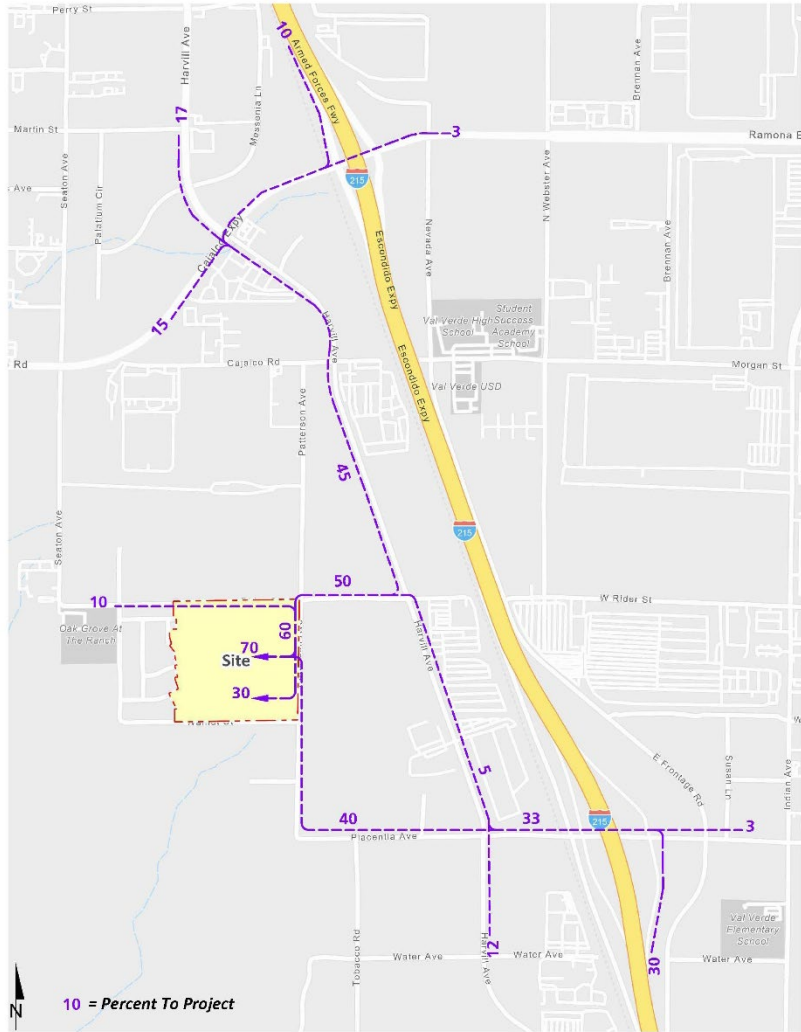


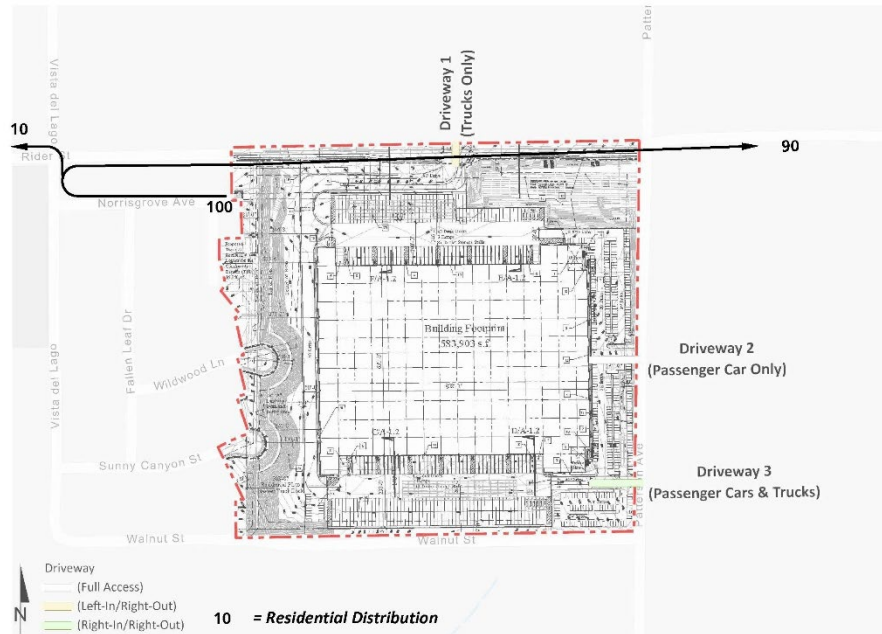
EXHIBIT 3: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION

Warehouse Passenger Cars:





Residential Passenger Cars:



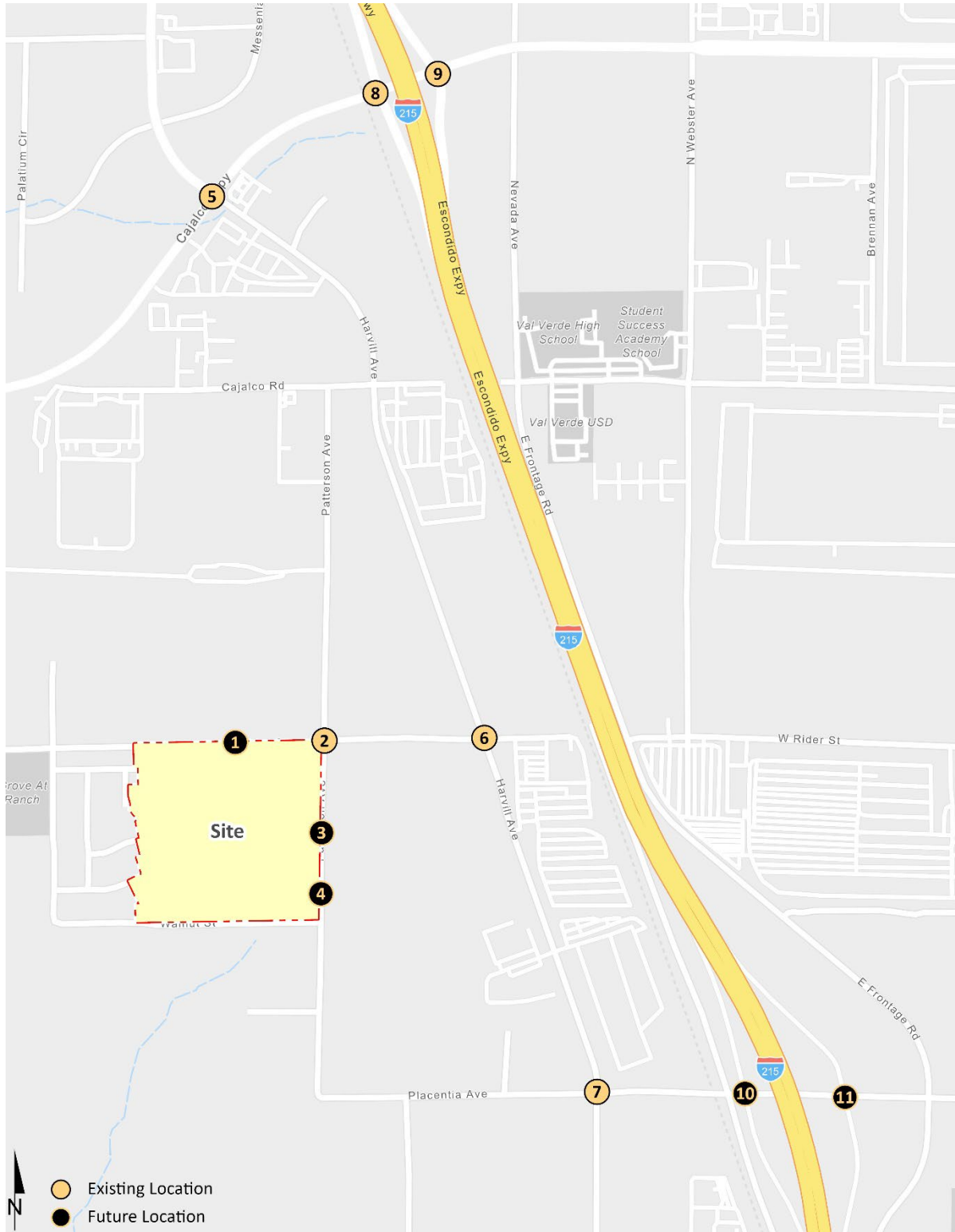
ANALYSIS SCENARIOS

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
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2024) Conditions
- Horizon Year (2045) Without and With Project conditions

All study area intersections will be evaluated using the Highway Capacity Manual (HCM) 6th Edition analysis methodology. It is requested that the County confirm whether the RivTAM or RIVCOM traffic model should be utilized for developing the Horizon Year (2045) long-range traffic forecasts. The study area that is proposed to be evaluated is shown on Exhibit 4.

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 Traffic Analysis. A preliminary map and summary table are provided on Exhibit 5 and Table 3.

EXHIBIT 5: CUMULATIVE DEVELOPMENT PROJECT LOCATION MAP

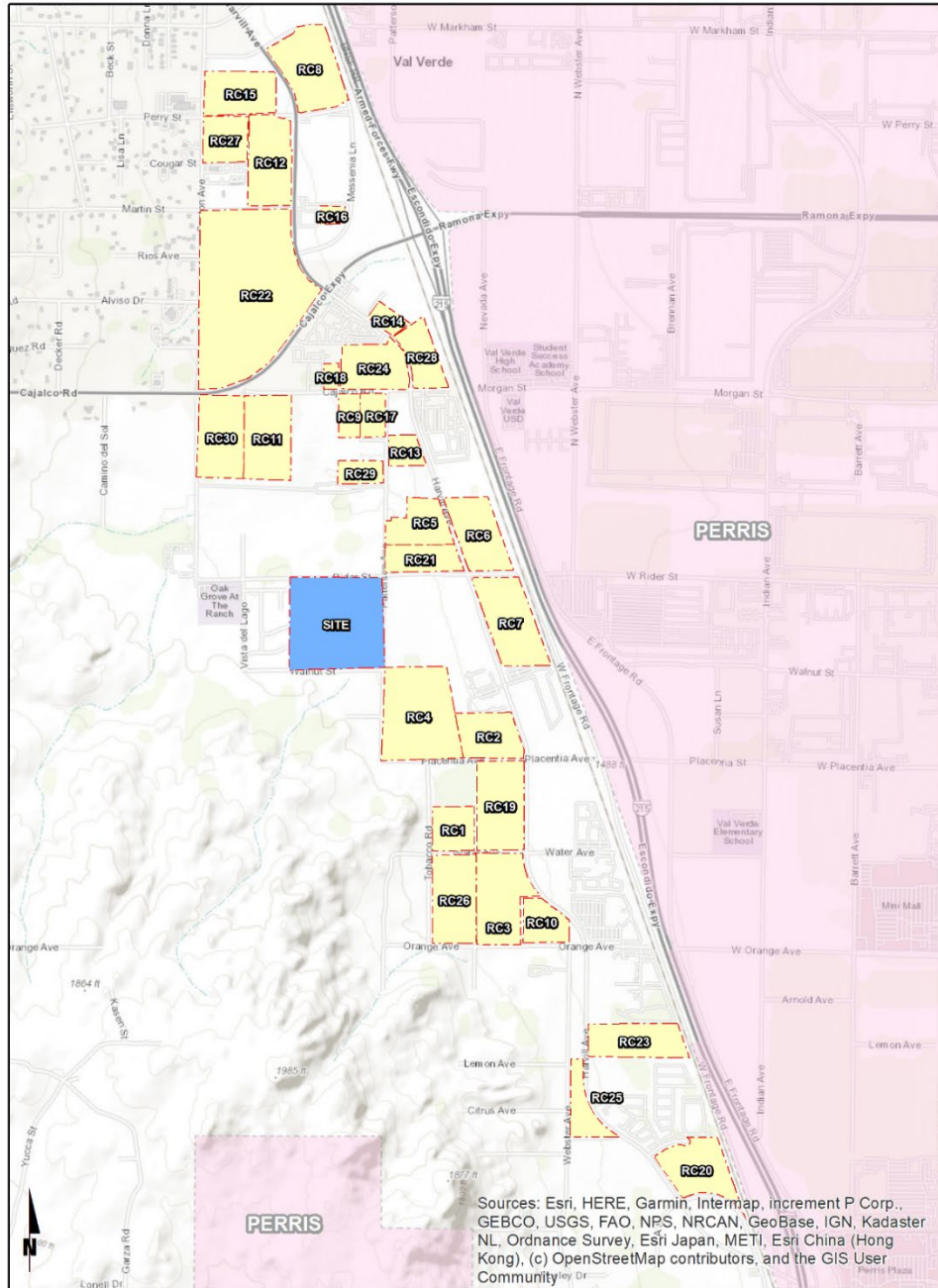


TABLE 3: SUMMARY OF CUMULATIVE DEVELOPMENT PROJECTS

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	Harvill & Water Logistics	SWC of Harvill Av. & Water St.	High-Cube Fulfillment Center Warehouse High-Cube Cold Storage Warehouse	304,376 TSF 130,447 TSF
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 High-Cube Transload Short-Term Warehouse	50,249 TSF 284,746 TSF
RC7	WPC Perris	SEC of Harvill Av. & Rider St.	High-Cube Fulfillment Center Warehouse High-Cube Cold Storage Warehouse	384,448 TSF 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 Old Cajalco Rd., 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	Patterson & Harvill Warehouse	East of Patterson Av., South of Old Cajalco Rd.	Warehousing & Cold Storage	100,190 TSF
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 Old Cajalco St., west of Harvill Av.	Manufacturing	22,000 TSF
RC18	PP16932	North of Old Cajalco 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
RC28	Harvill & Cajalco Warehouse	NEC of Harvill Av. & Old Cajalco Rd.	General Light Industrial & Truck Yard	99,770 TSF
RC29	Patterson & Cajalco Warehouse	West of Patterson Av., South of Old Cajalco Rd.	Warehousing & Cold Storage	107,968 TSF
RC30	Seaton & Cajalco High Cube Warehouse	SEC of Seaton Av. & Cajalco Rd.	Warehousing & Cold Storage	350,481 TSF

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

TRAFFIC COUNTS

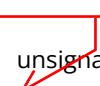
Traffic counts (classified by vehicle type) were conducted during a typical weekday in February 2022 when local schools are in session and operating on a typical bell schedule. No adjustments are proposed to the traffic counts for the baseline traffic condition. However, the baseline traffic counts will need to be modified to account for the I-215 Freeway and Placentia Avenue interchange. The adjusted baseline for the affected study intersections will be consistent with those used for other studies conducted in the area for all applicable future analysis scenarios. The I-215 Freeway and Placentia Avenue interchange is anticipated to be completed and open in Summer 2022.

SPECIAL ISSUES

The following special issues will also be addressed:

- VMT analysis will be evaluated in a separate document.
- Conduct traffic signal warrant analysis for all existing and future unsignalized study area intersections, which also include the future Project Driveways 1 and 2.
- Provide a queuing analysis for the Project driveways on Rider Street and Patterson Avenue.
- Prepare truck turns at the applicable Project driveways. Truck turn templates for the site access driveways will be based on the WB-67 truck template.

Conduct Warrants # 1 and #3



- Traffic Study will provide improvement recommendations to prohibit left turns at Driveway 3 on Patterson Avenue.

If you have any questions or comments, I can be reached at cs@urbanxroads.com.

Respectfully submitted,

URBAN CROSSROADS, INC.



Charlene So, PE
Principal

**ATTACHMENT A
EXISTING TRAFFIC COUNTS**

AM Peak Hour - Passenger Car Distribution

1: Harvill Av. & Cajalco Exwy.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	285	328	65	174	102	19	37	626	48	135	628	94	2541
Dist	17%	19%	4%										

3: Harvill Av. & Old Cajalco Rd.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	5	697	7	8	201	36	20	0	3	3	0	2	982
Dist										60%		40%	

6: I-215 SB Ramps & Ramona Exwy.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	0	0	0	619	1	144	0	650	307	281	943	0	2945
Dist													

7: I-215 NB Ramps & Ramona Exwy.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	314	3	552	0	0	0	100	1,169	0	0	910	599	3647
Dist							3%	1%					

PM Peak Hour - Passenger Car Distribution

1: Harvill Av. & Cajalco Exwy.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	159	140	116	218	200	32	22	686	200	101	597	175	2646
Dist	29%	26%	21%										
AM/PM Avg:	23%	22%	13%										

3: Harvill Av. & Old Cajalco Rd.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	4	323	2	4	416	22	54	0	13	5	0	16	859
Dist										24%		76%	
AM/PM Avg:										42%		58%	

6: I-215 SB Ramps & Ramona Exwy.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	0	0	0	760	4	135	0	820	323	346	821	0	3209
Dist													
AM/PM Avg:													

7: I-215 NB Ramps & Ramona Exwy.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	319	3	425	0	0	0	100	1,480	0	0	848	583	3758
Dist							16%	5%					
AM/PM Avg:							10%	3%					

AM Peak Hour - Truck Distribution

1: Harvill Av. & Cajalco Exwy.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	14	6	10	14	9	6	8	43	1	25	48	7	191
Dist	15%	7%	11%										

3: Harvill Av. & Old Cajalco Rd.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	1	44	0	1	24	6	9	0	1	2	0	1	89
Dist										67%		33%	

6: I-215 SB Ramps & Ramona Exwy.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	0	0	0	165	1	46	0	107	59	52	170	0	600
Dist													

7: I-215 NB Ramps & Ramona Exwy.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	73	1	49	0	0	0	47	225	0	0	149	114	658
Dist							6%	5%					

PM Peak Hour - Truck Distributon

1: Harvill Av. & Cajalco Exwy.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	4	4	6	4	7	3	1	31	8	19	32	15	134
Dist	11%	11%	17%										
AM/PM Avg:	14%	15%	10%										

3: Harvill Av. & Old Cajalco Rd.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	1	21	2	1	27	5	7	0	0	0	0	0	64
Dist													
AM/PM Avg:										60%		40%	

6: I-215 SB Ramps & Ramona Exwy.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	0	0	0	78	4	35	0	105	27	19	95	0	363
Dist													
AM/PM Avg:													

7: I-215 NB Ramps & Ramona Exwy.

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 Counts	52	2	45	0	0	0	18	165	0	0	62	61	405
Dist							12%	5%					
AM/PM Avg:							8%	3%					

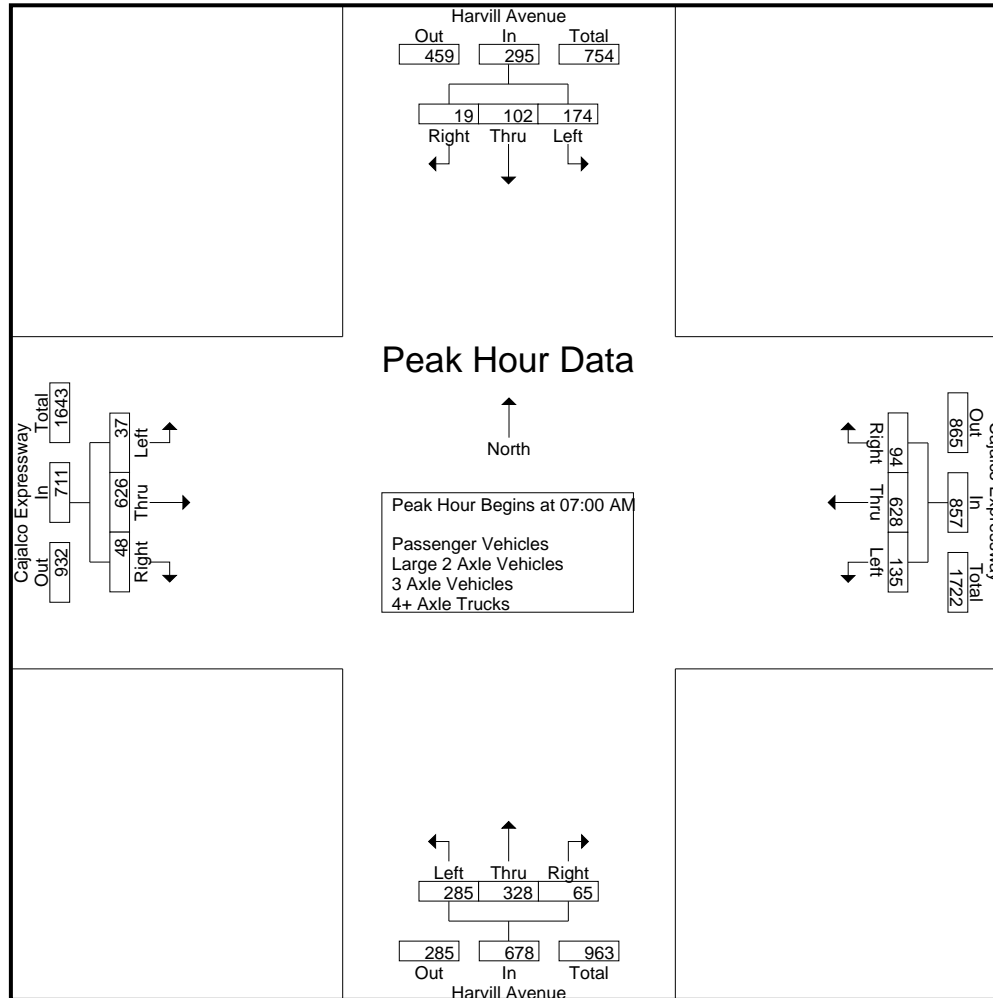
County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

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

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	52	24	5	1	81	34	177	13	12	224	79	80	10	14	169	9	130	7	6	146	33	620	653
07:15 AM	41	23	6	0	70	28	154	16	13	198	91	68	18	15	177	6	149	11	10	166	38	611	649
07:30 AM	35	23	6	1	64	43	167	34	23	244	61	94	13	10	168	9	180	18	16	207	50	683	733
07:45 AM	46	32	2	0	80	30	130	31	15	191	54	86	24	11	164	13	167	12	15	192	41	627	668
Total	174	102	19	2	295	135	628	94	63	857	285	328	65	50	678	37	626	48	47	711	162	2541	2703
08:00 AM	42	30	2	0	74	31	154	28	11	213	54	61	17	15	132	8	133	19	5	160	31	579	610
08:15 AM	56	31	3	4	90	25	132	18	24	175	31	32	5	16	68	9	130	13	11	152	55	485	540
08:30 AM	40	27	0	0	67	29	124	17	10	170	29	29	2	20	60	5	134	14	12	153	42	450	492
08:45 AM	31	17	7	3	55	29	175	21	7	225	27	21	2	13	50	5	131	20	7	156	30	486	516
Total	169	105	12	7	286	114	585	84	52	783	141	143	26	64	310	27	528	66	35	621	158	2000	2158
Grand Total	343	207	31	9	581	249	1213	178	115	1640	426	471	91	114	988	64	1154	114	82	1332	320	4541	4861
Apprch %	59	35.6	5.3			15.2	74	10.9			43.1	47.7	9.2			4.8	86.6	8.6					
Total %	7.6	4.6	0.7		12.8	5.5	26.7	3.9		36.1	9.4	10.4	2		21.8	1.4	25.4	2.5		29.3	6.6	93.4	
Passenger Vehicles	314	187	19		525	191	1118	161		1579	407	460	75		1036	51	1064	107		1301	0	0	4441
% Passenger Vehicles	91.5	90.3	61.3	55.6	89	76.7	92.2	90.4	94.8	90	95.5	97.7	82.4	82.5	94	79.7	92.2	93.9	96.3	92	0	0	91.4
Large 2 Axle Vehicles	17	10	5		33	23	47	12		85	13	3	6		30	3	41	0		46	0	0	194
% Large 2 Axle Vehicles	5	4.8	16.1	11.1	5.6	9.2	3.9	6.7	2.6	4.8	3.1	0.6	6.6	7	2.7	4.7	3.6	0	2.4	3.3	0	0	4
3 Axle Vehicles	3	1	0		5	5	9	1		17	2	3	1		8	3	10	1		14	0	0	44
% 3 Axle Vehicles	0.9	0.5	0	11.1	0.8	2	0.7	0.6	1.7	1	0.5	0.6	1.1	1.8	0.7	4.7	0.9	0.9	0	1	0	0	0.9
4+ Axle Trucks	9	9	7		27	30	39	4		74	4	5	9		28	7	39	6		53	0	0	182
% 4+ Axle Trucks	2.6	4.3	22.6	22.2	4.6	12	3.2	2.2	0.9	4.2	0.9	1.1	9.9	8.8	2.5	10.9	3.4	5.3	1.2	3.7	0	0	3.7

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	52	24	5	81	34	177	13	224	79	80	10	169	9	130	7	146	620
07:15 AM	41	23	6	70	28	154	16	198	91	68	18	177	6	149	11	166	611
07:30 AM	35	23	6	64	43	167	34	244	61	94	13	168	9	180	18	207	683
07:45 AM	46	32	2	80	30	130	31	191	54	86	24	164	13	167	12	192	627
Total Volume	174	102	19	295	135	628	94	857	285	328	65	678	37	626	48	711	2541
% App. Total	59	34.6	6.4		15.8	73.3	11		42	48.4	9.6		5.2	88	6.8		
PHF	.837	.797	.792	.910	.785	.887	.691	.878	.783	.872	.677	.958	.712	.869	.667	.859	.930



County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 3

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:00 AM				07:00 AM				07:15 AM				
+0 mins.	46	32	2	80	34	177	13	224	79	80	10	169	6	149	11	166	
+15 mins.	42	30	2	74	28	154	16	198	91	68	18	177	9	180	18	207	
+30 mins.	56	31	3	90	43	167	34	244	61	94	13	168	13	167	12	192	
+45 mins.	40	27	0	67	30	130	31	191	54	86	24	164	8	133	19	160	
Total Volume	184	120	7	311	135	628	94	857	285	328	65	678	36	629	60	725	
% App. Total	59.2	38.6	2.3		15.8	73.3	11		42	48.4	9.6		5	86.8	8.3		
PHF	.821	.938	.583	.864	.785	.887	.691	.878	.783	.872	.677	.958	.692	.874	.789	.876	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

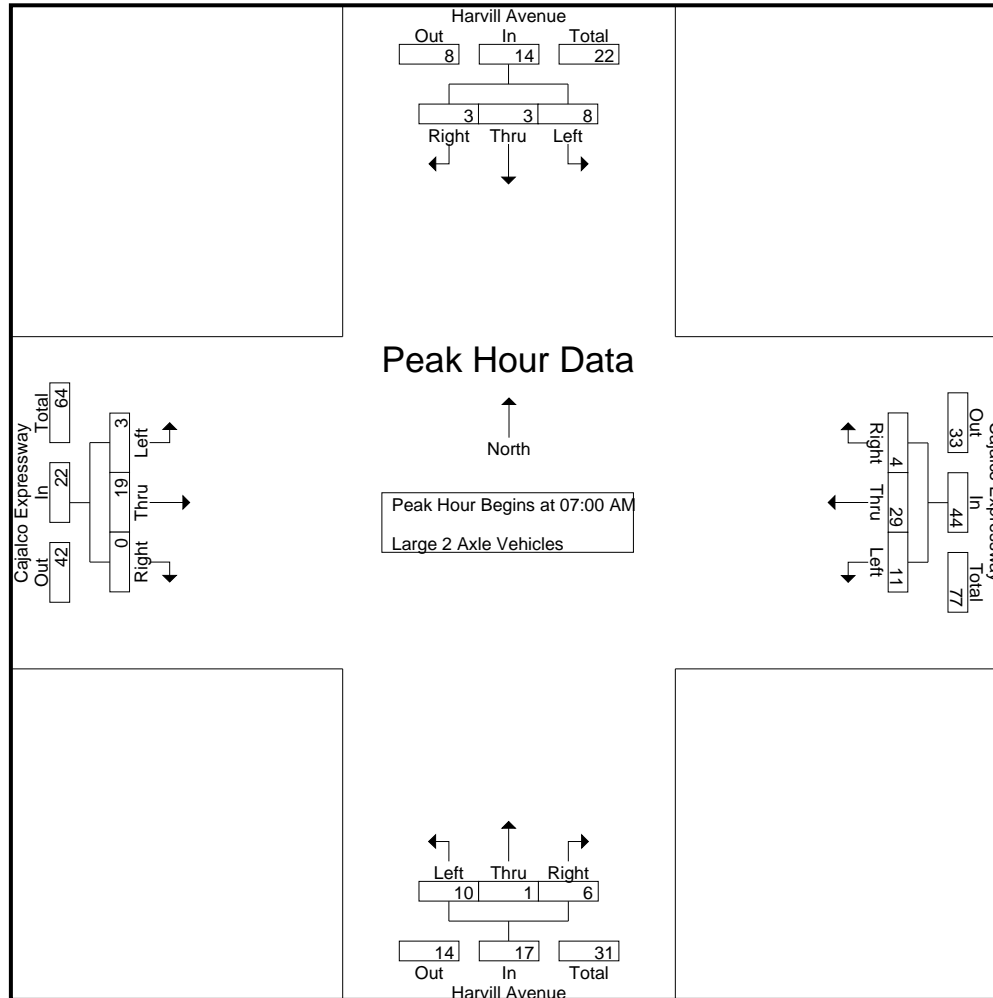
Groups Printed- Large 2 Axle Vehicles

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	3	0	1	0	4	4	6	2	1	12	5	1	3	2	9	0	2	0	0	2	3	27	30
07:15 AM	2	0	0	0	2	3	5	1	0	9	4	0	1	0	5	0	5	0	1	5	1	21	22
07:30 AM	0	2	1	1	3	1	10	1	0	12	0	0	1	0	1	1	7	0	0	8	1	24	25
07:45 AM	3	1	1	0	5	3	8	0	0	11	1	0	1	1	2	2	5	0	0	7	1	25	26
Total	8	3	3	1	14	11	29	4	1	44	10	1	6	3	17	3	19	0	1	22	6	97	103
08:00 AM	4	2	0	0	6	1	5	3	0	9	0	1	0	1	1	0	6	0	0	6	1	22	23
08:15 AM	0	3	0	0	3	3	3	2	1	8	1	1	0	1	2	0	8	0	0	8	2	21	23
08:30 AM	4	2	0	0	6	3	5	0	0	8	1	0	0	1	1	0	3	0	1	3	2	18	20
08:45 AM	1	0	2	0	3	5	5	3	1	13	1	0	0	2	1	0	5	0	0	5	3	22	25
Total	9	7	2	0	18	12	18	8	2	38	3	2	0	5	5	0	22	0	1	22	8	83	91
Grand Total	17	10	5	1	32	23	47	12	3	82	13	3	6	8	22	3	41	0	2	44	14	180	194
Apprch %	53.1	31.2	15.6			28	57.3	14.6			59.1	13.6	27.3			6.8	93.2	0					
Total %	9.4	5.6	2.8		17.8	12.8	26.1	6.7		45.6	7.2	1.7	3.3		12.2	1.7	22.8	0		24.4	7.2	92.8	

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	3	0	1	4	4	6	2	12	5	1	3	9	0	2	0	2	27
07:15 AM	2	0	0	2	3	5	1	9	4	0	1	5	0	5	0	5	21
07:30 AM	0	2	1	3	1	10	1	12	0	0	1	1	1	7	0	8	24
07:45 AM	3	1	1	5	3	8	0	11	1	0	1	2	2	5	0	7	25
Total Volume	8	3	3	14	11	29	4	44	10	1	6	17	3	19	0	22	97
% App. Total	57.1	21.4	21.4		25	65.9	9.1		58.8	5.9	35.3		13.6	86.4	0		
PHF	.667	.375	.750	.700	.688	.725	.500	.917	.500	.250	.500	.472	.375	.679	.000	.688	.898

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
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County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
 Start Date : 2/8/2022
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Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	3	0	1	4	4	6	2	12	5	1	3	9	0	2	0	2	
+15 mins.	2	0	0	2	3	5	1	9	4	0	1	5	0	5	0	5	
+30 mins.	0	2	1	3	1	10	1	12	0	0	1	1	1	7	0	8	
+45 mins.	3	1	1	5	3	8	0	11	1	0	1	2	2	5	0	7	
Total Volume	8	3	3	14	11	29	4	44	10	1	6	17	3	19	0	22	
% App. Total	57.1	21.4	21.4		25	65.9	9.1		58.8	5.9	35.3		13.6	86.4	0		
PHF	.667	.375	.750	.700	.688	.725	.500	.917	.500	.250	.500	.472	.375	.679	.000	.688	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

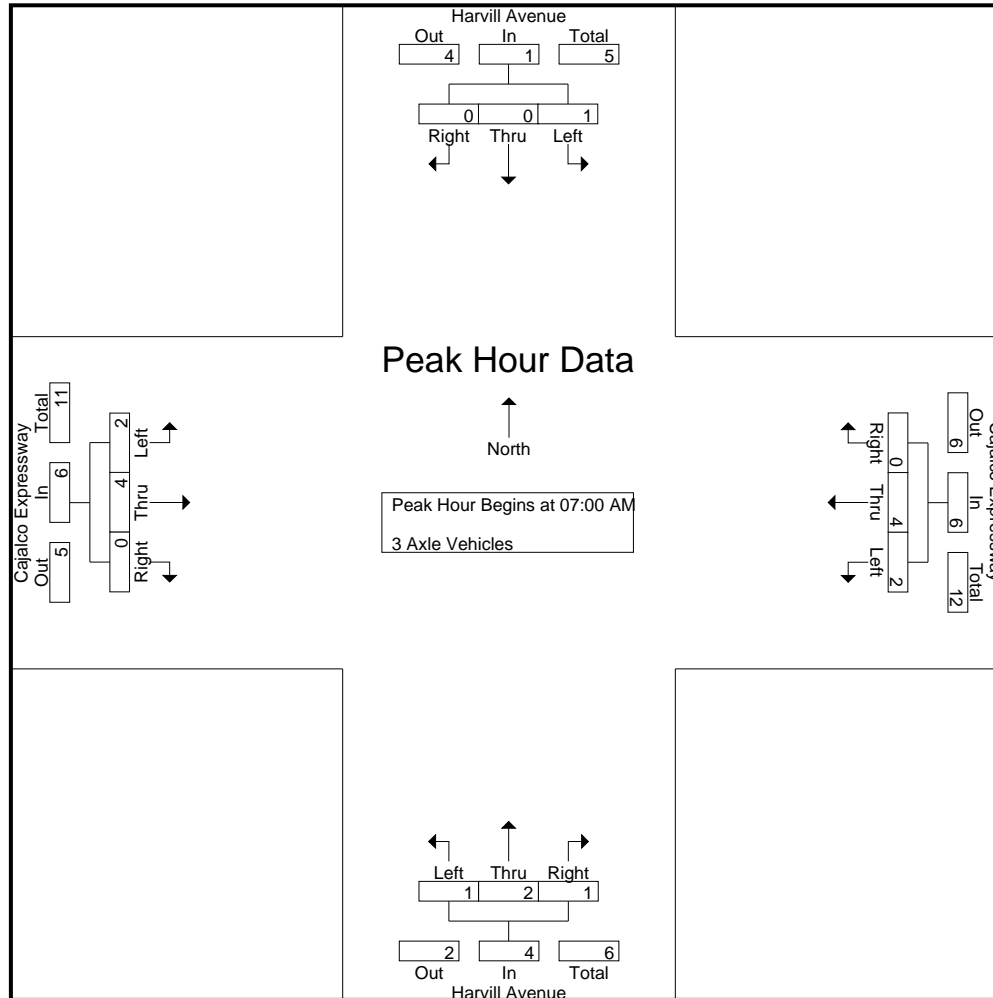
Groups Printed- 3 Axle Vehicles

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total				
07:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2	0	2
07:15 AM	1	0	0	0	1	1	2	0	0	3	0	1	0	0	1	1	0	0	0	1	0	6	0	6
07:30 AM	0	0	0	0	0	1	1	0	0	2	0	0	1	1	1	1	2	0	0	3	1	6	0	7
07:45 AM	0	0	0	0	0	0	1	0	0	1	1	1	0	0	2	0	2	0	0	2	0	5	0	5
Total	1	0	0	0	1	2	4	0	1	6	1	2	1	2	4	2	4	0	0	6	3	17	0	20
08:00 AM	1	1	0	0	2	0	2	0	0	2	0	1	0	0	1	0	2	0	0	2	0	7	0	7
08:15 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	3	0	3
08:30 AM	1	0	0	0	1	0	2	0	1	2	0	0	0	0	0	1	1	0	0	2	1	5	0	6
08:45 AM	0	0	0	1	0	2	0	1	0	3	1	0	0	0	1	0	2	1	0	3	1	7	0	8
Total	2	1	0	1	3	3	5	1	1	9	1	1	0	0	2	1	6	1	0	8	2	22	0	24
Grand Total	3	1	0	1	4	5	9	1	2	15	2	3	1	2	6	3	10	1	0	14	5	39	0	44
Apprch %	75	25	0			33.3	60	6.7			33.3	50	16.7			21.4	71.4	7.1						
Total %	7.7	2.6	0		10.3	12.8	23.1	2.6		38.5	5.1	7.7	2.6		15.4	7.7	25.6	2.6		35.9	11.4	88.6		

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:15 AM	1	0	0	1	1	2	0	3	0	1	0	1	1	0	0	1	
07:30 AM	0	0	0	0	1	1	0	2	0	0	1	1	1	2	0	3	
07:45 AM	0	0	0	0	0	1	0	1	1	1	0	2	0	2	0	2	
Total Volume	1	0	0	1	2	4	0	6	1	2	1	4	2	4	0	6	
% App. Total	100	0	0		33.3	66.7	0		25	50	25		33.3	66.7	0		
PHF	.250	.000	.000	.250	.500	.500	.000	.500	.250	.500	.250	.500	.500	.500	.000	.500	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
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County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 3

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	1	0	0	1	1	2	0	3	0	1	0	1	1	0	0	1	
+30 mins.	0	0	0	0	1	1	0	2	0	0	1	1	1	2	0	3	
+45 mins.	0	0	0	0	0	1	0	1	1	1	0	2	0	2	0	2	
Total Volume	1	0	0	1	2	4	0	6	1	2	1	4	2	4	0	6	
% App. Total	100	0	0		33.3	66.7	0		25	50	25		33.3	66.7	0		
PHF	.250	.000	.000	.250	.500	.500	.000	.500	.250	.500	.250	.500	.500	.500	.000	.500	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

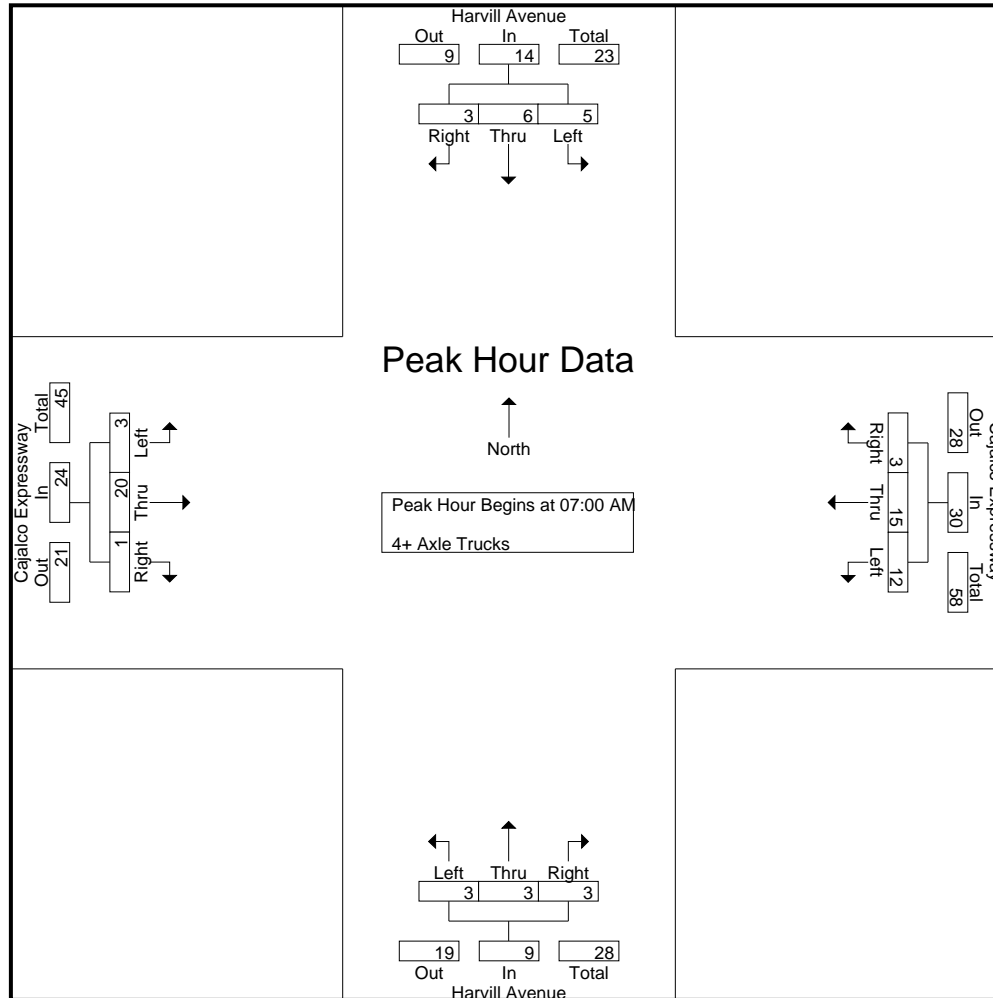
Groups Printed- 4+ Axle Trucks

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	2	2	2	0	6	4	5	1	0	10	1	0	1	1	2	1	7	0	0	8	1	26	27
07:15 AM	2	2	0	0	4	3	1	0	0	4	1	2	1	1	4	0	4	0	0	4	1	16	17
07:30 AM	1	0	1	0	2	3	4	1	0	8	0	1	0	1	1	0	4	0	0	4	1	15	16
07:45 AM	0	2	0	0	2	2	5	1	0	8	1	0	1	2	2	2	5	1	1	8	3	20	23
Total	5	6	3	0	14	12	15	3	0	30	3	3	3	5	9	3	20	1	1	24	6	77	83
08:00 AM	1	1	1	0	3	4	7	1	0	12	0	1	3	0	4	0	5	3	0	8	0	27	27
08:15 AM	2	0	2	1	4	4	3	0	1	7	0	0	1	1	1	3	5	1	0	9	3	21	24
08:30 AM	1	0	0	0	1	5	5	0	0	10	0	0	2	1	2	1	6	0	0	7	1	20	21
08:45 AM	0	2	1	1	3	5	9	0	0	14	1	1	0	3	2	0	3	1	0	4	4	23	27
Total	4	3	4	2	11	18	24	1	1	43	1	2	6	5	9	4	19	5	0	28	8	91	99
Grand Total	9	9	7	2	25	30	39	4	1	73	4	5	9	10	18	7	39	6	1	52	14	168	182
Apprch %	36	36	28			41.1	53.4	5.5			22.2	27.8	50			13.5	75	11.5					
Total %	5.4	5.4	4.2		14.9	17.9	23.2	2.4		43.5	2.4	3	5.4		10.7	4.2	23.2	3.6		31	7.7	92.3	

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	2	2	2	6	4	5	1	10	1	0	1	2	1	7	0	8	26
07:15 AM	2	2	0	4	3	1	0	4	1	2	1	4	0	4	0	4	16
07:30 AM	1	0	1	2	3	4	1	8	0	1	0	1	0	4	0	4	15
07:45 AM	0	2	0	2	2	5	1	8	1	0	1	2	2	5	1	8	20
Total Volume	5	6	3	14	12	15	3	30	3	3	3	9	3	20	1	24	77
% App. Total	35.7	42.9	21.4		40	50	10		33.3	33.3	33.3		12.5	83.3	4.2		
PHF	.625	.750	.375	.583	.750	.750	.750	.750	.750	.375	.750	.563	.375	.714	.250	.750	.740

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
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County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 3

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	2	2	2	6	4	5	1	10	1	0	1	2	1	7	0	8	
+15 mins.	2	2	0	4	3	1	0	4	1	2	1	4	0	4	0	4	
+30 mins.	1	0	1	2	3	4	1	8	0	1	0	1	0	4	0	4	
+45 mins.	0	2	0	2	2	5	1	8	1	0	1	2	2	5	1	8	
Total Volume	5	6	3	14	12	15	3	30	3	3	3	9	3	20	1	24	
% App. Total	35.7	42.9	21.4		40	50	10		33.3	33.3	33.3		12.5	83.3	4.2		
PHF	.625	.750	.375	.583	.750	.750	.750	.750	.750	.375	.750	.563	.375	.714	.250	.750	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

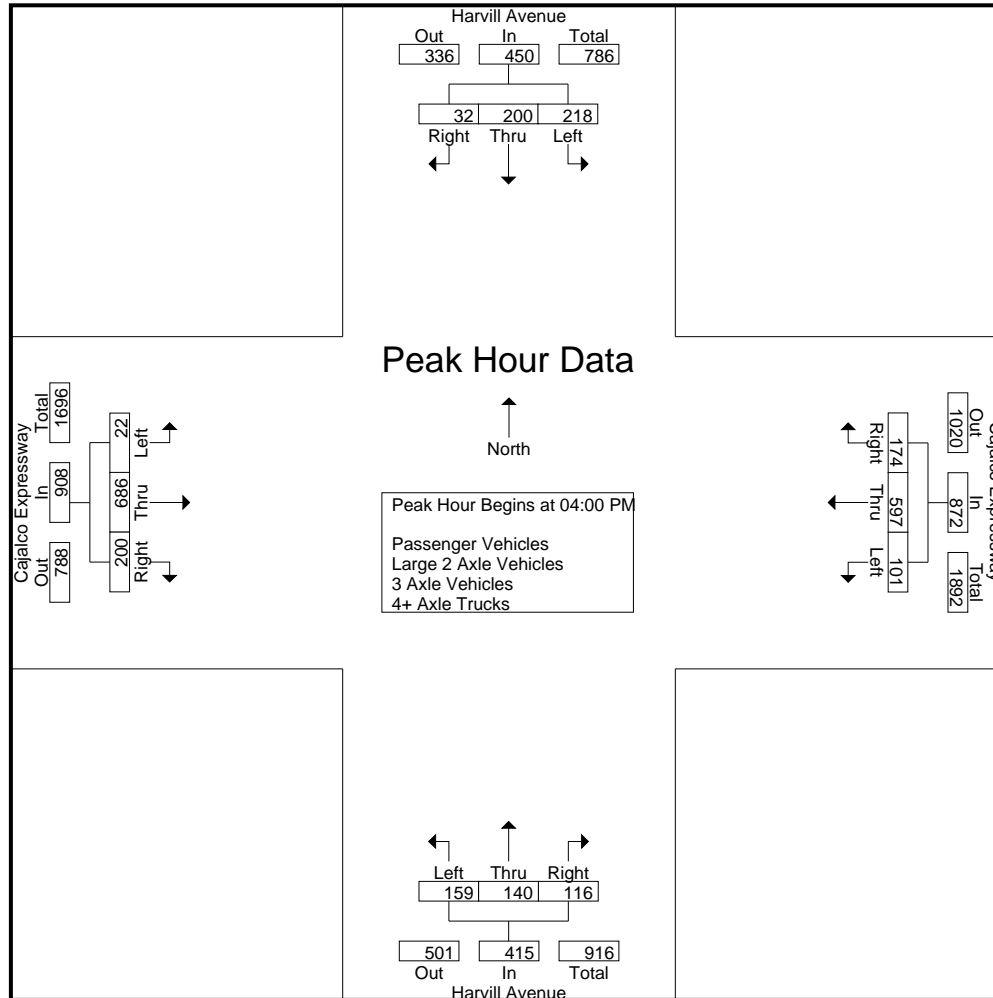
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	42	48	14	7	104	31	173	64	31	268	50	40	30	11	120	5	147	64	29	216	78	708	786
04:15 PM	46	46	5	2	97	23	139	33	7	195	33	33	25	15	91	11	158	44	29	213	53	596	649
04:30 PM	77	51	8	0	136	25	151	42	22	218	38	39	25	11	102	4	196	52	26	252	59	708	767
04:45 PM	53	55	5	1	113	22	134	35	14	191	38	28	36	26	102	2	185	40	21	227	62	633	695
Total	218	200	32	10	450	101	597	174	74	872	159	140	116	63	415	22	686	200	105	908	252	2645	2897
05:00 PM	60	42	6	2	108	21	150	45	19	216	39	22	26	14	87	7	189	30	20	226	55	637	692
05:15 PM	68	44	7	2	119	22	174	47	20	243	33	27	24	16	84	7	166	41	20	214	58	660	718
05:30 PM	43	49	4	0	96	20	166	40	17	226	41	29	19	14	89	4	229	33	12	266	43	677	720
05:45 PM	63	35	6	1	104	27	157	35	16	219	46	21	26	17	93	2	209	32	8	243	42	659	701
Total	234	170	23	5	427	90	647	167	72	904	159	99	95	61	353	20	793	136	60	949	198	2633	2831
Grand Total	452	370	55	15	877	191	1244	341	146	1776	318	239	211	124	768	42	1479	336	165	1857	450	5278	5728
Apprch %	51.5	42.2	6.3			10.8	70	19.2			41.4	31.1	27.5			2.3	79.6	18.1					
Total %	8.6	7	1		16.6	3.6	23.6	6.5		33.6	6	4.5	4		14.6	0.8	28	6.4		35.2	7.9	92.1	
Passenger Vehicles	443	354	50		861	148	1190	322		1799	311	230	201		859	37	1426	320		1942	0	0	5461
% Passenger Vehicles	98	95.7	90.9	93.3	96.5	77.5	95.7	94.4	95.2	93.6	97.8	96.2	95.3	94.4	96.3	88.1	96.4	95.2	96.4	96	0	0	95.3
Large 2 Axle Vehicles	4	5	2		11	7	19	15		47	2	2	2		8	0	26	9		40	0	0	106
% Large 2 Axle Vehicles	0.9	1.4	3.6	0	1.2	3.7	1.5	4.4	4.1	2.4	0.6	0.8	0.9	1.6	0.9	0	1.8	2.7	3	2	0	0	1.9
3 Axle Vehicles	2	2	0		4	5	9	0		14	2	5	2		11	1	5	1		7	0	0	36
% 3 Axle Vehicles	0.4	0.5	0	0	0.4	2.6	0.7	0	0	0.7	0.6	2.1	0.9	1.6	1.2	2.4	0.3	0.3	0	0.3	0	0	0.6
4+ Axle Trucks	3	9	3		16	31	26	4		62	3	2	6		14	4	22	6		33	0	0	125
% 4+ Axle Trucks	0.7	2.4	5.5	6.7	1.8	16.2	2.1	1.2	0.7	3.2	0.9	0.8	2.8	2.4	1.6	9.5	1.5	1.8	0.6	1.6	0	0	2.2

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	42	48	14	104	31	173	64	268	50	40	30	120	5	147	64	216	708
04:15 PM	46	46	5	97	23	139	33	195	33	33	25	91	11	158	44	213	596
04:30 PM	77	51	8	136	25	151	42	218	38	39	25	102	4	196	52	252	708
04:45 PM	53	55	5	113	22	134	35	191	38	28	36	102	2	185	40	227	633
Total Volume	218	200	32	450	101	597	174	872	159	140	116	415	22	686	200	908	2645
% App. Total	48.4	44.4	7.1		11.6	68.5	20		38.3	33.7	28		2.4	75.6	22		
PHF	.708	.909	.571	.827	.815	.863	.680	.813	.795	.875	.806	.865	.500	.875	.781	.901	.934

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 2



County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 3

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				05:00 PM				04:00 PM				05:00 PM				
+0 mins.	77	51	8	136	21	150	45	216	50	40	30	120	7	189	30	226	
+15 mins.	53	55	5	113	22	174	47	243	33	33	25	91	7	166	41	214	
+30 mins.	60	42	6	108	20	166	40	226	38	39	25	102	4	229	33	266	
+45 mins.	68	44	7	119	27	157	35	219	38	28	36	102	2	209	32	243	
Total Volume	258	192	26	476	90	647	167	904	159	140	116	415	20	793	136	949	
% App. Total	54.2	40.3	5.5		10	71.6	18.5		38.3	33.7	28		2.1	83.6	14.3		
PHF	.838	.873	.813	.875	.833	.930	.888	.930	.795	.875	.806	.865	.714	.866	.829	.892	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

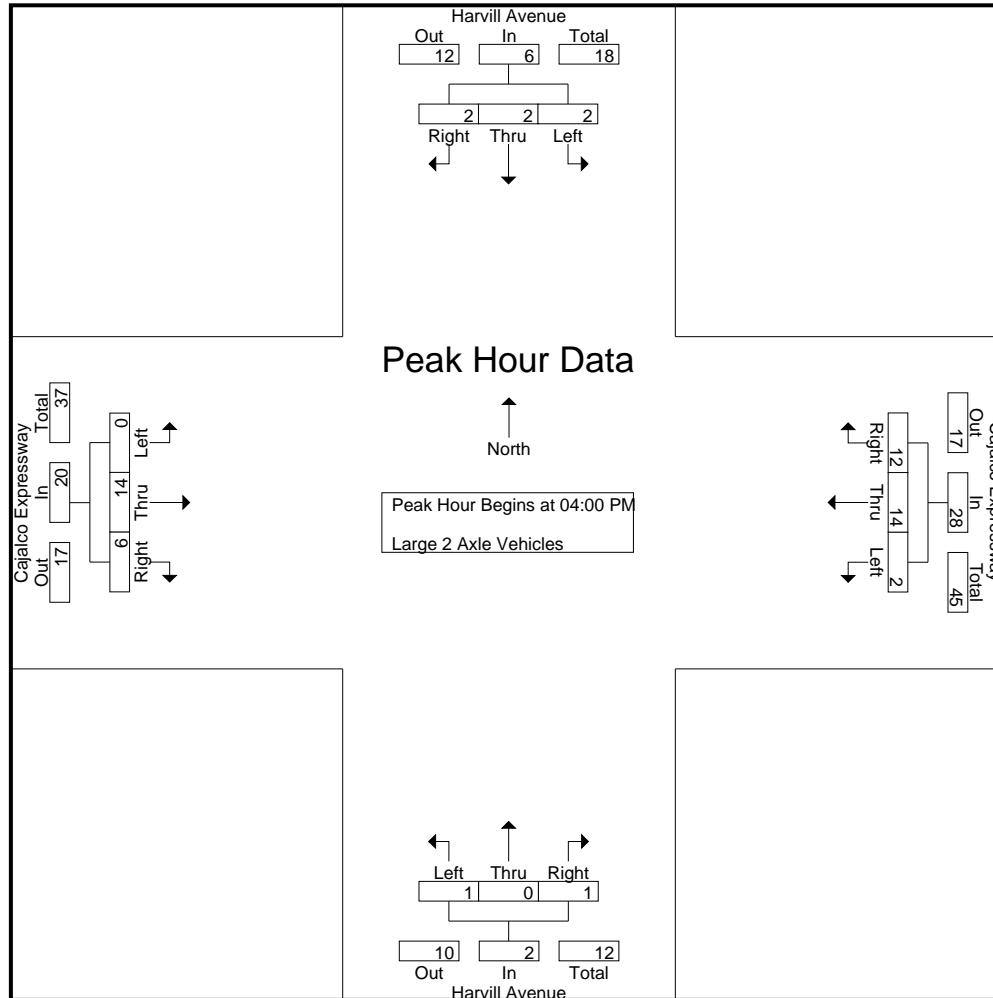
Groups Printed- Large 2 Axle Vehicles

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	1	0	1	0	2	1	7	3	2	11	0	0	1	1	1	0	5	3	1	8	4	22	26
04:15 PM	0	0	0	0	0	1	3	2	0	6	1	0	0	0	1	0	2	1	1	3	1	10	11
04:30 PM	1	1	0	0	2	0	3	4	2	7	0	0	0	0	0	0	3	1	0	4	2	13	15
04:45 PM	0	1	1	0	2	0	1	3	0	4	0	0	0	0	0	0	4	1	1	5	1	11	12
Total	2	2	2	0	6	2	14	12	4	28	1	0	1	1	2	0	14	6	3	20	8	56	64
05:00 PM	1	0	0	0	1	2	2	0	0	4	0	1	0	0	1	0	1	1	1	2	1	8	9
05:15 PM	1	0	0	0	1	2	0	3	2	5	0	1	1	1	2	0	1	0	0	1	3	9	12
05:30 PM	0	2	0	0	2	1	3	0	0	4	0	0	0	0	0	0	7	2	1	9	1	15	16
05:45 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	0	5	5
Total	2	3	0	0	5	5	5	3	2	13	1	2	1	1	4	0	12	3	2	15	5	37	42
Grand Total	4	5	2	0	11	7	19	15	6	41	2	2	2	2	6	0	26	9	5	35	13	93	106
Apprch %	36.4	45.5	18.2			17.1	46.3	36.6			33.3	33.3	33.3			0	74.3	25.7					
Total %	4.3	5.4	2.2		11.8	7.5	20.4	16.1		44.1	2.2	2.2	2.2		6.5	0	28	9.7		37.6	12.3	87.7	

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	0	1	2	1	7	3	11	0	0	1	1	0	5	3	8	22
04:15 PM	0	0	0	0	1	3	2	6	1	0	0	1	0	2	1	3	10
04:30 PM	1	1	0	2	0	3	4	7	0	0	0	0	0	3	1	4	13
04:45 PM	0	1	1	2	0	1	3	4	0	0	0	0	0	4	1	5	11
Total Volume	2	2	2	6	2	14	12	28	1	0	1	2	0	14	6	20	56
% App. Total	33.3	33.3	33.3		7.1	50	42.9		50	0	50		0	70	30		
PHF	.500	.500	.500	.750	.500	.500	.750	.636	.250	.000	.250	.500	.000	.700	.500	.625	.636

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 2



County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 3

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	1	0	1	2	1	7	3	11	0	0	1	1	0	5	3	8	
+15 mins.	0	0	0	0	1	3	2	6	1	0	0	1	0	2	1	3	
+30 mins.	1	1	0	2	0	3	4	7	0	0	0	0	0	3	1	4	
+45 mins.	0	1	1	2	0	1	3	4	0	0	0	0	0	4	1	5	
Total Volume	2	2	2	6	2	14	12	28	1	0	1	2	0	14	6	20	
% App. Total	33.3	33.3	33.3		7.1	50	42.9		50	0	50		0	70	30		
PHF	.500	.500	.500	.750	.500	.500	.750	.636	.250	.000	.250	.500	.000	.700	.500	.625	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

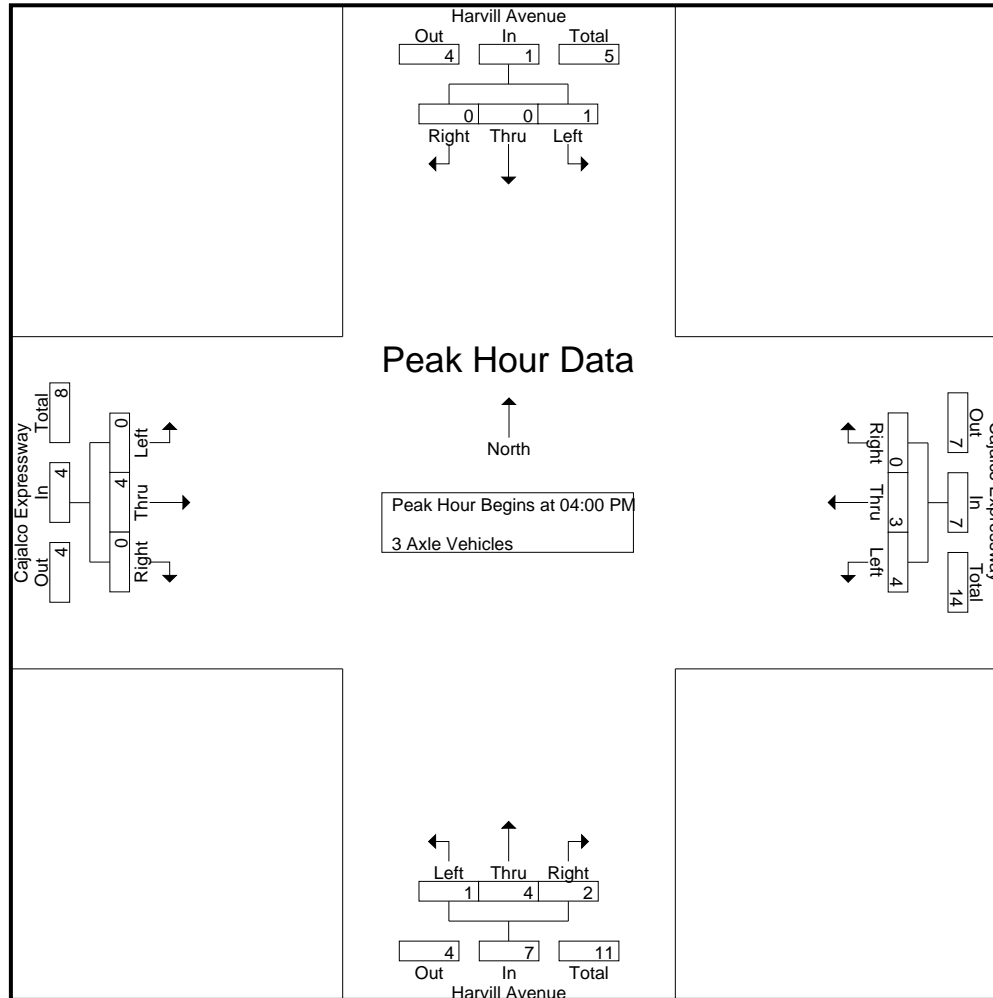
Groups Printed- 3 Axle Vehicles

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	1	0	0	0	1	0	2	0	0	2	0	3	1	1	4	0	2	0	0	2	1	9	10
04:15 PM	0	0	0	0	0	2	1	0	0	3	0	1	1	1	2	0	1	0	0	1	1	6	7
04:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
04:45 PM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	2	2
Total	1	0	0	0	1	4	3	0	0	7	1	4	2	2	7	0	4	0	0	4	2	19	21
05:00 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	3
05:15 PM	0	2	0	0	2	0	2	0	0	2	0	1	0	0	1	0	0	1	0	1	0	6	6
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	1	1	0	0	2	1	0	0	0	1	1	1	0	0	2	0	5	5
Total	1	2	0	0	3	1	6	0	0	7	1	1	0	0	2	1	1	1	0	3	0	15	15
Grand Total	2	2	0	0	4	5	9	0	0	14	2	5	2	2	9	1	5	1	0	7	2	34	36
Aprpch %	50	50	0			35.7	64.3	0			22.2	55.6	22.2			14.3	71.4	14.3					
Total %	5.9	5.9	0		11.8	14.7	26.5	0		41.2	5.9	14.7	5.9		26.5	2.9	14.7	2.9		20.6	5.6	94.4	

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	0	0	1	0	2	0	2	0	3	1	4	0	2	0	2	9
04:15 PM	0	0	0	0	2	1	0	3	0	1	1	2	0	1	0	1	6
04:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
04:45 PM	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	2
Total Volume	1	0	0	1	4	3	0	7	1	4	2	7	0	4	0	4	19
% App. Total	100	0	0		57.1	42.9	0		14.3	57.1	28.6		0	100	0		
PHF	.250	.000	.000	.250	.500	.375	.000	.583	.250	.333	.500	.438	.000	.500	.000	.500	.528

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 2



County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 3

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	1	0	0	1	0	2	0	2	0	3	1	4	0	2	0	2	
+15 mins.	0	0	0	0	2	1	0	3	0	1	1	2	0	1	0	1	
+30 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	
+45 mins.	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	
Total Volume	1	0	0	1	4	3	0	7	1	4	2	7	0	4	0	4	
% App. Total	100	0	0		57.1	42.9	0		14.3	57.1	28.6		0	100	0		
PHF	.250	.000	.000	.250	.500	.375	.000	.583	.250	.333	.500	.438	.000	.500	.000	.500	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

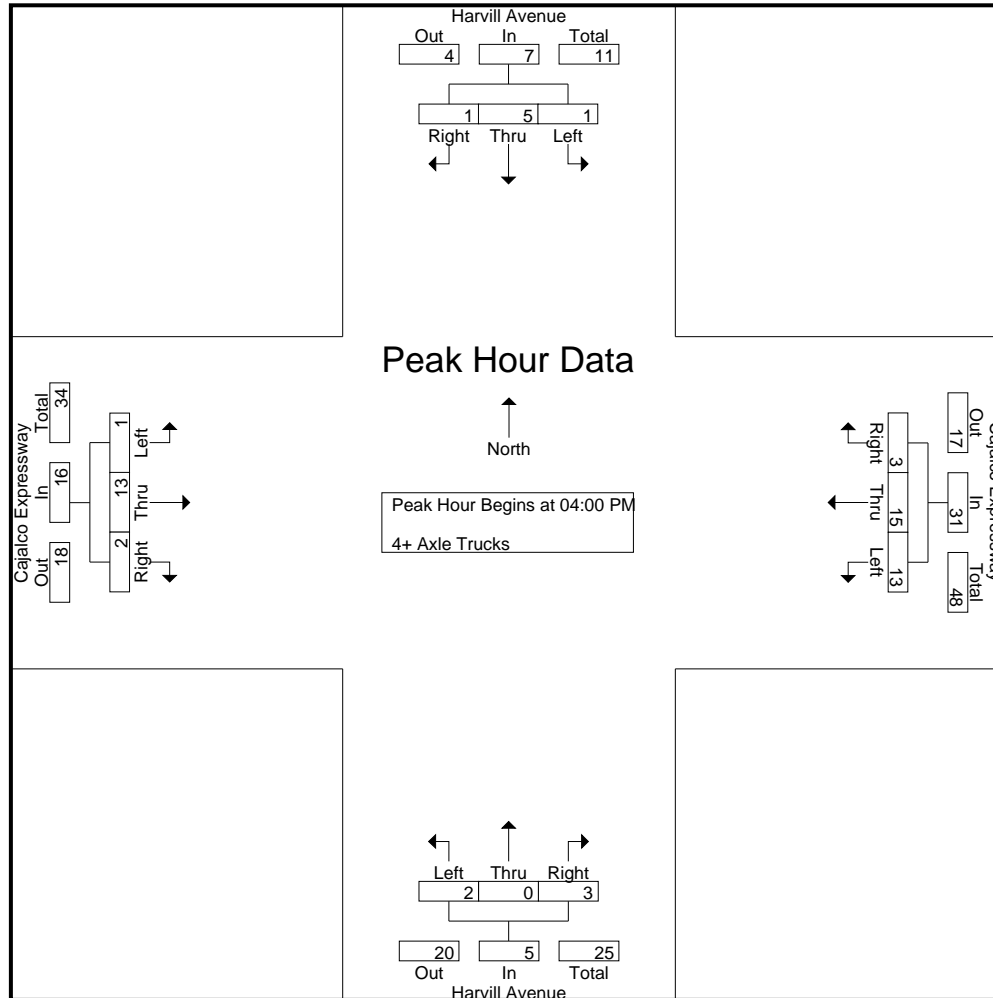
Groups Printed- 4+ Axle Trucks

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	0	2	1	1	3	8	5	1	1	14	1	0	1	1	2	1	4	1	0	6	3	25	28
04:15 PM	0	0	0	0	0	2	4	0	0	6	0	0	1	0	1	0	6	0	0	6	0	13	13
04:30 PM	1	1	0	0	2	2	3	1	0	6	1	0	0	0	1	0	2	0	0	2	0	11	11
04:45 PM	0	2	0	0	2	1	3	1	0	5	0	0	1	0	1	0	1	1	0	2	0	10	10
Total	1	5	1	1	7	13	15	3	1	31	2	0	3	1	5	1	13	2	0	16	3	59	62
05:00 PM	1	1	1	0	3	3	4	1	0	8	0	1	1	0	2	0	1	1	1	2	1	15	16
05:15 PM	0	2	0	0	2	5	2	0	0	7	0	1	0	0	1	3	3	0	0	6	0	16	16
05:30 PM	0	0	0	0	0	6	3	0	0	9	0	0	1	1	1	0	2	1	0	3	1	13	14
05:45 PM	1	1	1	0	3	4	2	0	0	6	1	0	1	1	2	0	3	2	0	5	1	16	17
Total	2	4	2	0	8	18	11	1	0	30	1	2	3	2	6	3	9	4	1	16	3	60	63
Grand Total	3	9	3	1	15	31	26	4	1	61	3	2	6	3	11	4	22	6	1	32	6	119	125
Apprch %	20	60	20			50.8	42.6	6.6			27.3	18.2	54.5			12.5	68.8	18.8					
Total %	2.5	7.6	2.5		12.6	26.1	21.8	3.4		51.3	2.5	1.7	5		9.2	3.4	18.5	5		26.9	4.8	95.2	

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	2	1	3	8	5	1	14	1	0	1	2	1	4	1	6	25
04:15 PM	0	0	0	0	2	4	0	6	0	0	1	1	0	6	0	6	13
04:30 PM	1	1	0	2	2	3	1	6	1	0	0	1	0	2	0	2	11
04:45 PM	0	2	0	2	1	3	1	5	0	0	1	1	0	1	1	2	10
Total Volume	1	5	1	7	13	15	3	31	2	0	3	5	1	13	2	16	59
% App. Total	14.3	71.4	14.3		41.9	48.4	9.7		40	0	60		6.2	81.2	12.5		
PHF	.250	.625	.250	.583	.406	.750	.750	.554	.500	.000	.750	.625	.250	.542	.500	.667	.590

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 2



County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 3

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	2	1	3	8	5	1	14	1	0	1	2	1	4	1	6	
+15 mins.	0	0	0	0	2	4	0	6	0	0	1	1	0	6	0	6	
+30 mins.	1	1	0	2	2	3	1	6	1	0	0	1	0	2	0	2	
+45 mins.	0	2	0	2	1	3	1	5	0	0	1	1	0	1	1	2	
Total Volume	1	5	1	7	13	15	3	31	2	0	3	5	1	13	2	16	
% App. Total	14.3	71.4	14.3		41.9	48.4	9.7		40	0	60		6.2	81.2	12.5		
PHF	.250	.625	.250	.583	.406	.750	.750	.554	.500	.000	.750	.625	.250	.542	.500	.667	

Location: County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway



Date: 2/8/2022
 Day: Tuesday

PEDESTRIANS

	North Leg Harvill Avenue	East Leg Cajalco Expressway	South Leg Harvill Avenue	West Leg Cajalco Expressway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Harvill Avenue	East Leg Cajalco Expressway	South Leg Harvill Avenue	West Leg Cajalco Expressway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway



Date: 2/8/2022
 Day: Tuesday

BICYCLES

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

	Southbound Harvill Avenue			Westbound Cajalco Expressway			Northbound Harvill Avenue			Eastbound Cajalco Expressway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	1	0	2

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Tue, May 10, 22
 LOCATION: NORTH & SOUTH: EAST & WEST:
 PROJECT #: SC3419
 LOCATION #: 1
 CONTROL: STOP E/W

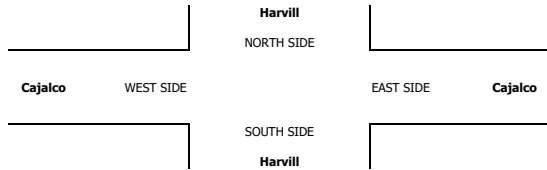
NOTES:

AM				
PM				
MD				
OTHER				
OTHER				

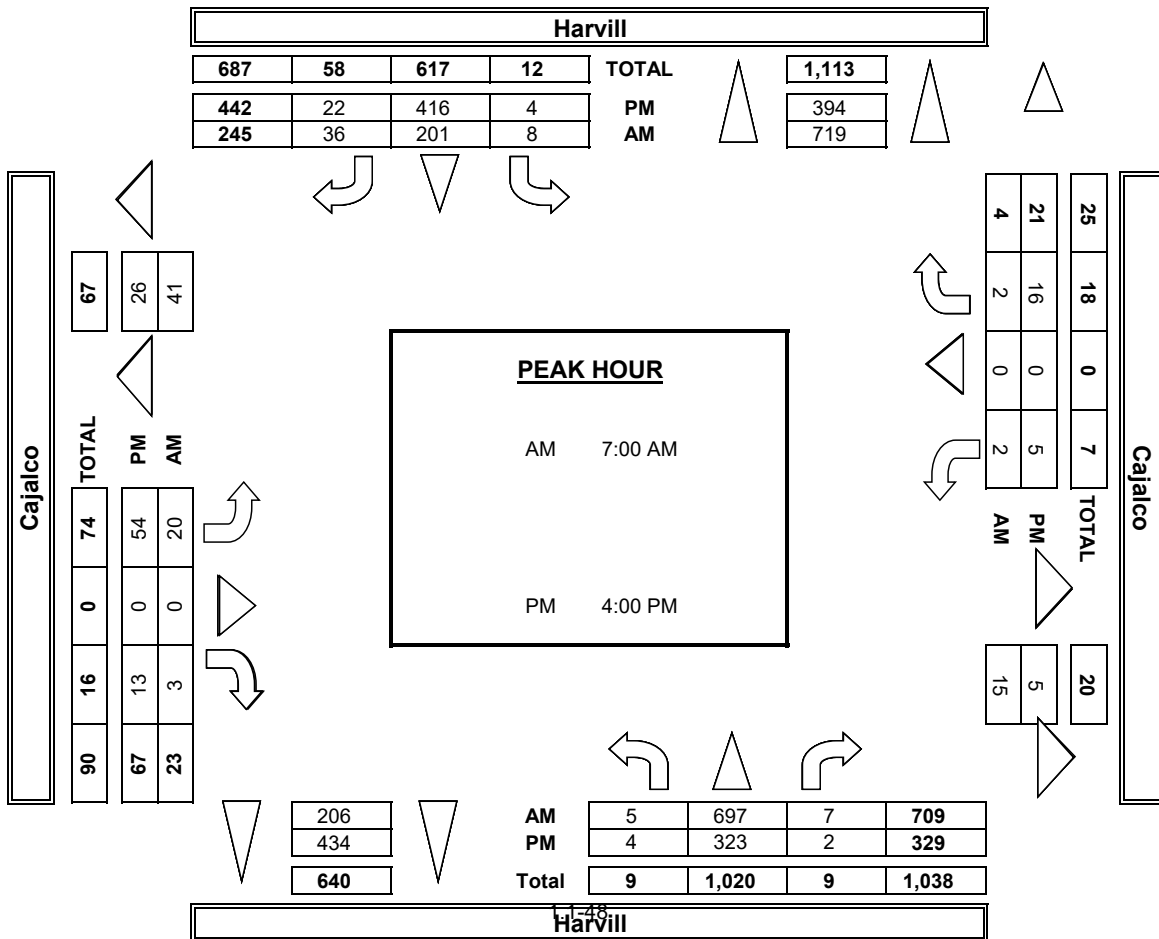
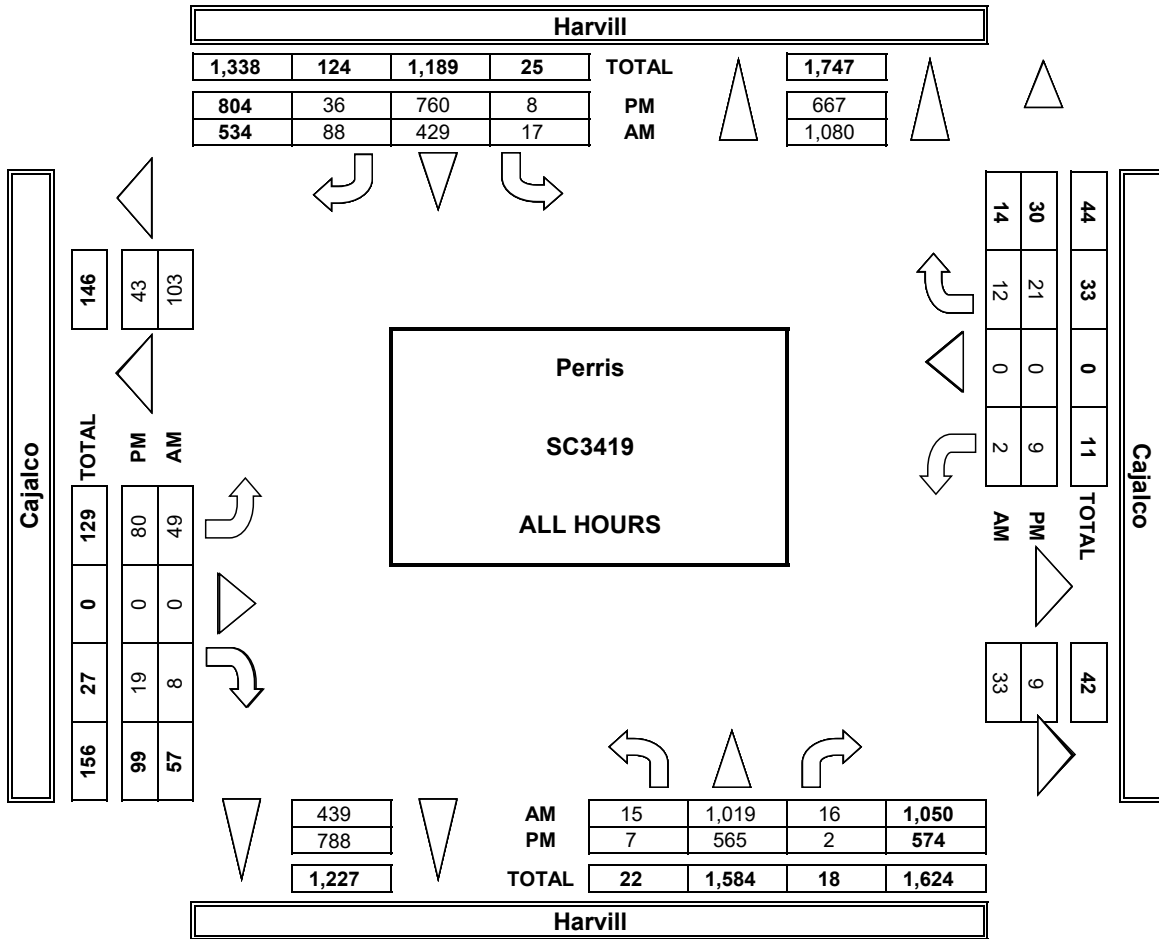
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Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		NB	SB	EB	WB	TTL
7:00 AM	1	175	1	1	39	12	5	0	1	1	0	1	0	0	0	0	0	0
7:15 AM	0	195	1	1	43	8	5	0	0	1	0	0	0	0	0	0	0	0
7:30 AM	2	171	0	4	58	7	6	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	2	156	5	2	61	9	4	0	1	0	0	1	0	0	0	0	0	0
8:00 AM	3	125	3	2	80	9	7	0	0	0	0	3	0	0	0	0	0	0
8:15 AM	4	90	2	1	52	12	9	0	2	0	0	1	0	0	0	0	0	0
8:30 AM	1	59	3	4	59	17	3	0	2	0	0	3	0	0	0	0	0	0
8:45 AM	2	48	1	2	37	14	10	0	1	0	0	3	0	0	0	0	0	0
VOLUMES	15	1,019	16	17	429	88	49	0	8	2	0	12	0	0	0	0	0	0
APPROACH %	1%	97%	2%	3%	80%	16%	86%	0%	14%	14%	0%	86%						
APP/DEPART	1,050	/	1,080	534	/	439	57	/	33	14	/	103						
BEGIN PEAK HR	5	7:00 AM	7	8	201	36	20	0	3	2	0	2						
VOLUMES	19%	697	1%	3%	82%	15%	87%	0%	13%	50%	0%	50%						
APPROACH %		0.904			0.851			0.821		0.500		0.500						
PEAK HR FACTOR																		
APP/DEPART	709	/	719	245	/	206	23	/	15	4	/	41						
4:00 PM	0	89	0	0	78	5	10	0	3	2	0	7	0	0	0	0	0	0
4:15 PM	1	84	2	0	116	6	11	0	3	1	0	3	0	0	0	0	0	0
4:30 PM	3	72	0	3	102	7	28	0	4	1	0	5	0	0	0	0	0	0
4:45 PM	0	78	0	1	120	4	5	0	3	1	0	1	0	0	0	0	0	0
5:00 PM	0	54	0	1	97	4	18	0	2	1	0	2	0	0	0	0	0	0
5:15 PM	1	71	0	0	90	5	3	0	1	0	0	0	0	0	0	0	0	0
5:30 PM	0	71	0	0	87	3	1	0	1	3	0	2	0	0	0	0	0	0
5:45 PM	2	46	0	3	70	2	4	0	2	0	0	1	0	0	0	0	0	0
VOLUMES	7	565	2	8	760	36	80	0	19	9	0	21	0	0	0	0	0	0
APPROACH %	1%	98%	0%	1%	95%	4%	81%	0%	19%	30%	0%	70%						
APP/DEPART	574	/	667	804	/	788	99	/	9	30	/	43						
BEGIN PEAK HR	4	4:00 PM	2	4	416	22	54	0	13	5	0	16						
VOLUMES	1%	98%	1%	1%	94%	5%	81%	0%	19%	24%	0%	76%						
APPROACH %		0.924			0.884			0.523		0.583		0.946						
PEAK HR FACTOR																		
APP/DEPART	329	/	394	442	/	434	67	/	5	21	/	26						



AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 5/10/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris Harvill Cajalco	PROJECT #: LOCATION #: CONTROL:	SC3419 1 STOP E/W
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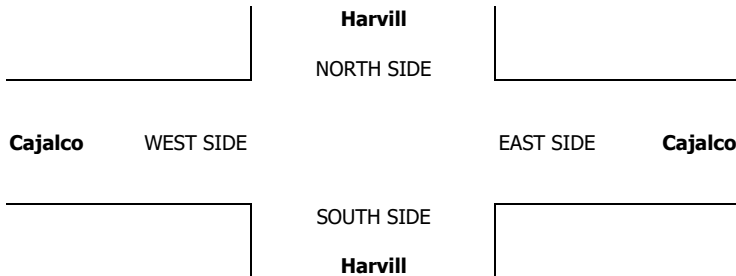
CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼
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LANES:	NORTHBOUND Harvill			SOUTHBOUND Harvill			EASTBOUND Cajalco			WESTBOUND Cajalco			TOTAL	U-TURNS				
	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0		NB	SB	EB	WB	TTL

AM	7:00 AM	0	3	0	0	1	0	0	0	0	0	0	4	0	0	0	0	0
	7:15 AM	0	6	0	0	0	0	1	0	0	0	0	7	0	0	0	0	0
	7:30 AM	0	6	0	0	2	0	0	0	0	0	0	8	0	0	0	0	0
	7:45 AM	0	5	0	0	2	1	1	0	0	0	0	9	0	0	0	0	0
	8:00 AM	0	3	0	0	3	2	1	0	0	0	0	9	0	0	0	0	0
	8:15 AM	0	5	0	0	1	3	2	0	0	0	0	11	0	0	0	0	0
	8:30 AM	0	4	0	1	2	1	0	0	0	0	0	9	0	0	0	0	0
	8:45 AM	0	2	0	0	3	0	0	0	0	0	1	6	0	0	0	0	0
	VOLUMES	0	34	0	1	14	7	5	0	0	0	2	63	0	0	0	0	0
	APPROACH %	0%	100%	0%	5%	64%	32%	100%	0%	0%	0%	100%		0	0	0	0	0
APP/DEPART	34	/	41	22	/	14	5	/	1	2	/	7	0					
BEGIN PEAK HR	7:00 AM																	
VOLUMES	0	20	0	0	5	1	2	0	0	0	0	28						
APPROACH %	0%	100%	0%	0%	83%	17%	100%	0%	0%	0%	0%		0	0	0			
PEAK HR FACTOR	0.833		0.500			0.500		0.000			0.778							
APP/DEPART	20	/	22	6	/	5	2	/	0	0	/	1	0					
PM	4:00 PM	0	3	0	0	4	0	0	0	0	0	7	0	0	0	0	0	
	4:15 PM	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	
	4:30 PM	0	1	0	0	2	0	1	0	0	0	4	0	0	0	0	0	
	4:45 PM	0	1	0	0	6	1	0	0	0	0	8	0	0	0	0	0	
	5:00 PM	0	0	0	0	3	0	0	0	1	0	4	0	0	0	0	0	
	5:15 PM	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	
	5:30 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
	5:45 PM	0	1	0	0	2	0	0	0	0	0	3	0	0	0	0	0	
	VOLUMES	0	9	0	0	19	1	1	0	1	0	0	31	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	95%	5%	50%	0%	50%	0%	0%		0	0	0		
APP/DEPART	9	/	10	20	/	20	2	/	0	0	/	1	0					
BEGIN PEAK HR	4:00 PM																	
VOLUMES	0	6	0	0	13	1	1	0	0	0	0	21						
APPROACH %	0%	100%	0%	0%	93%	7%	100%	0%	0%	0%	0%		0	0	0			
PEAK HR FACTOR	0.500		0.500			0.250		0.000			0.656							
APP/DEPART	6	/	7	14	/	13	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
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0	0	0	0	0
0	0	0	0	0

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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 5/10/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris Harvill Cajalco	PROJECT #: LOCATION #: CONTROL:	SC3419 1 STOP E/W
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CLASS 3: 3-AXLE TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼
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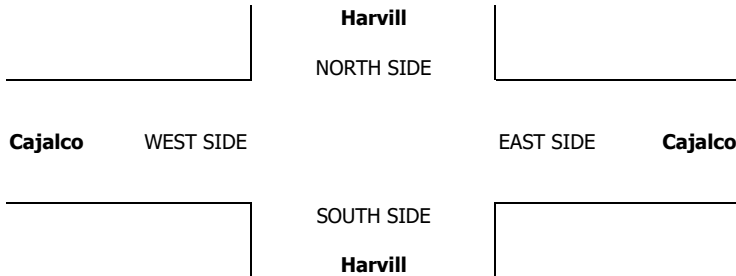
LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Harvill			Harvill			Cajalco			Cajalco			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	0	1	2	0	0	1	0	0	1	0	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

AM	7:00 AM	0	1	0	0	1	0	0	0	0	0	0	2	
	7:15 AM	0	1	0	0	0	0	0	0	0	0	0	1	
	7:30 AM	0	2	0	1	3	0	0	0	0	0	0	6	
	7:45 AM	0	1	0	0	0	0	0	0	0	0	1	2	
	8:00 AM	0	2	0	0	1	0	1	0	0	0	0	4	
	8:15 AM	0	1	0	0	0	1	0	0	0	0	1	3	
	8:30 AM	0	0	0	0	1	0	0	0	0	0	0	1	
	8:45 AM	0	0	0	0	1	0	0	0	0	0	0	1	
	VOLUMES	0	8	0	1	7	1	1	0	0	0	0	2	20
	APPROACH %	0%	100%	0%	11%	78%	11%	100%	0%	0%	0%	0%	100%	
APP/DEPART	8	/	11	9	/	7	1	/	1	2	/	1	0	
BEGIN PEAK HR	7:00 AM													
VOLUMES	0	5	0	1	4	0	0	0	0	0	0	1	11	
APPROACH %	0%	100%	0%	20%	80%	0%	0%	0%	0%	0%	0%	100%		
PEAK HR FACTOR	0.625			0.313			0.000			0.250			0.458	
APP/DEPART	5	/	6	5	/	4	0	/	1	1	/	0	0	
PM	4:00 PM	0	1	0	0	0	0	1	0	0	0	0	2	
	4:15 PM	0	1	0	0	2	0	3	0	0	0	0	6	
	4:30 PM	0	1	0	0	1	0	0	0	0	0	0	2	
	4:45 PM	0	1	0	0	1	0	0	0	0	0	0	2	
	5:00 PM	0	0	0	0	0	0	1	0	0	0	0	1	
	5:15 PM	0	0	0	0	1	0	0	0	0	0	0	1	
	5:30 PM	0	1	0	0	0	0	0	0	0	0	0	1	
	5:45 PM	0	0	0	0	2	0	0	0	0	0	0	2	
	VOLUMES	0	5	0	0	7	0	5	0	0	0	0	0	17
	APPROACH %	0%	100%	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%	
APP/DEPART	5	/	10	7	/	7	5	/	0	0	/	0	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	0	4	0	0	4	0	4	0	0	0	0	0	12	
APPROACH %	0%	100%	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%		
PEAK HR FACTOR	1.000			0.500			0.333			0.000			0.500	
APP/DEPART	4	/	8	4	/	4	4	/	0	0	/	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 5/10/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris Harvill Cajalco	PROJECT #: LOCATION #: CONTROL:	SC3419 1 STOP E/W
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Harvill			Harvill			Cajalco			Cajalco			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

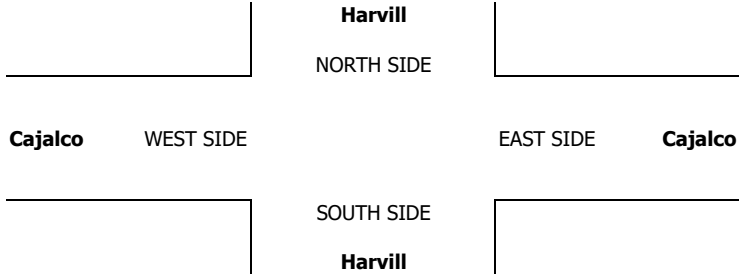
U-TURNS				
NB	SB	EB	WB	TTL

AM	7:00 AM	0	4	0	0	4	2	2	0	1	1	0	0	14	0	0	0	0	0	
	7:15 AM	0	4	0	0	3	1	2	0	0	1	0	0	11	0	0	0	0	0	
	7:30 AM	0	4	0	0	5	2	2	0	0	0	0	0	13	0	0	0	0	0	
	7:45 AM	1	7	0	0	3	0	1	0	0	0	0	0	12	0	0	0	0	0	
	8:00 AM	0	2	0	1	2	1	3	0	0	0	0	0	9	0	0	0	0	0	
	8:15 AM	0	4	0	0	1	2	2	0	0	0	0	0	9	0	0	0	0	0	0
	8:30 AM	0	3	0	0	0	4	0	0	0	0	0	0	7	0	0	0	0	0	0
	8:45 AM	0	4	0	0	3	1	5	0	0	0	0	0	13	0	0	0	0	0	0
	VOLUMES	1	32	0	1	21	13	17	0	1	2	0	0	88	0	0	0	0	0	0
	APPROACH %	3%	97%	0%	3%	60%	37%	94%	0%	6%	100%	0%	0%							
APP/DEPART	33	/	49	35	/	24	18	/	1	2	/	14	0							
BEGIN PEAK HR	7:00 AM																			
VOLUMES	1	19	0	0	15	5	7	0	1	2	0	0	50							
APPROACH %	5%	95%	0%	0%	75%	25%	88%	0%	13%	100%	0%	0%								
PEAK HR FACTOR	0.625			0.714			0.667			0.500			0.893							
APP/DEPART	20	/	26	20	/	18	8	/	0	2	/	6	0							

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

PM	4:00 PM	0	5	0	0	4	1	0	0	0	0	0	10	0	0	0	0	0	
	4:15 PM	0	5	2	0	2	0	1	0	0	0	0	10	0	0	0	0	0	
	4:30 PM	1	0	0	1	2	1	1	0	0	0	0	6	0	0	0	0	0	
	4:45 PM	0	1	0	0	2	2	0	0	0	0	0	5	0	0	0	0	0	
	5:00 PM	0	2	0	0	0	1	1	0	0	0	0	4	0	0	0	0	0	
	5:15 PM	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	
	5:30 PM	0	2	0	0	2	1	0	0	0	0	0	5	0	0	0	0	0	
	5:45 PM	0	0	0	2	2	0	0	0	0	0	0	4	0	0	0	0	0	
	VOLUMES	1	16	2	3	14	7	3	0	0	0	0	0	46					
	APPROACH %	5%	84%	11%	13%	58%	29%	100%	0%	0%	0%	0%	0%						
APP/DEPART	19	/	19	24	/	14	3	/	5	0	/	8	0						
BEGIN PEAK HR	4:00 PM																		
VOLUMES	1	11	2	1	10	4	2	0	0	0	0	0	31						
APPROACH %	7%	79%	14%	7%	67%	27%	100%	0%	0%	0%	0%	0%							
PEAK HR FACTOR	0.500			0.750			0.500			0.000			0.775						
APP/DEPART	14	/	13	15	/	10	2	/	3	0	/	5	0						

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

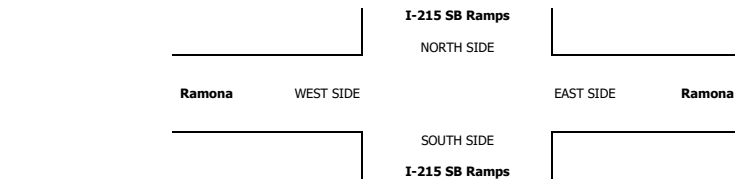
DATE: Tue, Jan 25, 22
LOCATION: NORTH & SOUTH: Perris I-215 SB Ramps; Ramona
 EAST & WEST: Ramona
PROJECT #: SC3258
LOCATION #: 1
CONTROL: SIGNAL

NOTES: Queue EB/WB PM

AP PM MD OTHER OTHER
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 ▼ S

Add U-Turns to Left Turns

	NORTHBOUND I-215 SB Ramps			SOUTHBOUND I-215 SB Ramps			EASTBOUND Ramona			WESTBOUND Ramona			TOTAL	U-TURNS					RTOR				
	LANES: NL X	NT X	NR X	SL 1.5	ST 0.5	SR 1	EL X	ET 2	ER 0	WL 1	WT 2	WR X		NB 0	SB 0	EB 0	WB 0	TTL 0	NRR X	SRR 0	ERR 0	WRR X	
AM																							
7:00 AM	0	0	0	157	0	58	0	128	62	66	185	0	656	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	146	0	37	0	161	78	62	266	0	750	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	153	0	36	0	145	78	63	244	0	719	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	177	1	29	0	171	75	74	219	0	746	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	143	0	42	0	173	76	82	214	0	730	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	161	0	31	0	148	72	71	178	0	661	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	116	0	43	0	160	68	60	156	0	603	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	122	0	44	0	127	59	52	171	0	575	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	1,175	1	320	0	1,213	568	530	1,633	0	5,440	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	79%	0%	21%	0%	68%	32%	25%	75%	0%		0%	0%	0%	0%						
APP/DEPART	0	0	0	1,496		1,099	1,781		2,388	2,163		1,953	0										
BEGIN PEAK HR		7:15 AM																					
VOLUMES	0	0	0	619	1	144	0	650	307	281	943	0	2,945	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	81%	0%	19%	0%	72%	32%	23%	77%	0%		0%	0%	0%	0%						
PEAK HR FACTOR	0.000	0.000	0.000	0.923			0.961			0.933			0.982										
APP/DEPART	0	0	0	764		589	957		1,269	1,224		1,087	0										
PM																							
4:00 PM	0	0	0	226	1	56	0	213	47	50	236	0	829	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	169	1	80	0	187	40	56	207	0	740	0	0	0	1	1	0	0	0	0	0
4:30 PM	0	0	0	168	3	59	0	216	47	55	237	0	785	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	187	0	20	0	209	100	71	173	0	760	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	180	0	39	0	190	88	88	216	0	801	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	186	2	34	0	200	96	87	201	0	806	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	196	1	31	0	207	72	86	217	0	810	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	198	1	31	0	223	67	85	187	0	792	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	1,510	9	350	0	1,645	557	578	1,674	0	6,323	0	0	0	1	1	0	0	0	0	0
APPROACH %	0%	0%	0%	81%	0%	19%	0%	75%	25%	26%	74%	0%		0%	0%	0%	0%						
APP/DEPART	0	0	0	1,869		1,143	2,202		3,156	2,252		2,024	0										
BEGIN PEAK HR		5:00 PM																					
VOLUMES	0	0	0	760	4	135	0	820	323	346	821	0	3,209	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	85%	0%	15%	0%	72%	28%	30%	70%	0%		0%	0%	0%	0%						
PEAK HR FACTOR	0.000	0.000	0.000	0.977			0.965			0.960			0.990										
APP/DEPART	0	0	0	899		673	1,143		1,580	1,167		956	0										

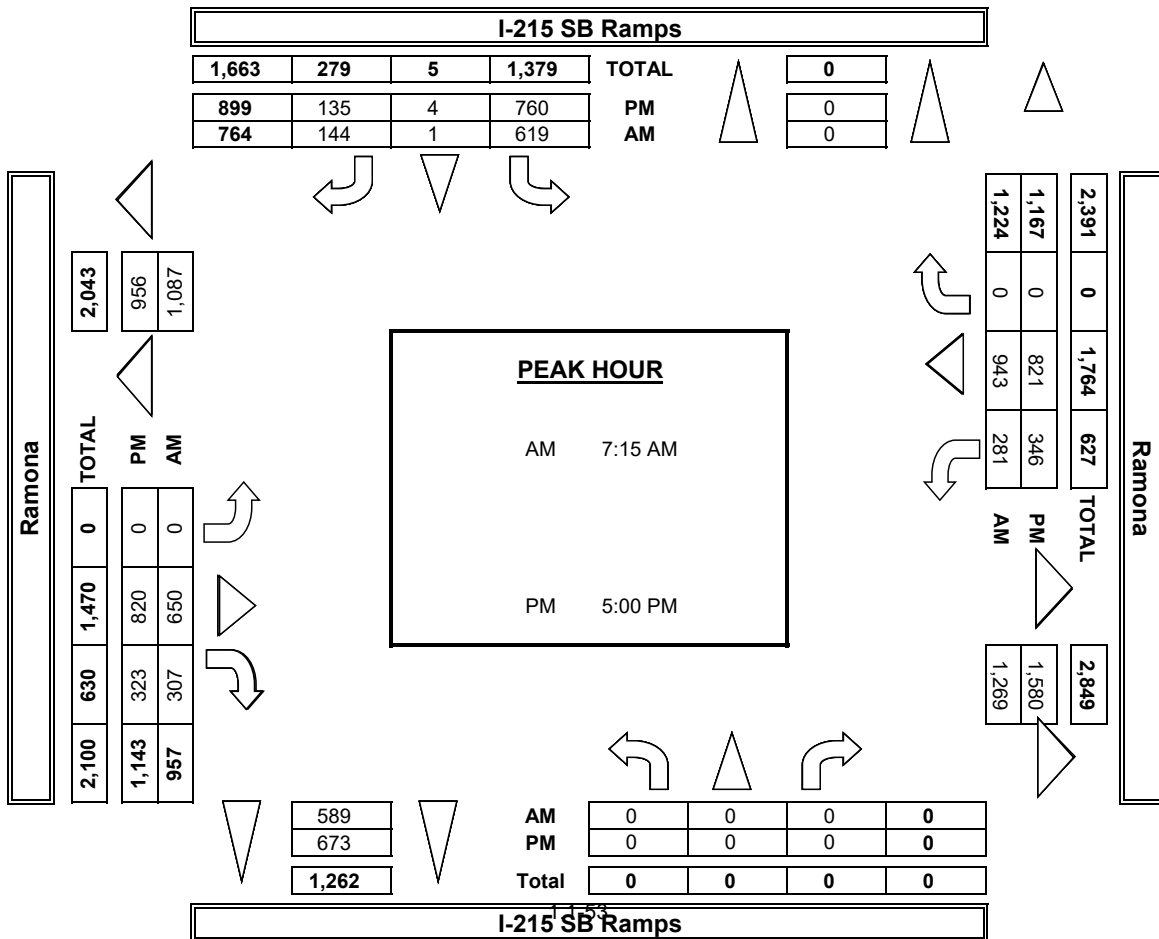
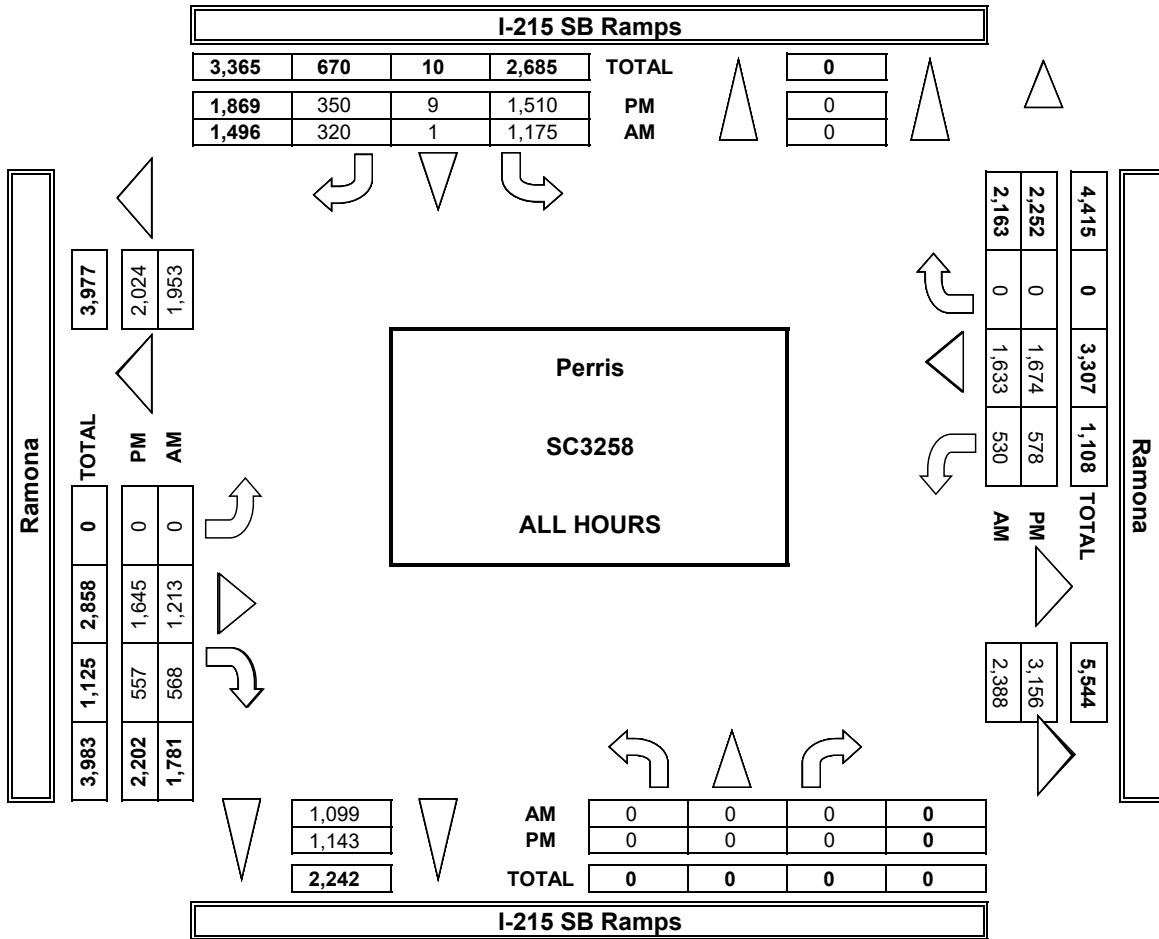


	ALL PED AND BIKE				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
4:00 PM	0	0	0	1	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	1	1
5:30 PM	0	0	1	0	1
5:45 PM	0	0	0	1	1
TOTAL	0	0	1	4	5

	PEDESTRIAN CROSSINGS				
	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	1	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	1	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	1	1
TOTAL	0	0	0	4	4

	BICYCLE CROSSINGS				
	ES	WS	SS	NS	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	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	1	0	1
5:45 PM	0	0	0	0	0
TOTAL	0	0	1	0	1

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 1/25/22 TUESDAY	LOCATION: Perris NORTH & SOUTH: I-215 SB Ramps EAST & WEST: Ramona	PROJECT #: SC3258	LOCATION #: 1	CONTROL: SIGNAL
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM	PM	MD	OTHER	<table border="0" style="margin: 0 auto;"> <tr> <td style="border: none;">←</td> <td style="border: none;">W</td> <td style="border: none;"> </td> <td style="border: none;">E</td> <td style="border: none;">→</td> </tr> <tr> <td style="border: none;">▲</td> <td style="border: none;">N</td> <td style="border: none;"> </td> <td style="border: none;">S</td> <td style="border: none;">▼</td> </tr> </table>	←	W		E	→	▲	N		S	▼
←	W		E	→												
▲	N		S	▼												

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	I-215 SB Ramps			I-215 SB Ramps			Ramona			Ramona			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	X	X	1.5	0.5	1	X	2	0	1	2	X	
AM													
7:00 AM	0	0	0	39	0	9	0	15	6	9	16	0	94
7:15 AM	0	0	0	17	0	3	0	14	8	6	30	0	78
7:30 AM	0	0	0	25	0	1	0	6	9	11	22	0	74
7:45 AM	0	0	0	20	1	5	0	16	7	11	18	0	78
8:00 AM	0	0	0	17	0	7	0	13	6	9	23	0	75
8:15 AM	0	0	0	15	0	2	0	9	7	8	20	0	61
8:30 AM	0	0	0	18	0	7	0	14	7	4	14	0	64
8:45 AM	0	0	0	14	0	10	0	8	9	8	20	0	69
VOLUMES	0	0	0	165	1	44	0	95	59	66	163	0	593
APPROACH %	0%	0%	0%	79%	0%	21%	0%	62%	38%	29%	71%	0%	
APP/DEPART	0	/	0	210	/	126	154	/	260	229	/	207	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	0	0	0	79	1	16	0	49	30	37	93	0	305
APPROACH %	0%	0%	0%	82%	1%	17%	0%	62%	38%	28%	72%	0%	
PEAK HR FACTOR	0.000			0.923			0.859			0.903			0.978
APP/DEPART	0	/	0	96	/	68	79	/	128	130	/	109	0
PM													
4:00 PM	0	0	0	10	1	3	0	16	3	4	14	0	51
4:15 PM	0	0	0	11	0	7	0	14	4	3	13	0	52
4:30 PM	0	0	0	10	0	7	0	18	4	3	20	0	62
4:45 PM	0	0	0	11	0	1	0	13	6	0	8	0	39
5:00 PM	0	0	0	6	0	3	0	21	7	0	12	0	49
5:15 PM	0	0	0	10	2	3	0	10	10	2	19	0	56
5:30 PM	0	0	0	9	0	4	0	9	1	5	9	0	37
5:45 PM	0	0	0	13	1	2	0	10	1	2	8	0	37
VOLUMES	0	0	0	80	4	30	0	111	36	19	103	0	383
APPROACH %	0%	0%	0%	70%	4%	26%	0%	76%	24%	16%	84%	0%	
APP/DEPART	0	/	0	114	/	59	147	/	191	122	/	133	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	38	3	12	0	50	19	9	48	0	179
APPROACH %	0%	0%	0%	72%	6%	23%	0%	72%	28%	16%	84%	0%	
PEAK HR FACTOR	0.000			0.828			0.616			0.679			0.799
APP/DEPART	0	/	0	53	/	31	69	/	88	57	/	60	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

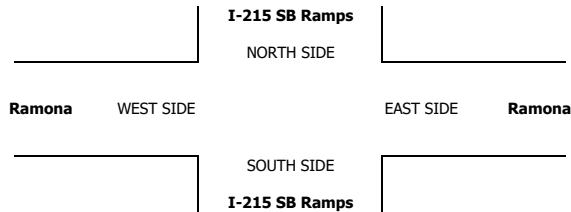
RTOR			
NRR	SRR	ERR	WRR
X	0	0	X
0	3	2	0
0	2	3	0
0	0	4	0
0	2	6	0
0	3	3	0
0	1	3	0
0	4	3	0
0	4	5	0
0	19	29	0

0	7	16	0
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0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	3	3	0
0	1	1	0
0	4	0	0
0	0	2	0
0	2	2	0
0	2	3	0
0	1	0	0
0	1	0	0
0	14	11	0

0	6	5	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 1/25/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 SB Ramps Ramona	PROJECT #: LOCATION #: CONTROL:	SC3258 1 SIGNAL																				
CLASS 3: 3-AXLE TRUCKS	NOTES:		<table border="1" style="margin: auto;"> <tr><td>AM</td><td></td><td>▲</td><td></td></tr> <tr><td>PM</td><td></td><td>N</td><td></td></tr> <tr><td>MD</td><td>◀ W</td><td></td><td>E ▶</td></tr> <tr><td>OTHER</td><td></td><td>S</td><td></td></tr> <tr><td>OTHER</td><td></td><td>▼</td><td></td></tr> </table>	AM		▲		PM		N		MD	◀ W		E ▶	OTHER		S		OTHER		▼		
AM		▲																						
PM		N																						
MD	◀ W		E ▶																					
OTHER		S																						
OTHER		▼																						

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	I-215 SB Ramps			I-215 SB Ramps			Ramona			Ramona			
LANES:	NL X	NT X	NR X	SL 1.5	ST 0.5	SR 1	EL X	ET 2	ER 0	WL 1	WT 2	WR X	
7:00 AM	0	0	0	7	0	0	0	7	7	0	1	0	22
7:15 AM	0	0	0	4	0	0	0	18	4	1	11	0	38
7:30 AM	0	0	0	3	0	0	0	5	5	0	2	0	15
7:45 AM	0	0	0	2	0	1	0	5	2	0	4	0	14
8:00 AM	0	0	0	5	0	1	0	4	5	1	6	0	22
8:15 AM	0	0	0	1	0	3	0	8	2	2	7	0	23
8:30 AM	0	0	0	2	0	2	0	8	3	0	0	0	15
8:45 AM	0	0	0	2	0	2	0	11	3	1	4	0	23
VOLUMES	0	0	0	26	0	9	0	66	31	5	35	0	172
APPROACH %	0%	0%	0%	74%	0%	26%	0%	68%	32%	13%	88%	0%	
APP/DEPART	0	/	0	35	/	36	97	/	92	40	/	44	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	0	0	0	14	0	2	0	32	16	2	23	0	89
APPROACH %	0%	0%	0%	88%	0%	13%	0%	67%	33%	8%	92%	0%	
PEAK HR FACTOR	0.000			0.667			0.545			0.521			0.586
APP/DEPART	0	/	0	16	/	18	48	/	46	25	/	25	0
4:00 PM	0	0	0	1	0	3	0	4	2	0	2	0	12
4:15 PM	0	0	0	5	0	1	0	2	0	0	2	0	10
4:30 PM	0	0	0	2	0	0	0	7	1	0	0	0	10
4:45 PM	0	0	0	2	0	0	0	5	2	0	4	0	13
5:00 PM	0	0	0	2	0	1	0	1	0	0	2	0	6
5:15 PM	0	0	0	1	0	0	0	1	1	1	2	0	6
5:30 PM	0	0	0	1	0	2	0	1	0	1	4	0	9
5:45 PM	0	0	0	2	0	0	0	0	0	0	4	0	6
VOLUMES	0	0	0	16	0	7	0	21	6	2	20	0	72
APPROACH %	0%	0%	0%	70%	0%	30%	0%	78%	22%	9%	91%	0%	
APP/DEPART	0	/	0	23	/	8	27	/	37	22	/	27	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	6	0	3	0	3	1	2	12	0	27
APPROACH %	0%	0%	0%	67%	0%	33%	0%	75%	25%	14%	86%	0%	
PEAK HR FACTOR	0.000			0.750			0.500			0.700			0.750
APP/DEPART	0	/	0	9	/	3	4	/	9	14	/	15	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

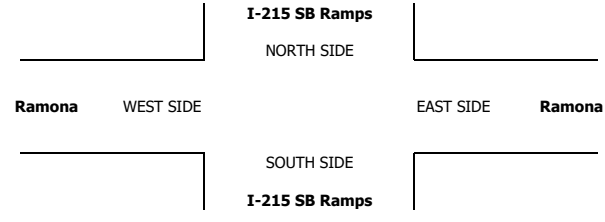
RTOR			
NRR	SRR	ERR	WRR
X	0	0	X
0	0	2	0
0	0	2	0
0	0	2	0
0	1	0	0
0	0	0	0
0	3	1	0
0	1	2	0
0	0	1	0
0	5	10	0

0	1	4	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	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
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0	0	0	0
0	0	0	0
0	0	1	0
0	1	0	0
0	0	0	0
0	1	2	0

0	1	1	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 1/25/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 SB Ramps Ramona	PROJECT #: LOCATION #: CONTROL:	SC3258 1 SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER	◀ W S ▼	▲ N E ▶
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	I-215 SB Ramps			I-215 SB Ramps			Ramona			Ramona			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	X	X	1.5	0.5	1	X	2	0	1	2	X	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
X	0	0	X

AM	7:00 AM	0	0	0	11	0	9	0	16	6	1	15	0	58
	7:15 AM	0	0	0	14	0	1	0	5	2	4	17	0	43
	7:30 AM	0	0	0	21	0	6	0	3	5	4	15	0	54
	7:45 AM	0	0	0	21	0	7	0	9	3	5	9	0	54
	8:00 AM	0	0	0	16	0	14	0	9	3	0	13	0	55
	8:15 AM	0	0	0	20	0	6	0	10	8	3	14	0	61
	8:30 AM	0	0	0	25	0	5	0	14	3	3	1	0	51
	8:45 AM	0	0	0	22	0	8	0	10	3	2	17	0	62
	VOLUMES	0	0	0	150	0	56	0	76	33	22	101	0	438
	APPROACH %	0%	0%	0%	73%	0%	27%	0%	70%	30%	18%	82%	0%	
APP/DEPART	0	/	0	206	/	55	109	/	226	123	/	157	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	0	0	0	72	0	28	0	26	13	13	54	0	206	
APPROACH %	0%	0%	0%	72%	0%	28%	0%	67%	33%	19%	81%	0%		
PEAK HR FACTOR	0.000			0.833			0.813			0.798			0.936	
APP/DEPART	0	/	0	100	/	26	39	/	98	67	/	82	0	
PM	4:00 PM	0	0	0	7	0	3	0	6	2	0	5	0	23
	4:15 PM	0	0	0	7	0	6	0	5	0	2	12	0	32
	4:30 PM	0	0	0	9	0	3	0	3	1	0	9	0	25
	4:45 PM	0	0	0	11	0	2	0	3	3	2	5	0	26
	5:00 PM	0	0	0	11	0	9	0	4	3	3	5	0	35
	5:15 PM	0	0	0	10	0	5	0	7	3	2	6	0	33
	5:30 PM	0	0	0	7	1	4	0	2	1	1	7	0	23
	5:45 PM	0	0	0	6	0	2	0	5	0	2	4	0	19
	VOLUMES	0	0	0	68	1	34	0	35	13	12	53	0	216
	APPROACH %	0%	0%	0%	66%	1%	33%	0%	73%	27%	18%	82%	0%	
APP/DEPART	0	/	0	103	/	26	48	/	103	65	/	87	0	
BEGIN PEAK HR	5:00 PM													
VOLUMES	0	0	0	34	1	20	0	18	7	8	22	0	110	
APPROACH %	0%	0%	0%	62%	2%	36%	0%	72%	28%	27%	73%	0%		
PEAK HR FACTOR	0.000			0.688			0.625			0.938			0.786	
APP/DEPART	0	/	0	55	/	16	25	/	52	30	/	42	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

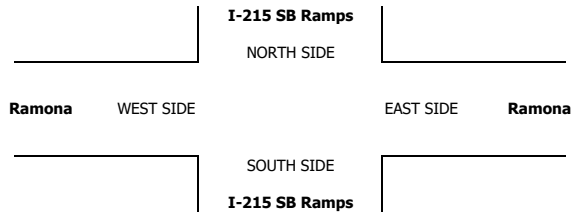
0	0	1	0
0	1	2	0
0	2	0	0
0	4	1	0
0	5	1	0
0	2	2	0
0	3	1	0
0	5	1	0
0	22	9	0

0	12	4	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	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	1	0	0
0	0	1	0
0	4	2	0
0	3	1	0
0	0	0	0
0	0	0	0
0	9	5	0

0	7	3	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Tue, Jan 25, 22

LOCATION: NORTH & SOUTH: EAST & WEST:

Perris I-215 NB Ramps Ramona

PROJECT #: SC3258 LOCATION #: 2 CONTROL: SIGNAL

NOTES: Table with directional arrows (N, S, E, W) and legend (APP, PM, MD, OTHER, OTHER).

Add U-Turns to Left Turns

Summary table for Northbound, Southbound, Eastbound, Westbound lanes with totals.

U-TURNS table with columns NB, SB, EB, WB, TTL.

RTOR table with columns NRR, SRR, ERR, WRR.

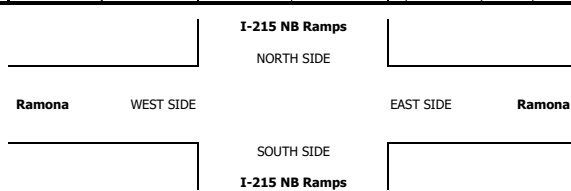
Main data table showing hourly volumes, approach percentages, and peak factors for AM and PM periods.

Hourly U-TURNS data for AM period.

Hourly RTOR data for AM period.

Hourly U-TURNS data for PM period.

Hourly RTOR data for PM period.



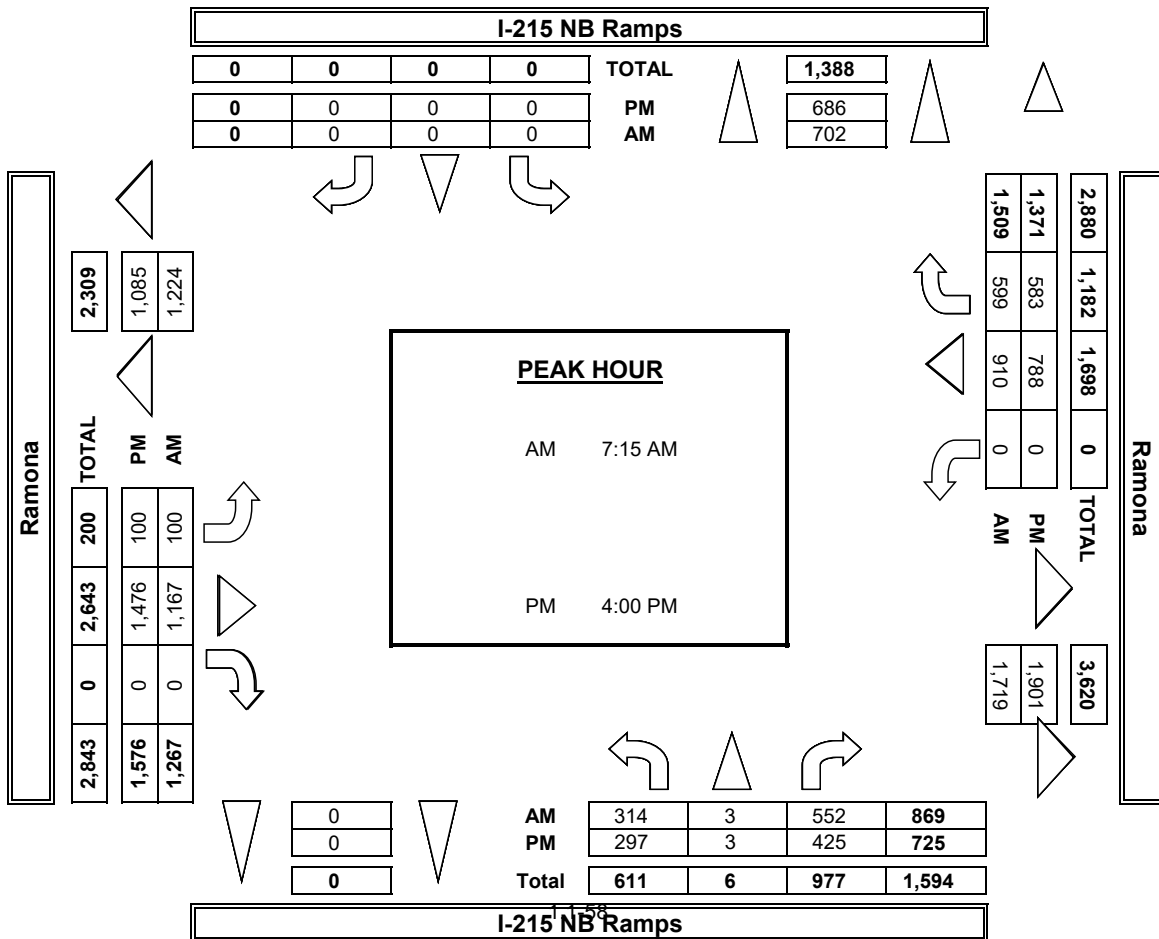
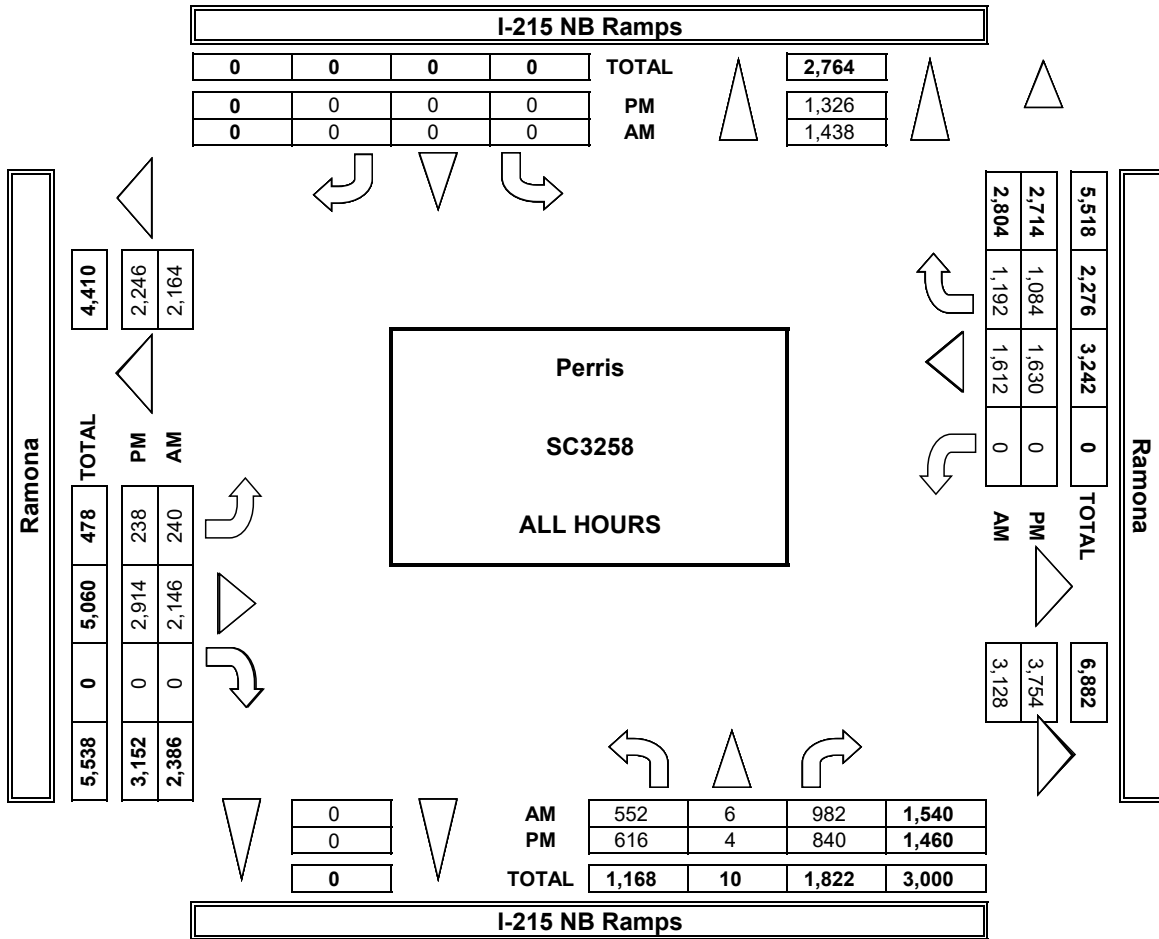
Summary table for Pedestrian and Bicycle crossings.

ALL PED AND BIKE table with columns E SIDE, W SIDE, S SIDE, N SIDE, TOTAL.

PEDESTRIAN CROSSINGS table with columns E SIDE, W SIDE, S SIDE, N SIDE, TOTAL.

BICYCLE CROSSINGS table with columns ES, WS, SS, NS, TOTAL.

AimTD LLC
TURNING MOVEMENT COUNTS

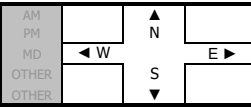


INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 1/25/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 NB Ramps Ramona	PROJECT #: LOCATION #: CONTROL:	SC3258 2 SIGNAL
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:
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LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	I-215 NB Ramps			I-215 NB Ramps			Ramona			Ramona			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1.5	0.5	1	X	X	X	1	2	X	X	2	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	X	X	0

AM	7:00 AM	7	0	5	0	0	0	1	53	0	0	18	11	95
	7:15 AM	10	0	1	0	0	0	4	27	0	0	26	19	87
	7:30 AM	7	0	6	0	0	0	0	31	0	0	26	14	84
	7:45 AM	8	1	5	0	0	0	5	31	0	0	21	10	81
	8:00 AM	8	0	10	0	0	0	2	28	0	0	24	9	81
	8:15 AM	8	1	5	0	0	0	3	21	0	0	20	8	66
	8:30 AM	7	0	7	0	0	0	5	27	0	0	11	11	68
	8:45 AM	7	0	8	0	0	0	5	17	0	0	21	11	69
	VOLUMES	62	2	47	0	0	0	25	235	0	0	167	93	631
	APPROACH %	56%	2%	42%	0%	0%	0%	10%	90%	0%	0%	64%	36%	
APP/DEPART	111	/	120	0	/	0	260	/	282	260	/	229	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	33	1	22	0	0	0	11	117	0	0	97	52	333	
APPROACH %	59%	2%	39%	0%	0%	0%	9%	91%	0%	0%	65%	35%		
PEAK HR FACTOR	0.778			0.000			0.889			0.828			0.957	
APP/DEPART	56	/	64	0	/	0	128	/	139	149	/	130	0	
PM	4:00 PM	7	1	4	0	0	0	0	26	0	0	11	9	58
	4:15 PM	9	1	13	0	0	0	1	24	0	0	7	7	62
	4:30 PM	13	0	6	0	0	0	2	26	0	0	10	8	65
	4:45 PM	4	0	8	0	0	0	1	23	0	0	4	8	48
	5:00 PM	3	0	4	0	0	0	3	24	0	0	9	0	43
	5:15 PM	4	0	5	0	0	0	2	18	0	0	17	0	46
	5:30 PM	2	0	3	0	0	0	3	15	0	0	12	4	39
	5:45 PM	5	0	1	0	0	0	1	22	0	0	5	2	36
	VOLUMES	47	2	44	0	0	0	13	178	0	0	75	38	397
	APPROACH %	51%	2%	47%	0%	0%	0%	7%	93%	0%	0%	66%	34%	
APP/DEPART	93	/	53	0	/	0	191	/	222	113	/	122	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	33	2	31	0	0	0	4	99	0	0	32	32	233	
APPROACH %	50%	3%	47%	0%	0%	0%	4%	96%	0%	0%	50%	50%		
PEAK HR FACTOR	0.717			0.000			0.920			0.800			0.896	
APP/DEPART	66	/	38	0	/	0	103	/	130	64	/	65	0	

0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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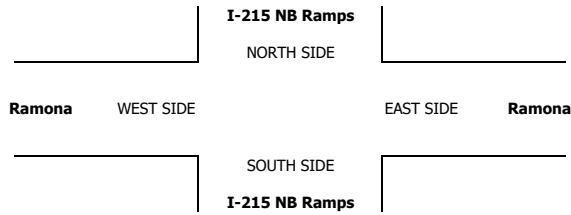
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4	0	0	3
17	0	0	22

11	0	0	12
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1	0	0	0
4	0	0	0
4	0	0	1
1	0	0	0
1	0	0	0
1	0	0	1
0	0	0	0
12	0	0	5

9	0	0	4
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 1/25/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 NB Ramps Ramona	PROJECT #: LOCATION #: CONTROL:	SC3258 2 SIGNAL
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CLASS 3: 3-AXLE TRUCKS	NOTES:	AM PM MD OTHER OTHER	◀ W S ▼	▲ N E ▶
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LANES:	NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Ramona			WESTBOUND Ramona			TOTAL
	NL 1.5	NT 0.5	NR 1	SL X	ST X	SR X	EL 1	ET 2	ER X	WL X	WT 2	WR 1	
7:00 AM	0	0	2	0	0	0	5	9	0	0	1	1	18
7:15 AM	5	0	1	0	0	0	9	13	0	0	7	0	35
7:30 AM	2	0	3	0	0	0	5	3	0	0	0	5	18
7:45 AM	2	0	1	0	0	0	2	5	0	0	2	2	14
8:00 AM	4	0	0	0	0	0	3	6	0	0	3	2	18
8:15 AM	1	0	1	0	0	0	3	6	0	0	8	5	24
8:30 AM	0	0	0	0	0	0	5	5	0	0	0	6	16
8:45 AM	1	0	1	0	0	0	7	6	0	0	4	1	20
VOLUMES	15	0	9	0	0	0	39	53	0	0	25	22	163
APPROACH %	63%	0%	38%	0%	0%	0%	42%	58%	0%	0%	53%	47%	
APP/DEPART	24	/	61	0	/	0	92	/	62	47	/	40	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	13	0	5	0	0	0	19	27	0	0	12	9	85
APPROACH %	72%	0%	28%	0%	0%	0%	41%	59%	0%	0%	57%	43%	
PEAK HR FACTOR	0.750			0.000			0.523			0.750			0.607
APP/DEPART	18	/	28	0	/	0	46	/	32	21	/	25	0
4:00 PM	0	0	3	0	0	0	3	2	0	0	2	0	10
4:15 PM	1	0	1	0	0	0	1	6	0	0	1	1	11
4:30 PM	0	0	2	0	0	0	2	7	0	0	0	1	12
4:45 PM	2	0	2	0	0	0	3	4	0	0	2	3	16
5:00 PM	1	0	1	0	0	0	1	2	0	0	1	1	7
5:15 PM	2	0	0	0	0	0	0	2	0	0	1	1	6
5:30 PM	2	0	0	0	0	0	1	1	0	0	3	0	7
5:45 PM	0	0	1	0	0	0	0	2	0	0	4	3	10
VOLUMES	8	0	10	0	0	0	11	26	0	0	14	10	79
APPROACH %	44%	0%	56%	0%	0%	0%	30%	70%	0%	0%	58%	42%	
APP/DEPART	18	/	21	0	/	0	37	/	36	24	/	22	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	3	0	8	0	0	0	9	19	0	0	5	5	49
APPROACH %	27%	0%	73%	0%	0%	0%	32%	68%	0%	0%	50%	50%	
PEAK HR FACTOR	0.688			0.000			0.778			0.500			0.766
APP/DEPART	11	/	14	0	/	0	28	/	27	10	/	8	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

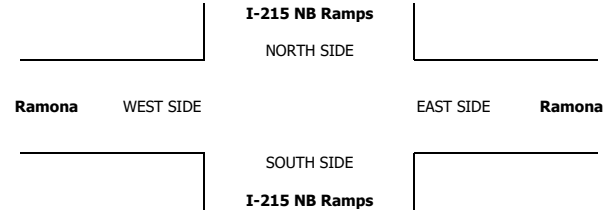
RTOR			
NRR	SRR	ERR	WRR
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0	0	0	0
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0	0	0	0
0	0	0	2
1	0	0	0
2	0	0	4

0	0	0	1
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0	0	0	2
1	0	0	1
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0	0	0	0
0	0	0	0
1	0	0	5

0	0	0	3
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 1/25/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 NB Ramps Ramona	PROJECT #: LOCATION #: CONTROL:	SC3258 2 SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER	← W E →	▲ N ▼ S	
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LANES:	NORTHBOUND <small>I-215 NB Ramps</small>			SOUTHBOUND <small>I-215 NB Ramps</small>			EASTBOUND <small>Ramona</small>			WESTBOUND <small>Ramona</small>			TOTAL
	NL 1.5	NT 0.5	NR 1	SL X	ST X	SR X	EL 1	ET 2	ER X	WL X	WT 2	WR 1	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

AM	7:00 AM	12	0	8	0	0	0	12	15	0	0	4	10	61
	7:15 AM	7	0	7	0	0	0	3	16	0	0	14	13	60
	7:30 AM	8	0	2	0	0	0	3	21	0	0	11	14	59
	7:45 AM	5	0	5	0	0	0	5	25	0	0	9	10	59
	8:00 AM	7	0	8	0	0	0	6	19	0	0	6	16	62
	8:15 AM	8	0	6	0	0	0	5	25	0	0	9	16	69
	8:30 AM	1	0	4	0	0	0	6	33	0	0	3	11	58
	8:45 AM	9	0	6	0	0	0	8	24	0	0	10	19	76
	VOLUMES	57	0	46	0	0	0	48	178	0	0	66	109	504
	APPROACH %	55%	0%	45%	0%	0%	0%	21%	79%	0%	0%	38%	62%	
APP/DEPART	103	/	157	0	/	0	226	/	224	175	/	123	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	27	0	22	0	0	0	17	81	0	0	40	53	240	
APPROACH %	55%	0%	45%	0%	0%	0%	17%	83%	0%	0%	43%	57%		
PEAK HR FACTOR	0.817			0.000			0.817			0.861			0.968	
APP/DEPART	49	/	70	0	/	0	98	/	103	93	/	67	0	
PM	4:00 PM	1	0	1	0	0	0	2	11	0	0	4	7	26
	4:15 PM	6	0	2	0	0	0	2	10	0	0	8	7	35
	4:30 PM	6	0	2	0	0	0	0	12	0	0	3	6	29
	4:45 PM	3	0	1	0	0	0	1	13	0	0	4	4	26
	5:00 PM	0	0	1	0	0	0	1	14	0	0	8	7	31
	5:15 PM	5	0	0	0	0	0	4	13	0	0	3	13	38
	5:30 PM	4	0	1	0	0	0	2	7	0	0	4	8	26
	5:45 PM	2	0	1	0	0	0	1	10	0	0	4	4	22
	VOLUMES	27	0	9	0	0	0	13	90	0	0	38	56	233
	APPROACH %	75%	0%	25%	0%	0%	0%	13%	87%	0%	0%	40%	60%	
APP/DEPART	36	/	69	0	/	0	103	/	99	94	/	65	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	16	0	6	0	0	0	5	46	0	0	19	24	116	
APPROACH %	73%	0%	27%	0%	0%	0%	10%	90%	0%	0%	44%	56%		
PEAK HR FACTOR	0.688			0.000			0.911			0.717			0.829	
APP/DEPART	22	/	29	0	/	0	51	/	52	43	/	35	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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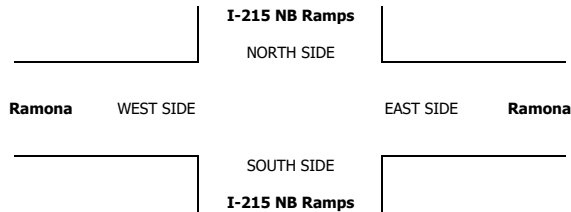
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1	0	0	4
12	0	0	23

5	0	0	11
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0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

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0	0	0	1
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1	0	0	1
0	0	0	3
0	0	0	1
0	0	0	0
2	0	0	10

1	0	0	5
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County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

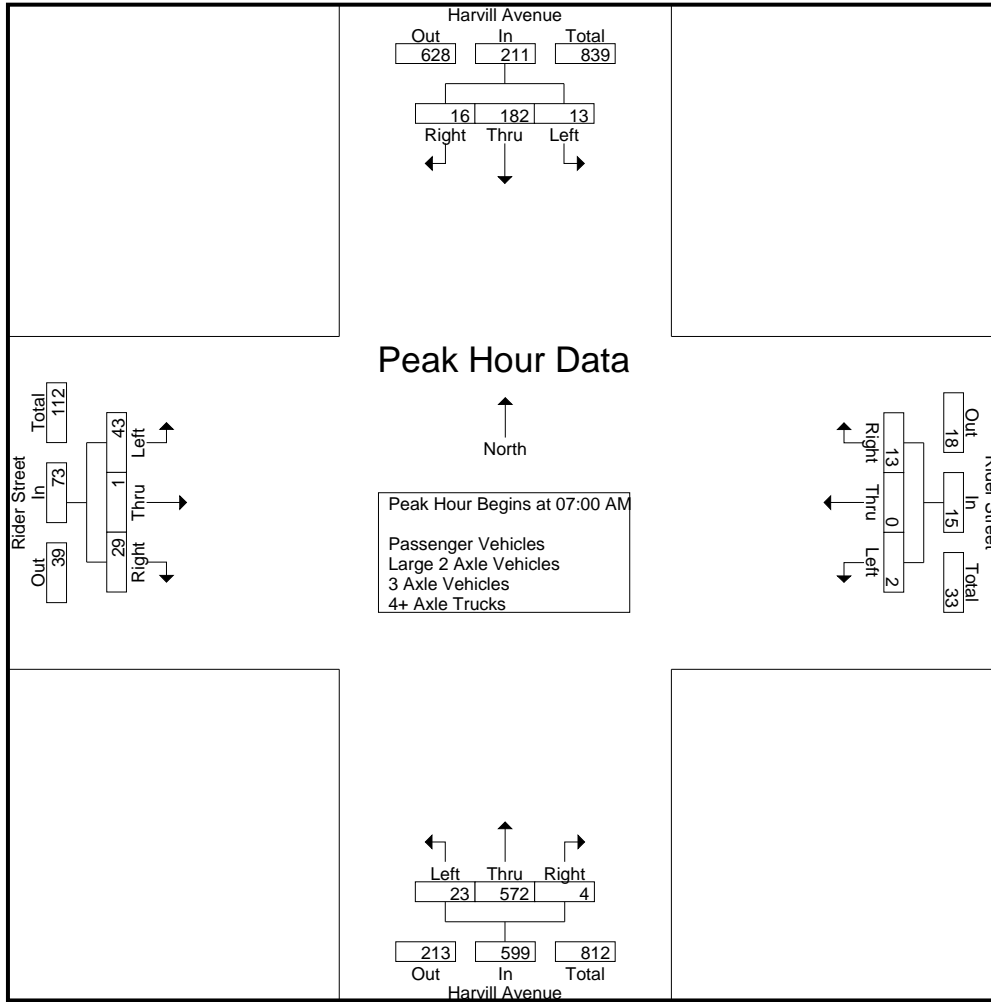
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	3	30	3	36	0	0	8	8	8	151	1	160	11	0	3	14	218
07:15 AM	2	43	5	50	2	0	1	3	6	154	2	162	15	0	7	22	237
07:30 AM	2	59	2	63	0	0	1	1	6	136	0	142	11	0	15	26	232
07:45 AM	6	50	6	62	0	0	3	3	3	131	1	135	6	1	4	11	211
Total	13	182	16	211	2	0	13	15	23	572	4	599	43	1	29	73	898
08:00 AM	2	50	6	58	0	0	1	1	6	110	3	119	4	1	3	8	186
08:15 AM	3	59	5	67	1	0	0	1	6	49	0	55	2	0	11	13	136
08:30 AM	1	51	6	58	0	0	2	2	4	57	1	62	5	0	0	5	127
08:45 AM	2	51	3	56	1	0	1	2	6	53	0	59	4	0	2	6	123
Total	8	211	20	239	2	0	4	6	22	269	4	295	15	1	16	32	572
Grand Total	21	393	36	450	4	0	17	21	45	841	8	894	58	2	45	105	1470
Apprch %	4.7	87.3	8		19	0	81		5	94.1	0.9		55.2	1.9	42.9		
Total %	1.4	26.7	2.4	30.6	0.3	0	1.2	1.4	3.1	57.2	0.5	60.8	3.9	0.1	3.1	7.1	
Passenger Vehicles	17	352	33	402	2	0	15	17	40	817	8	865	54	2	42	98	1382
% Passenger Vehicles	81	89.6	91.7	89.3	50	0	88.2	81	88.9	97.1	100	96.8	93.1	100	93.3	93.3	94
Large 2 Axle Vehicles	0	27	1	28	0	0	0	0	4	18	0	22	0	0	3	3	53
% Large 2 Axle Vehicles	0	6.9	2.8	6.2	0	0	0	0	8.9	2.1	0	2.5	0	0	6.7	2.9	3.6
3 Axle Vehicles	0	1	0	1	0	0	0	0	0	2	0	2	1	0	0	1	4
% 3 Axle Vehicles	0	0.3	0	0.2	0	0	0	0	0	0.2	0	0.2	1.7	0	0	1	0.3
4+ Axle Trucks	4	13	2	19	2	0	2	4	1	4	0	5	3	0	0	3	31
% 4+ Axle Trucks	19	3.3	5.6	4.2	50	0	11.8	19	2.2	0.5	0	0.6	5.2	0	0	2.9	2.1

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	3	30	3	36	0	0	8	8	8	151	1	160	11	0	3	14	218
07:15 AM	2	43	5	50	2	0	1	3	6	154	2	162	15	0	7	22	237
07:30 AM	2	59	2	63	0	0	1	1	6	136	0	142	11	0	15	26	232
07:45 AM	6	50	6	62	0	0	3	3	3	131	1	135	6	1	4	11	211
Total Volume	13	182	16	211	2	0	13	15	23	572	4	599	43	1	29	73	898
% App. Total	6.2	86.3	7.6		13.3	0	86.7		3.8	95.5	0.7		58.9	1.4	39.7		
PHF	.542	.771	.667	.837	.250	.000	.406	.469	.719	.929	.500	.924	.717	.250	.483	.702	.947

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



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

	07:30 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	2	59	2	63	0	0	8	8	8	151	1	160	11	0	3	14
+15 mins.	6	50	6	62	2	0	1	3	6	154	2	162	15	0	7	22
+30 mins.	2	50	6	58	0	0	1	1	6	136	0	142	11	0	15	26
+45 mins.	3	59	5	67	0	0	3	3	3	131	1	135	6	1	4	11
Total Volume	13	218	19	250	2	0	13	15	23	572	4	599	43	1	29	73
% App. Total	5.2	87.2	7.6		13.3	0	86.7		3.8	95.5	0.7		58.9	1.4	39.7	
PHF	.542	.924	.792	.933	.250	.000	.406	.469	.719	.929	.500	.924	.717	.250	.483	.702

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Passenger Vehicles

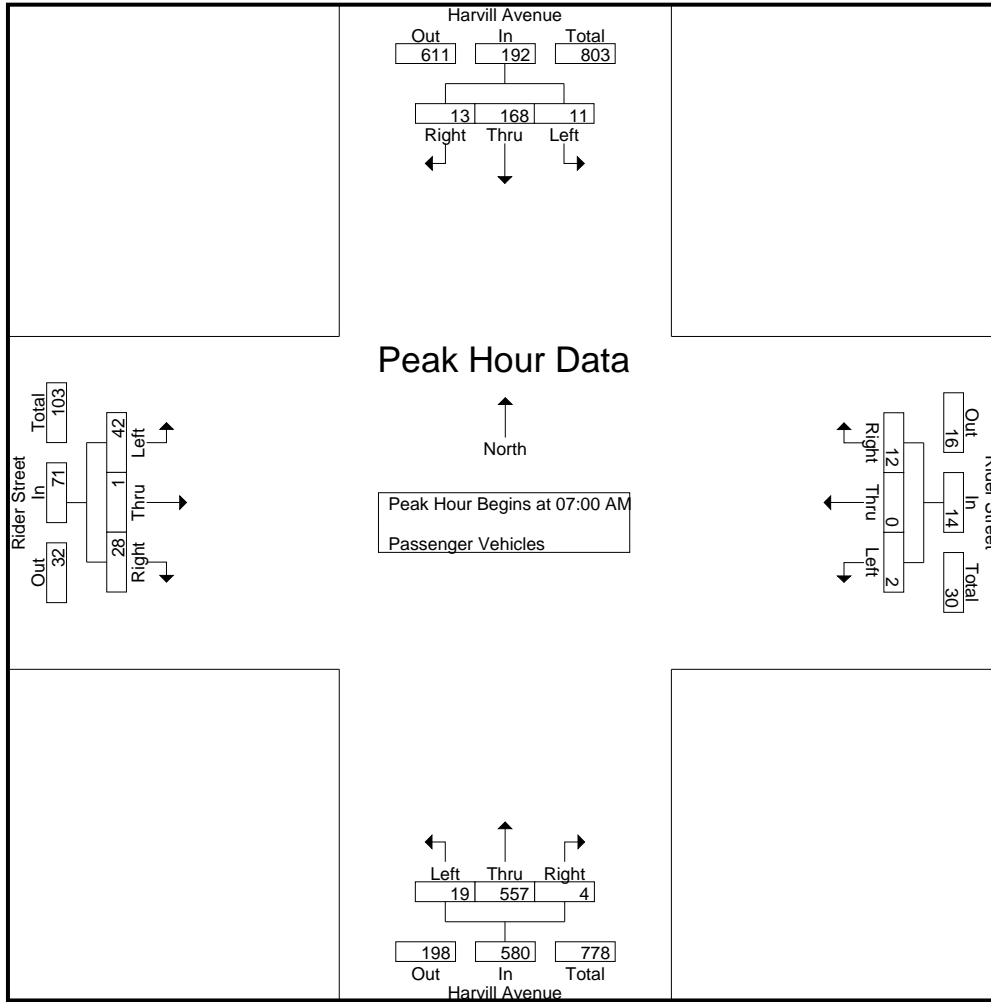
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	3	25	3	31	0	0	8	8	6	145	1	152	11	0	3	14	205
07:15 AM	1	37	4	42	2	0	1	3	5	151	2	158	14	0	7	21	224
07:30 AM	2	59	1	62	0	0	1	1	5	133	0	138	11	0	14	25	226
07:45 AM	5	47	5	57	0	0	2	2	3	128	1	132	6	1	4	11	202
Total	11	168	13	192	2	0	12	14	19	557	4	580	42	1	28	71	857
08:00 AM	2	49	6	57	0	0	0	0	5	107	3	115	3	1	3	7	179
08:15 AM	1	51	5	57	0	0	0	0	6	47	0	53	2	0	9	11	121
08:30 AM	1	42	6	49	0	0	2	2	4	55	1	60	5	0	0	5	116
08:45 AM	2	42	3	47	0	0	1	1	6	51	0	57	2	0	2	4	109
Total	6	184	20	210	0	0	3	3	21	260	4	285	12	1	14	27	525
Grand Total	17	352	33	402	2	0	15	17	40	817	8	865	54	2	42	98	1382
Apprch %	4.2	87.6	8.2		11.8	0	88.2		4.6	94.5	0.9		55.1	2	42.9		
Total %	1.2	25.5	2.4	29.1	0.1	0	1.1	1.2	2.9	59.1	0.6	62.6	3.9	0.1	3	7.1	

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	3	25	3	31	0	0	8	8	6	145	1	152	11	0	3	14	205
07:15 AM	1	37	4	42	2	0	1	3	5	151	2	158	14	0	7	21	224
07:30 AM	2	59	1	62	0	0	1	1	5	133	0	138	11	0	14	25	226
07:45 AM	5	47	5	57	0	0	2	2	3	128	1	132	6	1	4	11	202
Total Volume	11	168	13	192	2	0	12	14	19	557	4	580	42	1	28	71	857
% App. Total	5.7	87.5	6.8		14.3	0	85.7		3.3	96	0.7		59.2	1.4	39.4		
PHF	.550	.712	.650	.774	.250	.000	.375	.438	.792	.922	.500	.918	.750	.250	.500	.710	.948

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	3	25	3	31	0	0	8	8	6	145	1	152	11	0	3	14
+15 mins.	1	37	4	42	2	0	1	3	5	151	2	158	14	0	7	21
+30 mins.	2	59	1	62	0	0	1	1	5	133	0	138	11	0	14	25
+45 mins.	5	47	5	57	0	0	2	2	3	128	1	132	6	1	4	11
Total Volume	11	168	13	192	2	0	12	14	19	557	4	580	42	1	28	71
% App. Total	5.7	87.5	6.8		14.3	0	85.7		3.3	96	0.7		59.2	1.4	39.4	
PHF	.550	.712	.650	.774	.250	.000	.375	.438	.792	.922	.500	.918	.750	.250	.500	.710

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

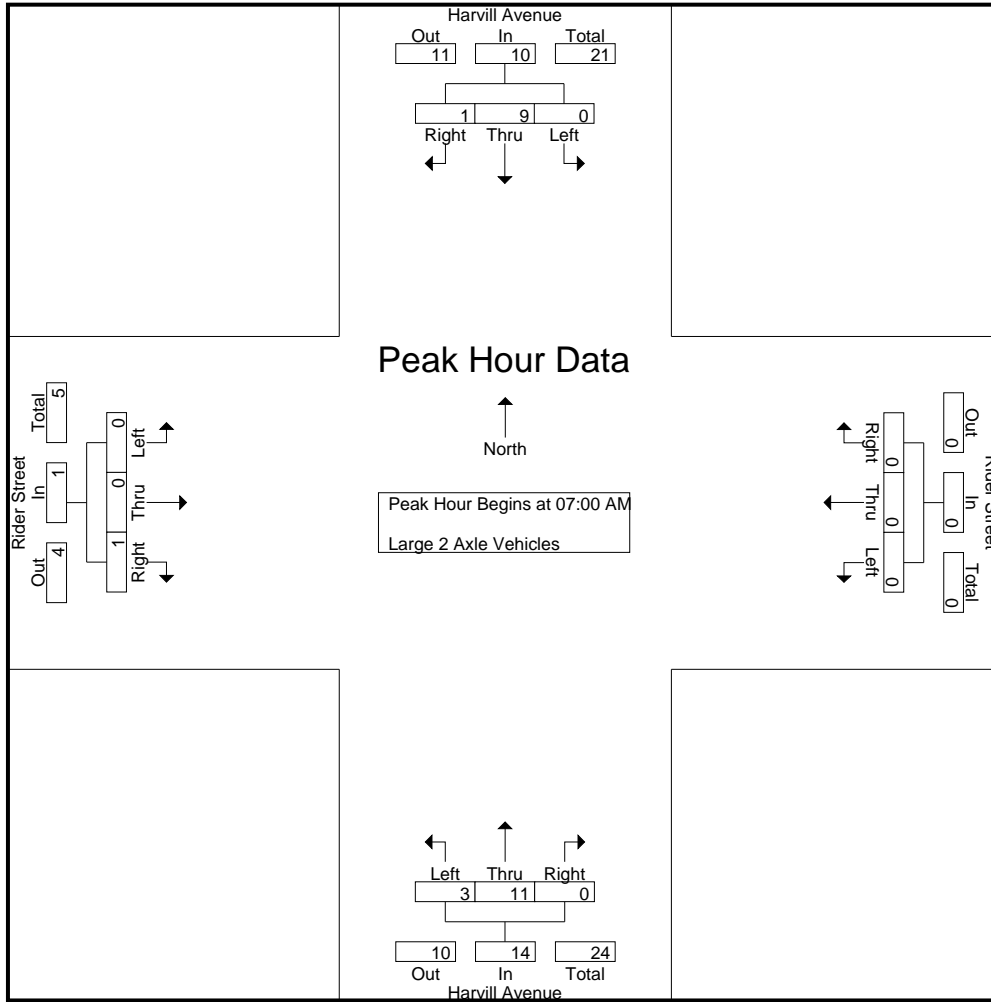
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	3	0	3	0	0	0	0	1	4	0	5	0	0	0	0	8
07:15 AM	0	4	0	4	0	0	0	0	1	3	0	4	0	0	0	0	8
07:30 AM	0	0	1	1	0	0	0	0	1	2	0	3	0	0	1	1	5
07:45 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
Total	0	9	1	10	0	0	0	0	3	11	0	14	0	0	1	1	25
08:00 AM	0	0	0	0	0	0	0	0	1	2	0	3	0	0	0	0	3
08:15 AM	0	5	0	5	0	0	0	0	0	1	0	1	0	0	2	2	8
08:30 AM	0	7	0	7	0	0	0	0	0	2	0	2	0	0	0	0	9
08:45 AM	0	6	0	6	0	0	0	0	0	2	0	2	0	0	0	0	8
Total	0	18	0	18	0	0	0	0	1	7	0	8	0	0	2	2	28
Grand Total	0	27	1	28	0	0	0	0	4	18	0	22	0	0	3	3	53
Apprch %	0	96.4	3.6		0	0	0		18.2	81.8	0		0	0	100		
Total %	0	50.9	1.9	52.8	0	0	0		7.5	34	0	41.5	0	0	5.7	5.7	

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	3	0	3	0	0	0	0	1	4	0	5	0	0	0	0	8
07:15 AM	0	4	0	4	0	0	0	0	1	3	0	4	0	0	0	0	8
07:30 AM	0	0	1	1	0	0	0	0	1	2	0	3	0	0	1	1	5
07:45 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
Total Volume	0	9	1	10	0	0	0	0	3	11	0	14	0	0	1	1	25
% App. Total	0	90	10		0	0	0		21.4	78.6	0		0	0	100		
PHF	.000	.563	.250	.625	.000	.000	.000	.000	.750	.688	.000	.700	.000	.000	.250	.250	.781

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	3	0	3	0	0	0	0	1	4	0	5	0	0	0	0
+15 mins.	0	4	0	4	0	0	0	0	1	3	0	4	0	0	0	0
+30 mins.	0	0	1	1	0	0	0	0	1	2	0	3	0	0	1	1
+45 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0
Total Volume	0	9	1	10	0	0	0	0	3	11	0	14	0	0	1	1
% App. Total	0	90	10		0	0	0		21.4	78.6	0		0	0	100	
PHF	.000	.563	.250	.625	.000	.000	.000	.000	.750	.688	.000	.700	.000	.000	.250	.250

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 3 Axle Vehicles

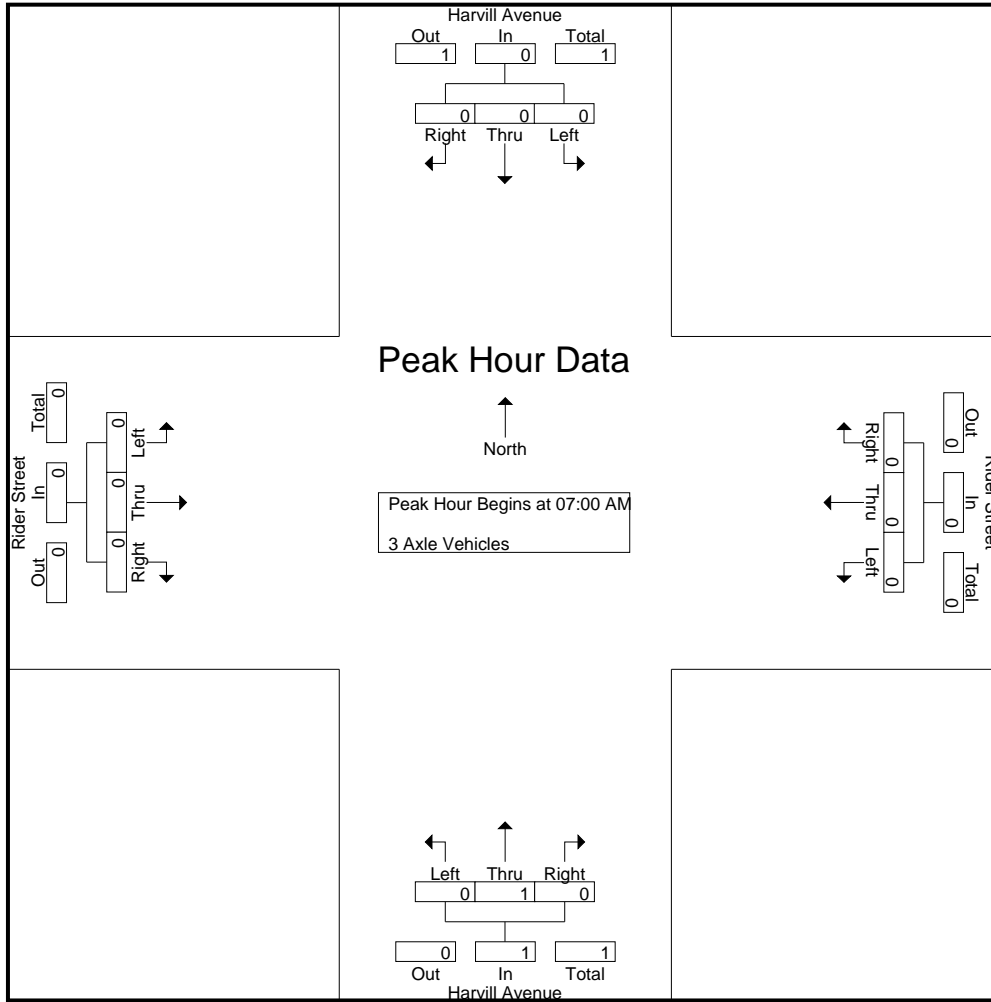
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
Total	0	1	0	1	0	0	0	0	0	1	0	1	1	0	0	1	3
Grand Total	0	1	0	1	0	0	0	0	0	2	0	2	1	0	0	1	4
Apprch %	0	100	0		0	0	0		0	100	0		100	0	0		
Total %	0	25	0	25	0	0	0	0	0	50	0	50	25	0	0	25	

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 4+ Axle Trucks

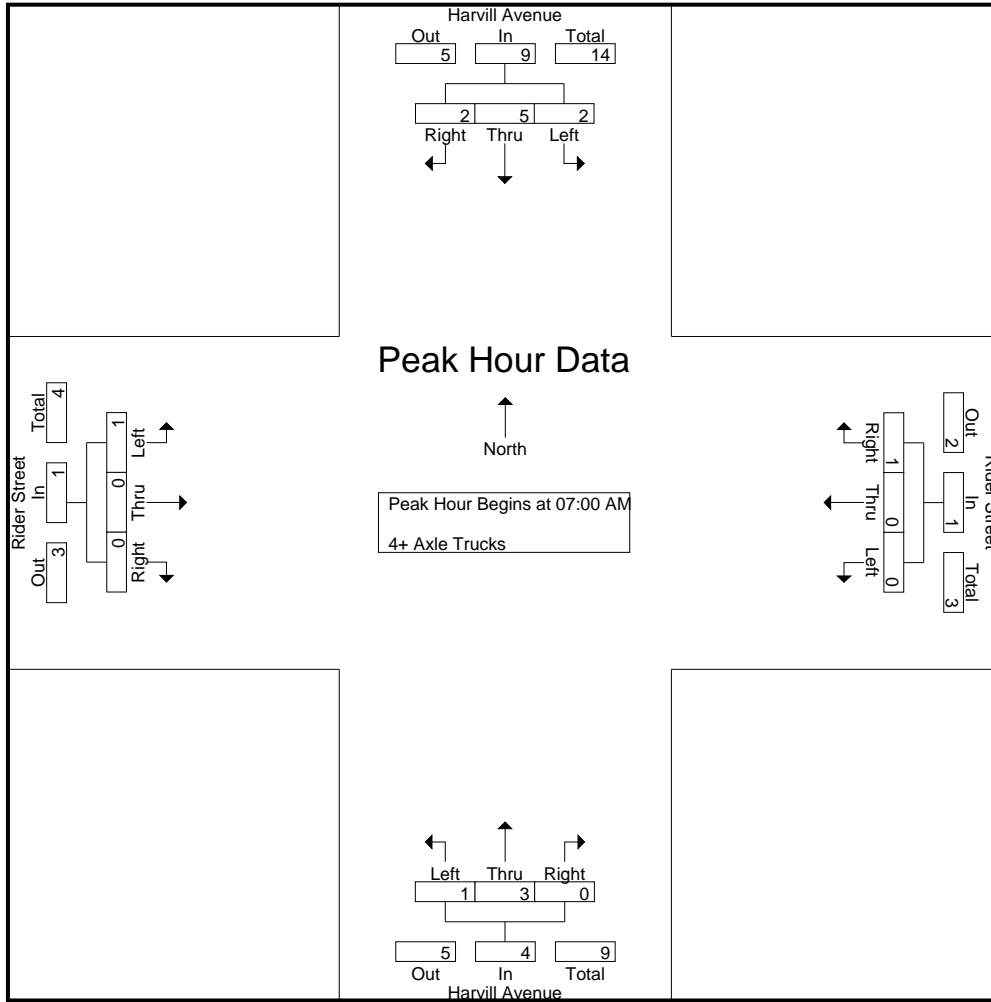
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	2	0	2	0	0	0	0	1	2	0	3	0	0	0	0	5
07:15 AM	1	2	1	4	0	0	0	0	0	0	0	0	1	0	0	1	5
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	1	1	1	3	0	0	1	1	0	0	0	0	0	0	0	0	4
Total	2	5	2	9	0	0	1	1	1	3	0	4	1	0	0	1	15
08:00 AM	0	1	0	1	0	0	1	1	0	0	0	0	1	0	0	1	3
08:15 AM	2	3	0	5	1	0	0	1	0	1	0	1	0	0	0	0	7
08:30 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:45 AM	0	2	0	2	1	0	0	1	0	0	0	0	1	0	0	1	4
Total	2	8	0	10	2	0	1	3	0	1	0	1	2	0	0	2	16
Grand Total	4	13	2	19	2	0	2	4	1	4	0	5	3	0	0	3	31
Apprch %	21.1	68.4	10.5		50	0	50		20	80	0		100	0	0		
Total %	12.9	41.9	6.5	61.3	6.5	0	6.5	12.9	3.2	12.9	0	16.1	9.7	0	0	9.7	

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	2	0	2	0	0	0	0	1	2	0	3	0	0	0	0	5
07:15 AM	1	2	1	4	0	0	0	0	0	0	0	0	1	0	0	1	5
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	1	1	1	3	0	0	1	1	0	0	0	0	0	0	0	0	4
Total Volume	2	5	2	9	0	0	1	1	1	3	0	4	1	0	0	1	15
% App. Total	22.2	55.6	22.2		0	0	100		25	75	0		100	0	0		
PHF	.500	.625	.500	.563	.000	.000	.250	.250	.250	.375	.000	.333	.250	.000	.000	.250	.750

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	2	0	2	0	0	0	0	1	2	0	3	0	0	0	0
+15 mins.	1	2	1	4	0	0	0	0	0	0	0	0	1	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	1	1	1	3	0	0	1	1	0	0	0	0	0	0	0	0
Total Volume	2	5	2	9	0	0	1	1	1	3	0	4	1	0	0	1
% App. Total	22.2	55.6	22.2		0	0	100		25	75	0		100	0	0	
PHF	.500	.625	.500	.563	.000	.000	.250	.250	.250	.375	.000	.333	.250	.000	.000	.250

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

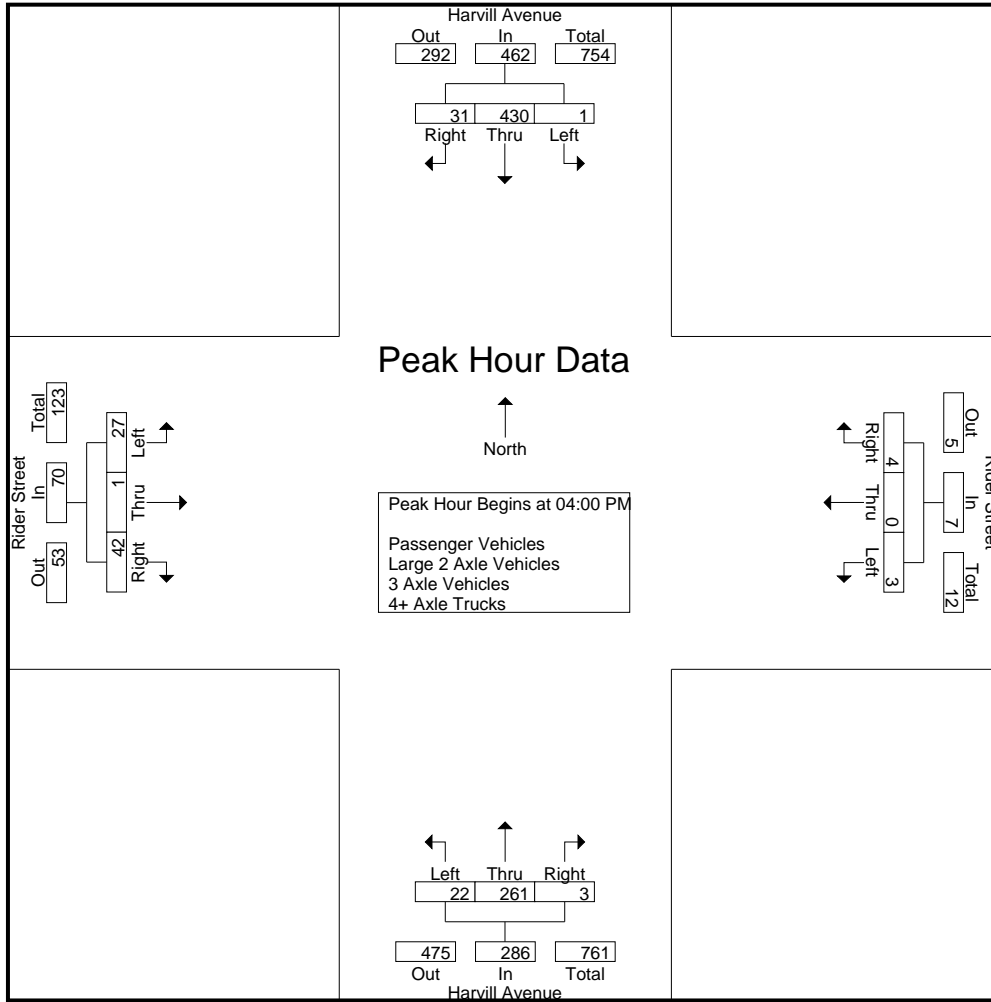
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	119	12	131	1	0	3	4	6	78	1	85	4	1	15	20	240
04:15 PM	1	96	8	105	0	0	1	1	5	65	1	71	10	0	11	21	198
04:30 PM	0	115	8	123	2	0	0	2	7	57	1	65	9	0	8	17	207
04:45 PM	0	100	3	103	0	0	0	0	4	61	0	65	4	0	8	12	180
Total	1	430	31	462	3	0	4	7	22	261	3	286	27	1	42	70	825
05:00 PM	0	81	10	91	0	0	0	0	2	64	0	66	5	0	9	14	171
05:15 PM	0	78	2	80	1	0	0	1	7	61	0	68	4	0	11	15	164
05:30 PM	1	80	4	85	4	0	0	4	2	59	0	61	1	0	3	4	154
05:45 PM	0	70	10	80	0	0	1	1	4	66	1	71	4	0	6	10	162
Total	1	309	26	336	5	0	1	6	15	250	1	266	14	0	29	43	651
Grand Total	2	739	57	798	8	0	5	13	37	511	4	552	41	1	71	113	1476
Apprch %	0.3	92.6	7.1		61.5	0	38.5		6.7	92.6	0.7		36.3	0.9	62.8		
Total %	0.1	50.1	3.9	54.1	0.5	0	0.3	0.9	2.5	34.6	0.3	37.4	2.8	0.1	4.8	7.7	
Passenger Vehicles	2	711	51	764	8	0	5	13	36	498	4	538	40	1	71	112	1427
% Passenger Vehicles	100	96.2	89.5	95.7	100	0	100	100	97.3	97.5	100	97.5	97.6	100	100	99.1	96.7
Large 2 Axle Vehicles	0	17	1	18	0	0	0	0	1	5	0	6	0	0	0	0	24
% Large 2 Axle Vehicles	0	2.3	1.8	2.3	0	0	0	0	2.7	1	0	1.1	0	0	0	0	1.6
3 Axle Vehicles	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
% 3 Axle Vehicles	0	0.3	0	0.3	0	0	0	0	0	0.6	0	0.5	0	0	0	0	0.3
4+ Axle Trucks	0	9	5	14	0	0	0	0	0	5	0	5	1	0	0	1	20
% 4+ Axle Trucks	0	1.2	8.8	1.8	0	0	0	0	0	1	0	0.9	2.4	0	0	0.9	1.4

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	119	12	131	1	0	3	4	6	78	1	85	4	1	15	20	240
04:15 PM	1	96	8	105	0	0	1	1	5	65	1	71	10	0	11	21	198
04:30 PM	0	115	8	123	2	0	0	2	7	57	1	65	9	0	8	17	207
04:45 PM	0	100	3	103	0	0	0	0	4	61	0	65	4	0	8	12	180
Total Volume	1	430	31	462	3	0	4	7	22	261	3	286	27	1	42	70	825
% App. Total	0.2	93.1	6.7		42.9	0	57.1		7.7	91.3	1		38.6	1.4	60		
PHF	.250	.903	.646	.882	.375	.000	.333	.438	.786	.837	.750	.841	.675	.250	.700	.833	.859

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	119	12	131	1	0	3	4	6	78	1	85	4	1	15	20
+15 mins.	1	96	8	105	0	0	1	1	5	65	1	71	10	0	11	21
+30 mins.	0	115	8	123	2	0	0	2	7	57	1	65	9	0	8	17
+45 mins.	0	100	3	103	0	0	0	0	4	61	0	65	4	0	8	12
Total Volume	1	430	31	462	3	0	4	7	22	261	3	286	27	1	42	70
% App. Total	0.2	93.1	6.7		42.9	0	57.1		7.7	91.3	1		38.6	1.4	60	
PHF	.250	.903	.646	.882	.375	.000	.333	.438	.786	.837	.750	.841	.675	.250	.700	.833

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Passenger Vehicles

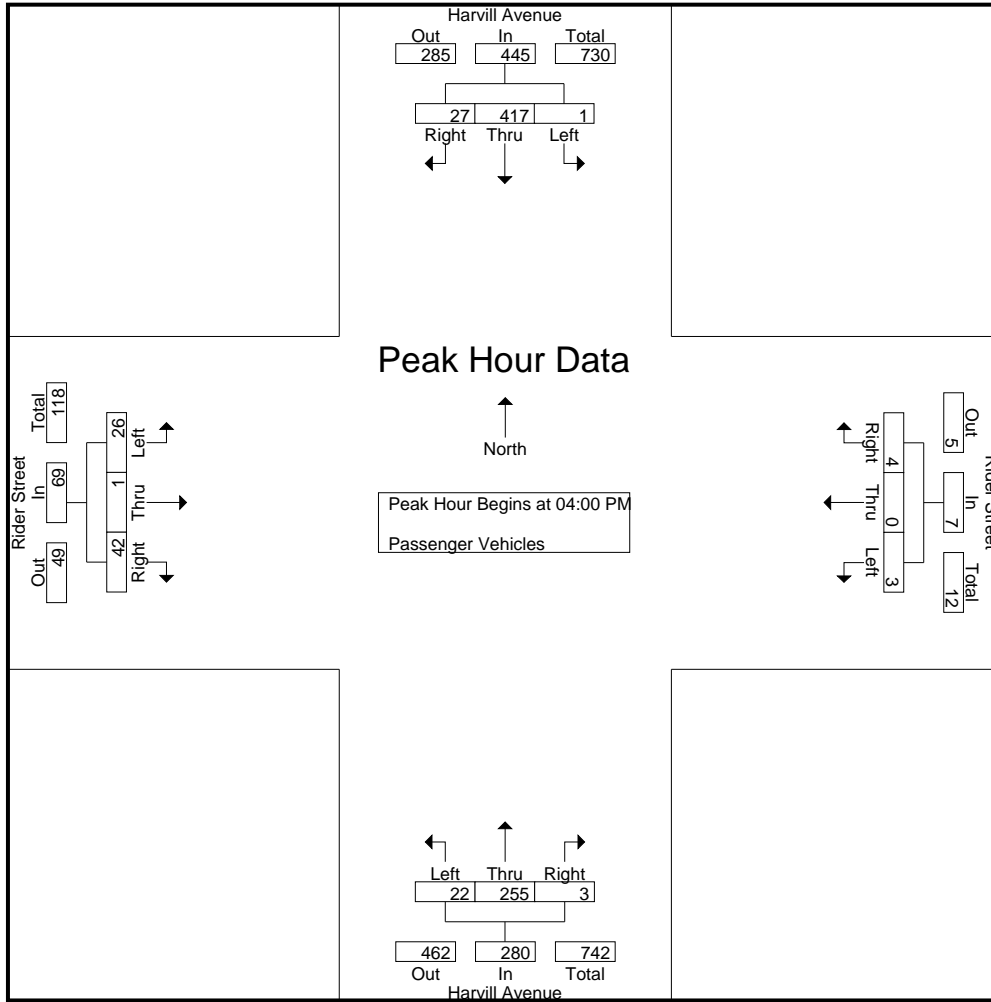
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	113	10	123	1	0	3	4	6	77	1	84	4	1	15	20	231
04:15 PM	1	93	7	101	0	0	1	1	5	63	1	69	10	0	11	21	192
04:30 PM	0	115	7	122	2	0	0	2	7	57	1	65	9	0	8	17	206
04:45 PM	0	96	3	99	0	0	0	0	4	58	0	62	3	0	8	11	172
Total	1	417	27	445	3	0	4	7	22	255	3	280	26	1	42	69	801
05:00 PM	0	75	10	85	0	0	0	0	2	62	0	64	5	0	9	14	163
05:15 PM	0	73	2	75	1	0	0	1	7	60	0	67	4	0	11	15	158
05:30 PM	1	77	4	82	4	0	0	4	2	58	0	60	1	0	3	4	150
05:45 PM	0	69	8	77	0	0	1	1	3	63	1	67	4	0	6	10	155
Total	1	294	24	319	5	0	1	6	14	243	1	258	14	0	29	43	626
Grand Total	2	711	51	764	8	0	5	13	36	498	4	538	40	1	71	112	1427
Apprch %	0.3	93.1	6.7		61.5	0	38.5		6.7	92.6	0.7		35.7	0.9	63.4		
Total %	0.1	49.8	3.6	53.5	0.6	0	0.4	0.9	2.5	34.9	0.3	37.7	2.8	0.1	5	7.8	

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	113	10	123	1	0	3	4	6	77	1	84	4	1	15	20	231
04:15 PM	1	93	7	101	0	0	1	1	5	63	1	69	10	0	11	21	192
04:30 PM	0	115	7	122	2	0	0	2	7	57	1	65	9	0	8	17	206
04:45 PM	0	96	3	99	0	0	0	0	4	58	0	62	3	0	8	11	172
Total Volume	1	417	27	445	3	0	4	7	22	255	3	280	26	1	42	69	801
% App. Total	0.2	93.7	6.1		42.9	0	57.1		7.9	91.1	1.1		37.7	1.4	60.9		
PHF	.250	.907	.675	.904	.375	.000	.333	.438	.786	.828	.750	.833	.650	.250	.700	.821	.867

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	113	10	123	1	0	3	4	6	77	1	84	4	1	15	20
+15 mins.	1	93	7	101	0	0	1	1	5	63	1	69	10	0	11	21
+30 mins.	0	115	7	122	2	0	0	2	7	57	1	65	9	0	8	17
+45 mins.	0	96	3	99	0	0	0	0	4	58	0	62	3	0	8	11
Total Volume	1	417	27	445	3	0	4	7	22	255	3	280	26	1	42	69
% App. Total	0.2	93.7	6.1		42.9	0	57.1		7.9	91.1	1.1		37.7	1.4	60.9	
PHF	.250	.907	.675	.904	.375	.000	.333	.438	.786	.828	.750	.833	.650	.250	.700	.821

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

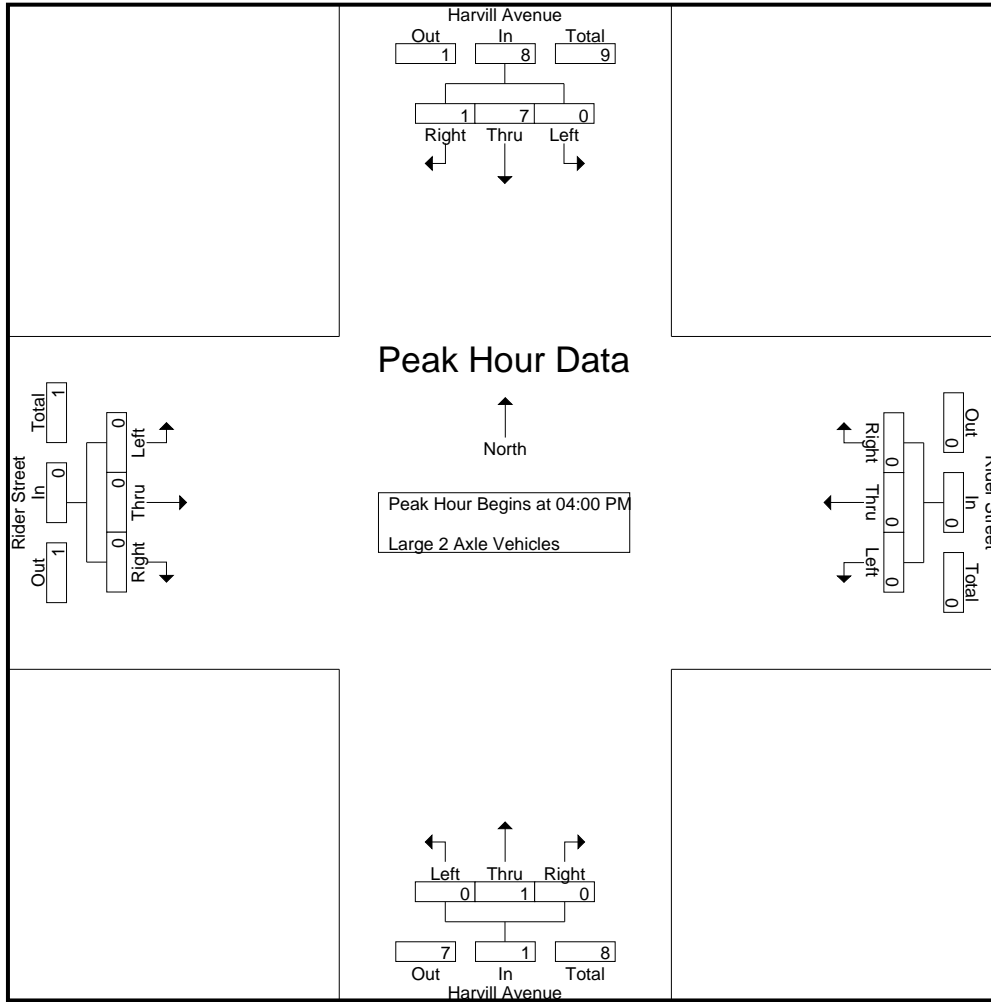
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	4	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:15 PM	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	7	1	8	0	0	0	0	0	0	1	0	1	0	0	0	0	9
05:00 PM	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	0	5
05:15 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	3
05:30 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	1	0	1	0	0	0	0	1	2	0	3	0	0	0	0	0	4
Total	0	10	0	10	0	0	0	0	1	4	0	5	0	0	0	0	0	15
Grand Total	0	17	1	18	0	0	0	0	1	5	0	6	0	0	0	0	0	24
Apprch %	0	94.4	5.6		0	0	0		16.7	83.3	0		0	0	0			
Total %	0	70.8	4.2	75	0	0	0	0	4.2	20.8	0	25	0	0	0	0	0	

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	4	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	7	1	8	0	0	0	0	0	1	0	1	0	0	0	0	0	9
% App. Total	0	87.5	12.5		0	0	0		0	100	0		0	0	0			
PHF	.000	.438	.250	.400	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.450

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	4	1	5	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	7	1	8	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	87.5	12.5		0	0	0		0	100	0		0	0	0	
PHF	.000	.438	.250	.400	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 3 Axle Vehicles

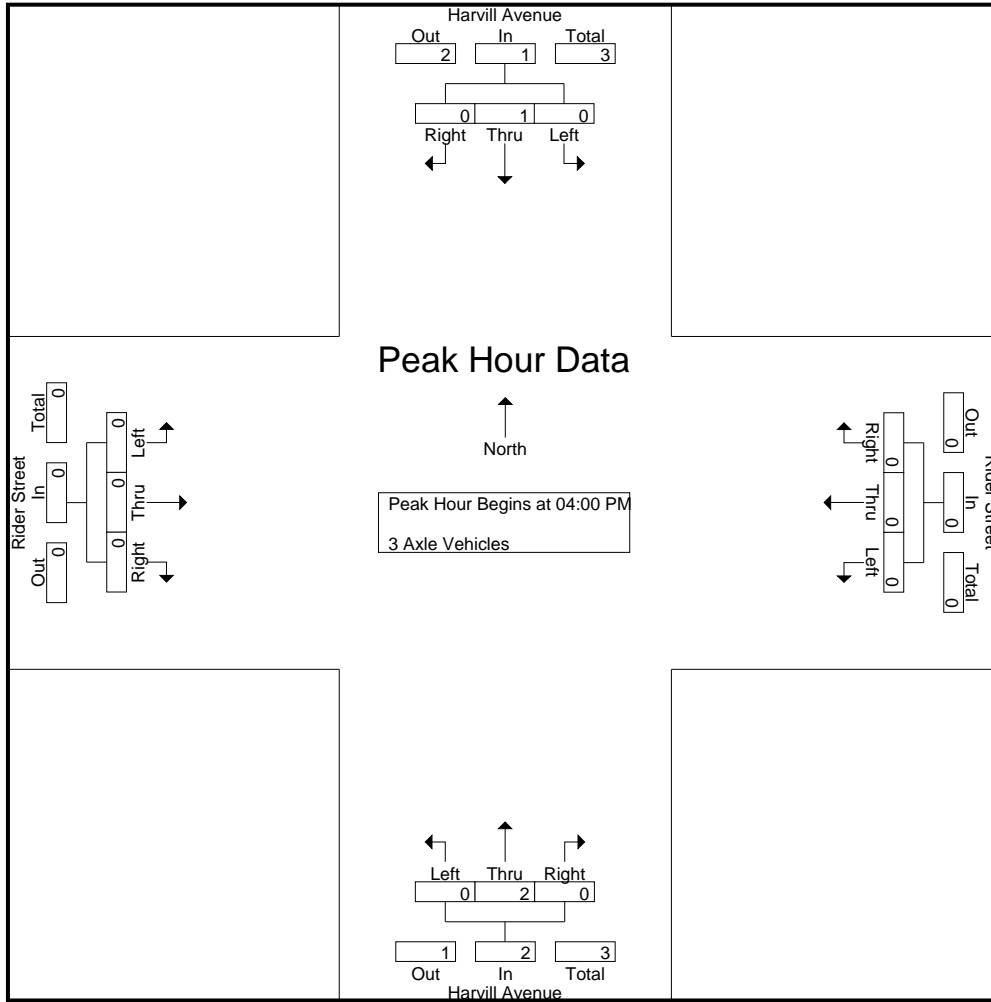
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	0	2	0	2	0	0	0	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
Grand Total	0	2	0	2	0	0	0	0	0	0	3	0	3	0	0	0	0	5
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0			
Total %	0	40	0	40	0	0	0	0	0	60	0	60	0	0	0	0	0	

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	1	0	1	0	0	0	0	0	0	2	0	2	0	0	0	0	3
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0			
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.750

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM							
+0 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 4+ Axle Trucks

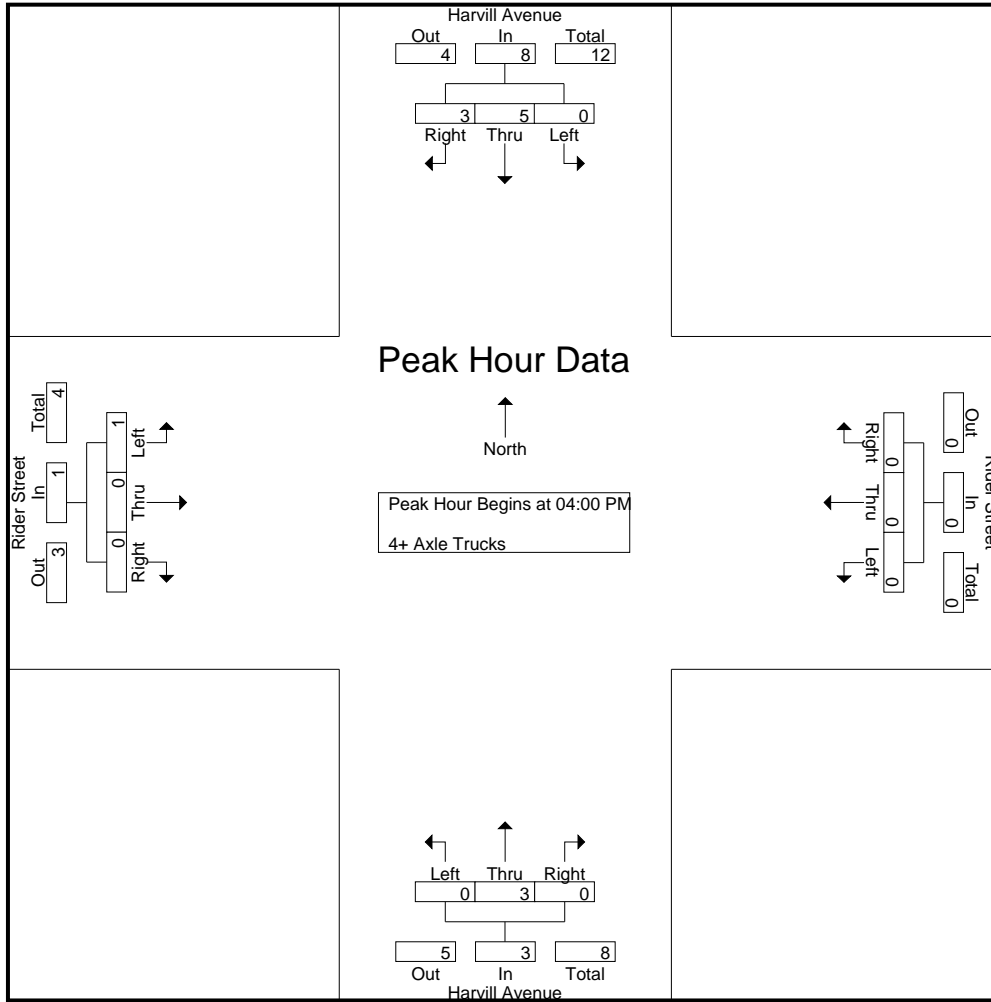
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:15 PM	0	1	1	2	0	0	0	0	0	0	1	0	1	0	0	0	0	3
04:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	2	0	2	0	0	0	0	0	0	2	0	2	1	0	0	1	5
Total	0	5	3	8	0	0	0	0	0	0	3	0	3	1	0	0	1	12
05:00 PM	0	2	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	3
05:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:45 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	4	2	6	0	0	0	0	0	0	2	0	2	0	0	0	0	8
Grand Total	0	9	5	14	0	0	0	0	0	0	5	0	5	1	0	0	1	20
Apprch %	0	64.3	35.7		0	0	0		0	100	0		100	0	0			
Total %	0	45	25	70	0	0	0	0	0	25	0	25	5	0	0	5		

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:15 PM	0	1	1	2	0	0	0	0	0	0	1	0	1	0	0	0	0	3
04:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	2	0	2	0	0	0	0	0	0	2	0	2	1	0	0	1	5
Total Volume	0	5	3	8	0	0	0	0	0	0	3	0	3	1	0	0	1	12
% App. Total	0	62.5	37.5		0	0	0		0	100	0		100	0	0			
PHF	.000	.625	.750	.667	.000	.000	.000	.000	.000	.375	.000	.375	.250	.000	.000	.250	.600	

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	2	0	2	1	0	0	1
Total Volume	0	5	3	8	0	0	0	0	0	3	0	3	1	0	0	1
% App. Total	0	62.5	37.5		0	0	0		0	100	0		100	0	0	
PHF	.000	.625	.750	.667	.000	.000	.000	.000	.000	.375	.000	.375	.250	.000	.000	.250

Location: County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street



Date: 2/8/2022
 Day: Tuesday

PEDESTRIANS

	North Leg Harvill Avenue	East Leg Rider Street	South Leg Harvill Avenue	West Leg Rider Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

	North Leg Harvill Avenue	East Leg Rider Street	South Leg Harvill Avenue	West Leg Rider Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1
4:30 PM	0	0	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	1	0	1
5:45 PM	0	1	0	0	1
TOTAL VOLUMES:	0	2	1	0	3

Location: County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street



Date: 2/8/2022
 Day: Tuesday

BICYCLES

	Southbound Harvill Avenue			Westbound Rider Street			Northbound Harvill Avenue			Eastbound Rider Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Harvill Avenue			Westbound Rider Street			Northbound Harvill Avenue			Eastbound Rider Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	2
TOTAL VOLUMES:	0	1	0	0	0	0	1	1	0	0	0	0	3

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

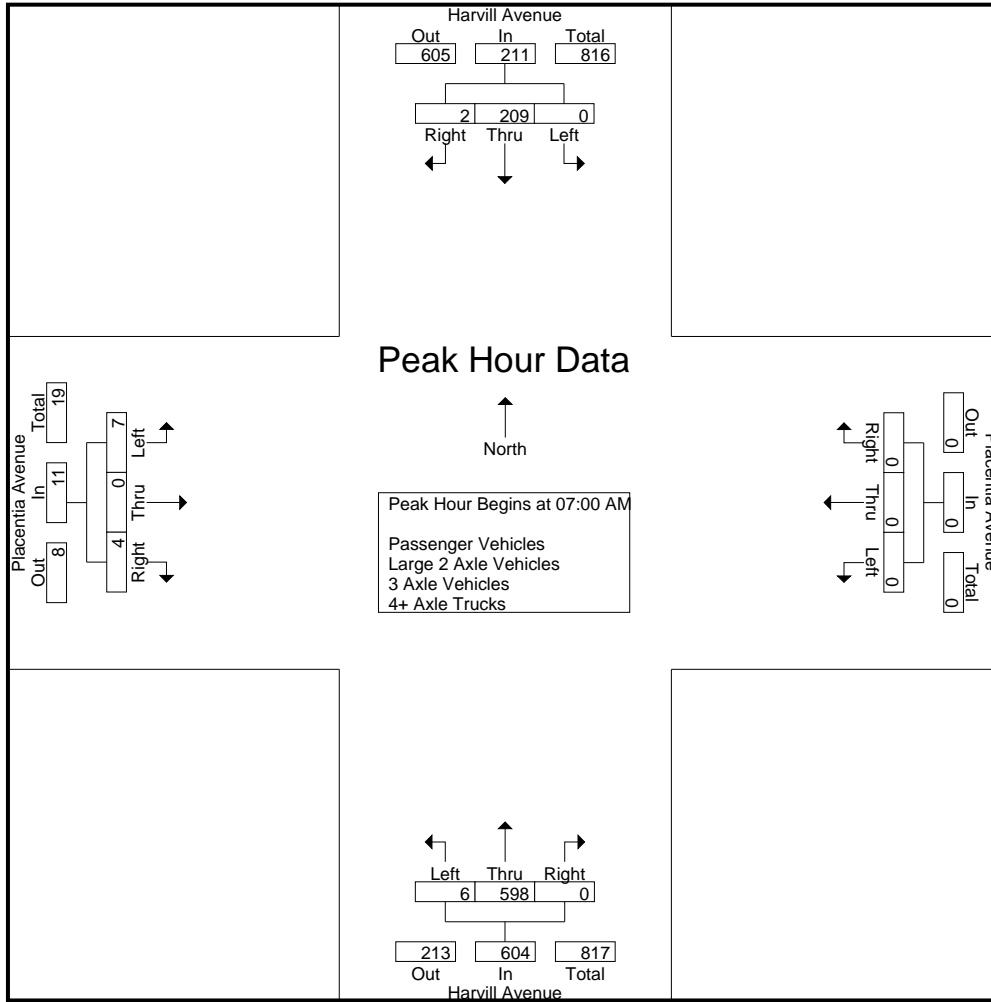
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	33	1	34	0	0	0	0	2	174	0	176	0	0	1	1	211
07:15 AM	0	50	0	50	0	0	0	0	2	143	0	145	2	0	2	4	199
07:30 AM	0	75	1	76	0	0	0	0	2	149	0	151	4	0	0	4	231
07:45 AM	0	51	0	51	0	0	0	0	0	132	0	132	1	0	1	2	185
Total	0	209	2	211	0	0	0	0	6	598	0	604	7	0	4	11	826
08:00 AM	0	54	0	54	0	0	0	0	2	112	0	114	2	0	4	6	174
08:15 AM	0	65	2	67	0	0	0	0	1	57	0	58	0	0	2	2	127
08:30 AM	0	51	1	52	0	0	0	0	5	67	0	72	1	0	0	1	125
08:45 AM	0	46	2	48	0	0	0	0	1	49	0	50	5	0	2	7	105
Total	0	216	5	221	0	0	0	0	9	285	0	294	8	0	8	16	531
Grand Total	0	425	7	432	0	0	0	0	15	883	0	898	15	0	12	27	1357
Apprch %	0	98.4	1.6		0	0	0		1.7	98.3	0		55.6	0	44.4		
Total %	0	31.3	0.5	31.8	0	0	0	0	1.1	65.1	0	66.2	1.1	0	0.9	2	
Passenger Vehicles	0	387	4	391	0	0	0	0	15	861	0	876	12	0	9	21	1288
% Passenger Vehicles	0	91.1	57.1	90.5	0	0	0	0	100	97.5	0	97.6	80	0	75	77.8	94.9
Large 2 Axle Vehicles	0	26	3	29	0	0	0	0	0	17	0	17	2	0	0	2	48
% Large 2 Axle Vehicles	0	6.1	42.9	6.7	0	0	0	0	0	1.9	0	1.9	13.3	0	0	7.4	3.5
3 Axle Vehicles	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
% 3 Axle Vehicles	0	0.2	0	0.2	0	0	0	0	0	0.2	0	0.2	0	0	0	0	0.2
4+ Axle Trucks	0	11	0	11	0	0	0	0	0	3	0	3	1	0	3	4	18
% 4+ Axle Trucks	0	2.6	0	2.5	0	0	0	0	0	0.3	0	0.3	6.7	0	25	14.8	1.3

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	33	1	34	0	0	0	0	2	174	0	176	0	0	1	1	211
07:15 AM	0	50	0	50	0	0	0	0	2	143	0	145	2	0	2	4	199
07:30 AM	0	75	1	76	0	0	0	0	2	149	0	151	4	0	0	4	231
07:45 AM	0	51	0	51	0	0	0	0	0	132	0	132	1	0	1	2	185
Total Volume	0	209	2	211	0	0	0	0	6	598	0	604	7	0	4	11	826
% App. Total	0	99.1	0.9		0	0	0		1	99	0		63.6	0	36.4		
PHF	.000	.697	.500	.694	.000	.000	.000	.000	.750	.859	.000	.858	.438	.000	.500	.688	.894

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



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

	07:30 AM				07:00 AM				07:00 AM				07:15 AM			
+0 mins.	0	75	1	76	0	0	0	0	2	174	0	176	2	0	2	4
+15 mins.	0	51	0	51	0	0	0	0	2	143	0	145	4	0	0	4
+30 mins.	0	54	0	54	0	0	0	0	2	149	0	151	1	0	1	2
+45 mins.	0	65	2	67	0	0	0	0	0	132	0	132	2	0	4	6
Total Volume	0	245	3	248	0	0	0	0	6	598	0	604	9	0	7	16
% App. Total	0	98.8	1.2		0	0	0	0	1	99	0		56.2	0	43.8	
PHF	.000	.817	.375	.816	.000	.000	.000	.000	.750	.859	.000	.858	.563	.000	.438	.667

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Passenger Vehicles

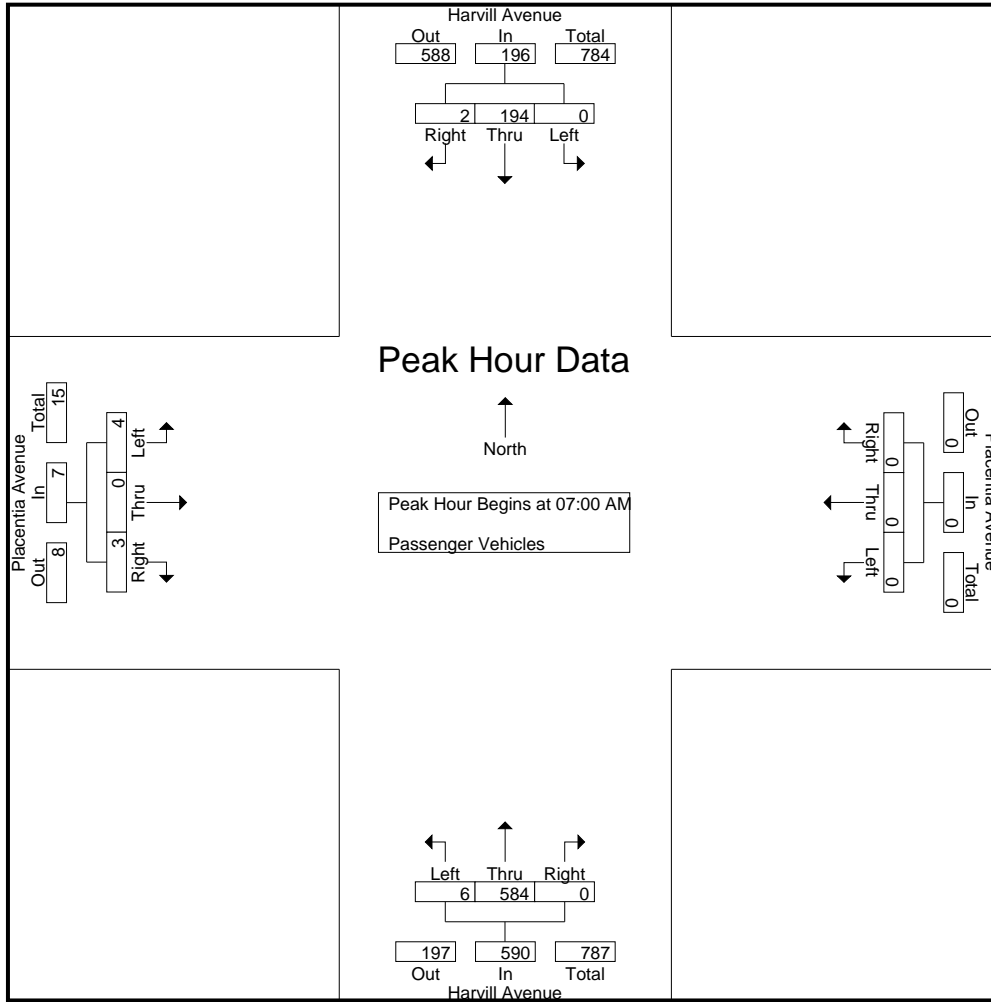
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	28	1	29	0	0	0	0	2	165	0	167	0	0	1	1	197
07:15 AM	0	44	0	44	0	0	0	0	2	142	0	144	2	0	2	4	192
07:30 AM	0	74	1	75	0	0	0	0	2	146	0	148	2	0	0	2	225
07:45 AM	0	48	0	48	0	0	0	0	0	131	0	131	0	0	0	0	179
Total	0	194	2	196	0	0	0	0	6	584	0	590	4	0	3	7	793
08:00 AM	0	53	0	53	0	0	0	0	2	109	0	111	2	0	3	5	169
08:15 AM	0	55	2	57	0	0	0	0	1	56	0	57	0	0	1	1	115
08:30 AM	0	46	0	46	0	0	0	0	5	65	0	70	1	0	0	1	117
08:45 AM	0	39	0	39	0	0	0	0	1	47	0	48	5	0	2	7	94
Total	0	193	2	195	0	0	0	0	9	277	0	286	8	0	6	14	495
Grand Total	0	387	4	391	0	0	0	0	15	861	0	876	12	0	9	21	1288
Apprch %	0	99	1		0	0	0		1.7	98.3	0		57.1	0	42.9		
Total %	0	30	0.3	30.4	0	0	0	0	1.2	66.8	0	68	0.9	0	0.7	1.6	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	28	1	29	0	0	0	0	2	165	0	167	0	0	1	1	197
07:15 AM	0	44	0	44	0	0	0	0	2	142	0	144	2	0	2	4	192
07:30 AM	0	74	1	75	0	0	0	0	2	146	0	148	2	0	0	2	225
07:45 AM	0	48	0	48	0	0	0	0	0	131	0	131	0	0	0	0	179
Total Volume	0	194	2	196	0	0	0	0	6	584	0	590	4	0	3	7	793
% App. Total	0	99	1		0	0	0		1	99	0		57.1	0	42.9		
PHF	.000	.655	.500	.653	.000	.000	.000	.000	.750	.885	.000	.883	.500	.000	.375	.438	.881

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	28	1	29	0	0	0	0	2	165	0	167	0	0	1	1
+15 mins.	0	44	0	44	0	0	0	0	2	142	0	144	2	0	2	4
+30 mins.	0	74	1	75	0	0	0	0	2	146	0	148	2	0	0	2
+45 mins.	0	48	0	48	0	0	0	0	0	131	0	131	0	0	0	0
Total Volume	0	194	2	196	0	0	0	0	6	584	0	590	4	0	3	7
% App. Total	0	99	1		0	0	0		1	99	0		57.1	0	42.9	
PHF	.000	.655	.500	.653	.000	.000	.000	.000	.750	.885	.000	.883	.500	.000	.375	.438

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

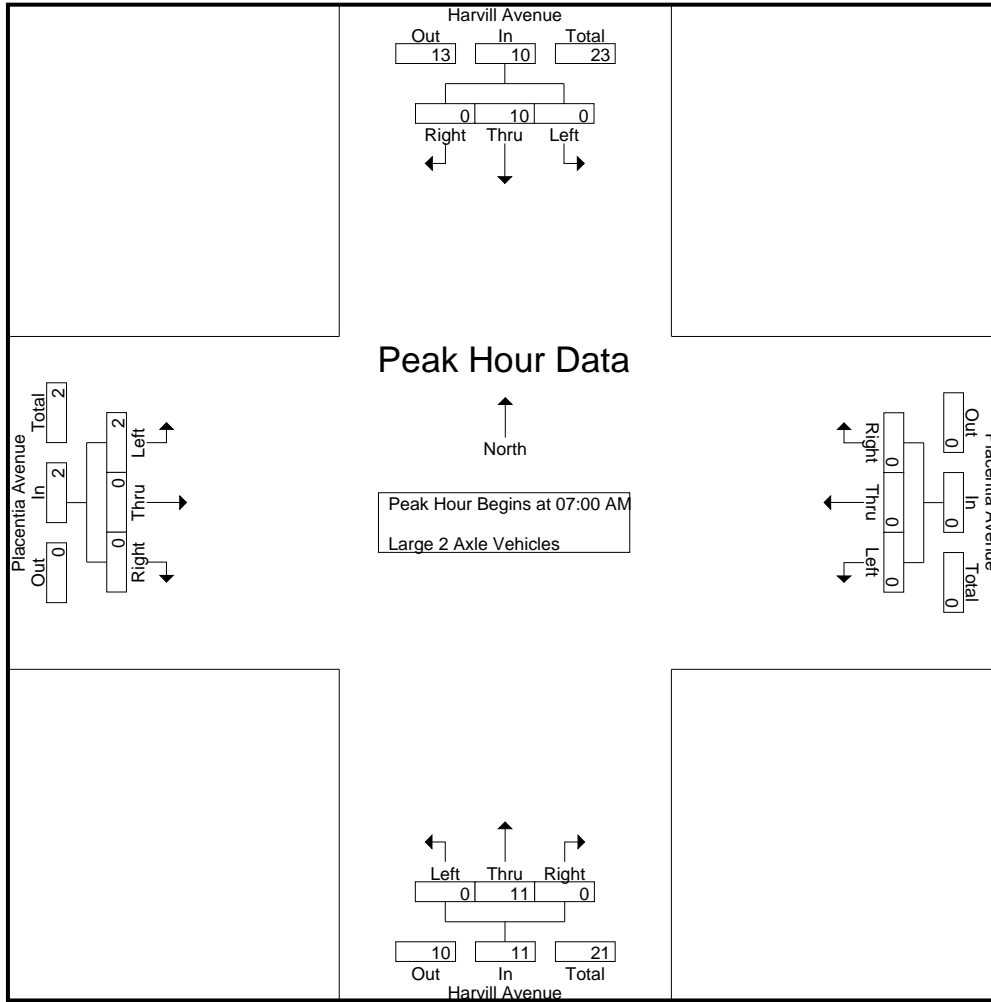
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	3	0	3	0	0	0	0	0	7	0	7	0	0	0	0	10
07:15 AM	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
07:30 AM	0	1	0	1	0	0	0	0	0	2	0	2	1	0	0	1	4
07:45 AM	0	2	0	2	0	0	0	0	0	1	0	1	1	0	0	1	4
Total	0	10	0	10	0	0	0	0	0	11	0	11	2	0	0	2	23
08:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:15 AM	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
08:30 AM	0	4	1	5	0	0	0	0	0	2	0	2	0	0	0	0	7
08:45 AM	0	5	2	7	0	0	0	0	0	2	0	2	0	0	0	0	9
Total	0	16	3	19	0	0	0	0	0	6	0	6	0	0	0	0	25
Grand Total	0	26	3	29	0	0	0	0	0	17	0	17	2	0	0	2	48
Apprch %	0	89.7	10.3		0	0	0		0	100	0		100	0	0		
Total %	0	54.2	6.2	60.4	0	0	0		0	35.4	0	35.4	4.2	0	0	4.2	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	3	0	3	0	0	0	0	0	7	0	7	0	0	0	0	10
07:15 AM	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
07:30 AM	0	1	0	1	0	0	0	0	0	2	0	2	1	0	0	1	4
07:45 AM	0	2	0	2	0	0	0	0	0	1	0	1	1	0	0	1	4
Total Volume	0	10	0	10	0	0	0	0	0	11	0	11	2	0	0	2	23
% App. Total	0	100	0		0	0	0		0	100	0		100	0	0		
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.000	.393	.000	.393	.500	.000	.000	.500	.575

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	3	0	3	0	0	0	0	0	7	0	7	0	0	0	0
+15 mins.	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	2	0	2	1	0	0	1
+45 mins.	0	2	0	2	0	0	0	0	0	1	0	1	1	0	0	1
Total Volume	0	10	0	10	0	0	0	0	0	11	0	11	2	0	0	2
% App. Total	0	100	0	0	0	0	0	0	0	100	0	0	100	0	0	0
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.000	.393	.000	.393	.500	.000	.000	.500

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 3 Axle Vehicles

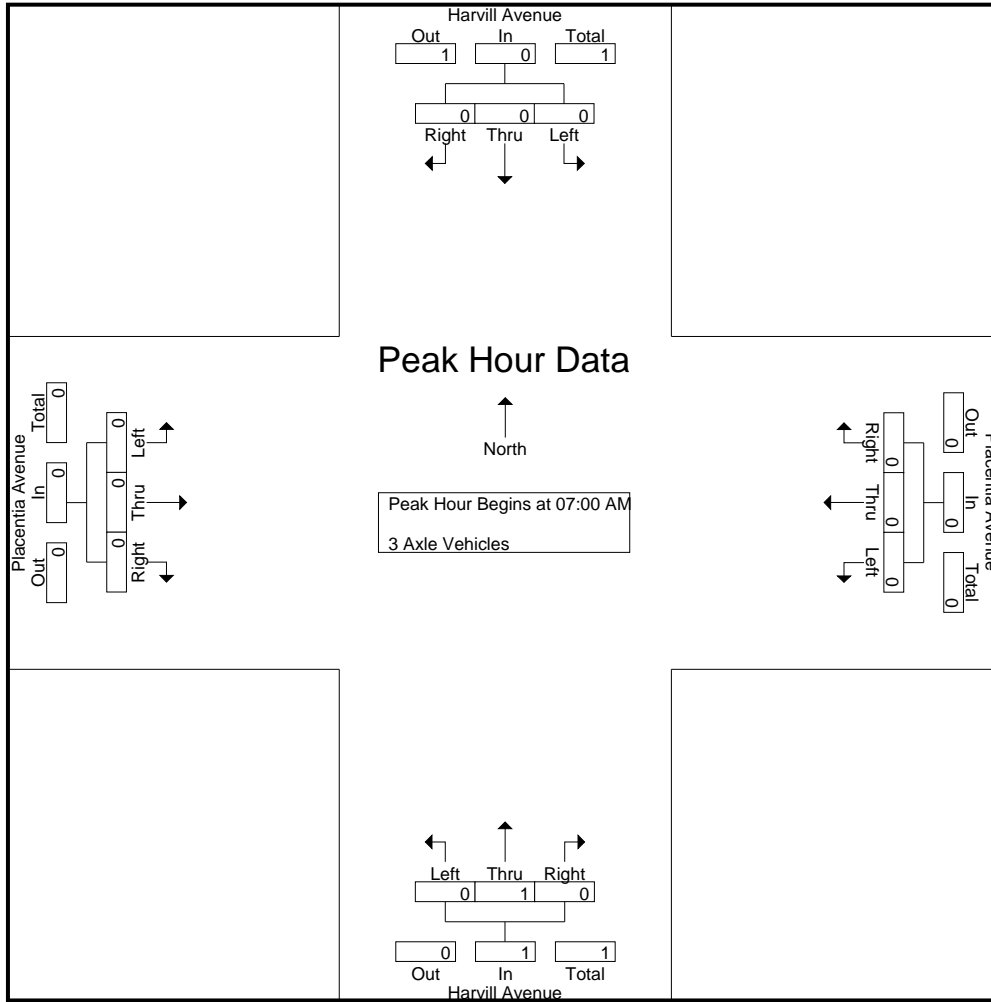
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Grand Total	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	33.3	0	33.3	0	0	0	0	0	66.7	0	66.7	0	0	0	0	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

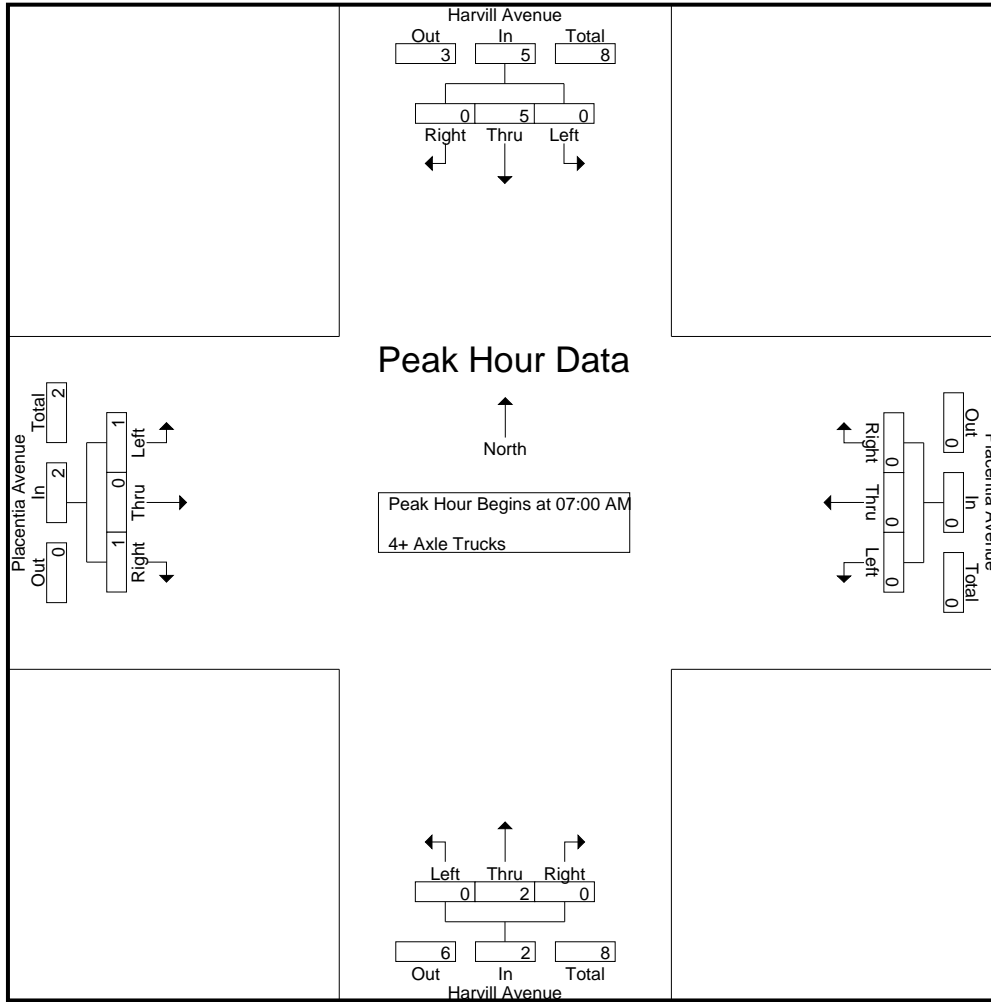
Groups Printed- 4+ Axle Trucks

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
07:15 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	5	0	5	0	0	0	0	0	2	0	2	1	0	1	2	9
08:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
08:15 AM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	1	1	5
08:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	6	0	6	0	0	0	0	0	1	0	1	0	0	2	2	9
Grand Total	0	11	0	11	0	0	0	0	0	3	0	3	1	0	3	4	18
Apprch %	0	100	0		0	0	0		0	100	0		25	0	75		
Total %	0	61.1	0	61.1	0	0	0	0	0	16.7	0	16.7	5.6	0	16.7	22.2	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
07:15 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Total Volume	0	5	0	5	0	0	0	0	0	2	0	2	1	0	1	2	9
% App. Total	0	100	0		0	0	0		0	100	0		50	0	50		
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.250	.500	.563

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
Total Volume	0	5	0	5	0	0	0	0	0	2	0	2	1	0	1	2
% App. Total	0	100	0	0	0	0	0	0	0	100	0	0	50	0	50	0
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.250	.500

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

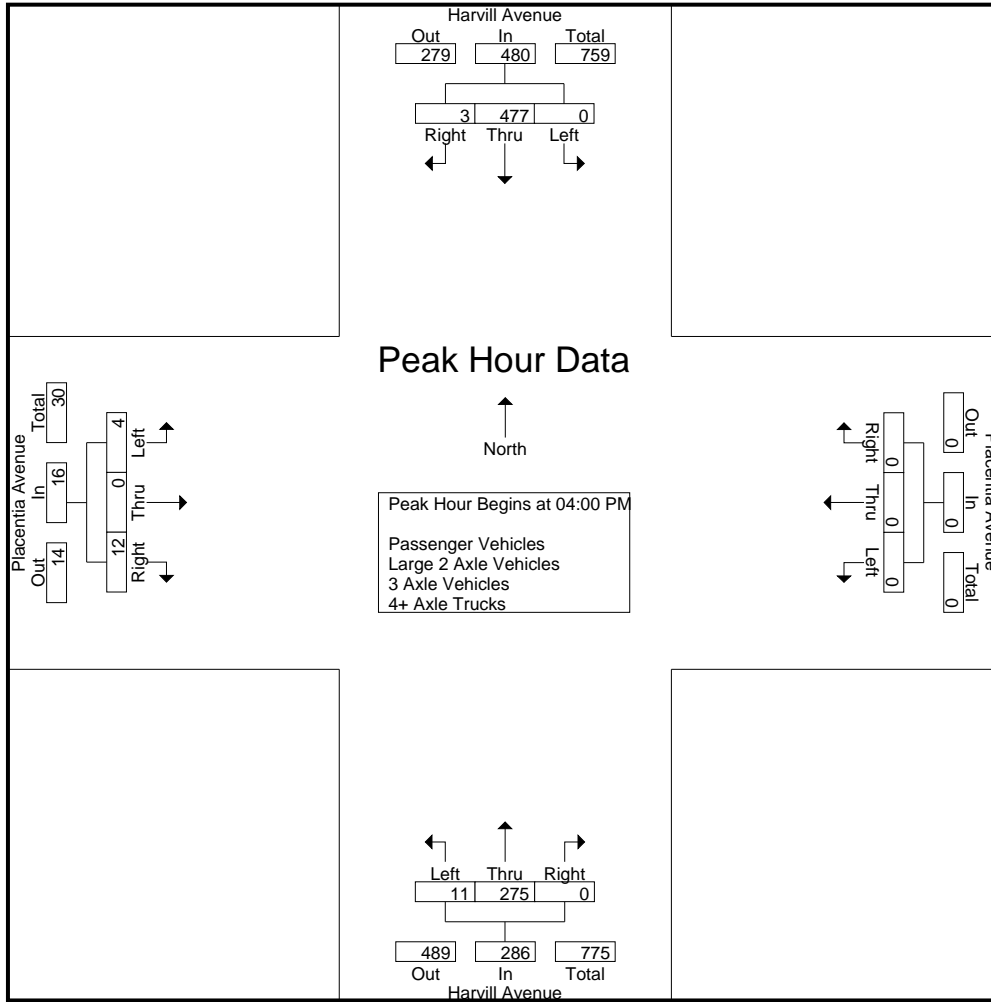
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	140	0	140	0	0	0	0	3	83	0	86	0	0	3	3	229
04:15 PM	0	104	2	106	0	0	0	0	3	71	0	74	1	0	3	4	184
04:30 PM	0	126	1	127	0	0	0	0	4	58	0	62	2	0	2	4	193
04:45 PM	0	107	0	107	0	0	0	0	1	63	0	64	1	0	4	5	176
Total	0	477	3	480	0	0	0	0	11	275	0	286	4	0	12	16	782
05:00 PM	0	86	2	88	0	0	0	0	2	63	0	65	6	0	4	10	163
05:15 PM	0	89	2	91	1	0	0	1	1	65	0	66	0	0	2	2	160
05:30 PM	0	91	0	91	0	0	0	0	5	66	0	71	2	0	2	4	166
05:45 PM	0	73	0	73	0	0	1	1	1	64	0	65	4	0	0	4	143
Total	0	339	4	343	1	0	1	2	9	258	0	267	12	0	8	20	632
Grand Total	0	816	7	823	1	0	1	2	20	533	0	553	16	0	20	36	1414
Apprch %	0	99.1	0.9		50	0	50		3.6	96.4	0		44.4	0	55.6		
Total %	0	57.7	0.5	58.2	0.1	0	0.1	0.1	1.4	37.7	0	39.1	1.1	0	1.4	2.5	
Passenger Vehicles	0	791	6	797	1	0	1	2	16	522	0	538	16	0	16	32	1369
% Passenger Vehicles	0	96.9	85.7	96.8	100	0	100	100	80	97.9	0	97.3	100	0	80	88.9	96.8
Large 2 Axle Vehicles	0	19	0	19	0	0	0	0	0	5	0	5	0	0	0	0	24
% Large 2 Axle Vehicles	0	2.3	0	2.3	0	0	0	0	0	0.9	0	0.9	0	0	0	0	1.7
3 Axle Vehicles	0	1	0	1	0	0	0	0	1	2	0	3	0	0	4	4	8
% 3 Axle Vehicles	0	0.1	0	0.1	0	0	0	0	5	0.4	0	0.5	0	0	20	11.1	0.6
4+ Axle Trucks	0	5	1	6	0	0	0	0	3	4	0	7	0	0	0	0	13
% 4+ Axle Trucks	0	0.6	14.3	0.7	0	0	0	0	15	0.8	0	1.3	0	0	0	0	0.9

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	140	0	140	0	0	0	0	3	83	0	86	0	0	3	3	229
04:15 PM	0	104	2	106	0	0	0	0	3	71	0	74	1	0	3	4	184
04:30 PM	0	126	1	127	0	0	0	0	4	58	0	62	2	0	2	4	193
04:45 PM	0	107	0	107	0	0	0	0	1	63	0	64	1	0	4	5	176
Total Volume	0	477	3	480	0	0	0	0	11	275	0	286	4	0	12	16	782
% App. Total	0	99.4	0.6		0	0	0		3.8	96.2	0		25	0	75		
PHF	.000	.852	.375	.857	.000	.000	.000	.000	.688	.828	.000	.831	.500	.000	.750	.800	.854

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:00 PM				04:15 PM			
+0 mins.	0	140	0	140	0	0	0	0	3	83	0	86	1	0	3	4
+15 mins.	0	104	2	106	1	0	0	1	3	71	0	74	2	0	2	4
+30 mins.	0	126	1	127	0	0	0	0	4	58	0	62	1	0	4	5
+45 mins.	0	107	0	107	0	0	1	1	1	63	0	64	6	0	4	10
Total Volume	0	477	3	480	1	0	1	2	11	275	0	286	10	0	13	23
% App. Total	0	99.4	0.6		50	0	50		3.8	96.2	0		43.5	0	56.5	
PHF	.000	.852	.375	.857	.250	.000	.250	.500	.688	.828	.000	.831	.417	.000	.813	.575

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Passenger Vehicles

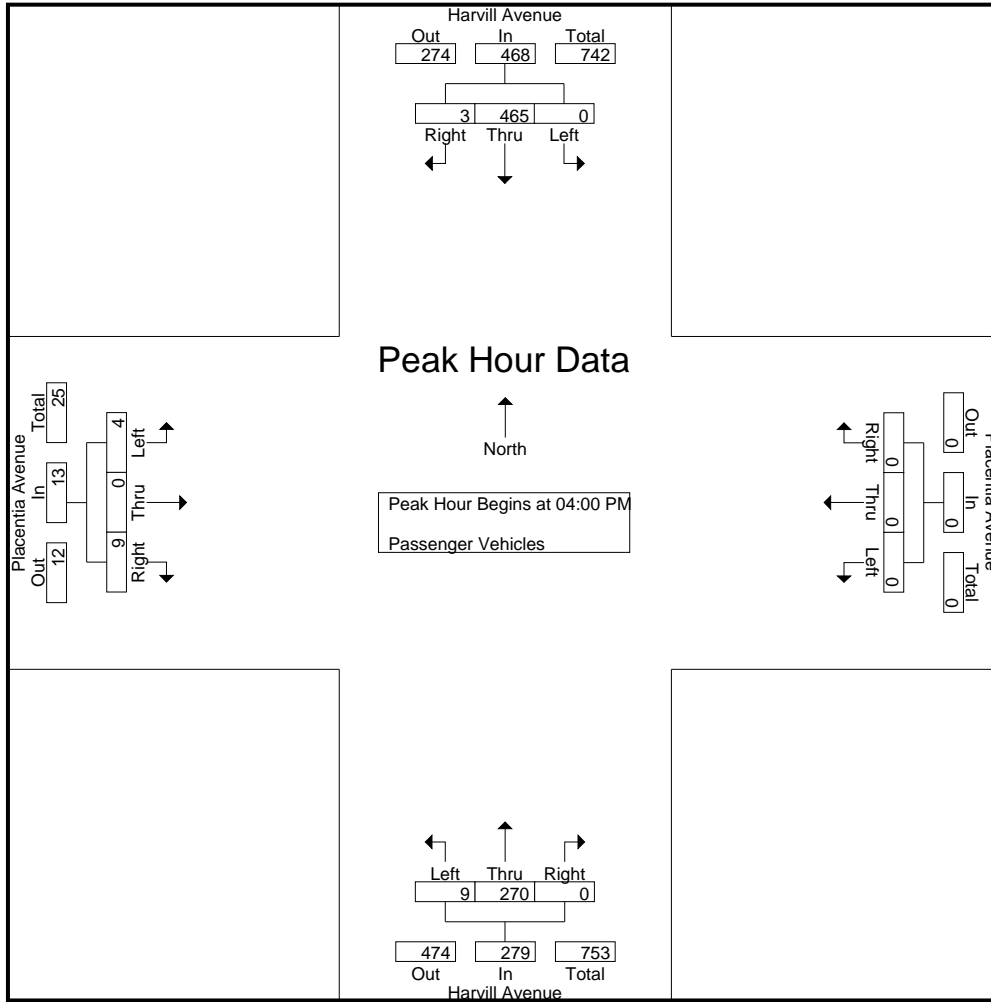
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	134	0	134	0	0	0	0	3	82	0	85	0	0	2	2	221
04:15 PM	0	102	2	104	0	0	0	0	3	69	0	72	1	0	2	3	179
04:30 PM	0	125	1	126	0	0	0	0	3	58	0	61	2	0	2	4	191
04:45 PM	0	104	0	104	0	0	0	0	0	61	0	61	1	0	3	4	169
Total	0	465	3	468	0	0	0	0	9	270	0	279	4	0	9	13	760
05:00 PM	0	81	2	83	0	0	0	0	2	61	0	63	6	0	4	10	156
05:15 PM	0	86	1	87	1	0	0	1	0	64	0	64	0	0	2	2	154
05:30 PM	0	86	0	86	0	0	0	0	4	64	0	68	2	0	1	3	157
05:45 PM	0	73	0	73	0	0	1	1	1	63	0	64	4	0	0	4	142
Total	0	326	3	329	1	0	1	2	7	252	0	259	12	0	7	19	609
Grand Total	0	791	6	797	1	0	1	2	16	522	0	538	16	0	16	32	1369
Apprch %	0	99.2	0.8		50	0	50		3	97	0		50	0	50		
Total %	0	57.8	0.4	58.2	0.1	0	0.1	0.1	1.2	38.1	0	39.3	1.2	0	1.2	2.3	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	134	0	134	0	0	0	0	3	82	0	85	0	0	2	2	221
04:15 PM	0	102	2	104	0	0	0	0	3	69	0	72	1	0	2	3	179
04:30 PM	0	125	1	126	0	0	0	0	3	58	0	61	2	0	2	4	191
04:45 PM	0	104	0	104	0	0	0	0	0	61	0	61	1	0	3	4	169
Total Volume	0	465	3	468	0	0	0	0	9	270	0	279	4	0	9	13	760
% App. Total	0	99.4	0.6		0	0	0		3.2	96.8	0		30.8	0	69.2		
PHF	.000	.868	.375	.873	.000	.000	.000	.000	.750	.823	.000	.821	.500	.000	.750	.813	.860

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	134	0	134	0	0	0	0	3	82	0	85	0	0	2	2
+15 mins.	0	102	2	104	0	0	0	0	3	69	0	72	1	0	2	3
+30 mins.	0	125	1	126	0	0	0	0	3	58	0	61	2	0	2	4
+45 mins.	0	104	0	104	0	0	0	0	0	61	0	61	1	0	3	4
Total Volume	0	465	3	468	0	0	0	0	9	270	0	279	4	0	9	13
% App. Total	0	99.4	0.6		0	0	0		3.2	96.8	0		30.8	0	69.2	
PHF	.000	.868	.375	.873	.000	.000	.000	.000	.750	.823	.000	.821	.500	.000	.750	.813

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

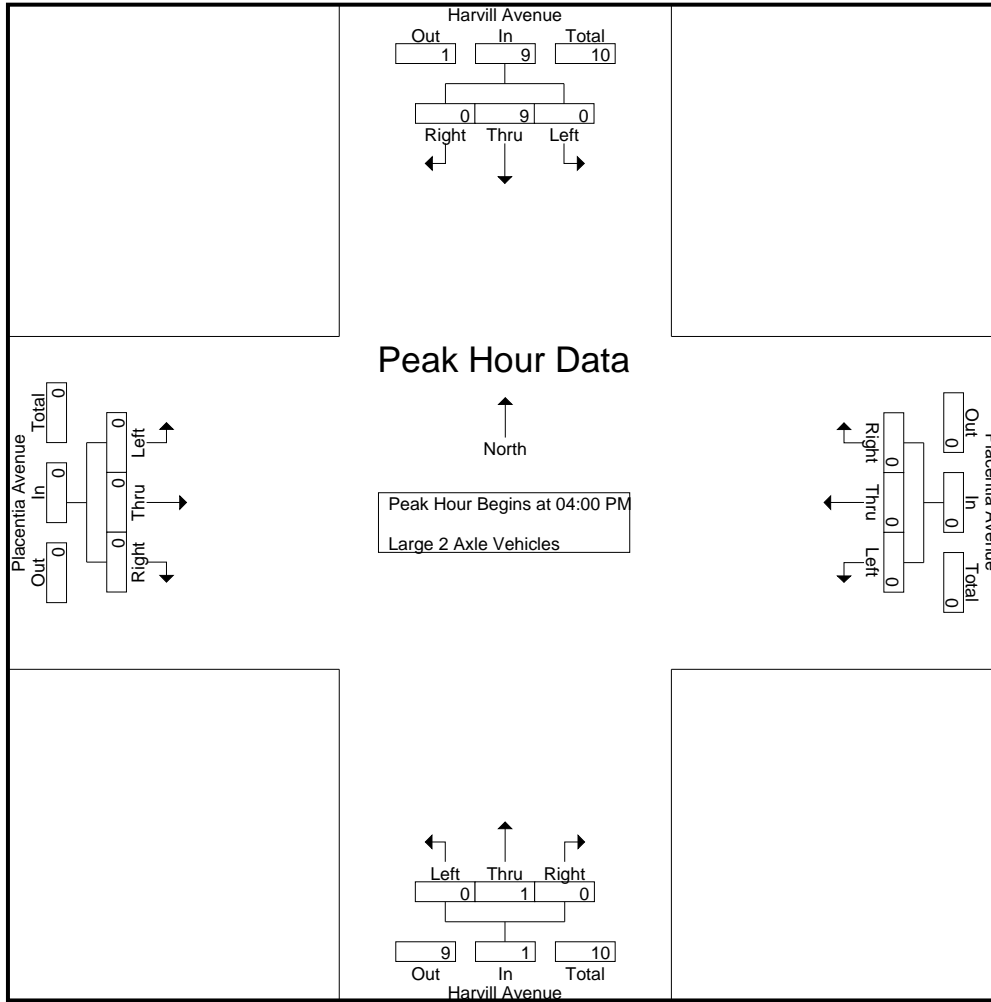
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:15 PM	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	9	0	9	0	0	0	0	0	0	1	0	1	0	0	0	0	10
05:00 PM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	0	4
05:15 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	3
05:30 PM	0	5	0	5	0	0	0	0	0	1	0	1	0	0	0	0	0	6
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	10	0	10	0	0	0	0	0	4	0	4	0	0	0	0	0	14
Grand Total	0	19	0	19	0	0	0	0	0	5	0	5	0	0	0	0	0	24
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0			
Total %	0	79.2	0	79.2	0	0	0	0	0	20.8	0	20.8	0	0	0	0	0	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	2
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	9	0	9	0	0	0	0	0	1	0	1	0	0	0	0	0	10
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0			
PHF	.000	.450	.000	.450	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	9	0	9	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.450	.000	.450	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 3 Axle Vehicles

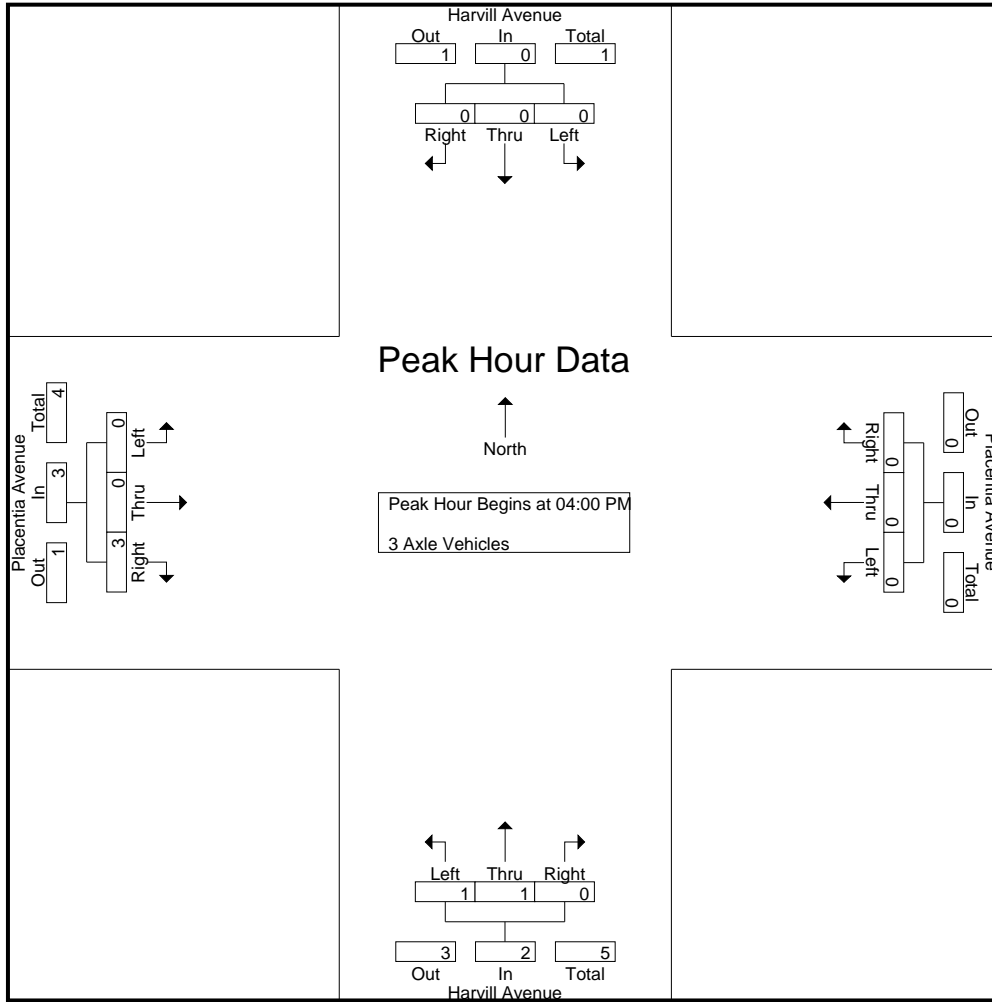
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	0	1	1	0	2	0	0	3	3	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
Grand Total	0	1	0	1	0	0	0	0	1	2	0	3	0	0	4	4	8
Apprch %	0	100	0		0	0	0		33.3	66.7	0		0	0	100		
Total %	0	12.5	0	12.5	0	0	0	0	12.5	25	0	37.5	0	0	50	50	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	0	0	0	0	0	1	1	0	2	0	0	3	3	5
% App. Total	0	0	0		0	0	0		50	50	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.500	.000	.000	.750	.750	.625

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	1	1	0	2	0	0	3	3
% App. Total	0	0	0	0	0	0	0	0	50	50	0	100	0	0	100	100
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.500	.000	.000	.750	.750

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 4+ Axle Trucks

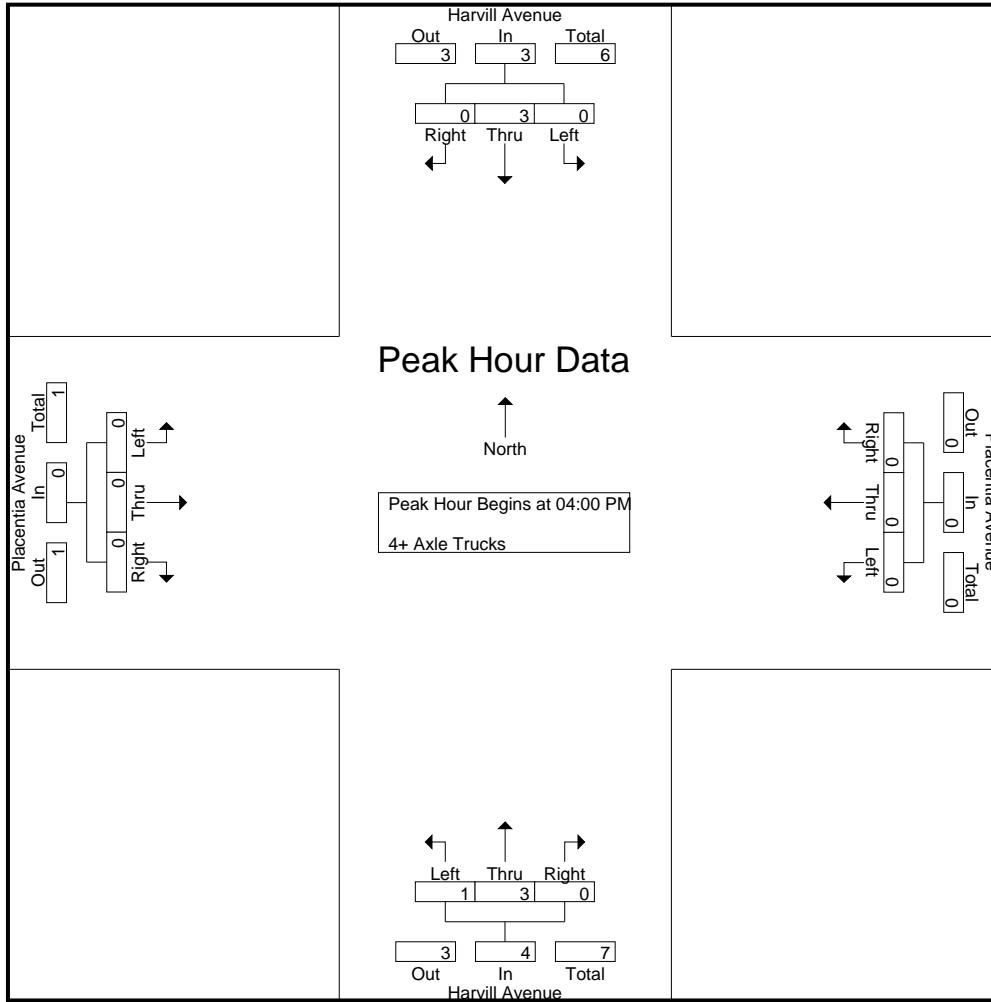
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	0	0	0	1	2	0	3	0	0	0	0	4
Total	0	3	0	3	0	0	0	0	0	1	3	0	4	0	0	0	0	7
05:00 PM	0	2	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	3
05:15 PM	0	0	1	1	0	0	0	0	0	1	0	0	1	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	1	3	0	0	0	0	0	2	1	0	3	0	0	0	0	6
Grand Total	0	5	1	6	0	0	0	0	0	3	4	0	7	0	0	0	0	13
Apprch %	0	83.3	16.7		0	0	0			42.9	57.1	0		0	0	0		
Total %	0	38.5	7.7	46.2	0	0	0			23.1	30.8	0	53.8	0	0	0		

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	0	0	0	1	2	0	3	0	0	0	0	4
Total Volume	0	3	0	3	0	0	0	0	0	1	3	0	4	0	0	0	0	7
% App. Total	0	100	0		0	0	0			25	75	0		0	0	0		
PHF	.000	.750	.000	.750	.000	.000	.000	.000	.000	.250	.375	.000	.333	.000	.000	.000	.000	.438

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	1	2	0	3	0	0	0	0
Total Volume	0	3	0	3	0	0	0	0	1	3	0	4	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	25	75	0	0	0	0	0	0
PHF	.000	.750	.000	.750	.000	.000	.000	.000	.250	.375	.000	.333	.000	.000	.000	.000

Location: County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue



Date: 2/8/2022
 Day: Tuesday

PEDESTRIANS

	North Leg Harvill Avenue	East Leg Placentia Avenue	South Leg Harvill Avenue	West Leg Placentia Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	1	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

	North Leg Harvill Avenue	East Leg Placentia Avenue	South Leg Harvill Avenue	West Leg Placentia Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	1	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	0	1

Location: County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue



Date: 2/8/2022
 Day: Tuesday

BICYCLES

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

	Southbound Harvill Avenue			Westbound Placentia Avenue			Northbound Harvill Avenue			Eastbound Placentia Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	0	0	0	0	0	0	0	0	1

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

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

DATE: Tuesday, May 10, 2022
 JOB #: SC3419

CITY: Perris
 LOCATION: CLASS2 Cajalco east of Harvill

AM TIME	NORTHBOUND													TOTAL	PM Time	NORTHBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	12:00	1	74	6	0	0	2	0	0	5	0	0	0	88	
0:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	12:15	0	54	3	0	2	2	0	0	3	0	2	0	66	
0:30	0	17	0	0	0	0	0	0	1	0	0	0	0	18	12:30	0	54	5	1	2	2	0	0	6	0	2	0	72	
0:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	12:45	1	51	5	0	8	5	0	0	4	0	0	74		
1:00	1	6	0	0	0	0	0	0	2	0	0	0	0	9	13:00	0	43	4	0	2	4	0	0	4	0	1	0	58	
1:15	0	4	0	0	0	0	0	0	2	0	0	0	0	6	13:15	0	55	1	1	1	3	0	0	6	0	0	67		
1:30	0	4	0	0	0	0	0	0	1	0	0	0	0	5	13:30	0	105	7	0	0	2	0	0	3	0	1	0	118	
1:45	0	5	0	0	0	0	0	0	2	0	0	0	0	7	13:45	1	89	5	0	5	0	0	0	5	0	1	0	106	
2:00	0	3	0	0	0	1	0	0	3	0	0	0	0	7	14:00	0	85	4	0	2	1	0	0	2	0	0	94		
2:15	0	2	0	0	0	0	0	0	1	0	0	0	0	3	14:15	0	85	4	0	1	2	0	1	3	0	3	0	99	
2:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	14:30	1	162	9	0	1	1	0	0	4	0	0	178		
2:45	0	3	0	0	0	0	0	0	1	0	0	0	0	4	14:45	0	105	3	0	4	1	1	0	2	0	0	116		
3:00	0	6	0	0	0	1	0	0	2	0	0	0	0	9	15:00	0	99	3	0	1	0	0	0	1	0	1	0	105	
3:15	1	8	1	0	0	0	0	0	0	0	0	0	0	10	15:15	0	113	7	0	2	3	0	0	1	0	0	126		
3:30	0	14	0	0	0	1	0	0	1	0	0	0	0	16	15:30	0	120	10	0	2	0	0	0	2	0	0	134		
3:45	0	12	0	0	0	0	0	0	1	0	0	0	0	13	15:45	0	101	5	1	3	0	1	0	3	0	0	114		
4:00	0	18	0	0	1	0	0	0	2	0	0	0	0	21	16:00	0	96	8	0	0	2	1	0	2	0	2	0	111	
4:15	0	28	0	0	0	0	0	0	0	0	0	0	0	28	16:15	0	84	6	0	0	3	0	0	3	0	0	96		
4:30	0	21	0	0	2	1	0	0	6	0	0	0	0	30	16:30	0	92	8	2	1	1	0	0	0	0	0	104		
4:45	0	23	1	0	2	0	0	0	1	0	0	0	0	27	16:45	0	76	4	0	1	0	1	0	1	0	0	83		
5:00	0	27	0	0	1	0	0	0	4	0	0	0	0	32	17:00	1	63	5	0	0	1	0	0	3	0	0	73		
5:15	1	42	2	0	1	1	0	0	3	0	0	0	0	50	17:15	1	69	4	0	0	0	0	0	0	0	0	74		
5:30	1	53	3	0	3	1	0	0	5	0	0	0	0	66	17:30	0	69	2	0	1	1	0	0	1	0	0	74		
5:45	0	46	3	1	2	1	0	0	5	0	0	0	0	58	17:45	0	49	3	0	0	0	0	0	0	0	0	52		
6:00	0	50	6	3	5	0	0	0	1	0	0	0	0	65	18:00	0	56	4	0	0	0	0	0	2	0	0	62		
6:15	0	70	6	2	1	2	0	0	0	0	1	0	0	82	18:15	0	62	1	0	0	2	0	0	0	0	0	65		
6:30	0	117	9	1	3	1	0	0	3	0	0	0	0	134	18:30	0	58	1	0	0	0	0	0	2	0	0	61		
6:45	0	172	12	2	4	1	0	0	2	0	1	0	0	194	18:45	1	48	2	0	0	1	0	0	1	0	0	53		
7:00	0	164	4	0	5	1	1	0	4	0	1	0	0	180	19:00	0	40	2	0	0	1	0	0	3	0	0	46		
7:15	0	170	7	0	7	0	1	0	3	0	0	0	0	188	19:15	0	40	3	0	0	3	0	0	1	0	1	0	48	
7:30	0	161	12	0	6	1	0	0	3	0	0	1	0	184	19:30	0	37	0	0	0	0	0	0	1	0	0	38		
7:45	0	141	8	0	4	1	0	0	5	0	3	0	0	162	19:45	2	30	0	0	0	0	0	1	2	0	0	35		
8:00	0	123	5	0	2	1	0	0	5	0	0	0	0	136	20:00	0	31	0	0	0	0	0	1	0	0	0	32		
8:15	0	86	2	0	5	2	0	0	5	0	1	0	0	101	20:15	1	48	0	0	0	0	1	0	1	0	0	51		
8:30	0	57	5	0	2	0	0	0	2	0	1	0	0	67	20:30	0	29	1	0	0	0	0	0	1	0	0	31		
8:45	0	50	3	0	1	0	0	0	6	0	1	1	0	62	20:45	0	39	0	0	0	0	0	0	0	0	0	39		
9:00	0	60	8	0	1	0	0	0	5	0	0	0	0	74	21:00	0	36	1	0	0	0	0	0	1	0	0	38		
9:15	0	38	1	0	6	2	0	0	1	0	1	0	0	49	21:15	0	23	0	0	0	0	0	0	0	0	0	23		
9:30	0	36	9	0	1	3	0	0	2	0	0	0	0	51	21:30	0	15	0	0	0	0	0	0	1	0	0	16		
9:45	0	49	6	0	5	0	1	0	4	0	0	0	0	65	21:45	0	27	1	0	0	0	0	0	0	0	0	28		
10:00	1	55	4	0	2	1	0	0	4	0	0	0	0	67	22:00	0	24	1	0	0	0	0	0	0	0	0	25		
10:15	0	45	1	0	2	1	0	0	6	0	0	0	0	55	22:15	0	14	0	0	0	3	0	0	0	0	0	17		
10:30	0	52	5	0	1	1	0	0	12	0	0	0	0	71	22:30	0	18	0	0	0	0	0	0	1	0	0	19		
10:45	0	41	1	0	1	2	0	0	5	0	1	0	0	51	22:45	0	13	0	0	0	0	0	0	0	0	0	13		
11:00	1	65	7	0	2	2	0	0	7	0	0	0	0	84	23:00	0	14	0	0	0	0	0	0	0	0	0	14		
11:15	0	50	4	0	2	1	0	0	4	0	1	0	0	62	23:15	0	13	0	0	0	0	0	0	0	0	0	13		
11:30	0	50	5	0	2	3	0	0	4	0	0	0	0	64	23:30	0	11	0	0	0	0	0	0	0	0	0	11		
11:45	0	45	6	1	6	1	0	0	2	0	0	0	0	61	23:45	0	5	0	0	0	0	0	0	0	0	0	5		
TOTAL	6	2,308	146	10	88	34	3	0	138	0	13	1	0	2,747	TOTAL	10	2,724	138	5	39	46	5	3	81	0	14	0	3,065	

AM PEAK HOUR 6:45 AM
 AM PEAK VOLUME 746

PM PEAK HOUR 2:30 PM
 PM PEAK VOLUME 525

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	16	5,032	284	15	127	80	8	3	219	0	27	1	0	5,812
% OF TOTAL	0.3%	86.6%	4.9%	0.3%	2.2%	1.4%	0.1%	0.1%	3.8%	0.0%	0.5%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	29	9,355	525	30	247	151	17	7	457	1	49	1	0	10,869
% OF TOTAL	0.5%	161.0%	9.0%	0.5%	4.2%	2.6%	0.3%	0.1%	7.9%	0.0%	0.8%	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, May 10, 2022
JOB #: SC3419

CITY: Perris
LOCATION: CLASS2 Cajalco east of Harvill

AM TIME	SOUTHBOUND													TOTAL	PM Time	SOUTHBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7	12:00	0	56	4	0	2	3	0	0	6	0	0	0	71	
0:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3	12:15	0	58	9	0	0	1	0	0	11	0	0	0	79	
0:30	0	9	0	0	0	1	0	0	0	0	0	0	0	10	12:30	0	58	5	0	2	2	0	0	8	0	0	0	75	
0:45	0	7	0	0	0	0	0	0	0	0	0	0	0	7	12:45	1	70	4	0	1	1	0	0	9	0	0	0	86	
1:00	1	4	0	0	0	0	0	0	0	0	0	0	0	5	13:00	2	53	3	0	1	0	0	0	3	0	2	0	64	
1:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3	13:15	0	46	2	0	3	0	0	0	3	0	0	0	54	
1:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	13:30	1	58	2	0	1	2	1	0	4	0	0	0	69	
1:45	0	10	0	0	0	0	1	0	0	0	0	0	0	11	13:45	0	59	4	0	2	1	0	0	4	0	1	0	71	
2:00	0	10	0	0	0	0	0	0	1	0	0	0	0	11	14:00	0	88	10	0	3	1	0	0	6	0	1	0	109	
2:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:15	1	93	5	1	2	3	0	0	5	0	1	0	111	
2:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3	14:30	0	118	8	0	6	2	0	0	3	0	0	0	137	
2:45	0	2	0	0	0	1	0	0	0	0	0	0	0	3	14:45	0	134	6	0	6	2	1	0	4	0	2	0	155	
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	15:00	0	120	7	1	4	2	1	0	3	0	1	0	139	
3:15	0	9	0	0	0	1	0	0	1	0	0	0	0	11	15:15	0	102	12	0	4	1	1	1	2	0	3	0	126	
3:30	0	8	1	0	1	0	0	0	0	0	0	0	0	10	15:30	0	94	3	1	2	1	0	0	2	0	0	0	103	
3:45	0	6	0	0	0	0	0	0	1	0	0	0	0	7	15:45	0	92	8	2	3	0	0	1	9	0	0	0	115	
4:00	0	10	1	0	0	1	0	0	0	0	0	0	0	12	16:00	0	73	7	1	1	1	0	0	4	0	0	0	87	
4:15	0	16	0	0	0	0	0	0	2	0	0	0	0	18	16:15	0	109	8	0	1	2	0	0	2	0	0	0	122	
4:30	0	27	0	0	0	0	0	0	0	0	0	0	0	27	16:30	0	98	6	1	2	0	0	0	4	0	0	0	111	
4:45	0	49	1	0	1	1	0	0	0	0	0	0	0	52	16:45	0	103	13	1	1	1	0	1	3	0	0	0	122	
5:00	0	34	0	0	0	0	0	0	0	0	0	0	0	34	17:00	0	93	3	1	3	0	0	0	1	0	0	0	101	
5:15	0	34	0	0	0	3	0	0	0	0	0	0	0	37	17:15	0	86	4	1	0	1	0	0	1	0	0	0	93	
5:30	0	45	0	0	2	0	0	0	0	0	0	0	0	47	17:30	0	85	4	1	0	0	0	0	2	0	1	0	93	
5:45	0	99	3	0	2	1	0	0	1	0	0	0	0	106	17:45	0	67	3	0	1	1	0	0	3	0	0	0	75	
6:00	0	44	1	0	0	0	0	0	0	0	0	0	0	45	18:00	0	78	6	0	1	0	0	0	3	0	0	0	88	
6:15	0	32	1	0	2	1	0	0	0	0	1	0	0	37	18:15	0	63	1	0	0	1	0	1	4	0	0	0	70	
6:30	0	40	3	0	1	0	1	0	4	0	2	0	0	51	18:30	0	64	3	0	0	0	0	0	4	0	0	0	71	
6:45	0	48	2	0	0	1	0	0	6	0	2	0	0	59	18:45	0	68	2	0	0	2	0	0	6	0	0	0	78	
7:00	0	36	3	0	1	0	0	0	6	0	0	0	0	46	19:00	0	69	1	0	1	0	0	0	3	0	0	0	74	
7:15	0	46	3	0	1	1	0	0	1	1	0	0	0	53	19:15	1	33	1	0	0	1	0	0	4	0	0	0	40	
7:30	1	55	4	0	2	3	1	0	4	0	0	0	0	70	19:30	0	31	0	0	1	0	0	0	5	0	0	0	37	
7:45	0	65	3	0	4	0	0	0	2	0	0	0	0	74	19:45	0	36	0	0	1	0	0	0	2	0	0	0	39	
8:00	0	82	4	0	3	0	0	0	4	0	0	0	0	93	20:00	3	36	1	0	0	0	0	0	0	0	0	0	40	
8:15	0	56	1	0	4	1	0	0	0	0	2	0	0	64	20:15	0	30	0	0	0	0	0	0	0	0	0	0	30	
8:30	1	66	5	1	4	1	0	0	4	0	0	0	0	82	20:30	0	28	0	0	0	1	0	0	3	0	0	0	32	
8:45	0	42	3	2	2	0	0	0	2	0	1	0	0	52	20:45	0	33	0	0	1	0	0	0	0	0	0	0	34	
9:00	0	37	2	1	1	0	0	0	2	0	0	0	0	43	21:00	0	23	0	0	0	0	0	0	2	0	0	0	25	
9:15	1	41	6	0	4	3	0	0	5	0	0	0	0	60	21:15	0	29	1	0	0	1	0	0	0	0	0	0	31	
9:30	0	35	6	0	0	2	0	0	8	0	0	0	0	51	21:30	0	22	0	0	0	0	0	0	0	0	0	0	22	
9:45	0	47	4	0	1	2	0	0	5	0	0	0	0	59	21:45	0	18	0	0	0	0	0	0	0	0	0	0	18	
10:00	0	48	5	0	3	2	0	0	5	0	1	0	0	64	22:00	0	21	0	0	0	1	0	0	0	0	0	0	22	
10:15	0	38	2	0	2	3	0	0	8	0	0	0	0	53	22:15	0	16	0	0	0	0	0	0	1	0	0	0	17	
10:30	0	46	2	0	2	0	0	1	6	0	0	0	0	57	22:30	0	20	0	0	0	0	0	0	1	0	0	0	21	
10:45	0	44	6	0	2	2	0	0	6	0	0	0	0	60	22:45	0	12	0	0	1	0	0	0	0	0	0	0	13	
11:00	0	46	5	0	0	1	0	0	4	0	0	0	0	56	23:00	0	10	0	0	0	0	0	0	1	0	0	0	11	
11:15	0	43	3	0	9	1	0	0	2	0	0	0	0	58	23:15	0	14	0	0	1	1	0	0	1	0	0	0	17	
11:30	0	50	4	0	5	2	0	0	3	0	0	0	0	64	23:30	0	15	0	0	1	1	0	0	0	0	0	0	17	
11:45	0	44	1	0	2	1	0	0	3	0	1	0	0	52	23:45	0	4	0	0	0	0	0	0	0	0	0	0	4	
TOTAL	4	1,537	85	4	61	35	4	1	96	1	10	0	0	1,838	TOTAL	9	2,786	156	11	59	36	5	3	142	0	12	0	0	3,219
AM PEAK HOUR														7:45 AM	PM PEAK HOUR														2:30 PM
AM PEAK VOLUME														313	PM PEAK VOLUME														557

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	13	4,323	241	15	120	71	9	4	238	1	22	0	0	5,057
% OF TOTAL	0.3%	85.5%	4.8%	0.3%	2.4%	1.4%	0.2%	0.1%	4.7%	0.0%	0.4%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13
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24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

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

DATE: Tuesday, May 10, 2022
JOB #: SC3419

CITY: Perris
LOCATION: TMC1 Harvill and Cajalco

AM TIME	EASTBOUND													TOTAL	PM Time	EASTBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:30	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
0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	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
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	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
3:15	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	0	24	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
4:45	0	24	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
5:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	0	3	0	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
5:30	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
5:45	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
6:00	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
6:15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	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
7:15	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	3	0	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
7:45	0	6	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
8:00	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	3	2	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
8:45	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15	0	2	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45	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
10:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	3	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
10:45	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	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
11:30	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
11:45	0	3	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	158	9	0	5	4	0	0	8	0	0	0	0	184	TOTAL	2	65	1	0	2	2	0	0	11	0	0	0	0	83

AM PEAK HOUR 4:00 AM
AM PEAK VOLUME 66

PM PEAK HOUR 2:00 PM
PM PEAK VOLUME 41

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	223	10	0	7	6	0	0	19	0	0	0	0	267
% OF TOTAL	0.7%	83.5%	3.7%	0.0%	2.6%	2.2%	0.0%	0.0%	7.1%	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	3	445	24	0	11	13	0	0	39	0	0	0	0	535
% OF TOTAL	1.1%	166.7%	9.0%	0.0%	4.1%	4.9%	0.0%	0.0%	14.6%	0.0%	0.0%	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, May 10, 2022
JOB #: SC3419

CITY: Perris
LOCATION: TMC1 Harvill and Cajalco

AM TIME	WESTBOUND													TOTAL	PM Time	WESTBOUND													TOTAL			
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13				
0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
0:15	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12:15	0	2	0	0	0	0	2	0	0	0	0	0	0	4	
0:30	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	23	12:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
0:45	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	12:45	0	2	0	0	0	0	0	0	1	0	0	0	0	3	
1:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13:15	0	1	0	0	0	1	0	0	0	0	0	0	0	2	
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13:30	0	20	2	0	0	0	0	0	0	0	0	0	0	22	
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13:45	0	2	0	0	0	0	0	0	1	0	0	0	0	3	
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:15	0	9	0	0	0	0	0	0	0	0	0	0	0	9	
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:30	0	50	2	0	0	0	0	0	1	0	0	0	0	53	
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:45	0	8	0	0	1	0	0	0	0	0	0	0	0	9	
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2	
3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:45	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	0	0	16:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9	
4:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	16:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4	
4:30	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2	16:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6	
4:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	16:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
5:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	17:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17:15	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	3	0	0	0	0	0	3	17:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5	
5:45	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	17:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
6:00	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	18:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
6:30	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	18:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18:45	0	1	0	0	0	0	0	1	0	0	0	0	0	2	
7:00	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	19:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
7:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	19:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	19:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	20:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
8:30	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	3	20:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
8:45	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	9	21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
9:15	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4	21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	21:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
9:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	22:00	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	1	0	0	0	0	0	1	22:15	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
10:30	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	3	22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4	22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	3	23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	4	23:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
11:45	0	3	1	0	1	0	0	0	0	0	0	0	0	0	0	5	23:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
TOTAL	1	71	9	0	3	3	0	0	16	0	0	0	0	0	103	TOTAL	0	151	5	0	1	4	0	0	4	0	0	0	165			

AM PEAK HOUR
AM PEAK VOLUME
12:15 AM
33

PM PEAK HOUR
PM PEAK VOLUME
2:15 PM
74

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	222	14	0	4	7	0	0	20	0	0	0	0	268
% OF TOTAL	0.4%	82.8%	5.2%	0.0%	1.5%	2.6%	0.0%	0.0%	7.5%	0.0%	0.0%	0.0%	0.0%	100.0%

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

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APPENDIX 1.2: SITE ADJACENT QUEUES

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Queuing and Blocking Report

Horizon Year (2045) With Project Conditions - AM Peak Hour WITH IMPROVEMENTS 09/27/2022

Intersection: 1: Driveway 1 & Rider St.

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	23	29
Average Queue (ft)	1	6
95th Queue (ft)	10	25
Link Distance (ft)	408	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Patterson Av. & Rider St.

Movement	EB	WB	WB	NB	NB	SB
Directions Served	L	L	R	L	TR	LTR
Maximum Queue (ft)	7	36	6	24	20	26
Average Queue (ft)	0	4	0	6	10	9
95th Queue (ft)	5	21	4	22	26	26
Link Distance (ft)					596	367
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100	100	100	100		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Patterson Av. & Driveway 2

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	30	8
Average Queue (ft)	9	1
95th Queue (ft)	32	7
Link Distance (ft)	154	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Horizon Year (2045) With Project Conditions - AM Peak Hour WITH IMPROVEMENTS 09/27/2022

Intersection: 4: Patterson Av. & Driveway 3

Movement	EB
Directions Served	R
Maximum Queue (ft)	26
Average Queue (ft)	7
95th Queue (ft)	24
Link Distance (ft)	320
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

Queuing and Blocking Report

Horizon Year (2045) With Project Conditions - PM Peak Hour WITH IMPROVEMENTS 09/27/2022

Intersection: 1: Driveway 1 & Rider St.

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	23	29
Average Queue (ft)	2	6
95th Queue (ft)	14	25
Link Distance (ft)		408
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Patterson Av. & Rider St.

Movement	EB	WB	NB	NB	SB
Directions Served	L	L	L	TR	LTR
Maximum Queue (ft)	29	30	24	31	26
Average Queue (ft)	1	3	7	14	11
95th Queue (ft)	9	18	25	30	28
Link Distance (ft)				596	367
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100	100	100		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Patterson Av. & Driveway 2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	42
Average Queue (ft)	21
95th Queue (ft)	45
Link Distance (ft)	154
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

Horizon Year (2045) With Project Conditions - PM Peak Hour WITH IMPROVEMENTS 09/27/2022

Intersection: 4: Patterson Av. & Driveway 3

Movement	EB
Directions Served	R
Maximum Queue (ft)	27
Average Queue (ft)	10
95th Queue (ft)	28
Link Distance (ft)	320
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

APPENDIX 3.1: TRAFFIC COUNTS

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**Volume Development
AM Peak Hour**

1: Driveway 1 & Rider St.

	PHF: 0.920		Count Date:										TOTAL
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
2022 PCE:	0	0	0	0	0	0	0	74	0	0	38	0	112
EAP 2025 PCE:	0	0	9	0	0	0	0	83	0	9	40	0	141
EAPC 2025 PCE:	0	0	9	0	0	0	0	83	0	9	40	0	141
2045 NP PCE:	0	0	0	0	0	0	0	203	0	0	78	0	281
2045 WP PCE	0	0	9	0	0	0	0	207	0	9	78	0	303

2: Patterson Av. & Rider St.

	PHF: 0.792		NBR	SBL	SBT	SBR	EBL	EBT	Count Date: 2/8/2022				TOTAL
	<u>NBL</u>	<u>NBT</u>							<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
2022 PCE:	3	0	8	0	2	0	0	69	5	6	36	0	128
EAP 2025 PCE:	4	0	15	0	2	0	0	81	10	35	46	0	193
EAPC 2025 PCE:	4	0	15	4	2	0	0	81	10	35	46	9	206
2045 NP PCE:	6	5	9	10	10	5	5	192	6	6	67	9	330
2045 WP PCE	7	5	16	10	10	5	5	200	11	35	75	9	388

3: Patterson Av. & Driveway 2

	PHF: 0.920		Count Date:										TOTAL
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
2022 PCE:	0	11	0	0	13	0	0	0	0	0	0	0	23
EAP 2025 PCE:	19	11	0	0	33	14	8	0	1	0	0	0	86
EAPC 2025 PCE:	19	11	0	0	33	14	8	0	1	0	0	0	86
2045 NP PCE:	0	20	0	0	22	0	0	0	0	0	0	0	41
2045 WP PCE	19	20	0	0	42	14	8	0	1	0	0	0	103

4: Patterson Av. & Driveway 3

	PHF: 0.920		Count Date:										TOTAL
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
2022 PCE:	0	11	0	0	13	0	0	0	0	0	0	0	23
EAP 2025 PCE:	0	30	0	0	14	20	0	0	11	0	0	0	75
EAPC 2025 PCE:	0	30	0	0	14	20	0	0	11	0	0	0	75
2045 NP PCE:	0	20	0	0	22	0	0	0	0	0	0	0	41
2045 WP PCE	0	39	0	0	23	20	0	0	11	0	0	0	92

5: Harvill Av. & Cajalco Exwy.

	PHF: 0.930		NBR	SBL	SBT	SBR	EBL	EBT	Count Date: 2/8/2022				TOTAL
	<u>NBL</u>	<u>NBT</u>							<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
2022 PCE:	297	337	75	189	116	27	47	680	50	167	677	102	2,761
EAP 2025 PCE:	319	361	84	201	133	28	49	721	62	185	718	108	2,968
EAPC 2025 PCE:	373	433	240	426	230	83	188	841	217	640	1,130	739	5,540
2045 NP PCE:	397	477	248	447	231	87	198	989	219	664	1,186	776	5,921
2045 WP PCE	401	481	252	447	241	87	198	989	228	672	1,186	776	5,960

6: Harvill Av. & Rider St.

	PHF: 0.947		NBR	SBL	SBT	SBR	EBL	EBT	Count Date: 2/8/2022				TOTAL
	<u>NBL</u>	<u>NBT</u>							<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
2022 PCE:	27	285	4	17	197	21	45	1	30	2	0	15	642
EAP 2025 PCE:	38	602	4	18	409	49	61	1	33	2	0	16	1,233
EAPC 2025 PCE:	47	920	4	18	1,071	49	61	1	37	2	0	16	2,226
2045 NP PCE:	39	966	4	21	1,648	30	69	11	132	49	13	35	3,017
2045 WP PCE	49	966	4	21	1,648	57	82	11	134	49	13	35	3,069

**Volume Development
AM Peak Hour**

7: Harvill Av. & Placentia Av.

	PHF: 0.894		7:00	Count Date: 2/8/2022									
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 PCE:	6	609	0	0	224	2	10	0	6	0	0	0	857
EAP 2025 PCE:	9	648	319	337	239	2	11	29	7	124	24	438	2,188
EAPC 2025 PCE:	21	723	370	482	762	12	17	88	11	198	120	688	3,494
2045 NP PCE:	19	1,588	389	504	799	13	17	81	11	208	111	714	4,456
2045 WP PCE	22	1,590	389	506	800	13	17	92	12	208	127	722	4,500

8: I-215 SB Ramps & Ramona Exwy.

	PHF: 0.982		7:15	Count Date: 1/25/2022									
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 PCE:	0	0	0	817	2	210	0	759	364	328	1,121	0	3,599
EAP 2025 PCE:	0	0	0	843	2	174	0	418	290	280	952	0	2,958
EAPC 2025 PCE:	0	0	0	1,845	2	780	0	785	470	547	1,856	0	6,283
2045 NP PCE:	0	0	0	1,683	2	812	0	1,080	493	574	1,948	0	6,592
2045 WP PCE	0	0	0	1,683	2	819	0	1,084	493	574	1,949	0	6,604

9: I-215 NB Ramps & Ramona Exwy.

	PHF: 0.967		7:15	Count Date: 1/25/2022									
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 PCE:	398	4	612	0	0	0	159	1,417	0	0	1,051	740	4,379
EAP 2025 PCE:	316	4	487	0	0	0	130	1,136	0	0	917	589	3,580
EAPC 2025 PCE:	885	4	808	0	0	0	320	2,316	0	0	1,518	1,471	7,322
2045 NP PCE:	687	4	856	0	0	0	332	2,432	0	0	1,835	1,545	7,690
2045 WP PCE	687	4	856	0	0	0	336	2,432	0	0	1,836	1,545	7,695

10: I-215 SB Ramps & Placentia Av.

	PHF: 0.920		Count Date:										
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 PCE:	0	0	0	258	0	72	0	512	116	138	439	0	1,536
EAP 2025 PCE:	0	0	0	274	0	76	0	544	135	147	488	0	1,665
EAPC 2025 PCE:	0	0	0	431	0	256	0	663	217	248	654	0	2,470
2045 NP PCE:	0	0	0	453	0	269	0	760	216	260	764	0	2,722
2045 WP PCE	0	0	0	453	0	269	0	760	228	260	787	0	2,757

11: I-215 NB Ramps & Placentia Av.

	PHF: 0.920		Count Date: 1/0/1900										
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2022 PCE:	171	0	250	0	0	0	76	694	0	0	406	297	1,894
EAP 2025 PCE:	204	0	265	0	0	0	81	736	0	0	432	315	2,033
EAPC 2025 PCE:	359	0	569	0	0	0	188	905	0	0	544	446	3,011
2045 NP PCE:	355	0	598	0	0	0	197	1,015	0	0	670	469	3,303
2045 WP PCE	377	0	598	0	0	0	197	1,015	0	0	671	469	3,326

Volume Development
PM Peak Hour

1: Driveway 1 & Rider St.

	PHF: 0.920		Count Date: _____										TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
2022 PCE:	0	0	0	0	0	0	0	67	0	0	50	0	117
EAP 2025 PCE:	0	0	10	0	0	0	0	73	0	8	58	0	149
EAPC 2025 PCE:	0	0	10	0	0	0	0	73	0	8	58	0	149
2045 NP PCE:	0	0	0	0	0	0	0	145	0	0	86	0	231
2045 WP PCE	0	0	10	0	0	0	0	147	0	8	91	0	256

2: Patterson Av. & Rider St.

	PHF: 0.822		Count Date: 2/8/2022										TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
2022 PCE:	3	0	4	1	0	1	0	62	5	9	46	2	132
EAP 2025 PCE:	9	0	34	1	0	1	0	76	7	27	56	2	213
EAPC 2025 PCE:	9	0	34	12	0	1	0	76	7	27	56	8	230
2045 NP PCE:	5	5	5	12	5	5	5	134	6	11	76	8	277
2045 WP PCE	11	5	35	12	5	5	5	144	8	29	83	8	350

3: Patterson Av. & Driveway 2

	PHF: 0.920		Count Date: _____										TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
2022 PCE:	0	7	0	0	14	0	0	0	0	0	0	0	20
EAP 2025 PCE:	10	7	0	0	27	7	37	0	3	0	0	0	91
EAPC 2025 PCE:	10	7	0	0	27	7	37	0	3	0	0	0	91
2045 NP PCE:	0	15	0	0	21	0	0	0	0	0	0	0	36
2045 WP PCE	10	15	0	0	34	7	37	0	3	0	0	0	106

4: Patterson Av. & Driveway 3

	PHF: 0.920		Count Date: _____										TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
2022 PCE:	0	7	0	0	14	0	0	0	0	0	0	0	20
EAP 2025 PCE:	0	17	0	0	17	13	0	0	28	0	0	0	75
EAPC 2025 PCE:	0	17	0	0	17	13	0	0	28	0	0	0	75
2045 NP PCE:	0	15	0	0	21	0	0	0	0	0	0	0	36
2045 WP PCE	0	25	0	0	24	13	0	0	28	0	0	0	90

5: Harvill Av. & Cajalco Exwy.

	PHF: 0.934		Count Date: 2/8/2022										TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
2022 PCE:	165	144	125	222	211	35	24	723	207	132	637	187	2,811
EAP 2025 PCE:	187	166	142	236	230	37	25	767	226	145	676	198	3,035
EAPC 2025 PCE:	312	241	591	902	320	174	123	1,238	298	350	929	474	5,952
2045 NP PCE:	315	241	611	947	549	183	130	1,300	546	362	975	498	6,656
2045 WP PCE	327	254	621	947	555	183	130	1,300	552	367	975	498	6,708

6: Harvill Av. & Rider St.

	PHF: 0.859		Count Date: 2/8/2022										TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
2022 PCE:	22	270	3	1	445	38	29	1	42	3	0	4	857
EAP 2025 PCE:	31	486	3	1	772	57	66	1	50	3	0	4	1,474
EAPC 2025 PCE:	37	1,093	3	1	1,178	57	66	1	61	3	0	4	2,504
2045 NP PCE:	31	1,148	6	14	1,334	49	34	10	107	42	15	23	2,813
2045 WP PCE	39	1,148	6	14	1,334	66	69	10	112	42	15	23	2,878

Volume Development
PM Peak Hour

7: Harvill Av. & Placentia Av.

	PHF: 0.854								Count Date: 2/8/2022				TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
2022 PCE:	14	283	0	0	488	3	4	0	15	0	0	0	806
EAP 2025 PCE:	17	301	188	640	520	3	4	46	20	202	42	404	2,388
EAPC 2025 PCE:	23	815	241	839	742	8	20	166	32	236	106	504	3,732
2045 NP PCE:	22	854	253	879	1,510	9	21	147	30	248	103	522	4,597
2045 WP PCE	24	855	253	881	1,513	9	21	174	34	248	111	529	4,651

8: I-215 SB Ramps & Ramona Exwy.

	PHF: 0.990								Count Date: 1/25/2022				TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
2022 PCE:	0	0	0	853	8	184	0	911	348	369	915	0	3,586
EAP 2025 PCE:	0	0	0	802	8	150	0	643	277	322	746	0	2,948
EAPC 2025 PCE:	0	0	0	2,002	8	417	0	1,621	881	844	1,237	0	7,009
2045 NP PCE:	0	0	0	2,004	8	434	0	1,794	925	970	1,298	0	7,433
2045 WP PCE	0	0	0	2,004	8	438	0	1,804	925	970	1,299	0	7,448

9: I-215 NB Ramps & Ramona Exwy.

	PHF: 0.940								Count Date: 1/25/2022				TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
2022 PCE:	371	4	461	0	0	0	121	1,643	0	0	913	652	4,164
EAP 2025 PCE:	295	4	367	0	0	0	105	1,344	0	0	775	519	3,410
EAPC 2025 PCE:	585	4	561	0	0	0	696	2,931	0	0	1,494	1,722	7,993
2045 NP PCE:	614	4	589	0	0	0	722	3,076	0	0	1,654	1,808	8,467
2045 WP PCE	614	4	589	0	0	0	731	3,078	0	0	1,655	1,808	8,479

10: I-215 SB Ramps & Placentia Av.

	PHF: 0.920								Count Date:				TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
2022 PCE:	0	0	0	334	1	66	0	640	138	233	527	0	1,938
EAP 2025 PCE:	0	0	0	355	1	70	0	682	173	247	574	0	2,101
EAPC 2025 PCE:	0	0	0	551	1	109	0	807	316	588	672	0	3,043
2045 NP PCE:	0	0	0	578	1	114	0	975	305	617	758	0	3,349
2045 WP PCE	0	0	0	578	1	114	0	977	332	617	773	0	3,393

11: I-215 NB Ramps & Placentia Av.

	PHF: 0.920								Count Date:				TOTAL
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
2022 PCE:	158	0	217	0	0	0	67	909	0	0	602	262	2,215
EAP 2025 PCE:	183	0	231	0	0	0	71	967	0	0	640	278	2,368
EAPC 2025 PCE:	273	0	400	0	0	0	193	1,166	0	0	990	504	3,524
2045 NP PCE:	271	0	420	0	0	0	202	1,351	0	0	1,104	529	3,877
2045 WP PCE	286	0	420	0	0	0	202	1,353	0	0	1,105	529	3,895

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

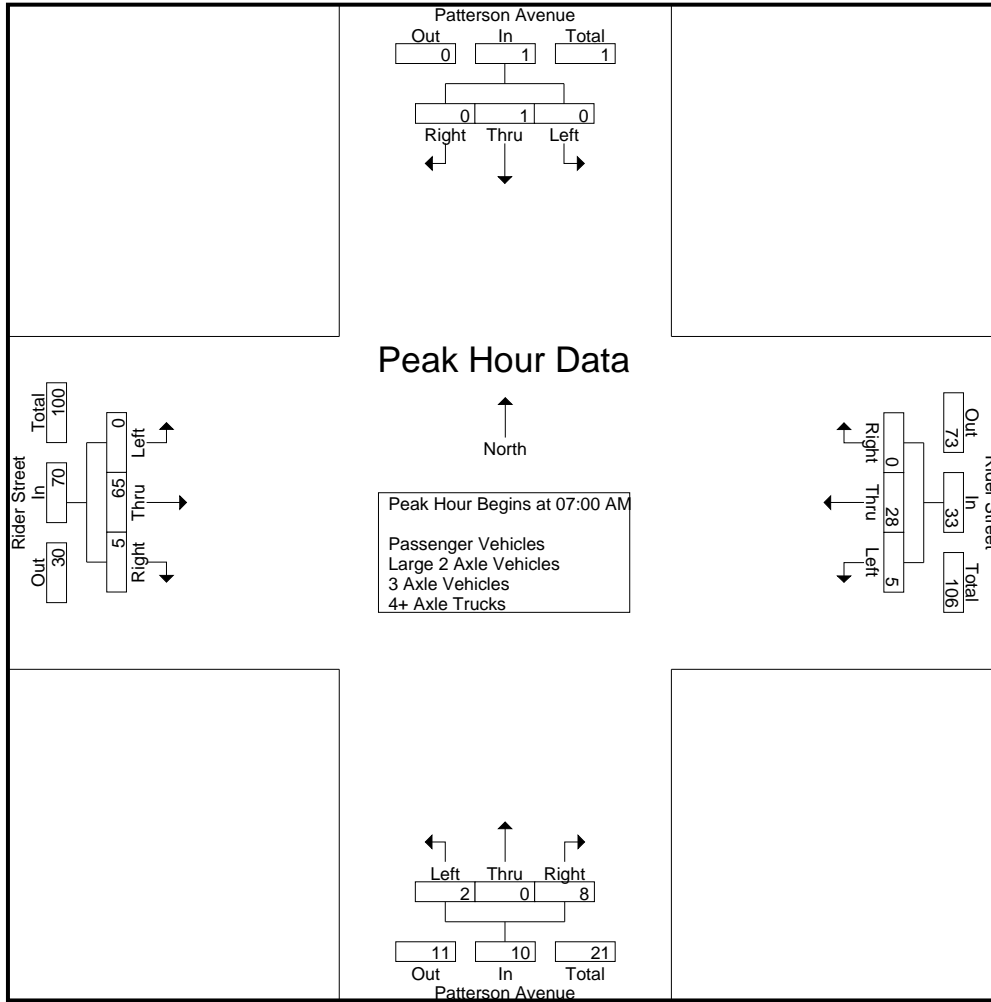
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	1	0	1	1	8	0	9	0	0	4	4	0	11	0	11	25
07:15 AM	0	0	0	0	2	8	0	10	2	0	3	5	0	20	1	21	36
07:30 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	24	2	26	31
07:45 AM	0	0	0	0	2	7	0	9	0	0	1	1	0	10	2	12	22
Total	0	1	0	1	5	28	0	33	2	0	8	10	0	65	5	70	114
08:00 AM	0	0	0	0	1	9	0	10	0	0	1	1	0	6	3	9	20
08:15 AM	0	0	0	0	2	7	1	10	2	0	1	3	0	10	2	12	25
08:30 AM	0	0	0	0	0	7	1	8	2	0	2	4	0	3	0	3	15
08:45 AM	0	0	0	0	2	8	0	10	0	0	3	3	0	4	0	4	17
Total	0	0	0	0	5	31	2	38	4	0	7	11	0	23	5	28	77
Grand Total	0	1	0	1	10	59	2	71	6	0	15	21	0	88	10	98	191
Apprch %	0	100	0		14.1	83.1	2.8		28.6	0	71.4		0	89.8	10.2		
Total %	0	0.5	0	0.5	5.2	30.9	1	37.2	3.1	0	7.9	11	0	46.1	5.2	51.3	
Passenger Vehicles	0	0	0	0	9	52	2	63	5	0	14	19	0	84	10	94	176
% Passenger Vehicles	0	0	0	0	90	88.1	100	88.7	83.3	0	93.3	90.5	0	95.5	100	95.9	92.1
Large 2 Axle Vehicles	0	0	0	0	1	4	0	5	1	0	0	1	0	0	0	0	6
% Large 2 Axle Vehicles	0	0	0	0	10	6.8	0	7	16.7	0	0	4.8	0	0	0	0	3.1
3 Axle Vehicles	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
% 3 Axle Vehicles	0	100	0	100	0	0	0	0	0	0	6.7	4.8	0	0	0	0	1
4+ Axle Trucks	0	0	0	0	0	3	0	3	0	0	0	0	0	4	0	4	7
% 4+ Axle Trucks	0	0	0	0	0	5.1	0	4.2	0	0	0	0	0	4.5	0	4.1	3.7

Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	1	0	1	1	8	0	9	0	0	4	4	0	11	0	11	25
07:15 AM	0	0	0	0	2	8	0	10	2	0	3	5	0	20	1	21	36
07:30 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	24	2	26	31
07:45 AM	0	0	0	0	2	7	0	9	0	0	1	1	0	10	2	12	22
Total Volume	0	1	0	1	5	28	0	33	2	0	8	10	0	65	5	70	114
% App. Total	0	100	0		15.2	84.8	0		20	0	80		0	92.9	7.1		
PHF	.000	.250	.000	.250	.625	.875	.000	.825	.250	.000	.500	.500	.000	.677	.625	.673	.792

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				08:00 AM				07:00 AM			
+0 mins.	0	1	0	1	1	9	0	10	0	0	1	1	0	11	0	11
+15 mins.	0	0	0	0	2	7	1	10	2	0	1	3	0	20	1	21
+30 mins.	0	0	0	0	0	7	1	8	2	0	2	4	0	24	2	26
+45 mins.	0	0	0	0	2	8	0	10	0	0	3	3	0	10	2	12
Total Volume	0	1	0	1	5	31	2	38	4	0	7	11	0	65	5	70
% App. Total	0	100	0	0	13.2	81.6	5.3	100	36.4	0	63.6	100	0	92.9	7.1	100
PHF	.000	.250	.000	.250	.625	.861	.500	.950	.500	.000	.583	.688	.000	.677	.625	.673

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

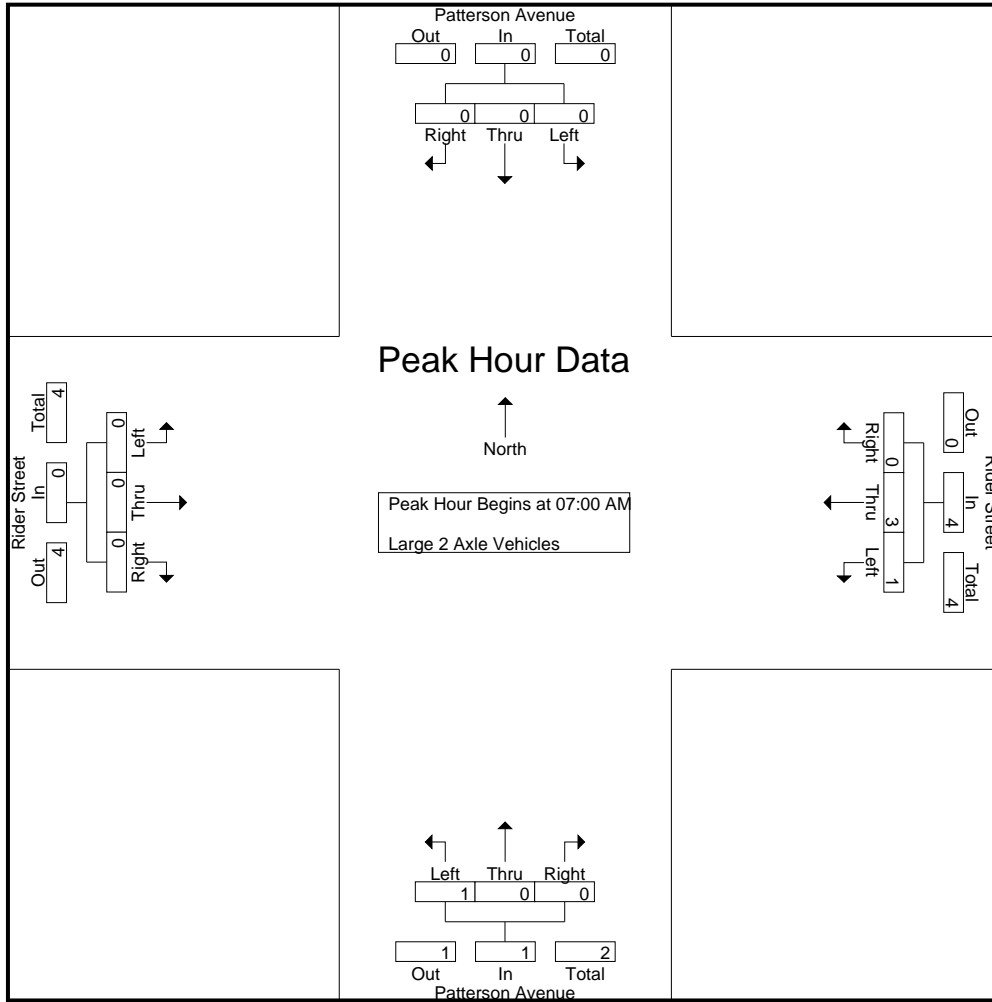
Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	3	0	4	1	0	0	1	0	0	0	0	5
08:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	1	4	0	5	1	0	0	1	0	0	0	0	6
Apprch %	0	0	0		20	80	0		100	0	0		0	0	0		
Total %	0	0	0	0	16.7	66.7	0	83.3	16.7	0	0	16.7	0	0	0	0	

Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	1	3	0	4	1	0	0	1	0	0	0	0	5
% App. Total	0	0	0		25	75	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.250	.375	.000	.500	.250	.000	.000	.250	.000	.000	.000	.000	.625

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

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider AM
 Site Code : 05122133
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	3	0	4	1	0	0	1	0	0	0	0
% App. Total	0	0	0	0	25	75	0	100	100	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.250	.375	.000	.500	.250	.000	.000	.250	.000	.000	.000	.000

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 3 Axle Vehicles

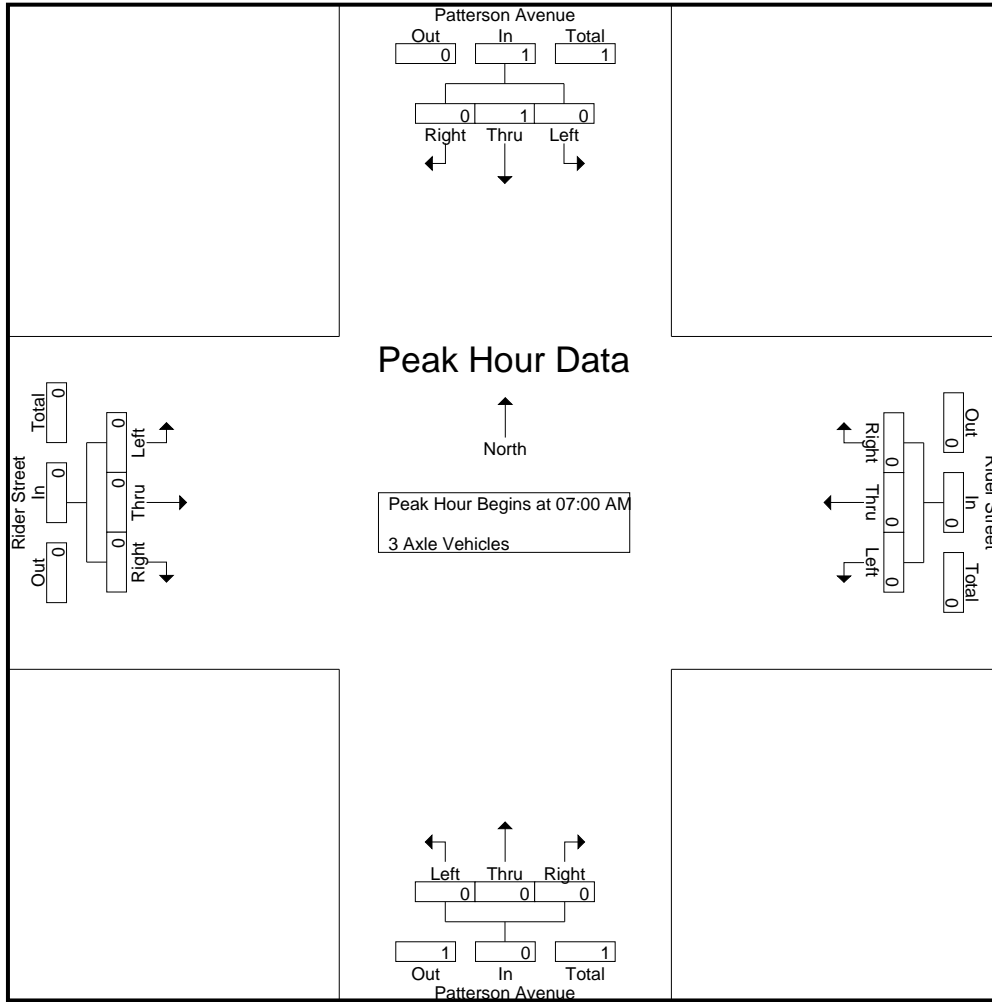
Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
07:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Grand Total	0	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Apprch %	0	100	0		0	0	0		0	0	100			0	0	0		
Total %	0	50	0	50	0	0	0	0	0	0	50	50		0	0	0	0	

Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
07:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0			0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

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

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
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Groups Printed- 4+ Axle Trucks

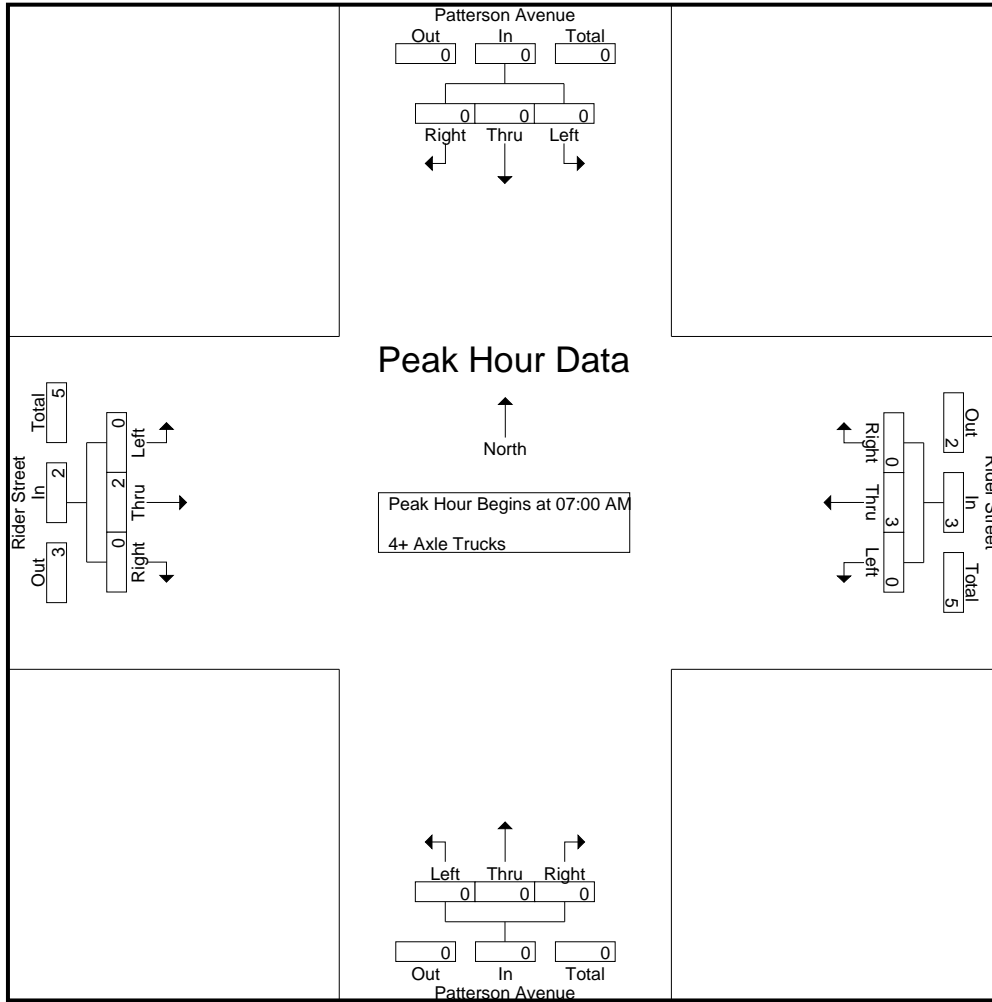
Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Grand Total	0	0	0	0	0	3	0	3	0	0	0	0	0	4	0	4	7
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0		0	42.9	0	42.9	0	0	0		0	57.1	0	57.1	

Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.500	.000	.500	.625

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

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.500	.000	.500

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

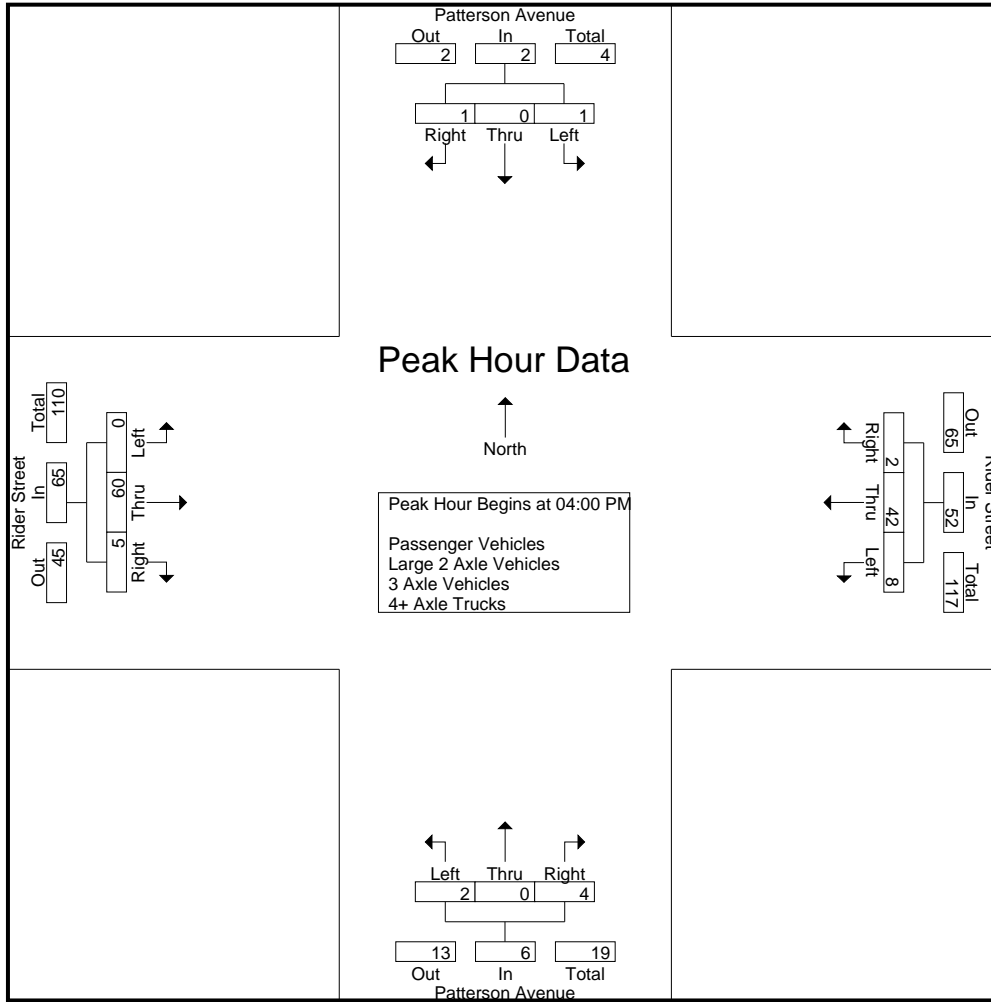
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	1	1	3	12	2	17	0	0	1	1	0	16	3	19	38
04:15 PM	0	0	0	0	1	11	0	12	0	0	1	1	0	18	1	19	32
04:30 PM	1	0	0	1	4	12	0	16	2	0	2	4	0	15	1	16	37
04:45 PM	0	0	0	0	0	7	0	7	0	0	0	0	0	11	0	11	18
Total	1	0	1	2	8	42	2	52	2	0	4	6	0	60	5	65	125
05:00 PM	1	0	0	1	0	11	0	11	1	0	1	2	1	11	2	14	28
05:15 PM	0	1	0	1	1	8	0	9	1	0	0	1	0	13	1	14	25
05:30 PM	0	0	1	1	2	3	0	5	2	1	0	3	0	4	4	8	17
05:45 PM	1	0	0	1	2	10	0	12	0	0	2	2	0	6	0	6	21
Total	2	1	1	4	5	32	0	37	4	1	3	8	1	34	7	42	91
Grand Total	3	1	2	6	13	74	2	89	6	1	7	14	1	94	12	107	216
Apprch %	50	16.7	33.3		14.6	83.1	2.2		42.9	7.1	50		0.9	87.9	11.2		
Total %	1.4	0.5	0.9	2.8	6	34.3	0.9	41.2	2.8	0.5	3.2	6.5	0.5	43.5	5.6	49.5	
Passenger Vehicles	3	1	2	6	12	69	2	83	5	1	7	13	1	93	11	105	207
% Passenger Vehicles	100	100	100	100	92.3	93.2	100	93.3	83.3	100	100	92.9	100	98.9	91.7	98.1	95.8
Large 2 Axle Vehicles	0	0	0	0	1	1	0	2	1	0	0	1	0	0	1	1	4
% Large 2 Axle Vehicles	0	0	0	0	7.7	1.4	0	2.2	16.7	0	0	7.1	0	0	8.3	0.9	1.9
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	4	0	4	0	0	0	0	0	1	0	1	5
% 4+ Axle Trucks	0	0	0	0	0	5.4	0	4.5	0	0	0	0	0	1.1	0	0.9	2.3

Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	1	1	3	12	2	17	0	0	1	1	0	16	3	19	38
04:15 PM	0	0	0	0	1	11	0	12	0	0	1	1	0	18	1	19	32
04:30 PM	1	0	0	1	4	12	0	16	2	0	2	4	0	15	1	16	37
04:45 PM	0	0	0	0	0	7	0	7	0	0	0	0	0	11	0	11	18
Total Volume	1	0	1	2	8	42	2	52	2	0	4	6	0	60	5	65	125
% App. Total	50	0	50		15.4	80.8	3.8		33.3	0	66.7		0	92.3	7.7		
PHF	.250	.000	.250	.500	.500	.875	.250	.765	.250	.000	.500	.375	.000	.833	.417	.855	.822

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				05:00 PM				04:00 PM			
+0 mins.	1	0	0	1	3	12	2	17	1	0	1	2	0	16	3	19
+15 mins.	0	1	0	1	1	11	0	12	1	0	0	1	0	18	1	19
+30 mins.	0	0	1	1	4	12	0	16	2	1	0	3	0	15	1	16
+45 mins.	1	0	0	1	0	7	0	7	0	0	2	2	0	11	0	11
Total Volume	2	1	1	4	8	42	2	52	4	1	3	8	0	60	5	65
% App. Total	50	25	25		15.4	80.8	3.8		50	12.5	37.5		0	92.3	7.7	
PHF	.500	.250	.250	1.000	.500	.875	.250	.765	.500	.250	.375	.667	.000	.833	.417	.855

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

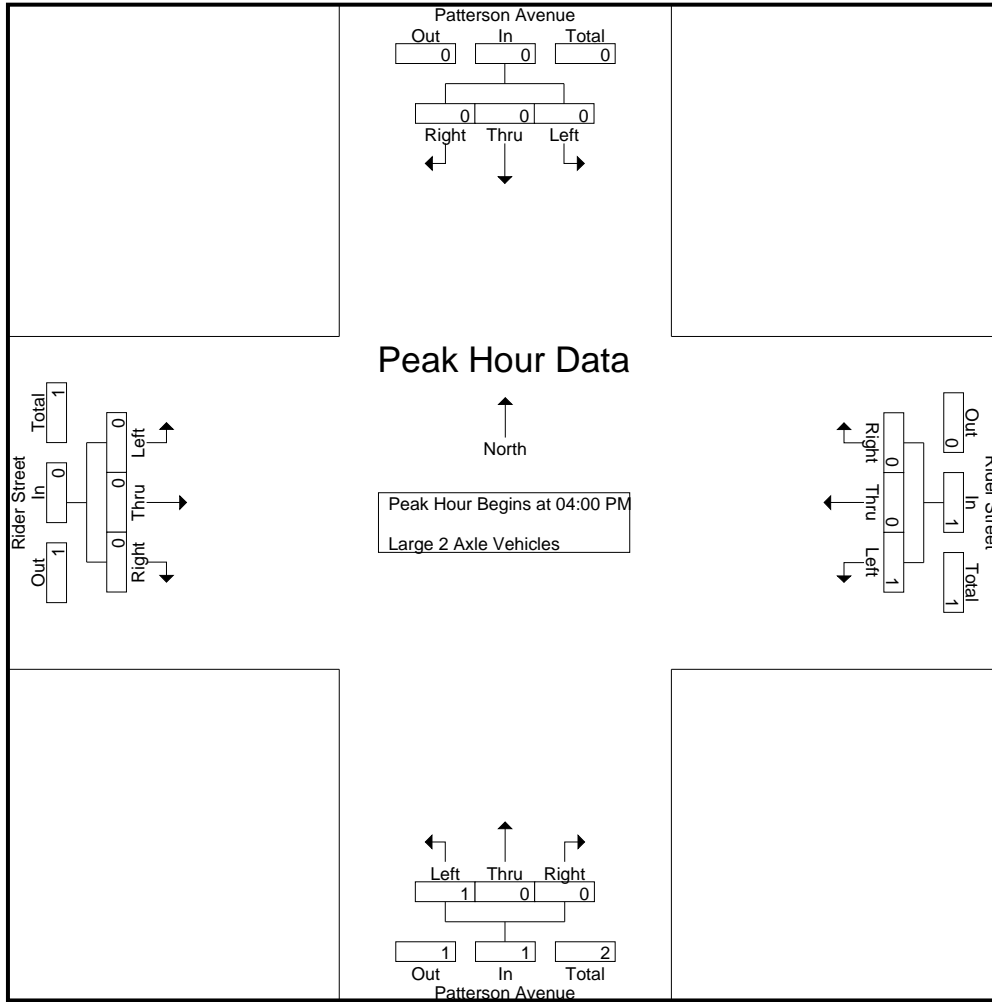
Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	2
Grand Total	0	0	0	0	1	1	0	2	1	0	0	1	0	0	1	1	4
Apprch %	0	0	0		50	50	0		100	0	0		0	0	100		
Total %	0	0	0		25	25	0	50	25	0	0	25	0	0	25	25	

Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	2
% App. Total	0	0	0		100	0	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000	.500

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

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0
% App. Total	0	0	0	0	100	0	0	100	100	0	0	100	0	0	0	0
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 3 Axle Vehicles

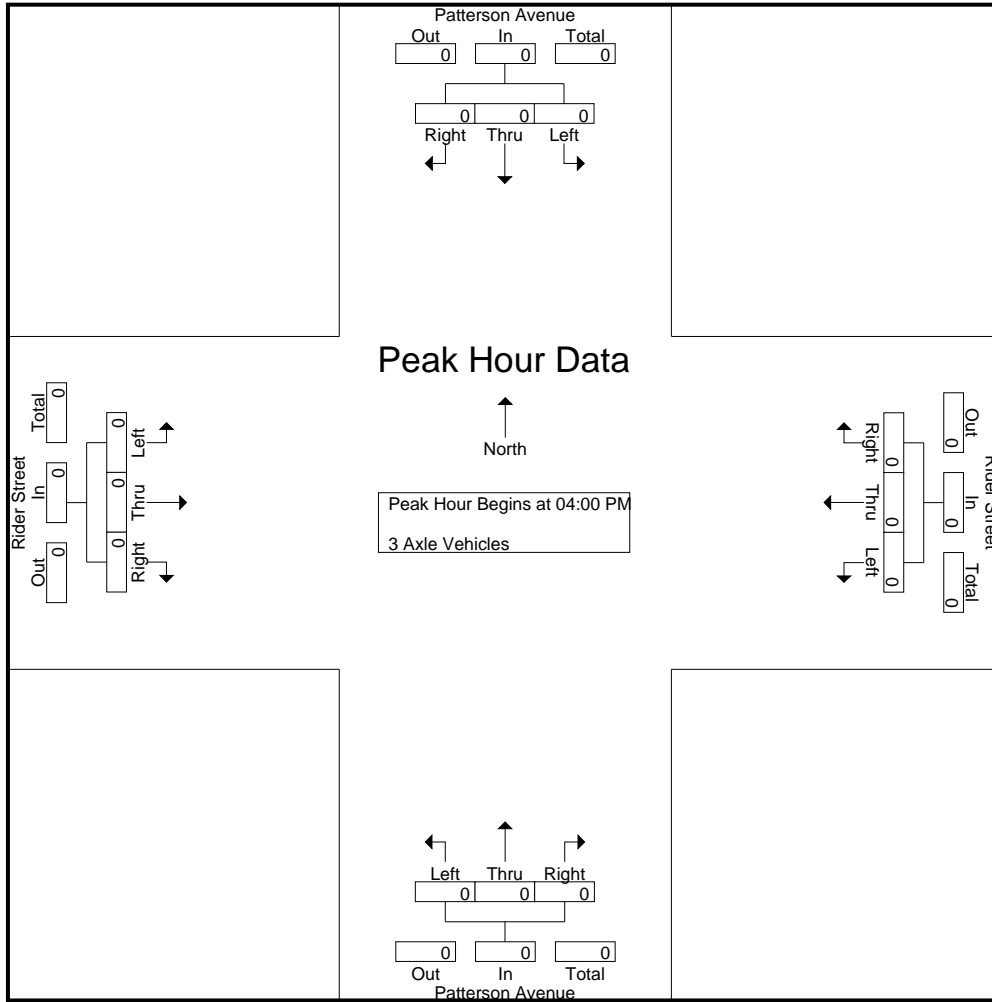
Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 4+ Axle Trucks

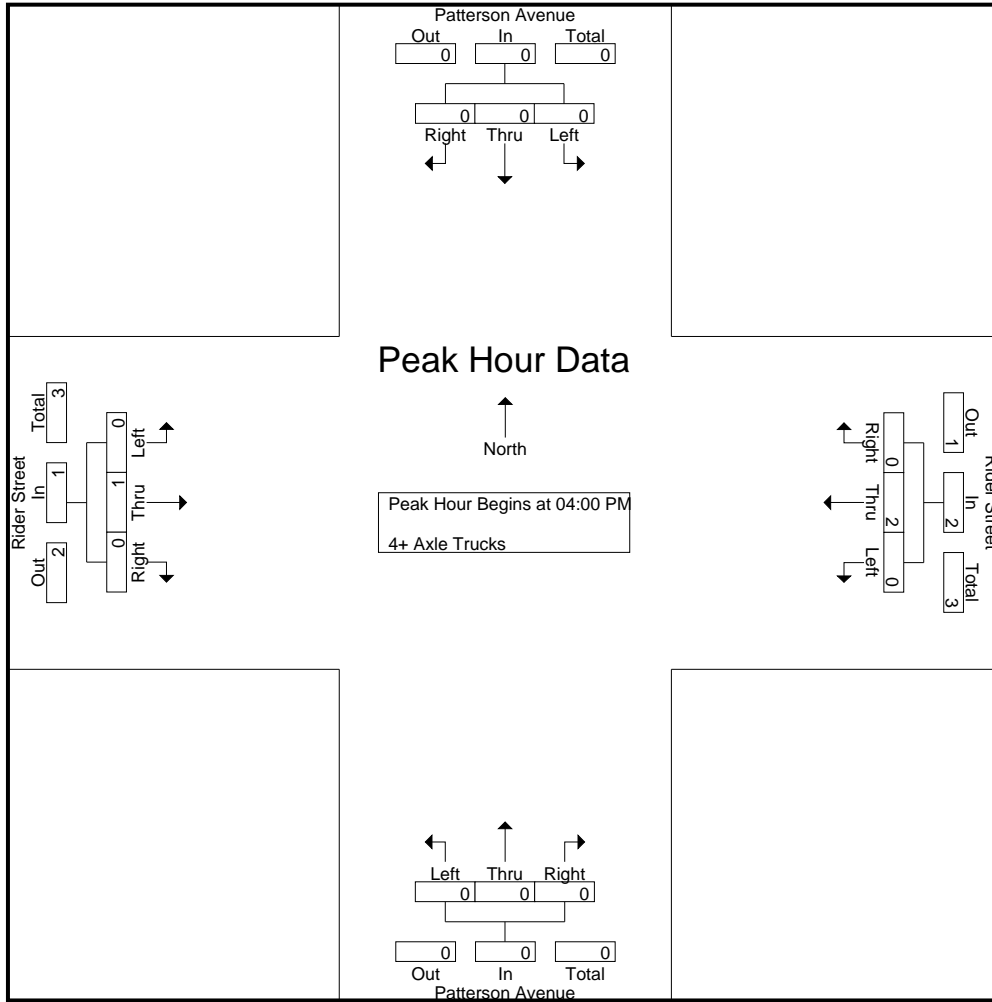
Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Grand Total	0	0	0	0	0	4	0	4	0	0	0	0	0	1	0	1	5
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0		0	80	0	80	0	0	0		0	20	0	20	

Start Time	Patterson Avenue Southbound				Rider Street Westbound				Patterson Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.250	.000	.250	.750

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

County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 01_CRV_Pat_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.250	.000	.250

Location: County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street



Date: 2/8/2022
 Day: Tuesday

PEDESTRIANS

	North Leg Patterson Avenue	East Leg Rider Street	South Leg Patterson Avenue	West Leg Rider Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Patterson Avenue	East Leg Rider Street	South Leg Patterson Avenue	West Leg Rider Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Patterson Avenue
 E/W: Rider Street



Date: 2/8/2022
 Day: Tuesday

BICYCLES

	Southbound Patterson Avenue			Westbound Rider Street			Northbound Patterson Avenue			Eastbound Rider Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Patterson Avenue			Westbound Rider Street			Northbound Patterson Avenue			Eastbound Rider Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

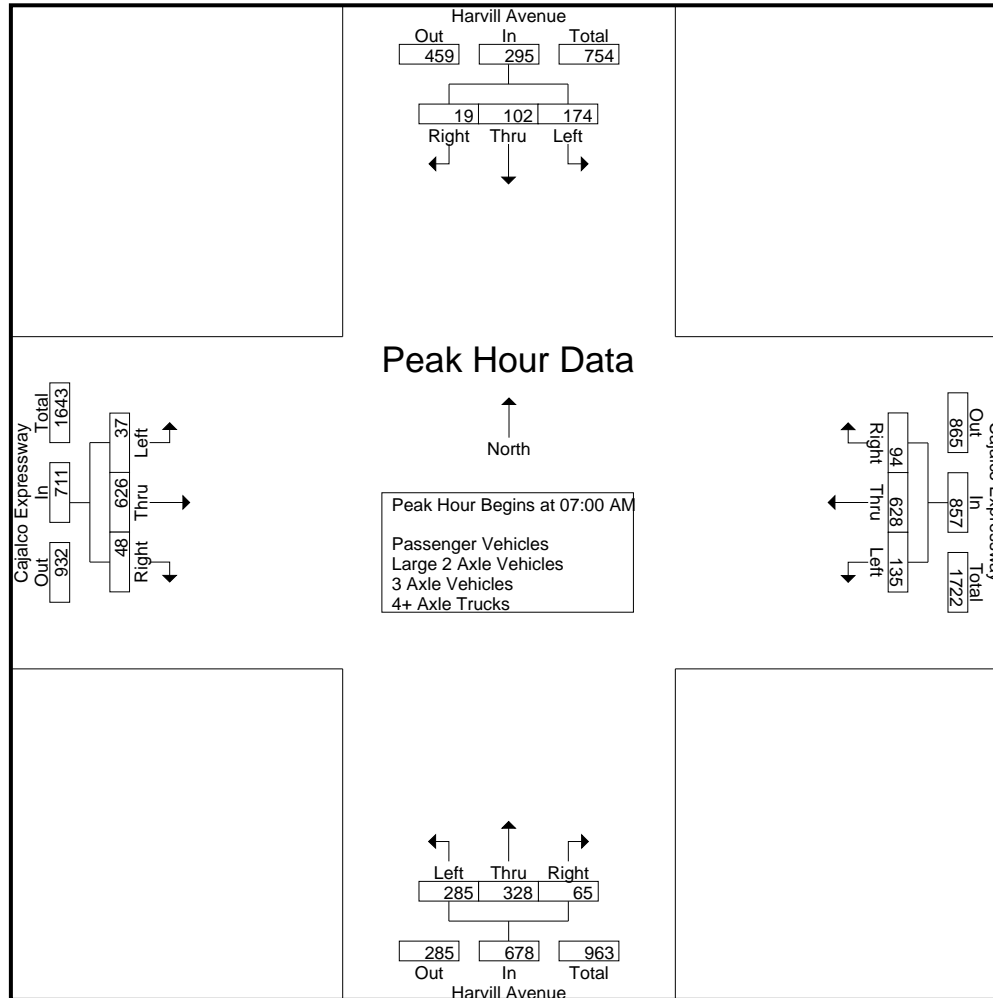
File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

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

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	52	24	5	1	81	34	177	13	12	224	79	80	10	14	169	9	130	7	6	146	33	620	653
07:15 AM	41	23	6	0	70	28	154	16	13	198	91	68	18	15	177	6	149	11	10	166	38	611	649
07:30 AM	35	23	6	1	64	43	167	34	23	244	61	94	13	10	168	9	180	18	16	207	50	683	733
07:45 AM	46	32	2	0	80	30	130	31	15	191	54	86	24	11	164	13	167	12	15	192	41	627	668
Total	174	102	19	2	295	135	628	94	63	857	285	328	65	50	678	37	626	48	47	711	162	2541	2703
08:00 AM	42	30	2	0	74	31	154	28	11	213	54	61	17	15	132	8	133	19	5	160	31	579	610
08:15 AM	56	31	3	4	90	25	132	18	24	175	31	32	5	16	68	9	130	13	11	152	55	485	540
08:30 AM	40	27	0	0	67	29	124	17	10	170	29	29	2	20	60	5	134	14	12	153	42	450	492
08:45 AM	31	17	7	3	55	29	175	21	7	225	27	21	2	13	50	5	131	20	7	156	30	486	516
Total	169	105	12	7	286	114	585	84	52	783	141	143	26	64	310	27	528	66	35	621	158	2000	2158
Grand Total	343	207	31	9	581	249	1213	178	115	1640	426	471	91	114	988	64	1154	114	82	1332	320	4541	4861
Apprch %	59	35.6	5.3			15.2	74	10.9			43.1	47.7	9.2			4.8	86.6	8.6					
Total %	7.6	4.6	0.7		12.8	5.5	26.7	3.9		36.1	9.4	10.4	2		21.8	1.4	25.4	2.5		29.3	6.6	93.4	
Passenger Vehicles	314	187	19		525	191	1118	161		1579	407	460	75		1036	51	1064	107		1301	0	0	4441
% Passenger Vehicles	91.5	90.3	61.3	55.6	89	76.7	92.2	90.4	94.8	90	95.5	97.7	82.4	82.5	94	79.7	92.2	93.9	96.3	92	0	0	91.4
Large 2 Axle Vehicles	17	10	5		33	23	47	12		85	13	3	6		30	3	41	0		46	0	0	194
% Large 2 Axle Vehicles	5	4.8	16.1	11.1	5.6	9.2	3.9	6.7	2.6	4.8	3.1	0.6	6.6	7	2.7	4.7	3.6	0	2.4	3.3	0	0	4
3 Axle Vehicles	3	1	0		5	5	9	1		17	2	3	1		8	3	10	1		14	0	0	44
% 3 Axle Vehicles	0.9	0.5	0	11.1	0.8	2	0.7	0.6	1.7	1	0.5	0.6	1.1	1.8	0.7	4.7	0.9	0.9	0	1	0	0	0.9
4+ Axle Trucks	9	9	7		27	30	39	4		74	4	5	9		28	7	39	6		53	0	0	182
% 4+ Axle Trucks	2.6	4.3	22.6	22.2	4.6	12	3.2	2.2	0.9	4.2	0.9	1.1	9.9	8.8	2.5	10.9	3.4	5.3	1.2	3.7	0	0	3.7

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	52	24	5	81	34	177	13	224	79	80	10	169	9	130	7	146	620
07:15 AM	41	23	6	70	28	154	16	198	91	68	18	177	6	149	11	166	611
07:30 AM	35	23	6	64	43	167	34	244	61	94	13	168	9	180	18	207	683
07:45 AM	46	32	2	80	30	130	31	191	54	86	24	164	13	167	12	192	627
Total Volume	174	102	19	295	135	628	94	857	285	328	65	678	37	626	48	711	2541
% App. Total	59	34.6	6.4		15.8	73.3	11		42	48.4	9.6		5.2	88	6.8		
PHF	.837	.797	.792	.910	.785	.887	.691	.878	.783	.872	.677	.958	.712	.869	.667	.859	.930

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



County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
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Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:00 AM				07:00 AM				07:15 AM				
+0 mins.	46	32	2	80	34	177	13	224	79	80	10	169	6	149	11	166	
+15 mins.	42	30	2	74	28	154	16	198	91	68	18	177	9	180	18	207	
+30 mins.	56	31	3	90	43	167	34	244	61	94	13	168	13	167	12	192	
+45 mins.	40	27	0	67	30	130	31	191	54	86	24	164	8	133	19	160	
Total Volume	184	120	7	311	135	628	94	857	285	328	65	678	36	629	60	725	
% App. Total	59.2	38.6	2.3		15.8	73.3	11		42	48.4	9.6		5	86.8	8.3		
PHF	.821	.938	.583	.864	.785	.887	.691	.878	.783	.872	.677	.958	.692	.874	.789	.876	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
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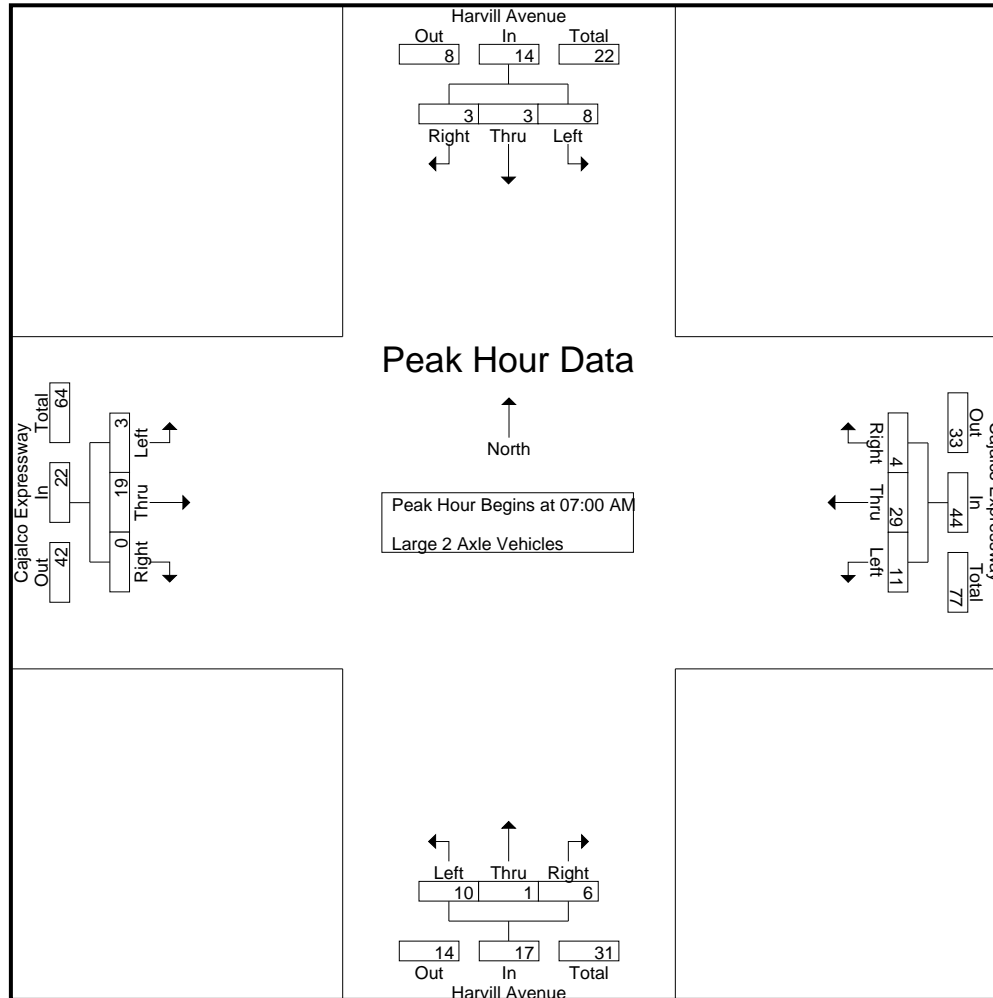
Groups Printed- Large 2 Axle Vehicles

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	3	0	1	0	4	4	6	2	1	12	5	1	3	2	9	0	2	0	0	2	3	27	30
07:15 AM	2	0	0	0	2	3	5	1	0	9	4	0	1	0	5	0	5	0	1	5	1	21	22
07:30 AM	0	2	1	1	3	1	10	1	0	12	0	0	1	0	1	1	7	0	0	8	1	24	25
07:45 AM	3	1	1	0	5	3	8	0	0	11	1	0	1	1	2	2	5	0	0	7	1	25	26
Total	8	3	3	1	14	11	29	4	1	44	10	1	6	3	17	3	19	0	1	22	6	97	103
08:00 AM	4	2	0	0	6	1	5	3	0	9	0	1	0	1	1	0	6	0	0	6	1	22	23
08:15 AM	0	3	0	0	3	3	3	2	1	8	1	1	0	1	2	0	8	0	0	8	2	21	23
08:30 AM	4	2	0	0	6	3	5	0	0	8	1	0	0	1	1	0	3	0	1	3	2	18	20
08:45 AM	1	0	2	0	3	5	5	3	1	13	1	0	0	2	1	0	5	0	0	5	3	22	25
Total	9	7	2	0	18	12	18	8	2	38	3	2	0	5	5	0	22	0	1	22	8	83	91
Grand Total	17	10	5	1	32	23	47	12	3	82	13	3	6	8	22	3	41	0	2	44	14	180	194
Apprch %	53.1	31.2	15.6			28	57.3	14.6			59.1	13.6	27.3			6.8	93.2	0					
Total %	9.4	5.6	2.8		17.8	12.8	26.1	6.7		45.6	7.2	1.7	3.3		12.2	1.7	22.8	0		24.4	7.2	92.8	

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	3	0	1	4	4	6	2	12	5	1	3	9	0	2	0	2	27
07:15 AM	2	0	0	2	3	5	1	9	4	0	1	5	0	5	0	5	21
07:30 AM	0	2	1	3	1	10	1	12	0	0	1	1	1	7	0	8	24
07:45 AM	3	1	1	5	3	8	0	11	1	0	1	2	2	5	0	7	25
Total Volume	8	3	3	14	11	29	4	44	10	1	6	17	3	19	0	22	97
% App. Total	57.1	21.4	21.4		25	65.9	9.1		58.8	5.9	35.3		13.6	86.4	0		
PHF	.667	.375	.750	.700	.688	.725	.500	.917	.500	.250	.500	.472	.375	.679	.000	.688	.898

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
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County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 3

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	3	0	1	4	4	6	2	12	5	1	3	9	0	2	0	2	
+15 mins.	2	0	0	2	3	5	1	9	4	0	1	5	0	5	0	5	
+30 mins.	0	2	1	3	1	10	1	12	0	0	1	1	1	7	0	8	
+45 mins.	3	1	1	5	3	8	0	11	1	0	1	2	2	5	0	7	
Total Volume	8	3	3	14	11	29	4	44	10	1	6	17	3	19	0	22	
% App. Total	57.1	21.4	21.4		25	65.9	9.1		58.8	5.9	35.3		13.6	86.4	0		
PHF	.667	.375	.750	.700	.688	.725	.500	.917	.500	.250	.500	.472	.375	.679	.000	.688	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
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 Page No : 1

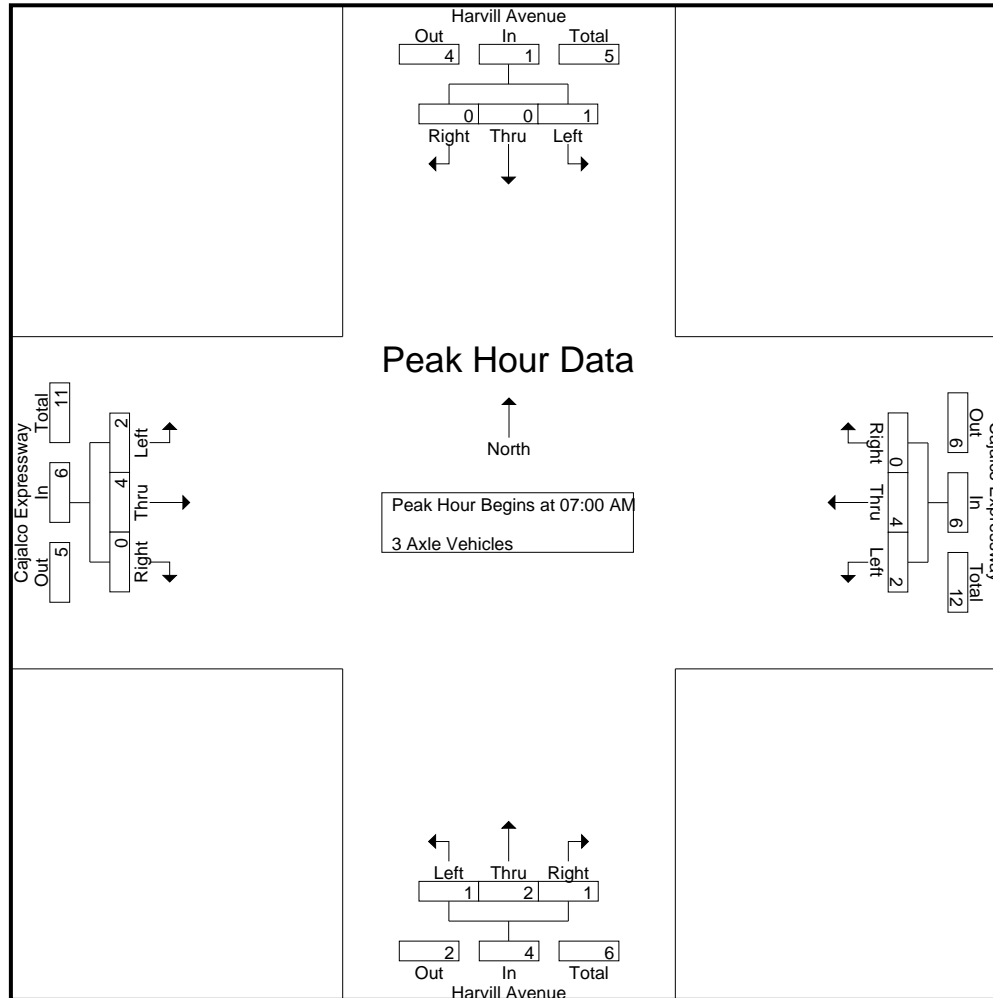
Groups Printed- 3 Axle Vehicles

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total		
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total					
07:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	2
07:15 AM	1	0	0	0	1	1	2	0	0	3	0	1	0	0	1	1	0	0	0	1	0	0	0	0	6
07:30 AM	0	0	0	0	0	1	1	0	0	2	0	0	1	1	1	1	2	0	0	3	1	0	0	0	7
07:45 AM	0	0	0	0	0	0	1	0	0	1	1	1	0	0	2	0	2	0	0	2	0	0	0	0	5
Total	1	0	0	0	1	2	4	0	1	6	1	2	1	2	4	2	4	0	0	6	3	17	0	0	20
08:00 AM	1	1	0	0	2	0	2	0	0	2	0	1	0	0	1	0	2	0	0	2	0	0	0	0	7
08:15 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	3
08:30 AM	1	0	0	0	1	0	2	0	1	2	0	0	0	0	0	1	1	0	0	2	1	0	0	0	6
08:45 AM	0	0	0	1	0	2	0	1	0	3	1	0	0	0	1	0	2	1	0	3	1	0	0	0	8
Total	2	1	0	1	3	3	5	1	1	9	1	1	0	0	2	1	6	1	0	8	2	22	0	0	24
Grand Total	3	1	0	1	4	5	9	1	2	15	2	3	1	2	6	3	10	1	0	14	5	39	0	0	44
Apprch %	75	25	0			33.3	60	6.7			33.3	50	16.7			21.4	71.4	7.1							
Total %	7.7	2.6	0		10.3	12.8	23.1	2.6		38.5	5.1	7.7	2.6		15.4	7.7	25.6	2.6		35.9	11.4	88.6			

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:15 AM	1	0	0	1	1	2	0	3	0	1	0	1	1	0	0	1	
07:30 AM	0	0	0	0	1	1	0	2	0	0	1	1	1	2	0	3	
07:45 AM	0	0	0	0	0	1	0	1	1	1	0	2	0	2	0	2	
Total Volume	1	0	0	1	2	4	0	6	1	2	1	4	2	4	0	6	
% App. Total	100	0	0		33.3	66.7	0		25	50	25		33.3	66.7	0		
PHF	.250	.000	.000	.250	.500	.500	.000	.500	.250	.500	.250	.500	.500	.500	.000	.500	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
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County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 3

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	1	0	0	1	1	2	0	3	0	1	0	1	1	0	0	1	
+30 mins.	0	0	0	0	1	1	0	2	0	0	1	1	1	2	0	3	
+45 mins.	0	0	0	0	0	1	0	1	1	1	0	2	0	2	0	2	
Total Volume	1	0	0	1	2	4	0	6	1	2	1	4	2	4	0	6	
% App. Total	100	0	0		33.3	66.7	0		25	50	25		33.3	66.7	0		
PHF	.250	.000	.000	.250	.500	.500	.000	.500	.250	.500	.250	.500	.500	.500	.000	.500	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
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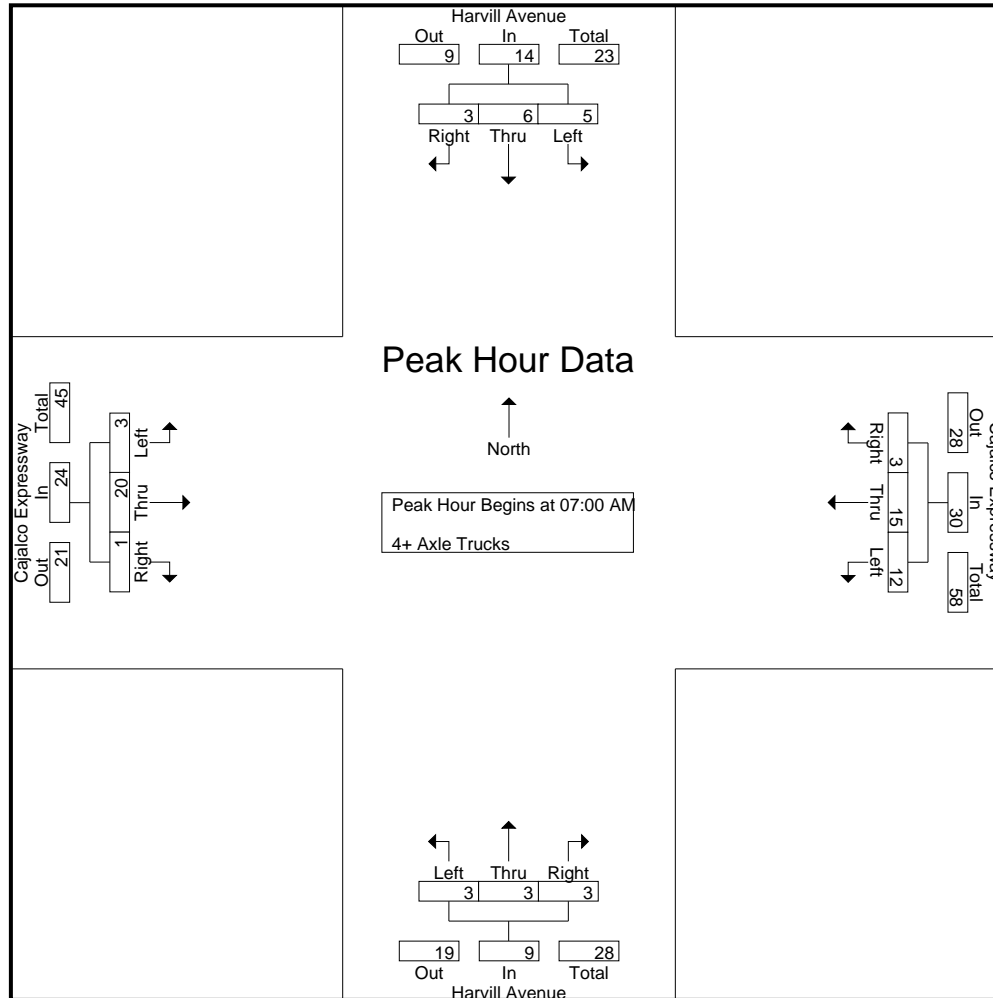
Groups Printed- 4+ Axle Trucks

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	2	2	2	0	6	4	5	1	0	10	1	0	1	1	2	1	7	0	0	8	1	26	27
07:15 AM	2	2	0	0	4	3	1	0	0	4	1	2	1	1	4	0	4	0	0	4	1	16	17
07:30 AM	1	0	1	0	2	3	4	1	0	8	0	1	0	1	1	0	4	0	0	4	1	15	16
07:45 AM	0	2	0	0	2	2	5	1	0	8	1	0	1	2	2	2	5	1	1	8	3	20	23
Total	5	6	3	0	14	12	15	3	0	30	3	3	3	5	9	3	20	1	1	24	6	77	83
08:00 AM	1	1	1	0	3	4	7	1	0	12	0	1	3	0	4	0	5	3	0	8	0	27	27
08:15 AM	2	0	2	1	4	4	3	0	1	7	0	0	1	1	1	3	5	1	0	9	3	21	24
08:30 AM	1	0	0	0	1	5	5	0	0	10	0	0	2	1	2	1	6	0	0	7	1	20	21
08:45 AM	0	2	1	1	3	5	9	0	0	14	1	1	0	3	2	0	3	1	0	4	4	23	27
Total	4	3	4	2	11	18	24	1	1	43	1	2	6	5	9	4	19	5	0	28	8	91	99
Grand Total	9	9	7	2	25	30	39	4	1	73	4	5	9	10	18	7	39	6	1	52	14	168	182
Apprch %	36	36	28			41.1	53.4	5.5			22.2	27.8	50			13.5	75	11.5					
Total %	5.4	5.4	4.2		14.9	17.9	23.2	2.4		43.5	2.4	3	5.4		10.7	4.2	23.2	3.6		31	7.7	92.3	

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	2	2	2	6	4	5	1	10	1	0	1	2	1	7	0	8	26
07:15 AM	2	2	0	4	3	1	0	4	1	2	1	4	0	4	0	4	16
07:30 AM	1	0	1	2	3	4	1	8	0	1	0	1	0	4	0	4	15
07:45 AM	0	2	0	2	2	5	1	8	1	0	1	2	2	5	1	8	20
Total Volume	5	6	3	14	12	15	3	30	3	3	3	9	3	20	1	24	77
% App. Total	35.7	42.9	21.4		40	50	10		33.3	33.3	33.3		12.5	83.3	4.2		
PHF	.625	.750	.375	.583	.750	.750	.750	.750	.750	.375	.750	.563	.375	.714	.250	.750	.740

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
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County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj AM
 Site Code : 05122112
 Start Date : 2/8/2022
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Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	2	2	2	6	4	5	1	10	1	0	1	2	1	7	0	8	
+15 mins.	2	2	0	4	3	1	0	4	1	2	1	4	0	4	0	4	
+30 mins.	1	0	1	2	3	4	1	8	0	1	0	1	0	4	0	4	
+45 mins.	0	2	0	2	2	5	1	8	1	0	1	2	2	5	1	8	
Total Volume	5	6	3	14	12	15	3	30	3	3	3	9	3	20	1	24	
% App. Total	35.7	42.9	21.4		40	50	10		33.3	33.3	33.3		12.5	83.3	4.2		
PHF	.625	.750	.375	.583	.750	.750	.750	.750	.750	.375	.750	.563	.375	.714	.250	.750	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

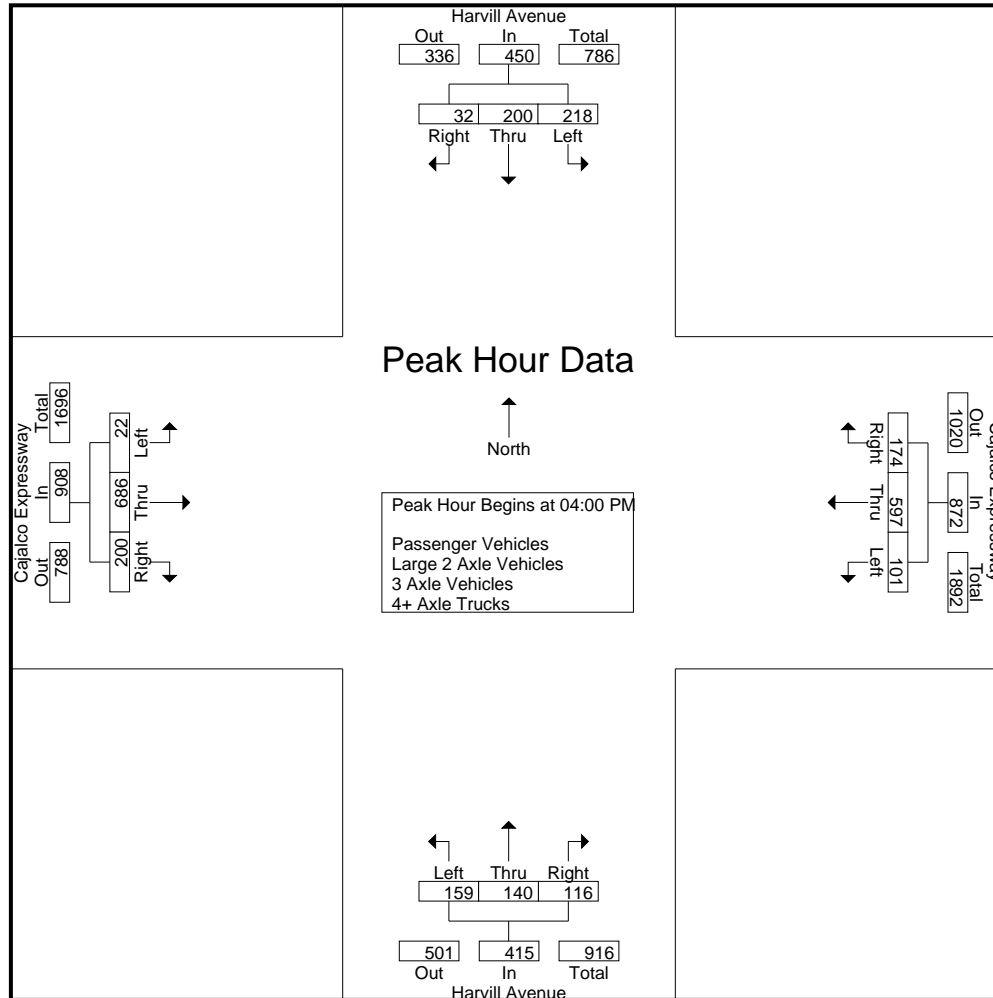
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	42	48	14	7	104	31	173	64	31	268	50	40	30	11	120	5	147	64	29	216	78	708	786
04:15 PM	46	46	5	2	97	23	139	33	7	195	33	33	25	15	91	11	158	44	29	213	53	596	649
04:30 PM	77	51	8	0	136	25	151	42	22	218	38	39	25	11	102	4	196	52	26	252	59	708	767
04:45 PM	53	55	5	1	113	22	134	35	14	191	38	28	36	26	102	2	185	40	21	227	62	633	695
Total	218	200	32	10	450	101	597	174	74	872	159	140	116	63	415	22	686	200	105	908	252	2645	2897
05:00 PM	60	42	6	2	108	21	150	45	19	216	39	22	26	14	87	7	189	30	20	226	55	637	692
05:15 PM	68	44	7	2	119	22	174	47	20	243	33	27	24	16	84	7	166	41	20	214	58	660	718
05:30 PM	43	49	4	0	96	20	166	40	17	226	41	29	19	14	89	4	229	33	12	266	43	677	720
05:45 PM	63	35	6	1	104	27	157	35	16	219	46	21	26	17	93	2	209	32	8	243	42	659	701
Total	234	170	23	5	427	90	647	167	72	904	159	99	95	61	353	20	793	136	60	949	198	2633	2831
Grand Total	452	370	55	15	877	191	1244	341	146	1776	318	239	211	124	768	42	1479	336	165	1857	450	5278	5728
Apprch %	51.5	42.2	6.3			10.8	70	19.2			41.4	31.1	27.5			2.3	79.6	18.1					
Total %	8.6	7	1		16.6	3.6	23.6	6.5		33.6	6	4.5	4		14.6	0.8	28	6.4		35.2	7.9	92.1	
Passenger Vehicles	443	354	50		861	148	1190	322		1799	311	230	201		859	37	1426	320		1942	0	0	5461
% Passenger Vehicles	98	95.7	90.9	93.3	96.5	77.5	95.7	94.4	95.2	93.6	97.8	96.2	95.3	94.4	96.3	88.1	96.4	95.2	96.4	96	0	0	95.3
Large 2 Axle Vehicles	4	5	2		11	7	19	15		47	2	2	2		8	0	26	9		40	0	0	106
% Large 2 Axle Vehicles	0.9	1.4	3.6	0	1.2	3.7	1.5	4.4	4.1	2.4	0.6	0.8	0.9	1.6	0.9	0	1.8	2.7	3	2	0	0	1.9
3 Axle Vehicles	2	2	0		4	5	9	0		14	2	5	2		11	1	5	1		7	0	0	36
% 3 Axle Vehicles	0.4	0.5	0	0	0.4	2.6	0.7	0	0	0.7	0.6	2.1	0.9	1.6	1.2	2.4	0.3	0.3	0	0.3	0	0	0.6
4+ Axle Trucks	3	9	3		16	31	26	4		62	3	2	6		14	4	22	6		33	0	0	125
% 4+ Axle Trucks	0.7	2.4	5.5	6.7	1.8	16.2	2.1	1.2	0.7	3.2	0.9	0.8	2.8	2.4	1.6	9.5	1.5	1.8	0.6	1.6	0	0	2.2

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	42	48	14	104	31	173	64	268	50	40	30	120	5	147	64	216	708
04:15 PM	46	46	5	97	23	139	33	195	33	33	25	91	11	158	44	213	596
04:30 PM	77	51	8	136	25	151	42	218	38	39	25	102	4	196	52	252	708
04:45 PM	53	55	5	113	22	134	35	191	38	28	36	102	2	185	40	227	633
Total Volume	218	200	32	450	101	597	174	872	159	140	116	415	22	686	200	908	2645
% App. Total	48.4	44.4	7.1		11.6	68.5	20		38.3	33.7	28		2.4	75.6	22		
PHF	.708	.909	.571	.827	.815	.863	.680	.813	.795	.875	.806	.865	.500	.875	.781	.901	.934

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
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County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 3

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				05:00 PM				04:00 PM				05:00 PM				
+0 mins.	77	51	8	136	21	150	45	216	50	40	30	120	7	189	30	226	
+15 mins.	53	55	5	113	22	174	47	243	33	33	25	91	7	166	41	214	
+30 mins.	60	42	6	108	20	166	40	226	38	39	25	102	4	229	33	266	
+45 mins.	68	44	7	119	27	157	35	219	38	28	36	102	2	209	32	243	
Total Volume	258	192	26	476	90	647	167	904	159	140	116	415	20	793	136	949	
% App. Total	54.2	40.3	5.5		10	71.6	18.5		38.3	33.7	28		2.1	83.6	14.3		
PHF	.838	.873	.813	.875	.833	.930	.888	.930	.795	.875	.806	.865	.714	.866	.829	.892	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

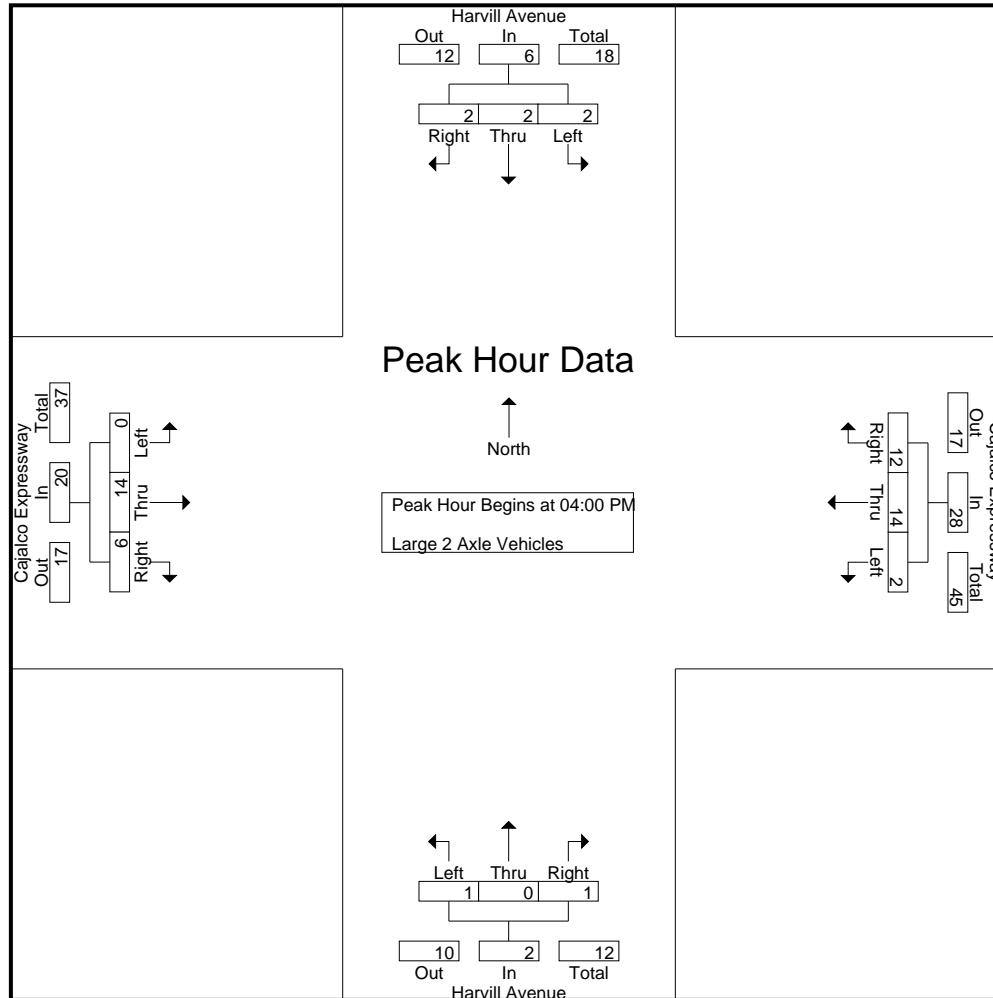
Groups Printed- Large 2 Axle Vehicles

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	1	0	1	0	2	1	7	3	2	11	0	0	1	1	1	0	5	3	1	8	4	22	26
04:15 PM	0	0	0	0	0	1	3	2	0	6	1	0	0	0	1	0	2	1	1	3	1	10	11
04:30 PM	1	1	0	0	2	0	3	4	2	7	0	0	0	0	0	0	3	1	0	4	2	13	15
04:45 PM	0	1	1	0	2	0	1	3	0	4	0	0	0	0	0	0	4	1	1	5	1	11	12
Total	2	2	2	0	6	2	14	12	4	28	1	0	1	1	2	0	14	6	3	20	8	56	64
05:00 PM	1	0	0	0	1	2	2	0	0	4	0	1	0	0	1	0	1	1	1	2	1	8	9
05:15 PM	1	0	0	0	1	2	0	3	2	5	0	1	1	1	2	0	1	0	0	1	3	9	12
05:30 PM	0	2	0	0	2	1	3	0	0	4	0	0	0	0	0	0	7	2	1	9	1	15	16
05:45 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	0	5	5
Total	2	3	0	0	5	5	5	3	2	13	1	2	1	1	4	0	12	3	2	15	5	37	42
Grand Total	4	5	2	0	11	7	19	15	6	41	2	2	2	2	6	0	26	9	5	35	13	93	106
Apprch %	36.4	45.5	18.2			17.1	46.3	36.6			33.3	33.3	33.3			0	74.3	25.7					
Total %	4.3	5.4	2.2		11.8	7.5	20.4	16.1		44.1	2.2	2.2	2.2		6.5	0	28	9.7		37.6	12.3	87.7	

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	0	1	2	1	7	3	11	0	0	1	1	0	5	3	8	22
04:15 PM	0	0	0	0	1	3	2	6	1	0	0	1	0	2	1	3	10
04:30 PM	1	1	0	2	0	3	4	7	0	0	0	0	0	3	1	4	13
04:45 PM	0	1	1	2	0	1	3	4	0	0	0	0	0	4	1	5	11
Total Volume	2	2	2	6	2	14	12	28	1	0	1	2	0	14	6	20	56
% App. Total	33.3	33.3	33.3		7.1	50	42.9		50	0	50		0	70	30		
PHF	.500	.500	.500	.750	.500	.500	.750	.636	.250	.000	.250	.500	.000	.700	.500	.625	.636

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
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County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 3

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	1	0	1	2	1	7	3	11	0	0	1	1	0	5	3	8	
+15 mins.	0	0	0	0	1	3	2	6	1	0	0	1	0	2	1	3	
+30 mins.	1	1	0	2	0	3	4	7	0	0	0	0	0	3	1	4	
+45 mins.	0	1	1	2	0	1	3	4	0	0	0	0	0	4	1	5	
Total Volume	2	2	2	6	2	14	12	28	1	0	1	2	0	14	6	20	
% App. Total	33.3	33.3	33.3		7.1	50	42.9		50	0	50		0	70	30		
PHF	.500	.500	.500	.750	.500	.500	.750	.636	.250	.000	.250	.500	.000	.700	.500	.625	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

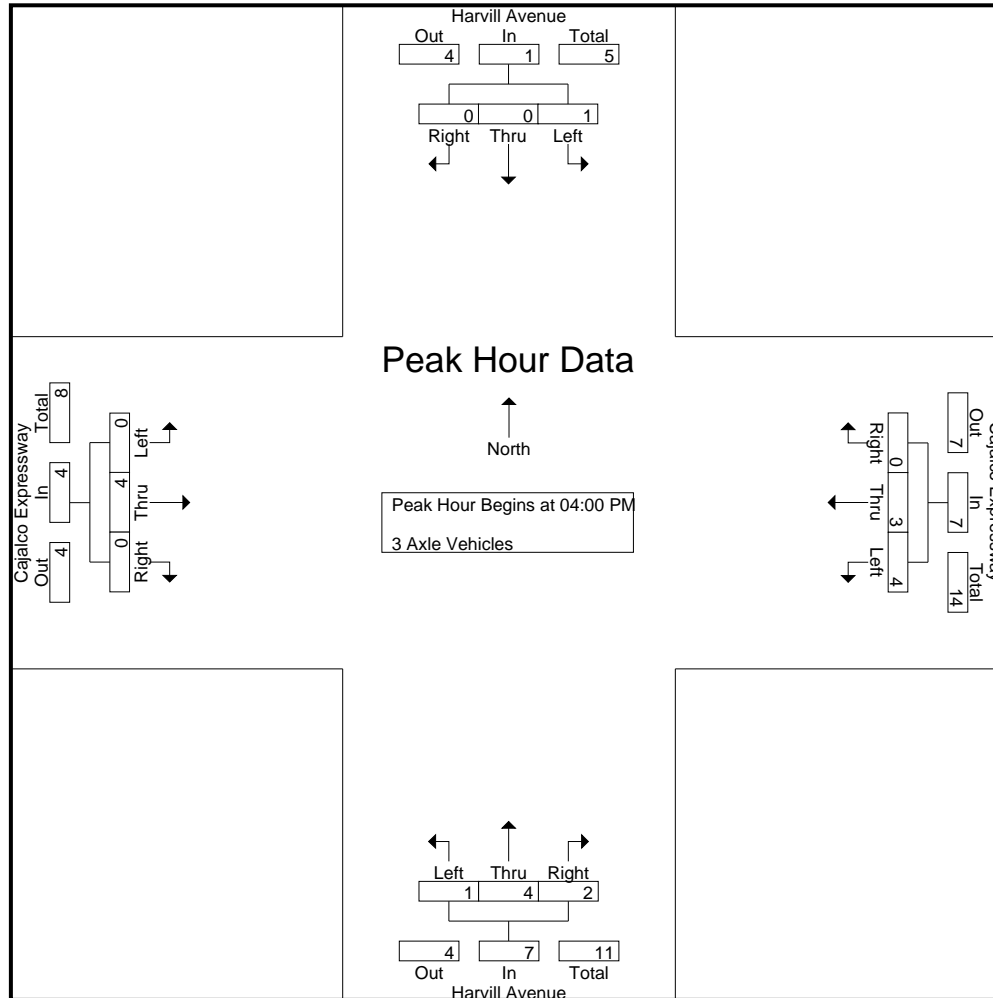
Groups Printed- 3 Axle Vehicles

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	1	0	0	0	1	0	2	0	0	2	0	3	1	1	4	0	2	0	0	2	1	9	10
04:15 PM	0	0	0	0	0	2	1	0	0	3	0	1	1	1	2	0	1	0	0	1	1	6	7
04:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
04:45 PM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	2	2
Total	1	0	0	0	1	4	3	0	0	7	1	4	2	2	7	0	4	0	0	4	2	19	21
05:00 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	3
05:15 PM	0	2	0	0	2	0	2	0	0	2	0	1	0	0	1	0	0	1	0	1	0	6	6
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	1	1	0	0	2	1	0	0	0	1	1	1	0	0	2	0	5	5
Total	1	2	0	0	3	1	6	0	0	7	1	1	0	0	2	1	1	1	0	3	0	15	15
Grand Total	2	2	0	0	4	5	9	0	0	14	2	5	2	2	9	1	5	1	0	7	2	34	36
Aprpch %	50	50	0			35.7	64.3	0			22.2	55.6	22.2			14.3	71.4	14.3					
Total %	5.9	5.9	0		11.8	14.7	26.5	0		41.2	5.9	14.7	5.9		26.5	2.9	14.7	2.9		20.6	5.6	94.4	

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	0	0	1	0	2	0	2	0	3	1	4	0	2	0	2	9
04:15 PM	0	0	0	0	2	1	0	3	0	1	1	2	0	1	0	1	6
04:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
04:45 PM	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	2
Total Volume	1	0	0	1	4	3	0	7	1	4	2	7	0	4	0	4	19
% App. Total	100	0	0		57.1	42.9	0		14.3	57.1	28.6		0	100	0		
PHF	.250	.000	.000	.250	.500	.375	.000	.583	.250	.333	.500	.438	.000	.500	.000	.500	.528

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
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County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 3

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	1	0	0	1	0	2	0	2	0	3	1	4	0	2	0	2	
+15 mins.	0	0	0	0	2	1	0	3	0	1	1	2	0	1	0	1	
+30 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	
+45 mins.	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	
Total Volume	1	0	0	1	4	3	0	7	1	4	2	7	0	4	0	4	
% App. Total	100	0	0		57.1	42.9	0		14.3	57.1	28.6		0	100	0		
PHF	.250	.000	.000	.250	.500	.375	.000	.583	.250	.333	.500	.438	.000	.500	.000	.500	

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
 Page No : 1

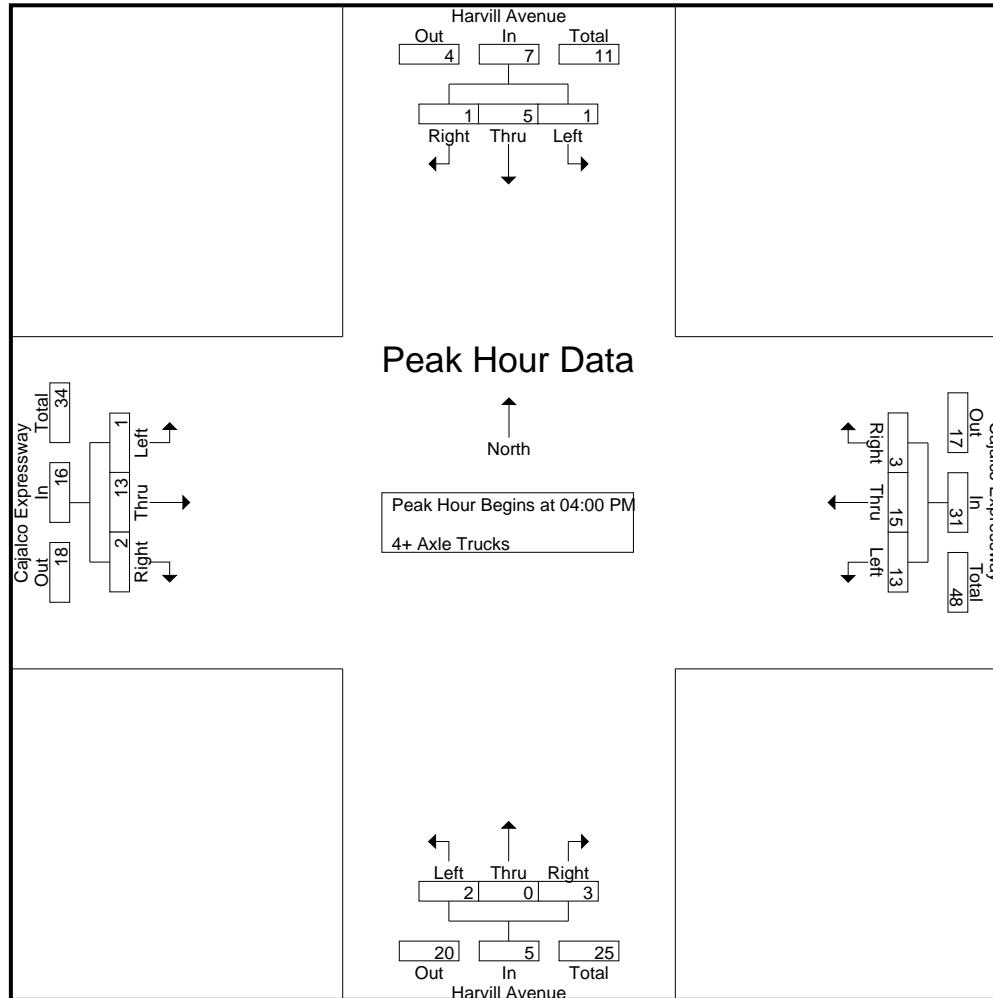
Groups Printed- 4+ Axle Trucks

Start Time	Harvill Avenue Southbound					Cajalco Expressway Westbound					Harvill Avenue Northbound					Cajalco Expressway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	0	2	1	1	3	8	5	1	1	14	1	0	1	1	2	1	4	1	0	6	3	25	28
04:15 PM	0	0	0	0	0	2	4	0	0	6	0	0	1	0	1	0	6	0	0	6	0	13	13
04:30 PM	1	1	0	0	2	2	3	1	0	6	1	0	0	0	1	0	2	0	0	2	0	11	11
04:45 PM	0	2	0	0	2	1	3	1	0	5	0	0	1	0	1	0	1	1	0	2	0	10	10
Total	1	5	1	1	7	13	15	3	1	31	2	0	3	1	5	1	13	2	0	16	3	59	62
05:00 PM	1	1	1	0	3	3	4	1	0	8	0	1	1	0	2	0	1	1	1	2	1	15	16
05:15 PM	0	2	0	0	2	5	2	0	0	7	0	1	0	0	1	3	3	0	0	6	0	16	16
05:30 PM	0	0	0	0	0	6	3	0	0	9	0	0	1	1	1	0	2	1	0	3	1	13	14
05:45 PM	1	1	1	0	3	4	2	0	0	6	1	0	1	1	2	0	3	2	0	5	1	16	17
Total	2	4	2	0	8	18	11	1	0	30	1	2	3	2	6	3	9	4	1	16	3	60	63
Grand Total	3	9	3	1	15	31	26	4	1	61	3	2	6	3	11	4	22	6	1	32	6	119	125
Apprch %	20	60	20			50.8	42.6	6.6			27.3	18.2	54.5			12.5	68.8	18.8					
Total %	2.5	7.6	2.5		12.6	26.1	21.8	3.4		51.3	2.5	1.7	5		9.2	3.4	18.5	5		26.9	4.8	95.2	

Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	2	1	3	8	5	1	14	1	0	1	2	1	4	1	6	25
04:15 PM	0	0	0	0	2	4	0	6	0	0	1	1	0	6	0	6	13
04:30 PM	1	1	0	2	2	3	1	6	1	0	0	1	0	2	0	2	11
04:45 PM	0	2	0	2	1	3	1	5	0	0	1	1	0	1	1	2	10
Total Volume	1	5	1	7	13	15	3	31	2	0	3	5	1	13	2	16	59
% App. Total	14.3	71.4	14.3		41.9	48.4	9.7		40	0	60		6.2	81.2	12.5		
PHF	.250	.625	.250	.583	.406	.750	.750	.554	.500	.000	.750	.625	.250	.542	.500	.667	.590

County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
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County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway
 Weather: Clear

File Name : 18_CRV_Har_Caj PM
 Site Code : 05122112
 Start Date : 2/8/2022
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Start Time	Harvill Avenue Southbound				Cajalco Expressway Westbound				Harvill Avenue Northbound				Cajalco Expressway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	2	1	3	8	5	1	14	1	0	1	2	1	4	1	6	
+15 mins.	0	0	0	0	2	4	0	6	0	0	1	1	0	6	0	6	
+30 mins.	1	1	0	2	2	3	1	6	1	0	0	1	0	2	0	2	
+45 mins.	0	2	0	2	1	3	1	5	0	0	1	1	0	1	1	2	
Total Volume	1	5	1	7	13	15	3	31	2	0	3	5	1	13	2	16	
% App. Total	14.3	71.4	14.3		41.9	48.4	9.7		40	0	60		6.2	81.2	12.5		
PHF	.250	.625	.250	.583	.406	.750	.750	.554	.500	.000	.750	.625	.250	.542	.500	.667	

Location: County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway



Date: 2/8/2022
 Day: Tuesday

PEDESTRIANS

	North Leg Harvill Avenue	East Leg Cajalco Expressway	South Leg Harvill Avenue	West Leg Cajalco Expressway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Harvill Avenue	East Leg Cajalco Expressway	South Leg Harvill Avenue	West Leg Cajalco Expressway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: County of Riverside
 N/S: Harvill Avenue
 E/W: Cajalco Expressway



Date: 2/8/2022
 Day: Tuesday

BICYCLES

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

	Southbound Harvill Avenue			Westbound Cajalco Expressway			Northbound Harvill Avenue			Eastbound Cajalco Expressway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	1	0	2

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

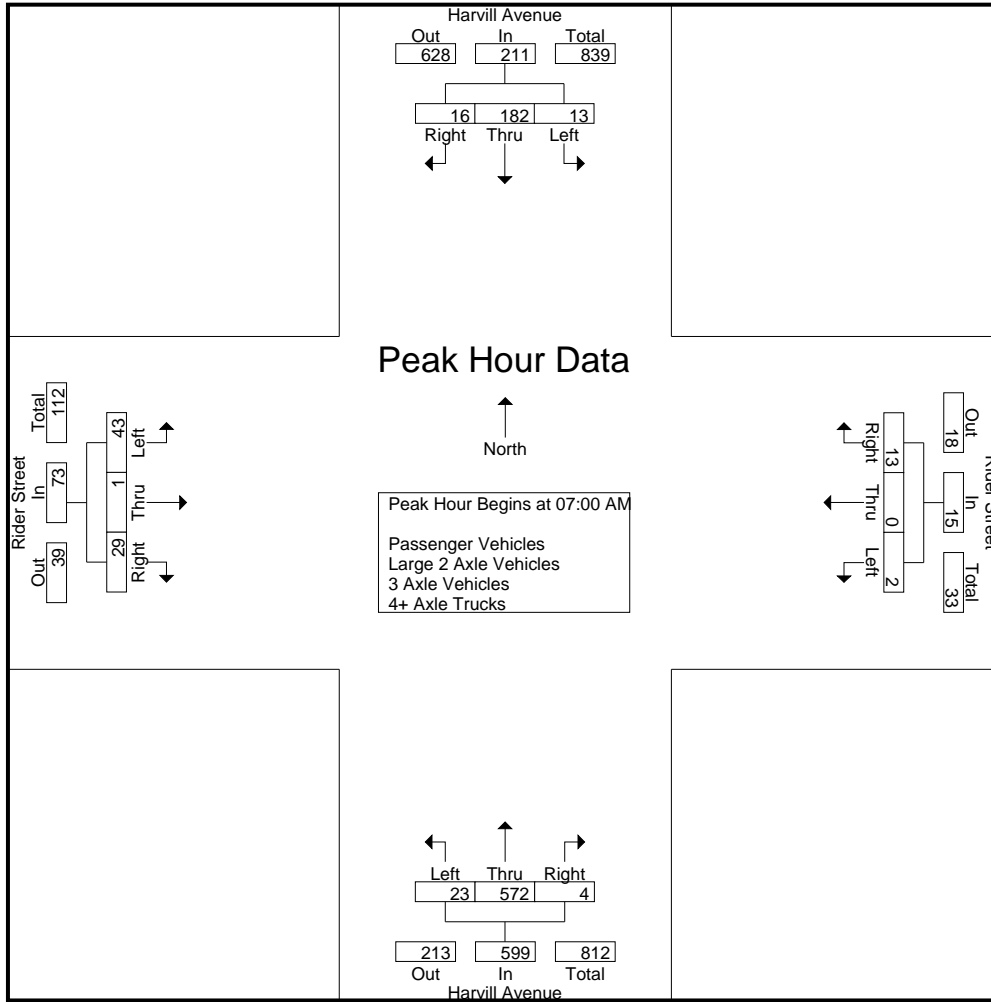
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	3	30	3	36	0	0	8	8	8	151	1	160	11	0	3	14	218
07:15 AM	2	43	5	50	2	0	1	3	6	154	2	162	15	0	7	22	237
07:30 AM	2	59	2	63	0	0	1	1	6	136	0	142	11	0	15	26	232
07:45 AM	6	50	6	62	0	0	3	3	3	131	1	135	6	1	4	11	211
Total	13	182	16	211	2	0	13	15	23	572	4	599	43	1	29	73	898
08:00 AM	2	50	6	58	0	0	1	1	6	110	3	119	4	1	3	8	186
08:15 AM	3	59	5	67	1	0	0	1	6	49	0	55	2	0	11	13	136
08:30 AM	1	51	6	58	0	0	2	2	4	57	1	62	5	0	0	5	127
08:45 AM	2	51	3	56	1	0	1	2	6	53	0	59	4	0	2	6	123
Total	8	211	20	239	2	0	4	6	22	269	4	295	15	1	16	32	572
Grand Total	21	393	36	450	4	0	17	21	45	841	8	894	58	2	45	105	1470
Apprch %	4.7	87.3	8		19	0	81		5	94.1	0.9		55.2	1.9	42.9		
Total %	1.4	26.7	2.4	30.6	0.3	0	1.2	1.4	3.1	57.2	0.5	60.8	3.9	0.1	3.1	7.1	
Passenger Vehicles	17	352	33	402	2	0	15	17	40	817	8	865	54	2	42	98	1382
% Passenger Vehicles	81	89.6	91.7	89.3	50	0	88.2	81	88.9	97.1	100	96.8	93.1	100	93.3	93.3	94
Large 2 Axle Vehicles	0	27	1	28	0	0	0	0	4	18	0	22	0	0	3	3	53
% Large 2 Axle Vehicles	0	6.9	2.8	6.2	0	0	0	0	8.9	2.1	0	2.5	0	0	6.7	2.9	3.6
3 Axle Vehicles	0	1	0	1	0	0	0	0	0	2	0	2	1	0	0	1	4
% 3 Axle Vehicles	0	0.3	0	0.2	0	0	0	0	0	0.2	0	0.2	1.7	0	0	1	0.3
4+ Axle Trucks	4	13	2	19	2	0	2	4	1	4	0	5	3	0	0	3	31
% 4+ Axle Trucks	19	3.3	5.6	4.2	50	0	11.8	19	2.2	0.5	0	0.6	5.2	0	0	2.9	2.1

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	3	30	3	36	0	0	8	8	8	151	1	160	11	0	3	14	218
07:15 AM	2	43	5	50	2	0	1	3	6	154	2	162	15	0	7	22	237
07:30 AM	2	59	2	63	0	0	1	1	6	136	0	142	11	0	15	26	232
07:45 AM	6	50	6	62	0	0	3	3	3	131	1	135	6	1	4	11	211
Total Volume	13	182	16	211	2	0	13	15	23	572	4	599	43	1	29	73	898
% App. Total	6.2	86.3	7.6		13.3	0	86.7		3.8	95.5	0.7		58.9	1.4	39.7		
PHF	.542	.771	.667	.837	.250	.000	.406	.469	.719	.929	.500	.924	.717	.250	.483	.702	.947

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



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

	07:30 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	2	59	2	63	0	0	8	8	8	151	1	160	11	0	3	14
+15 mins.	6	50	6	62	2	0	1	3	6	154	2	162	15	0	7	22
+30 mins.	2	50	6	58	0	0	1	1	6	136	0	142	11	0	15	26
+45 mins.	3	59	5	67	0	0	3	3	3	131	1	135	6	1	4	11
Total Volume	13	218	19	250	2	0	13	15	23	572	4	599	43	1	29	73
% App. Total	5.2	87.2	7.6		13.3	0	86.7		3.8	95.5	0.7		58.9	1.4	39.7	
PHF	.542	.924	.792	.933	.250	.000	.406	.469	.719	.929	.500	.924	.717	.250	.483	.702

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

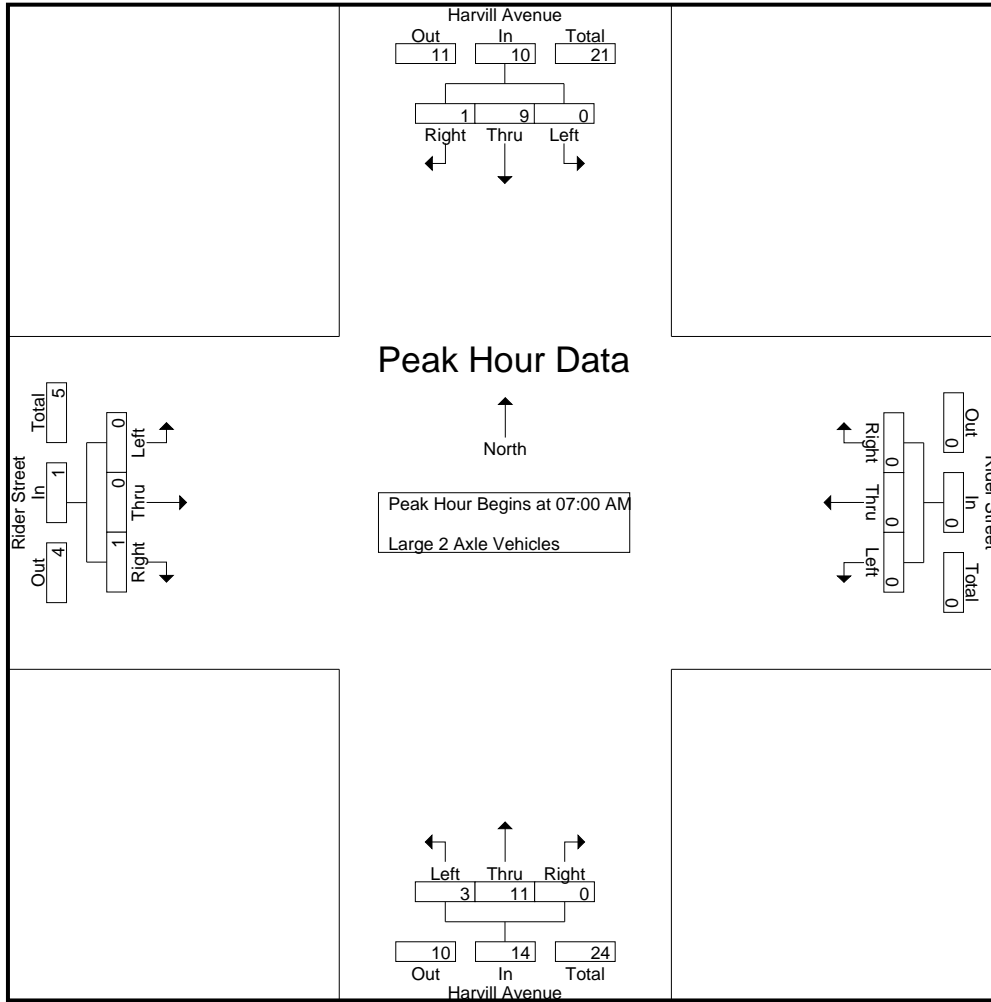
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	3	0	3	0	0	0	0	1	4	0	5	0	0	0	0	8
07:15 AM	0	4	0	4	0	0	0	0	1	3	0	4	0	0	0	0	8
07:30 AM	0	0	1	1	0	0	0	0	1	2	0	3	0	0	1	1	5
07:45 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
Total	0	9	1	10	0	0	0	0	3	11	0	14	0	0	1	1	25
08:00 AM	0	0	0	0	0	0	0	0	1	2	0	3	0	0	0	0	3
08:15 AM	0	5	0	5	0	0	0	0	0	1	0	1	0	0	2	2	8
08:30 AM	0	7	0	7	0	0	0	0	0	2	0	2	0	0	0	0	9
08:45 AM	0	6	0	6	0	0	0	0	0	2	0	2	0	0	0	0	8
Total	0	18	0	18	0	0	0	0	1	7	0	8	0	0	2	2	28
Grand Total	0	27	1	28	0	0	0	0	4	18	0	22	0	0	3	3	53
Apprch %	0	96.4	3.6		0	0	0		18.2	81.8	0		0	0	100		
Total %	0	50.9	1.9	52.8	0	0	0		7.5	34	0	41.5	0	0	5.7	5.7	

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	3	0	3	0	0	0	0	1	4	0	5	0	0	0	0	8
07:15 AM	0	4	0	4	0	0	0	0	1	3	0	4	0	0	0	0	8
07:30 AM	0	0	1	1	0	0	0	0	1	2	0	3	0	0	1	1	5
07:45 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
Total Volume	0	9	1	10	0	0	0	0	3	11	0	14	0	0	1	1	25
% App. Total	0	90	10		0	0	0		21.4	78.6	0		0	0	100		
PHF	.000	.563	.250	.625	.000	.000	.000	.000	.750	.688	.000	.700	.000	.000	.250	.250	.781

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	3	0	3	0	0	0	0	1	4	0	5	0	0	0	0
+15 mins.	0	4	0	4	0	0	0	0	1	3	0	4	0	0	0	0
+30 mins.	0	0	1	1	0	0	0	0	1	2	0	3	0	0	1	1
+45 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0
Total Volume	0	9	1	10	0	0	0	0	3	11	0	14	0	0	1	1
% App. Total	0	90	10		0	0	0		21.4	78.6	0		0	0	100	
PHF	.000	.563	.250	.625	.000	.000	.000	.000	.750	.688	.000	.700	.000	.000	.250	.250

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 3 Axle Vehicles

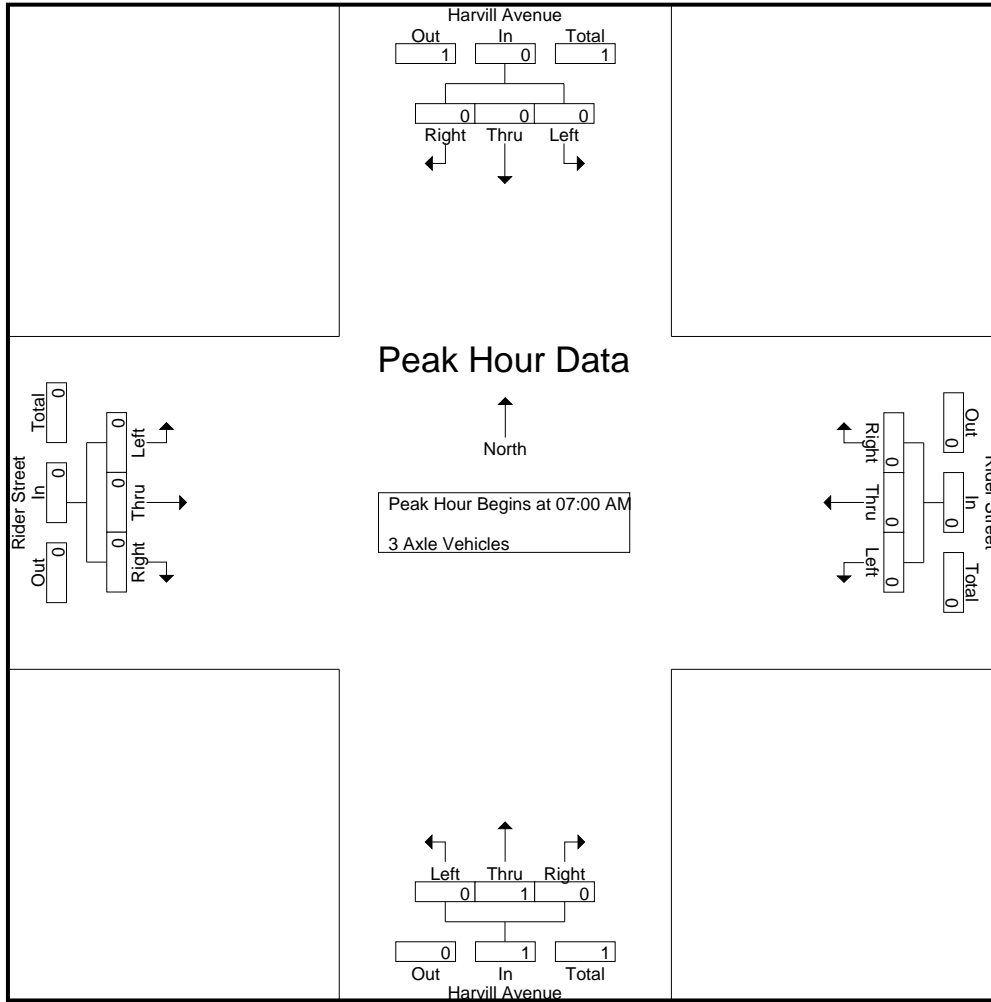
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
Total	0	1	0	1	0	0	0	0	0	1	0	1	1	0	0	1	3
Grand Total	0	1	0	1	0	0	0	0	0	2	0	2	1	0	0	1	4
Apprch %	0	100	0		0	0	0		0	100	0		100	0	0		
Total %	0	25	0	25	0	0	0	0	0	50	0	50	25	0	0	25	

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 4+ Axle Trucks

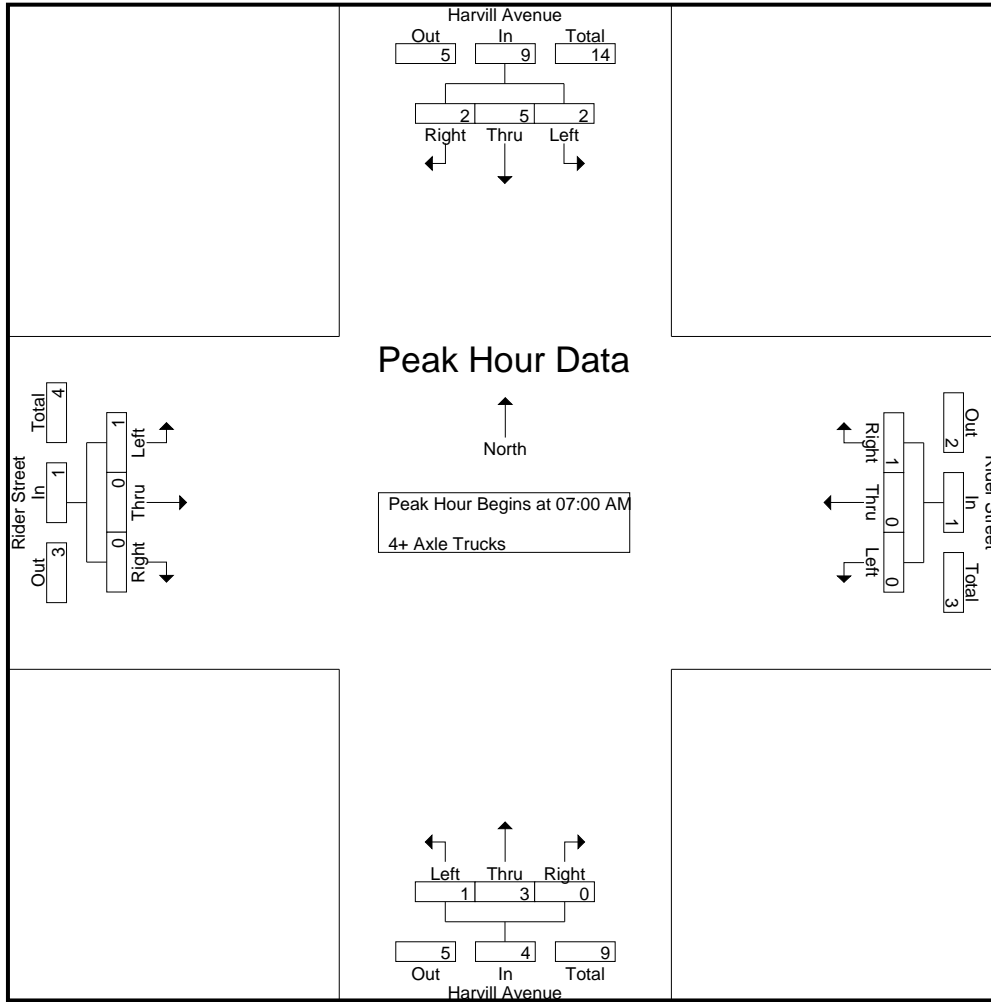
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	2	0	2	0	0	0	0	1	2	0	3	0	0	0	0	5
07:15 AM	1	2	1	4	0	0	0	0	0	0	0	0	1	0	0	1	5
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	1	1	1	3	0	0	1	1	0	0	0	0	0	0	0	0	4
Total	2	5	2	9	0	0	1	1	1	3	0	4	1	0	0	1	15
08:00 AM	0	1	0	1	0	0	1	1	0	0	0	0	1	0	0	1	3
08:15 AM	2	3	0	5	1	0	0	1	0	1	0	1	0	0	0	0	7
08:30 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:45 AM	0	2	0	2	1	0	0	1	0	0	0	0	1	0	0	1	4
Total	2	8	0	10	2	0	1	3	0	1	0	1	2	0	0	2	16
Grand Total	4	13	2	19	2	0	2	4	1	4	0	5	3	0	0	3	31
Apprch %	21.1	68.4	10.5		50	0	50		20	80	0		100	0	0		
Total %	12.9	41.9	6.5	61.3	6.5	0	6.5	12.9	3.2	12.9	0	16.1	9.7	0	0	9.7	

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	2	0	2	0	0	0	0	1	2	0	3	0	0	0	0	5
07:15 AM	1	2	1	4	0	0	0	0	0	0	0	0	1	0	0	1	5
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	1	1	1	3	0	0	1	1	0	0	0	0	0	0	0	0	4
Total Volume	2	5	2	9	0	0	1	1	1	3	0	4	1	0	0	1	15
% App. Total	22.2	55.6	22.2		0	0	100		25	75	0		100	0	0		
PHF	.500	.625	.500	.563	.000	.000	.250	.250	.250	.375	.000	.333	.250	.000	.000	.250	.750

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	2	0	2	0	0	0	0	1	2	0	3	0	0	0	0
+15 mins.	1	2	1	4	0	0	0	0	0	0	0	0	1	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	1	1	1	3	0	0	1	1	0	0	0	0	0	0	0	0
Total Volume	2	5	2	9	0	0	1	1	1	3	0	4	1	0	0	1
% App. Total	22.2	55.6	22.2		0	0	100		25	75	0		100	0	0	
PHF	.500	.625	.500	.563	.000	.000	.250	.250	.250	.375	.000	.333	.250	.000	.000	.250

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

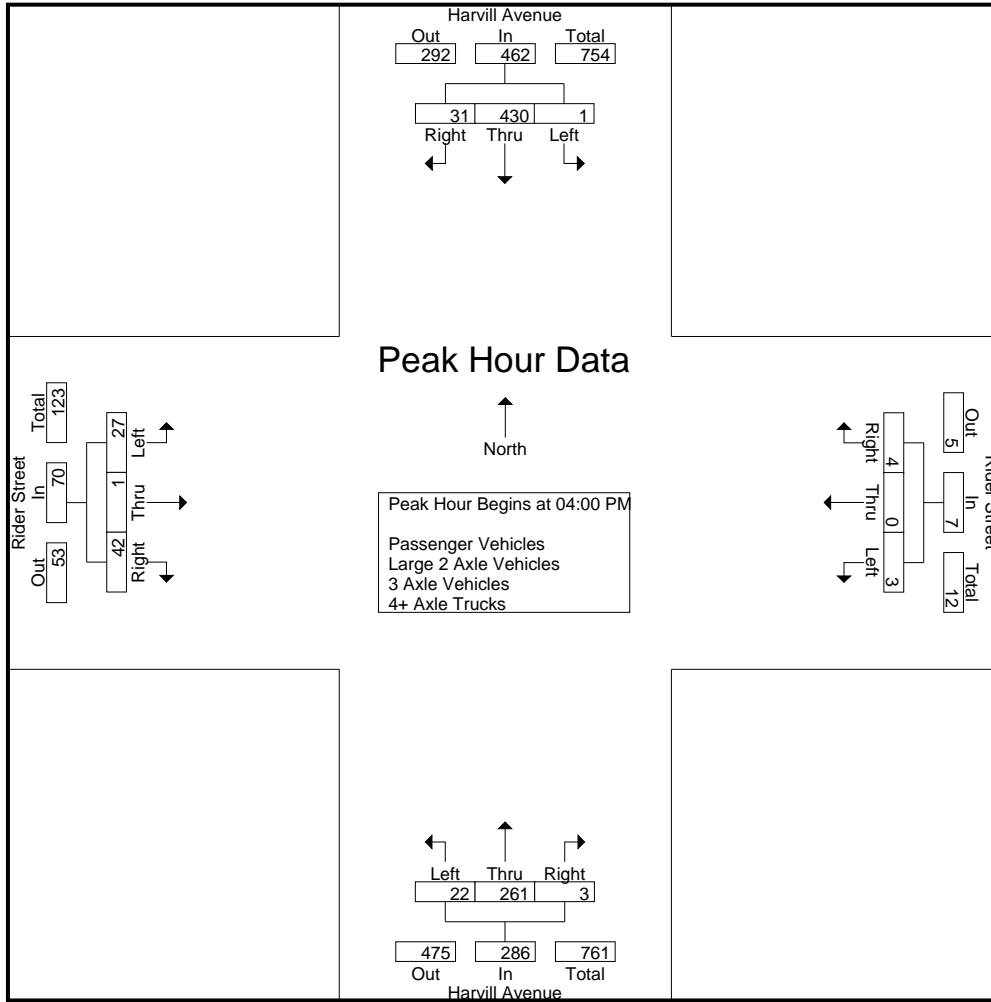
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	119	12	131	1	0	3	4	6	78	1	85	4	1	15	20	240
04:15 PM	1	96	8	105	0	0	1	1	5	65	1	71	10	0	11	21	198
04:30 PM	0	115	8	123	2	0	0	2	7	57	1	65	9	0	8	17	207
04:45 PM	0	100	3	103	0	0	0	0	4	61	0	65	4	0	8	12	180
Total	1	430	31	462	3	0	4	7	22	261	3	286	27	1	42	70	825
05:00 PM	0	81	10	91	0	0	0	0	2	64	0	66	5	0	9	14	171
05:15 PM	0	78	2	80	1	0	0	1	7	61	0	68	4	0	11	15	164
05:30 PM	1	80	4	85	4	0	0	4	2	59	0	61	1	0	3	4	154
05:45 PM	0	70	10	80	0	0	1	1	4	66	1	71	4	0	6	10	162
Total	1	309	26	336	5	0	1	6	15	250	1	266	14	0	29	43	651
Grand Total	2	739	57	798	8	0	5	13	37	511	4	552	41	1	71	113	1476
Apprch %	0.3	92.6	7.1		61.5	0	38.5		6.7	92.6	0.7		36.3	0.9	62.8		
Total %	0.1	50.1	3.9	54.1	0.5	0	0.3	0.9	2.5	34.6	0.3	37.4	2.8	0.1	4.8	7.7	
Passenger Vehicles	2	711	51	764	8	0	5	13	36	498	4	538	40	1	71	112	1427
% Passenger Vehicles	100	96.2	89.5	95.7	100	0	100	100	97.3	97.5	100	97.5	97.6	100	100	99.1	96.7
Large 2 Axle Vehicles	0	17	1	18	0	0	0	0	1	5	0	6	0	0	0	0	24
% Large 2 Axle Vehicles	0	2.3	1.8	2.3	0	0	0	0	2.7	1	0	1.1	0	0	0	0	1.6
3 Axle Vehicles	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
% 3 Axle Vehicles	0	0.3	0	0.3	0	0	0	0	0	0.6	0	0.5	0	0	0	0	0.3
4+ Axle Trucks	0	9	5	14	0	0	0	0	0	5	0	5	1	0	0	1	20
% 4+ Axle Trucks	0	1.2	8.8	1.8	0	0	0	0	0	1	0	0.9	2.4	0	0	0.9	1.4

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	119	12	131	1	0	3	4	6	78	1	85	4	1	15	20	240
04:15 PM	1	96	8	105	0	0	1	1	5	65	1	71	10	0	11	21	198
04:30 PM	0	115	8	123	2	0	0	2	7	57	1	65	9	0	8	17	207
04:45 PM	0	100	3	103	0	0	0	0	4	61	0	65	4	0	8	12	180
Total Volume	1	430	31	462	3	0	4	7	22	261	3	286	27	1	42	70	825
% App. Total	0.2	93.1	6.7		42.9	0	57.1		7.7	91.3	1		38.6	1.4	60		
PHF	.250	.903	.646	.882	.375	.000	.333	.438	.786	.837	.750	.841	.675	.250	.700	.833	.859

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	119	12	131	1	0	3	4	6	78	1	85	4	1	15	20
+15 mins.	1	96	8	105	0	0	1	1	5	65	1	71	10	0	11	21
+30 mins.	0	115	8	123	2	0	0	2	7	57	1	65	9	0	8	17
+45 mins.	0	100	3	103	0	0	0	0	4	61	0	65	4	0	8	12
Total Volume	1	430	31	462	3	0	4	7	22	261	3	286	27	1	42	70
% App. Total	0.2	93.1	6.7		42.9	0	57.1		7.7	91.3	1		38.6	1.4	60	
PHF	.250	.903	.646	.882	.375	.000	.333	.438	.786	.837	.750	.841	.675	.250	.700	.833

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

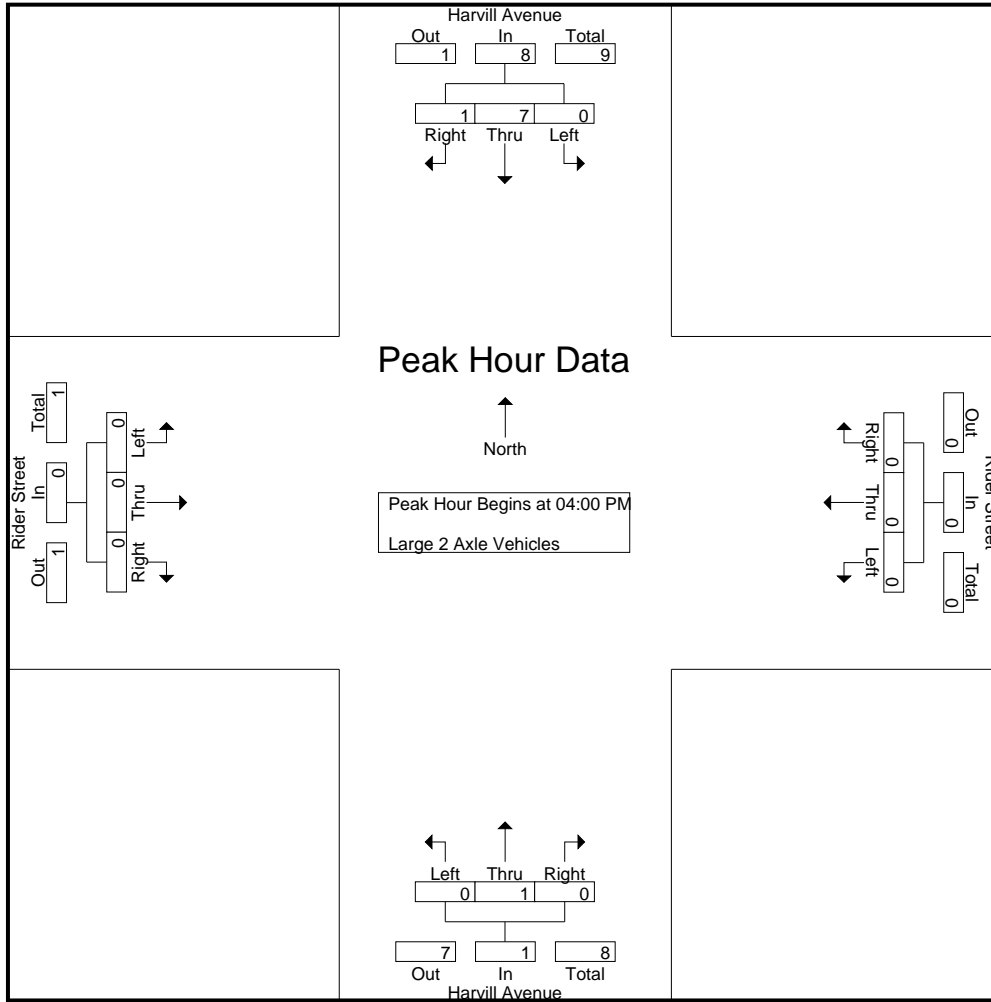
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	4	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:15 PM	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	7	1	8	0	0	0	0	0	0	1	0	1	0	0	0	0	9
05:00 PM	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	0	5
05:15 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	3
05:30 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	1	0	1	0	0	0	0	1	2	0	3	0	0	0	0	0	4
Total	0	10	0	10	0	0	0	0	1	4	0	5	0	0	0	0	0	15
Grand Total	0	17	1	18	0	0	0	0	1	5	0	6	0	0	0	0	0	24
Apprch %	0	94.4	5.6		0	0	0		16.7	83.3	0		0	0	0			
Total %	0	70.8	4.2	75	0	0	0	0	4.2	20.8	0	25	0	0	0	0	0	

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	4	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	7	1	8	0	0	0	0	0	1	0	1	0	0	0	0	0	9
% App. Total	0	87.5	12.5		0	0	0		0	100	0		0	0	0			
PHF	.000	.438	.250	.400	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.450

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	4	1	5	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	7	1	8	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	87.5	12.5		0	0	0		0	100	0		0	0	0	
PHF	.000	.438	.250	.400	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 3 Axle Vehicles

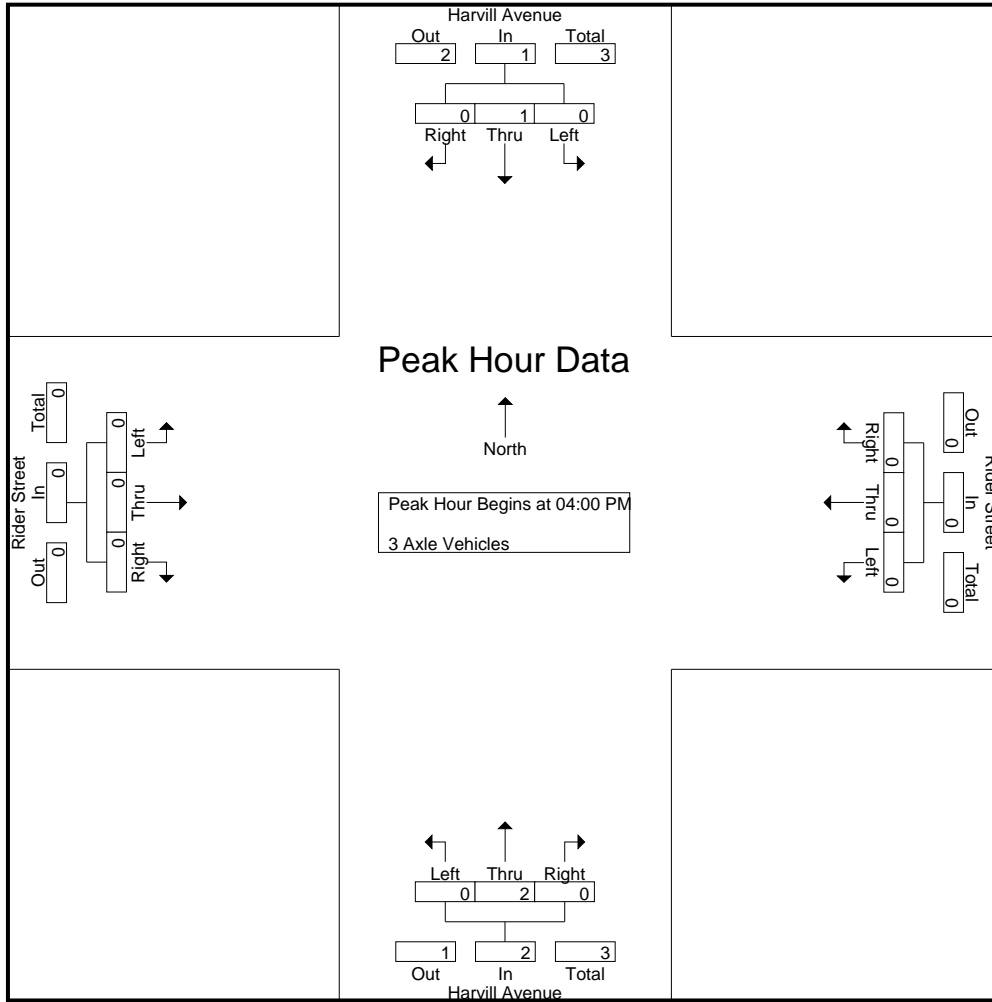
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	0	2	0	2	0	0	0	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
Grand Total	0	2	0	2	0	0	0	0	0	0	3	0	3	0	0	0	0	5
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0			
Total %	0	40	0	40	0	0	0	0	0	60	0	60	0	0	0	0	0	

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	1	0	1	0	0	0	0	0	0	2	0	2	0	0	0	0	3
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0			
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.750

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 4+ Axle Trucks

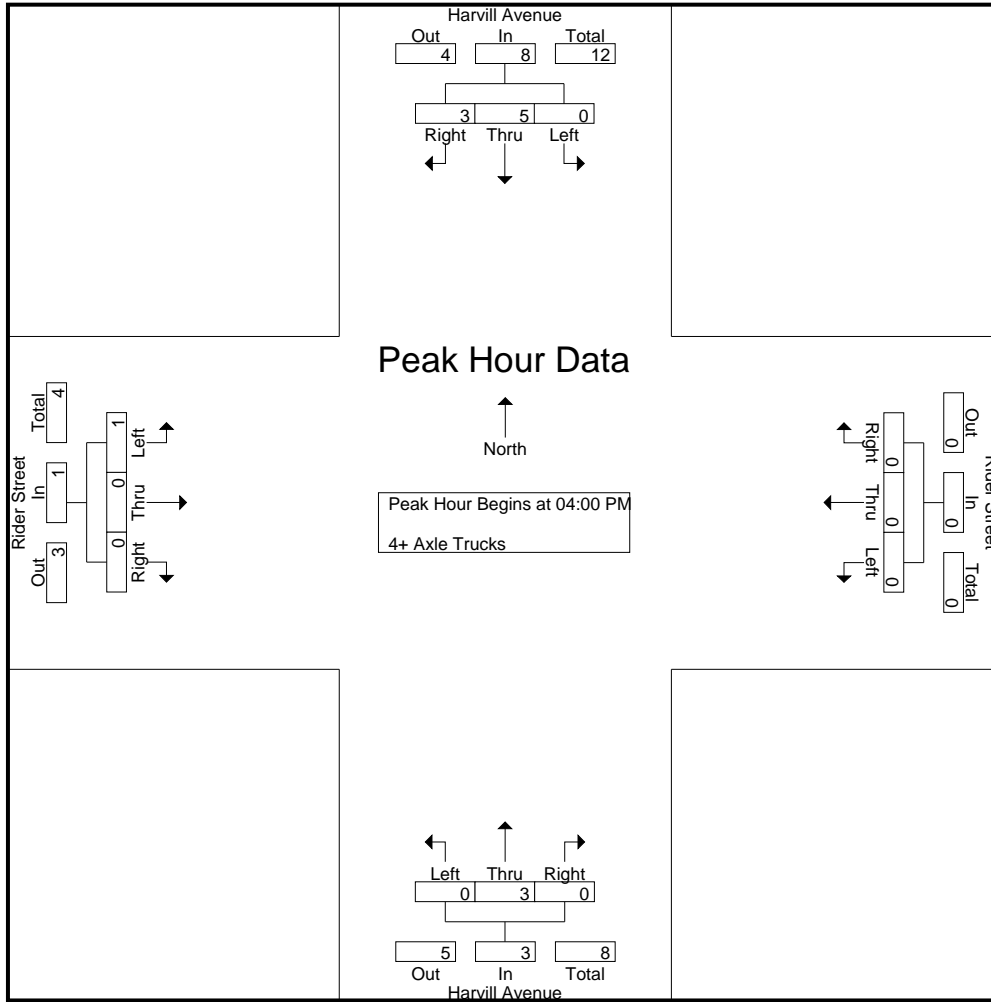
Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:15 PM	0	1	1	2	0	0	0	0	0	0	1	0	1	0	0	0	0	3
04:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	2	0	2	0	0	0	0	0	0	2	0	2	1	0	0	1	5
Total	0	5	3	8	0	0	0	0	0	0	3	0	3	1	0	0	1	12
05:00 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	3
05:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
05:45 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	4	2	6	0	0	0	0	0	0	2	0	2	0	0	0	0	8
Grand Total	0	9	5	14	0	0	0	0	0	5	0	5	1	0	0	1	1	20
Apprch %	0	64.3	35.7		0	0	0		0	100	0		100	0	0			
Total %	0	45	25	70	0	0	0	0	0	25	0	25	5	0	0	5		

Start Time	Harvill Avenue Southbound				Rider Street Westbound				Harvill Avenue Northbound				Rider Street Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:15 PM	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0	0	3
04:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	2	0	2	0	0	0	0	0	2	0	2	1	0	0	1	1	5
Total Volume	0	5	3	8	0	0	0	0	0	3	0	3	1	0	0	1	1	12
% App. Total	0	62.5	37.5		0	0	0		0	100	0		100	0	0			
PHF	.000	.625	.750	.667	.000	.000	.000	.000	.000	.375	.000	.375	.250	.000	.000	.250	.600	

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street
 Weather: Clear

File Name : 03_CRV_Harvill_Rider PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	2	0	2	1	0	0	1
Total Volume	0	5	3	8	0	0	0	0	0	3	0	3	1	0	0	1
% App. Total	0	62.5	37.5		0	0	0		0	100	0		100	0	0	
PHF	.000	.625	.750	.667	.000	.000	.000	.000	.000	.375	.000	.375	.250	.000	.000	.250

Location: County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street



Date: 2/8/2022
 Day: Tuesday

PEDESTRIANS

	North Leg Harvill Avenue	East Leg Rider Street	South Leg Harvill Avenue	West Leg Rider Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

	North Leg Harvill Avenue	East Leg Rider Street	South Leg Harvill Avenue	West Leg Rider Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1
4:30 PM	0	0	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	1	0	1
5:45 PM	0	1	0	0	1
TOTAL VOLUMES:	0	2	1	0	3

Location: County of Riverside
 N/S: Harvill Avenue
 E/W: Rider Street



Date: 2/8/2022
 Day: Tuesday

BICYCLES

	Southbound Harvill Avenue			Westbound Rider Street			Northbound Harvill Avenue			Eastbound Rider Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Harvill Avenue			Westbound Rider Street			Northbound Harvill Avenue			Eastbound Rider Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	2
TOTAL VOLUMES:	0	1	0	0	0	0	1	1	0	0	0	0	3

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

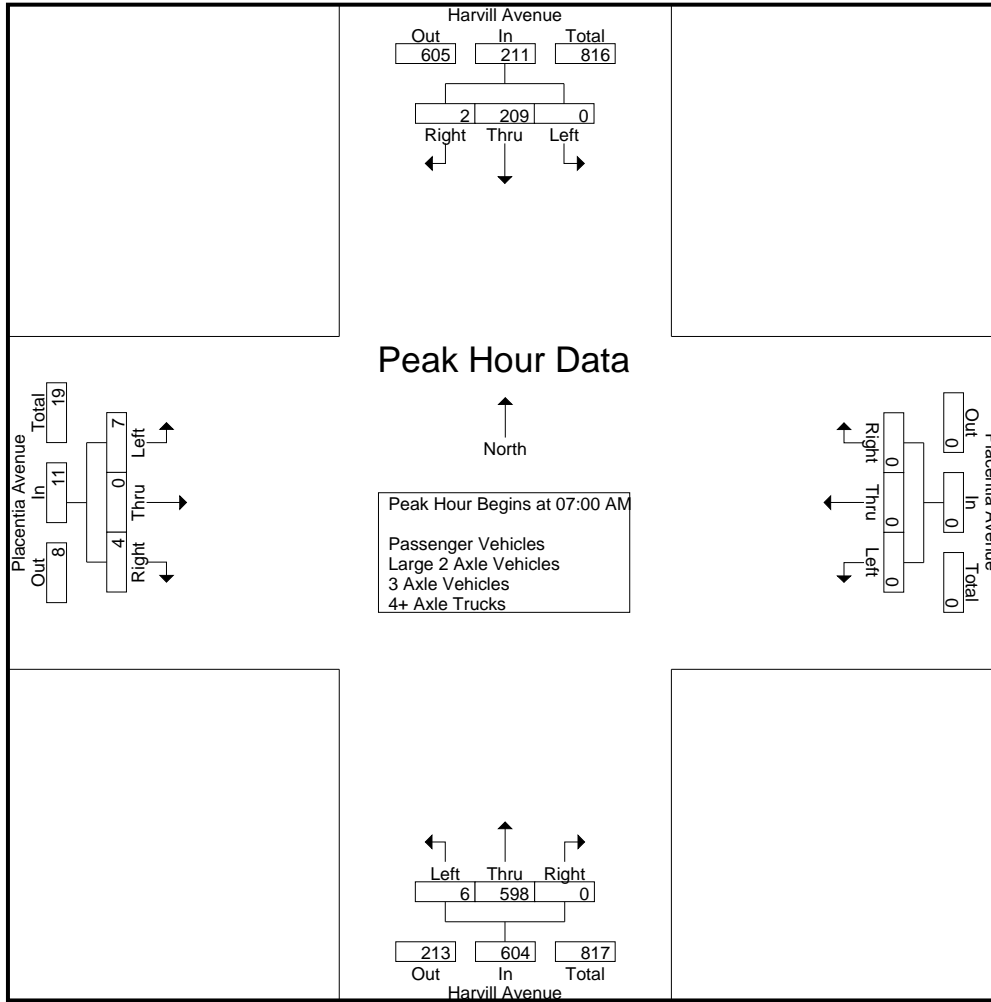
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	33	1	34	0	0	0	0	2	174	0	176	0	0	1	1	211
07:15 AM	0	50	0	50	0	0	0	0	2	143	0	145	2	0	2	4	199
07:30 AM	0	75	1	76	0	0	0	0	2	149	0	151	4	0	0	4	231
07:45 AM	0	51	0	51	0	0	0	0	0	132	0	132	1	0	1	2	185
Total	0	209	2	211	0	0	0	0	6	598	0	604	7	0	4	11	826
08:00 AM	0	54	0	54	0	0	0	0	2	112	0	114	2	0	4	6	174
08:15 AM	0	65	2	67	0	0	0	0	1	57	0	58	0	0	2	2	127
08:30 AM	0	51	1	52	0	0	0	0	5	67	0	72	1	0	0	1	125
08:45 AM	0	46	2	48	0	0	0	0	1	49	0	50	5	0	2	7	105
Total	0	216	5	221	0	0	0	0	9	285	0	294	8	0	8	16	531
Grand Total	0	425	7	432	0	0	0	0	15	883	0	898	15	0	12	27	1357
Apprch %	0	98.4	1.6		0	0	0		1.7	98.3	0		55.6	0	44.4		
Total %	0	31.3	0.5	31.8	0	0	0	0	1.1	65.1	0	66.2	1.1	0	0.9	2	
Passenger Vehicles	0	387	4	391	0	0	0	0	15	861	0	876	12	0	9	21	1288
% Passenger Vehicles	0	91.1	57.1	90.5	0	0	0	0	100	97.5	0	97.6	80	0	75	77.8	94.9
Large 2 Axle Vehicles	0	26	3	29	0	0	0	0	0	17	0	17	2	0	0	2	48
% Large 2 Axle Vehicles	0	6.1	42.9	6.7	0	0	0	0	0	1.9	0	1.9	13.3	0	0	7.4	3.5
3 Axle Vehicles	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
% 3 Axle Vehicles	0	0.2	0	0.2	0	0	0	0	0	0.2	0	0.2	0	0	0	0	0.2
4+ Axle Trucks	0	11	0	11	0	0	0	0	0	3	0	3	1	0	3	4	18
% 4+ Axle Trucks	0	2.6	0	2.5	0	0	0	0	0	0.3	0	0.3	6.7	0	25	14.8	1.3

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	33	1	34	0	0	0	0	2	174	0	176	0	0	1	1	211
07:15 AM	0	50	0	50	0	0	0	0	2	143	0	145	2	0	2	4	199
07:30 AM	0	75	1	76	0	0	0	0	2	149	0	151	4	0	0	4	231
07:45 AM	0	51	0	51	0	0	0	0	0	132	0	132	1	0	1	2	185
Total Volume	0	209	2	211	0	0	0	0	6	598	0	604	7	0	4	11	826
% App. Total	0	99.1	0.9		0	0	0		1	99	0		63.6	0	36.4		
PHF	.000	.697	.500	.694	.000	.000	.000	.000	.750	.859	.000	.858	.438	.000	.500	.688	.894

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



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

	07:30 AM				07:00 AM				07:00 AM				07:15 AM			
+0 mins.	0	75	1	76	0	0	0	0	2	174	0	176	2	0	2	4
+15 mins.	0	51	0	51	0	0	0	0	2	143	0	145	4	0	0	4
+30 mins.	0	54	0	54	0	0	0	0	2	149	0	151	1	0	1	2
+45 mins.	0	65	2	67	0	0	0	0	0	132	0	132	2	0	4	6
Total Volume	0	245	3	248	0	0	0	0	6	598	0	604	9	0	7	16
% App. Total	0	98.8	1.2		0	0	0	0	1	99	0		56.2	0	43.8	
PHF	.000	.817	.375	.816	.000	.000	.000	.000	.750	.859	.000	.858	.563	.000	.438	.667

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

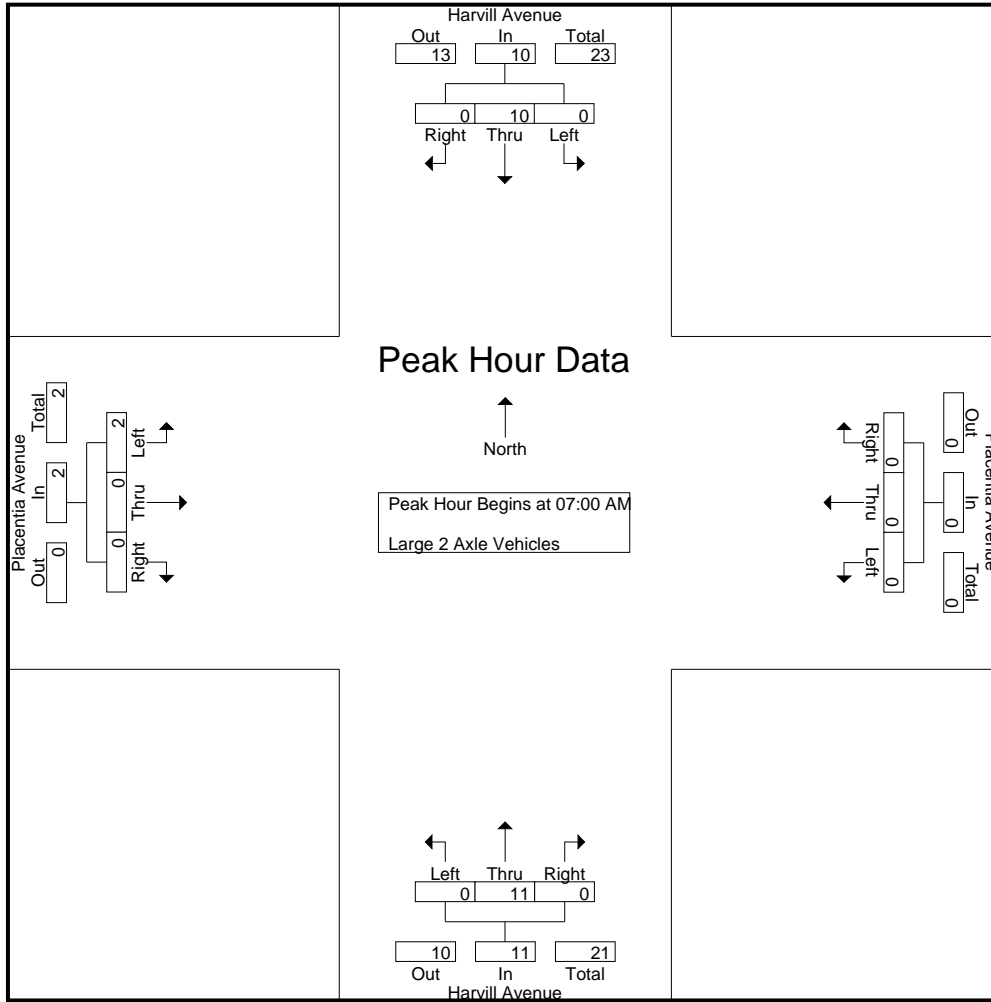
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	3	0	3	0	0	0	0	0	7	0	7	0	0	0	0	10
07:15 AM	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
07:30 AM	0	1	0	1	0	0	0	0	0	2	0	2	1	0	0	1	4
07:45 AM	0	2	0	2	0	0	0	0	0	1	0	1	1	0	0	1	4
Total	0	10	0	10	0	0	0	0	0	11	0	11	2	0	0	2	23
08:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:15 AM	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
08:30 AM	0	4	1	5	0	0	0	0	0	2	0	2	0	0	0	0	7
08:45 AM	0	5	2	7	0	0	0	0	0	2	0	2	0	0	0	0	9
Total	0	16	3	19	0	0	0	0	0	6	0	6	0	0	0	0	25
Grand Total	0	26	3	29	0	0	0	0	0	17	0	17	2	0	0	2	48
Apprch %	0	89.7	10.3		0	0	0		0	100	0		100	0	0		
Total %	0	54.2	6.2	60.4	0	0	0		0	35.4	0	35.4	4.2	0	0	4.2	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	3	0	3	0	0	0	0	0	7	0	7	0	0	0	0	10
07:15 AM	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
07:30 AM	0	1	0	1	0	0	0	0	0	2	0	2	1	0	0	1	4
07:45 AM	0	2	0	2	0	0	0	0	0	1	0	1	1	0	0	1	4
Total Volume	0	10	0	10	0	0	0	0	0	11	0	11	2	0	0	2	23
% App. Total	0	100	0		0	0	0		0	100	0		100	0	0		
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.000	.393	.000	.393	.500	.000	.000	.500	.575

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	3	0	3	0	0	0	0	0	7	0	7	0	0	0	0
+15 mins.	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	2	0	2	1	0	0	1
+45 mins.	0	2	0	2	0	0	0	0	0	1	0	1	1	0	0	1
Total Volume	0	10	0	10	0	0	0	0	0	11	0	11	2	0	0	2
% App. Total	0	100	0	100	0	0	0	0	0	100	0	100	100	0	0	100
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.000	.393	.000	.393	.500	.000	.000	.500

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 3 Axle Vehicles

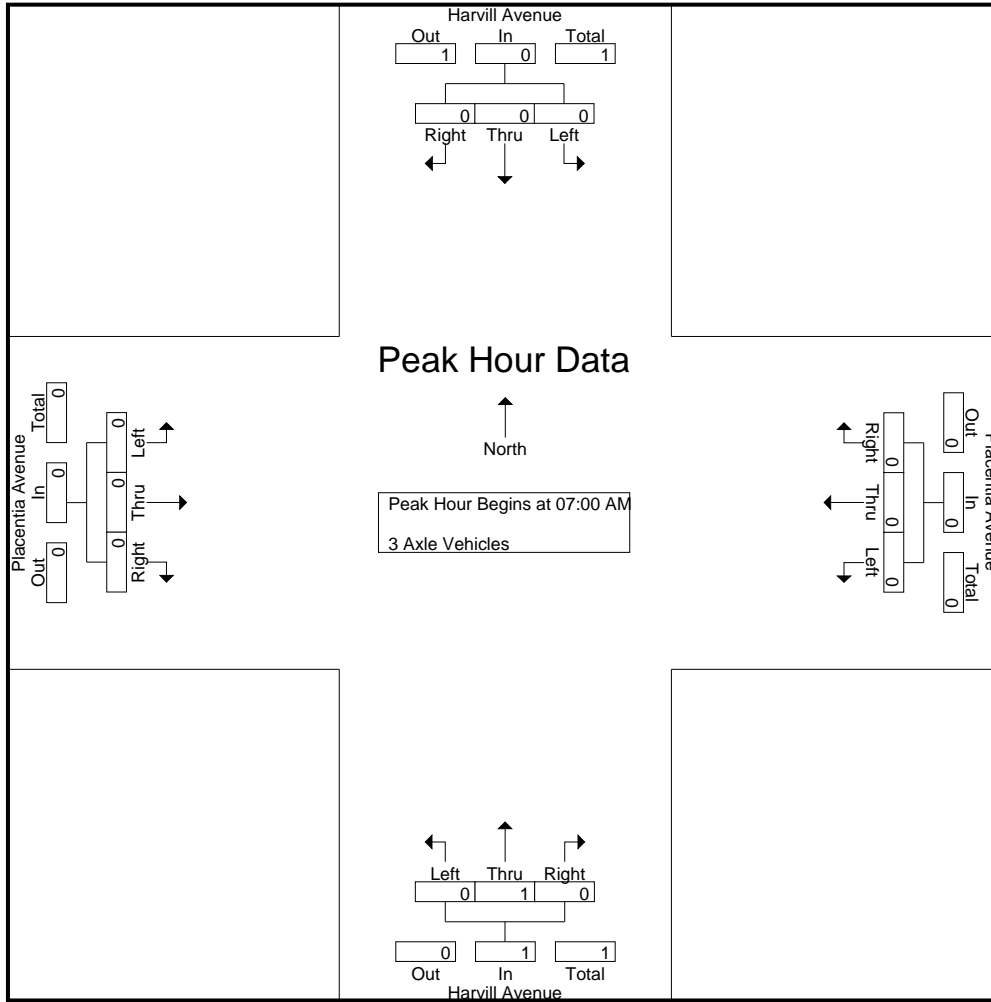
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Grand Total	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	33.3	0	33.3	0	0	0	0	0	66.7	0	66.7	0	0	0	0	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 4+ Axle Trucks

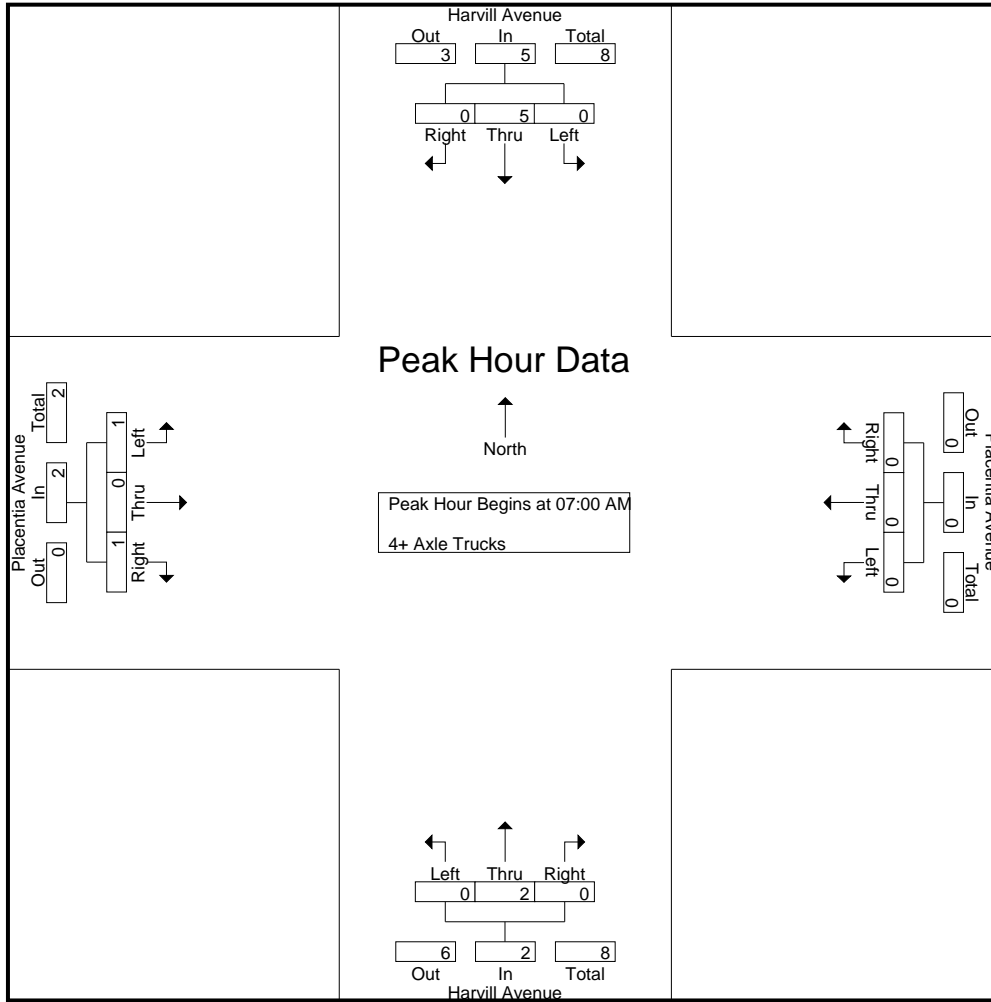
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
07:15 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	5	0	5	0	0	0	0	0	2	0	2	1	0	1	2	9
08:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
08:15 AM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	1	1	5
08:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	6	0	6	0	0	0	0	0	1	0	1	0	0	2	2	9
Grand Total	0	11	0	11	0	0	0	0	0	3	0	3	1	0	3	4	18
Apprch %	0	100	0		0	0	0		0	100	0		25	0	75		
Total %	0	61.1	0	61.1	0	0	0	0	0	16.7	0	16.7	5.6	0	16.7	22.2	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
07:15 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Total Volume	0	5	0	5	0	0	0	0	0	2	0	2	1	0	1	2	9
% App. Total	0	100	0		0	0	0		0	100	0		50	0	50		
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.250	.500	.563

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac AM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
Total Volume	0	5	0	5	0	0	0	0	0	2	0	2	1	0	1	2
% App. Total	0	100	0	0	0	0	0	0	0	100	0	0	50	0	50	0
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.250	.500

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

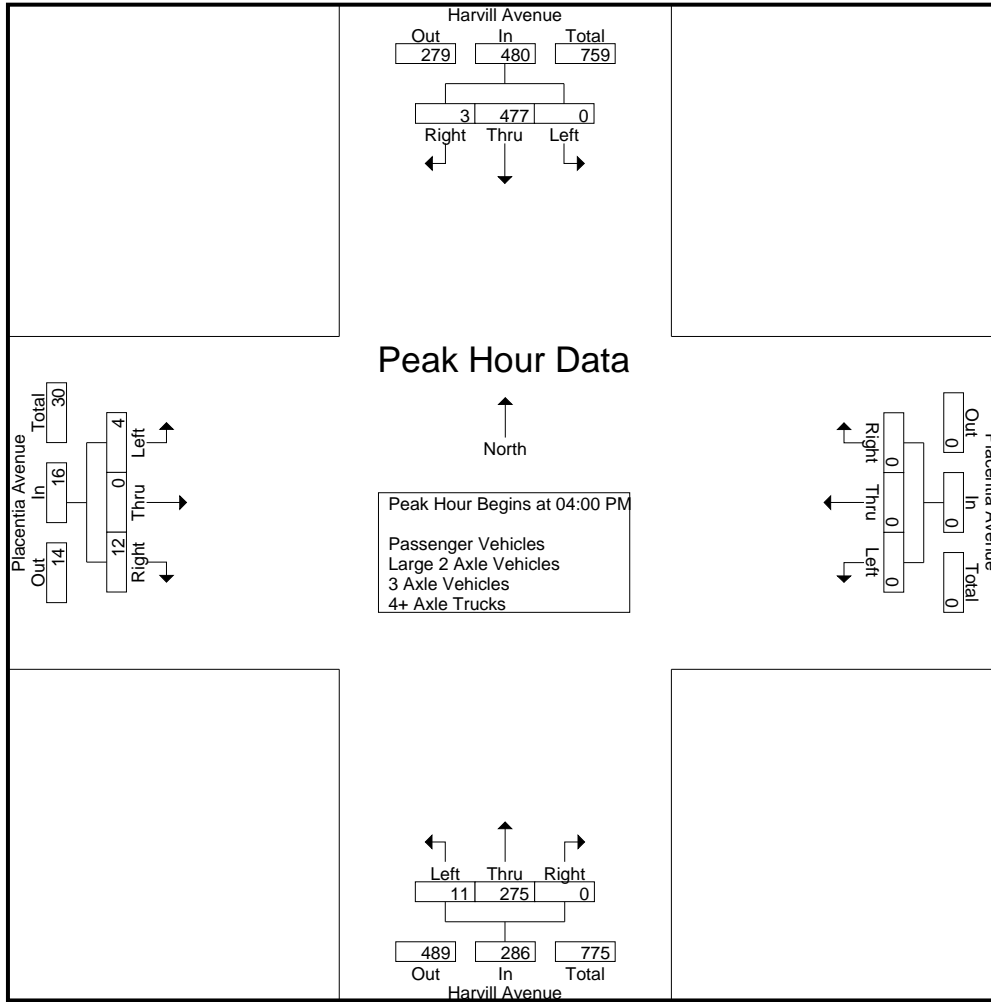
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	140	0	140	0	0	0	0	3	83	0	86	0	0	3	3	229
04:15 PM	0	104	2	106	0	0	0	0	3	71	0	74	1	0	3	4	184
04:30 PM	0	126	1	127	0	0	0	0	4	58	0	62	2	0	2	4	193
04:45 PM	0	107	0	107	0	0	0	0	1	63	0	64	1	0	4	5	176
Total	0	477	3	480	0	0	0	0	11	275	0	286	4	0	12	16	782
05:00 PM	0	86	2	88	0	0	0	0	2	63	0	65	6	0	4	10	163
05:15 PM	0	89	2	91	1	0	0	1	1	65	0	66	0	0	2	2	160
05:30 PM	0	91	0	91	0	0	0	0	5	66	0	71	2	0	2	4	166
05:45 PM	0	73	0	73	0	0	1	1	1	64	0	65	4	0	0	4	143
Total	0	339	4	343	1	0	1	2	9	258	0	267	12	0	8	20	632
Grand Total	0	816	7	823	1	0	1	2	20	533	0	553	16	0	20	36	1414
Apprch %	0	99.1	0.9		50	0	50		3.6	96.4	0		44.4	0	55.6		
Total %	0	57.7	0.5	58.2	0.1	0	0.1	0.1	1.4	37.7	0	39.1	1.1	0	1.4	2.5	
Passenger Vehicles	0	791	6	797	1	0	1	2	16	522	0	538	16	0	16	32	1369
% Passenger Vehicles	0	96.9	85.7	96.8	100	0	100	100	80	97.9	0	97.3	100	0	80	88.9	96.8
Large 2 Axle Vehicles	0	19	0	19	0	0	0	0	0	5	0	5	0	0	0	0	24
% Large 2 Axle Vehicles	0	2.3	0	2.3	0	0	0	0	0	0.9	0	0.9	0	0	0	0	1.7
3 Axle Vehicles	0	1	0	1	0	0	0	0	1	2	0	3	0	0	4	4	8
% 3 Axle Vehicles	0	0.1	0	0.1	0	0	0	0	5	0.4	0	0.5	0	0	20	11.1	0.6
4+ Axle Trucks	0	5	1	6	0	0	0	0	3	4	0	7	0	0	0	0	13
% 4+ Axle Trucks	0	0.6	14.3	0.7	0	0	0	0	15	0.8	0	1.3	0	0	0	0	0.9

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	140	0	140	0	0	0	0	3	83	0	86	0	0	3	3	229
04:15 PM	0	104	2	106	0	0	0	0	3	71	0	74	1	0	3	4	184
04:30 PM	0	126	1	127	0	0	0	0	4	58	0	62	2	0	2	4	193
04:45 PM	0	107	0	107	0	0	0	0	1	63	0	64	1	0	4	5	176
Total Volume	0	477	3	480	0	0	0	0	11	275	0	286	4	0	12	16	782
% App. Total	0	99.4	0.6		0	0	0		3.8	96.2	0		25	0	75		
PHF	.000	.852	.375	.857	.000	.000	.000	.000	.688	.828	.000	.831	.500	.000	.750	.800	.854

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:00 PM				04:15 PM			
+0 mins.	0	140	0	140	0	0	0	0	3	83	0	86	1	0	3	4
+15 mins.	0	104	2	106	1	0	0	1	3	71	0	74	2	0	2	4
+30 mins.	0	126	1	127	0	0	0	0	4	58	0	62	1	0	4	5
+45 mins.	0	107	0	107	0	0	1	1	1	63	0	64	6	0	4	10
Total Volume	0	477	3	480	1	0	1	2	11	275	0	286	10	0	13	23
% App. Total	0	99.4	0.6		50	0	50		3.8	96.2	0		43.5	0	56.5	
PHF	.000	.852	.375	.857	.250	.000	.250	.500	.688	.828	.000	.831	.417	.000	.813	.575

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

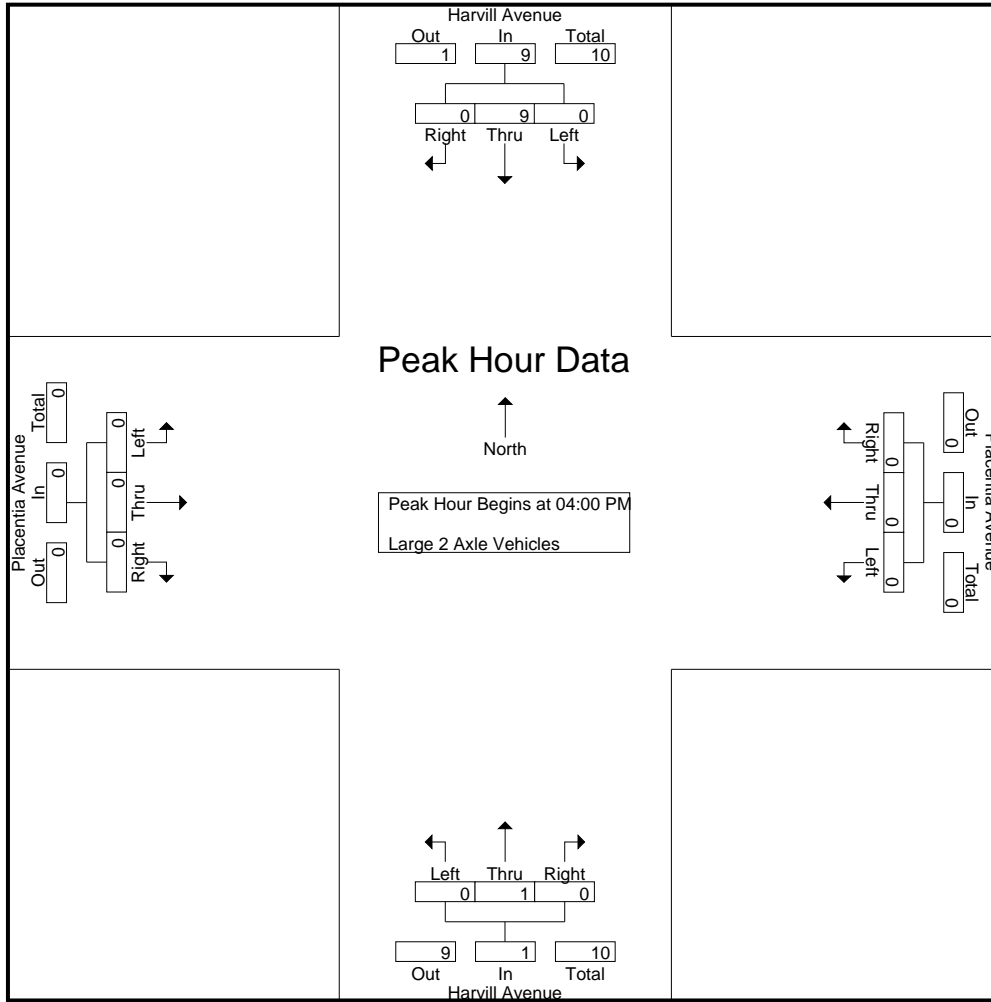
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:15 PM	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	9	0	9	0	0	0	0	0	0	1	0	1	0	0	0	0	10
05:00 PM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	0	4
05:15 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	3
05:30 PM	0	5	0	5	0	0	0	0	0	1	0	1	0	0	0	0	0	6
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	10	0	10	0	0	0	0	0	4	0	4	0	0	0	0	0	14
Grand Total	0	19	0	19	0	0	0	0	0	5	0	5	0	0	0	0	0	24
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0			
Total %	0	79.2	0	79.2	0	0	0	0	0	20.8	0	20.8	0	0	0	0	0	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	2
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	9	0	9	0	0	0	0	0	1	0	1	0	0	0	0	0	10
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0			
PHF	.000	.450	.000	.450	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	9	0	9	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	0	100	0	0	0	0	0	0
PHF	.000	.450	.000	.450	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 3 Axle Vehicles

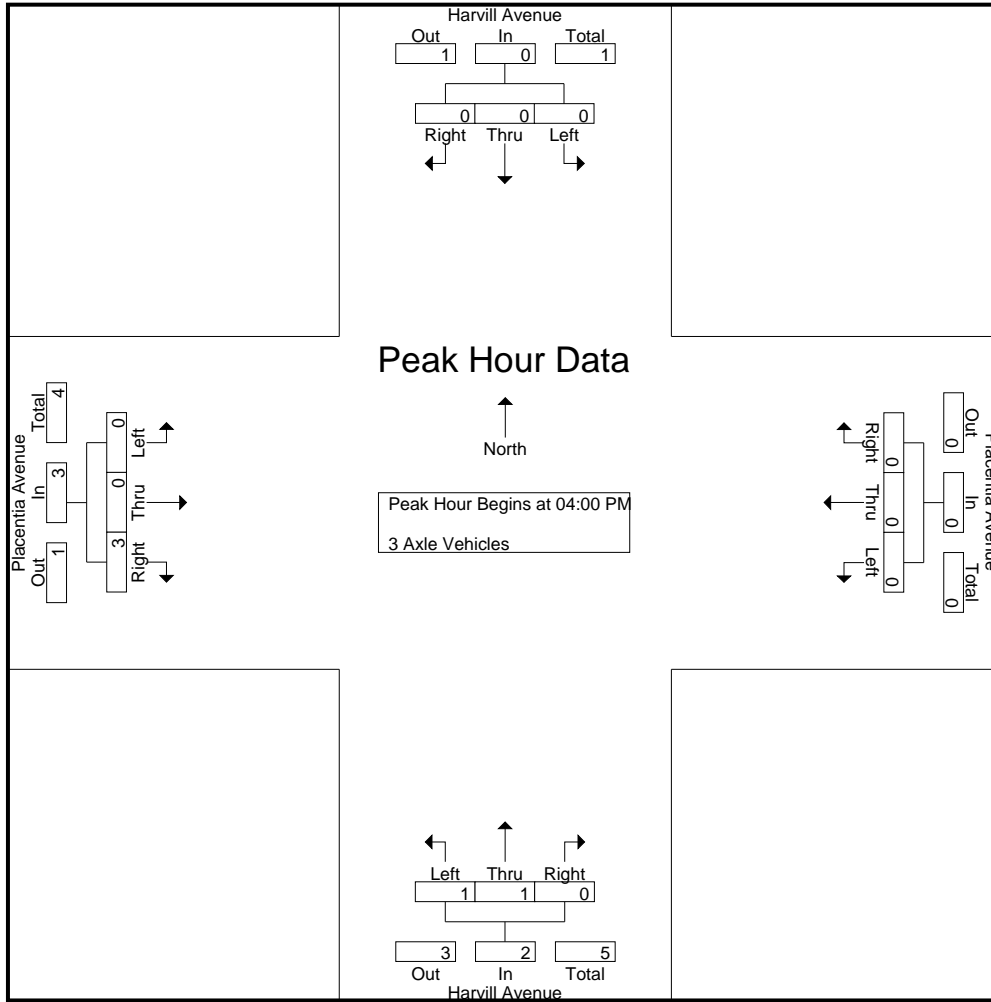
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	0	1	1	0	2	0	0	3	3	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
Grand Total	0	1	0	1	0	0	0	0	1	2	0	3	0	0	4	4	8
Apprch %	0	100	0		0	0	0		33.3	66.7	0		0	0	100		
Total %	0	12.5	0	12.5	0	0	0	0	12.5	25	0	37.5	0	0	50	50	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	0	0	0	0	0	1	1	0	2	0	0	3	3	5
% App. Total	0	0	0		0	0	0		50	50	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.500	.000	.000	.750	.750	.625

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	3	3
% App. Total	0	0	0	0	0	0	0	0	50	50	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.500	.000	.000	.750	.750	

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- 4+ Axle Trucks

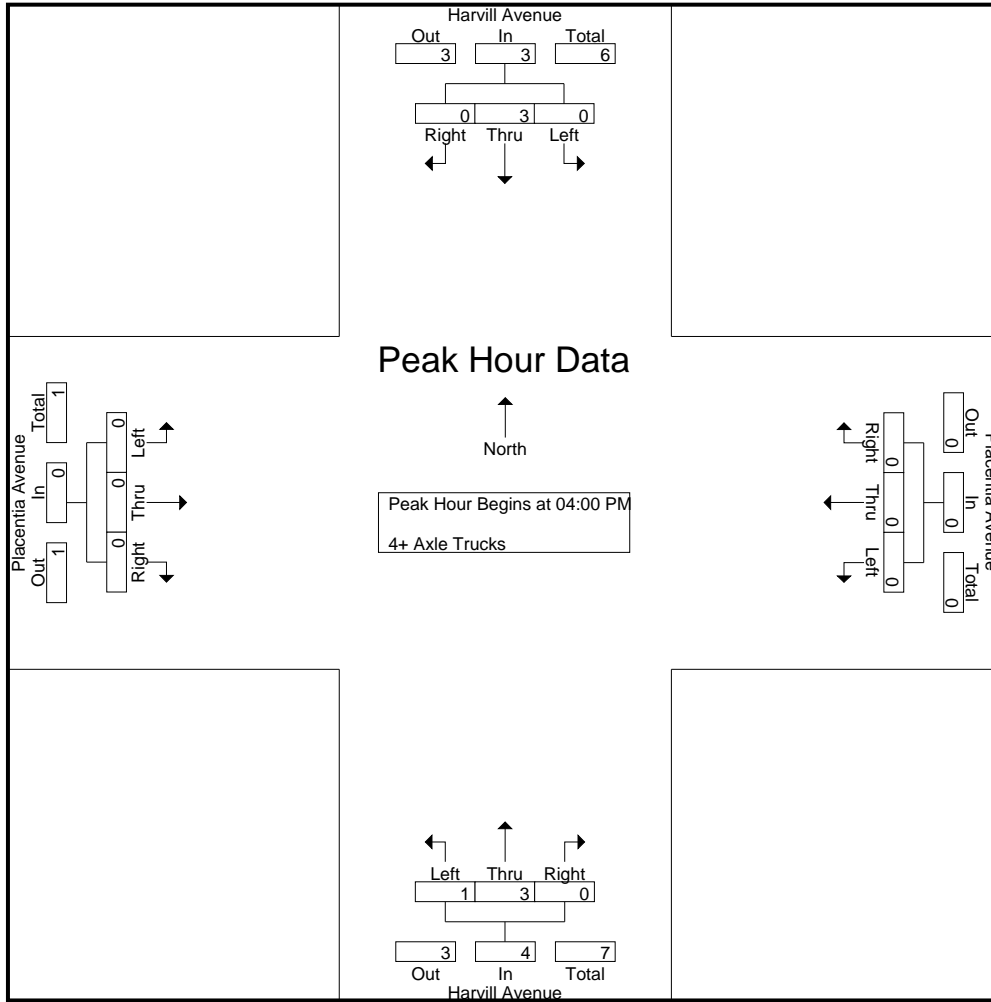
Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	0	0	1	2	0	3	0	0	0	0	0	4
Total	0	3	0	3	0	0	0	0	1	3	0	4	0	0	0	0	0	7
05:00 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	3
05:15 PM	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	1	3	0	0	0	0	2	1	0	3	0	0	0	0	0	6
Grand Total	0	5	1	6	0	0	0	0	3	4	0	7	0	0	0	0	0	13
Apprch %	0	83.3	16.7		0	0	0		42.9	57.1	0		0	0	0			
Total %	0	38.5	7.7	46.2	0	0	0	0	23.1	30.8	0	53.8	0	0	0	0	0	

Start Time	Harvill Avenue Southbound				Placentia Avenue Westbound				Harvill Avenue Northbound				Placentia Avenue Eastbound				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
04:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	0	0	1	2	0	3	0	0	0	0	0	4
Total Volume	0	3	0	3	0	0	0	0	1	3	0	4	0	0	0	0	0	7
% App. Total	0	100	0		0	0	0		25	75	0		0	0	0			
PHF	.000	.750	.000	.750	.000	.000	.000	.000	.250	.375	.000	.333	.000	.000	.000	.000	.000	.438

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

County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : 06_CRV_Harvill_Plac PM
 Site Code : 05122133
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	1	2	0	3	0	0	0	0
Total Volume	0	3	0	3	0	0	0	0	1	3	0	4	0	0	0	0
% App. Total	0	100	0	0	0	0	0	0	25	75	0	0	0	0	0	0
PHF	.000	.750	.000	.750	.000	.000	.000	.000	.250	.375	.000	.333	.000	.000	.000	.000

Location: County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue



Date: 2/8/2022
 Day: Tuesday

PEDESTRIANS

	North Leg Harvill Avenue	East Leg Placentia Avenue	South Leg Harvill Avenue	West Leg Placentia Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	1	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

	North Leg Harvill Avenue	East Leg Placentia Avenue	South Leg Harvill Avenue	West Leg Placentia Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	1	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	0	1

Location: County of Riverside
 N/S: Harvill Avenue
 E/W: Placentia Avenue



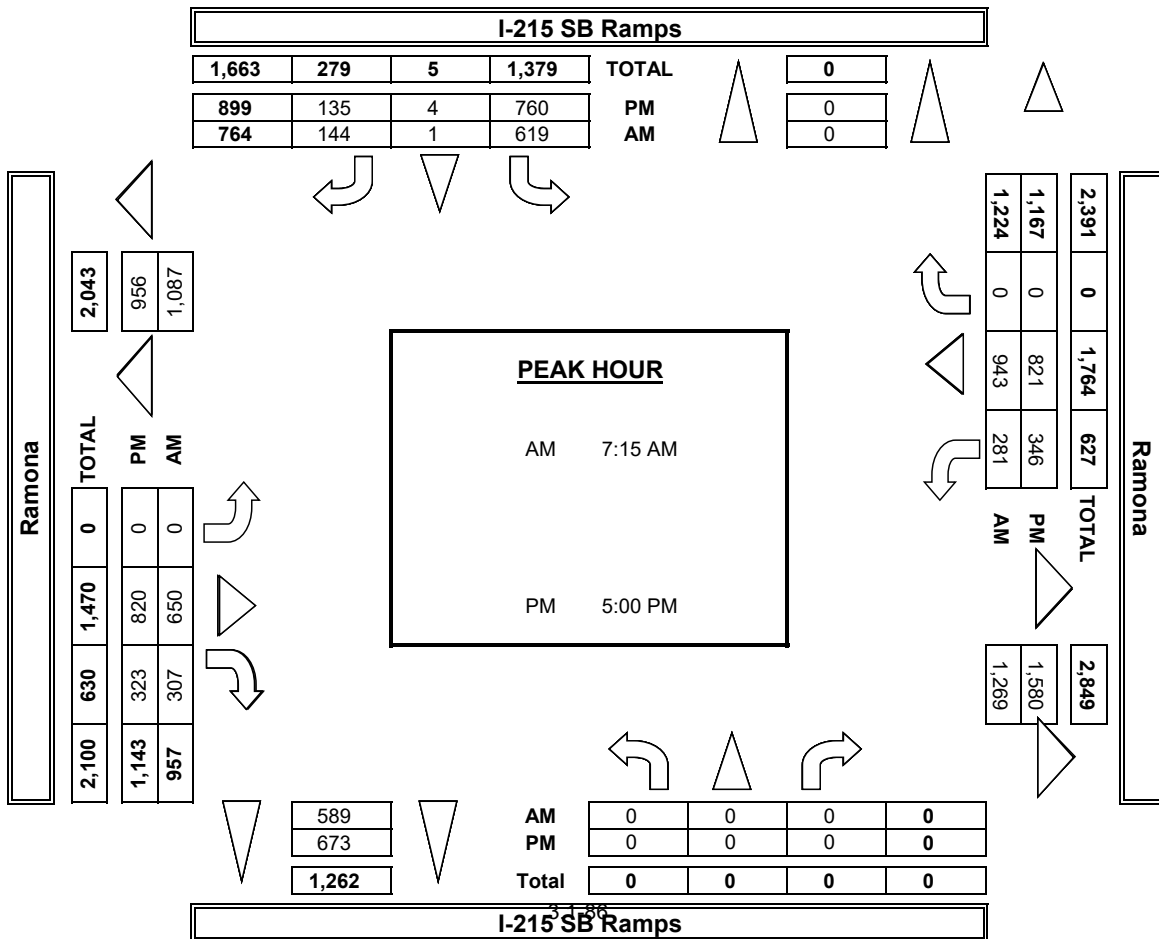
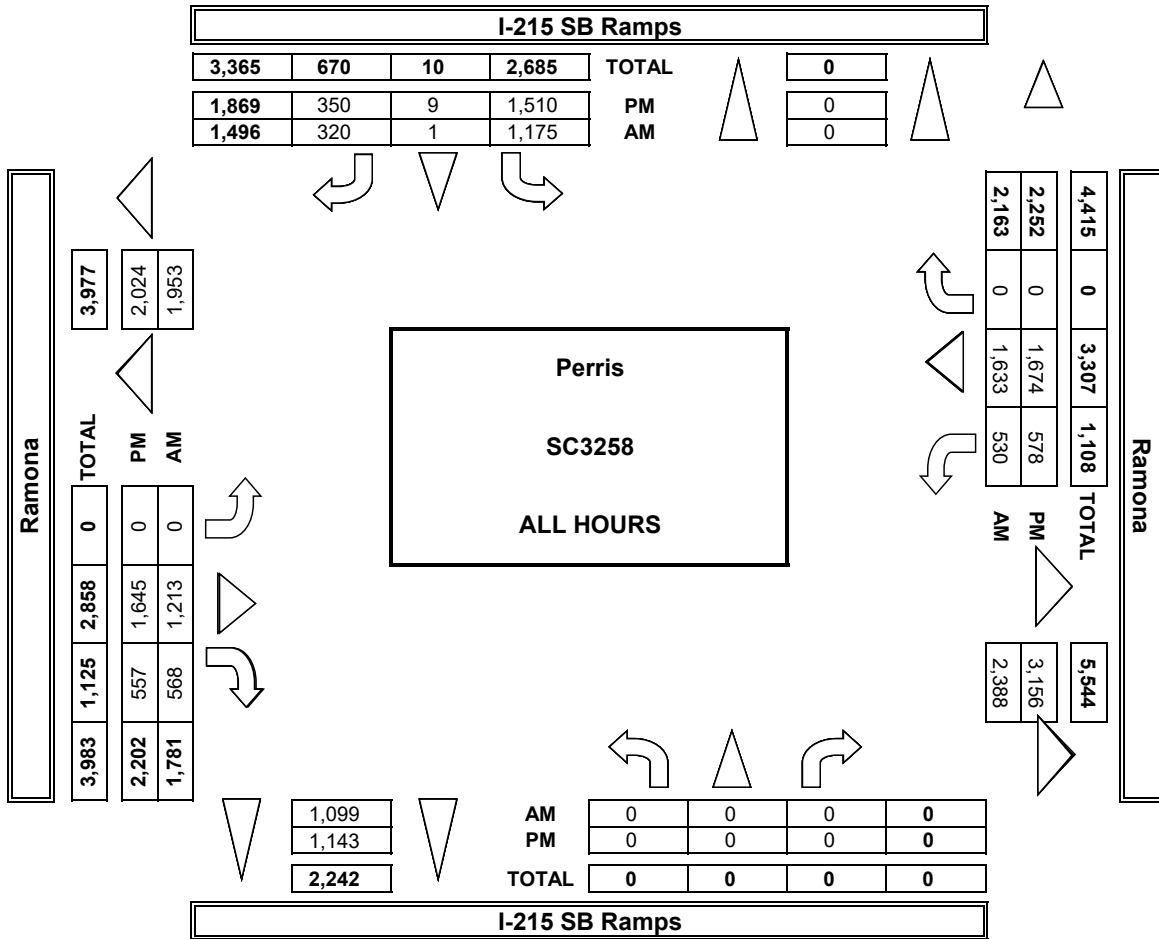
Date: 2/8/2022
 Day: Tuesday

BICYCLES

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

	Southbound Harvill Avenue			Westbound Placentia Avenue			Northbound Harvill Avenue			Eastbound Placentia Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	0	0	0	0	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: 1/25/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 SB Ramps Ramona	PROJECT #: LOCATION #: CONTROL:	SC3258 1 SIGNAL
-----------------------------	---	------------------------------------	---------------------------------------	-----------------------

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM		▲	
		PM	← W	N	E ▶
		MD		S	
		OTHER		▼	

LANES:	NORTHBOUND <small>I-215 SB Ramps</small>			SOUTHBOUND <small>I-215 SB Ramps</small>			EASTBOUND <small>Ramona</small>			WESTBOUND <small>Ramona</small>			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	X	X	1.5	0.5	1	X	2	0	1	2	X	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
X	0	0	X

AM	7:00 AM	0	0	0	39	0	9	0	15	6	9	16	0	94
	7:15 AM	0	0	0	17	0	3	0	14	8	6	30	0	78
	7:30 AM	0	0	0	25	0	1	0	6	9	11	22	0	74
	7:45 AM	0	0	0	20	1	5	0	16	7	11	18	0	78
	8:00 AM	0	0	0	17	0	7	0	13	6	9	23	0	75
	8:15 AM	0	0	0	15	0	2	0	9	7	8	20	0	61
	8:30 AM	0	0	0	18	0	7	0	14	7	4	14	0	64
	8:45 AM	0	0	0	14	0	10	0	8	9	8	20	0	69
	VOLUMES	0	0	0	165	1	44	0	95	59	66	163	0	593
	APPROACH %	0%	0%	0%	79%	0%	21%	0%	62%	38%	29%	71%	0%	
APP/DEPART	0	/	0	210	/	126	154	/	260	229	/	207	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	0	0	0	79	1	16	0	49	30	37	93	0	305	
APPROACH %	0%	0%	0%	82%	1%	17%	0%	62%	38%	28%	72%	0%		
PEAK HR FACTOR	0.000			0.923			0.859			0.903			0.978	
APP/DEPART	0	/	0	96	/	68	79	/	128	130	/	109	0	
PM	4:00 PM	0	0	0	10	1	3	0	16	3	4	14	0	51
	4:15 PM	0	0	0	11	0	7	0	14	4	3	13	0	52
	4:30 PM	0	0	0	10	0	7	0	18	4	3	20	0	62
	4:45 PM	0	0	0	11	0	1	0	13	6	0	8	0	39
	5:00 PM	0	0	0	6	0	3	0	21	7	0	12	0	49
	5:15 PM	0	0	0	10	2	3	0	10	10	2	19	0	56
	5:30 PM	0	0	0	9	0	4	0	9	1	5	9	0	37
	5:45 PM	0	0	0	13	1	2	0	10	1	2	8	0	37
	VOLUMES	0	0	0	80	4	30	0	111	36	19	103	0	383
	APPROACH %	0%	0%	0%	70%	4%	26%	0%	76%	24%	16%	84%	0%	
APP/DEPART	0	/	0	114	/	59	147	/	191	122	/	133	0	
BEGIN PEAK HR	5:00 PM													
VOLUMES	0	0	0	38	3	12	0	50	19	9	48	0	179	
APPROACH %	0%	0%	0%	72%	6%	23%	0%	72%	28%	16%	84%	0%		
PEAK HR FACTOR	0.000			0.828			0.616			0.679			0.799	
APP/DEPART	0	/	0	53	/	31	69	/	88	57	/	60	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

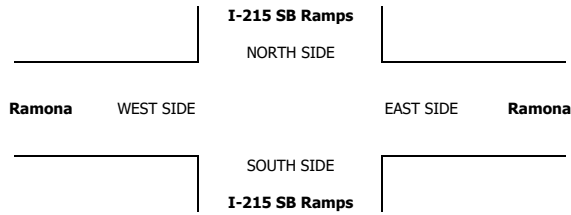
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0	2	6	0
0	3	3	0
0	1	3	0
0	4	3	0
0	4	5	0
0	19	29	0

0	7	16	0
---	---	----	---

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0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0

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0	1	1	0
0	4	0	0
0	0	2	0
0	2	2	0
0	2	3	0
0	1	0	0
0	1	0	0
0	14	11	0

0	6	5	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 1/25/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 SB Ramps Ramona	PROJECT #: LOCATION #: CONTROL:	SC3258 1 SIGNAL																				
CLASS 3: 3-AXLE TRUCKS	NOTES:		<table border="1" style="margin: auto;"> <tr><td>AM</td><td></td><td>▲</td><td></td></tr> <tr><td>PM</td><td></td><td>N</td><td></td></tr> <tr><td>MD</td><td>◀ W</td><td></td><td>E ▶</td></tr> <tr><td>OTHER</td><td></td><td>S</td><td></td></tr> <tr><td>OTHER</td><td></td><td>▼</td><td></td></tr> </table>	AM		▲		PM		N		MD	◀ W		E ▶	OTHER		S		OTHER		▼		
AM		▲																						
PM		N																						
MD	◀ W		E ▶																					
OTHER		S																						
OTHER		▼																						

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	I-215 SB Ramps			I-215 SB Ramps			Ramona			Ramona			
LANES:	NL X	NT X	NR X	SL 1.5	ST 0.5	SR 1	EL X	ET 2	ER 0	WL 1	WT 2	WR X	
7:00 AM	0	0	0	7	0	0	0	7	7	0	1	0	22
7:15 AM	0	0	0	4	0	0	0	18	4	1	11	0	38
7:30 AM	0	0	0	3	0	0	0	5	5	0	2	0	15
7:45 AM	0	0	0	2	0	1	0	5	2	0	4	0	14
8:00 AM	0	0	0	5	0	1	0	4	5	1	6	0	22
8:15 AM	0	0	0	1	0	3	0	8	2	2	7	0	23
8:30 AM	0	0	0	2	0	2	0	8	3	0	0	0	15
8:45 AM	0	0	0	2	0	2	0	11	3	1	4	0	23
VOLUMES	0	0	0	26	0	9	0	66	31	5	35	0	172
APPROACH %	0%	0%	0%	74%	0%	26%	0%	68%	32%	13%	88%	0%	
APP/DEPART	0	/	0	35	/	36	97	/	92	40	/	44	0
BEGIN PEAK HR	7:15 AM												
VOLUMES	0	0	0	14	0	2	0	32	16	2	23	0	89
APPROACH %	0%	0%	0%	88%	0%	13%	0%	67%	33%	8%	92%	0%	
PEAK HR FACTOR	0.000			0.667			0.545			0.521			0.586
APP/DEPART	0	/	0	16	/	18	48	/	46	25	/	25	0
4:00 PM	0	0	0	1	0	3	0	4	2	0	2	0	12
4:15 PM	0	0	0	5	0	1	0	2	0	0	2	0	10
4:30 PM	0	0	0	2	0	0	0	7	1	0	0	0	10
4:45 PM	0	0	0	2	0	0	0	5	2	0	4	0	13
5:00 PM	0	0	0	2	0	1	0	1	0	0	2	0	6
5:15 PM	0	0	0	1	0	0	0	1	1	1	2	0	6
5:30 PM	0	0	0	1	0	2	0	1	0	1	4	0	9
5:45 PM	0	0	0	2	0	0	0	0	0	0	4	0	6
VOLUMES	0	0	0	16	0	7	0	21	6	2	20	0	72
APPROACH %	0%	0%	0%	70%	0%	30%	0%	78%	22%	9%	91%	0%	
APP/DEPART	0	/	0	23	/	8	27	/	37	22	/	27	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	6	0	3	0	3	1	2	12	0	27
APPROACH %	0%	0%	0%	67%	0%	33%	0%	75%	25%	14%	86%	0%	
PEAK HR FACTOR	0.000			0.750			0.500			0.700			0.750
APP/DEPART	0	/	0	9	/	3	4	/	9	14	/	15	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
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

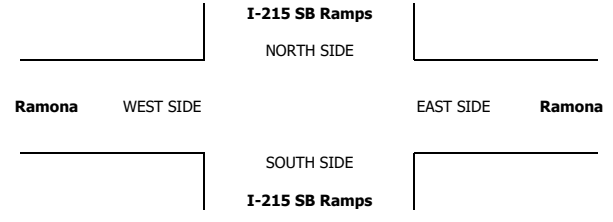
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NRR	SRR	ERR	WRR
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0	0	2	0
0	1	0	0
0	0	0	0
0	3	1	0
0	1	2	0
0	0	1	0
0	5	10	0

0	1	4	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	1	2	0

0	1	1	0
---	---	---	---



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 1/25/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 SB Ramps Ramona	PROJECT #: SC3258	LOCATION #: 1
			CONTROL: SIGNAL	

CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	AM PM MD OTHER	▲ N ◀ W S ▼	▶ E
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LANES:	NORTHBOUND I-215 SB Ramps			SOUTHBOUND I-215 SB Ramps			EASTBOUND Ramona			WESTBOUND Ramona			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	X	X	1.5	0.5	1	X	2	0	1	2	X	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
X	0	0	X

AM	7:00 AM	0	0	0	11	0	9	0	16	6	1	15	0	58
	7:15 AM	0	0	0	14	0	1	0	5	2	4	17	0	43
	7:30 AM	0	0	0	21	0	6	0	3	5	4	15	0	54
	7:45 AM	0	0	0	21	0	7	0	9	3	5	9	0	54
	8:00 AM	0	0	0	16	0	14	0	9	3	0	13	0	55
	8:15 AM	0	0	0	20	0	6	0	10	8	3	14	0	61
	8:30 AM	0	0	0	25	0	5	0	14	3	3	1	0	51
	8:45 AM	0	0	0	22	0	8	0	10	3	2	17	0	62
	VOLUMES	0	0	0	150	0	56	0	76	33	22	101	0	438
	APPROACH %	0%	0%	0%	73%	0%	27%	0%	70%	30%	18%	82%	0%	
APP/DEPART	0	/	0	206	/	55	109	/	226	123	/	157	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	0	0	0	72	0	28	0	26	13	13	54	0	206	
APPROACH %	0%	0%	0%	72%	0%	28%	0%	67%	33%	19%	81%	0%		
PEAK HR FACTOR	0.000			0.833			0.813			0.798			0.936	
APP/DEPART	0	/	0	100	/	26	39	/	98	67	/	82	0	
PM	4:00 PM	0	0	0	7	0	3	0	6	2	0	5	0	23
	4:15 PM	0	0	0	7	0	6	0	5	0	2	12	0	32
	4:30 PM	0	0	0	9	0	3	0	3	1	0	9	0	25
	4:45 PM	0	0	0	11	0	2	0	3	3	2	5	0	26
	5:00 PM	0	0	0	11	0	9	0	4	3	3	5	0	35
	5:15 PM	0	0	0	10	0	5	0	7	3	2	6	0	33
	5:30 PM	0	0	0	7	1	4	0	2	1	1	7	0	23
	5:45 PM	0	0	0	6	0	2	0	5	0	2	4	0	19
	VOLUMES	0	0	0	68	1	34	0	35	13	12	53	0	216
	APPROACH %	0%	0%	0%	66%	1%	33%	0%	73%	27%	18%	82%	0%	
APP/DEPART	0	/	0	103	/	26	48	/	103	65	/	87	0	
BEGIN PEAK HR	5:00 PM													
VOLUMES	0	0	0	34	1	20	0	18	7	8	22	0	110	
APPROACH %	0%	0%	0%	62%	2%	36%	0%	72%	28%	27%	73%	0%		
PEAK HR FACTOR	0.000			0.688			0.625			0.938			0.786	
APP/DEPART	0	/	0	55	/	16	25	/	52	30	/	42	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0

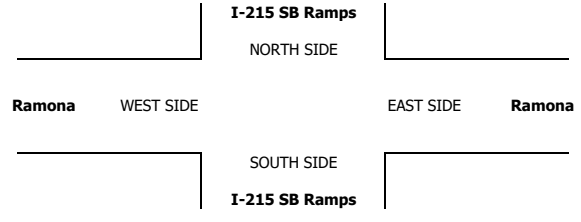
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0	5	1	0
0	2	2	0
0	3	1	0
0	5	1	0
0	22	9	0

0	12	4	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	1	0	0
0	0	1	0
0	4	2	0
0	3	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	9	5	0

0	7	3	0
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Tue, Jan 25, 22	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 NB Ramps Ramona	PROJECT #: LOCATION #: CONTROL:	SC3258 2 SIGNAL
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NOTES:	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>▲</td><td>▲</td><td>▲</td><td>▲</td> </tr> <tr> <td>PM</td><td>N</td><td></td><td></td> </tr> <tr> <td>MD</td><td></td><td>←</td><td>→</td> </tr> <tr> <td>OTHER</td><td></td><td>W</td><td>E</td> </tr> <tr> <td></td><td>▼</td><td>▼</td><td>▼</td> </tr> <tr> <td></td><td>S</td><td></td><td></td> </tr> </table>	▲	▲	▲	▲	PM	N			MD		←	→	OTHER		W	E		▼	▼	▼		S		
▲	▲	▲	▲																						
PM	N																								
MD		←	→																						
OTHER		W	E																						
	▼	▼	▼																						
	S																								

Add U-Turns to Left Turns

LANES:	NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Ramona			WESTBOUND Ramona			TOTAL
	NL 1.5	NT 0.5	NR 1	SL X	ST X	SR X	EL 1	ET 2	ER X	WL X	WT 2	WR 1	

AM	7:00 AM	67	1	143	0	0	0	32	253	0	0	184	147	827
	7:15 AM	89	0	154	0	0	0	28	279	0	0	239	153	942
	7:30 AM	71	0	143	0	0	0	20	278	0	0	236	166	904
	7:45 AM	77	3	142	0	0	0	23	325	0	0	216	108	894
	8:00 AM	77	0	123	0	0	0	29	285	0	0	219	172	905
	8:15 AM	60	2	99	0	0	0	32	277	0	0	189	166	825
8:30 AM	50	0	93	0	0	0	32	244	0	0	166	143	728	
8:45 AM	61	0	95	0	0	0	44	205	0	0	163	137	705	
VOLUMES	552	6	982	0	0	0	240	2,146	0	0	1,612	1,192	6,730	
APPROACH %	36%	0%	64%	0%	0%	0%	10%	90%	0%	0%	57%	43%		
APP/DEPART	1,540	/	1,438	0	/	0	2,386	/	3,128	2,804	/	2,164	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	314	3	552	0	0	0	100	1,167	0	0	910	599	3,645	
APPROACH %	36%	0%	64%	0%	0%	0%	8%	92%	0%	0%	60%	40%		
PEAK HR FACTOR	0.894			0.000			0.910			0.938			0.967	
APP/DEPART	869	/	702	0	/	0	1,267	/	1,719	1,509	/	1,224	0	
PM	4:00 PM	84	1	106	0	0	0	25	414	0	0	202	145	977
	4:15 PM	78	1	116	0	0	0	24	333	0	0	185	153	890
	4:30 PM	76	0	106	0	0	0	26	358	0	0	216	145	927
	4:45 PM	59	1	97	0	0	0	25	371	0	0	185	140	878
	5:00 PM	81	0	92	0	0	0	42	324	0	0	223	88	850
	5:15 PM	80	1	100	0	0	0	37	349	0	0	202	127	896
5:30 PM	85	0	117	0	0	0	35	368	0	0	218	155	978	
5:45 PM	73	0	106	0	0	0	24	397	0	0	199	131	930	
VOLUMES	615	4	840	0	0	0	238	2,914	0	0	1,630	1,084	7,326	
APPROACH %	42%	0%	58%	0%	0%	0%	8%	92%	0%	0%	60%	40%		
APP/DEPART	1,460	/	1,326	0	/	0	3,152	/	3,754	2,714	/	2,246	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	297	3	425	0	0	0	100	1,476	0	0	788	583	3,672	
APPROACH %	41%	0%	59%	0%	0%	0%	6%	94%	0%	0%	57%	43%		
PEAK HR FACTOR	0.929			0.000			0.897			0.949			0.940	
APP/DEPART	725	/	686	0	/	0	1,576	/	1,901	1,371	/	1,085	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
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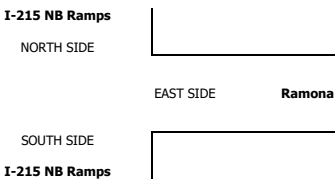
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NRR	SRR	ERR	WRR
39	0	0	30
42	0	0	34
39	0	0	42
26	0	0	28
40	0	0	40
21	0	0	39
29	0	0	24
38	0	0	29
274	0	0	266

147	0	0	144
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

15	0	0	34
15	0	0	39
22	0	0	34
24	0	0	34
22	0	0	26
19	0	0	25
21	0	0	35
12	0	0	31
150	0	0	258

76	0	0	141
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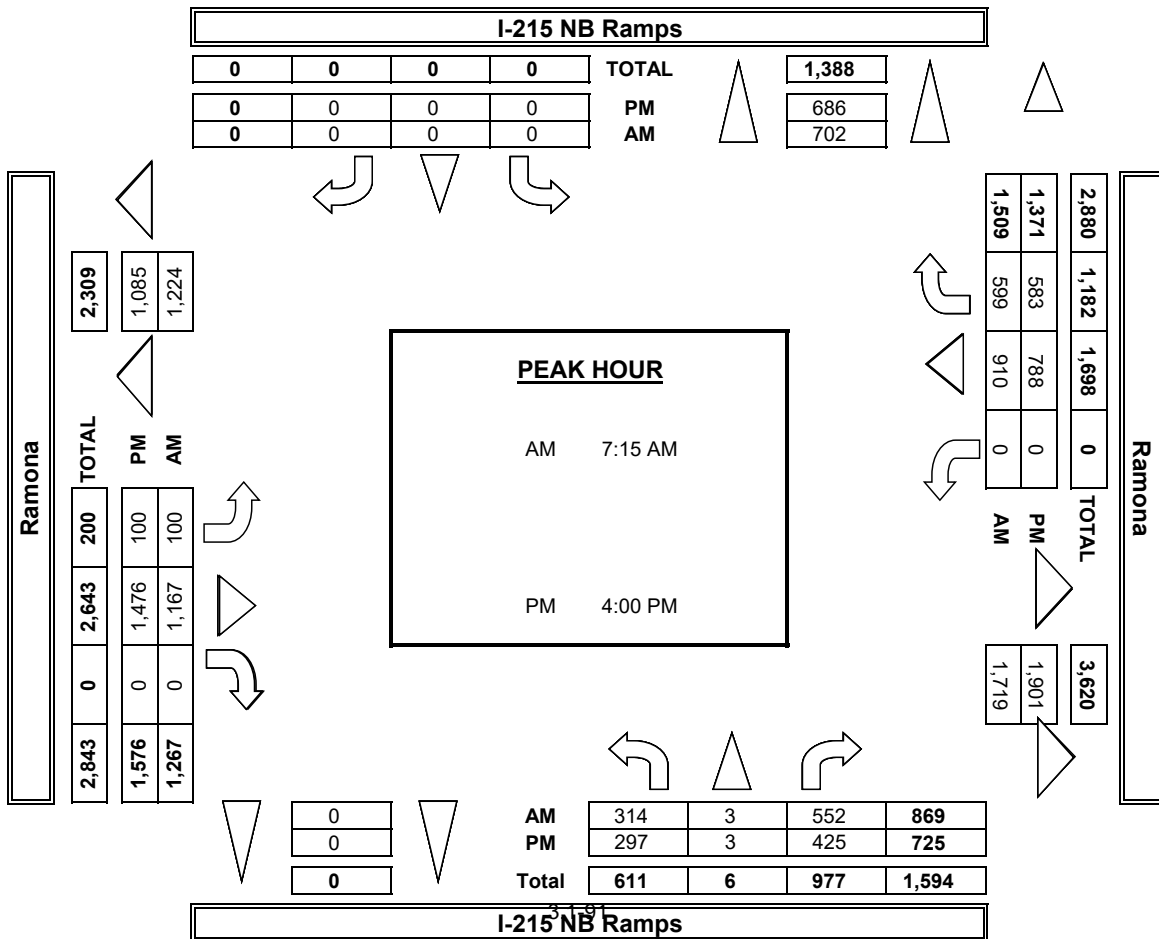
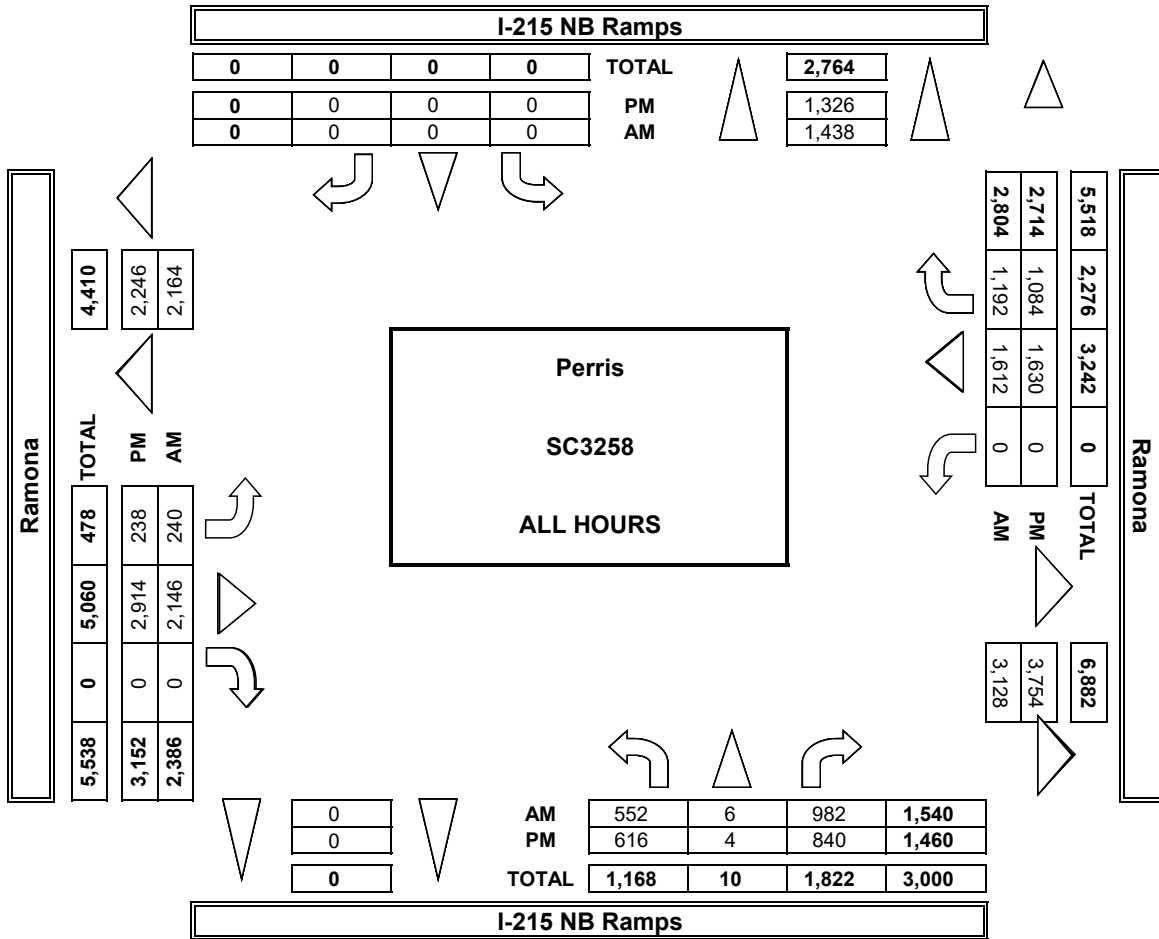
	TIME	ALL PED AND BIKE				TOTAL
		E SIDE	W SIDE	S SIDE	N SIDE	
AM	7:00 AM	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0
AM	TOTAL	0	0	0	0	0
PM	4:00 PM	0	0	0	1	1
PM	4:15 PM	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0
PM	5:00 PM	0	0	0	1	1
PM	5:15 PM	0	0	0	1	1
PM	5:30 PM	0	0	1	1	2
PM	5:45 PM	0	0	0	0	0
PM	TOTAL	0	0	1	4	5

TIME	ALL PED AND BIKE				TOTAL
	E SIDE	W SIDE	S SIDE	N SIDE	
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	1	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	1	1
5:30 PM	0	0	1	1	2
5:45 PM	0	0	0	0	0
TOTAL	0	0	1	4	5

TIME	PEDESTRIAN CROSSINGS				TOTAL
	E SIDE	W SIDE	S SIDE	N SIDE	
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	1	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	1	1
5:30 PM	0	0	0	1	1
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	4	4

TIME	BICYCLE CROSSINGS				TOTAL
	ES	WS	SS	NS	
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	1	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	1	1
5:30 PM	0	0	1	1	1
5:45 PM	0	0	0	0	0
TOTAL	0	0	1	4	5

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS
 PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/25/22 TUESDAY	LOCATION: Perris NORTH & SOUTH: 1-215 NB Ramps EAST & WEST: Ramona	PROJECT #: SC3258 LOCATION #: 2 CONTROL: SIGNAL
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CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM		▲	
		PM		▼	
		MD	◀ W		E ▶
		OTHER		S	

	NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Ramona			WESTBOUND Ramona			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

AM	7:00 AM	7	0	5	0	0	0	1	53	0	0	18	11	95
	7:15 AM	10	0	1	0	0	0	4	27	0	0	26	19	87
	7:30 AM	7	0	6	0	0	0	0	31	0	0	26	14	84
	7:45 AM	8	1	5	0	0	0	5	31	0	0	21	10	81
	8:00 AM	8	0	10	0	0	0	2	28	0	0	24	9	81
	8:15 AM	8	1	5	0	0	0	3	21	0	0	20	8	66
	8:30 AM	7	0	7	0	0	0	5	27	0	0	11	11	68
	8:45 AM	7	0	8	0	0	0	5	17	0	0	21	11	69
	VOLUMES	62	2	47	0	0	0	25	235	0	0	167	93	631
	APPROACH %	56%	2%	42%	0%	0%	0%	10%	90%	0%	0%	64%	36%	
	APP/DEPART	111	/	120	0	/	0	260	/	282	260	/	229	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	33	1	22	0	0	0	11	117	0	0	97	52	333
	APPROACH %	59%	2%	39%	0%	0%	0%	9%	91%	0%	0%	65%	35%	
PEAK HR FACTOR	0.778			0.000			0.889			0.828			0.957	
APP/DEPART	56	/	64	0	/	0	128	/	139	149	/	130	0	
PM	4:00 PM	7	1	4	0	0	0	0	26	0	0	11	9	58
	4:15 PM	9	1	13	0	0	0	1	24	0	0	7	7	62
	4:30 PM	13	0	6	0	0	0	2	26	0	0	10	8	65
	4:45 PM	4	0	8	0	0	0	1	23	0	0	4	8	48
	5:00 PM	3	0	4	0	0	0	3	24	0	0	9	0	43
	5:15 PM	4	0	5	0	0	0	2	18	0	0	17	0	46
	5:30 PM	2	0	3	0	0	0	3	15	0	0	12	4	39
	5:45 PM	5	0	1	0	0	0	1	22	0	0	5	2	36
	VOLUMES	47	2	44	0	0	0	13	178	0	0	75	38	397
	APPROACH %	51%	2%	47%	0%	0%	0%	7%	93%	0%	0%	66%	34%	
	APP/DEPART	93	/	53	0	/	0	191	/	222	113	/	122	0
	BEGIN PEAK HR	4:00 PM												
	VOLUMES	33	2	31	0	0	0	4	99	0	0	32	32	233
	APPROACH %	50%	3%	47%	0%	0%	0%	4%	96%	0%	0%	50%	50%	
PEAK HR FACTOR	0.717			0.000			0.920			0.800			0.896	
APP/DEPART	66	/	38	0	/	0	103	/	130	64	/	65	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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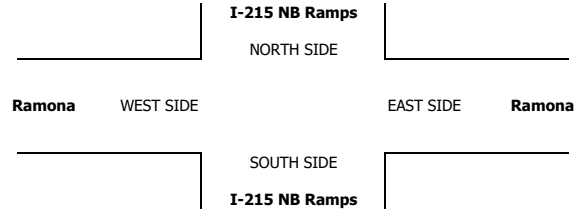
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4	0	0	3
17	0	0	22

11	0	0	12
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0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0

0	0	0	3
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4	0	0	0
4	0	0	1
1	0	0	0
1	0	0	0
1	0	0	1
0	0	0	0
12	0	0	5

9	0	0	4
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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 1/25/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 NB Ramps Ramona	PROJECT #: LOCATION #: CONTROL:	SC3258 2 SIGNAL
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CLASS 3: 3-AXLE TRUCKS	NOTES:	<table border="1" style="margin: auto;"> <tr><td>AM</td><td></td><td>▲</td><td></td></tr> <tr><td>PM</td><td></td><td>N</td><td></td></tr> <tr><td>MD</td><td>◀ W</td><td></td><td>E ▶</td></tr> <tr><td>OTHER</td><td></td><td>S</td><td></td></tr> <tr><td>OTHER</td><td></td><td>▼</td><td></td></tr> </table>	AM		▲		PM		N		MD	◀ W		E ▶	OTHER		S		OTHER		▼	
AM		▲																				
PM		N																				
MD	◀ W		E ▶																			
OTHER		S																				
OTHER		▼																				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL 1.5	NT 0.5	NR 1	SL X	ST X	SR X	EL 1	ET 2	ER X	WL X	WT 2	WR 1	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

AM	7:00 AM	0	0	2	0	0	0	5	9	0	0	1	1	18
	7:15 AM	5	0	1	0	0	0	9	13	0	0	7	0	35
	7:30 AM	2	0	3	0	0	0	5	3	0	0	0	5	18
	7:45 AM	2	0	1	0	0	0	2	5	0	0	2	2	14
	8:00 AM	4	0	0	0	0	0	3	6	0	0	3	2	18
	8:15 AM	1	0	1	0	0	0	3	6	0	0	8	5	24
	8:30 AM	0	0	0	0	0	0	5	5	0	0	0	6	16
	8:45 AM	1	0	1	0	0	0	7	6	0	0	4	1	20
	VOLUMES	15	0	9	0	0	0	39	53	0	0	25	22	163
	APPROACH %	63%	0%	38%	0%	0%	0%	42%	58%	0%	0%	53%	47%	
APP/DEPART	24	/	61	0	/	0	92	/	62	47	/	40	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	13	0	5	0	0	0	19	27	0	0	12	9	85	
APPROACH %	72%	0%	28%	0%	0%	0%	41%	59%	0%	0%	57%	43%		
PEAK HR FACTOR	0.750			0.000			0.523			0.750			0.607	
APP/DEPART	18	/	28	0	/	0	46	/	32	21	/	25	0	
PM	4:00 PM	0	0	3	0	0	0	3	2	0	0	2	0	10
	4:15 PM	1	0	1	0	0	0	1	6	0	0	1	1	11
	4:30 PM	0	0	2	0	0	0	2	7	0	0	0	1	12
	4:45 PM	2	0	2	0	0	0	3	4	0	0	2	3	16
	5:00 PM	1	0	1	0	0	0	1	2	0	0	1	1	7
	5:15 PM	2	0	0	0	0	0	0	2	0	0	1	1	6
	5:30 PM	2	0	0	0	0	0	1	1	0	0	3	0	7
	5:45 PM	0	0	1	0	0	0	0	2	0	0	4	3	10
	VOLUMES	8	0	10	0	0	0	11	26	0	0	14	10	79
	APPROACH %	44%	0%	56%	0%	0%	0%	30%	70%	0%	0%	58%	42%	
APP/DEPART	18	/	21	0	/	0	37	/	36	24	/	22	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	3	0	8	0	0	0	9	19	0	0	5	5	49	
APPROACH %	27%	0%	73%	0%	0%	0%	32%	68%	0%	0%	50%	50%		
PEAK HR FACTOR	0.688			0.000			0.778			0.500			0.766	
APP/DEPART	11	/	14	0	/	0	28	/	27	10	/	8	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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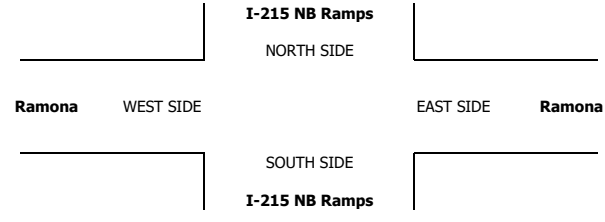
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1	0	0	0
2	0	0	4

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

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0	0	0	1
0	0	0	0
0	0	0	2
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0	0	0	0
1	0	0	5

0	0	0	3
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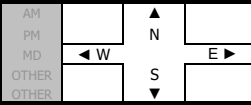


INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 1/25/22 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Perris I-215 NB Ramps Ramona	PROJECT #: LOCATION #: CONTROL:	SC3258 2 SIGNAL
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CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:
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LANES:	NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Ramona			WESTBOUND Ramona			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1.5	0.5	1	X	X	X	1	2	X	X	2	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	X	X	0

AM	7:00 AM	12	0	8	0	0	0	12	15	0	0	4	10	61
	7:15 AM	7	0	7	0	0	0	3	16	0	0	14	13	60
	7:30 AM	8	0	2	0	0	0	3	21	0	0	11	14	59
	7:45 AM	5	0	5	0	0	0	5	25	0	0	9	10	59
	8:00 AM	7	0	8	0	0	0	6	19	0	0	6	16	62
	8:15 AM	8	0	6	0	0	0	5	25	0	0	9	16	69
	8:30 AM	1	0	4	0	0	0	6	33	0	0	3	11	58
	8:45 AM	9	0	6	0	0	0	8	24	0	0	10	19	76
	VOLUMES	57	0	46	0	0	0	48	178	0	0	66	109	504
	APPROACH %	55%	0%	45%	0%	0%	0%	21%	79%	0%	0%	38%	62%	
APP/DEPART	103	/	157	0	/	0	226	/	224	175	/	123	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	27	0	22	0	0	0	17	81	0	0	40	53	240	
APPROACH %	55%	0%	45%	0%	0%	0%	17%	83%	0%	0%	43%	57%		
PEAK HR FACTOR	0.817			0.000			0.817			0.861			0.968	
APP/DEPART	49	/	70	0	/	0	98	/	103	93	/	67	0	
PM	4:00 PM	1	0	1	0	0	0	2	11	0	0	4	7	26
	4:15 PM	6	0	2	0	0	0	2	10	0	0	8	7	35
	4:30 PM	6	0	2	0	0	0	0	12	0	0	3	6	29
	4:45 PM	3	0	1	0	0	0	1	13	0	0	4	4	26
	5:00 PM	0	0	1	0	0	0	1	14	0	0	8	7	31
	5:15 PM	5	0	0	0	0	0	4	13	0	0	3	13	38
	5:30 PM	4	0	1	0	0	0	2	7	0	0	4	8	26
	5:45 PM	2	0	1	0	0	0	1	10	0	0	4	4	22
	VOLUMES	27	0	9	0	0	0	13	90	0	0	38	56	233
	APPROACH %	75%	0%	25%	0%	0%	0%	13%	87%	0%	0%	40%	60%	
APP/DEPART	36	/	69	0	/	0	103	/	99	94	/	65	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	16	0	6	0	0	0	5	46	0	0	19	24	116	
APPROACH %	73%	0%	27%	0%	0%	0%	10%	90%	0%	0%	44%	56%		
PEAK HR FACTOR	0.688			0.000			0.911			0.717			0.829	
APP/DEPART	22	/	29	0	/	0	51	/	52	43	/	35	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0

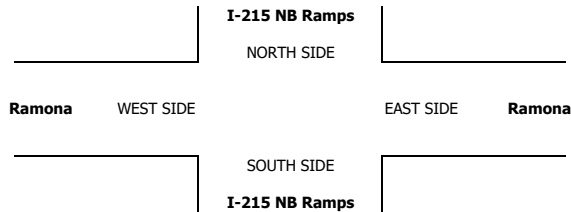
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1	0	0	4
12	0	0	23

5	0	0	11
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0	0	0	0	0
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1	0	0	1
1	0	0	1
0	0	0	3
0	0	0	1
0	0	0	0
2	0	0	10

1	0	0	5
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Counts Unlimited, Inc.

County of Riverside
 Harvill Avenue
 N/ Rider Street
 24 Hour Directional Classification Count

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

CRV001
 Site Code: 051-22113

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/08/22	0	14	1	0	0	0	0	0	2	0	0	0	0	17
01:00	0	7	0	0	0	0	0	0	2	0	0	0	0	9
02:00	0	8	0	0	0	0	0	0	1	0	0	0	0	9
03:00	0	47	3	0	0	0	0	0	0	0	0	0	0	50
04:00	0	98	1	0	0	0	0	0	5	0	0	0	0	104
05:00	1	189	14	2	2	2	0	1	5	0	0	0	0	216
06:00	1	303	58	6	3	2	0	1	4	0	0	0	0	378
07:00	1	499	117	1	7	1	0	2	3	0	0	0	0	631
08:00	0	223	48	0	7	4	0	0	4	0	0	0	0	286
09:00	0	149	39	1	10	3	1	1	9	0	0	0	0	213
10:00	3	131	50	1	9	3	0	3	7	0	0	0	0	207
11:00	0	146	44	2	10	1	0	2	8	0	0	0	0	213
12 PM	2	170	42	0	5	4	0	1	8	0	0	0	0	232
13:00	0	190	49	7	5	10	0	1	7	0	0	0	0	269
14:00	1	203	46	0	6	2	0	2	0	0	1	0	0	261
15:00	1	323	88	0	5	2	0	2	1	0	0	0	0	422
16:00	1	238	53	0	0	1	1	0	3	0	0	0	1	298
17:00	0	224	41	0	3	1	0	0	2	0	0	0	0	271
18:00	0	168	22	0	1	0	0	0	1	0	0	0	0	192
19:00	0	115	7	0	0	0	0	0	0	0	0	0	0	122
20:00	0	86	3	0	0	0	0	0	1	0	0	0	0	90
21:00	0	61	11	0	1	0	0	2	2	0	0	0	0	77
22:00	0	41	3	0	0	0	0	0	1	0	0	0	0	45
23:00	0	30	1	0	0	0	0	0	0	0	0	0	0	31
Total	11	3663	741	20	74	36	2	18	76	0	1	0	1	4643
Percent	0.2%	78.9%	16.0%	0.4%	1.6%	0.8%	0.0%	0.4%	1.6%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	07:00	07:00	06:00	09:00	08:00	09:00	10:00	09:00					07:00
Vol.	3	499	117	6	10	4	1	3	9					631
PM Peak	12:00	15:00	15:00	13:00	14:00	13:00	16:00	14:00	12:00		14:00		16:00	15:00
Vol.	2	323	88	7	6	10	1	2	8		1		1	422
Grand Total	11	3663	741	20	74	36	2	18	76	0	1	0	1	4643
Percent	0.2%	78.9%	16.0%	0.4%	1.6%	0.8%	0.0%	0.4%	1.6%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

County of Riverside
 Harvill Avenue
 N/ Rider Street
 24 Hour Directional Classification Count

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

CRV001
 Site Code: 051-22113

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/08/22	0	20	0	0	0	0	0	0	1	0	0	0	0	21
01:00	0	13	0	0	0	0	0	0	2	0	0	0	0	15
02:00	0	11	1	0	0	0	0	0	4	0	0	0	0	16
03:00	0	16	1	0	0	0	0	0	2	0	0	0	0	19
04:00	1	35	1	0	1	0	0	0	1	0	0	0	0	39
05:00	0	103	16	0	3	0	0	0	5	0	0	0	0	127
06:00	0	124	31	0	7	0	0	0	4	0	0	0	0	166
07:00	0	153	41	0	7	0	0	0	8	0	0	0	0	209
08:00	0	162	49	5	12	1	0	2	9	0	0	0	0	240
09:00	2	136	40	2	7	1	0	0	2	0	0	0	0	190
10:00	1	118	37	0	8	1	0	2	10	0	0	0	0	177
11:00	1	149	41	2	12	3	0	6	9	0	0	0	0	223
12 PM	2	152	35	0	8	2	0	3	6	0	0	0	0	208
13:00	0	179	50	0	9	2	0	2	6	0	1	0	0	249
14:00	0	209	67	0	2	4	0	1	5	0	0	0	0	288
15:00	1	372	93	2	12	2	0	6	5	1	2	0	0	496
16:00	0	334	103	0	11	1	0	2	6	0	0	0	0	457
17:00	0	244	75	3	6	1	0	1	5	0	0	0	0	335
18:00	1	189	23	1	2	0	0	0	2	0	0	0	0	218
19:00	1	124	7	0	2	0	0	0	1	0	0	0	0	135
20:00	0	70	9	0	0	0	0	0	0	0	0	0	0	79
21:00	0	58	15	0	0	2	0	0	0	0	0	0	0	75
22:00	0	44	3	0	0	2	0	0	1	0	0	0	0	50
23:00	0	37	2	0	0	1	0	0	3	0	0	0	0	43
Total	10	3052	740	15	109	23	0	25	97	1	3	0	0	4075
Percent	0.2%	74.9%	18.2%	0.4%	2.7%	0.6%	0.0%	0.6%	2.4%	0.0%	0.1%	0.0%	0.0%	
AM Peak	09:00	08:00	08:00	08:00	08:00	11:00		11:00	10:00					08:00
Vol.	2	162	49	5	12	3		6	10					240
PM Peak	12:00	15:00	16:00	17:00	15:00	14:00		15:00	12:00	15:00	15:00			15:00
Vol.	2	372	103	3	12	4		6	6	1	2			496
Grand Total	10	3052	740	15	109	23	0	25	97	1	3	0	0	4075
Percent	0.2%	74.9%	18.2%	0.4%	2.7%	0.6%	0.0%	0.6%	2.4%	0.0%	0.1%	0.0%	0.0%	

Counts Unlimited, Inc.

County of Riverside
 Harvill Avenue
 N/ Rider Street
 24 Hour Directional Classification Count

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

CRV001
 Site Code: 051-22113

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/08/22	0	34	1	0	0	0	0	0	3	0	0	0	0	38
01:00	0	20	0	0	0	0	0	0	4	0	0	0	0	24
02:00	0	19	1	0	0	0	0	0	5	0	0	0	0	25
03:00	0	63	4	0	0	0	0	0	2	0	0	0	0	69
04:00	1	133	2	0	1	0	0	0	6	0	0	0	0	143
05:00	1	292	30	2	5	2	0	1	10	0	0	0	0	343
06:00	1	427	89	6	10	2	0	1	8	0	0	0	0	544
07:00	1	652	158	1	14	1	0	2	11	0	0	0	0	840
08:00	0	385	97	5	19	5	0	2	13	0	0	0	0	526
09:00	2	285	79	3	17	4	1	1	11	0	0	0	0	403
10:00	4	249	87	1	17	4	0	5	17	0	0	0	0	384
11:00	1	295	85	4	22	4	0	8	17	0	0	0	0	436
12 PM	4	322	77	0	13	6	0	4	14	0	0	0	0	440
13:00	0	369	99	7	14	12	0	3	13	0	1	0	0	518
14:00	1	412	113	0	8	6	0	3	5	0	1	0	0	549
15:00	2	695	181	2	17	4	0	8	6	1	2	0	0	918
16:00	1	572	156	0	11	2	1	2	9	0	0	0	1	755
17:00	0	468	116	3	9	2	0	1	7	0	0	0	0	606
18:00	1	357	45	1	3	0	0	0	3	0	0	0	0	410
19:00	1	239	14	0	2	0	0	0	1	0	0	0	0	257
20:00	0	156	12	0	0	0	0	0	1	0	0	0	0	169
21:00	0	119	26	0	1	2	0	2	2	0	0	0	0	152
22:00	0	85	6	0	0	2	0	0	2	0	0	0	0	95
23:00	0	67	3	0	0	1	0	0	3	0	0	0	0	74
Total	21	6715	1481	35	183	59	2	43	173	1	4	0	1	8718
Percent	0.2%	77.0%	17.0%	0.4%	2.1%	0.7%	0.0%	0.5%	2.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	07:00	07:00	06:00	11:00	08:00	09:00	11:00	10:00					07:00
Vol.	4	652	158	6	22	5	1	8	17					840
PM Peak	12:00	15:00	15:00	13:00	15:00	13:00	16:00	15:00	12:00	15:00	15:00		16:00	15:00
Vol.	4	695	181	7	17	12	1	8	14	1	2		1	918
Grand Total	21	6715	1481	35	183	59	2	43	173	1	4	0	1	8718
Percent	0.2%	77.0%	17.0%	0.4%	2.1%	0.7%	0.0%	0.5%	2.0%	0.0%	0.0%	0.0%	0.0%	

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

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

DATE: Tuesday, May 10, 2022
 JOB #: SC3419

CITY: Perris
 LOCATION: CLASS2 Cajalco east of Harvill

AM TIME	NORTHBOUND													TOTAL	PM Time	NORTHBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	12:00	1	74	6	0	0	2	0	0	5	0	0	0	88	
0:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	12:15	0	54	3	0	2	2	0	0	3	0	2	0	66	
0:30	0	17	0	0	0	0	0	0	0	1	0	0	0	18	12:30	0	54	5	1	2	2	0	0	6	0	2	0	72	
0:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	12:45	1	51	5	0	8	5	0	0	4	0	0	74		
1:00	1	6	0	0	0	0	0	0	2	0	0	0	0	9	13:00	0	43	4	0	2	4	0	0	4	0	1	0	58	
1:15	0	4	0	0	0	0	0	0	2	0	0	0	0	6	13:15	0	55	1	1	1	3	0	0	6	0	0	67		
1:30	0	4	0	0	0	0	0	0	1	0	0	0	0	5	13:30	0	105	7	0	0	2	0	0	3	0	1	0	118	
1:45	0	5	0	0	0	0	0	0	2	0	0	0	0	7	13:45	1	89	5	0	5	0	0	0	5	0	1	0	106	
2:00	0	3	0	0	0	1	0	0	3	0	0	0	0	7	14:00	0	85	4	0	2	1	0	0	2	0	0	0	94	
2:15	0	2	0	0	0	0	0	0	1	0	0	0	0	3	14:15	0	85	4	0	1	2	0	1	3	0	3	0	99	
2:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	14:30	1	162	9	0	1	1	0	0	4	0	0	0	178	
2:45	0	3	0	0	0	0	0	0	1	0	0	0	0	4	14:45	0	105	3	0	4	1	1	0	2	0	0	0	116	
3:00	0	6	0	0	0	1	0	0	2	0	0	0	0	9	15:00	0	99	3	0	1	0	0	0	1	0	1	0	105	
3:15	1	8	1	0	0	0	0	0	0	0	0	0	0	10	15:15	0	113	7	0	2	3	0	0	1	0	0	0	126	
3:30	0	14	0	0	0	1	0	0	1	0	0	0	0	16	15:30	0	120	10	0	2	0	0	0	2	0	0	0	134	
3:45	0	12	0	0	0	0	0	0	1	0	0	0	0	13	15:45	0	101	5	1	3	0	1	0	3	0	0	0	114	
4:00	0	18	0	0	1	0	0	0	2	0	0	0	0	21	16:00	0	96	8	0	0	2	1	0	2	0	2	0	111	
4:15	0	28	0	0	0	0	0	0	0	0	0	0	0	28	16:15	0	84	6	0	0	3	0	0	3	0	0	0	96	
4:30	0	21	0	0	2	1	0	0	6	0	0	0	0	30	16:30	0	92	8	2	1	1	0	0	0	0	0	0	104	
4:45	0	23	1	0	2	0	0	0	1	0	0	0	0	27	16:45	0	76	4	0	1	0	1	0	1	0	0	0	83	
5:00	0	27	0	0	1	0	0	0	4	0	0	0	0	32	17:00	1	63	5	0	0	1	0	0	3	0	0	0	73	
5:15	1	42	2	0	1	1	0	0	3	0	0	0	0	50	17:15	1	69	4	0	0	0	0	0	0	0	0	0	74	
5:30	1	53	3	0	3	1	0	0	5	0	0	0	0	66	17:30	0	69	2	0	1	1	0	0	1	0	0	0	74	
5:45	0	46	3	1	2	1	0	0	5	0	0	0	0	58	17:45	0	49	3	0	0	0	0	0	0	0	0	0	52	
6:00	0	50	6	3	5	0	0	0	1	0	0	0	0	65	18:00	0	56	4	0	0	0	0	0	2	0	0	0	62	
6:15	0	70	6	2	1	2	0	0	0	0	1	0	0	82	18:15	0	62	1	0	0	2	0	0	0	0	0	0	65	
6:30	0	117	9	1	3	1	0	0	3	0	0	0	0	134	18:30	0	58	1	0	0	0	0	0	2	0	0	0	61	
6:45	0	172	12	2	4	1	0	0	2	0	1	0	0	194	18:45	1	48	2	0	0	1	0	0	1	0	0	0	53	
7:00	0	164	4	0	5	1	1	0	4	0	1	0	0	180	19:00	0	40	2	0	0	1	0	0	3	0	0	0	46	
7:15	0	170	7	0	7	0	1	0	3	0	0	0	0	188	19:15	0	40	3	0	0	3	0	0	1	0	1	0	48	
7:30	0	161	12	0	6	1	0	0	3	0	0	1	0	184	19:30	0	37	0	0	0	0	0	0	1	0	0	0	38	
7:45	0	141	8	0	4	1	0	0	5	0	3	0	0	162	19:45	2	30	0	0	0	0	0	1	2	0	0	0	35	
8:00	0	123	5	0	2	1	0	0	5	0	0	0	0	136	20:00	0	31	0	0	0	0	0	1	0	0	0	0	32	
8:15	0	86	2	0	5	2	0	0	5	0	1	0	0	101	20:15	1	48	0	0	0	0	1	0	1	0	0	0	51	
8:30	0	57	5	0	2	0	0	0	2	0	1	0	0	67	20:30	0	29	1	0	0	0	0	0	1	0	0	0	31	
8:45	0	50	3	0	1	0	0	0	6	0	1	1	0	62	20:45	0	39	0	0	0	0	0	0	0	0	0	0	39	
9:00	0	60	8	0	1	0	0	0	5	0	0	0	0	74	21:00	0	36	1	0	0	0	0	0	1	0	0	0	38	
9:15	0	38	1	0	6	2	0	0	1	0	1	0	0	49	21:15	0	23	0	0	0	0	0	0	0	0	0	0	23	
9:30	0	36	9	0	1	3	0	0	2	0	0	0	0	51	21:30	0	15	0	0	0	0	0	0	1	0	0	0	16	
9:45	0	49	6	0	5	0	1	0	4	0	0	0	0	65	21:45	0	27	1	0	0	0	0	0	0	0	0	0	28	
10:00	1	55	4	0	2	1	0	0	4	0	0	0	0	67	22:00	0	24	1	0	0	0	0	0	0	0	0	0	25	
10:15	0	45	1	0	2	1	0	0	6	0	0	0	0	55	22:15	0	14	0	0	0	3	0	0	0	0	0	0	17	
10:30	0	52	5	0	1	1	0	0	12	0	0	0	0	71	22:30	0	18	0	0	0	0	0	0	1	0	0	0	19	
10:45	0	41	1	0	1	2	0	0	5	0	1	0	0	51	22:45	0	13	0	0	0	0	0	0	0	0	0	0	13	
11:00	1	65	7	0	2	2	0	0	7	0	0	0	0	84	23:00	0	14	0	0	0	0	0	0	0	0	0	0	14	
11:15	0	50	4	0	2	1	0	0	4	0	1	0	0	62	23:15	0	13	0	0	0	0	0	0	0	0	0	0	13	
11:30	0	50	5	0	2	3	0	0	4	0	0	0	0	64	23:30	0	11	0	0	0	0	0	0	0	0	0	0	11	
11:45	0	45	6	1	6	1	0	0	2	0	0	0	0	61	23:45	0	5	0	0	0	0	0	0	0	0	0	0	5	
TOTAL	6	2,308	146	10	88	34	3	0	138	0	13	1	0	2,747	TOTAL	10	2,724	138	5	39	46	5	3	81	0	14	0	0	3,065

AM PEAK HOUR 6:45 AM
 AM PEAK VOLUME 746

PM PEAK HOUR 2:30 PM
 PM PEAK VOLUME 525

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	16	5,032	284	15	127	80	8	3	219	0	27	1	0	5,812
% OF TOTAL	0.3%	86.6%	4.9%	0.3%	2.2%	1.4%	0.1%	0.1%	3.8%	0.0%	0.5%	0.0%	0.0%	100.0%

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

TOTAL: ALL	29	9,355	525	30	247	151	17	7	457	1	49	1	0	10,869
% OF TOTAL	0.5%	161.0%	9.0%	0.5%	4.2%	2.6%	0.3%	0.1%	7.9%	0.0%	0.8%	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, May 10, 2022
JOB #: SC3419

CITY: Perris
LOCATION: CLASS2 Cajalco east of Harvill

AM TIME	SOUTHBOUND													TOTAL	PM Time	SOUTHBOUND													TOTAL		
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13			
0:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7	12:00	0	56	4	0	2	3	0	0	6	0	0	0	71			
0:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3	12:15	0	58	9	0	0	1	0	0	11	0	0	0	79			
0:30	0	9	0	0	0	1	0	0	0	0	0	0	0	10	12:30	0	58	5	0	2	2	0	0	8	0	0	0	75			
0:45	0	7	0	0	0	0	0	0	0	0	0	0	0	7	12:45	1	70	4	0	1	1	0	0	9	0	0	0	86			
1:00	1	4	0	0	0	0	0	0	0	0	0	0	0	5	13:00	2	53	3	0	1	0	0	0	3	0	2	0	64			
1:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3	13:15	0	46	2	0	3	0	0	0	3	0	0	0	54			
1:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	13:30	1	58	2	0	1	2	1	0	4	0	0	0	69			
1:45	0	10	0	0	0	0	1	0	0	0	0	0	0	11	13:45	0	59	4	0	2	1	0	0	4	0	1	0	71			
2:00	0	10	0	0	0	0	0	0	1	0	0	0	0	11	14:00	0	88	10	0	3	1	0	0	6	0	1	0	109			
2:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:15	1	93	5	1	2	3	0	0	5	0	1	0	111			
2:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3	14:30	0	118	8	0	6	2	0	0	3	0	0	0	137			
2:45	0	2	0	0	0	1	0	0	0	0	0	0	0	3	14:45	0	134	6	0	6	2	1	0	4	0	2	0	155			
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	15:00	0	120	7	1	4	2	1	0	3	0	1	0	139			
3:15	0	9	0	0	0	1	0	0	1	0	0	0	0	11	15:15	0	102	12	0	4	1	1	1	2	0	3	0	126			
3:30	0	8	1	0	1	0	0	0	0	0	0	0	0	10	15:30	0	94	3	1	2	1	0	0	2	0	0	0	103			
3:45	0	6	0	0	0	0	0	0	1	0	0	0	0	7	15:45	0	92	8	2	3	0	0	1	9	0	0	0	115			
4:00	0	10	1	0	0	1	0	0	0	0	0	0	0	12	16:00	0	73	7	1	1	1	0	0	4	0	0	0	87			
4:15	0	16	0	0	0	0	0	0	2	0	0	0	0	18	16:15	0	109	8	0	1	2	0	0	2	0	0	0	122			
4:30	0	27	0	0	0	0	0	0	0	0	0	0	0	27	16:30	0	98	6	1	2	0	0	0	4	0	0	0	111			
4:45	0	49	1	0	1	1	0	0	0	0	0	0	0	52	16:45	0	103	13	1	1	1	0	1	0	3	0	0	0	122		
5:00	0	34	0	0	0	0	0	0	0	0	0	0	0	34	17:00	0	93	3	1	3	0	0	0	1	0	0	0	101			
5:15	0	34	0	0	0	3	0	0	0	0	0	0	0	37	17:15	0	86	4	1	0	1	0	0	1	0	0	0	93			
5:30	0	45	0	0	2	0	0	0	0	0	0	0	0	47	17:30	0	85	4	1	0	0	0	0	2	0	1	0	93			
5:45	0	99	3	0	2	1	0	0	1	0	0	0	0	106	17:45	0	67	3	0	1	1	0	0	3	0	0	0	75			
6:00	0	44	1	0	0	0	0	0	0	0	0	0	0	45	18:00	0	78	6	0	1	0	0	0	3	0	0	0	88			
6:15	0	32	1	0	2	1	0	0	0	0	1	0	0	37	18:15	0	63	1	0	0	1	0	1	4	0	0	0	70			
6:30	0	40	3	0	1	0	1	0	4	0	2	0	0	51	18:30	0	64	3	0	0	0	0	0	4	0	0	0	71			
6:45	0	48	2	0	0	0	1	0	6	0	2	0	0	59	18:45	0	68	2	0	0	2	0	0	6	0	0	0	78			
7:00	0	36	3	0	1	0	0	0	6	0	0	0	0	46	19:00	0	69	1	0	1	0	0	0	3	0	0	0	74			
7:15	0	46	3	0	1	1	0	0	1	1	0	0	0	53	19:15	1	33	1	0	0	1	0	0	4	0	0	0	40			
7:30	1	55	4	0	2	3	1	0	4	0	0	0	0	70	19:30	0	31	0	0	1	0	0	0	5	0	0	0	37			
7:45	0	65	3	0	4	0	0	0	2	0	0	0	0	74	19:45	0	36	0	0	1	0	0	0	2	0	0	0	39			
8:00	0	82	4	0	3	0	0	0	4	0	0	0	0	93	20:00	3	36	1	0	0	0	0	0	0	0	0	0	40			
8:15	0	56	1	0	4	1	0	0	0	0	2	0	0	64	20:15	0	30	0	0	0	0	0	0	0	0	0	0	30			
8:30	1	66	5	1	4	1	0	0	4	0	0	0	0	82	20:30	0	28	0	0	0	1	0	0	3	0	0	0	32			
8:45	0	42	3	2	2	0	0	0	2	0	1	0	0	52	20:45	0	33	0	0	1	0	0	0	0	0	0	0	34			
9:00	0	37	2	1	1	0	0	0	2	0	0	0	0	43	21:00	0	23	0	0	0	0	0	0	2	0	0	0	25			
9:15	1	41	6	0	4	3	0	0	5	0	0	0	0	60	21:15	0	29	1	0	0	1	0	0	0	0	0	0	31			
9:30	0	35	6	0	0	2	0	0	8	0	0	0	0	51	21:30	0	22	0	0	0	0	0	0	0	0	0	0	22			
9:45	0	47	4	0	1	2	0	0	5	0	0	0	0	59	21:45	0	18	0	0	0	0	0	0	0	0	0	0	18			
10:00	0	48	5	0	3	2	0	0	5	0	1	0	0	64	22:00	0	21	0	0	0	1	0	0	0	0	0	0	22			
10:15	0	38	2	0	2	3	0	0	8	0	0	0	0	53	22:15	0	16	0	0	0	0	0	0	1	0	0	0	17			
10:30	0	46	2	0	2	0	0	1	6	0	0	0	0	57	22:30	0	20	0	0	0	0	0	0	1	0	0	0	21			
10:45	0	44	6	0	2	2	0	0	6	0	0	0	0	60	22:45	0	12	0	0	1	0	0	0	0	0	0	0	13			
11:00	0	46	5	0	0	1	0	0	4	0	0	0	0	56	23:00	0	10	0	0	0	0	0	0	1	0	0	0	11			
11:15	0	43	3	0	9	1	0	0	2	0	0	0	0	58	23:15	0	14	0	0	1	1	0	0	1	0	0	0	17			
11:30	0	50	4	0	5	2	0	0	3	0	0	0	0	64	23:30	0	15	0	0	1	1	0	0	0	0	0	0	17			
11:45	0	44	1	0	2	1	0	0	3	0	1	0	0	52	23:45	0	4	0	0	0	0	0	0	0	0	0	0	4			
TOTAL	4	1,537	85	4	61	35	4	1	96	1	10	0	0	1,838	TOTAL	9	2,786	156	11	59	36	5	3	142	0	12	0	0	3,219		
AM PEAK HOUR AM PEAK VOLUME															7:45 AM 313	PM PEAK HOUR PM PEAK VOLUME															2:30 PM 557

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	13	4,323	241	15	120	71	9	4	238	1	22	0	0	5,057
% OF TOTAL	0.3%	85.5%	4.8%	0.3%	2.4%	1.4%	0.2%	0.1%	4.7%	0.0%	0.4%	0.0%	0.0%	100.0%

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

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

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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	0	69	5	6	36	0	3	0	8	0	2	0
Future Vol, veh/h	0	69	5	6	36	0	3	0	8	0	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	87	6	8	46	0	4	0	10	0	3	0

Major/Minor	Major1		Major2		Minor1			Minor2				
Conflicting Flow All	46	0	0	93	0	0	154	152	90	157	155	46
Stage 1	-	-	-	-	-	-	90	90	-	62	62	-
Stage 2	-	-	-	-	-	-	64	62	-	95	93	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1575	-	-	1514	-	-	817	743	973	814	741	1029
Stage 1	-	-	-	-	-	-	922	824	-	954	847	-
Stage 2	-	-	-	-	-	-	952	847	-	917	822	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1575	-	-	1514	-	-	812	739	973	803	737	1029
Mov Cap-2 Maneuver	-	-	-	-	-	-	812	739	-	803	737	-
Stage 1	-	-	-	-	-	-	922	824	-	954	843	-
Stage 2	-	-	-	-	-	-	944	843	-	907	822	-

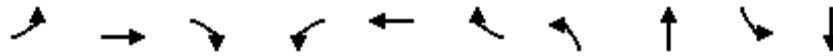
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.1	9	9.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	923	1575	-	-	1514	-	-	737
HCM Lane V/C Ratio	0.015	-	-	-	0.005	-	-	0.003
HCM Control Delay (s)	9	0	-	-	7.4	0	-	9.9
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Timings
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

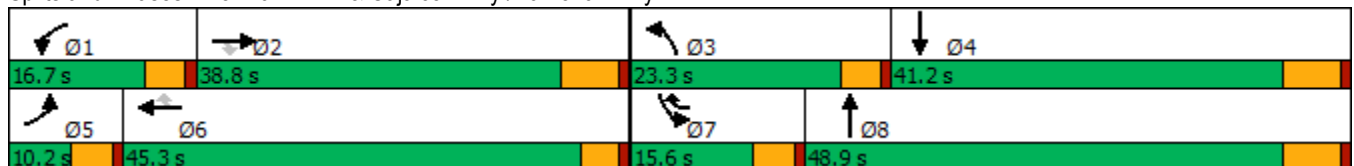


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↑↑	↗	↙↗	↑↑	↗	↙↗	↑↔	↙↗	↑↔
Traffic Volume (vph)	47	680	50	167	677	102	297	337	189	116
Future Volume (vph)	47	680	50	167	677	102	297	337	189	116
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	7	3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	7	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.2	36.2	9.6	32.5	9.6	9.6	16.2	9.6	41.2
Total Split (s)	10.2	38.8	38.8	16.7	45.3	15.6	23.3	48.9	15.6	41.2
Total Split (%)	8.5%	32.3%	32.3%	13.9%	37.8%	13.0%	19.4%	40.8%	13.0%	34.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.5	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.5	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	5.5	27.8	27.8	9.9	36.1	50.6	14.5	42.9	9.9	38.4
Actuated g/C Ratio	0.05	0.25	0.25	0.09	0.32	0.45	0.13	0.38	0.09	0.34
v/c Ratio	0.58	0.82	0.10	0.58	0.63	0.14	0.71	0.33	0.66	0.13
Control Delay	80.7	48.2	0.4	58.3	35.5	3.6	56.6	25.0	61.5	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.7	48.2	0.4	58.3	35.5	3.6	56.6	25.0	61.5	24.0
LOS	F	D	A	E	D	A	E	C	E	C
Approach Delay		47.1			36.1			38.2		45.3
Approach LOS		D			D			D		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 112.3
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 40.8
 Intersection LOS: D
 Intersection Capacity Utilization 58.7%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘↗	↑↑	↗	↘↗	↑↘		↘↗	↑↘	
Traffic Volume (veh/h)	47	680	50	167	677	102	297	337	75	189	116	27
Future Volume (veh/h)	47	680	50	167	677	102	297	337	75	189	116	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	51	731	3	180	728	42	319	362	27	203	125	27
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	67	874	390	246	993	566	390	1382	103	268	1102	232
Arrive On Green	0.04	0.24	0.24	0.07	0.28	0.28	0.11	0.41	0.41	0.08	0.37	0.37
Sat Flow, veh/h	1810	3610	1610	3510	3610	1610	3510	3403	253	3510	2968	625
Grp Volume(v), veh/h	51	731	3	180	728	42	319	191	198	203	75	77
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1805	1610	1755	1805	1851	1755	1805	1788
Q Serve(g_s), s	2.9	20.2	0.1	5.3	19.3	1.8	9.3	7.4	7.5	6.0	2.9	3.0
Cycle Q Clear(g_c), s	2.9	20.2	0.1	5.3	19.3	1.8	9.3	7.4	7.5	6.0	2.9	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.35
Lane Grp Cap(c), veh/h	67	874	390	246	993	566	390	733	752	268	670	664
V/C Ratio(X)	0.77	0.84	0.01	0.73	0.73	0.07	0.82	0.26	0.26	0.76	0.11	0.12
Avail Cap(c_a), veh/h	96	1119	499	404	1401	748	624	733	752	367	670	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.2	37.9	30.3	47.9	34.6	22.7	45.7	20.7	20.8	47.6	21.7	21.7
Incr Delay (d2), s/veh	10.7	4.5	0.0	1.6	1.2	0.1	2.0	0.9	0.9	3.6	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	9.0	0.1	2.3	8.1	0.7	4.0	3.1	3.2	2.6	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.9	42.4	30.3	49.5	35.8	22.7	47.7	21.6	21.6	51.2	22.0	22.1
LnGrp LOS	E	D	C	D	D	C	D	C	C	D	C	C
Approach Vol, veh/h		785			950			708			355	
Approach Delay, s/veh		43.6			37.8			33.4			38.7	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	31.6	16.3	45.2	8.5	35.1	12.6	48.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.1	32.6	18.7	35.0	5.6	* 41	11.0	42.7				
Max Q Clear Time (g_c+I1), s	7.3	22.2	11.3	5.0	4.9	21.3	8.0	9.5				
Green Ext Time (p_c), s	0.1	3.2	0.4	0.7	0.0	4.4	0.1	2.0				

Intersection Summary

HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Notes

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

Intersection												
Intersection Delay, s/veh	9.5											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↔		↘	↑↔	
Traffic Vol, veh/h	45	1	30	2	0	15	27	285	4	17	197	21
Future Vol, veh/h	45	1	30	2	0	15	27	285	4	17	197	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	47	1	32	2	0	16	28	300	4	18	207	22
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	9.3	8.5	9.8	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	96%	0%	100%	0%	0%	100%	0%	0%	100%	76%
Vol Right, %	0%	0%	4%	0%	0%	100%	0%	0%	100%	0%	0%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	190	99	45	1	30	2	0	15	17	131	87
LT Vol	27	0	0	45	0	0	2	0	0	17	0	0
Through Vol	0	190	95	0	1	0	0	0	0	0	131	66
RT Vol	0	0	4	0	0	30	0	0	15	0	0	21
Lane Flow Rate	28	200	104	47	1	32	2	0	16	18	138	91
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.046	0.294	0.153	0.085	0.002	0.046	0.004	0	0.024	0.03	0.209	0.134
Departure Headway (Hd)	5.799	5.298	5.269	6.489	5.989	5.29	6.622	6.122	5.422	5.953	5.452	5.283
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	615	676	677	548	593	670	536	0	653	599	655	675
Service Time	3.557	3.056	3.028	4.275	3.775	3.076	4.415	3.915	3.215	3.716	3.215	3.045
HCM Lane V/C Ratio	0.046	0.296	0.154	0.086	0.002	0.048	0.004	0	0.025	0.03	0.211	0.135
HCM Control Delay	8.8	10.3	9	9.9	8.8	8.3	9.4	8.9	8.4	8.9	9.7	8.9
HCM Lane LOS	A	B	A	A	A	A	A	N	A	A	A	A
HCM 95th-tile Q	0.1	1.2	0.5	0.3	0	0.1	0	0	0.1	0.1	0.8	0.5

Intersection

Intersection Delay, s/veh 9.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕					↕	↕			↕	
Traffic Vol, veh/h	10	0	6	0	0	0	6	609	0	0	224	2
Future Vol, veh/h	10	0	6	0	0	0	6	609	0	0	224	2
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	0	7	0	0	0	7	684	0	0	252	2
Number of Lanes	0	1	0	0	0	0	1	2	0	0	2	0

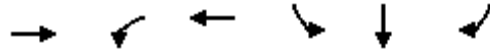
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left SB		EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right NB			EB
Conflicting Lanes Right	3	0	1
HCM Control Delay	9.2	9.2	9.8
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	62%	0%	0%
Vol Thru, %	0%	100%	100%	0%	100%	97%
Vol Right, %	0%	0%	0%	38%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	305	305	16	149	77
LT Vol	6	0	0	10	0	0
Through Vol	0	305	305	0	149	75
RT Vol	0	0	0	6	0	2
Lane Flow Rate	7	342	342	18	168	86
Geometry Grp	7	7	7	7	8	8
Degree of Util (X)	0.01	0.455	0.293	0.031	0.259	0.133
Departure Headway (Hd)	5.288	4.786	3.082	6.299	5.566	5.548
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	679	756	1170	568	646	647
Service Time	2.999	2.497	0.792	4.046	3.298	3.279
HCM Lane V/C Ratio	0.01	0.452	0.292	0.032	0.26	0.133
HCM Control Delay	8.1	11.4	7.1	9.2	10.2	9.1
HCM Lane LOS	A	B	A	A	B	A
HCM 95th-tile Q	0	2.4	1.2	0.1	1	0.5

Timings
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

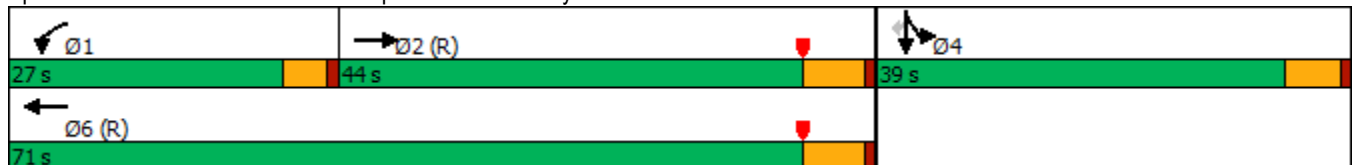


Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑
Traffic Volume (vph)	759	328	1121	817	2	210
Future Volume (vph)	759	328	1121	817	2	210
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	2	1	6	4	4	
Permitted Phases						4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	44.0	27.0	71.0	39.0	39.0	39.0
Total Split (%)	40.0%	24.5%	64.5%	35.5%	35.5%	35.5%
Yellow Time (s)	5.0	3.5	5.0	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)	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	38.5	22.0	65.0	33.5	33.5	33.5
Actuated g/C Ratio	0.35	0.20	0.59	0.30	0.30	0.30
v/c Ratio	0.92	0.93	0.54	0.80	0.80	0.39
Control Delay	44.6	48.7	4.4	48.2	48.3	20.4
Queue Delay	0.6	0.0	0.7	61.7	61.7	0.0
Total Delay	45.2	48.7	5.1	109.9	110.0	20.4
LOS	D	D	A	F	F	C
Approach Delay	45.2		15.0		91.7	
Approach LOS	D		B		F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 34 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 46.3
 Intersection LOS: D
 Intersection Capacity Utilization 148.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑↑	↖
Traffic Volume (veh/h)	0	759	364	328	1121	0	0	0	0	817	2	210
Future Volume (veh/h)	0	759	364	328	1121	0	0	0	0	817	2	210
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	774	242	335	1144	0				835	0	151
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	940	294	365	2133	0				1102	0	490
Arrive On Green	0.00	0.35	0.35	0.12	0.35	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	2792	843	1810	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	518	498	335	1144	0				835	0	151
Grp Sat Flow(s),veh/h/ln	0	1805	1735	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	28.8	28.9	20.1	27.8	0.0				22.9	0.0	7.9
Cycle Q Clear(g_c), s	0.0	28.8	28.9	20.1	27.8	0.0				22.9	0.0	7.9
Prop In Lane	0.00		0.49	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	629	605	365	2133	0				1102	0	490
V/C Ratio(X)	0.00	0.82	0.82	0.92	0.54	0.00				0.76	0.00	0.31
Avail Cap(c_a), veh/h	0	629	605	370	2133	0				1102	0	490
HCM Platoon Ratio	1.00	1.00	1.00	0.60	0.60	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.53	0.53	0.64	0.64	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	32.8	32.8	47.4	23.5	0.0				34.6	0.0	29.4
Incr Delay (d2), s/veh	0.0	6.5	6.8	19.7	0.6	0.0				4.9	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.9	12.4	11.3	12.5	0.0				10.4	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	39.3	39.6	67.1	24.1	0.0				39.5	0.0	31.0
LnGrp LOS	A	D	D	E	C	A				D	A	C
Approach Vol, veh/h		1016			1479						986	
Approach Delay, s/veh		39.4			33.8						38.2	
Approach LOS		D			C						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	26.7	44.3		39.0		71.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	22.5	38.0		33.5		65.0						
Max Q Clear Time (g_c+I1), s	22.1	30.9		24.9		29.8						
Green Ext Time (p_c), s	0.0	2.4		2.6		5.3						

Intersection Summary

HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

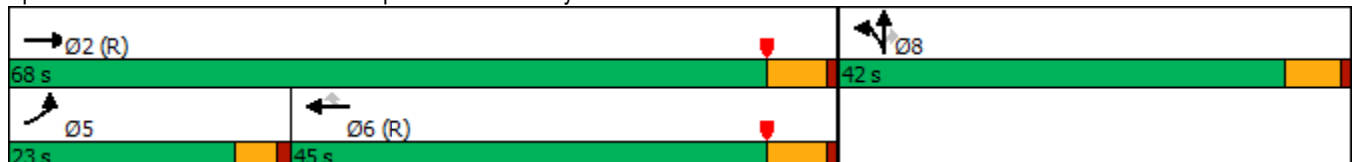


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶	↷	↷	↷	↶	↷	↷
Traffic Volume (vph)	159	1417	1051	740	398	4	612
Future Volume (vph)	159	1417	1051	740	398	4	612
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0	26.0	10.5	10.5	10.5
Total Split (s)	23.0	68.0	45.0	45.0	42.0	42.0	42.0
Total Split (%)	20.9%	61.8%	40.9%	40.9%	38.2%	38.2%	38.2%
Yellow Time (s)	3.5	5.0	5.0	5.0	4.5	4.5	4.5
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)	4.5	6.0	6.0	6.0	5.5	5.5	5.5
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)	14.7	62.0	42.8	42.8	36.5	36.5	36.5
Actuated g/C Ratio	0.13	0.56	0.39	0.39	0.33	0.33	0.33
v/c Ratio	0.68	0.72	0.77	0.76	0.36	0.37	1.08
Control Delay	42.4	28.0	34.7	12.0	30.2	30.3	92.3
Queue Delay	0.0	49.5	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	77.5	34.7	12.0	30.2	30.3	92.3
LOS	D	E	C	B	C	C	F
Approach Delay		73.9	25.3			67.7	
Approach LOS		E	C			E	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 52.6
 Intersection LOS: D
 Intersection Capacity Utilization 148.5%
 ICU Level of Service H
 Analysis Period (min) 15






















Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (veh/h)	159	1417	0	0	1051	740	398	4	612	0	0	0
Future Volume (veh/h)	159	1417	0	0	1051	740	398	4	612	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	164	1461	0	0	1084	615	413	0	479			
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	193	2089	0	0	1557	695	1146	0	510			
Arrive On Green	0.21	1.00	0.00	0.00	0.43	0.43	0.32	0.00	0.32			
Sat Flow, veh/h	1810	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	164	1461	0	0	1084	615	413	0	479			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	9.6	0.0	0.0	0.0	26.8	38.7	9.7	0.0	31.8			
Cycle Q Clear(g_c), s	9.6	0.0	0.0	0.0	26.8	38.7	9.7	0.0	31.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	193	2089	0	0	1557	695	1146	0	510			
V/C Ratio(X)	0.85	0.70	0.00	0.00	0.70	0.89	0.36	0.00	0.94			
Avail Cap(c_a), veh/h	304	2089	0	0	1557	695	1201	0	534			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.34	0.34	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.4	0.0	0.0	0.0	25.4	28.8	29.0	0.0	36.6			
Incr Delay (d2), s/veh	4.7	0.7	0.0	0.0	2.6	15.4	0.2	0.0	24.3			
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	3.9	0.2	0.0	0.0	11.1	16.5	4.1	0.0	15.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	0.7	0.0	0.0	28.0	44.2	29.2	0.0	60.8			
LnGrp LOS	D	A	A	A	C	D	C	A	E			
Approach Vol, veh/h		1625			1699			892				
Approach Delay, s/veh		5.4			33.9			46.2				
Approach LOS		A			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		69.7			16.2	53.5		40.3				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		62.0			18.5	39.0		36.5				
Max Q Clear Time (g_c+I1), s		2.0			11.6	40.7		33.8				
Green Ext Time (p_c), s		8.0			0.2	0.0		1.0				

Intersection Summary

HCM 6th Ctrl Delay	25.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	62	5	9	46	2	3	0	4	1	0	1
Future Vol, veh/h	0	62	5	9	46	2	3	0	4	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	76	6	11	56	2	4	0	5	1	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	58	0	0	82	0	0	159	159	79	161	161	57
Stage 1	-	-	-	-	-	-	79	79	-	79	79	-
Stage 2	-	-	-	-	-	-	80	80	-	82	82	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1559	-	-	1528	-	-	811	737	987	809	735	1015
Stage 1	-	-	-	-	-	-	935	833	-	935	833	-
Stage 2	-	-	-	-	-	-	934	832	-	931	831	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1559	-	-	1528	-	-	805	732	987	801	730	1015
Mov Cap-2 Maneuver	-	-	-	-	-	-	805	732	-	801	730	-
Stage 1	-	-	-	-	-	-	935	833	-	935	827	-
Stage 2	-	-	-	-	-	-	926	826	-	926	831	-

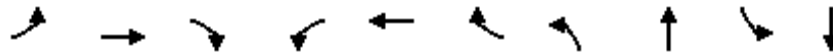
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.2	9	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	900	1559	-	-	1528	-	-	895
HCM Lane V/C Ratio	0.009	-	-	-	0.007	-	-	0.003
HCM Control Delay (s)	9	0	-	-	7.4	0	-	9
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Timings
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

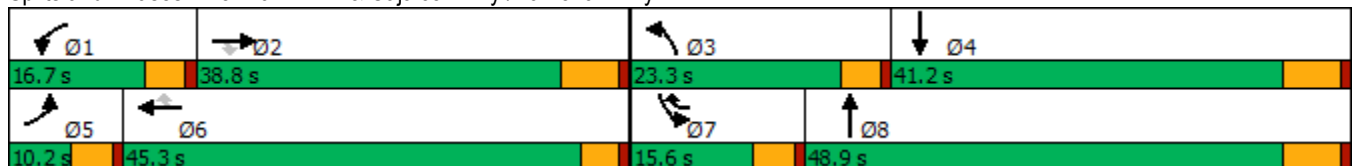


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘↗	↑↑	↗	↘↗	↑↔	↘↗	↑↔
Traffic Volume (vph)	24	723	207	132	637	187	165	144	222	211
Future Volume (vph)	24	723	207	132	637	187	165	144	222	211
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	7	3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	7	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.2	36.2	9.6	32.5	9.6	9.6	16.2	9.6	41.2
Total Split (s)	10.2	38.8	38.8	16.7	45.3	15.6	23.3	48.9	15.6	41.2
Total Split (%)	8.5%	32.3%	32.3%	13.9%	37.8%	13.0%	19.4%	40.8%	13.0%	34.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.5	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.5	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	5.4	29.4	29.4	9.0	38.9	53.8	10.1	42.9	10.4	43.2
Actuated g/C Ratio	0.05	0.26	0.26	0.08	0.34	0.47	0.09	0.38	0.09	0.38
v/c Ratio	0.31	0.83	0.38	0.51	0.55	0.23	0.57	0.21	0.74	0.20
Control Delay	64.0	48.5	6.4	57.6	32.9	3.2	57.5	13.8	65.8	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.0	48.5	6.4	57.6	32.9	3.2	57.5	13.8	65.8	24.0
LOS	E	D	A	E	C	A	E	B	E	C
Approach Delay		39.7			30.5			30.4		43.8
Approach LOS		D			C			C		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 113.4
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 35.8
 Intersection LOS: D
 Intersection Capacity Utilization 56.8%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖↗	↑↑	↗	↖↗	↑↑		↖↗	↑↑	
Traffic Volume (veh/h)	24	723	207	132	637	187	165	144	125	222	211	35
Future Volume (veh/h)	24	723	207	132	637	187	165	144	125	222	211	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	26	777	110	142	685	121	177	155	66	239	227	27
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	46	918	409	205	1038	602	245	998	407	302	1352	159
Arrive On Green	0.03	0.25	0.25	0.06	0.29	0.29	0.07	0.40	0.40	0.09	0.42	0.42
Sat Flow, veh/h	1810	3610	1610	3510	3610	1610	3510	2501	1020	3510	3253	383
Grp Volume(v), veh/h	26	777	110	142	685	121	177	110	111	239	125	129
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1805	1610	1755	1805	1716	1755	1805	1831
Q Serve(g_s), s	1.5	21.9	5.8	4.2	17.8	5.4	5.3	4.2	4.4	7.1	4.6	4.7
Cycle Q Clear(g_c), s	1.5	21.9	5.8	4.2	17.8	5.4	5.3	4.2	4.4	7.1	4.6	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.59	1.00		0.21
Lane Grp Cap(c), veh/h	46	918	409	205	1038	602	245	721	685	302	750	761
V/C Ratio(X)	0.57	0.85	0.27	0.69	0.66	0.20	0.72	0.15	0.16	0.79	0.17	0.17
Avail Cap(c_a), veh/h	95	1100	491	397	1377	753	614	721	685	361	750	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.6	37.9	31.9	49.4	33.5	22.7	48.7	20.6	20.6	47.9	19.6	19.6
Incr Delay (d2), s/veh	4.1	5.4	0.3	1.6	0.7	0.2	1.5	0.4	0.5	7.8	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	9.8	2.2	1.8	7.4	2.0	2.3	1.7	1.8	3.3	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	43.3	32.3	51.0	34.2	22.8	50.3	21.0	21.1	55.8	20.1	20.1
LnGrp LOS	E	D	C	D	C	C	D	C	C	E	C	C
Approach Vol, veh/h		913			948			398			493	
Approach Delay, s/veh		42.3			35.3			34.1			37.4	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	33.4	12.1	50.7	7.3	37.0	13.8	48.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.1	32.6	18.7	35.0	5.6	* 41	11.0	42.7				
Max Q Clear Time (g_c+I1), s	6.2	23.9	7.3	6.7	3.5	19.8	9.1	6.4				
Green Ext Time (p_c), s	0.1	3.3	0.2	1.2	0.0	4.5	0.1	1.1				

Intersection Summary

HCM 6th Ctrl Delay	37.8
HCM 6th LOS	D

Notes

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

Intersection

Intersection Delay, s/veh 12.2

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↕		↖	↕	
Traffic Vol, veh/h	29	1	42	3	0	4	22	270	3	1	445	38
Future Vol, veh/h	29	1	42	3	0	4	22	270	3	1	445	38
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	34	1	49	3	0	5	26	314	3	1	517	44
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	9.9	9.6	11.1	13.2
HCM LOS	A	A	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	97%	0%	100%	0%	0%	100%	0%	0%	100%	80%
Vol Right, %	0%	0%	3%	0%	0%	100%	0%	0%	100%	0%	0%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	180	93	29	1	42	3	0	4	1	297	186
LT Vol	22	0	0	29	0	0	3	0	0	1	0	0
Through Vol	0	180	90	0	1	0	0	0	0	0	297	148
RT Vol	0	0	3	0	0	42	0	0	4	0	0	38
Lane Flow Rate	26	209	108	34	1	49	3	0	5	1	345	217
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.046	0.348	0.179	0.069	0.002	0.084	0.007	0	0.008	0.002	0.538	0.329
Departure Headway (Hd)	6.483	5.981	5.959	7.363	6.862	6.161	7.527	7.027	6.327	6.115	5.614	5.471
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	554	603	603	487	522	582	476	0	565	587	645	659
Service Time	4.208	3.706	3.684	5.1	4.6	3.899	5.268	4.768	4.068	3.837	3.336	3.192
HCM Lane V/C Ratio	0.047	0.347	0.179	0.07	0.002	0.084	0.006	0	0.009	0.002	0.535	0.329
HCM Control Delay	9.5	11.9	10	10.6	9.6	9.5	10.3	9.8	9.1	8.8	14.7	10.9
HCM Lane LOS	A	B	A	B	A	A	B	N	A	A	B	B
HCM 95th-tile Q	0.1	1.6	0.6	0.2	0	0.3	0	0	0	0	3.2	1.4

Intersection

Intersection Delay, s/veh 10.8

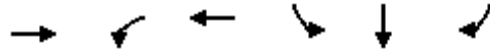
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕					↕	↕			↕	
Traffic Vol, veh/h	4	0	15	0	0	0	14	283	0	0	488	3
Future Vol, veh/h	4	0	15	0	0	0	14	283	0	0	488	3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	0	18	0	0	0	16	333	0	0	574	4
Number of Lanes	0	1	0	0	0	0	1	2	0	0	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left SB		EB	
Conflicting Lanes Left	2	1	0
Conflicting Approach Right NB			EB
Conflicting Lanes Right	3	0	1
HCM Control Delay	8.9	8.1	12.5
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	21%	0%	0%
Vol Thru, %	0%	100%	100%	0%	100%	98%
Vol Right, %	0%	0%	0%	79%	0%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	142	142	19	325	166
LT Vol	14	0	0	4	0	0
Through Vol	0	142	142	0	325	163
RT Vol	0	0	0	15	0	3
Lane Flow Rate	16	166	166	22	383	195
Geometry Grp	7	7	7	7	8	8
Degree of Util (X)	0.026	0.236	0.157	0.037	0.546	0.277
Departure Headway (Hd)	5.596	5.094	3.386	5.912	5.136	5.124
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	641	706	1057	603	700	700
Service Time	3.322	2.819	1.111	3.67	2.873	2.86
HCM Lane V/C Ratio	0.025	0.235	0.157	0.036	0.547	0.279
HCM Control Delay	8.5	9.4	6.7	8.9	13.9	9.8
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0.1	0.9	0.6	0.1	3.3	1.1

Timings
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↖	↑↑	↖	↖	↖
Traffic Volume (vph)	911	369	915	853	8	184
Future Volume (vph)	911	369	915	853	8	184
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	2	1	6	4	4	
Permitted Phases						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)	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	44.0	27.0	71.0	39.0	39.0	39.0
Total Split (%)	40.0%	24.5%	64.5%	35.5%	35.5%	35.5%
Yellow Time (s)	5.0	3.5	5.0	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)	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	38.0	22.5	65.0	33.5	33.5	33.5
Actuated g/C Ratio	0.35	0.20	0.59	0.30	0.30	0.30
v/c Ratio	1.03	1.01	0.43	0.83	0.84	0.32
Control Delay	69.1	69.7	5.2	50.4	51.6	10.3
Queue Delay	12.9	0.0	0.4	72.5	72.1	0.0
Total Delay	82.0	69.7	5.6	122.9	123.7	10.3
LOS	F	E	A	F	F	B
Approach Delay	82.0		24.0		103.4	
Approach LOS	F		C		F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 34 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 67.5
 Intersection LOS: E
 Intersection Capacity Utilization 138.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↖	↖
Traffic Volume (veh/h)	0	911	348	369	915	0	0	0	0	853	8	184
Future Volume (veh/h)	0	911	348	369	915	0	0	0	0	853	8	184
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	920	244	373	924	0				868	0	127
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99				0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	975	258	370	2133	0				1102	0	490
Arrive On Green	0.00	0.35	0.35	0.12	0.35	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	2918	747	1810	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	588	576	373	924	0				868	0	127
Grp Sat Flow(s),veh/h/ln	0	1805	1765	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	34.8	34.9	22.5	21.5	0.0				24.1	0.0	6.6
Cycle Q Clear(g_c), s	0.0	34.8	34.9	22.5	21.5	0.0				24.1	0.0	6.6
Prop In Lane	0.00		0.42	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	624	610	370	2133	0				1102	0	490
V/C Ratio(X)	0.00	0.94	0.95	1.01	0.43	0.00				0.79	0.00	0.26
Avail Cap(c_a), veh/h	0	624	610	370	2133	0				1102	0	490
HCM Platoon Ratio	1.00	1.00	1.00	0.60	0.60	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.48	0.48	0.79	0.79	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	34.9	35.0	48.2	21.5	0.0				35.0	0.0	28.9
Incr Delay (d2), s/veh	0.0	14.5	15.1	43.5	0.5	0.0				5.7	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	16.6	16.4	14.8	9.7	0.0				11.0	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	49.5	50.1	91.8	22.0	0.0				40.7	0.0	30.2
LnGrp LOS	A	D	D	F	C	A				D	A	C
Approach Vol, veh/h		1164			1297						995	
Approach Delay, s/veh		49.8			42.0						39.4	
Approach LOS		D			D						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.0	44.0		39.0		71.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	22.5	38.0		33.5		65.0						
Max Q Clear Time (g_c+I1), s	24.5	36.9		26.1		23.5						
Green Ext Time (p_c), s	0.0	0.6		2.4		4.0						

Intersection Summary

HCM 6th Ctrl Delay	43.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

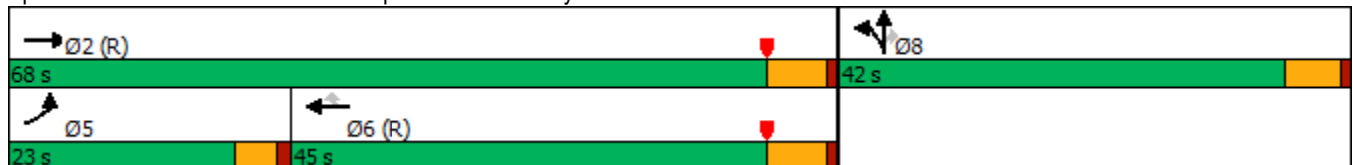


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶	↷	↶	↷	↶	↷	↷
Traffic Volume (vph)	121	1643	913	652	371	4	461
Future Volume (vph)	121	1643	913	652	371	4	461
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0	26.0	10.5	10.5	10.5
Total Split (s)	23.0	68.0	45.0	45.0	42.0	42.0	42.0
Total Split (%)	20.9%	61.8%	40.9%	40.9%	38.2%	38.2%	38.2%
Yellow Time (s)	3.5	5.0	5.0	5.0	4.5	4.5	4.5
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)	4.5	6.0	6.0	6.0	5.5	5.5	5.5
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)	13.1	65.2	47.6	47.6	33.3	33.3	33.3
Actuated g/C Ratio	0.12	0.59	0.43	0.43	0.30	0.30	0.30
v/c Ratio	0.60	0.82	0.62	0.67	0.38	0.39	0.91
Control Delay	39.1	30.9	28.0	7.4	31.7	31.9	52.7
Queue Delay	0.0	48.6	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	79.4	28.0	7.4	31.7	31.9	52.7
LOS	D	E	C	A	C	C	D
Approach Delay		76.7	19.4			43.3	
Approach LOS		E	B			D	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 48.4
 Intersection LOS: D
 Intersection Capacity Utilization 138.9%
 ICU Level of Service H
 Analysis Period (min) 15




















Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	1643	0	0	913	652	371	4	461	0	0	0
Future Volume (veh/h)	121	1643	0	0	913	652	371	4	461	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	129	1748	0	0	971	544	398	0	409			
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	157	2220	0	0	1759	783	1015	0	452			
Arrive On Green	0.17	1.00	0.00	0.00	0.49	0.49	0.28	0.00	0.28			
Sat Flow, veh/h	1810	3705	0	0	3705	1607	3619	0	1610			
Grp Volume(v), veh/h	129	1748	0	0	971	544	398	0	409			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1607	1810	0	1610			
Q Serve(g_s), s	7.6	0.0	0.0	0.0	20.8	28.9	9.8	0.0	27.0			
Cycle Q Clear(g_c), s	7.6	0.0	0.0	0.0	20.8	28.9	9.8	0.0	27.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	157	2220	0	0	1759	783	1015	0	452			
V/C Ratio(X)	0.82	0.79	0.00	0.00	0.55	0.69	0.39	0.00	0.91			
Avail Cap(c_a), veh/h	304	2220	0	0	1759	783	1201	0	534			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.14	0.14	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	44.6	0.0	0.0	0.0	19.8	21.9	32.0	0.0	38.2			
Incr Delay (d2), s/veh	1.6	0.4	0.0	0.0	1.3	5.0	0.2	0.0	17.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.1	0.1	0.0	0.0	8.2	10.8	4.2	0.0	12.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.2	0.4	0.0	0.0	21.0	26.9	32.2	0.0	55.4			
LnGrp LOS	D	A	A	A	C	C	C	A	E			
Approach Vol, veh/h		1877			1515			807				
Approach Delay, s/veh		3.6			23.1			44.0				
Approach LOS		A			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		73.7			14.0	59.6		36.3				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		62.0			18.5	39.0		36.5				
Max Q Clear Time (g_c+I1), s		2.0			9.6	30.9		29.0				
Green Ext Time (p_c), s		11.2			0.2	3.4		1.9				

Intersection Summary

HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

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Figure 4C-3. Warrant 3, Peak Hour

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

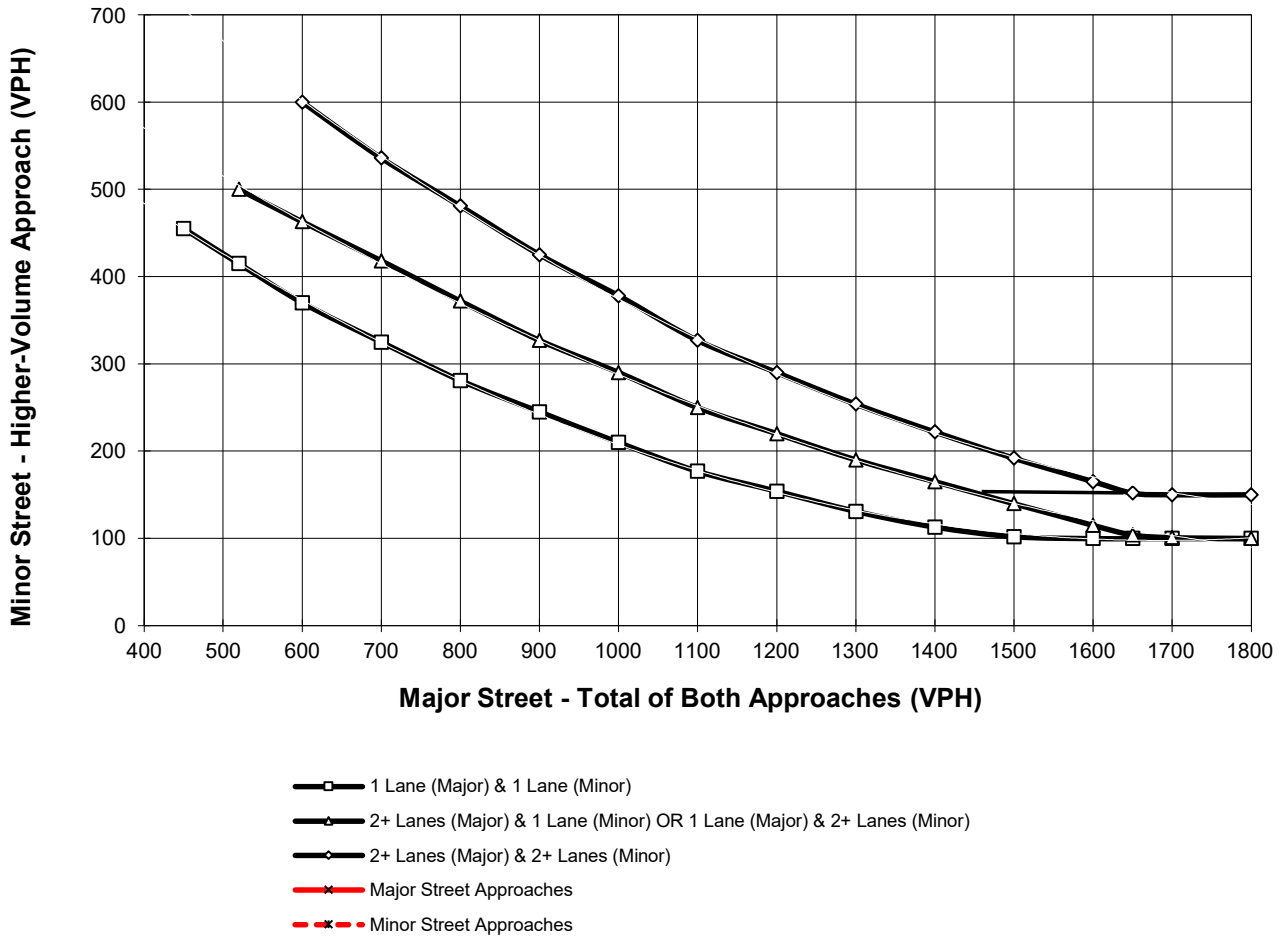
Major Street Name = **Rider Street**

Total of Both Approaches (VPH) = **115**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Patterson Avenue**

High Volume Approach (VPH) = **11**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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

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

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

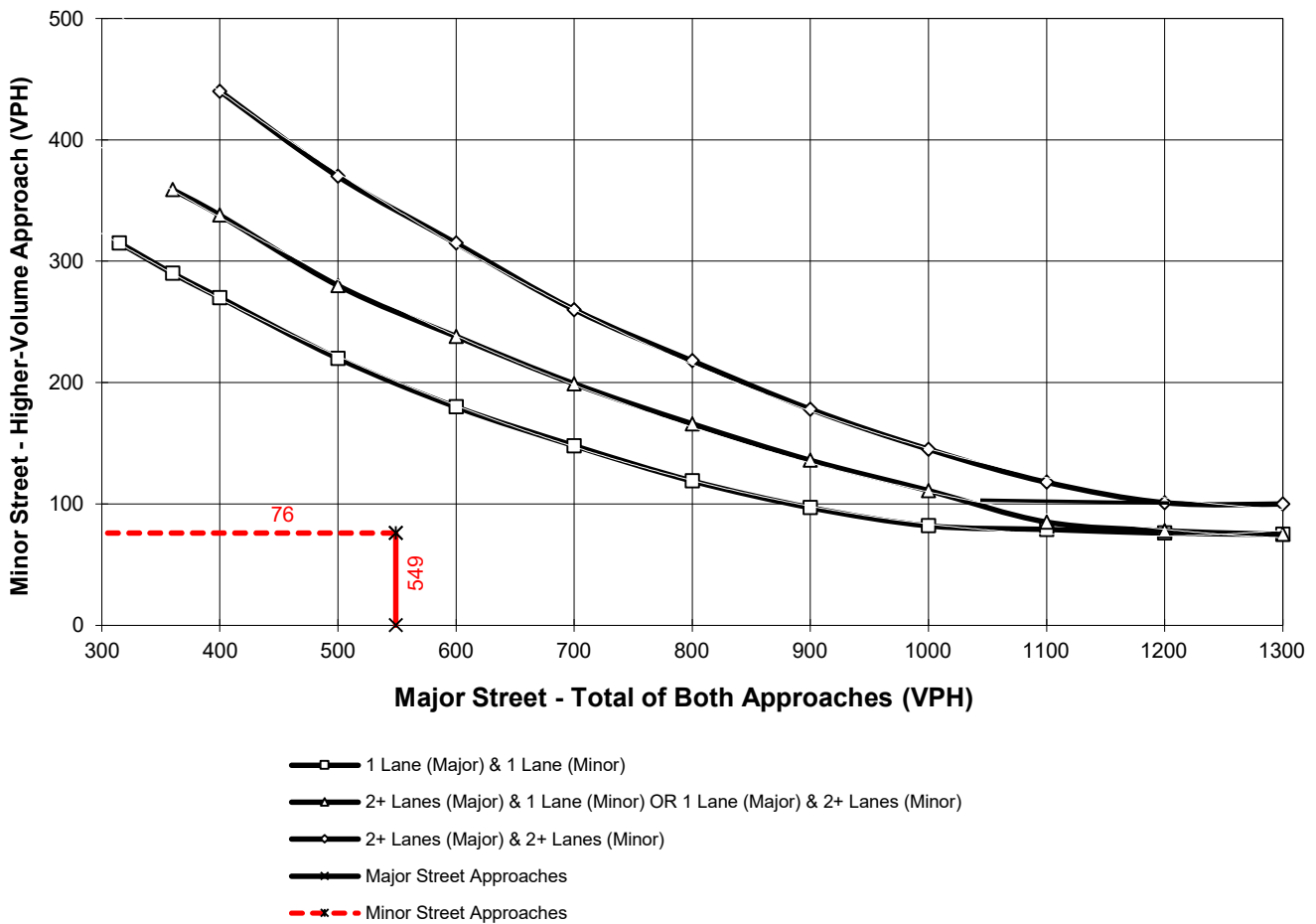
Major Street Name = **Harvill Avenue**

Total of Both Approaches (VPH) = **549**
 Number of Approach Lanes Major Street = **2**

Minor Street Name = **Rider Street**

High Volume Approach (VPH) = **76**
 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**

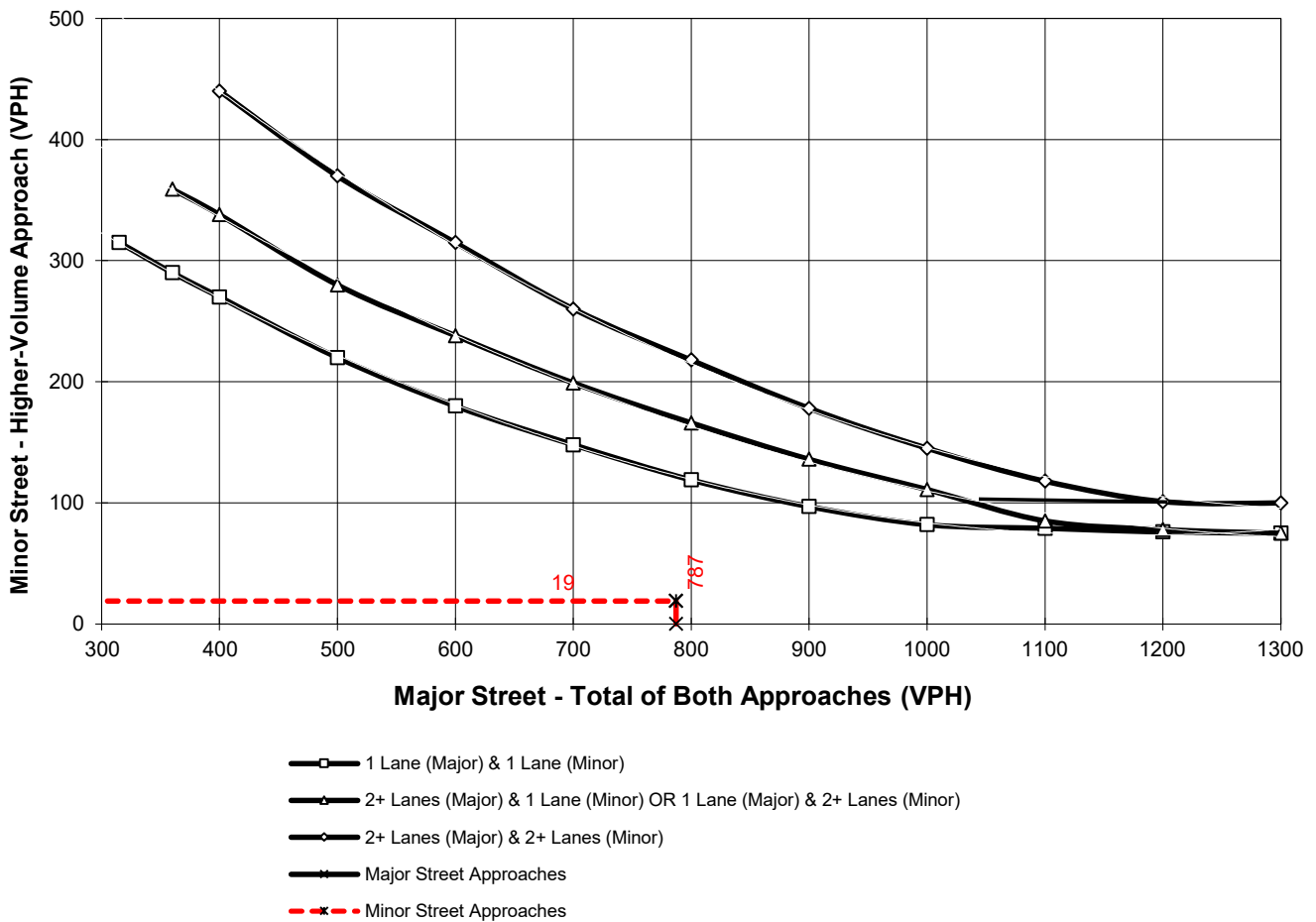
Major Street Name = **Harvill Avenue**

Total of Both Approaches (VPH) = **787**
 Number of Approach Lanes Major Street = **2**

Minor Street Name = **Placentia Avenue**

High Volume Approach (VPH) = **19**
 Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



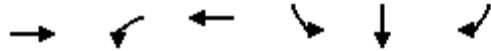
*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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

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Queues
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1145	335	1144	417	419	214
v/c Ratio	0.92	0.93	0.54	0.80	0.80	0.39
Control Delay	44.6	48.7	4.4	48.2	48.3	20.4
Queue Delay	0.6	0.0	0.7	61.7	61.7	0.0
Total Delay	45.2	48.7	5.1	109.9	110.0	20.4
Queue Length 50th (ft)	383	93	54	284	285	70
Queue Length 95th (ft)	#523	m#346	24	#445	#448	138
Internal Link Dist (ft)	1408		344		1111	
Turn Bay Length (ft)		100		510		510
Base Capacity (vph)	1248	369	2133	522	523	549
Starvation Cap Reductn	0	0	579	0	0	0
Spillback Cap Reductn	14	0	0	325	326	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.91	0.74	2.12	2.13	0.39

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues

9: I-215 NB Ramps & Ramona Exwy.

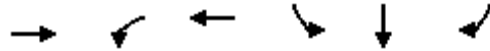


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	164	1461	1084	763	205	209	631
v/c Ratio	0.68	0.72	0.77	0.76	0.36	0.37	1.08
Control Delay	42.4	28.0	34.7	12.0	30.2	30.3	92.3
Queue Delay	0.0	49.5	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	77.5	34.7	12.0	30.2	30.3	92.3
Queue Length 50th (ft)	120	576	349	76	114	117	~462
Queue Length 95th (ft)	m127	m634	457	268	184	187	#685
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	303	2034	1403	1000	569	570	585
Starvation Cap Reductn	0	1006	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	0.54	1.42	0.77	0.76	0.36	0.37	1.08

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1272	373	924	431	439	186
v/c Ratio	1.03	1.01	0.43	0.83	0.84	0.32
Control Delay	69.1	69.7	5.2	50.4	51.6	10.3
Queue Delay	12.9	0.0	0.4	72.5	72.1	0.0
Total Delay	82.0	69.7	5.6	122.9	123.7	10.3
Queue Length 50th (ft)	~494	~242	74	296	304	24
Queue Length 95th (ft)	#633	#441	22	#468	#481	78
Internal Link Dist (ft)	1408		344		1111	
Turn Bay Length (ft)		100		510		510
Base Capacity (vph)	1231	369	2133	522	523	588
Starvation Cap Reductn	0	0	659	0	0	0
Spillback Cap Reductn	40	0	0	414	415	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.07	1.01	0.63	3.99	4.06	0.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	129	1748	971	694	197	202	490
v/c Ratio	0.60	0.82	0.62	0.67	0.38	0.39	0.91
Control Delay	39.1	30.9	28.0	7.4	31.7	31.9	52.7
Queue Delay	0.0	48.6	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	79.4	28.0	7.4	31.7	31.9	52.7
Queue Length 50th (ft)	88	664	289	32	109	112	276
Queue Length 95th (ft)	m82	m661	392	164	176	181	#457
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	303	2139	1562	1038	569	570	585
Starvation Cap Reductn	0	992	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	0.43	1.52	0.62	0.67	0.35	0.35	0.84

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

APPENDIX 4.1: POST PROCESSING WORKSHEETS

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Project: Rider & Patterson Business Center
 Scenario: Horizon Year (2045) Without Project

Job #: 14198
 Analyst: CS
 Date: 9/26/22

LOCATION: Harvill Av. & Cajalco Exwy.
 FORECAST YEAR: 2045

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	285	383	98	34%	159	254	95	60%
	Through	328	467	139	42%	140	158	18	13%
	Right	65	64	-1	-2%	116	137	21	18%
	NB Total	678	914	236	35%	415	549	134	32%
SOUTH BOUND	Left	174	170	-4	-2%	218	259	41	19%
	Through	102	103	1	1%	200	525	325	163%
	Right	19	25	6	32%	32	51	19	59%
	SB Total	295	298	3	1%	450	835	385	86%
EAST BOUND	Left	37	73	36	97%	22	25	3	14%
	Through	626	852	226	36%	686	814	128	19%
	Right	48	67	19	40%	200	526	326	163%
	EB Total	711	992	281	40%	908	1,365	457	50%
WEST BOUND	Left	135	164	29	21%	101	209	108	107%
	Through	628	1,012	384	61%	597	754	157	26%
	Right	94	160	66	70%	175	157	-18	-10%
	WB Total	857	1,336	479	56%	873	1,120	247	28%
TOTAL ENTERING VOLUME		2,541	3,540	999	39%	2,646	3,869	1,223	46%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	298	835			
North Leg	Outbound	700	340			
North Leg	TOTAL	998	1,175	6%	7%	15,799
South Leg	Inbound	914	549			
South Leg	Outbound	334	1,260			
South Leg	TOTAL	1,248	1,809	6%	8%	22,018
East Leg	Inbound	1,336	1,120			
East Leg	Outbound	1,086	1,210			
East Leg	TOTAL	2,422	2,330	7%	7%	35,489
West Leg	Inbound	992	1,365			
West Leg	Outbound	1,420	1,059			
West Leg	TOTAL	2,412	2,424	7%	7%	34,618
OVERALL TOTAL		7,080	7,738	7%	7%	107,925

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Project: Rider & Patterson Business Center
 Scenario: Horizon Year (2045) Without Project

Job #: 14198
 Analyst: CS
 Date: 9/26/22

LOCATION: Harvill Av. & Rider St.
 FORECAST YEAR: 2045

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	11	10	1000%	1	22	21	2100%
	Through	2	218	216	10800%	2	293	291	14550%
	Right	1	4	3	300%	1	6	5	500%
	NB Total	4	233	229	5725%	4	321	317	7925%
SOUTH BOUND	Left	1	16	15	1500%	1	14	13	1300%
	Through	2	1,609	1,607	80350%	2	1,321	1,319	65950%
	Right	1	47	46	4600%	1	53	52	5200%
	SB Total	4	1,672	1,668	41700%	4	1,388	1,384	34600%
EAST BOUND	Left	1	72	71	7100%	1	56	55	5500%
	Through	2	11	9	450%	2	10	8	400%
	Right	1	121	120	12000%	1	105	104	10400%
	EB Total	4	204	200	5000%	4	171	167	4175%
WEST BOUND	Left	1	49	48	4800%	1	42	41	4100%
	Through	2	13	11	550%	2	15	13	650%
	Right	1	30	29	2900%	1	23	22	2200%
	WB Total	4	92	88	2200%	4	80	76	1900%
TOTAL ENTERING VOLUME		16	2,201	2185	13656%	16	1,960	1944	12150%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,672	1,388			
North Leg	Outbound	320	372			
North Leg	TOTAL	1,992	1,760	14%	12%	14,316
South Leg	Inbound	233	321			
South Leg	Outbound	1,779	1,468			
South Leg	TOTAL	2,012	1,789	10%	9%	20,131
East Leg	Inbound	92	80			
East Leg	Outbound	31	30			
East Leg	TOTAL	123	110	56%	50%	218
West Leg	Inbound	204	171			
West Leg	Outbound	71	90			
West Leg	TOTAL	275	261	15%	14%	1,889
OVERALL TOTAL		4,402	3,920	12%	11%	36,555

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Project: Rider & Patterson Business Center
 Scenario: Horizon Year (2045) Without Project

Job #: 14198
 Analyst: CS
 Date: 9/26/22

LOCATION: Harvill Av. & Placentia Av.
 FORECAST YEAR: 2045

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	2	1,598	1,596	79800%	2	201	199	9950%
	Right	1	280	279	27900%	1	36	35	3500%
	NB Total	4	1,878	1,874	46850%	4	237	233	5825%
SOUTH BOUND	Left	1	90	89	8900%	1	144	143	14300%
	Through	2	122	120	6000%	2	1,326	1,324	66200%
	Right	1	0	-1	-100%	1	0	-1	-100%
	SB Total	4	212	208	5200%	4	1,470	1,466	36650%
EAST BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	2	0	-2	-100%	2	0	-2	-100%
	Right	1	0	-1	-100%	1	0	-1	-100%
	EB Total	4	0	-4	-100%	4	0	-4	-100%
WEST BOUND	Left	1	48	47	4700%	1	164	163	16300%
	Through	2	0	-2	-100%	2	0	-2	-100%
	Right	1	202	201	20100%	1	99	98	9800%
	WB Total	4	250	246	6150%	4	263	259	6475%
TOTAL ENTERING VOLUME		16	2,340	2324	14525%	16	1,970	1954	12213%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	212	1,470			
North Leg	Outbound	1,800	300			
North Leg	TOTAL	2,012	1,770	10%	9%	20,390
South Leg	Inbound	1,878	237			
South Leg	Outbound	170	1,490			
South Leg	TOTAL	2,048	1,727	13%	11%	16,070
East Leg	Inbound	250	263			
East Leg	Outbound	370	180			
East Leg	TOTAL	620	443	64%	45%	976
West Leg	Inbound	0	0			
West Leg	Outbound	0	0			
West Leg	TOTAL	0	0	#DIV/0!	#DIV/0!	#DIV/0!
OVERALL TOTAL		4,680	3,940	#DIV/0!	#DIV/0!	#DIV/0!

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Project: Rider & Patterson Business Center
 Scenario: Horizon Year (2045) Without Project

Job #: 14198
 Analyst: CS
 Date: 9/26/22

LOCATION: I-215 SB Ramps & Ramona Exwy.
 FORECAST YEAR: 2045

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	1	442	441	44100%	1	595	594	59400%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1	209	208	20800%	1	97	96	9600%
	SB Total	2	651	649	32450%	2	692	690	34500%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	2	1,015	1,013	50650%	2	985	983	49150%
	Right	1	418	417	41700%	1	114	113	11300%
	EB Total	3	1,433	1,430	47667%	3	1,099	1,096	36533%
WEST BOUND	Left	1	859	858	85800%	1	836	835	83500%
	Through	2	987	985	49250%	2	1,183	1,181	59050%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	3	1,846	1,843	61433%	3	2,019	2,016	67200%
TOTAL ENTERING VOLUME		8	3,930	3922	49025%	8	3,810	3802	47525%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	651	692			
North Leg	Outbound	0	0			
North Leg	TOTAL	651	692	5%	5%	12,773
South Leg	Inbound	0	0			
South Leg	Outbound	1,277	950			
South Leg	TOTAL	1,277	950	6%	5%	20,703
East Leg	Inbound	1,846	2,019			
East Leg	Outbound	1,457	1,580			
East Leg	TOTAL	3,303	3,599	6%	6%	55,660
West Leg	Inbound	1,433	1,099			
West Leg	Outbound	1,196	1,280			
West Leg	TOTAL	2,629	2,379	7%	6%	39,299
OVERALL TOTAL		7,860	7,620	6%	6%	128,435

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Project: Rider & Patterson Business Center
 Scenario: Horizon Year (2045) Without Project

Job #: 14198
 Analyst: CS
 Date: 9/26/22

LOCATION: I-215 NB Ramps & Ramona Exwy.
 FORECAST YEAR: 2045

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	201	200	20000%	1	346	345	34500%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1	696	695	69500%	1	495	494	49400%
	NB Total	2	897	895	44750%	2	841	839	41950%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	1	100	99	9900%	1	233	232	23200%
	Through	2	1,394	1,392	69600%	2	1,355	1,353	67650%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	3	1,494	1,491	49700%	3	1,588	1,585	52833%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	2	1,649	1,647	82350%	2	1,734	1,732	86600%
	Right	1	410	409	40900%	1	427	426	42600%
	WB Total	3	2,059	2,056	68533%	3	2,161	2,158	71933%
TOTAL ENTERING VOLUME		8	4,450	4442	55525%	8	4,590	4582	57275%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	0	0			
North Leg	Outbound	510	660			
North Leg	TOTAL	510	660	4%	6%	11,526
South Leg	Inbound	897	841			
South Leg	Outbound	0	0			
South Leg	TOTAL	897	841	5%	5%	17,070
East Leg	Inbound	2,059	2,161			
East Leg	Outbound	2,090	1,850			
East Leg	TOTAL	4,149	4,011	7%	6%	63,201
West Leg	Inbound	1,494	1,588			
West Leg	Outbound	1,850	2,080			
West Leg	TOTAL	3,344	3,668	6%	7%	55,660
OVERALL TOTAL		8,900	9,180	6%	6%	147,457

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Project: Rider & Patterson Business Center
 Scenario: Horizon Year (2045) Without Project

Job #: 14198
 Analyst: CS
 Date: 9/26/22

LOCATION: I-215 SB Ramps & Placentia Av.
 FORECAST YEAR: 2045

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	1	217	216	21600%	1	206	205	20500%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1	36	35	3500%	1	16	15	1500%
	SB Total	2	253	251	12550%	2	222	220	11000%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	2	300	298	14900%	2	160	158	7900%
	Right	1	16	15	1500%	1	1	0	0%
	EB Total	3	316	313	10433%	3	161	158	5267%
WEST BOUND	Left	1	55	54	5400%	1	10	9	900%
	Through	2	176	174	8700%	2	207	205	10250%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	3	231	228	7600%	3	217	214	7133%
TOTAL ENTERING VOLUME		8	800	792	9900%	8	600	592	7400%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	253	222			
North Leg	Outbound	0	0			
North Leg	TOTAL	253	222	5%	4%	5,254
South Leg	Inbound	0	0			
South Leg	Outbound	71	11			
South Leg	TOTAL	71	11	1%	0%	5,122
East Leg	Inbound	231	217			
East Leg	Outbound	517	366			
East Leg	TOTAL	748	583	3%	2%	23,492
West Leg	Inbound	316	161			
West Leg	Outbound	212	223			
West Leg	TOTAL	528	384	3%	2%	18,395
OVERALL TOTAL		1,600	1,200	3%	2%	52,262

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Project: Rider & Patterson Business Center
 Scenario: Horizon Year (2045) Without Project

Job #: 14198
 Analyst: CS
 Date: 9/26/22

LOCATION: I-215 NB Ramps & Placentia Av.
 FORECAST YEAR: 2045

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	1	8	7	700%	1	7	6	600%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1	141	140	14000%	1	102	101	10100%
	NB Total	2	149	147	7350%	2	109	107	5350%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	1	35	34	3400%	1	25	24	2400%
	Through	2	509	507	25350%	2	368	366	18300%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	3	544	541	18033%	3	393	390	13000%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	2	232	230	11500%	2	233	231	11550%
	Right	1	265	264	26400%	1	215	214	21400%
	WB Total	3	497	494	16467%	3	448	445	14833%
TOTAL ENTERING VOLUME		8	1,190	1182	14775%	8	950	942	11775%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	0	0			
North Leg	Outbound	300	240			
North Leg	TOTAL	300	240	7%	6%	4,363
South Leg	Inbound	149	109			
South Leg	Outbound	0	0			
South Leg	TOTAL	149	109	3%	2%	4,980
East Leg	Inbound	497	448			
East Leg	Outbound	650	470			
East Leg	TOTAL	1,147	918	4%	3%	27,129
West Leg	Inbound	544	393			
West Leg	Outbound	240	240			
West Leg	TOTAL	784	633	3%	3%	23,497
OVERALL TOTAL		2,380	1,900	4%	3%	59,969

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APPENDIX 5.1: EAP (2025) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↘	↑		↘
Traffic Vol, veh/h	83	0	9	40	0	9
Future Vol, veh/h	83	0	9	40	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	90	0	10	43	0	10

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	- 90	0 - 90
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.1	- 6.2
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.2	- 3.3
Pot Cap-1 Maneuver	- 0	1518	- 0 973
Stage 1	- 0	-	- 0 -
Stage 2	- 0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1518	- 973
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	973	-	1518	-
HCM Lane V/C Ratio	0.01	-	0.006	-
HCM Control Delay (s)	8.7	-	7.4	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0	-	0	-

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑	↗	↙	↗			↕	
Traffic Vol, veh/h	0	81	10	35	46	0	4	0	15	0	2	0
Future Vol, veh/h	0	81	10	35	46	0	4	0	15	0	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	100	-	100	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	103	13	44	58	0	5	0	19	0	3	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	58	0	0	116	0	0	251	249	103	265	262	58
Stage 1	-	-	-	-	-	-	103	103	-	146	146	-
Stage 2	-	-	-	-	-	-	148	146	-	119	116	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1559	-	-	1485	-	-	707	657	957	692	646	1014
Stage 1	-	-	-	-	-	-	908	814	-	861	780	-
Stage 2	-	-	-	-	-	-	859	780	-	890	803	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1559	-	-	1485	-	-	689	637	957	663	627	1014
Mov Cap-2 Maneuver	-	-	-	-	-	-	689	637	-	663	627	-
Stage 1	-	-	-	-	-	-	908	814	-	861	757	-
Stage 2	-	-	-	-	-	-	831	757	-	872	803	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			3.2			9.1			10.8		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	689	957	1559	-	-	1485	-	-	627
HCM Lane V/C Ratio	0.007	0.02	-	-	-	0.03	-	-	0.004
HCM Control Delay (s)	10.3	8.8	0	-	-	7.5	-	-	10.8
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0.1	-	-	0

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	1	19	11	33	14
Future Vol, veh/h	8	1	19	11	33	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	1	-	-	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	1	21	12	36	15

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	98	44	51	0	0
Stage 1	44	-	-	-	-
Stage 2	54	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	906	1032	1568	-	-
Stage 1	984	-	-	-	-
Stage 2	974	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	894	1032	1568	-	-
Mov Cap-2 Maneuver	852	-	-	-	-
Stage 1	971	-	-	-	-
Stage 2	974	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	4.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1568	-	869	-	-
HCM Lane V/C Ratio	0.013	-	0.011	-	-
HCM Control Delay (s)	7.3	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↑	↗
Traffic Vol, veh/h	0	11	0	30	14	20
Future Vol, veh/h	0	11	0	30	14	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
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	12	0	33	15	22

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	15	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	1070	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	1070	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

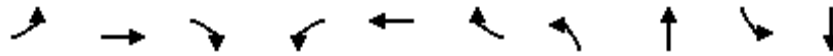
Approach	EB	NB	SB
HCM Control Delay, s	8.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 1070	-	-
HCM Lane V/C Ratio	- 0.011	-	-
HCM Control Delay (s)	- 8.4	-	-
HCM Lane LOS	- A	-	-
HCM 95th %tile Q(veh)	- 0	-	-

Timings
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

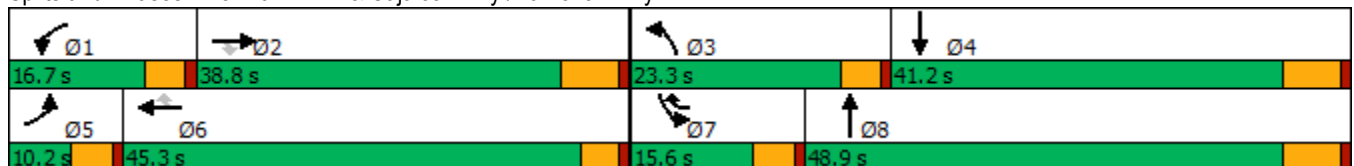


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↘	↙↘	↕	↘	↙↘	↕↘	↙↘	↕↘
Traffic Volume (vph)	49	721	62	185	718	108	319	361	201	133
Future Volume (vph)	49	721	62	185	718	108	319	361	201	133
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	7	3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	7	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.2	36.2	9.6	32.5	9.6	9.6	16.2	9.6	41.2
Total Split (s)	10.2	38.8	38.8	16.7	45.3	15.6	23.3	48.9	15.6	41.2
Total Split (%)	8.5%	32.3%	32.3%	13.9%	37.8%	13.0%	19.4%	40.8%	13.0%	34.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.5	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.5	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	5.5	29.1	29.1	10.3	37.8	52.4	15.2	42.9	10.1	37.8
Actuated g/C Ratio	0.05	0.26	0.26	0.09	0.33	0.46	0.13	0.38	0.09	0.33
v/c Ratio	0.62	0.84	0.12	0.63	0.64	0.14	0.74	0.36	0.70	0.15
Control Delay	84.6	49.8	0.4	60.1	35.8	3.7	58.0	26.1	64.1	25.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.6	49.8	0.4	60.1	35.8	3.7	58.0	26.1	64.1	25.8
LOS	F	D	A	E	D	A	E	C	E	C
Approach Delay		48.2			36.8			39.4		47.1
Approach LOS		D			D			D		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.1
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 41.9
 Intersection LOS: D
 Intersection Capacity Utilization 61.6%
 ICU Level of Service B
 Analysis Period (min) 15

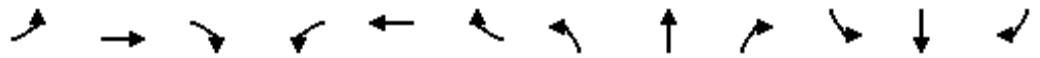
Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	49	721	62	185	718	108	319	361	84	201	133	28
Future Volume (veh/h)	49	721	62	185	718	108	319	361	84	201	133	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	53	775	16	199	772	48	343	388	36	216	143	28
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	69	907	405	263	1041	592	412	1317	122	279	1078	206
Arrive On Green	0.04	0.25	0.25	0.08	0.29	0.29	0.12	0.39	0.39	0.08	0.36	0.36
Sat Flow, veh/h	1810	3610	1610	3510	3610	1610	3510	3337	308	3510	3022	579
Grp Volume(v), veh/h	53	775	16	199	772	48	343	209	215	216	84	87
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1805	1610	1755	1805	1840	1755	1805	1796
Q Serve(g_s), s	3.1	22.2	0.8	6.0	20.9	2.1	10.3	8.6	8.7	6.5	3.4	3.5
Cycle Q Clear(g_c), s	3.1	22.2	0.8	6.0	20.9	2.1	10.3	8.6	8.7	6.5	3.4	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.32
Lane Grp Cap(c), veh/h	69	907	405	263	1041	592	412	712	726	279	644	641
V/C Ratio(X)	0.77	0.85	0.04	0.76	0.74	0.08	0.83	0.29	0.30	0.77	0.13	0.14
Avail Cap(c_a), veh/h	94	1088	485	393	1361	735	607	712	726	357	644	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.6	38.6	30.6	49.1	34.9	22.3	46.7	22.4	22.5	48.8	23.5	23.5
Incr Delay (d2), s/veh	15.7	5.9	0.0	1.9	1.6	0.1	4.1	1.0	1.0	5.7	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	10.0	0.3	2.6	8.9	0.8	4.6	3.6	3.7	3.0	1.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.3	44.5	30.7	51.0	36.4	22.3	50.8	23.5	23.5	54.6	23.9	24.0
LnGrp LOS	E	D	C	D	D	C	D	C	C	D	C	C
Approach Vol, veh/h		844			1019			767			387	
Approach Delay, s/veh		45.7			38.6			35.7			41.0	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.7	33.4	17.3	44.8	8.7	37.4	13.2	48.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.1	32.6	18.7	35.0	5.6	* 41	11.0	42.7				
Max Q Clear Time (g_c+I1), s	8.0	24.2	12.3	5.5	5.1	22.9	8.5	10.7				
Green Ext Time (p_c), s	0.1	3.0	0.4	0.8	0.0	4.6	0.1	2.2				

Intersection Summary

HCM 6th Ctrl Delay	40.2
HCM 6th LOS	D

Notes

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

Intersection

Intersection Delay, s/veh 16.4

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↔		↘	↑↔	
Traffic Vol, veh/h	61	1	33	2	0	16	38	602	4	18	409	49
Future Vol, veh/h	61	1	33	2	0	16	38	602	4	18	409	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	64	1	35	2	0	17	40	634	4	19	431	52
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	11.6	10.2	19	14.2
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	98%	0%	100%	0%	0%	100%	0%	0%	100%	74%
Vol Right, %	0%	0%	2%	0%	0%	100%	0%	0%	100%	0%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	401	205	61	1	33	2	0	16	18	273	185
LT Vol	38	0	0	61	0	0	2	0	0	18	0	0
Through Vol	0	401	201	0	1	0	0	0	0	0	273	136
RT Vol	0	0	4	0	0	33	0	0	16	0	0	49
Lane Flow Rate	40	422	215	64	1	35	2	0	17	19	287	195
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.074	0.72	0.366	0.145	0.002	0.067	0.005	0	0.033	0.037	0.513	0.339
Departure Headway (Hd)	6.636	6.134	6.121	8.133	7.63	6.927	8.31	7.81	7.11	6.941	6.439	6.253
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	539	587	586	440	467	515	429	0	501	515	560	574
Service Time	4.385	3.883	3.87	5.908	5.405	4.702	6.092	5.592	4.892	4.695	4.193	4.007
HCM Lane V/C Ratio	0.074	0.719	0.367	0.145	0.002	0.068	0.005	0	0.034	0.037	0.512	0.34
HCM Control Delay	9.9	23.2	12.4	12.3	10.4	10.2	11.1	10.6	10.1	10	15.8	12.2
HCM Lane LOS	A	C	B	B	B	B	B	N	B	A	C	B
HCM 95th-tile Q	0.2	6	1.7	0.5	0	0.2	0	0	0.1	0.1	2.9	1.5

Timings
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

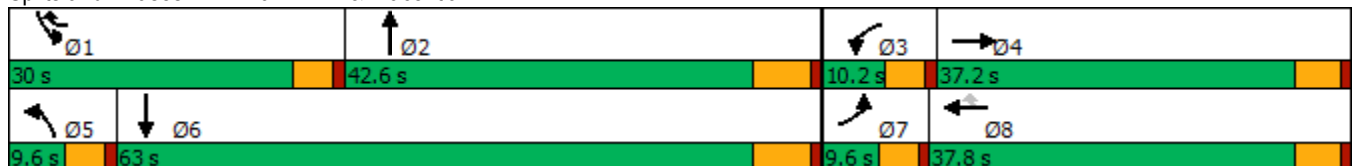


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖↗	↑	↖↗	↖	↖↗	↖	↖↗
Traffic Volume (vph)	11	29	124	24	438	9	648	337	239
Future Volume (vph)	11	29	124	24	438	9	648	337	239
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	1	5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.2	9.6	37.2	9.6	9.6	33.2	9.6	33.2
Total Split (s)	9.6	37.2	10.2	37.8	30.0	9.6	42.6	30.0	63.0
Total Split (%)	8.0%	31.0%	8.5%	31.5%	25.0%	8.0%	35.5%	25.0%	52.5%
Yellow Time (s)	3.6	4.2	3.6	4.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.1	13.7	5.7	17.8	41.2	5.1	35.9	25.5	64.5
Actuated g/C Ratio	0.05	0.14	0.06	0.19	0.44	0.05	0.38	0.27	0.68
v/c Ratio	0.12	0.15	0.66	0.08	0.63	0.10	0.81	0.78	0.11
Control Delay	53.0	32.3	62.3	32.5	17.7	52.6	32.3	47.5	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	32.3	62.3	32.5	17.7	52.6	32.3	47.5	8.5
LOS	D	C	E	C	B	D	C	D	A
Approach Delay		37.0		27.8			32.4		31.2
Approach LOS		D		C			C		C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 94.6
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 31.0
 Intersection LOS: C
 Intersection Capacity Utilization 72.2%
 ICU Level of Service C
 Analysis Period (min) 15

























Splits and Phases: 7: Harvill Av. & Placentia Av.



HCM 6th Signalized Intersection Summary
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

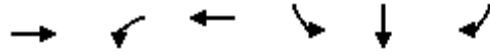
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (veh/h)	11	29	7	124	24	438	9	648	319	337	239	2
Future Volume (veh/h)	11	29	7	124	24	438	9	648	319	337	239	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	12	33	8	139	27	323	10	728	358	379	269	2
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	26	203	49	206	345	661	22	828	407	414	2091	16
Arrive On Green	0.01	0.14	0.14	0.06	0.18	0.18	0.01	0.35	0.35	0.23	0.57	0.57
Sat Flow, veh/h	1810	1477	358	3510	1900	1610	1810	2346	1152	1810	3673	27
Grp Volume(v), veh/h	12	0	41	139	27	323	10	560	526	379	132	139
Grp Sat Flow(s),veh/h/ln	1810	0	1836	1755	1900	1610	1810	1805	1693	1810	1805	1895
Q Serve(g_s), s	0.6	0.0	1.8	3.6	1.1	13.7	0.5	27.0	27.0	18.9	3.2	3.2
Cycle Q Clear(g_c), s	0.6	0.0	1.8	3.6	1.1	13.7	0.5	27.0	27.0	18.9	3.2	3.2
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.68	1.00		0.01
Lane Grp Cap(c), veh/h	26	0	252	206	345	661	22	637	597	414	1028	1079
V/C Ratio(X)	0.46	0.00	0.16	0.67	0.08	0.49	0.45	0.88	0.88	0.92	0.13	0.13
Avail Cap(c_a), veh/h	98	0	634	212	669	935	98	709	665	496	1107	1162
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	0.0	35.3	42.7	31.5	20.1	45.4	28.1	28.1	34.9	9.3	9.3
Incr Delay (d2), s/veh	4.7	0.0	0.3	6.3	0.1	0.6	5.2	11.4	12.2	18.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.8	1.7	0.5	5.0	0.2	12.5	11.8	9.8	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	0.0	35.6	49.1	31.6	20.7	50.7	39.5	40.3	53.0	9.3	9.3
LnGrp LOS	D	A	D	D	C	C	D	D	D	D	A	A
Approach Vol, veh/h		53			489			1096			650	
Approach Delay, s/veh		38.8			29.4			40.0			34.8	
Approach LOS		D			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.8	38.9	10.0	17.9	5.7	58.9	5.9	22.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.2	4.6	6.2	4.6	5.2				
Max Green Setting (Gmax), s	25.4	36.4	5.6	32.0	5.0	56.8	5.0	32.6				
Max Q Clear Time (g_c+I1), s	20.9	29.0	5.6	3.8	2.5	5.2	2.6	15.7				
Green Ext Time (p_c), s	0.3	3.7	0.0	0.1	0.0	1.4	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			36.2									
HCM 6th LOS			D									

Timings
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

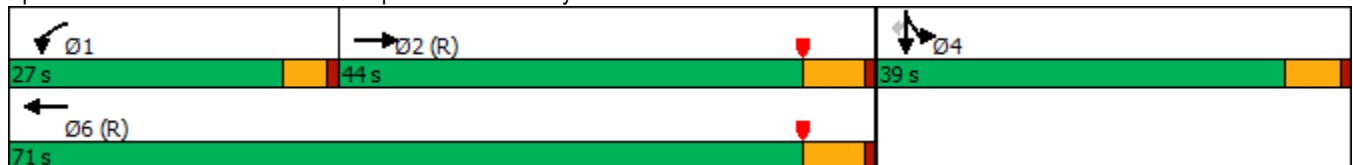


Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑
Traffic Volume (vph)	418	280	952	843	2	174
Future Volume (vph)	418	280	952	843	2	174
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	2	1	6	4	4	
Permitted Phases						4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	44.0	27.0	71.0	39.0	39.0	39.0
Total Split (%)	40.0%	24.5%	64.5%	35.5%	35.5%	35.5%
Yellow Time (s)	5.0	3.5	5.0	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)	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	39.8	20.7	65.0	33.5	33.5	33.5
Actuated g/C Ratio	0.36	0.19	0.59	0.30	0.30	0.30
v/c Ratio	0.54	0.84	0.46	0.82	0.83	0.31
Control Delay	22.8	40.2	5.5	50.2	50.4	11.4
Queue Delay	0.0	0.0	0.5	53.1	53.1	0.0
Total Delay	22.8	40.2	6.0	103.4	103.5	11.4
LOS	C	D	A	F	F	B
Approach Delay	22.8		13.8		87.7	
Approach LOS	C		B		F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 34 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 41.4
 Intersection LOS: D
 Intersection Capacity Utilization 120.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑	↗
Traffic Volume (veh/h)	0	418	290	280	952	0	0	0	0	843	2	174
Future Volume (veh/h)	0	418	290	280	952	0	0	0	0	843	2	174
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	427	167	286	971	0				861	0	115
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	946	366	320	2133	0				1102	0	490
Arrive On Green	0.00	0.37	0.37	0.11	0.35	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	2629	980	1810	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	303	291	286	971	0				861	0	115
Grp Sat Flow(s),veh/h/ln	0	1805	1709	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	13.9	14.2	17.2	22.8	0.0				23.9	0.0	5.9
Cycle Q Clear(g_c), s	0.0	13.9	14.2	17.2	22.8	0.0				23.9	0.0	5.9
Prop In Lane	0.00		0.57	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	674	638	320	2133	0				1102	0	490
V/C Ratio(X)	0.00	0.45	0.46	0.89	0.46	0.00				0.78	0.00	0.23
Avail Cap(c_a), veh/h	0	674	638	370	2133	0				1102	0	490
HCM Platoon Ratio	1.00	1.00	1.00	0.60	0.60	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.48	0.48	0.80	0.80	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.0	26.0	48.2	21.9	0.0				34.9	0.0	28.6
Incr Delay (d2), s/veh	0.0	1.0	1.1	17.9	0.6	0.0				5.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.8	5.6	9.5	10.3	0.0				10.8	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	27.0	27.2	66.0	22.4	0.0				40.4	0.0	29.8
LnGrp LOS	A	C	C	E	C	A				D	A	C
Approach Vol, veh/h		594			1257						976	
Approach Delay, s/veh		27.1			32.4						39.2	
Approach LOS		C			C						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	23.9	47.1		39.0		71.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	22.5	38.0		33.5		65.0						
Max Q Clear Time (g_c+I1), s	19.2	16.2		25.9		24.8						
Green Ext Time (p_c), s	0.3	1.9		2.4		4.3						

Intersection Summary

HCM 6th Ctrl Delay	33.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

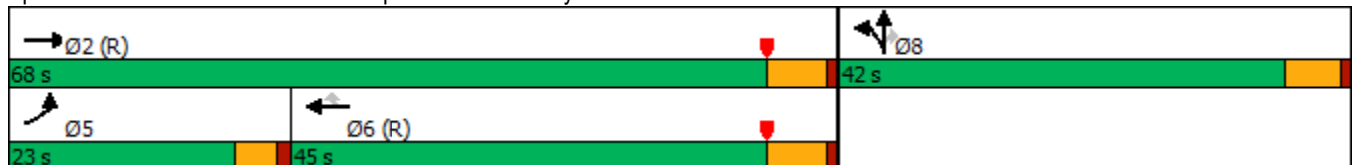


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↙	↕	↙	↘	↙	↕	↘
Traffic Volume (vph)	130	1136	917	589	316	4	487
Future Volume (vph)	130	1136	917	589	316	4	487
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0	26.0	10.5	10.5	10.5
Total Split (s)	23.0	68.0	45.0	45.0	42.0	42.0	42.0
Total Split (%)	20.9%	61.8%	40.9%	40.9%	38.2%	38.2%	38.2%
Yellow Time (s)	3.5	5.0	5.0	5.0	4.5	4.5	4.5
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)	4.5	6.0	6.0	6.0	5.5	5.5	5.5
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)	13.4	64.8	46.9	46.9	33.7	33.7	33.7
Actuated g/C Ratio	0.12	0.59	0.43	0.43	0.31	0.31	0.31
v/c Ratio	0.61	0.55	0.61	0.60	0.32	0.31	0.92
Control Delay	50.9	14.2	28.1	6.2	30.3	30.2	54.5
Queue Delay	0.0	24.9	0.0	0.0	0.0	0.0	0.0
Total Delay	50.9	39.1	28.1	6.2	30.3	30.2	54.5
LOS	D	D	C	A	C	C	D
Approach Delay		40.3	19.6			44.9	
Approach LOS		D	B			D	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 32.6
 Intersection LOS: C
 Intersection Capacity Utilization 120.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘	↗	↗			
Traffic Volume (veh/h)	130	1136	0	0	917	589	316	4	487	0	0	0
Future Volume (veh/h)	130	1136	0	0	917	589	316	4	487	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	134	1171	0	0	945	459	329	0	350			
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	162	2347	0	0	1876	837	887	0	395			
Arrive On Green	0.18	1.00	0.00	0.00	0.52	0.52	0.25	0.00	0.25			
Sat Flow, veh/h	1810	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	134	1171	0	0	945	459	329	0	350			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	7.8	0.0	0.0	0.0	18.7	21.1	8.3	0.0	23.1			
Cycle Q Clear(g_c), s	7.8	0.0	0.0	0.0	18.7	21.1	8.3	0.0	23.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	162	2347	0	0	1876	837	887	0	395			
V/C Ratio(X)	0.83	0.50	0.00	0.00	0.50	0.55	0.37	0.00	0.89			
Avail Cap(c_a), veh/h	304	2347	0	0	1876	837	1201	0	534			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.72	0.72	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	44.3	0.0	0.0	0.0	17.2	17.8	34.5	0.0	40.0			
Incr Delay (d2), s/veh	7.5	0.5	0.0	0.0	1.0	2.6	0.3	0.0	13.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.4	0.2	0.0	0.0	7.2	7.6	3.6	0.0	10.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	0.5	0.0	0.0	18.2	20.3	34.7	0.0	53.1			
LnGrp LOS	D	A	A	A	B	C	C	A	D			
Approach Vol, veh/h		1305			1404			679				
Approach Delay, s/veh		5.8			18.9			44.2				
Approach LOS		A			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		77.5			14.4	63.2		32.5				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		62.0			18.5	39.0		36.5				
Max Q Clear Time (g_c+I1), s		2.0			9.8	23.1		25.1				
Green Ext Time (p_c), s		5.6			0.2	4.4		1.9				

Intersection Summary

HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

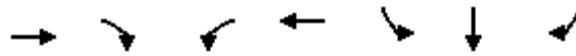
Notes

User approved volume balancing among the lanes for turning movement.

Timings
10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

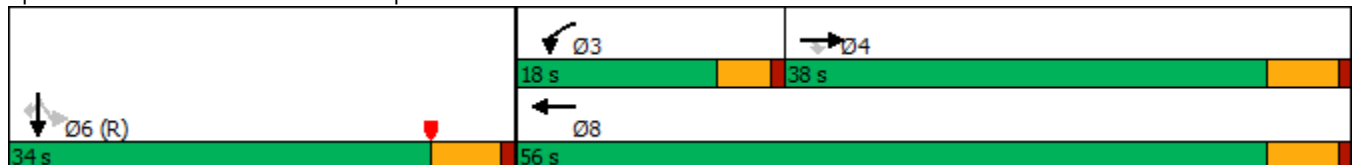


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↖↗	↑↑	↖	↖	↖
Traffic Volume (vph)	544	135	147	488	274	0	76
Future Volume (vph)	544	135	147	488	274	0	76
Turn Type	NA	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	4		3	8		6	
Permitted Phases		4			6		6
Detector Phase	4	4	3	8	6	6	6
Switch Phase							
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	23.8	23.8	23.8
Total Split (s)	38.0	38.0	18.0	56.0	34.0	34.0	34.0
Total Split (%)	42.2%	42.2%	20.0%	62.2%	37.8%	37.8%	37.8%
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	None	C-Min	C-Min	C-Min
Act Effct Green (s)	21.2	21.2	8.5	34.3	44.1	44.1	44.1
Actuated g/C Ratio	0.24	0.24	0.09	0.38	0.49	0.49	0.49
v/c Ratio	0.69	0.30	0.49	0.39	0.18	0.18	0.10
Control Delay	35.5	6.0	44.0	18.3	15.4	15.4	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	6.0	44.0	18.3	15.4	15.4	3.8
LOS	D	A	D	B	B	B	A
Approach Delay	29.6			24.2		12.9	
Approach LOS	C			C		B	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2: and 6:SBTL, Start of Yellow, Master Intersection
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 24.0
 Intersection LOS: C
 Intersection Capacity Utilization 46.4%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 10: I-215 SB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↘↗	↑↑					↘	↗	↗
Traffic Volume (veh/h)	0	544	135	147	488	0	0	0	0	274	0	76
Future Volume (veh/h)	0	544	135	147	488	0	0	0	0	274	0	76
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	147	160	530	0				298	0	83
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	783	349	238	1212	0				1937	0	862
Arrive On Green	0.00	0.22	0.22	0.02	0.11	0.00				0.54	0.00	0.54
Sat Flow, veh/h	0	3705	1610	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	591	147	160	530	0				298	0	83
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	13.8	7.1	4.1	12.3	0.0				3.8	0.0	2.3
Cycle Q Clear(g_c), s	0.0	13.8	7.1	4.1	12.3	0.0				3.8	0.0	2.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	783	349	238	1212	0				1937	0	862
V/C Ratio(X)	0.00	0.75	0.42	0.67	0.44	0.00				0.15	0.00	0.10
Avail Cap(c_a), veh/h	0	1292	576	523	2014	0				1937	0	862
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.33	0.33	0.98	0.98	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	33.0	30.4	43.0	32.1	0.0				10.6	0.0	10.2
Incr Delay (d2), s/veh	0.0	0.5	0.3	1.2	0.2	0.0				0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.7	2.6	1.8	5.8	0.0				1.4	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	33.5	30.6	44.2	32.3	0.0				10.8	0.0	10.5
LnGrp LOS	A	C	C	D	C	A				B	A	B
Approach Vol, veh/h		738			690						381	
Approach Delay, s/veh		32.9			35.1						10.7	
Approach LOS		C			D						B	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			10.7	25.3		54.0		36.0				
Change Period (Y+Rc), s			4.6	5.8		5.8		5.8				
Max Green Setting (Gmax), s			13.4	32.2		28.2		50.2				
Max Q Clear Time (g_c+I1), s			6.1	15.8		5.8		14.3				
Green Ext Time (p_c), s			0.1	3.7		1.2		3.5				
Intersection Summary												
HCM 6th Ctrl Delay			29.1									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

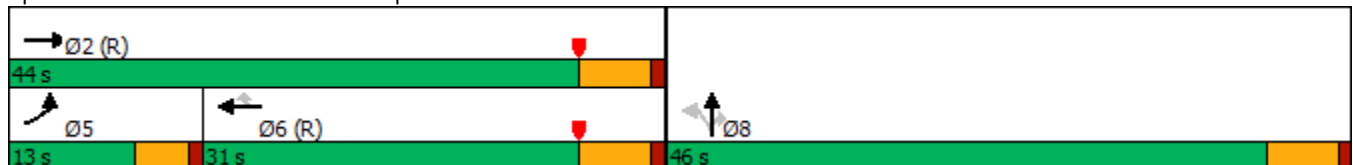


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↶	↶↶	↶↶	↷	↶	↶	↷
Traffic Volume (vph)	81	736	432	315	204	0	265
Future Volume (vph)	81	736	432	315	204	0	265
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	6			8	
Permitted Phases				6	8		8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
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	23.8	23.8	23.8
Total Split (s)	13.0	44.0	31.0	31.0	46.0	46.0	46.0
Total Split (%)	14.4%	48.9%	34.4%	34.4%	51.1%	51.1%	51.1%
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-Min	C-Min	C-Min	None	None	None
Act Effct Green (s)	6.7	59.9	50.5	50.5	18.5	18.5	18.5
Actuated g/C Ratio	0.07	0.67	0.56	0.56	0.21	0.21	0.21
v/c Ratio	0.34	0.33	0.23	0.32	0.32	0.32	0.72
Control Delay	41.1	3.8	12.5	2.8	30.6	30.6	31.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	3.8	12.5	2.8	30.6	30.6	31.8
LOS	D	A	B	A	C	C	C
Approach Delay		7.5	8.4			31.3	
Approach LOS		A	A			C	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 13.3
 Intersection LOS: B
 Intersection Capacity Utilization 46.4%
 ICU Level of Service A
 Analysis Period (min) 15























Splits and Phases: 11: I-215 NB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 							
Traffic Volume (veh/h)	81	736	0	0	432	315	204	0	265	0	0	0
Future Volume (veh/h)	81	736	0	0	432	315	204	0	265	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	88	800	0	0	470	342	222	0	288			
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	173	2375	0	0	2012	897	772	0	343			
Arrive On Green	0.02	0.22	0.00	0.00	0.56	0.56	0.21	0.00	0.21			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	88	800	0	0	470	342	222	0	288			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	2.2	16.8	0.0	0.0	6.0	10.7	4.6	0.0	15.4			
Cycle Q Clear(g_c), s	2.2	16.8	0.0	0.0	6.0	10.7	4.6	0.0	15.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	173	2375	0	0	2012	897	772	0	343			
V/C Ratio(X)	0.51	0.34	0.00	0.00	0.23	0.38	0.29	0.00	0.84			
Avail Cap(c_a), veh/h	328	2375	0	0	2012	897	1617	0	719			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.78	0.78	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	43.2	18.7	0.0	0.0	10.1	11.2	29.7	0.0	33.9			
Incr Delay (d2), s/veh	0.7	0.3	0.0	0.0	0.3	1.2	0.2	0.0	5.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.0	8.1	0.0	0.0	2.3	3.9	2.0	0.0	6.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	19.0	0.0	0.0	10.4	12.4	29.9	0.0	39.4			
LnGrp LOS	D	B	A	A	B	B	C	A	D			
Approach Vol, veh/h		888			812			510				
Approach Delay, s/veh		21.4			11.3			35.2				
Approach LOS		C			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		65.0			9.0	56.0		25.0				
Change Period (Y+Rc), s		5.8			4.6	5.8		5.8				
Max Green Setting (Gmax), s		38.2			8.4	25.2		40.2				
Max Q Clear Time (g_c+I1), s		18.8			4.2	12.7		17.4				
Green Ext Time (p_c), s		5.5			0.0	3.6		1.8				

Intersection Summary

HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↘	↑		↘
Traffic Vol, veh/h	73	0	8	58	0	10
Future Vol, veh/h	73	0	8	58	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	79	0	9	63	0	11

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	-	79	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.2	-	-
Pot Cap-1 Maneuver	-	0	1532	-	0
Stage 1	-	0	-	-	0
Stage 2	-	0	-	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1532	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	987	-	1532	-
HCM Lane V/C Ratio	0.011	-	0.006	-
HCM Control Delay (s)	8.7	-	7.4	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0	-	0	-

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	76	7	27	56	2	9	0	34	1	0	1
Future Vol, veh/h	0	76	7	27	56	2	9	0	34	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	100	-	100	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	83	8	29	61	2	10	0	37	1	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	63	0	0	91	0	0	204	204	83	225	210	61
Stage 1	-	-	-	-	-	-	83	83	-	119	119	-
Stage 2	-	-	-	-	-	-	121	121	-	106	91	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1553	-	-	1517	-	-	758	696	982	735	691	1010
Stage 1	-	-	-	-	-	-	930	830	-	890	801	-
Stage 2	-	-	-	-	-	-	888	800	-	905	823	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1553	-	-	1517	-	-	746	683	982	697	678	1010
Mov Cap-2 Maneuver	-	-	-	-	-	-	746	683	-	697	678	-
Stage 1	-	-	-	-	-	-	930	830	-	890	786	-
Stage 2	-	-	-	-	-	-	870	785	-	871	823	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.4	9	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	746	982	1553	-	-	1517	-	-	825
HCM Lane V/C Ratio	0.013	0.038	-	-	-	0.019	-	-	0.003
HCM Control Delay (s)	9.9	8.8	0	-	-	7.4	-	-	9.4
HCM Lane LOS	A	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0.1	-	-	0

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	3	10	7	27	7
Future Vol, veh/h	37	3	10	7	27	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
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	40	3	11	8	29	8

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	63	33	37	0	0
Stage 1	33	-	-	-	-
Stage 2	30	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	948	1046	1587	-	-
Stage 1	995	-	-	-	-
Stage 2	998	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	941	1046	1587	-	-
Mov Cap-2 Maneuver	941	-	-	-	-
Stage 1	988	-	-	-	-
Stage 2	998	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	4.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1587	-	948	-	-
HCM Lane V/C Ratio	0.007	-	0.046	-	-
HCM Control Delay (s)	7.3	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	↗
Traffic Vol, veh/h	0	28	0	17	17	13
Future Vol, veh/h	0	28	0	17	17	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
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	30	0	18	18	14

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	18	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	1066	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	1066	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

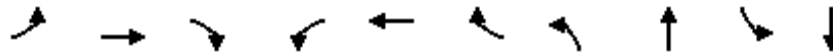
Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 1066	-	-
HCM Lane V/C Ratio	- 0.029	-	-
HCM Control Delay (s)	- 8.5	-	-
HCM Lane LOS	- A	-	-
HCM 95th %tile Q(veh)	- 0.1	-	-

Timings
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

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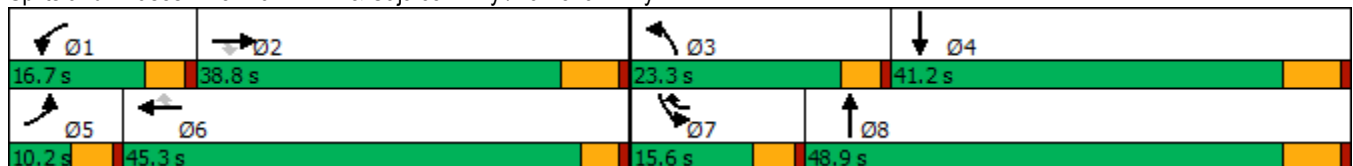


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↘	↙↘	↕	↘	↙↘	↕↘	↙↘	↕↘
Traffic Volume (vph)	25	767	226	145	676	198	187	166	236	230
Future Volume (vph)	25	767	226	145	676	198	187	166	236	230
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	7	3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	7	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.2	36.2	9.6	32.5	9.6	9.6	16.2	9.6	41.2
Total Split (s)	10.2	38.8	38.8	16.7	45.3	15.6	23.3	48.9	15.6	41.2
Total Split (%)	8.5%	32.3%	32.3%	13.9%	37.8%	13.0%	19.4%	40.8%	13.0%	34.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.5	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.5	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	5.4	30.3	30.3	9.4	40.2	55.2	11.0	42.8	10.6	42.4
Actuated g/C Ratio	0.05	0.26	0.26	0.08	0.35	0.48	0.10	0.37	0.09	0.37
v/c Ratio	0.32	0.86	0.40	0.54	0.58	0.24	0.60	0.25	0.79	0.22
Control Delay	65.0	51.0	6.3	58.6	33.2	3.1	58.1	14.2	69.6	25.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.0	51.0	6.3	58.6	33.2	3.1	58.1	14.2	69.6	25.4
LOS	E	D	A	E	C	A	E	B	E	C
Approach Delay		41.5			31.0			30.7		46.1
Approach LOS		D			C			C		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.8
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 37.0
 Intersection LOS: D
 Intersection Capacity Utilization 59.2%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	767	226	145	676	198	187	166	142	236	230	37
Future Volume (veh/h)	25	767	226	145	676	198	187	166	142	236	230	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	27	825	130	156	727	133	201	178	85	254	247	29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	46	950	424	218	1083	627	268	934	428	315	1309	152
Arrive On Green	0.03	0.26	0.26	0.06	0.30	0.30	0.08	0.39	0.39	0.09	0.40	0.40
Sat Flow, veh/h	1810	3610	1610	3510	3610	1610	3510	2406	1101	3510	3258	379
Grp Volume(v), veh/h	27	825	130	156	727	133	201	132	131	254	136	140
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1805	1610	1755	1805	1702	1755	1805	1832
Q Serve(g_s), s	1.6	24.0	7.1	4.8	19.4	6.0	6.2	5.3	5.6	7.8	5.3	5.5
Cycle Q Clear(g_c), s	1.6	24.0	7.1	4.8	19.4	6.0	6.2	5.3	5.6	7.8	5.3	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.65	1.00		0.21
Lane Grp Cap(c), veh/h	46	950	424	218	1083	627	268	701	661	315	725	736
V/C Ratio(X)	0.58	0.87	0.31	0.71	0.67	0.21	0.75	0.19	0.20	0.81	0.19	0.19
Avail Cap(c_a), veh/h	92	1070	477	386	1340	742	597	701	661	351	725	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	38.7	32.5	50.6	33.7	22.3	49.8	22.2	22.3	49.1	21.3	21.3
Incr Delay (d2), s/veh	4.3	7.1	0.4	1.6	1.0	0.2	1.6	0.6	0.7	10.4	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	10.9	2.7	2.1	8.1	2.2	2.7	2.2	2.2	3.7	2.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.3	45.8	32.9	52.2	34.7	22.5	51.4	22.8	23.0	59.5	21.8	21.9
LnGrp LOS	E	D	C	D	C	C	D	C	C	E	C	C
Approach Vol, veh/h		982			1016			464			530	
Approach Delay, s/veh		44.4			35.8			35.2			39.9	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	35.1	13.0	50.4	7.4	39.2	14.5	48.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.1	32.6	18.7	35.0	5.6	* 41	11.0	42.7				
Max Q Clear Time (g_c+I1), s	6.8	26.0	8.2	7.5	3.6	21.4	9.8	7.6				
Green Ext Time (p_c), s	0.1	2.9	0.2	1.3	0.0	4.7	0.1	1.4				

Intersection Summary

HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

Notes

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

Intersection

Intersection Delay, s/veh46.4

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↔		↘	↑↔	
Traffic Vol, veh/h	66	1	50	3	0	4	31	486	3	1	772	57
Future Vol, veh/h	66	1	50	3	0	4	31	486	3	1	772	57
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	77	1	58	3	0	5	36	565	3	1	898	66
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	13	11.6	22.5	66.3
HCM LOS	B	B	C	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	98%	0%	100%	0%	0%	100%	0%	0%	100%	82%
Vol Right, %	0%	0%	2%	0%	0%	100%	0%	0%	100%	0%	0%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	324	165	66	1	50	3	0	4	1	515	314
LT Vol	31	0	0	66	0	0	3	0	0	1	0	0
Through Vol	0	324	162	0	1	0	0	0	0	0	515	257
RT Vol	0	0	3	0	0	50	0	0	4	0	0	57
Lane Flow Rate	36	377	192	77	1	58	3	0	5	1	598	366
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.076	0.74	0.376	0.19	0.003	0.125	0.009	0	0.011	0.002	1.101	0.659
Departure Headway (Hd)	7.749	7.246	7.233	9.15	8.645	7.938	9.503	9.003	8.303	7.125	6.622	6.495
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	465	501	501	394	416	455	379	0	434	501	545	556
Service Time	5.449	4.946	4.933	6.85	6.345	5.638	7.203	6.703	6.003	4.887	4.385	4.257
HCM Lane V/C Ratio	0.077	0.752	0.383	0.195	0.002	0.127	0.008	0	0.012	0.002	1.097	0.658
HCM Control Delay	11.1	27.8	14.2	14	11.4	11.8	12.3	11.7	11.1	9.9	94	21
HCM Lane LOS	B	D	B	B	B	B	B	N	B	A	F	C
HCM 95th-tile Q	0.2	6.2	1.7	0.7	0	0.4	0	0	0	0	18.7	4.8

Timings
7: Harvill Av. & Placentia Av.

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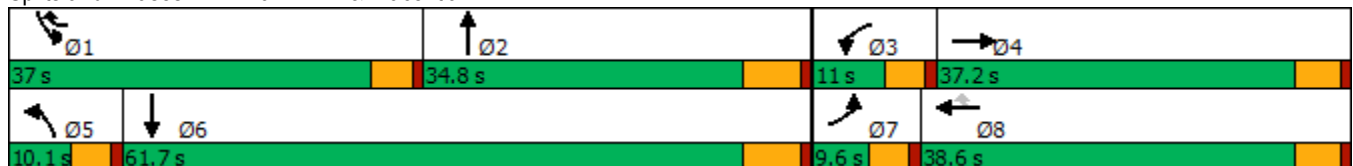


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖↗	↕	↖↗	↖	↕↗	↖	↕↗
Traffic Volume (vph)	4	46	202	42	404	17	301	640	520
Future Volume (vph)	4	46	202	42	404	17	301	640	520
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	1	5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.2	9.6	37.2	9.6	9.6	33.2	9.6	33.2
Total Split (s)	9.6	37.2	11.0	38.6	37.0	10.1	34.8	37.0	61.7
Total Split (%)	8.0%	31.0%	9.2%	32.2%	30.8%	8.4%	29.0%	30.8%	51.4%
Yellow Time (s)	3.6	4.2	3.6	4.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.2	13.7	6.6	18.3	49.9	5.4	18.5	33.6	53.3
Actuated g/C Ratio	0.06	0.15	0.07	0.20	0.56	0.06	0.21	0.38	0.59
v/c Ratio	0.05	0.27	0.92	0.13	0.47	0.18	0.74	1.11	0.29
Control Delay	49.5	30.9	83.8	30.7	6.0	51.0	34.0	100.3	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.5	30.9	83.8	30.7	6.0	51.0	34.0	100.3	12.1
LOS	D	C	F	C	A	D	C	F	B
Approach Delay		32.0		31.9			34.6		60.6
Approach LOS		C		C			C		E

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 89.6
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 46.4
 Intersection LOS: D
 Intersection Capacity Utilization 75.9%
 ICU Level of Service D
 Analysis Period (min) 15

























Splits and Phases: 7: Harvill Av. & Placentia Av.



HCM 6th Signalized Intersection Summary
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

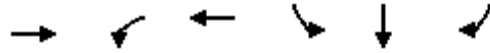
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (veh/h)	4	46	20	202	42	404	17	301	188	640	520	3
Future Volume (veh/h)	4	46	20	202	42	404	17	301	188	640	520	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	5	54	24	238	49	357	20	354	221	753	612	4
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	12	128	57	259	322	875	40	456	280	676	2074	14
Arrive On Green	0.01	0.10	0.10	0.07	0.17	0.17	0.02	0.21	0.21	0.37	0.56	0.56
Sat Flow, veh/h	1810	1246	554	3510	1900	1610	1810	2148	1317	1810	3677	24
Grp Volume(v), veh/h	5	0	78	238	49	357	20	296	279	753	300	316
Grp Sat Flow(s),veh/h/ln	1810	0	1800	1755	1900	1610	1810	1805	1661	1810	1805	1896
Q Serve(g_s), s	0.2	0.0	3.5	5.8	1.9	11.3	0.9	13.4	13.8	32.4	7.5	7.5
Cycle Q Clear(g_c), s	0.2	0.0	3.5	5.8	1.9	11.3	0.9	13.4	13.8	32.4	7.5	7.5
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.79	1.00		0.01
Lane Grp Cap(c), veh/h	12	0	184	259	322	875	40	383	353	676	1018	1069
V/C Ratio(X)	0.42	0.00	0.42	0.92	0.15	0.41	0.50	0.77	0.79	1.11	0.30	0.30
Avail Cap(c_a), veh/h	104	0	664	259	732	1222	115	595	548	676	1155	1214
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	0.0	36.5	39.9	30.7	11.6	41.9	32.2	32.3	27.1	9.9	9.9
Incr Delay (d2), s/veh	8.6	0.0	1.5	34.3	0.2	0.3	3.6	3.3	4.2	70.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.6	3.7	0.9	3.7	0.4	5.7	5.5	25.4	2.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.5	0.0	38.0	74.2	30.9	11.9	45.5	35.5	36.5	97.3	10.0	10.0
LnGrp LOS	D	A	D	E	C	B	D	D	D	F	B	B
Approach Vol, veh/h		83			644			595			1369	
Approach Delay, s/veh		38.9			36.4			36.3			58.0	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	37.0	24.6	11.0	14.1	6.5	55.1	5.2	19.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.2	4.6	6.2	4.6	5.2				
Max Green Setting (Gmax), s	32.4	28.6	6.4	32.0	5.5	55.5	5.0	33.4				
Max Q Clear Time (g_c+I1), s	34.4	15.8	7.8	5.5	2.9	9.5	2.2	13.3				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.3	0.0	3.5	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			47.4									
HCM 6th LOS			D									

Timings
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

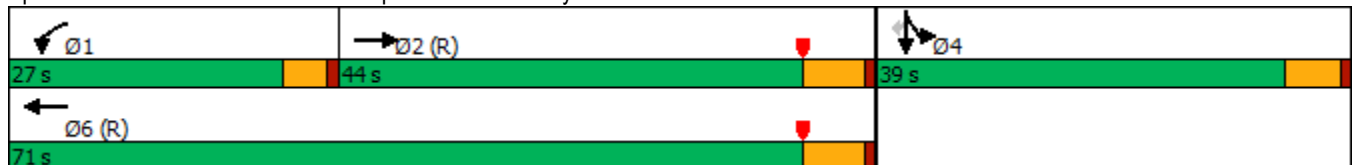


Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑	↑	↑
Traffic Volume (vph)	643	322	746	802	8	150
Future Volume (vph)	643	322	746	802	8	150
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	2	1	6	4	4	
Permitted Phases						4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	44.0	27.0	71.0	39.0	39.0	39.0
Total Split (%)	40.0%	24.5%	64.5%	35.5%	35.5%	35.5%
Yellow Time (s)	5.0	3.5	5.0	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)	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	38.7	21.8	65.0	33.5	33.5	33.5
Actuated g/C Ratio	0.35	0.20	0.59	0.30	0.30	0.30
v/c Ratio	0.74	0.91	0.35	0.78	0.79	0.25
Control Delay	33.3	52.0	6.5	46.5	47.5	5.7
Queue Delay	0.0	0.0	0.3	55.9	55.6	0.0
Total Delay	33.3	52.0	6.8	102.4	103.1	5.7
LOS	C	D	A	F	F	A
Approach Delay	33.3		20.4		87.5	
Approach LOS	C		C		F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 34 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 46.3
 Intersection LOS: D
 Intersection Capacity Utilization 113.7%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↖	↖
Traffic Volume (veh/h)	0	643	277	322	746	0	0	0	0	802	8	150
Future Volume (veh/h)	0	643	277	322	746	0	0	0	0	802	8	150
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	649	172	325	754	0				816	0	93
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99				0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	997	264	356	2133	0				1102	0	490
Arrive On Green	0.00	0.35	0.35	0.12	0.35	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	2918	747	1810	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	415	406	325	754	0				816	0	93
Grp Sat Flow(s),veh/h/ln	0	1805	1765	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	21.2	21.3	19.5	17.0	0.0				22.3	0.0	4.7
Cycle Q Clear(g_c), s	0.0	21.2	21.3	19.5	17.0	0.0				22.3	0.0	4.7
Prop In Lane	0.00		0.42	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	638	624	356	2133	0				1102	0	490
V/C Ratio(X)	0.00	0.65	0.65	0.91	0.35	0.00				0.74	0.00	0.19
Avail Cap(c_a), veh/h	0	638	624	370	2133	0				1102	0	490
HCM Platoon Ratio	1.00	1.00	1.00	0.60	0.60	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.42	0.42	0.89	0.89	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.9	29.9	47.6	20.0	0.0				34.3	0.0	28.2
Incr Delay (d2), s/veh	0.0	2.2	2.2	23.8	0.4	0.0				4.5	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.0	8.8	11.3	7.6	0.0				10.0	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.0	32.1	71.4	20.4	0.0				38.8	0.0	29.1
LnGrp LOS	A	C	C	E	C	A				D	A	C
Approach Vol, veh/h		821			1079						909	
Approach Delay, s/veh		32.1			35.8						37.8	
Approach LOS		C			D						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	26.1	44.9		39.0		71.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	22.5	38.0		33.5		65.0						
Max Q Clear Time (g_c+I1), s	21.5	23.3		24.3		19.0						
Green Ext Time (p_c), s	0.1	2.5		2.5		3.1						

Intersection Summary

HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶	↷	↶	↷	↶	↷	↷
Traffic Volume (vph)	105	1344	775	519	295	4	367
Future Volume (vph)	105	1344	775	519	295	4	367
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	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0	26.0	10.5	10.5	10.5
Total Split (s)	23.0	68.0	45.0	45.0	42.0	42.0	42.0
Total Split (%)	20.9%	61.8%	40.9%	40.9%	38.2%	38.2%	38.2%
Yellow Time (s)	3.5	5.0	5.0	5.0	4.5	4.5	4.5
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)	4.5	6.0	6.0	6.0	5.5	5.5	5.5
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)	12.1	70.3	53.7	53.7	28.2	28.2	28.2
Actuated g/C Ratio	0.11	0.64	0.49	0.49	0.26	0.26	0.26
v/c Ratio	0.57	0.62	0.47	0.52	0.36	0.36	0.83
Control Delay	42.0	19.4	21.8	4.0	34.3	34.2	46.1
Queue Delay	0.0	48.8	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	68.2	21.8	4.0	34.3	34.2	46.1
LOS	D	E	C	A	C	C	D
Approach Delay		66.3	14.6			40.8	
Approach LOS		E	B			D	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 41.7
 Intersection LOS: D
 Intersection Capacity Utilization 113.7%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)
 09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘	↖	↗			
Traffic Volume (veh/h)	105	1344	0	0	775	519	295	4	367	0	0	0
Future Volume (veh/h)	105	1344	0	0	775	519	295	4	367	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	112	1430	0	0	824	402	317	0	309			
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	139	2437	0	0	2012	896	798	0	355			
Arrive On Green	0.15	1.00	0.00	0.00	0.56	0.56	0.22	0.00	0.22			
Sat Flow, veh/h	1810	3705	0	0	3705	1608	3619	0	1610			
Grp Volume(v), veh/h	112	1430	0	0	824	402	317	0	309			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1608	1810	0	1610			
Q Serve(g_s), s	6.6	0.0	0.0	0.0	14.4	16.2	8.2	0.0	20.4			
Cycle Q Clear(g_c), s	6.6	0.0	0.0	0.0	14.4	16.2	8.2	0.0	20.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	139	2437	0	0	2012	896	798	0	355			
V/C Ratio(X)	0.81	0.59	0.00	0.00	0.41	0.45	0.40	0.00	0.87			
Avail Cap(c_a), veh/h	304	2437	0	0	2012	896	1201	0	534			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.58	0.58	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	45.8	0.0	0.0	0.0	14.0	14.4	36.6	0.0	41.4			
Incr Delay (d2), s/veh	6.3	0.6	0.0	0.0	0.6	1.6	0.3	0.0	9.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.9	0.2	0.0	0.0	5.4	5.6	3.6	0.0	8.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.0	0.6	0.0	0.0	14.6	16.0	37.0	0.0	51.2			
LnGrp LOS	D	A	A	A	B	B	D	A	D			
Approach Vol, veh/h		1542			1226			626				
Approach Delay, s/veh		4.3			15.0			44.0				
Approach LOS		A			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		80.3			12.9	67.3		29.7				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		62.0			18.5	39.0		36.5				
Max Q Clear Time (g_c+I1), s		2.0			8.6	18.2		22.4				
Green Ext Time (p_c), s		7.7			0.2	3.9		1.9				

Intersection Summary

HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

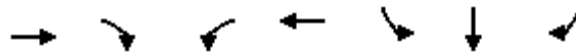
Notes

User approved volume balancing among the lanes for turning movement.

Timings
10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑	↑	↑
Traffic Volume (vph)	682	173	247	574	355	1	70
Future Volume (vph)	682	173	247	574	355	1	70
Turn Type	NA	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	4		3	8		6	
Permitted Phases		4			6		6
Detector Phase	4	4	3	8	6	6	6
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	23.8	23.8	23.8
Total Split (s)	36.4	36.4	25.4	61.8	28.2	28.2	28.2
Total Split (%)	40.4%	40.4%	28.2%	68.7%	31.3%	31.3%	31.3%
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	None	C-Min	C-Min	C-Min
Act Effct Green (s)	26.7	26.7	11.3	42.5	35.9	35.9	35.9
Actuated g/C Ratio	0.30	0.30	0.13	0.47	0.40	0.40	0.40
v/c Ratio	0.69	0.31	0.61	0.37	0.28	0.28	0.11
Control Delay	31.2	4.6	37.8	21.6	22.3	22.3	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	4.6	37.8	21.6	22.3	22.3	4.7
LOS	C	A	D	C	C	C	A
Approach Delay	25.8			26.5		19.4	
Approach LOS	C			C		B	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2: and 6:SBTL, Start of Yellow, Master Intersection
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 24.8
 Intersection LOS: C
 Intersection Capacity Utilization 50.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 10: I-215 SB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↘↗	↑↑					↘	↖	↗
Traffic Volume (veh/h)	0	682	173	247	574	0	0	0	0	355	1	70
Future Volume (veh/h)	0	682	173	247	574	0	0	0	0	355	1	70
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	741	188	268	624	0				387	0	76
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	946	422	359	1499	0				1649	0	734
Arrive On Green	0.00	0.26	0.26	0.03	0.14	0.00				0.46	0.00	0.46
Sat Flow, veh/h	0	3705	1610	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	741	188	268	624	0				387	0	76
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	17.2	8.8	6.8	14.2	0.0				5.9	0.0	2.4
Cycle Q Clear(g_c), s	0.0	17.2	8.8	6.8	14.2	0.0				5.9	0.0	2.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	946	422	359	1499	0				1649	0	734
V/C Ratio(X)	0.00	0.78	0.45	0.75	0.42	0.00				0.23	0.00	0.10
Avail Cap(c_a), veh/h	0	1227	547	811	2246	0				1649	0	734
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.96	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	30.8	27.7	42.3	28.8	0.0				14.9	0.0	14.0
Incr Delay (d2), s/veh	0.0	0.2	0.1	1.1	0.2	0.0				0.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.3	3.3	3.1	6.9	0.0				2.4	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.1	27.8	43.5	29.0	0.0				15.3	0.0	14.3
LnGrp LOS	A	C	C	D	C	A				B	A	B
Approach Vol, veh/h		929			892						463	
Approach Delay, s/veh		30.4			33.4						15.1	
Approach LOS		C			C						B	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			13.8	29.4		46.8		43.2				
Change Period (Y+Rc), s			4.6	5.8		5.8		5.8				
Max Green Setting (Gmax), s			20.8	30.6		22.4		56.0				
Max Q Clear Time (g_c+I1), s			8.8	19.2		7.9		16.2				
Green Ext Time (p_c), s			0.4	4.4		1.4		4.9				
Intersection Summary												
HCM 6th Ctrl Delay			28.5									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

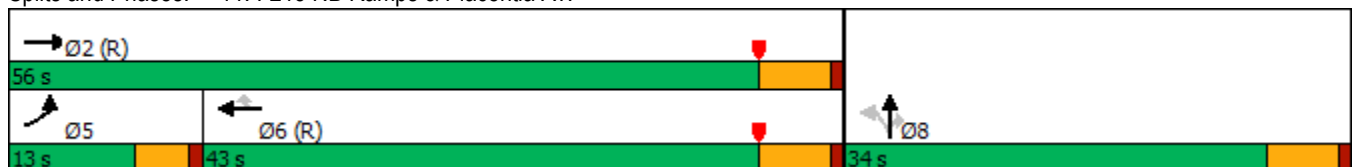


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↶	↶↶	↶↶	↷	↶	↶	↷
Traffic Volume (vph)	71	967	640	278	183	0	231
Future Volume (vph)	71	967	640	278	183	0	231
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	6			8	
Permitted Phases				6	8		8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
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	23.8	23.8	23.8
Total Split (s)	13.0	56.0	43.0	43.0	34.0	34.0	34.0
Total Split (%)	14.4%	62.2%	47.8%	47.8%	37.8%	37.8%	37.8%
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-Min	C-Min	C-Min	None	None	None
Act Effct Green (s)	6.5	62.7	53.6	53.6	15.7	15.7	15.7
Actuated g/C Ratio	0.07	0.70	0.60	0.60	0.17	0.17	0.17
v/c Ratio	0.31	0.42	0.32	0.28	0.33	0.34	0.71
Control Delay	58.0	3.5	11.3	2.3	33.9	33.9	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	3.5	11.3	2.3	33.9	33.9	32.5
LOS	E	A	B	A	C	C	C
Approach Delay		7.2	8.6			33.1	
Approach LOS		A	A			C	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 12.3
 Intersection LOS: B
 Intersection Capacity Utilization 50.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 11: I-215 NB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	967	0	0	640	278	183	0	231	0	0	0
Future Volume (veh/h)	71	967	0	0	640	278	183	0	231	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	77	1051	0	0	696	302	199	0	251			
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	167	2472	0	0	2117	944	674	0	300			
Arrive On Green	0.03	0.46	0.00	0.00	0.59	0.59	0.19	0.00	0.19			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	77	1051	0	0	696	302	199	0	251			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	1.9	17.6	0.0	0.0	8.9	8.6	4.3	0.0	13.5			
Cycle Q Clear(g_c), s	1.9	17.6	0.0	0.0	8.9	8.6	4.3	0.0	13.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	167	2472	0	0	2117	944	674	0	300			
V/C Ratio(X)	0.46	0.43	0.00	0.00	0.33	0.32	0.30	0.00	0.84			
Avail Cap(c_a), veh/h	328	2472	0	0	2117	944	1134	0	505			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.76	0.76	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.4	12.4	0.0	0.0	9.5	9.5	31.5	0.0	35.3			
Incr Delay (d2), s/veh	0.6	0.4	0.0	0.0	0.4	0.9	0.2	0.0	6.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	7.4	0.0	0.0	3.0	2.8	1.8	0.0	5.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	12.8	0.0	0.0	10.0	10.4	31.8	0.0	41.4			
LnGrp LOS	D	B	A	A	A	B	C	A	D			
Approach Vol, veh/h		1128			998			450				
Approach Delay, s/veh		14.9			10.1			37.2				
Approach LOS		B			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		67.4			8.9	58.6		22.6				
Change Period (Y+Rc), s		5.8			4.6	5.8		5.8				
Max Green Setting (Gmax), s		50.2			8.4	37.2		28.2				
Max Q Clear Time (g_c+I1), s		19.6			3.9	10.9		15.5				
Green Ext Time (p_c), s		8.0			0.0	5.8		1.2				

Intersection Summary

HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

**APPENDIX 5.2: EAP (2025) CONDITIONS TRAFFIC SIGNAL WARRANT
ANALYSIS WORKSHEETS**

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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>EAP</u>
Jurisdiction: <u>County of Riverside</u>				<u>JB</u>		<u>DATE 09/27/22</u>
Major Street: <u>Rider Street</u>				<u>JB</u>		<u>DATE 09/27/22</u>
Minor Street: <u>Driveway 1</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes = <u>1</u>	lane	Minor Street Approach Lanes = <u>1</u>	lane			
Major Street Future ADT = <u>1,868</u>	vpd	Minor Street Future ADT = <u>67</u>	vpd			
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach	Number of lanes for moving traffic on each approach				
<u>Major Street</u>	<u>Minor Street</u>				
1 1,868	1 67	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach	Number of lanes for moving traffic on each approach				
<u>Major Street</u>	<u>Minor Street</u>				
1 1,868	1 67	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
No one condition satisfied, but following conditions fulfilled 80% of more	XX				
	<u>A</u>				
	3%				
	<u>B</u>				
	6%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAP Conditions - Weekday PM Peak Hour**

Major Street Name = **Rider Street**

Total of Both Approaches (VPH) = **168**

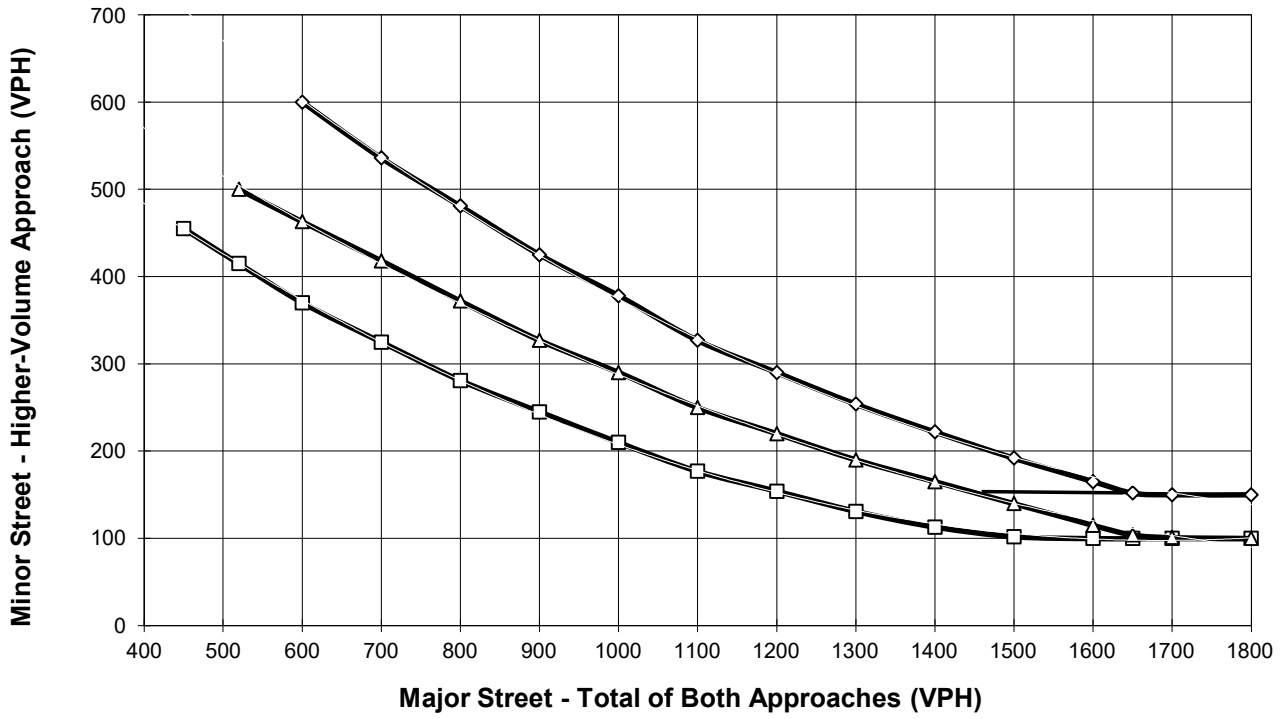
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Patterson Avenue**

High Volume Approach (VPH) = **43**

Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- x— Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane



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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>JB</u>	TRAFFIC CONDITIONS	EAP
Jurisdiction: <u>County of Riverside</u>				CHK <u>JB</u>		DATE <u>09/27/22</u>
Major Street: <u>Patterson Avenue</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Driveway 2</u>					Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes =		<u>1</u> lane
Major Street Future ADT =		<u>844</u>	vpd	Minor Street Future ADT =		<u>350</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
XX							
CONDITION A - Minimum Vehicular Volume							
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
		XX		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 844		1 350		8,000	5,600	2,400	1,680
2 +		1		9,600	6,720	2,400	1,680
2 +		2 +		9,600	6,720	3,200	2,240
1		2 +		8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic							
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
		XX		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 844		1 350		12,000	8,400	1,200	850
2 +		1		14,400	10,080	1,200	850
2 +		2 +		14,400	10,080	1,600	1,120
1		2 +		12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B							
<u>Satisfied</u>		<u>Not Satisfied</u>		2 CONDITIONS		2 CONDITIONS	
		XX		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more		<u>A</u>	<u>B</u>				
		11%	7%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



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

	<u> </u> DIST	<u> </u> CO	<u> </u> RTE	<u> </u> PM		TRAFFIC CONDITIONS	EAP
Jurisdiction:	<u>County of Riverside</u>				CALC	<u>JB</u>	DATE <u>09/27/22</u>
Major Street:	<u>Patterson Avenue</u>				CHK	<u>JB</u>	DATE <u>09/27/22</u>
Minor Street:	<u>Driveway 3</u>					Critical Approach Speed (Major)	<u>25</u> mph
						Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =	<u>1</u> lane				Minor Street Approach Lanes:	<u>1</u> lane	
Major Street Future ADT =	<u>741</u> vpd				Minor Street Future ADT =	<u>213</u> vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);	<input type="checkbox"/>						URBAN (U)
In built up area of isolated community of < 10,000 population	<input type="checkbox"/>						

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u> XX	<u>RURAL</u>	Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u> XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 741	1 213	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u> XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 741	1 213	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u> XX				
No one condition satisfied, but following conditions fulfilled 80% of more					
	A 9%	B 6%			

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-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 Conditions - Weekday PM Peak Hour**

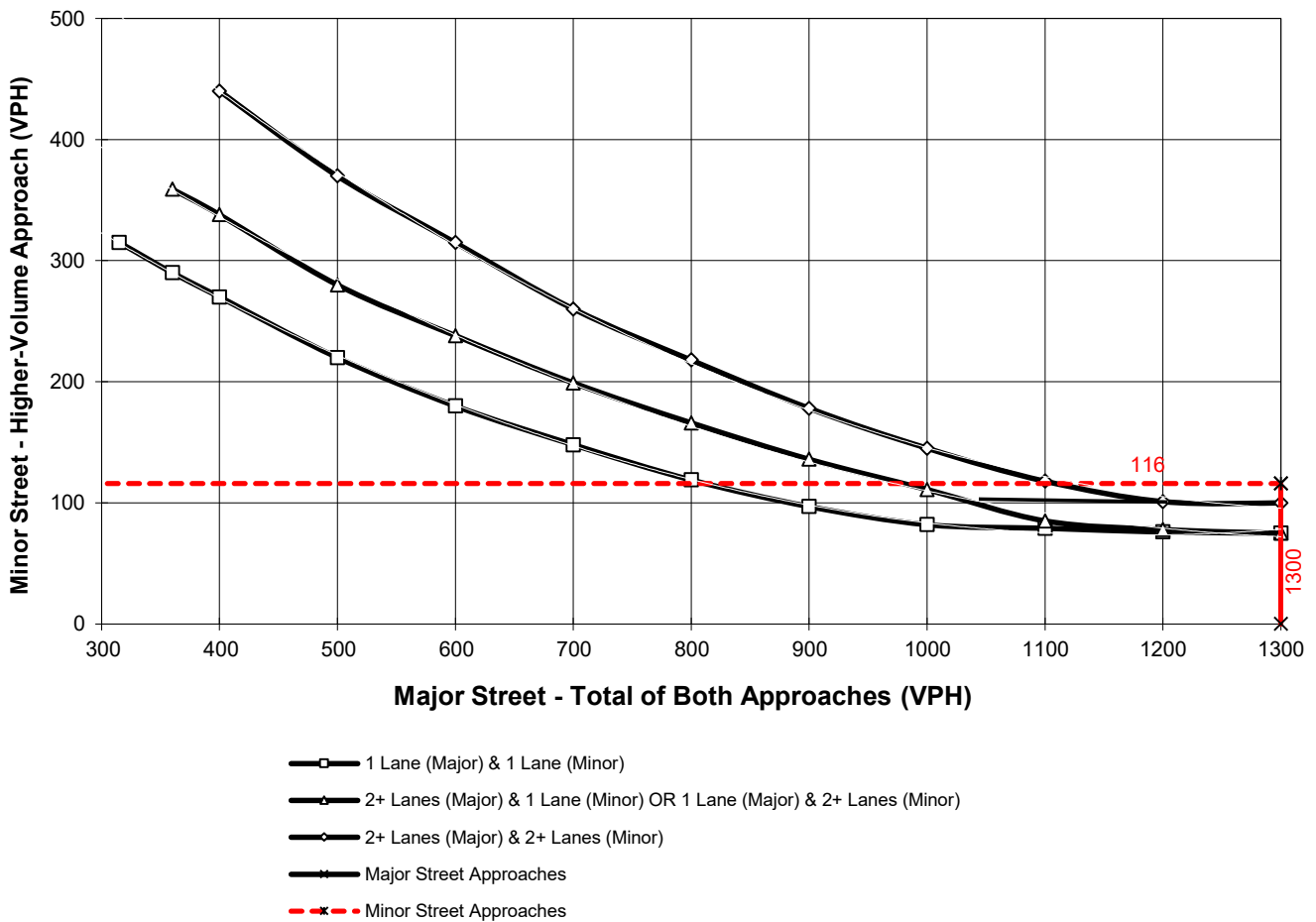
Major Street Name = **Harvill Avenue**

Total of Both Approaches (VPH) = **1350**
 Number of Approach Lanes Major Street = **2**

Minor Street Name = **Rider Street**

High Volume Approach (VPH) = **116**
 Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



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

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

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

Traffic Conditions = **EAP Conditions - Weekday PM Peak Hour**

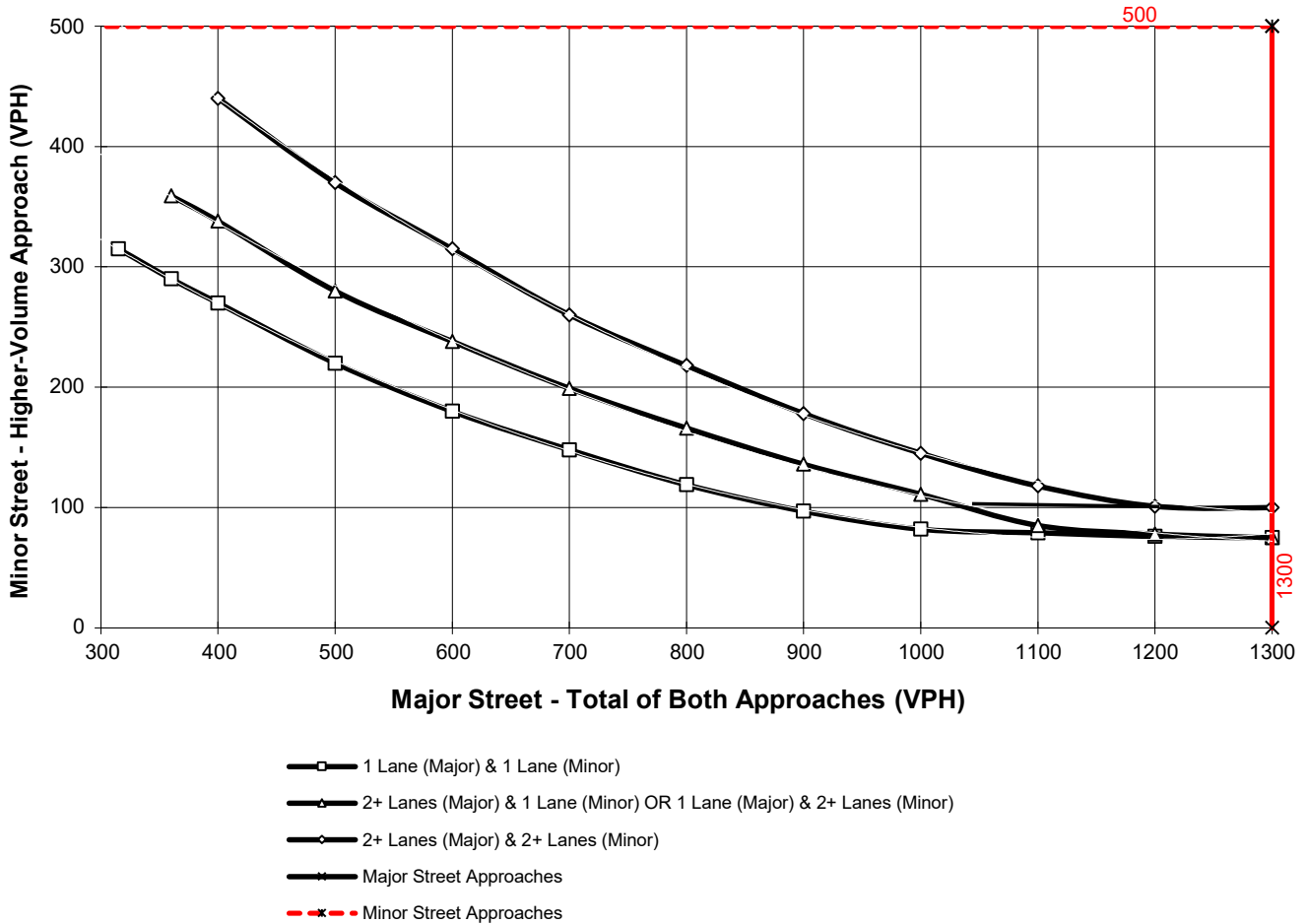
Major Street Name = **Harvill Avenue**

Total of Both Approaches (VPH) = **1669**
 Number of Approach Lanes Major Street = **2**

Minor Street Name = **Placentia Avenue**

High Volume Approach (VPH) = **648**
 Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



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

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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	EAP
Jurisdiction: <u>County of Riverside</u>				CALC <u>JB</u>	DATE <u>09/27/22</u>
Major Street: <u>Placentia Avenue</u>				CHK <u>JB</u>	DATE <u>09/27/22</u>
Minor Street: <u>I-215 SB Ramps</u>				Critical Approach Speed (Major) <u>45</u> mph	
				Critical Approach Speed (Minor) <u>45</u> mph	
Major Street Approach Lanes = <u>2</u> lane				Minor Street Approach Lanes: <u>1</u> lane	
Major Street Future ADT = <u>22,579</u> vpd				Minor Street Future ADT = <u>5,613</u> vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);				<input checked="" type="checkbox"/>	
				or	RURAL (R)
In built up area of isolated community of < 10,000 population				<input type="checkbox"/>	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
CONDITION A - Minimum Vehicular Volume		EADT			
<u>Satisfied</u>	<u>Not Satisfied</u>	Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
XX		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1	1	8,000	5,600	2,400	1,680
2 + 22,579	1 5,613	9,600	6,720 *	2,400	1,680 *
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
XX		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1	1	12,000	8,400	1,200	850
2 + 22,579	1 5,613	14,400	10,080 *	1,200	850 *
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
XX					
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	100%				
	<u>B</u>				
	100%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	TRAFFIC CONDITIONS	EAP
Jurisdiction: <u>County of Riverside</u>				CALC <u>JB</u>	DATE <u>09/27/22</u>
Major Street: <u>Placentia Avenue</u>				CHK <u>JB</u>	DATE <u>09/27/22</u>
Minor Street: <u>I-215 NB Ramps</u>				Critical Approach Speed (Major)	<u>45</u> mph
				Critical Approach Speed (Minor)	<u>45</u> mph
Major Street Approach Lanes =	<u>2</u>	lane		Minor Street Approach Lanes	<u>1</u> lane
Major Street Future ADT =	<u>27,000</u>	vpd		Minor Street Future ADT =	<u>5,065</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input checked="" type="checkbox"/>
					or
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT				
CONDITION A - Minimum Vehicular Volume	XX					
<u>Satisfied</u>	<u>Not Satisfied</u>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)		
XX	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	
Number of lanes for moving traffic on each approach						
<u>Major Street</u>	<u>Minor Street</u>					
1	1	8,000	5,600	2,400	1,680	
2 + 27,000	1 5,065	9,600	6,720 *	2,400	1,680 *	
2 +	2 +	9,600	6,720	3,200	2,240	
1	2 +	8,000	5,600	3,200	2,240	
CONDITION B - Interruption of Continuous Traffic						
<u>Satisfied</u>	<u>Not Satisfied</u>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)		
XX	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	
Number of lanes for moving traffic on each approach						
<u>Major Street</u>	<u>Minor Street</u>					
1	1	12,000	8,400	1,200	850	
2 + 27,000	1 5,065	14,400	10,080 *	1,200	850 *	
2 +	2 +	14,400	10,080	1,600	1,120	
1	2 +	12,000	8,400	1,600	1,120	
Combination of CONDITIONS A + B						
<u>Satisfied</u>	<u>Not Satisfied</u>	2 CONDITIONS 80%		2 CONDITIONS 80%		
XX	XX					
No one condition satisfied, but following conditions fulfilled 80% of more						
	<u>A</u>	<u>B</u>				
	100%	100%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

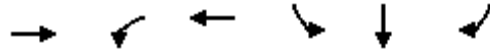
The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

**APPENDIX 5.3: EAP (2025) CONDITIONS FREEWAY OFF-RAMP
QUEUING ANALYSIS WORKSHEETS**

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Queues

8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	723	286	971	430	432	178
v/c Ratio	0.54	0.84	0.46	0.82	0.83	0.31
Control Delay	22.8	40.2	5.5	50.2	50.4	11.4
Queue Delay	0.0	0.0	0.5	53.1	53.1	0.0
Total Delay	22.8	40.2	6.0	103.4	103.5	11.4
Queue Length 50th (ft)	163	97	94	295	296	27
Queue Length 95th (ft)	224	#289	20	#468	#469	82
Internal Link Dist (ft)	1408		344		1111	
Turn Bay Length (ft)		100		510		510
Base Capacity (vph)	1332	369	2133	522	523	578
Starvation Cap Reductn	0	0	673	0	0	0
Spillback Cap Reductn	16	0	0	158	159	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.78	0.67	1.18	1.19	0.31

Intersection Summary

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

Queues

9: I-215 NB Ramps & Ramona Exwy.

09/27/2022

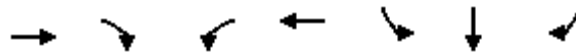


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	134	1171	945	607	166	164	502
v/c Ratio	0.61	0.55	0.61	0.60	0.32	0.31	0.92
Control Delay	50.9	14.2	28.1	6.2	30.3	30.2	54.5
Queue Delay	0.0	24.9	0.0	0.0	0.0	0.0	0.0
Total Delay	50.9	39.1	28.1	6.2	30.3	30.2	54.5
Queue Length 50th (ft)	94	445	280	22	90	89	287
Queue Length 95th (ft)	147	522	380	125	150	149	#478
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	303	2126	1539	1008	569	570	585
Starvation Cap Reductn	0	996	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	1.04	0.61	0.60	0.29	0.29	0.86

Intersection Summary

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

Queues
10: I-215 SB Ramps & Placentia Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	591	147	160	530	149	149	83
v/c Ratio	0.69	0.30	0.49	0.39	0.18	0.18	0.10
Control Delay	35.5	6.0	44.0	18.3	15.4	15.4	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	6.0	44.0	18.3	15.4	15.4	3.8
Queue Length 50th (ft)	162	0	47	105	47	47	0
Queue Length 95th (ft)	200	42	77	141	103	103	25
Internal Link Dist (ft)	1019			680		1465	
Turn Bay Length (ft)		230	250				330
Base Capacity (vph)	1291	672	521	2013	840	840	836
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	0.46	0.22	0.31	0.26	0.18	0.18	0.10

Intersection Summary

Queues
11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

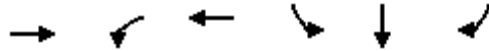


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	88	800	470	342	111	111	288
v/c Ratio	0.34	0.33	0.23	0.32	0.32	0.32	0.72
Control Delay	41.1	3.8	12.5	2.8	30.6	30.6	31.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	3.8	12.5	2.8	30.6	30.6	31.8
Queue Length 50th (ft)	18	10	68	0	56	56	106
Queue Length 95th (ft)	34	208	129	49	92	92	168
Internal Link Dist (ft)		680	570			1375	
Turn Bay Length (ft)	260			365	575		
Base Capacity (vph)	328	2404	2027	1057	766	766	771
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	0.27	0.33	0.23	0.32	0.14	0.14	0.37

Intersection Summary

Queues

8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	929	325	754	405	413	152
v/c Ratio	0.74	0.91	0.35	0.78	0.79	0.25
Control Delay	33.3	52.0	6.5	46.5	47.5	5.7
Queue Delay	0.0	0.0	0.3	55.9	55.6	0.0
Total Delay	33.3	52.0	6.8	102.4	103.1	5.7
Queue Length 50th (ft)	282	224	137	273	280	0
Queue Length 95th (ft)	361	#354	18	#424	#437	46
Internal Link Dist (ft)	1408		344		1111	
Turn Bay Length (ft)		100		510		510
Base Capacity (vph)	1256	369	2133	522	523	597
Starvation Cap Reductn	0	0	696	0	0	0
Spillback Cap Reductn	7	0	0	208	209	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.88	0.52	1.29	1.32	0.25

Intersection Summary

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

Queues

9: I-215 NB Ramps & Ramona Exwy.

09/27/2022

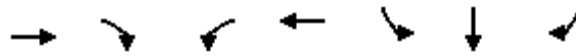


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	112	1430	824	552	160	158	390
v/c Ratio	0.57	0.62	0.47	0.52	0.36	0.36	0.83
Control Delay	42.0	19.4	21.8	4.0	34.3	34.2	46.1
Queue Delay	0.0	48.8	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	68.2	21.8	4.0	34.3	34.2	46.1
Queue Length 50th (ft)	74	517	197	0	96	95	214
Queue Length 95th (ft)	m92	579	313	72	145	143	302
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	303	2308	1763	1058	569	571	585
Starvation Cap Reductn	0	1008	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	1.10	0.47	0.52	0.28	0.28	0.67

Intersection Summary

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

Queues
10: I-215 SB Ramps & Placentia Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	741	188	268	624	193	194	76
v/c Ratio	0.69	0.31	0.61	0.37	0.28	0.28	0.11
Control Delay	31.2	4.6	37.8	21.6	22.3	22.3	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	4.6	37.8	21.6	22.3	22.3	4.7
Queue Length 50th (ft)	195	0	71	127	76	76	0
Queue Length 95th (ft)	226	41	107	172	158	158	25
Internal Link Dist (ft)	1019			680		1465	
Turn Bay Length (ft)		230	250				330
Base Capacity (vph)	1254	684	809	2246	683	685	697
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	0.59	0.27	0.33	0.28	0.28	0.28	0.11

Intersection Summary

Queues
11: I-215 NB Ramps & Placentia Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	77	1051	696	302	99	100	251
v/c Ratio	0.31	0.42	0.32	0.28	0.33	0.34	0.71
Control Delay	58.0	3.5	11.3	2.3	33.9	33.9	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	3.5	11.3	2.3	33.9	33.9	32.5
Queue Length 50th (ft)	24	28	98	0	53	53	87
Queue Length 95th (ft)	m44	102	174	42	91	91	152
Internal Link Dist (ft)		680	570			1375	
Turn Bay Length (ft)	260			365	575		
Base Capacity (vph)	326	2515	2148	1083	537	537	567
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	0.42	0.32	0.28	0.18	0.19	0.44

Intersection Summary

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

**APPENDIX 5.4: EAP (2025) CONDITIONS INTERSECTION OPERATIONS
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings
6: Harvill Av. & Rider St.

Rider & Patterson Business Center (JN 14198)

09/27/2022

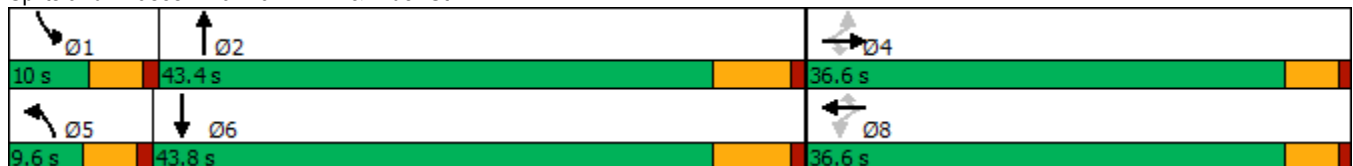


Lane Group	EBL	EBT	EBR	WBL	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↓	↖	↑↓
Traffic Volume (vph)	61	1	33	2	16	38	602	18	409
Future Volume (vph)	61	1	33	2	16	38	602	18	409
Turn Type	Perm	NA	Perm	Perm	Perm	Prot	NA	Prot	NA
Protected Phases		4				5	2	1	6
Permitted Phases	4		4	8	8				
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	36.6	36.6	36.6	36.6	36.6	9.6	28.2	9.6	28.2
Total Split (s)	36.6	36.6	36.6	36.6	36.6	9.6	43.4	10.0	43.8
Total Split (%)	40.7%	40.7%	40.7%	40.7%	40.7%	10.7%	48.2%	11.1%	48.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	16.1	16.1	16.1	16.1	16.1	7.0	23.3	7.1	21.6
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44	0.19	0.63	0.19	0.59
v/c Ratio	0.10	0.00	0.05	0.00	0.02	0.12	0.28	0.05	0.23
Control Delay	12.1	13.0	0.1	12.5	0.1	24.3	10.1	24.7	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	13.0	0.1	12.5	0.1	24.3	10.1	24.7	11.2
LOS	B	B	A	B	A	C	B	C	B
Approach Delay		7.9					11.0		11.7
Approach LOS		A					B		B

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 36.7	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.28	
Intersection Signal Delay: 10.9	Intersection LOS: B
Intersection Capacity Utilization 46.3%	ICU Level of Service A
Analysis Period (min) 15	

























Splits and Phases: 6: Harvill Av. & Rider St.



HCM 6th Signalized Intersection Summary
6: Harvill Av. & Rider St.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	1	33	2	0	16	38	602	4	18	409	49
Future Volume (veh/h)	61	1	33	2	0	16	38	602	4	18	409	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	64	1	35	2	0	17	40	634	4	19	431	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	482	346	293	481	346	293	84	1194	8	44	981	118
Arrive On Green	0.18	0.18	0.18	0.18	0.00	0.18	0.05	0.32	0.32	0.02	0.30	0.30
Sat Flow, veh/h	1440	1900	1610	1439	1900	1610	1810	3678	23	1810	3245	389
Grp Volume(v), veh/h	64	1	35	2	0	17	40	311	327	19	239	244
Grp Sat Flow(s),veh/h/ln	1440	1900	1610	1439	1900	1610	1810	1805	1896	1810	1805	1829
Q Serve(g_s), s	1.2	0.0	0.6	0.0	0.0	0.3	0.7	4.6	4.6	0.3	3.5	3.5
Cycle Q Clear(g_c), s	1.2	0.0	0.6	0.1	0.0	0.3	0.7	4.6	4.6	0.3	3.5	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.21
Lane Grp Cap(c), veh/h	482	346	293	481	346	293	84	586	616	44	546	553
V/C Ratio(X)	0.13	0.00	0.12	0.00	0.00	0.06	0.47	0.53	0.53	0.43	0.44	0.44
Avail Cap(c_a), veh/h	1622	1851	1569	1620	1851	1569	275	2044	2147	297	2066	2094
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.5	11.0	11.2	11.0	0.0	11.1	15.3	9.0	9.0	15.8	9.2	9.2
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.0	0.1	1.5	0.7	0.7	2.5	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.2	0.0	0.0	0.1	0.2	1.0	1.0	0.1	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.6	11.0	11.4	11.0	0.0	11.2	16.8	9.8	9.8	18.3	9.8	9.8
LnGrp LOS	B	B	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		100			19			678			502	
Approach Delay, s/veh		11.5			11.2			10.2			10.1	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.4	16.9		10.6	6.1	16.1		10.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.4	37.2		32.0	5.0	37.6		32.0				
Max Q Clear Time (g_c+I1), s	2.3	6.6		3.2	2.7	5.5		2.3				
Green Ext Time (p_c), s	0.0	3.5		0.3	0.0	2.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				10.3								
HCM 6th LOS				B								

Timings
6: Harvill Av. & Rider St.

Rider & Patterson Business Center (JN 14198)

09/27/2022

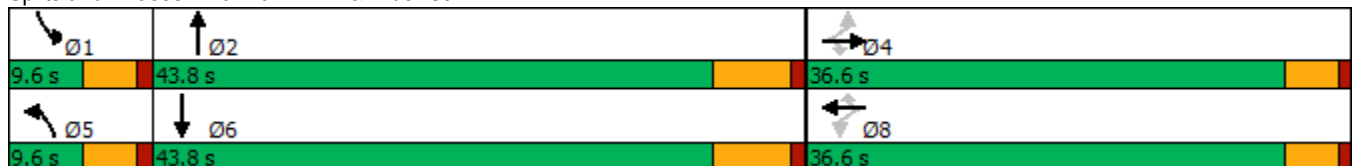


Lane Group	EBL	EBT	EBR	WBL	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↗	↖	↕	↖	↕
Traffic Volume (vph)	66	1	50	3	4	31	486	1	772
Future Volume (vph)	66	1	50	3	4	31	486	1	772
Turn Type	Perm	NA	Perm	Perm	Perm	Prot	NA	Prot	NA
Protected Phases		4				5	2	1	6
Permitted Phases	4		4	8	8				
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	36.6	36.6	36.6	36.6	36.6	9.6	28.2	9.6	28.2
Total Split (s)	36.6	36.6	36.6	36.6	36.6	9.6	43.8	9.6	43.8
Total Split (%)	40.7%	40.7%	40.7%	40.7%	40.7%	10.7%	48.7%	10.7%	48.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	15.9	15.9	15.9	15.9	15.9	6.8	27.7	6.8	26.0
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34	0.14	0.59	0.14	0.55
v/c Ratio	0.16	0.00	0.10	0.01	0.01	0.14	0.27	0.00	0.49
Control Delay	18.2	18.0	1.9	17.7	0.0	30.9	9.4	32.0	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	18.0	1.9	17.7	0.0	30.9	9.4	32.0	12.6
LOS	B	B	A	B	A	C	A	C	B
Approach Delay		11.2					10.6		12.6
Approach LOS		B					B		B

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 47.2
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.49
 Intersection Signal Delay: 11.8
 Intersection Capacity Utilization 52.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

























Splits and Phases: 6: Harvill Av. & Rider St.



HCM 6th Signalized Intersection Summary
6: Harvill Av. & Rider St.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	1	50	3	0	4	31	486	3	1	772	57
Future Volume (veh/h)	66	1	50	3	0	4	31	486	3	1	772	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	77	1	58	3	0	5	36	565	3	1	898	66
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	444	361	306	430	361	306	74	1624	9	4	1369	101
Arrive On Green	0.19	0.19	0.19	0.19	0.00	0.19	0.04	0.44	0.44	0.00	0.40	0.40
Sat Flow, veh/h	1434	1900	1610	1365	1900	1610	1810	3682	20	1810	3409	251
Grp Volume(v), veh/h	77	1	58	3	0	5	36	277	291	1	475	489
Grp Sat Flow(s),veh/h/ln	1434	1900	1610	1365	1900	1610	1810	1805	1896	1810	1805	1855
Q Serve(g_s), s	1.9	0.0	1.3	0.1	0.0	0.1	0.8	4.2	4.2	0.0	9.0	9.0
Cycle Q Clear(g_c), s	1.9	0.0	1.3	0.1	0.0	0.1	0.8	4.2	4.2	0.0	9.0	9.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.14
Lane Grp Cap(c), veh/h	444	361	306	430	361	306	74	796	836	4	725	745
V/C Ratio(X)	0.17	0.00	0.19	0.01	0.00	0.02	0.49	0.35	0.35	0.23	0.66	0.66
Avail Cap(c_a), veh/h	1268	1452	1231	1215	1452	1231	216	1621	1703	216	1621	1666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.5	13.8	14.3	13.8	0.0	13.8	19.6	7.7	7.7	20.9	10.2	10.2
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.0	0.0	0.0	1.8	0.3	0.2	9.8	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.4	0.0	0.0	0.0	0.3	0.9	1.0	0.0	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	13.8	14.6	13.8	0.0	13.8	21.5	8.0	8.0	30.6	11.2	11.2
LnGrp LOS	B	B	B	B	A	B	C	A	A	C	B	B
Approach Vol, veh/h		136			8			604			965	
Approach Delay, s/veh		14.6			13.8			8.8			11.2	
Approach LOS		B			B			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	24.7		12.5	6.3	23.0		12.5				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	37.6		32.0	5.0	37.6		32.0				
Max Q Clear Time (g_c+I1), s	2.0	6.2		3.9	2.8	11.0		2.1				
Green Ext Time (p_c), s	0.0	3.1		0.4	0.0	5.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				10.6								
HCM 6th LOS				B								

APPENDIX 6.1: EAPC (2025) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↘	↑		↘
Traffic Vol, veh/h	83	0	9	40	0	9
Future Vol, veh/h	83	0	9	40	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	90	0	10	43	0	10

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	-	90	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.2	-	-
Pot Cap-1 Maneuver	-	0	1518	-	0
Stage 1	-	0	-	-	0
Stage 2	-	0	-	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1518	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	973	-	1518	-
HCM Lane V/C Ratio	0.01	-	0.006	-
HCM Control Delay (s)	8.7	-	7.4	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0	-	0	-

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑	↗	↙	↗			↕	
Traffic Vol, veh/h	0	81	10	35	46	9	4	0	15	4	2	0
Future Vol, veh/h	0	81	10	35	46	9	4	0	15	4	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	100	-	100	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	103	13	44	58	11	5	0	19	5	3	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	69	0	0	116	0	0	256	260	103	265	262	58
Stage 1	-	-	-	-	-	-	103	103	-	146	146	-
Stage 2	-	-	-	-	-	-	153	157	-	119	116	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1545	-	-	1485	-	-	701	648	957	692	646	1014
Stage 1	-	-	-	-	-	-	908	814	-	861	780	-
Stage 2	-	-	-	-	-	-	854	772	-	890	803	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1545	-	-	1485	-	-	683	629	957	663	627	1014
Mov Cap-2 Maneuver	-	-	-	-	-	-	683	629	-	663	627	-
Stage 1	-	-	-	-	-	-	908	814	-	861	757	-
Stage 2	-	-	-	-	-	-	826	749	-	872	803	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.9			9.1			10.6		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	683	957	1545	-	-	1485	-	-	651
HCM Lane V/C Ratio	0.007	0.02	-	-	-	0.03	-	-	0.012
HCM Control Delay (s)	10.3	8.8	0	-	-	7.5	-	-	10.6
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0.1	-	-	0

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	1	19	11	33	14
Future Vol, veh/h	8	1	19	11	33	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	1	-	-	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	1	21	12	36	15

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	98	44	51	0	0
Stage 1	44	-	-	-	-
Stage 2	54	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	906	1032	1568	-	-
Stage 1	984	-	-	-	-
Stage 2	974	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	894	1032	1568	-	-
Mov Cap-2 Maneuver	852	-	-	-	-
Stage 1	971	-	-	-	-
Stage 2	974	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	4.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1568	-	869	-	-
HCM Lane V/C Ratio	0.013	-	0.011	-	-
HCM Control Delay (s)	7.3	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↑	↗
Traffic Vol, veh/h	0	11	0	30	14	20
Future Vol, veh/h	0	11	0	30	14	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
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	12	0	33	15	22

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	15	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	1070	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	1070	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

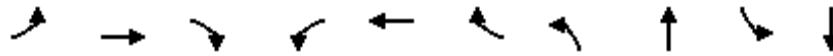
Approach	EB	NB	SB
HCM Control Delay, s	8.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 1070	-	-
HCM Lane V/C Ratio	- 0.011	-	-
HCM Control Delay (s)	- 8.4	-	-
HCM Lane LOS	- A	-	-
HCM 95th %tile Q(veh)	- 0	-	-

Timings
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

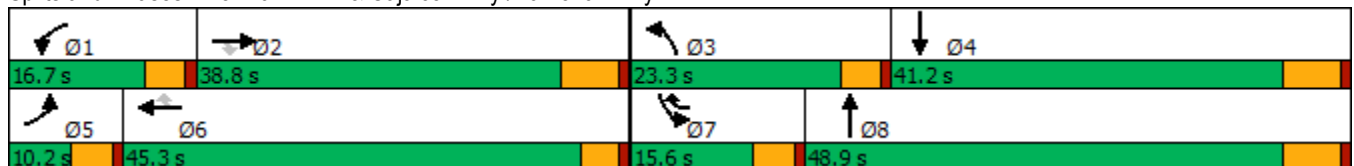


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘↗	↑↑	↗	↘↗	↑↑	↘↗	↑↑
Traffic Volume (vph)	188	841	217	640	1130	739	373	433	426	230
Future Volume (vph)	188	841	217	640	1130	739	373	433	426	230
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	7	3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	7	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.2	36.2	9.6	32.5	9.6	9.6	16.2	9.6	41.2
Total Split (s)	10.2	38.8	38.8	16.7	45.3	15.6	23.3	48.9	15.6	41.2
Total Split (%)	8.5%	32.3%	32.3%	13.9%	37.8%	13.0%	19.4%	40.8%	13.0%	34.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.5	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.5	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	5.6	32.6	32.6	12.1	40.8	56.3	16.9	42.7	11.0	36.8
Actuated g/C Ratio	0.05	0.27	0.27	0.10	0.34	0.47	0.14	0.36	0.09	0.31
v/c Ratio	2.40	0.92	0.39	1.95	0.99	0.94	0.81	0.57	1.43	0.31
Control Delay	691.4	58.0	7.3	466.5	63.1	43.4	63.6	28.7	248.6	28.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	691.4	58.0	7.3	466.5	63.1	43.4	63.6	28.7	248.6	28.9
LOS	F	E	A	F	E	D	E	C	F	C
Approach Delay		144.8			160.2			41.1		155.6
Approach LOS		F			F			D		F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.40
 Intersection Signal Delay: 133.6
 Intersection LOS: F
 Intersection Capacity Utilization 91.3%
 ICU Level of Service F
 Analysis Period (min) 15

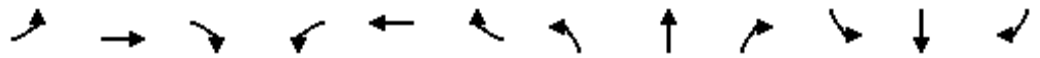
Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘↗	↑↑	↗	↘↗	↑↑		↘↗	↑↑	
Traffic Volume (veh/h)	188	841	217	640	1130	739	373	433	240	426	230	83
Future Volume (veh/h)	188	841	217	640	1130	739	373	433	240	426	230	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	202	904	182	688	1215	727	401	466	204	458	247	87
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	83	1017	454	349	1210	685	459	856	372	317	819	281
Arrive On Green	0.05	0.28	0.28	0.10	0.34	0.34	0.13	0.35	0.35	0.09	0.31	0.31
Sat Flow, veh/h	1810	3610	1610	3510	3610	1610	3510	2439	1059	3510	2637	905
Grp Volume(v), veh/h	202	904	182	688	1215	727	401	344	326	458	167	167
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1805	1610	1755	1805	1693	1755	1805	1737
Q Serve(g_s), s	5.6	29.2	11.1	12.1	40.8	40.8	13.6	18.6	18.8	11.0	8.6	8.9
Cycle Q Clear(g_c), s	5.6	29.2	11.1	12.1	40.8	40.8	13.6	18.6	18.8	11.0	8.6	8.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.52
Lane Grp Cap(c), veh/h	83	1017	454	349	1210	685	459	633	594	317	561	539
V/C Ratio(X)	2.43	0.89	0.40	1.97	1.00	1.06	0.87	0.54	0.55	1.44	0.30	0.31
Avail Cap(c_a), veh/h	83	1017	454	349	1210	685	539	633	594	317	561	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.0	41.9	35.4	54.8	40.5	34.9	51.9	31.7	31.8	55.3	31.9	32.0
Incr Delay (d2), s/veh	676.6	9.7	0.6	447.3	26.8	51.6	11.9	3.3	3.6	216.6	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.1	13.7	4.3	26.8	21.5	28.5	6.5	8.3	7.9	14.2	3.8	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	734.6	51.6	36.0	502.1	67.3	86.6	63.8	35.0	35.4	271.9	33.2	33.5
LnGrp LOS	F	D	D	F	F	F	E	D	D	F	C	C
Approach Vol, veh/h		1288			2630			1071			792	
Approach Delay, s/veh		156.5			186.3			45.9			171.3	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	40.5	20.5	44.0	10.2	47.0	15.6	48.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.1	32.6	18.7	35.0	5.6	* 41	11.0	42.7				
Max Q Clear Time (g_c+I1), s	14.1	31.2	15.6	10.9	7.6	42.8	13.0	20.8				
Green Ext Time (p_c), s	0.0	0.9	0.3	1.7	0.0	0.0	0.0	3.7				

Intersection Summary

HCM 6th Ctrl Delay	151.6
HCM 6th LOS	F

Notes

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

Intersection

Intersection Delay, s/veh 139.3

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑	↗	↙	↑↓		↙	↑↓	
Traffic Vol, veh/h	61	1	37	2	0	16	47	920	4	18	1071	49
Future Vol, veh/h	61	1	37	2	0	16	47	920	4	18	1071	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	64	1	39	2	0	17	49	968	4	19	1127	52
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	14.9	13	116.6	171.4
HCM LOS	B	B	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	99%	0%	100%	0%	0%	100%	0%	0%	100%	88%
Vol Right, %	0%	0%	1%	0%	0%	100%	0%	0%	100%	0%	0%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	613	311	61	1	37	2	0	16	18	714	406
LT Vol	47	0	0	61	0	0	2	0	0	18	0	0
Through Vol	0	613	307	0	1	0	0	0	0	0	714	357
RT Vol	0	0	4	0	0	37	0	0	16	0	0	49
Lane Flow Rate	49	646	327	64	1	39	2	0	17	19	752	427
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.106	1.296	0.655	0.177	0.003	0.094	0.006	0	0.042	0.04	1.49	0.837
Departure Headway (Hd)	8.212	7.709	7.7	10.843	10.335	9.624	10.963	10.463	9.763	7.988	7.485	7.4
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	439	478	471	333	348	375	328	0	369	451	489	491
Service Time	5.912	5.409	5.4	8.543	8.035	7.324	8.663	8.163	7.463	5.688	5.185	5.1
HCM Lane V/C Ratio	0.112	1.351	0.694	0.192	0.003	0.104	0.006	0	0.046	0.042	1.538	0.87
HCM Control Delay	11.9	171.5	23.9	15.9	13.1	13.3	13.7	13.2	12.9	11	251.5	37.7
HCM Lane LOS	B	F	C	C	B	B	B	N	B	B	F	E
HCM 95th-tile Q	0.4	26	4.6	0.6	0	0.3	0	0	0.1	0.1	36.8	8.4

Timings
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

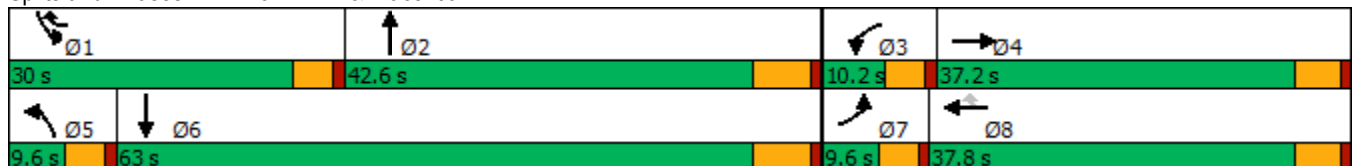


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖↗	↕	↖↗	↖	↕↗	↖	↕↗
Traffic Volume (vph)	17	88	198	120	688	21	723	482	762
Future Volume (vph)	17	88	198	120	688	21	723	482	762
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	1	5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.2	9.6	37.2	9.6	9.6	33.2	9.6	33.2
Total Split (s)	9.6	37.2	10.2	37.8	30.0	9.6	42.6	30.0	63.0
Total Split (%)	8.0%	31.0%	8.5%	31.5%	25.0%	8.0%	35.5%	25.0%	52.5%
Yellow Time (s)	3.6	4.2	3.6	4.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.0	14.8	5.6	21.4	52.2	5.0	36.6	25.6	63.2
Actuated g/C Ratio	0.05	0.14	0.05	0.21	0.51	0.05	0.35	0.25	0.61
v/c Ratio	0.22	0.41	1.16	0.34	0.89	0.27	0.97	1.22	0.39
Control Delay	56.5	42.0	160.2	38.3	35.4	58.5	51.1	151.2	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	42.0	160.2	38.3	35.4	58.5	51.1	151.2	12.9
LOS	E	D	F	D	D	E	D	F	B
Approach Delay		44.1		60.2			51.3		66.0
Approach LOS		D		E			D		E

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.3
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.22
 Intersection Signal Delay: 58.9
 Intersection LOS: E
 Intersection Capacity Utilization 91.4%
 ICU Level of Service F
 Analysis Period (min) 15
























Splits and Phases: 7: Harvill Av. & Placentia Av.



HCM 6th Signalized Intersection Summary
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

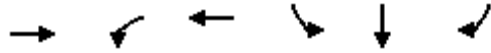
09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	88	11	198	120	688	21	723	370	482	762	12
Future Volume (veh/h)	17	88	11	198	120	688	21	723	370	482	762	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	19	99	12	222	135	604	24	812	416	542	856	13
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	36	415	50	168	528	796	42	718	366	392	1833	28
Arrive On Green	0.02	0.25	0.25	0.05	0.28	0.28	0.02	0.31	0.31	0.22	0.50	0.50
Sat Flow, veh/h	1810	1662	201	3510	1900	1610	1810	2314	1179	1810	3640	55
Grp Volume(v), veh/h	19	0	111	222	135	604	24	632	596	542	424	445
Grp Sat Flow(s),veh/h/ln	1810	0	1864	1755	1900	1610	1810	1805	1688	1810	1805	1890
Q Serve(g_s), s	1.2	0.0	5.6	5.6	6.5	32.6	1.5	36.4	36.4	25.4	17.9	17.9
Cycle Q Clear(g_c), s	1.2	0.0	5.6	5.6	6.5	32.6	1.5	36.4	36.4	25.4	17.9	17.9
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.70	1.00		0.03
Lane Grp Cap(c), veh/h	36	0	466	168	528	796	42	560	524	392	909	952
V/C Ratio(X)	0.53	0.00	0.24	1.32	0.26	0.76	0.57	1.13	1.14	1.38	0.47	0.47
Avail Cap(c_a), veh/h	77	0	508	168	528	796	77	560	524	392	909	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	35.1	55.9	32.9	24.0	56.7	40.5	40.5	46.0	18.9	18.9
Incr Delay (d2), s/veh	4.5	0.0	0.3	181.4	0.3	4.3	4.5	78.7	83.1	187.7	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.6	6.7	3.0	13.8	0.7	27.4	26.3	31.3	7.0	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.5	0.0	35.4	237.3	33.2	28.2	61.3	119.2	123.5	233.7	19.3	19.2
LnGrp LOS	E	A	D	F	C	C	E	F	F	F	B	B
Approach Vol, veh/h		130			961			1252			1411	
Approach Delay, s/veh		39.2			77.2			120.1			101.6	
Approach LOS		D			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	42.6	10.2	34.5	7.3	65.3	6.9	37.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.2	4.6	6.2	4.6	5.2				
Max Green Setting (Gmax), s	25.4	36.4	5.6	32.0	5.0	56.8	5.0	32.6				
Max Q Clear Time (g_c+1), s	27.4	38.4	7.6	7.6	3.5	19.9	3.2	34.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	5.3	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay				99.4								
HCM 6th LOS				F								

Timings
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

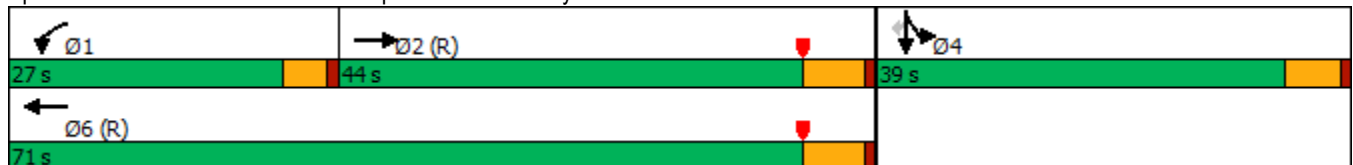


Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↖	↑↑	↖	↖	↖
Traffic Volume (vph)	785	547	1856	1845	2	780
Future Volume (vph)	785	547	1856	1845	2	780
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	2	1	6	4	4	
Permitted Phases						4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	44.0	27.0	71.0	39.0	39.0	39.0
Total Split (%)	40.0%	24.5%	64.5%	35.5%	35.5%	35.5%
Yellow Time (s)	5.0	3.5	5.0	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)	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	38.0	22.5	65.0	33.5	33.5	33.5
Actuated g/C Ratio	0.35	0.20	0.59	0.30	0.30	0.30
v/c Ratio	1.02	1.51	0.89	1.80	1.80	1.47
Control Delay	64.2	260.2	9.6	395.4	396.4	248.0
Queue Delay	6.8	0.0	44.6	12.5	12.5	0.0
Total Delay	71.0	260.2	54.2	407.9	408.9	248.0
LOS	E	F	D	F	F	F
Approach Delay	71.0		101.1		360.8	
Approach LOS	E		F		F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 34 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.80
 Intersection Signal Delay: 203.6
 Intersection LOS: F
 Intersection Capacity Utilization 238.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑	↗
Traffic Volume (veh/h)	0	785	470	547	1856	0	0	0	0	1845	2	780
Future Volume (veh/h)	0	785	470	547	1856	0	0	0	0	1845	2	780
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	801	351	558	1894	0				1884	0	733
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	841	367	370	2133	0				1102	0	490
Arrive On Green	0.00	0.35	0.35	0.12	0.35	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	2529	1064	1810	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	593	559	558	1894	0				1884	0	733
Grp Sat Flow(s),veh/h/ln	0	1805	1692	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	35.3	35.5	22.5	54.4	0.0				33.5	0.0	33.5
Cycle Q Clear(g_c), s	0.0	35.3	35.5	22.5	54.4	0.0				33.5	0.0	33.5
Prop In Lane	0.00		0.63	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	624	585	370	2133	0				1102	0	490
V/C Ratio(X)	0.00	0.95	0.96	1.51	0.89	0.00				1.71	0.00	1.49
Avail Cap(c_a), veh/h	0	624	585	370	2133	0				1102	0	490
HCM Platoon Ratio	1.00	1.00	1.00	0.60	0.60	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	35.1	35.2	48.2	32.1	0.0				38.3	0.0	38.3
Incr Delay (d2), s/veh	0.0	4.3	4.8	229.7	0.6	0.0				323.1	0.0	233.2
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	15.1	14.3	34.0	24.3	0.0				63.5	0.0	44.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	39.4	40.0	278.0	32.7	0.0				361.4	0.0	271.5
LnGrp LOS	A	D	D	F	C	A				F	A	F
Approach Vol, veh/h		1152			2452						2617	
Approach Delay, s/veh		39.7			88.5						336.2	
Approach LOS		D			F						F	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.0	44.0		39.0		71.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	22.5	38.0		33.5		65.0						
Max Q Clear Time (g_c+I1), s	24.5	37.5		35.5		56.4						
Green Ext Time (p_c), s	0.0	0.3		0.0		5.6						

Intersection Summary

HCM 6th Ctrl Delay	183.6
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

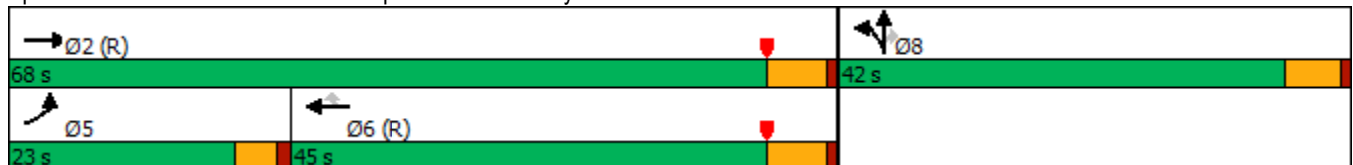


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶	↷↷	↷↷	↷	↶	↷	↷
Traffic Volume (vph)	320	2316	1518	1471	885	4	808
Future Volume (vph)	320	2316	1518	1471	885	4	808
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0	26.0	10.5	10.5	10.5
Total Split (s)	23.0	68.0	45.0	45.0	42.0	42.0	42.0
Total Split (%)	20.9%	61.8%	40.9%	40.9%	38.2%	38.2%	38.2%
Yellow Time (s)	3.5	5.0	5.0	5.0	4.5	4.5	4.5
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)	4.5	6.0	6.0	6.0	5.5	5.5	5.5
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)	18.5	62.0	39.0	39.0	36.5	36.5	36.5
Actuated g/C Ratio	0.17	0.56	0.35	0.35	0.33	0.33	0.33
v/c Ratio	1.09	1.17	1.22	1.44	0.80	0.81	1.42
Control Delay	95.0	104.0	140.5	222.9	45.7	46.1	229.0
Queue Delay	0.0	2.4	0.8	0.0	0.0	0.0	0.0
Total Delay	95.0	106.4	141.3	222.9	45.7	46.1	229.0
LOS	F	F	F	F	D	D	F
Approach Delay		105.0	181.4			133.1	
Approach LOS		F	F			F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.44
 Intersection Signal Delay: 142.7
 Intersection LOS: F
 Intersection Capacity Utilization 238.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗			↗↗	↗	↗	↗	↗			
Traffic Volume (veh/h)	320	2316	0	0	1518	1471	885	4	808	0	0	0
Future Volume (veh/h)	320	2316	0	0	1518	1471	885	4	808	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	330	2388	0	0	1565	1368	915	0	681			
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	304	2035	0	0	1280	571	1201	0	534			
Arrive On Green	0.22	0.75	0.00	0.00	0.35	0.35	0.33	0.00	0.33			
Sat Flow, veh/h	1810	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	330	2388	0	0	1565	1368	915	0	681			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	18.5	62.0	0.0	0.0	39.0	39.0	24.9	0.0	36.5			
Cycle Q Clear(g_c), s	18.5	62.0	0.0	0.0	39.0	39.0	24.9	0.0	36.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	304	2035	0	0	1280	571	1201	0	534			
V/C Ratio(X)	1.08	1.17	0.00	0.00	1.22	2.40	0.76	0.00	1.27			
Avail Cap(c_a), veh/h	304	2035	0	0	1280	571	1201	0	534			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.7	13.8	0.0	0.0	35.5	35.5	32.9	0.0	36.8			
Incr Delay (d2), s/veh	43.9	78.7	0.0	0.0	107.4	633.7	2.9	0.0	137.6			
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	11.0	32.9	0.0	0.0	34.9	114.6	10.8	0.0	33.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.6	92.4	0.0	0.0	142.9	669.2	35.8	0.0	174.4			
LnGrp LOS	F	F	A	A	F	F	D	A	F			
Approach Vol, veh/h		2718			2933			1596				
Approach Delay, s/veh		91.7			388.4			94.9				
Approach LOS		F			F			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		68.0			23.0	45.0		42.0				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		62.0			18.5	39.0		36.5				
Max Q Clear Time (g_c+I1), s		64.0			20.5	41.0		38.5				
Green Ext Time (p_c), s		0.0			0.0	0.0		0.0				

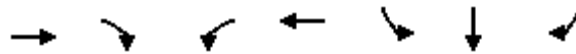
Intersection Summary

HCM 6th Ctrl Delay	212.5
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
10: I-215 SB Ramps & Placentia Av.

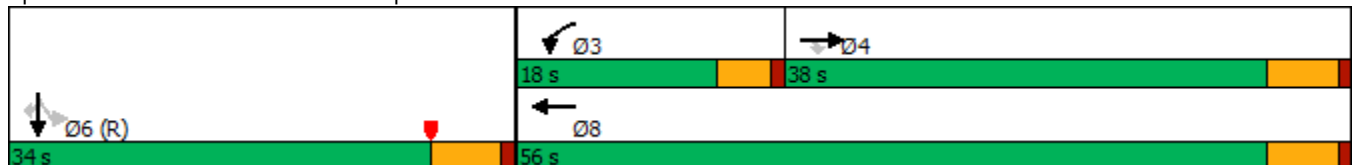


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↗↘	↑↑	↘	↖	↗
Traffic Volume (vph)	663	217	248	654	431	0	256
Future Volume (vph)	663	217	248	654	431	0	256
Turn Type	NA	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	4		3	8		6	
Permitted Phases		4			6		6
Detector Phase	4	4	3	8	6	6	6
Switch Phase							
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	23.8	23.8	23.8
Total Split (s)	38.0	38.0	18.0	56.0	34.0	34.0	34.0
Total Split (%)	42.2%	42.2%	20.0%	62.2%	37.8%	37.8%	37.8%
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	None	C-Min	C-Min	C-Min
Act Effct Green (s)	25.5	25.5	11.3	41.4	37.0	37.0	37.0
Actuated g/C Ratio	0.28	0.28	0.13	0.46	0.41	0.41	0.41
v/c Ratio	0.70	0.38	0.62	0.43	0.33	0.33	0.35
Control Delay	32.4	4.9	38.3	10.8	22.0	22.0	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	4.9	38.3	10.8	22.0	22.0	7.9
LOS	C	A	D	B	C	C	A
Approach Delay	25.6			18.4		16.7	
Approach LOS	C			B		B	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2: and 6:SBTL, Start of Yellow, Master Intersection
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 20.5
 Intersection LOS: C
 Intersection Capacity Utilization 69.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 10: I-215 SB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	663	217	248	654	0	0	0	0	431	0	256
Future Volume (veh/h)	0	663	217	248	654	0	0	0	0	431	0	256
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	721	236	270	711	0				468	0	278
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	928	414	354	1476	0				1673	0	744
Arrive On Green	0.00	0.26	0.26	0.03	0.13	0.00				0.46	0.00	0.46
Sat Flow, veh/h	0	3705	1610	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	721	236	270	711	0				468	0	278
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	16.7	11.5	6.9	16.4	0.0				7.2	0.0	10.1
Cycle Q Clear(g_c), s	0.0	16.7	11.5	6.9	16.4	0.0				7.2	0.0	10.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	928	414	354	1476	0				1673	0	744
V/C Ratio(X)	0.00	0.78	0.57	0.76	0.48	0.00				0.28	0.00	0.37
Avail Cap(c_a), veh/h	0	1292	576	523	2014	0				1673	0	744
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.89	0.89	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	31.0	29.1	42.4	30.1	0.0				15.0	0.0	15.7
Incr Delay (d2), s/veh	0.0	0.2	0.1	1.6	0.2	0.0				0.4	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.8	4.2	3.1	7.8	0.0				2.8	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.2	29.2	44.0	30.3	0.0				15.4	0.0	17.2
LnGrp LOS	A	C	C	D	C	A				B	A	B
Approach Vol, veh/h		957			981						746	
Approach Delay, s/veh		30.7			34.1						16.0	
Approach LOS		C			C						B	
Timer - Assigned Phs			3	4		6			8			
Phs Duration (G+Y+Rc), s			13.7	28.9		47.4			42.6			
Change Period (Y+Rc), s			4.6	5.8		5.8			5.8			
Max Green Setting (Gmax), s			13.4	32.2		28.2			50.2			
Max Q Clear Time (g_c+I1), s			8.9	18.7		12.1			18.4			
Green Ext Time (p_c), s			0.2	4.5		2.4			4.9			
Intersection Summary												
HCM 6th Ctrl Delay			27.9									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

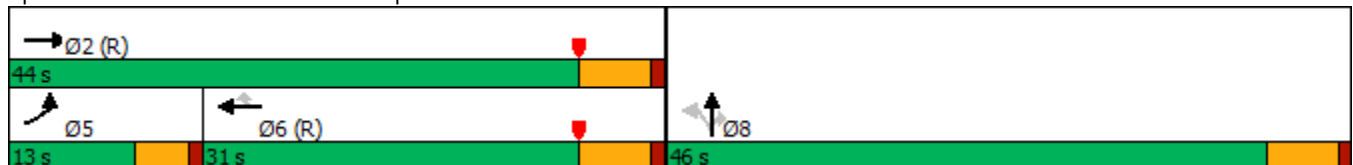


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↶	↶↶	↶↶	↷	↶	↶	↷
Traffic Volume (vph)	188	905	544	446	359	0	569
Future Volume (vph)	188	905	544	446	359	0	569
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	6			8	
Permitted Phases				6	8		8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
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	23.8	23.8	23.8
Total Split (s)	13.0	44.0	31.0	31.0	46.0	46.0	46.0
Total Split (%)	14.4%	48.9%	34.4%	34.4%	51.1%	51.1%	51.1%
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-Min	C-Min	C-Min	None	None	None
Act Effct Green (s)	8.3	42.1	29.2	29.2	36.3	36.3	36.3
Actuated g/C Ratio	0.09	0.47	0.32	0.32	0.40	0.40	0.40
v/c Ratio	0.63	0.58	0.50	0.57	0.28	0.28	0.88
Control Delay	42.3	15.1	27.7	5.6	18.3	18.3	35.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	15.1	27.7	5.6	18.3	18.3	35.5
LOS	D	B	C	A	B	B	D
Approach Delay		19.7	17.7			28.8	
Approach LOS		B	B			C	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 21.9
 Intersection LOS: C
 Intersection Capacity Utilization 69.9%
 ICU Level of Service C
 Analysis Period (min) 15
























Splits and Phases: 11: I-215 NB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	188	905	0	0	544	446	359	0	569	0	0	0
Future Volume (veh/h)	188	905	0	0	544	446	359	0	569	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	204	984	0	0	591	485	390	0	618			
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	281	1660	0	0	1187	529	1489	0	662			
Arrive On Green	0.03	0.15	0.00	0.00	0.33	0.33	0.41	0.00	0.41			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	204	984	0	0	591	485	390	0	618			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	5.2	22.9	0.0	0.0	11.8	26.0	6.4	0.0	33.0			
Cycle Q Clear(g_c), s	5.2	22.9	0.0	0.0	11.8	26.0	6.4	0.0	33.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	281	1660	0	0	1187	529	1489	0	662			
V/C Ratio(X)	0.73	0.59	0.00	0.00	0.50	0.92	0.26	0.00	0.93			
Avail Cap(c_a), veh/h	328	1660	0	0	1187	529	1617	0	719			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.75	0.75	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.8	30.3	0.0	0.0	24.2	29.0	17.5	0.0	25.3			
Incr Delay (d2), s/veh	3.8	1.2	0.0	0.0	1.5	23.1	0.1	0.0	18.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.5	11.2	0.0	0.0	5.2	13.0	2.6	0.0	15.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.6	31.5	0.0	0.0	25.7	52.1	17.6	0.0	43.7			
LnGrp LOS	D	C	A	A	C	D	B	A	D			
Approach Vol, veh/h		1188			1076			1008				
Approach Delay, s/veh		34.1			37.6			33.6				
Approach LOS		C			D			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		47.2			11.8	35.4		42.8				
Change Period (Y+Rc), s		5.8			4.6	5.8		5.8				
Max Green Setting (Gmax), s		38.2			8.4	25.2		40.2				
Max Q Clear Time (g_c+I1), s		24.9			7.2	28.0		35.0				
Green Ext Time (p_c), s		5.8			0.0	0.0		2.0				
Intersection Summary												
HCM 6th Ctrl Delay					35.1							
HCM 6th LOS					D							
Notes												
User approved volume balancing among the lanes for turning movement.												

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↘	↑		↘
Traffic Vol, veh/h	73	0	8	58	0	10
Future Vol, veh/h	73	0	8	58	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	79	0	9	63	0	11

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	-	79	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.2	-	-
Pot Cap-1 Maneuver	-	0	1532	-	0
Stage 1	-	0	-	-	0
Stage 2	-	0	-	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1532	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	987	-	1532	-
HCM Lane V/C Ratio	0.011	-	0.006	-
HCM Control Delay (s)	8.7	-	7.4	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0	-	0	-

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑	↗	↙	↗			↕	
Traffic Vol, veh/h	0	76	7	27	56	8	9	0	34	12	0	1
Future Vol, veh/h	0	76	7	27	56	8	9	0	34	12	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	100	-	100	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	83	8	29	61	9	10	0	37	13	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	70	0	0	91	0	0	207	211	83	225	210	61
Stage 1	-	-	-	-	-	-	83	83	-	119	119	-
Stage 2	-	-	-	-	-	-	124	128	-	106	91	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1544	-	-	1517	-	-	755	690	982	735	691	1010
Stage 1	-	-	-	-	-	-	930	830	-	890	801	-
Stage 2	-	-	-	-	-	-	885	794	-	905	823	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1544	-	-	1517	-	-	743	677	982	697	678	1010
Mov Cap-2 Maneuver	-	-	-	-	-	-	743	677	-	697	678	-
Stage 1	-	-	-	-	-	-	930	830	-	890	786	-
Stage 2	-	-	-	-	-	-	867	779	-	871	823	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.2			9			10.1		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	743	982	1544	-	-	1517	-	-	714
HCM Lane V/C Ratio	0.013	0.038	-	-	-	0.019	-	-	0.02
HCM Control Delay (s)	9.9	8.8	0	-	-	7.4	-	-	10.1
HCM Lane LOS	A	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0.1	-	-	0.1

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	3	10	7	27	7
Future Vol, veh/h	37	3	10	7	27	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
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	40	3	11	8	29	8

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	63	33	37	0	0
Stage 1	33	-	-	-	-
Stage 2	30	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	948	1046	1587	-	-
Stage 1	995	-	-	-	-
Stage 2	998	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	941	1046	1587	-	-
Mov Cap-2 Maneuver	941	-	-	-	-
Stage 1	988	-	-	-	-
Stage 2	998	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	4.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1587	-	948	-	-
HCM Lane V/C Ratio	0.007	-	0.046	-	-
HCM Control Delay (s)	7.3	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	↗
Traffic Vol, veh/h	0	28	0	17	17	13
Future Vol, veh/h	0	28	0	17	17	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
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	30	0	18	18	14

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	18	-	0	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	1066	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	1066	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

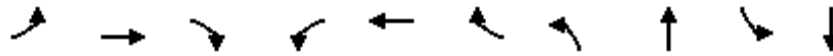
Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 1066	-	-
HCM Lane V/C Ratio	- 0.029	-	-
HCM Control Delay (s)	- 8.5	-	-
HCM Lane LOS	- A	-	-
HCM 95th %tile Q(veh)	- 0.1	-	-

Timings
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

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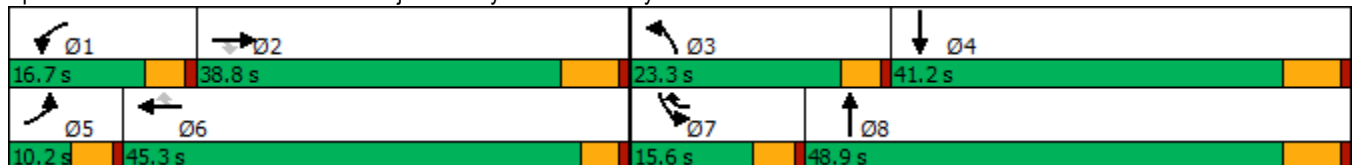


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘↗	↑↑	↗	↘↗	↑↘	↘↗	↑↘
Traffic Volume (vph)	123	1238	298	350	929	474	312	241	902	320
Future Volume (vph)	123	1238	298	350	929	474	312	241	902	320
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	7	3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	7	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.2	36.2	9.6	32.5	9.6	9.6	16.2	9.6	41.2
Total Split (s)	10.2	38.8	38.8	16.7	45.3	15.6	23.3	48.9	15.6	41.2
Total Split (%)	8.5%	32.3%	32.3%	13.9%	37.8%	13.0%	19.4%	40.8%	13.0%	34.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.5	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.5	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	5.6	32.6	32.6	12.1	40.8	56.3	15.5	42.7	11.0	38.2
Actuated g/C Ratio	0.05	0.27	0.27	0.10	0.34	0.47	0.13	0.36	0.09	0.32
v/c Ratio	1.57	1.36	0.54	1.07	0.81	0.53	0.74	0.94dr	3.02	0.46
Control Delay	343.6	203.2	16.7	117.3	42.6	7.8	60.6	30.8	937.4	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	343.6	203.2	16.7	117.3	42.6	7.8	60.6	30.8	937.4	29.1
LOS	F	F	B	F	D	A	E	C	F	C
Approach Delay		180.1			48.1			38.9		616.1
Approach LOS		F			D			D		F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.02
 Intersection Signal Delay: 216.4
 Intersection LOS: F
 Intersection Capacity Utilization 113.7%
 ICU Level of Service H
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

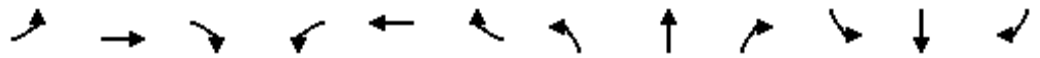
Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘↗	↑↑	↗	↘↗	↑↘		↘↗	↑↘	
Traffic Volume (veh/h)	123	1238	298	350	929	474	312	241	591	902	320	174
Future Volume (veh/h)	123	1238	298	350	929	474	312	241	591	902	320	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	132	1331	207	376	999	430	335	259	567	970	344	176
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	84	981	437	354	1176	672	396	642	573	322	779	391
Arrive On Green	0.05	0.27	0.27	0.10	0.33	0.33	0.11	0.36	0.36	0.09	0.33	0.33
Sat Flow, veh/h	1810	3610	1610	3510	3610	1610	3510	1805	1610	3510	2327	1168
Grp Volume(v), veh/h	132	1331	207	376	999	430	335	259	567	970	265	255
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1690
Q Serve(g_s), s	5.6	32.6	12.9	12.1	31.0	25.5	11.2	12.9	42.0	11.0	13.8	14.2
Cycle Q Clear(g_c), s	5.6	32.6	12.9	12.1	31.0	25.5	11.2	12.9	42.0	11.0	13.8	14.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.69
Lane Grp Cap(c), veh/h	84	981	437	354	1176	672	396	642	573	322	604	565
V/C Ratio(X)	1.56	1.36	0.47	1.06	0.85	0.64	0.85	0.40	0.99	3.01	0.44	0.45
Avail Cap(c_a), veh/h	84	981	437	354	1227	695	547	642	573	322	604	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	43.7	36.5	53.9	37.7	27.8	52.2	29.1	38.4	54.5	31.1	31.3
Incr Delay (d2), s/veh	302.9	167.4	0.8	65.3	5.6	1.9	6.5	1.9	35.1	914.8	2.3	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	36.6	5.0	8.4	13.8	9.5	5.1	5.7	21.1	45.6	6.1	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	360.1	211.1	37.3	119.2	43.3	29.7	58.7	30.9	73.6	969.3	33.5	33.9
LnGrp LOS	F	F	D	F	D	C	E	C	E	F	C	C
Approach Vol, veh/h		1670			1805			1161			1490	
Approach Delay, s/veh		201.4			55.9			59.8			642.7	
Approach LOS		F			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	38.8	18.1	46.4	10.2	45.3	15.6	48.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.1	32.6	18.7	35.0	5.6	* 41	11.0	42.7				
Max Q Clear Time (g_c+I1), s	14.1	34.6	13.2	16.2	7.6	33.0	13.0	44.0				
Green Ext Time (p_c), s	0.0	0.0	0.3	2.6	0.0	4.5	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	239.0
HCM 6th LOS	F

Notes

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

Intersection												
Intersection Delay, s/veh	68.3											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑	↗	↙	↑↓		↙	↑↓	
Traffic Vol, veh/h	66	1	61	3	0	4	37	1093	3	1	1178	57
Future Vol, veh/h	66	1	61	3	0	4	37	1093	3	1	1178	57
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	77	1	71	3	0	5	43	1271	3	1	1370	66
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	17.3	14.4	257.3	305.9
HCM LOS	C	B	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	99%	0%	100%	0%	0%	100%	0%	0%	100%	87%
Vol Right, %	0%	0%	1%	0%	0%	100%	0%	0%	100%	0%	0%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	729	367	66	1	61	3	0	4	1	785	450
LT Vol	37	0	0	66	0	0	3	0	0	1	0	0
Through Vol	0	729	364	0	1	0	0	0	0	0	785	393
RT Vol	0	0	3	0	0	61	0	0	4	0	0	57
Lane Flow Rate	43	847	427	77	1	71	3	0	5	1	913	523
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.096	1.769	0.891	0.218	0.003	0.178	0.01	0	0.012	0.003	1.893	1.071
Departure Headway (Hd)	8.715	8.212	8.206	12.31	11.804	11.095	12.271	11.771	11.071	8.667	8.163	8.074
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	414	449	444	294	305	326	293	0	325	415	457	455
Service Time	6.415	5.912	5.906	10.01	9.504	8.795	9.971	9.471	8.771	6.367	5.863	5.774
HCM Lane V/C Ratio	0.104	1.886	0.962	0.262	0.003	0.218	0.01	0	0.015	0.002	1.998	1.149
HCM Control Delay	12.3	374.9	48.8	18.4	14.5	16.2	15.1	14.5	13.9	11.4	429.3	91.1
HCM Lane LOS	B	F	E	C	B	C	C	N	B	B	F	F
HCM 95th-tile Q	0.3	48.2	9.5	0.8	0	0.6	0	0	0	0	54.9	15.5

Timings
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

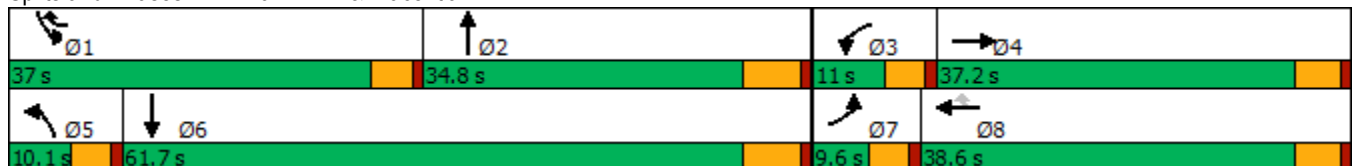


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖↗	↕	↖↗	↖	↕↗	↖	↕↗
Traffic Volume (vph)	20	166	236	106	504	23	815	839	742
Future Volume (vph)	20	166	236	106	504	23	815	839	742
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	1	5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.2	9.6	37.2	9.6	9.6	33.2	9.6	33.2
Total Split (s)	9.6	37.2	11.0	38.6	37.0	10.1	34.8	37.0	61.7
Total Split (%)	8.0%	31.0%	9.2%	32.2%	30.8%	8.4%	29.0%	30.8%	51.4%
Yellow Time (s)	3.6	4.2	3.6	4.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.0	19.2	6.4	26.6	64.4	5.3	28.7	32.5	60.0
Actuated g/C Ratio	0.05	0.18	0.06	0.25	0.60	0.05	0.27	0.30	0.56
v/c Ratio	0.29	0.69	1.33	0.27	0.59	0.30	1.31	1.81	0.44
Control Delay	61.2	50.5	218.7	35.0	14.9	61.0	179.5	397.5	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	50.5	218.7	35.0	14.9	61.0	179.5	397.5	16.7
LOS	E	D	F	D	B	E	F	F	B
Approach Delay		51.5		74.3			177.0		217.8
Approach LOS		D		E			F		F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 107.6
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.81
 Intersection Signal Delay: 163.7
 Intersection Capacity Utilization 111.3%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H
























Splits and Phases: 7: Harvill Av. & Placentia Av.



HCM 6th Signalized Intersection Summary
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

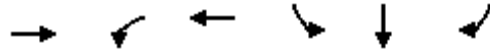
09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	166	32	236	106	504	23	815	241	839	742	8
Future Volume (veh/h)	20	166	32	236	106	504	23	815	241	839	742	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	24	195	38	278	125	475	27	959	284	987	873	9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	43	305	59	205	441	850	46	716	211	535	1942	20
Arrive On Green	0.02	0.20	0.20	0.06	0.23	0.23	0.03	0.26	0.26	0.30	0.53	0.53
Sat Flow, veh/h	1810	1545	301	3510	1900	1610	1810	2748	810	1810	3660	38
Grp Volume(v), veh/h	24	0	233	278	125	475	27	629	614	987	430	452
Grp Sat Flow(s),veh/h/ln	1810	0	1846	1755	1900	1610	1810	1805	1753	1810	1805	1893
Q Serve(g_s), s	1.4	0.0	12.7	6.4	5.9	21.7	1.6	28.6	28.6	32.4	16.1	16.1
Cycle Q Clear(g_c), s	1.4	0.0	12.7	6.4	5.9	21.7	1.6	28.6	28.6	32.4	16.1	16.1
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.46	1.00		0.02
Lane Grp Cap(c), veh/h	43	0	365	205	441	850	46	471	457	535	958	1005
V/C Ratio(X)	0.56	0.00	0.64	1.36	0.28	0.56	0.58	1.34	1.34	1.85	0.45	0.45
Avail Cap(c_a), veh/h	82	0	539	205	579	966	91	471	457	535	958	1005
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	0.0	40.4	51.6	34.6	17.3	52.9	40.5	40.5	38.6	15.9	15.9
Incr Delay (d2), s/veh	4.2	0.0	1.9	189.1	0.3	0.6	4.3	165.0	168.8	388.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	5.9	8.2	2.8	7.7	0.8	33.5	33.0	71.0	6.0	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	0.0	42.3	240.7	34.9	17.9	57.1	205.5	209.3	426.7	16.2	16.2
LnGrp LOS	E	A	D	F	C	B	E	F	F	F	B	B
Approach Vol, veh/h		257			878			1270			1869	
Approach Delay, s/veh		43.7			90.9			204.2			233.0	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	37.0	34.8	11.0	26.9	7.4	64.4	7.2	30.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.2	4.6	6.2	4.6	5.2				
Max Green Setting (Gmax), s	32.4	28.6	6.4	32.0	5.5	55.5	5.0	33.4				
Max Q Clear Time (g_c+I1), s	34.4	30.6	8.4	14.7	3.6	18.1	3.4	23.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.1	0.0	5.4	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay				183.9								
HCM 6th LOS				F								

Timings
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

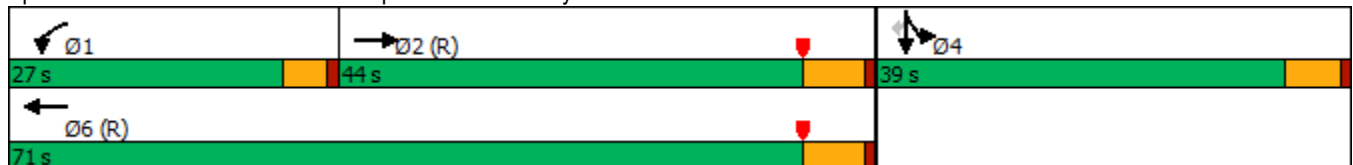


Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↖	↑↑	↖	↖	↖
Traffic Volume (vph)	1621	844	1237	2002	8	417
Future Volume (vph)	1621	844	1237	2002	8	417
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	2	1	6	4	4	
Permitted Phases						4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	44.0	27.0	71.0	39.0	39.0	39.0
Total Split (%)	40.0%	24.5%	64.5%	35.5%	35.5%	35.5%
Yellow Time (s)	5.0	3.5	5.0	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)	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	38.0	22.5	65.0	33.5	33.5	33.5
Actuated g/C Ratio	0.35	0.20	0.59	0.30	0.30	0.30
v/c Ratio	2.03	2.31	0.59	1.94	1.95	0.78
Control Delay	487.8	612.2	3.7	453.7	458.8	39.6
Queue Delay	0.7	0.0	0.8	28.8	28.8	0.0
Total Delay	488.5	612.2	4.5	482.6	487.6	39.6
LOS	F	F	A	F	F	D
Approach Delay	488.5		251.1		408.6	
Approach LOS	F		F		F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 34 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.31
 Intersection Signal Delay: 390.3
 Intersection LOS: F
 Intersection Capacity Utilization 279.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↑	↗
Traffic Volume (veh/h)	0	1621	881	844	1237	0	0	0	0	2002	8	417
Future Volume (veh/h)	0	1621	881	844	1237	0	0	0	0	2002	8	417
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	1637	782	853	1249	0				2028	0	362
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99				0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	841	372	370	2133	0				1102	0	490
Arrive On Green	0.00	0.35	0.35	0.12	0.35	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	2531	1076	1810	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	1178	1241	853	1249	0				2028	0	362
Grp Sat Flow(s),veh/h/ln	0	1805	1706	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	38.0	38.0	22.5	31.0	0.0				33.5	0.0	22.2
Cycle Q Clear(g_c), s	0.0	38.0	38.0	22.5	31.0	0.0				33.5	0.0	22.2
Prop In Lane	0.00		0.63	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	624	589	370	2133	0				1102	0	490
V/C Ratio(X)	0.00	1.89	2.10	2.30	0.59	0.00				1.84	0.00	0.74
Avail Cap(c_a), veh/h	0	624	589	370	2133	0				1102	0	490
HCM Platoon Ratio	1.00	1.00	1.00	0.60	0.60	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	36.0	36.0	48.2	24.5	0.0				38.3	0.0	34.3
Incr Delay (d2), s/veh	0.0	401.0	497.5	587.8	0.1	0.0				381.6	0.0	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	84.9	96.1	70.8	13.8	0.0				72.4	0.0	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	437.0	533.5	636.1	24.6	0.0				419.8	0.0	43.9
LnGrp LOS	A	F	F	F	C	A				F	A	D
Approach Vol, veh/h		2419			2102						2390	
Approach Delay, s/veh		486.5			272.8						362.9	
Approach LOS		F			F						F	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.0	44.0		39.0		71.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	22.5	38.0		33.5		65.0						
Max Q Clear Time (g_c+I1), s	24.5	40.0		35.5		33.0						
Green Ext Time (p_c), s	0.0	0.0		0.0		6.0						

Intersection Summary

HCM 6th Ctrl Delay	378.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

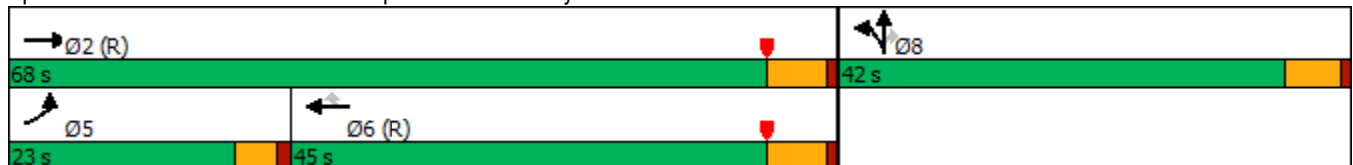


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	↖	↗
Traffic Volume (vph)	696	2931	1494	1722	585	4	561
Future Volume (vph)	696	2931	1494	1722	585	4	561
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0	26.0	10.5	10.5	10.5
Total Split (s)	23.0	68.0	45.0	45.0	42.0	42.0	42.0
Total Split (%)	20.9%	61.8%	40.9%	40.9%	38.2%	38.2%	38.2%
Yellow Time (s)	3.5	5.0	5.0	5.0	4.5	4.5	4.5
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)	4.5	6.0	6.0	6.0	5.5	5.5	5.5
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)	18.5	62.0	39.0	39.0	36.5	36.5	36.5
Actuated g/C Ratio	0.17	0.56	0.35	0.35	0.33	0.33	0.33
v/c Ratio	2.44	1.53	1.24	1.79	0.55	0.55	1.02
Control Delay	670.4	265.5	148.3	377.9	34.4	34.5	75.3
Queue Delay	0.0	2.3	0.0	0.0	0.0	0.0	0.0
Total Delay	670.4	267.8	148.3	377.9	34.4	34.5	75.3
LOS	F	F	F	F	C	C	E
Approach Delay		345.0	271.3			54.4	
Approach LOS		F	F			D	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.44
 Intersection Signal Delay: 273.5
 Intersection LOS: F
 Intersection Capacity Utilization 279.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘	↗	↗			
Traffic Volume (veh/h)	696	2931	0	0	1494	1722	585	4	561	0	0	0
Future Volume (veh/h)	696	2931	0	0	1494	1722	585	4	561	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	740	3118	0	0	1589	1682	625	0	516			
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	304	2035	0	0	1280	569	1201	0	534			
Arrive On Green	0.17	0.56	0.00	0.00	0.35	0.35	0.33	0.00	0.33			
Sat Flow, veh/h	1810	3705	0	0	3705	1606	3619	0	1610			
Grp Volume(v), veh/h	740	3118	0	0	1589	1682	625	0	516			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1606	1810	0	1610			
Q Serve(g_s), s	18.5	62.0	0.0	0.0	39.0	39.0	15.3	0.0	34.7			
Cycle Q Clear(g_c), s	18.5	62.0	0.0	0.0	39.0	39.0	15.3	0.0	34.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	304	2035	0	0	1280	569	1201	0	534			
V/C Ratio(X)	2.43	1.53	0.00	0.00	1.24	2.95	0.52	0.00	0.97			
Avail Cap(c_a), veh/h	304	2035	0	0	1280	569	1201	0	534			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	45.8	24.0	0.0	0.0	35.5	35.5	29.7	0.0	36.1			
Incr Delay (d2), s/veh	645.1	239.8	0.0	0.0	115.5	884.0	0.4	0.0	30.3			
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	62.4	90.0	0.0	0.0	36.3	153.9	6.4	0.0	17.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	690.9	263.8	0.0	0.0	151.0	919.5	30.1	0.0	66.4			
LnGrp LOS	F	F	A	A	F	F	C	A	E			
Approach Vol, veh/h		3858			3271			1141				
Approach Delay, s/veh		345.7			546.2			46.5				
Approach LOS		F			F			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		68.0			23.0	45.0		42.0				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		62.0			18.5	39.0		36.5				
Max Q Clear Time (g_c+I1), s		64.0			20.5	41.0		36.7				
Green Ext Time (p_c), s		0.0			0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	383.7
HCM 6th LOS	F

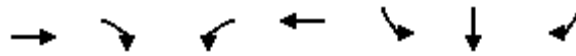
Notes

User approved volume balancing among the lanes for turning movement.

Timings
10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

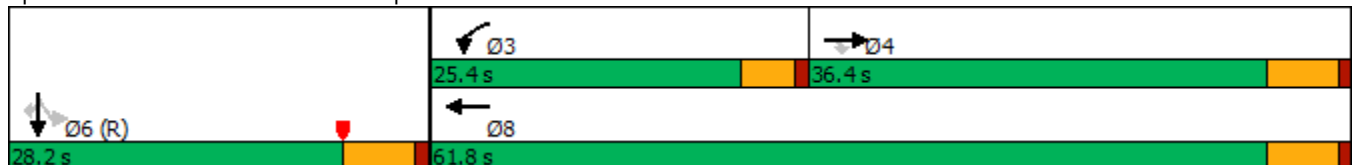


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↗↘	↑↑	↘	↖	↗
Traffic Volume (vph)	807	316	588	672	551	1	109
Future Volume (vph)	807	316	588	672	551	1	109
Turn Type	NA	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	4		3	8		6	
Permitted Phases		4			6		6
Detector Phase	4	4	3	8	6	6	6
Switch Phase							
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	23.8	23.8	23.8
Total Split (s)	36.4	36.4	25.4	61.8	28.2	28.2	28.2
Total Split (%)	40.4%	40.4%	28.2%	68.7%	31.3%	31.3%	31.3%
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	None	C-Min	C-Min	C-Min
Act Effct Green (s)	28.7	28.7	19.4	52.7	25.7	25.7	25.7
Actuated g/C Ratio	0.32	0.32	0.22	0.59	0.29	0.29	0.29
v/c Ratio	0.76	0.46	0.85	0.35	0.61	0.61	0.22
Control Delay	32.2	4.7	35.5	17.2	35.7	35.8	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	4.7	35.5	17.2	35.7	35.8	6.5
LOS	C	A	D	B	D	D	A
Approach Delay	24.5			25.7		30.9	
Approach LOS	C			C		C	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2: and 6:SBTL, Start of Yellow, Master Intersection
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 26.4
 Intersection LOS: C
 Intersection Capacity Utilization 67.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 10: I-215 SB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	807	316	588	672	0	0	0	0	551	1	109
Future Volume (veh/h)	0	807	316	588	672	0	0	0	0	551	1	109
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	877	343	639	730	0				600	0	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1075	479	714	1993	0				1155	0	514
Arrive On Green	0.00	0.30	0.30	0.27	0.73	0.00				0.32	0.00	0.32
Sat Flow, veh/h	0	3705	1610	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	877	343	639	730	0				600	0	118
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	20.3	17.1	15.8	6.6	0.0				12.2	0.0	4.8
Cycle Q Clear(g_c), s	0.0	20.3	17.1	15.8	6.6	0.0				12.2	0.0	4.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1075	479	714	1993	0				1155	0	514
V/C Ratio(X)	0.00	0.82	0.72	0.90	0.37	0.00				0.52	0.00	0.23
Avail Cap(c_a), veh/h	0	1227	547	811	2246	0				1155	0	514
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.75	0.75	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.3	28.2	31.9	6.2	0.0				25.0	0.0	22.5
Incr Delay (d2), s/veh	0.0	0.4	0.4	8.4	0.1	0.0				1.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.6	6.4	6.9	2.1	0.0				5.4	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	29.7	28.6	40.3	6.3	0.0				26.7	0.0	23.6
LnGrp LOS	A	C	C	D	A	A				C	A	C
Approach Vol, veh/h		1220			1369						718	
Approach Delay, s/veh		29.4			22.2						26.2	
Approach LOS		C			C						C	
Timer - Assigned Phs			3	4		6			8			
Phs Duration (G+Y+Rc), s			22.9	32.6		34.5			55.5			
Change Period (Y+Rc), s			4.6	5.8		5.8			5.8			
Max Green Setting (Gmax), s			20.8	30.6		22.4			56.0			
Max Q Clear Time (g_c+I1), s			17.8	22.3		14.2			8.6			
Green Ext Time (p_c), s			0.5	4.5		1.9			6.0			
Intersection Summary												
HCM 6th Ctrl Delay			25.7									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

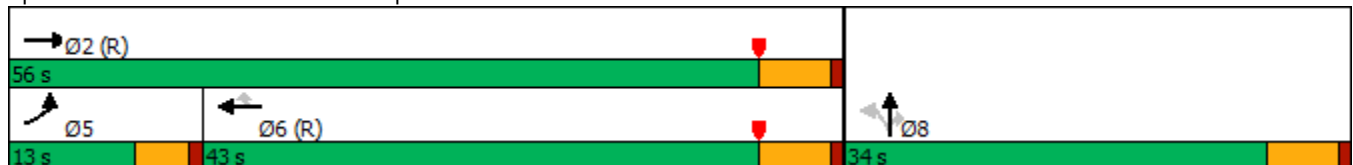


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↶	↶↶	↶↶	↷	↶	↶	↷
Traffic Volume (vph)	193	1166	990	504	273	0	400
Future Volume (vph)	193	1166	990	504	273	0	400
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	6			8	
Permitted Phases				6	8		8
Detector Phase	5	2	6	6	8	8	8
Switch 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	23.8	23.8	23.8
Total Split (s)	13.0	56.0	43.0	43.0	34.0	34.0	34.0
Total Split (%)	14.4%	62.2%	47.8%	47.8%	37.8%	37.8%	37.8%
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-Min	C-Min	C-Min	None	None	None
Act Effct Green (s)	8.4	54.0	41.0	41.0	24.4	24.4	24.4
Actuated g/C Ratio	0.09	0.60	0.46	0.46	0.27	0.27	0.27
v/c Ratio	0.65	0.59	0.65	0.53	0.32	0.32	0.86
Control Delay	61.0	6.3	22.4	3.7	27.0	27.0	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	6.3	22.4	3.7	27.0	27.0	42.2
LOS	E	A	C	A	C	C	D
Approach Delay		14.1	16.1			36.0	
Approach LOS		B	B			D	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 19.1
 Intersection LOS: B
 Intersection Capacity Utilization 67.9%
 ICU Level of Service C
 Analysis Period (min) 15























Splits and Phases: 11: I-215 NB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 							
Traffic Volume (veh/h)	193	1166	0	0	990	504	273	0	400	0	0	0
Future Volume (veh/h)	193	1166	0	0	990	504	273	0	400	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	210	1267	0	0	1076	548	297	0	435			
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	284	2087	0	0	1611	719	1060	0	472			
Arrive On Green	0.08	0.58	0.00	0.00	0.45	0.45	0.29	0.00	0.29			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	210	1267	0	0	1076	548	297	0	435			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	5.3	20.5	0.0	0.0	21.2	25.7	5.7	0.0	23.6			
Cycle Q Clear(g_c), s	5.3	20.5	0.0	0.0	21.2	25.7	5.7	0.0	23.6			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	284	2087	0	0	1611	719	1060	0	472			
V/C Ratio(X)	0.74	0.61	0.00	0.00	0.67	0.76	0.28	0.00	0.92			
Avail Cap(c_a), veh/h	328	2087	0	0	1611	719	1134	0	505			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.62	0.62	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.4	12.3	0.0	0.0	19.7	20.9	24.5	0.0	30.8			
Incr Delay (d2), s/veh	3.7	0.8	0.0	0.0	2.2	7.5	0.1	0.0	21.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.3	7.0	0.0	0.0	8.4	10.1	2.3	0.0	11.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	13.2	0.0	0.0	21.9	28.4	24.7	0.0	52.7			
LnGrp LOS	D	B	A	A	C	C	C	A	D			
Approach Vol, veh/h		1477			1624			732				
Approach Delay, s/veh		17.6			24.1			41.3				
Approach LOS		B			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		57.8			11.9	46.0		32.2				
Change Period (Y+Rc), s		5.8			4.6	5.8		5.8				
Max Green Setting (Gmax), s		50.2			8.4	37.2		28.2				
Max Q Clear Time (g_c+I1), s		22.5			7.3	27.7		25.6				
Green Ext Time (p_c), s		10.0			0.0	5.9		0.8				

Intersection Summary

HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

APPENDIX 6.2: EAPC (2025) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>EAPC</u>
Jurisdiction: <u>County of Riverside</u>				<u>JB</u>	<u>DATE</u>	<u>09/27/22</u>
Major Street: <u>Rider Street</u>				<u>JB</u>	<u>DATE</u>	<u>09/27/22</u>
Minor Street: <u>Driveway 1</u>				Critical Approach Speed (Major)		<u>25</u> mph
				Critical Approach Speed (Minor)		<u>25</u> mph
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes		<u>1</u> lane
Major Street Future ADT =		<u>1,868</u>	vpd	Minor Street Future ADT =		<u>67</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input type="text"/>	
					or	URBAN (U)
In built up area of isolated community of < 10,000 population					<input type="text"/>	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 1,868	1 67				
2 +	1	8,000	5,600	2,400	1,680
2 +	2 +	9,600	6,720	2,400	1,680
1	2 +	9,600	6,720	3,200	2,240
		8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
XX					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 1,868	1 67				
2 +	1	12,000	8,400	1,200	850
2 +	2 +	14,400	10,080	1,200	850
1	2 +	14,400	10,080	1,600	1,120
		12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more					
	XX				
	<u>A</u>				
	3%				
	<u>B</u>				
	6%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EAPC Conditions - Weekday PM Peak Hour**

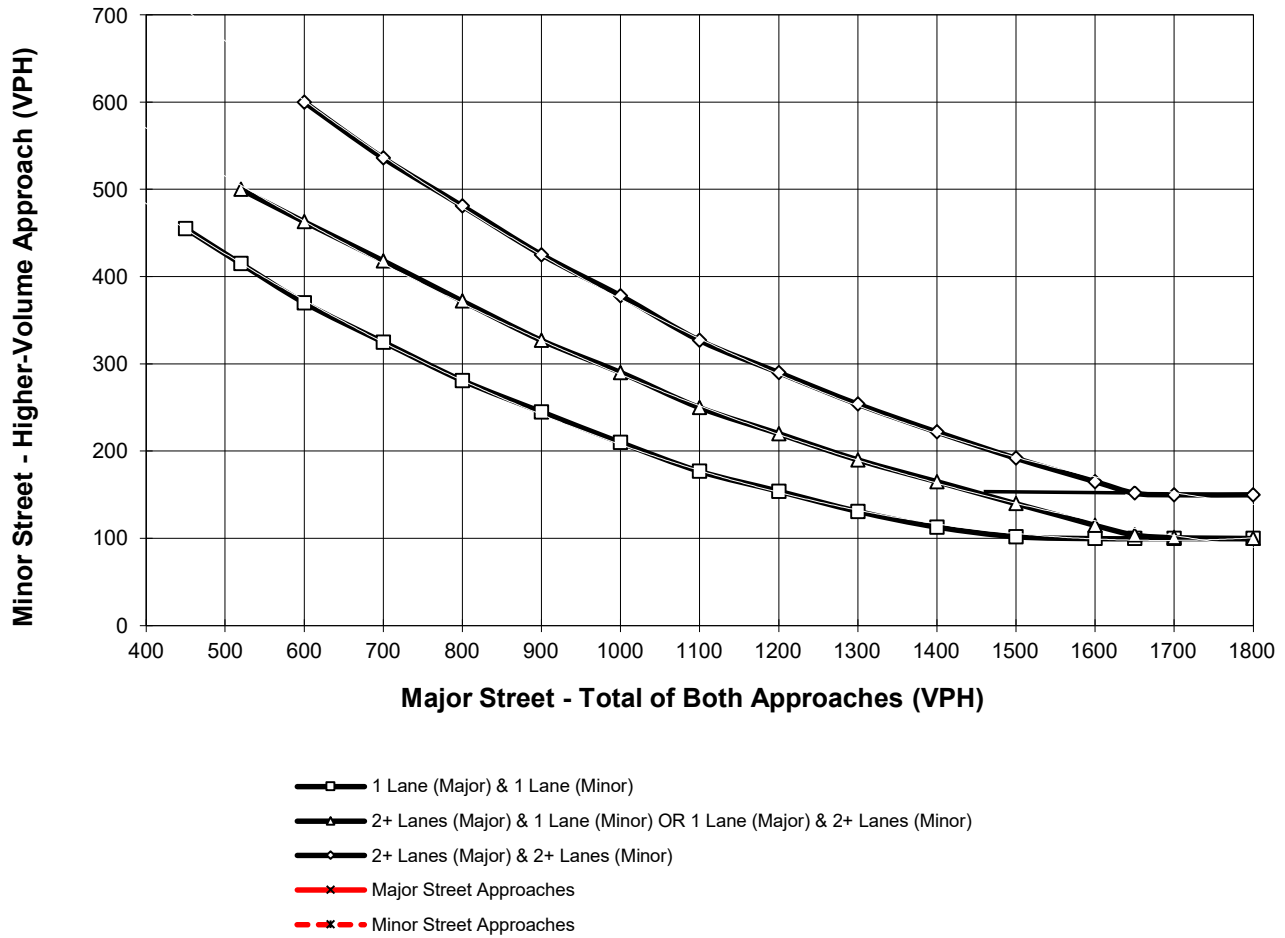
Major Street Name = **Rider Street**

Total of Both Approaches (VPH) = **174**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Patterson Avenue**

High Volume Approach (VPH) = **43**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>EAPC</u>
Jurisdiction: <u>County of Riverside</u>				<u>JB</u>		<u>DATE 09/27/22</u>
Major Street: <u>Patterson Avenue</u>				<u>JB</u>		<u>DATE 09/27/22</u>
Minor Street: <u>Driveway 2</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	

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

Major Street Future ADT = 844 vpd Minor Street Future ADT = 350 vpd

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

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 844	1 350	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 844	1 350	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more	XX				
	A				
	11%				
	B				
	7%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>EAPC</u>
Jurisdiction: <u>County of Riverside</u>				<u>JB</u>	<u>DATE</u>	<u>09/27/22</u>
Major Street: <u>Patterson Avenue</u>				<u>JB</u>	<u>DATE</u>	<u>09/27/22</u>
Minor Street: <u>Driveway 3</u>				Critical Approach Speed (Major)		<u>25</u> mph
				Critical Approach Speed (Minor)		<u>25</u> mph
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes =		<u>1</u> lane
Major Street Future ADT =		<u>741</u>	vpd	Minor Street Future ADT =		<u>213</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);					<input type="checkbox"/>	
					or	URBAN (U)
In built up area of isolated community of < 10,000 population					<input type="checkbox"/>	

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 741	1 213				
2 +	1	8,000	5,600	2,400	1,680
2 +	2 +	9,600	6,720	2,400	1,680
1	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 741	1 213	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more	XX				
	A				
	9%				
	B				
	6%				

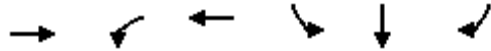
Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

**APPENDIX 6.3: EAPC (2025) CONDITIONS FREEWAY OFF-RAMP
QUEUING ANALYSIS WORKSHEETS**

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Queues
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1281	558	1894	941	944	796
v/c Ratio	1.02	1.51	0.89	1.80	1.80	1.47
Control Delay	64.2	260.2	9.6	395.4	396.4	248.0
Queue Delay	6.8	0.0	44.6	12.5	12.5	0.0
Total Delay	71.0	260.2	54.2	407.9	408.9	248.0
Queue Length 50th (ft)	~475	~525	221	~1053	~1057	~740
Queue Length 95th (ft)	#613	m#376	m375	#1311	#1315	#980
Internal Link Dist (ft)	1408		344		1111	
Turn Bay Length (ft)		100		510		510
Base Capacity (vph)	1252	369	2133	522	523	543
Starvation Cap Reductn	0	0	405	0	0	0
Spillback Cap Reductn	24	0	0	340	341	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.04	1.51	1.10	5.17	5.19	1.47

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues
9: I-215 NB Ramps & Ramona Exwy.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	330	2388	1565	1516	456	460	833
v/c Ratio	1.09	1.17	1.22	1.44	0.80	0.81	1.42
Control Delay	95.0	104.0	140.5	222.9	45.7	46.1	229.0
Queue Delay	0.0	2.4	0.8	0.0	0.0	0.0	0.0
Total Delay	95.0	106.4	141.3	222.9	45.7	46.1	229.0
Queue Length 50th (ft)	~250	~1086	~717	~1107	306	309	~765
Queue Length 95th (ft)	m228	m606	#855	#1374	#474	#482	#1008
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	303	2034	1279	1050	569	570	585
Starvation Cap Reductn	0	999	0	0	0	0	0
Spillback Cap Reductn	0	0	218	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.09	2.31	1.48	1.44	0.80	0.81	1.42

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

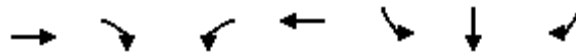
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues
10: I-215 SB Ramps & Placentia Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	721	236	270	711	234	234	278
v/c Ratio	0.70	0.38	0.62	0.43	0.33	0.33	0.35
Control Delay	32.4	4.9	38.3	10.8	22.0	22.0	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	4.9	38.3	10.8	22.0	22.0	7.9
Queue Length 50th (ft)	192	0	58	115	93	93	25
Queue Length 95th (ft)	227	47	120	179	185	185	94
Internal Link Dist (ft)	1019			680		1465	
Turn Bay Length (ft)		230	250				330
Base Capacity (vph)	1291	729	530	2020	709	709	788
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	0.56	0.32	0.51	0.35	0.33	0.33	0.35

Intersection Summary

Queues
11: I-215 NB Ramps & Placentia Av.

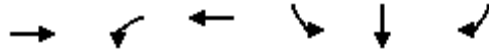


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	204	984	591	485	195	195	618
v/c Ratio	0.63	0.58	0.50	0.57	0.28	0.28	0.88
Control Delay	42.3	15.1	27.7	5.6	18.3	18.3	35.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	15.1	27.7	5.6	18.3	18.3	35.5
Queue Length 50th (ft)	59	292	153	0	71	71	257
Queue Length 95th (ft)	81	278	206	74	118	118	#452
Internal Link Dist (ft)		680	570			1375	
Turn Bay Length (ft)	260			365	575		
Base Capacity (vph)	335	1688	1176	853	766	766	771
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	0.61	0.58	0.50	0.57	0.25	0.25	0.80

Intersection Summary

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

Queues
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	2527	853	1249	1011	1019	421
v/c Ratio	2.03	2.31	0.59	1.94	1.95	0.78
Control Delay	487.8	612.2	3.7	453.7	458.8	39.6
Queue Delay	0.7	0.0	0.8	28.8	28.8	0.0
Total Delay	488.5	612.2	4.5	482.6	487.6	39.6
Queue Length 50th (ft)	~1467	~953	30	~1162	~1173	226
Queue Length 95th (ft)	#1604	m#710	m47	#1423	#1434	#364
Internal Link Dist (ft)	1408		344		1111	
Turn Bay Length (ft)		100		510		510
Base Capacity (vph)	1247	369	2133	522	523	543
Starvation Cap Reductn	0	0	527	0	0	0
Spillback Cap Reductn	182	0	0	438	439	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.37	2.31	0.78	12.04	12.13	0.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues

9: I-215 NB Ramps & Ramona Exwy.

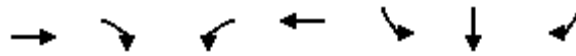


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	740	3118	1589	1832	311	315	597
v/c Ratio	2.44	1.53	1.24	1.79	0.55	0.55	1.02
Control Delay	670.4	265.5	148.3	377.9	34.4	34.5	75.3
Queue Delay	0.0	2.3	0.0	0.0	0.0	0.0	0.0
Total Delay	670.4	267.8	148.3	377.9	34.4	34.5	75.3
Queue Length 50th (ft)	~784	~1597	~735	~1615	187	190	~411
Queue Length 95th (ft)	m#300	m609	#874	#1885	282	286	#631
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	303	2034	1279	1023	569	570	585
Starvation Cap Reductn	0	973	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	2.44	2.94	1.24	1.79	0.55	0.55	1.02

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
10: I-215 SB Ramps & Placentia Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	877	343	639	730	299	301	118
v/c Ratio	0.76	0.46	0.85	0.35	0.61	0.61	0.22
Control Delay	32.2	4.7	35.5	17.2	35.7	35.8	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	4.7	35.5	17.2	35.7	35.8	6.5
Queue Length 50th (ft)	226	0	180	180	163	164	0
Queue Length 95th (ft)	295	56	#247	234	#263	#266	41
Internal Link Dist (ft)	1019			680		1465	
Turn Bay Length (ft)		230	250				330
Base Capacity (vph)	1227	775	809	2246	489	491	545
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	0.71	0.44	0.79	0.33	0.61	0.61	0.22

Intersection Summary

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

Queues
11: I-215 NB Ramps & Placentia Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	210	1267	1076	548	148	149	435
v/c Ratio	0.65	0.59	0.65	0.53	0.32	0.32	0.86
Control Delay	61.0	6.3	22.4	3.7	27.0	27.0	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	6.3	22.4	3.7	27.0	27.0	42.2
Queue Length 50th (ft)	58	51	260	0	68	68	183
Queue Length 95th (ft)	m87	101	337	60	117	117	#324
Internal Link Dist (ft)		680	570			1375	
Turn Bay Length (ft)	260			365	575		
Base Capacity (vph)	337	2165	1645	1034	537	537	567
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	0.62	0.59	0.65	0.53	0.28	0.28	0.77

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

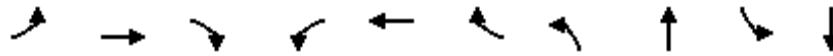
APPENDIX 6.4: EAPC (2025) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Timings
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

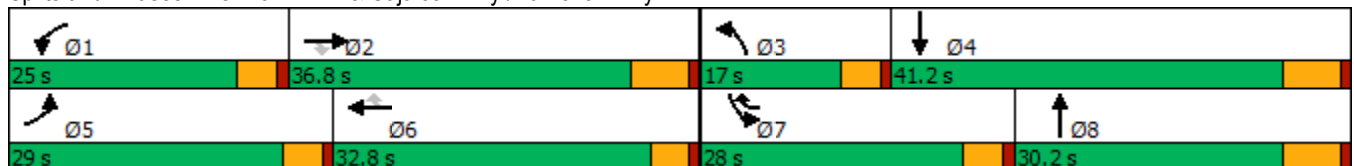


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↑↑↑	↘	↙↘	↑↑↑	↘	↙↘	↑↘	↙↘	↑↘
Traffic Volume (vph)	188	841	217	640	1130	739	373	433	426	230
Future Volume (vph)	188	841	217	640	1130	739	373	433	426	230
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	7	3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	7	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.2	36.2	9.6	32.5	9.6	9.6	16.2	9.6	41.2
Total Split (s)	29.0	36.8	36.8	25.0	32.8	28.0	17.0	30.2	28.0	41.2
Total Split (%)	24.2%	30.7%	30.7%	20.8%	27.3%	23.3%	14.2%	25.2%	23.3%	34.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.5	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.5	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	17.2	26.1	26.1	20.4	31.0	56.4	12.4	26.6	20.9	35.0
Actuated g/C Ratio	0.15	0.23	0.23	0.18	0.27	0.49	0.11	0.23	0.18	0.30
v/c Ratio	0.75	0.70	0.43	1.08	0.79	0.91	1.04	0.81	0.70	0.29
Control Delay	64.6	44.3	7.1	104.6	44.5	37.9	105.9	45.9	50.8	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.6	44.3	7.1	104.6	44.5	37.9	105.9	45.9	50.8	27.6
LOS	E	D	A	F	D	D	F	D	D	C
Approach Delay		40.9			57.9			67.3		41.0
Approach LOS		D			E			E		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 115.6
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 53.6
 Intersection LOS: D
 Intersection Capacity Utilization 88.7%
 ICU Level of Service E
 Analysis Period (min) 15



































Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  		 	 		 	 	
Traffic Volume (veh/h)	188	841	217	640	1130	739	373	433	240	426	230	83
Future Volume (veh/h)	188	841	217	640	1130	739	373	433	240	426	230	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	202	904	75	688	1215	429	401	466	134	458	247	46
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	233	1180	333	655	1479	654	398	776	221	530	970	178
Arrive On Green	0.13	0.21	0.21	0.18	0.26	0.26	0.11	0.27	0.27	0.15	0.31	0.31
Sat Flow, veh/h	1810	5700	1610	3619	5700	1610	3619	2834	808	3619	3124	573
Grp Volume(v), veh/h	202	904	75	688	1215	429	401	311	289	458	149	144
Grp Sat Flow(s),veh/h/ln	1810	1900	1610	1810	1900	1610	1810	1900	1742	1810	1900	1797
Q Serve(g_s), s	12.3	16.9	4.4	20.4	22.6	24.3	12.4	16.0	16.3	13.9	6.6	6.8
Cycle Q Clear(g_c), s	12.3	16.9	4.4	20.4	22.6	24.3	12.4	16.0	16.3	13.9	6.6	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		0.32
Lane Grp Cap(c), veh/h	233	1180	333	655	1479	654	398	521	477	530	590	558
V/C Ratio(X)	0.87	0.77	0.22	1.05	0.82	0.66	1.01	0.60	0.61	0.86	0.25	0.26
Avail Cap(c_a), veh/h	392	1547	437	655	1479	654	398	521	477	751	590	558
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	42.1	37.2	46.2	39.3	27.1	50.2	35.5	35.6	47.0	29.1	29.1
Incr Delay (d2), s/veh	5.1	1.7	0.3	49.2	3.9	2.4	47.0	5.0	5.6	5.6	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	7.7	1.7	13.2	10.5	9.1	8.0	7.8	7.3	6.4	3.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.3	43.8	37.5	95.4	43.1	29.5	97.2	40.5	41.2	52.6	30.1	30.3
LnGrp LOS	D	D	D	F	D	C	F	D	D	D	C	C
Approach Vol, veh/h		1181			2332			1001			751	
Approach Delay, s/veh		45.1			56.1			63.4			43.9	
Approach LOS		D			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	29.6	17.0	41.2	19.1	35.5	21.1	37.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	20.4	30.6	12.4	35.0	24.4	* 28	23.4	24.0				
Max Q Clear Time (g_c+I1), s	22.4	18.9	14.4	8.8	14.3	26.3	15.9	18.3				
Green Ext Time (p_c), s	0.0	4.5	0.0	1.4	0.2	1.5	0.6	1.6				

Intersection Summary

HCM 6th Ctrl Delay	53.3
HCM 6th LOS	D

Notes

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

Timings
6: Harvill Av. & Rider St.

Rider & Patterson Business Center (JN 14198)

09/27/2022

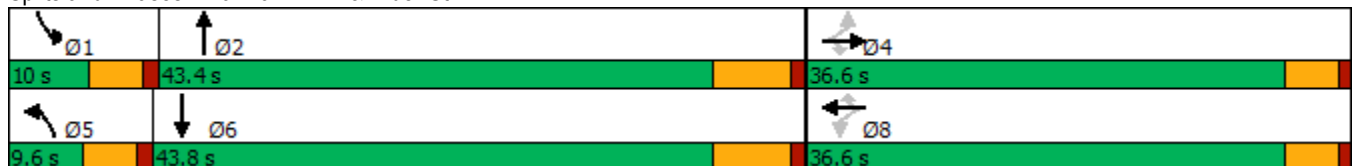


Lane Group	EBL	EBT	EBR	WBL	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↓	↖	↑↓
Traffic Volume (vph)	61	1	37	2	16	47	920	18	1071
Future Volume (vph)	61	1	37	2	16	47	920	18	1071
Turn Type	Perm	NA	Perm	Perm	Perm	Prot	NA	Prot	NA
Protected Phases		4				5	2	1	6
Permitted Phases	4		4	8	8				
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	36.6	36.6	36.6	36.6	36.6	9.6	28.2	9.6	28.2
Total Split (s)	36.6	36.6	36.6	36.6	36.6	9.6	43.4	10.0	43.8
Total Split (%)	40.7%	40.7%	40.7%	40.7%	40.7%	10.7%	48.2%	11.1%	48.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	16.8	16.8	16.8	16.8	16.8	7.2	36.4	7.3	33.2
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34	0.15	0.74	0.15	0.67
v/c Ratio	0.13	0.00	0.06	0.00	0.03	0.19	0.37	0.07	0.49
Control Delay	20.1	19.0	0.2	19.5	0.1	33.6	8.8	33.1	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	19.0	0.2	19.5	0.1	33.6	8.8	33.1	12.6
LOS	C	B	A	B	A	C	A	C	B
Approach Delay		12.6					10.0		12.9
Approach LOS		B					A		B

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 49.3
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.49
 Intersection Signal Delay: 11.5
 Intersection Capacity Utilization 60.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

























Splits and Phases: 6: Harvill Av. & Rider St.



HCM 6th Signalized Intersection Summary
6: Harvill Av. & Rider St.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	1	37	2	0	16	47	920	4	18	1071	49
Future Volume (veh/h)	61	1	37	2	0	16	47	920	4	18	1071	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	64	1	39	2	0	17	49	968	4	19	1127	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	384	302	256	383	302	256	91	1792	7	42	1612	74
Arrive On Green	0.16	0.16	0.16	0.16	0.00	0.16	0.05	0.49	0.49	0.02	0.46	0.46
Sat Flow, veh/h	1440	1900	1610	1439	1900	1610	1810	3687	15	1810	3514	162
Grp Volume(v), veh/h	64	1	39	2	0	17	49	474	498	19	579	600
Grp Sat Flow(s),veh/h/ln	1440	1900	1610	1439	1900	1610	1810	1805	1897	1810	1805	1871
Q Serve(g_s), s	1.8	0.0	1.0	0.1	0.0	0.4	1.2	8.5	8.5	0.5	11.9	11.9
Cycle Q Clear(g_c), s	1.8	0.0	1.0	0.1	0.0	0.4	1.2	8.5	8.5	0.5	11.9	11.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.09
Lane Grp Cap(c), veh/h	384	302	256	383	302	256	91	877	922	42	828	858
V/C Ratio(X)	0.17	0.00	0.15	0.01	0.00	0.07	0.54	0.54	0.54	0.45	0.70	0.70
Avail Cap(c_a), veh/h	1147	1309	1110	1146	1309	1110	195	1446	1520	210	1461	1515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	16.4	16.8	16.5	0.0	16.6	21.5	8.3	8.3	22.4	10.0	10.0
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.0	0.0	0.1	1.8	0.5	0.5	2.7	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.3	0.0	0.0	0.1	0.5	1.9	2.0	0.2	3.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.4	16.4	17.1	16.5	0.0	16.7	23.3	8.8	8.8	25.1	11.1	11.1
LnGrp LOS	B	B	B	B	A	B	C	A	A	C	B	B
Approach Vol, veh/h		104			19			1021			1198	
Approach Delay, s/veh		17.3			16.7			9.5			11.3	
Approach LOS		B			B			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	28.8		12.0	6.9	27.5		12.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.4	37.2		32.0	5.0	37.6		32.0				
Max Q Clear Time (g_c+I1), s	2.5	10.5		3.8	3.2	13.9		2.4				
Green Ext Time (p_c), s	0.0	5.9		0.3	0.0	7.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				10.8								
HCM 6th LOS				B								

Timings
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

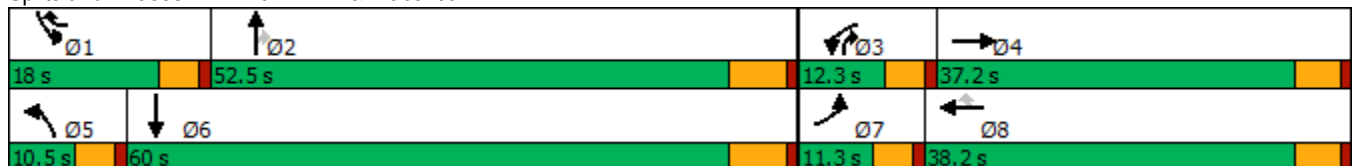


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖↗	↕	↖↗	↖	↕↕	↗	↖↗	↕↖
Traffic Volume (vph)	17	88	198	120	688	21	723	370	482	762
Future Volume (vph)	17	88	198	120	688	21	723	370	482	762
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8	1	5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	1	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	9.6	37.2	9.6	37.2	9.6	9.6	33.2	9.6	9.6	33.2
Total Split (s)	11.3	37.2	12.3	38.2	18.0	10.5	52.5	12.3	18.0	60.0
Total Split (%)	9.4%	31.0%	10.3%	31.8%	15.0%	8.8%	43.8%	10.3%	15.0%	50.0%
Yellow Time (s)	3.6	4.2	3.6	4.2	3.6	3.6	5.2	3.6	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	4.6	4.6	6.2	4.6	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.7	13.9	8.9	19.7	39.2	5.7	24.8	40.2	14.0	40.1
Actuated g/C Ratio	0.07	0.18	0.11	0.25	0.50	0.07	0.31	0.51	0.18	0.51
v/c Ratio	0.15	0.33	0.56	0.29	0.50	0.19	0.72	0.41	0.87	0.48
Control Delay	44.3	31.9	44.4	27.9	11.1	45.2	28.9	2.9	51.0	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	31.9	44.4	27.9	11.1	45.2	28.9	2.9	51.0	16.6
LOS	D	C	D	C	B	D	C	A	D	B
Approach Delay		33.7		19.7			20.6			29.8
Approach LOS		C		B			C			C

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 79
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 24.1
 Intersection LOS: C
 Intersection Capacity Utilization 61.1%
 ICU Level of Service B
 Analysis Period (min) 15




























Splits and Phases: 7: Harvill Av. & Placentia Av.



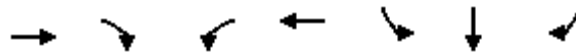
HCM 6th Signalized Intersection Summary
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 		 		 		 	 	
Traffic Volume (veh/h)	17	88	11	198	120	688	21	723	370	482	762	12
Future Volume (veh/h)	17	88	11	198	120	688	21	723	370	482	762	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	19	99	12	222	135	344	24	812	247	542	856	13
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	40	207	25	313	365	1053	48	1145	654	630	1711	26
Arrive On Green	0.02	0.12	0.12	0.09	0.19	0.19	0.03	0.32	0.32	0.18	0.47	0.47
Sat Flow, veh/h	1810	1662	201	3510	1900	2834	1810	3610	1610	3510	3640	55
Grp Volume(v), veh/h	19	0	111	222	135	344	24	812	247	542	424	445
Grp Sat Flow(s),veh/h/ln	1810	0	1864	1755	1900	1417	1810	1805	1610	1755	1805	1890
Q Serve(g_s), s	0.7	0.0	3.9	4.4	4.4	6.2	0.9	14.1	7.7	10.7	11.6	11.6
Cycle Q Clear(g_c), s	0.7	0.0	3.9	4.4	4.4	6.2	0.9	14.1	7.7	10.7	11.6	11.6
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	40	0	233	313	365	1053	48	1145	654	630	848	888
V/C Ratio(X)	0.48	0.00	0.48	0.71	0.37	0.33	0.50	0.71	0.38	0.86	0.50	0.50
Avail Cap(c_a), veh/h	170	0	838	380	881	1822	150	2348	1191	661	1364	1428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	29.0	31.5	25.0	16.0	34.2	21.4	14.8	28.3	13.1	13.1
Incr Delay (d2), s/veh	3.3	0.0	1.5	3.2	0.6	0.2	3.0	0.8	0.4	10.1	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.8	1.9	1.9	1.8	0.4	5.2	0.1	4.9	3.8	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	0.0	30.5	34.7	25.6	16.2	37.2	22.2	15.2	38.5	13.5	13.5
LnGrp LOS	D	A	C	C	C	B	D	C	B	D	B	B
Approach Vol, veh/h		130			701			1083			1411	
Approach Delay, s/veh		31.6			23.9			21.0			23.1	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	28.8	11.0	14.1	6.5	39.7	6.2	18.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.2	4.6	6.2	4.6	5.2				
Max Green Setting (Gmax), s	13.4	46.3	7.7	32.0	5.9	53.8	6.7	33.0				
Max Q Clear Time (g_c+I1), s	12.7	16.1	6.4	5.9	2.9	13.6	2.7	8.2				
Green Ext Time (p_c), s	0.1	6.5	0.1	0.5	0.0	5.4	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay				22.9								
HCM 6th LOS				C								

Timings
8: I-215 SB Ramps & Ramona Exwy.

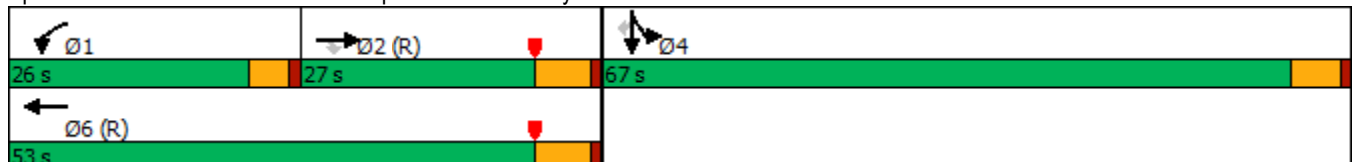


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↔	↑↑↑	↔	↑	↑
Traffic Volume (vph)	785	470	547	1856	1845	2	780
Future Volume (vph)	785	470	547	1856	1845	2	780
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	27.0	27.0	26.0	53.0	67.0	67.0	67.0
Total Split (%)	22.5%	22.5%	21.7%	44.2%	55.8%	55.8%	55.8%
Yellow Time (s)	5.0	5.0	3.5	5.0	4.5	4.5	4.5
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)	6.0	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	21.5	21.5	21.0	47.0	61.5	61.5	61.5
Actuated g/C Ratio	0.18	0.18	0.18	0.39	0.51	0.51	0.51
v/c Ratio	0.78	0.71	0.89	0.85	0.68	0.67	0.93
Control Delay	53.4	10.3	83.2	33.5	24.3	26.2	42.9
Queue Delay	0.0	0.0	0.0	31.6	51.3	56.3	0.0
Total Delay	53.4	10.3	83.2	65.1	75.6	82.5	42.9
LOS	D	B	F	E	E	F	D
Approach Delay	37.2			69.2		67.5	
Approach LOS	D			E		E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 62.1
 Intersection LOS: E
 Intersection Capacity Utilization 166.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑↑					↘↗	↖	↗
Traffic Volume (veh/h)	0	785	470	547	1856	0	0	0	0	1845	2	780
Future Volume (veh/h)	0	785	470	547	1856	0	0	0	0	1845	2	780
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	801	256	558	1894	0				1884	0	413
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1046	292	617	2232	0				2782	0	825
Arrive On Green	0.00	0.18	0.18	0.17	0.39	0.00				0.51	0.00	0.51
Sat Flow, veh/h	0	5700	1589	3619	5700	0				5429	0	1610
Grp Volume(v), veh/h	0	801	256	558	1894	0				1884	0	413
Grp Sat Flow(s),veh/h/ln	0	1900	1589	1810	1900	0				1810	0	1610
Q Serve(g_s), s	0.0	16.0	18.8	18.1	36.3	0.0				31.1	0.0	20.2
Cycle Q Clear(g_c), s	0.0	16.0	18.8	18.1	36.3	0.0				31.1	0.0	20.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1046	292	617	2233	0				2782	0	825
V/C Ratio(X)	0.00	0.77	0.88	0.90	0.85	0.00				0.68	0.00	0.50
Avail Cap(c_a), veh/h	0	1046	292	648	2233	0				2782	0	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.65	0.65	0.34	0.34	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	46.5	47.7	48.8	33.3	0.0				21.8	0.0	19.2
Incr Delay (d2), s/veh	0.0	3.5	20.9	6.3	1.5	0.0				1.3	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	0.0	7.6	8.8	8.4	15.9	0.0				12.5	0.0	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	50.1	68.6	55.1	34.8	0.0				23.2	0.0	21.3
LnGrp LOS	A	D	E	E	C	A				C	A	C
Approach Vol, veh/h		1057			2452						2297	
Approach Delay, s/veh		54.5			39.4						22.9	
Approach LOS		D			D						C	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	25.0	28.0		67.0		53.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	21.5	21.0		61.5		47.0						
Max Q Clear Time (g_c+I1), s	20.1	20.8		33.1		38.3						
Green Ext Time (p_c), s	0.3	0.1		12.2		5.4						

Intersection Summary

HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

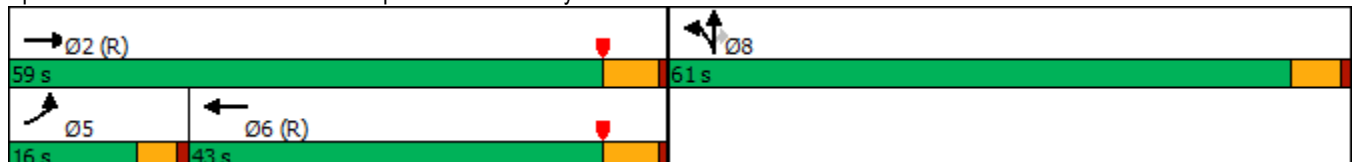


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↶	↑↑↑	↶↶↶	↷	↶	↶	↷
Traffic Volume (vph)	320	2316	1518	1471	885	4	808
Future Volume (vph)	320	2316	1518	1471	885	4	808
Turn Type	Prot	NA	NA	Free	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				Free			8
Detector Phase	5	2	6		8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0		10.5	10.5	10.5
Total Split (s)	16.0	59.0	43.0		61.0	61.0	61.0
Total Split (%)	13.3%	49.2%	35.8%		50.8%	50.8%	50.8%
Yellow Time (s)	3.5	5.0	5.0		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)	4.5	6.0	6.0		5.5	5.5	5.5
Lead/Lag	Lead		Lag				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	None	C-Max	C-Max		None	None	None
Act Effct Green (s)	11.5	53.0	37.0	120.0	55.5	55.5	55.5
Actuated g/C Ratio	0.10	0.44	0.31	1.00	0.46	0.46	0.46
v/c Ratio	0.99	1.04	0.98	0.94	0.58	0.58	1.06
Control Delay	113.5	72.2	59.3	13.4	27.2	27.3	80.2
Queue Delay	0.0	24.6	40.7	0.0	0.1	0.1	0.0
Total Delay	113.5	96.8	100.0	13.4	27.4	27.4	80.2
LOS	F	F	F	B	C	C	F
Approach Delay		98.8	57.4			52.6	
Approach LOS		F	E			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 71.2
 Intersection LOS: E
 Intersection Capacity Utilization 166.3%
 ICU Level of Service H
 Analysis Period (min) 15

























Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  							
Traffic Volume (veh/h)	320	2316	0	0	1518	1471	885	4	808	0	0	0
Future Volume (veh/h)	320	2316	0	0	1518	1471	885	4	808	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	330	2388	0	0	1565	0	915	0	681			
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	336	2377	0	0	1685		1614	0	718			
Arrive On Green	0.19	0.92	0.00	0.00	0.32	0.00	0.45	0.00	0.45			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	330	2388	0	0	1565	0	915	0	681			
Grp Sat Flow(s),veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	11.2	55.0	0.0	0.0	35.0	0.0	22.5	0.0	48.7			
Cycle Q Clear(g_c), s	11.2	55.0	0.0	0.0	35.0	0.0	22.5	0.0	48.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	336	2377	0	0	1685		1614	0	718			
V/C Ratio(X)	0.98	1.00	0.00	0.00	0.93		0.57	0.00	0.95			
Avail Cap(c_a), veh/h	336	2377	0	0	1685		1674	0	745			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.62	0.62	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	48.4	5.0	0.0	0.0	39.2	0.0	24.7	0.0	31.9			
Incr Delay (d2), s/veh	33.6	15.7	0.0	0.0	10.5	0.0	0.4	0.0	21.0			
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	5.8	5.3	0.0	0.0	15.6	0.0	9.2	0.0	21.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.0	20.7	0.0	0.0	49.6	0.0	25.1	0.0	52.9			
LnGrp LOS	F	F	A	A	D		C	A	D			
Approach Vol, veh/h		2718			1565			1596				
Approach Delay, s/veh		28.1			49.6			36.9				
Approach LOS		C			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		61.0			16.0	45.0		59.0				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		53.0			11.5	37.0		55.5				
Max Q Clear Time (g_c+I1), s		57.0			13.2	37.0		50.7				
Green Ext Time (p_c), s		0.0			0.0	0.0		2.8				

Intersection Summary

HCM 6th Ctrl Delay	36.2
HCM 6th LOS	D

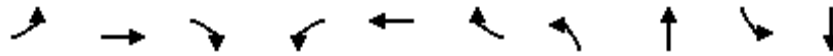
Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Timings
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

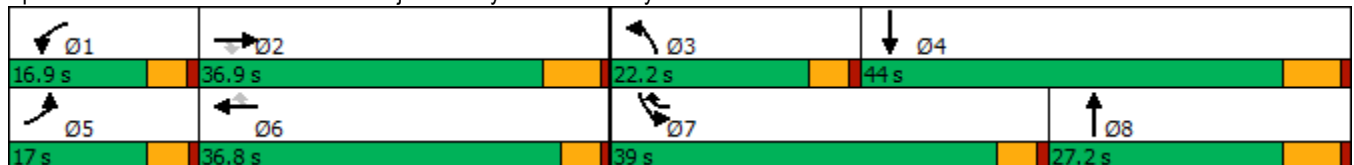


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑	↘↗	↑↑
Traffic Volume (vph)	123	1238	298	350	929	474	312	241	902	320
Future Volume (vph)	123	1238	298	350	929	474	312	241	902	320
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	7	3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	7	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.2	36.2	9.6	32.5	9.6	9.6	16.2	9.6	41.2
Total Split (s)	17.0	36.9	36.9	16.9	36.8	39.0	22.2	27.2	39.0	44.0
Total Split (%)	14.2%	30.8%	30.8%	14.1%	30.7%	32.5%	18.5%	22.7%	32.5%	36.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.5	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.5	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	11.3	30.7	30.7	12.3	33.4	71.6	14.9	21.0	33.7	39.8
Actuated g/C Ratio	0.09	0.26	0.26	0.10	0.28	0.60	0.12	0.18	0.28	0.33
v/c Ratio	0.77	0.91	0.49	1.01	0.63	0.49	0.74	1.45dr	0.95	0.42
Control Delay	81.2	53.1	6.6	102.7	40.0	10.4	60.7	132.0	60.9	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.2	53.1	6.6	102.7	40.0	10.4	60.7	132.0	60.9	25.9
LOS	F	D	A	F	D	B	E	F	E	C
Approach Delay		46.8			44.5			112.6		48.5
Approach LOS		D			D			F		D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.3
 Natural Cycle: 130
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.19
 Intersection Signal Delay: 59.2
 Intersection LOS: E
 Intersection Capacity Utilization 103.4%
 ICU Level of Service G
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↘		↘↗	↑↘	
Traffic Volume (veh/h)	123	1238	298	350	929	474	312	241	591	902	320	174
Future Volume (veh/h)	123	1238	298	350	929	474	312	241	591	902	320	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	132	1331	169	376	999	215	335	259	352	970	344	99
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	1451	410	377	1547	889	396	338	286	1016	994	282
Arrive On Green	0.13	0.38	0.38	0.16	0.41	0.41	0.16	0.27	0.27	0.42	0.52	0.52
Sat Flow, veh/h	1810	5700	1610	3619	5700	1610	3619	1900	1610	3619	2848	807
Grp Volume(v), veh/h	132	1331	169	376	999	215	335	259	352	970	228	215
Grp Sat Flow(s),veh/h/ln	1810	1900	1610	1810	1900	1610	1810	1900	1610	1810	1900	1755
Q Serve(g_s), s	8.4	26.2	9.1	12.3	16.7	7.2	10.6	14.8	21.0	30.7	8.2	8.5
Cycle Q Clear(g_c), s	8.4	26.2	9.1	12.3	16.7	7.2	10.6	14.8	21.0	30.7	8.2	8.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	158	1451	410	377	1547	889	396	338	286	1016	664	613
V/C Ratio(X)	0.84	0.92	0.41	1.00	0.65	0.24	0.85	0.77	1.23	0.95	0.34	0.35
Avail Cap(c_a), veh/h	190	1481	418	377	1558	892	539	338	286	1054	664	613
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	35.3	30.0	49.8	30.5	10.9	48.4	41.1	43.3	33.5	20.3	20.3
Incr Delay (d2), s/veh	20.1	9.3	0.7	45.8	0.9	0.1	6.9	15.3	130.2	17.2	1.4	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	11.2	3.2	7.4	6.5	2.2	4.8	7.5	17.5	13.2	3.5	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.7	44.6	30.7	95.6	31.4	11.1	55.4	56.4	173.5	50.7	21.7	21.9
LnGrp LOS	E	D	C	F	C	B	E	E	F	D	C	C
Approach Vol, veh/h		1632			1590			946			1413	
Approach Delay, s/veh		45.3			43.8			99.6			41.6	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.9	36.3	17.5	47.5	14.9	38.3	37.8	27.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.3	30.7	17.6	37.8	12.4	* 32	34.4	21.0				
Max Q Clear Time (g_c+I1), s	14.3	28.2	12.6	10.5	10.4	18.7	32.7	23.0				
Green Ext Time (p_c), s	0.0	1.8	0.3	2.3	0.0	5.8	0.5	0.0				

Intersection Summary

HCM 6th Ctrl Delay	53.1
HCM 6th LOS	D

Notes

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

Timings
6: Harvill Av. & Rider St.

Rider & Patterson Business Center (JN 14198)

09/27/2022

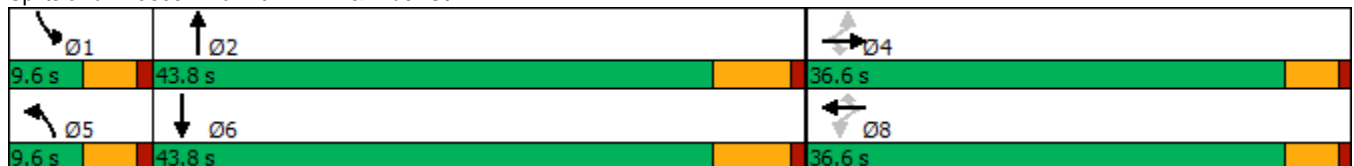


Lane Group	EBL	EBT	EBR	WBL	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↗	↖	↕	↖	↕
Traffic Volume (vph)	66	1	61	3	4	37	1093	1	1178
Future Volume (vph)	66	1	61	3	4	37	1093	1	1178
Turn Type	Perm	NA	Perm	Perm	Perm	Prot	NA	Prot	NA
Protected Phases		4				5	2	1	6
Permitted Phases	4		4	8	8				
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	36.6	36.6	36.6	36.6	36.6	9.6	28.2	9.6	28.2
Total Split (s)	36.6	36.6	36.6	36.6	36.6	9.6	43.8	9.6	43.8
Total Split (%)	40.7%	40.7%	40.7%	40.7%	40.7%	10.7%	48.7%	10.7%	48.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	15.2	15.2	15.2	15.2	15.2	6.1	40.6	6.1	37.2
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25	0.10	0.68	0.10	0.62
v/c Ratio	0.21	0.00	0.15	0.01	0.01	0.23	0.52	0.01	0.65
Control Delay	24.5	21.0	3.7	21.3	0.0	37.8	11.1	36.0	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	21.0	3.7	21.3	0.0	37.8	11.1	36.0	15.4
LOS	C	C	A	C	A	D	B	D	B
Approach Delay		14.5					11.9		15.4
Approach LOS		B					B		B

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 60
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 13.8
 Intersection LOS: B
 Intersection Capacity Utilization 63.9%
 ICU Level of Service B
 Analysis Period (min) 15

























Splits and Phases: 6: Harvill Av. & Rider St.



HCM 6th Signalized Intersection Summary
6: Harvill Av. & Rider St.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	1	61	3	0	4	37	1093	3	1	1178	57
Future Volume (veh/h)	66	1	61	3	0	4	37	1093	3	1	1178	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	77	1	71	3	0	5	43	1271	3	1	1370	66
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	367	311	264	352	311	264	79	2043	5	3	1790	86
Arrive On Green	0.16	0.16	0.16	0.16	0.00	0.16	0.04	0.55	0.55	0.00	0.51	0.51
Sat Flow, veh/h	1434	1900	1610	1349	1900	1610	1810	3695	9	1810	3506	169
Grp Volume(v), veh/h	77	1	71	3	0	5	43	621	653	1	704	732
Grp Sat Flow(s),veh/h/ln	1434	1900	1610	1349	1900	1610	1810	1805	1898	1810	1805	1870
Q Serve(g_s), s	2.6	0.0	2.1	0.1	0.0	0.1	1.3	12.8	12.8	0.0	17.1	17.2
Cycle Q Clear(g_c), s	2.6	0.0	2.1	0.1	0.0	0.1	1.3	12.8	12.8	0.0	17.1	17.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.09
Lane Grp Cap(c), veh/h	367	311	264	352	311	264	79	998	1050	3	921	954
V/C Ratio(X)	0.21	0.00	0.27	0.01	0.00	0.02	0.54	0.62	0.62	0.30	0.76	0.77
Avail Cap(c_a), veh/h	971	1112	943	921	1112	943	166	1242	1306	166	1242	1286
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	19.1	20.0	19.2	0.0	19.2	25.6	8.3	8.3	27.3	10.7	10.8
Incr Delay (d2), s/veh	0.3	0.0	0.5	0.0	0.0	0.0	2.1	0.6	0.6	17.9	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.8	0.0	0.0	0.1	0.5	3.0	3.2	0.0	4.7	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	19.1	20.5	19.2	0.0	19.2	27.7	9.0	8.9	45.1	12.7	12.7
LnGrp LOS	C	B	C	B	A	B	C	A	A	D	B	B
Approach Vol, veh/h		149			8			1317			1437	
Approach Delay, s/veh		20.5			19.2			9.6			12.8	
Approach LOS		C			B			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	36.4		13.6	7.0	34.1		13.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	37.6		32.0	5.0	37.6		32.0				
Max Q Clear Time (g_c+I1), s	2.0	14.8		4.6	3.3	19.2		2.1				
Green Ext Time (p_c), s	0.0	8.1		0.4	0.0	8.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				11.7								
HCM 6th LOS				B								

Timings
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

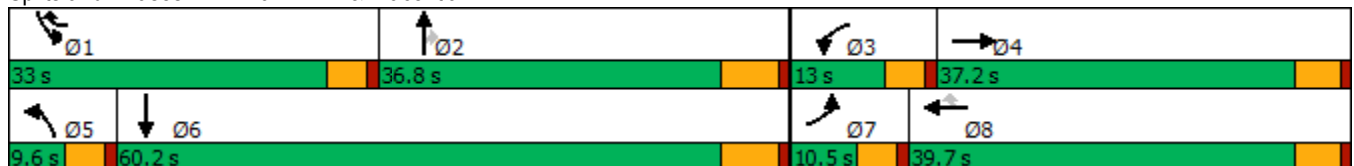


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	20	166	236	106	504	23	815	241	839	742
Future Volume (vph)	20	166	236	106	504	23	815	241	839	742
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	1	5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	1	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.2	9.6	37.2	9.6	9.6	33.2	33.2	9.6	33.2
Total Split (s)	10.5	37.2	13.0	39.7	33.0	9.6	36.8	36.8	33.0	60.2
Total Split (%)	8.8%	31.0%	10.8%	33.1%	27.5%	8.0%	30.7%	30.7%	27.5%	50.2%
Yellow Time (s)	3.6	4.2	3.6	4.2	3.6	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	4.6	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.5	19.2	8.4	28.3	62.1	5.0	30.7	30.7	28.5	58.3
Actuated g/C Ratio	0.05	0.18	0.08	0.26	0.58	0.05	0.29	0.29	0.26	0.54
v/c Ratio	0.26	0.69	1.01	0.25	0.35	0.32	0.93	0.43	1.06	0.45
Control Delay	58.8	50.5	108.3	33.6	9.2	62.8	54.1	6.2	87.0	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.8	50.5	108.3	33.6	9.2	62.8	54.1	6.2	87.0	17.7
LOS	E	D	F	C	A	E	D	A	F	B
Approach Delay		51.3		39.9			43.6			54.3
Approach LOS		D		D			D			D

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 107.6
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 47.8
 Intersection Capacity Utilization 81.0%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D






























Splits and Phases: 7: Harvill Av. & Placentia Av.



HCM 6th Signalized Intersection Summary
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

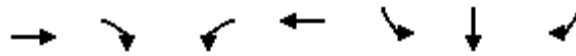
09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 		 		 		 	 	 
Traffic Volume (veh/h)	20	166	32	236	106	504	23	815	241	839	742	8
Future Volume (veh/h)	20	166	32	236	106	504	23	815	241	839	742	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	24	195	38	278	125	358	27	959	166	987	873	9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	44	236	46	286	400	1378	47	1046	466	967	1974	20
Arrive On Green	0.02	0.15	0.15	0.08	0.21	0.21	0.03	0.29	0.29	0.28	0.54	0.54
Sat Flow, veh/h	1810	1545	301	3510	1900	2834	1810	3610	1609	3510	3660	38
Grp Volume(v), veh/h	24	0	233	278	125	358	27	959	166	987	430	452
Grp Sat Flow(s),veh/h/ln	1810	0	1846	1755	1900	1417	1810	1805	1609	1755	1805	1893
Q Serve(g_s), s	1.4	0.0	12.6	8.1	5.7	7.7	1.5	26.5	8.4	28.4	14.9	14.9
Cycle Q Clear(g_c), s	1.4	0.0	12.6	8.1	5.7	7.7	1.5	26.5	8.4	28.4	14.9	14.9
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	44	0	283	286	400	1378	47	1046	466	967	974	1021
V/C Ratio(X)	0.55	0.00	0.82	0.97	0.31	0.26	0.57	0.92	0.36	1.02	0.44	0.44
Avail Cap(c_a), veh/h	104	0	573	286	636	1730	88	1072	478	967	974	1021
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	0.0	42.3	47.2	34.4	15.6	49.6	35.4	29.0	37.3	14.4	14.4
Incr Delay (d2), s/veh	4.0	0.0	6.0	45.0	0.4	0.1	4.0	11.9	0.5	34.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	6.2	5.3	2.7	2.4	0.7	13.1	3.3	16.5	5.9	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	0.0	48.3	92.2	34.8	15.7	53.6	47.3	29.4	71.4	14.7	14.7
LnGrp LOS	D	A	D	F	C	B	D	D	C	F	B	B
Approach Vol, veh/h		257			761			1152			1869	
Approach Delay, s/veh		48.8			46.8			44.9			44.6	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.0	36.1	13.0	21.0	7.3	61.8	7.1	26.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.2	4.6	6.2	4.6	5.2				
Max Green Setting (Gmax), s	28.4	30.6	8.4	32.0	5.0	54.0	5.9	34.5				
Max Q Clear Time (g_c+I1), s	30.4	28.5	10.1	14.6	3.5	16.9	3.4	9.7				
Green Ext Time (p_c), s	0.0	1.4	0.0	1.2	0.0	6.6	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			45.4									
HCM 6th LOS			D									

Timings
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

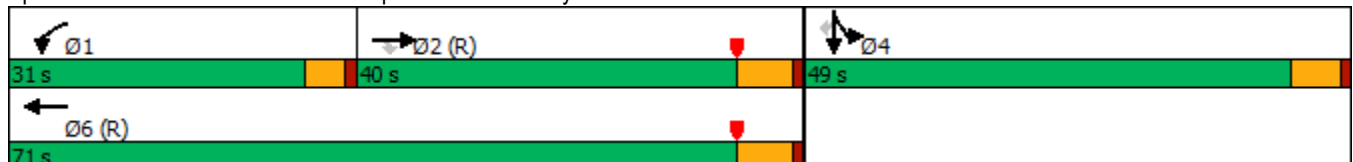


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↔	↑↑↑	↔	↑	↑
Traffic Volume (vph)	1621	881	844	1237	2002	8	417
Future Volume (vph)	1621	881	844	1237	2002	8	417
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	40.0	40.0	31.0	71.0	49.0	49.0	49.0
Total Split (%)	33.3%	33.3%	25.8%	59.2%	40.8%	40.8%	40.8%
Yellow Time (s)	5.0	5.0	3.5	5.0	4.5	4.5	4.5
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)	6.0	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	34.0	34.0	26.5	65.0	43.5	43.5	43.5
Actuated g/C Ratio	0.28	0.28	0.22	0.54	0.36	0.36	0.36
v/c Ratio	1.01	0.96	1.07	0.40	1.04	1.03	0.67
Control Delay	68.6	32.1	116.2	20.6	72.5	80.9	32.9
Queue Delay	0.0	0.0	9.8	0.6	28.9	32.2	0.0
Total Delay	68.6	32.1	126.0	21.2	101.3	113.1	32.9
LOS	E	C	F	C	F	F	C
Approach Delay	55.7			63.7		92.8	
Approach LOS	E			E		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 70.9
 Intersection LOS: E
 Intersection Capacity Utilization 164.8%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘	↑↑↑					↖	↙	↗
Traffic Volume (veh/h)	0	1621	881	844	1237	0	0	0	0	2002	8	417
Future Volume (veh/h)	0	1621	881	844	1237	0	0	0	0	2002	8	417
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	1637	367	853	1249	0				2028	0	239
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99				0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1615	456	799	3088	0				1968	0	584
Arrive On Green	0.00	0.28	0.28	0.22	0.54	0.00				0.36	0.00	0.36
Sat Flow, veh/h	0	5700	1610	3619	5700	0				5429	0	1610
Grp Volume(v), veh/h	0	1637	367	853	1249	0				2028	0	239
Grp Sat Flow(s),veh/h/ln	0	1900	1610	1810	1900	0				1810	0	1610
Q Serve(g_s), s	0.0	34.0	25.4	26.5	15.4	0.0				43.5	0.0	13.3
Cycle Q Clear(g_c), s	0.0	34.0	25.4	26.5	15.4	0.0				43.5	0.0	13.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1615	456	799	3088	0				1968	0	584
V/C Ratio(X)	0.00	1.01	0.80	1.07	0.40	0.00				1.03	0.00	0.41
Avail Cap(c_a), veh/h	0	1615	456	799	3088	0				1968	0	584
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.26	0.26	0.36	0.36	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	43.0	39.9	46.8	16.1	0.0				38.3	0.0	28.6
Incr Delay (d2), s/veh	0.0	15.0	4.0	40.0	0.1	0.0				28.6	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.3	10.1	15.8	6.2	0.0				23.4	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	58.0	43.9	86.8	16.3	0.0				66.8	0.0	30.8
LnGrp LOS	A	F	D	F	B	A				F	A	C
Approach Vol, veh/h		2004			2102						2267	
Approach Delay, s/veh		55.4			44.9						63.0	
Approach LOS		E			D						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	31.0	40.0		49.0		71.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	26.5	34.0		43.5		65.0						
Max Q Clear Time (g_c+I1), s	28.5	36.0		45.5		17.4						
Green Ext Time (p_c), s	0.0	0.0		0.0		6.0						

Intersection Summary

HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

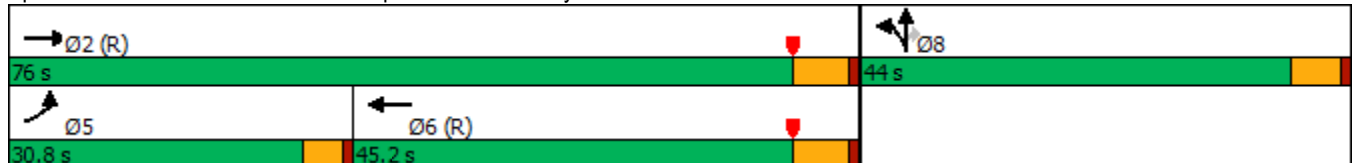


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↖↖	↑↑↑	↑↑↑	↖	↖	↕	↗
Traffic Volume (vph)	696	2931	1494	1722	585	4	561
Future Volume (vph)	696	2931	1494	1722	585	4	561
Turn Type	Prot	NA	NA	Free	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				Free			8
Detector Phase	5	2	6		8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0		10.5	10.5	10.5
Total Split (s)	30.8	76.0	45.2		44.0	44.0	44.0
Total Split (%)	25.7%	63.3%	37.7%		36.7%	36.7%	36.7%
Yellow Time (s)	3.5	5.0	5.0		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)	4.5	6.0	6.0		5.5	5.5	5.5
Lead/Lag	Lead		Lag				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	None	C-Max	C-Max		None	None	None
Act Effct Green (s)	26.3	70.0	39.2	120.0	38.5	38.5	38.5
Actuated g/C Ratio	0.22	0.58	0.33	1.00	0.32	0.32	0.32
v/c Ratio	0.96	1.03	0.94	1.15	0.57	0.57	1.06
Control Delay	87.1	50.4	50.9	82.1	38.6	38.8	89.7
Queue Delay	0.0	29.5	31.3	0.0	0.0	0.0	0.0
Total Delay	87.1	79.9	82.2	82.1	38.6	38.8	89.7
LOS	F	E	F	F	D	D	F
Approach Delay		81.3	82.1			63.6	
Approach LOS		F	F			E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 79.1
 Intersection LOS: E
 Intersection Capacity Utilization 164.8%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑			↑↑↑	↔	↔	↔	↔			
Traffic Volume (veh/h)	696	2931	0	0	1494	1722	585	4	561	0	0	0
Future Volume (veh/h)	696	2931	0	0	1494	1722	585	4	561	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	740	3118	0	0	1589	0	625	0	516			
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	769	3026	0	0	1694		1161	0	517			
Arrive On Green	0.44	1.00	0.00	0.00	0.33	0.00	0.32	0.00	0.32			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	740	3118	0	0	1589	0	625	0	516			
Grp Sat Flow(s),veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	24.6	0.0	0.0	0.0	35.7	0.0	17.0	0.0	38.4			
Cycle Q Clear(g_c), s	24.6	0.0	0.0	0.0	35.7	0.0	17.0	0.0	38.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	769	3026	0	0	1694		1161	0	517			
V/C Ratio(X)	0.96	1.03	0.00	0.00	0.94		0.54	0.00	1.00			
Avail Cap(c_a), veh/h	769	3026	0	0	1694		1161	0	517			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.2	0.0	0.0	0.0	39.2	0.0	33.5	0.0	40.7			
Incr Delay (d2), s/veh	4.0	15.3	0.0	0.0	11.4	0.0	0.5	0.0	39.3			
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	7.6	4.3	0.0	0.0	16.0	0.0	7.3	0.0	20.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.2	15.3	0.0	0.0	50.6	0.0	34.0	0.0	80.0			
LnGrp LOS	D	F	A	A	D		C	A	F			
Approach Vol, veh/h		3858			1589			1141				
Approach Delay, s/veh		19.5			50.6			54.8				
Approach LOS		B			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		76.0			30.8	45.2		44.0				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		70.0			26.3	39.2		38.5				
Max Q Clear Time (g_c+I1), s		2.0			26.6	37.7		40.4				
Green Ext Time (p_c), s		38.7			0.0	1.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

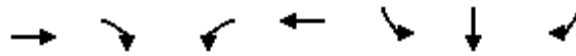
**APPENDIX 6.5: EAPC (2025) CONDITIONS FREEWAY OFF-RAMP
QUEUING ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Queues

8: I-215 SB Ramps & Ramona Exwy.

09/27/2022



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	801	480	558	1894	1262	623	796
v/c Ratio	0.78	0.71	0.89	0.85	0.68	0.67	0.93
Control Delay	53.4	10.3	83.2	33.5	24.3	26.2	42.9
Queue Delay	0.0	0.0	0.0	31.6	51.3	56.3	0.0
Total Delay	53.4	10.3	83.2	65.1	75.6	82.5	42.9
Queue Length 50th (ft)	200	0	195	290	354	346	518
Queue Length 95th (ft)	245	102	m199	m340	429	481	#804
Internal Link Dist (ft)	1408			344		1111	
Turn Bay Length (ft)		300	100		510		510
Base Capacity (vph)	1023	679	646	2232	1850	928	860
Starvation Cap Reductn	0	0	0	451	0	0	0
Spillback Cap Reductn	0	0	0	0	1106	554	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.71	0.86	1.06	1.70	1.67	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.

Queues
9: I-215 NB Ramps & Ramona Exwy.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	330	2388	1565	1516	456	460	833
v/c Ratio	0.99	1.04	0.98	0.94	0.58	0.58	1.06
Control Delay	113.5	72.2	59.3	13.4	27.2	27.3	80.2
Queue Delay	0.0	24.6	40.7	0.0	0.1	0.1	0.0
Total Delay	113.5	96.8	100.0	13.4	27.4	27.4	80.2
Queue Length 50th (ft)	135	~712	438	0	265	268	~682
Queue Length 95th (ft)	m#187	#800	#548	#105	377	382	#930
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	335	2290	1599	1615	793	795	783
Starvation Cap Reductn	0	693	0	0	0	0	0
Spillback Cap Reductn	0	0	241	0	30	30	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	1.50	1.15	0.94	0.60	0.60	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

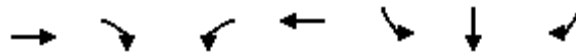
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1637	890	853	1249	1355	675	421
v/c Ratio	1.01	0.96	1.07	0.40	1.04	1.03	0.67
Control Delay	68.6	32.1	116.2	20.6	72.5	80.9	32.9
Queue Delay	0.0	0.0	9.8	0.6	28.9	32.2	0.0
Total Delay	68.6	32.1	126.0	21.2	101.3	113.1	32.9
Queue Length 50th (ft)	~433	222	~377	176	~564	~559	230
Queue Length 95th (ft)	#534	#539	m#422	m205	#696	#789	349
Internal Link Dist (ft)	1408			344		1111	
Turn Bay Length (ft)		300	100		510		510
Base Capacity (vph)	1615	931	797	3087	1308	656	628
Starvation Cap Reductn	0	0	18	1299	0	0	0
Spillback Cap Reductn	0	0	0	0	680	341	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.96	1.09	0.70	2.16	2.14	0.67

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues
9: I-215 NB Ramps & Ramona Exwy.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	740	3118	1589	1832	311	315	597
v/c Ratio	0.96	1.03	0.94	1.15	0.57	0.57	1.06
Control Delay	87.1	50.4	50.9	82.1	38.6	38.8	89.7
Queue Delay	0.0	29.5	31.3	0.0	0.0	0.0	0.0
Total Delay	87.1	79.9	82.2	82.1	38.6	38.8	89.7
Queue Length 50th (ft)	283	750	435	~384	209	212	~470
Queue Length 95th (ft)	m258	m633	#534	#648	309	314	#696
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	767	3025	1694	1594	550	551	564
Starvation Cap Reductn	0	1050	0	0	0	0	0
Spillback Cap Reductn	0	0	206	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	1.58	1.07	1.15	0.57	0.57	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

**APPENDIX 7.1: HORIZON YEAR (2045) WITHOUT PROJECT
CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**

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Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↗			↕	
Traffic Vol, veh/h	5	192	6	6	67	9	6	5	9	10	10	5
Future Vol, veh/h	5	192	6	6	67	9	6	5	9	10	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	100	-	100	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	243	8	8	85	11	8	6	11	13	13	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	96	0	0	251	0	0	371	367	243	369	364	85
Stage 1	-	-	-	-	-	-	255	255	-	101	101	-
Stage 2	-	-	-	-	-	-	116	112	-	268	263	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1510	-	-	1326	-	-	589	565	801	591	567	980
Stage 1	-	-	-	-	-	-	754	700	-	910	815	-
Stage 2	-	-	-	-	-	-	894	807	-	742	694	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1510	-	-	1326	-	-	571	559	801	573	561	980
Mov Cap-2 Maneuver	-	-	-	-	-	-	571	559	-	573	561	-
Stage 1	-	-	-	-	-	-	751	697	-	906	810	-
Stage 2	-	-	-	-	-	-	869	802	-	722	691	-

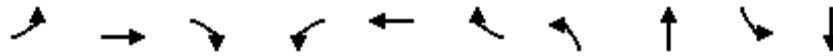
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.6			10.6			11.1		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	571	694	1510	-	-	1326	-	-	619
HCM Lane V/C Ratio	0.013	0.026	0.004	-	-	0.006	-	-	0.051
HCM Control Delay (s)	11.4	10.3	7.4	-	-	7.7	-	-	11.1
HCM Lane LOS	B	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0	-	-	0.2

Timings
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

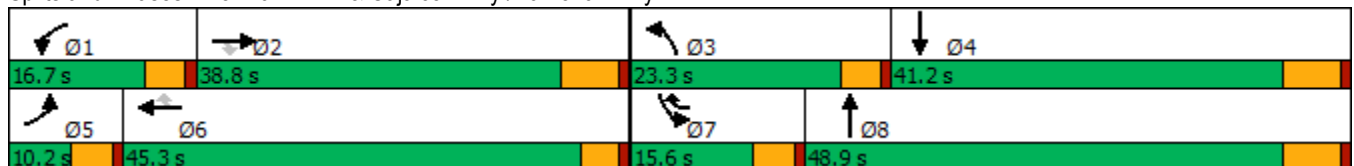


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↑↑	↗	↙↗	↑↑	↗	↙↗	↑↗	↙↗	↑↗
Traffic Volume (vph)	198	989	219	664	1186	776	397	477	447	231
Future Volume (vph)	198	989	219	664	1186	776	397	477	447	231
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	7	3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	7	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.2	36.2	9.6	32.5	9.6	9.6	16.2	9.6	41.2
Total Split (s)	10.2	38.8	38.8	16.7	45.3	15.6	23.3	48.9	15.6	41.2
Total Split (%)	8.5%	32.3%	32.3%	13.9%	37.8%	13.0%	19.4%	40.8%	13.0%	34.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.5	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.5	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	5.6	32.6	32.6	12.1	40.8	56.3	17.5	42.7	11.0	36.2
Actuated g/C Ratio	0.05	0.27	0.27	0.10	0.34	0.47	0.15	0.36	0.09	0.30
v/c Ratio	2.54	1.08	0.40	2.02	1.04	1.00	0.84	0.61	1.50	0.32
Control Delay	748.0	96.1	10.0	498.2	75.4	58.6	65.0	30.6	277.6	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	748.0	96.1	10.0	498.2	75.4	58.6	65.0	30.6	277.6	29.1
LOS	F	F	A	F	E	E	E	C	F	C
Approach Delay		174.6			177.4			42.8		174.3
Approach LOS		F			F			D		F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.54
 Intersection Signal Delay: 150.8
 Intersection LOS: F
 Intersection Capacity Utilization 98.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	989	219	664	1186	776	397	477	248	447	231	87
Future Volume (veh/h)	198	989	219	664	1186	776	397	477	248	447	231	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	213	1063	184	714	1275	766	427	513	213	481	248	92
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	83	1017	454	349	1210	685	483	870	360	317	789	285
Arrive On Green	0.05	0.28	0.28	0.10	0.34	0.34	0.14	0.35	0.35	0.09	0.30	0.30
Sat Flow, veh/h	1810	3610	1610	3510	3610	1610	3510	2480	1025	3510	2598	938
Grp Volume(v), veh/h	213	1063	184	714	1275	766	427	373	353	481	170	170
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1805	1610	1755	1805	1700	1755	1805	1731
Q Serve(g_s), s	5.6	34.3	11.3	12.1	40.8	40.8	14.5	20.6	20.7	11.0	8.8	9.2
Cycle Q Clear(g_c), s	5.6	34.3	11.3	12.1	40.8	40.8	14.5	20.6	20.7	11.0	8.8	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		0.54
Lane Grp Cap(c), veh/h	83	1017	454	349	1210	685	483	633	596	317	548	526
V/C Ratio(X)	2.56	1.04	0.41	2.05	1.05	1.12	0.88	0.59	0.59	1.52	0.31	0.32
Avail Cap(c_a), veh/h	83	1017	454	349	1210	685	539	633	596	317	548	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.0	43.7	35.4	54.8	40.5	34.9	51.5	32.3	32.4	55.3	32.6	32.7
Incr Delay (d2), s/veh	735.0	40.6	0.6	480.4	41.2	71.4	13.8	4.0	4.3	247.8	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	20.3	4.3	28.4	23.9	32.3	7.1	9.2	8.8	15.6	3.9	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	793.1	84.3	36.0	535.2	81.6	106.4	65.3	36.3	36.7	303.1	34.1	34.3
LnGrp LOS	F	F	D	F	F	F	E	D	D	F	C	C
Approach Vol, veh/h		1460			2755			1153			821	
Approach Delay, s/veh		181.6			206.1			47.2			191.8	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	40.5	21.4	43.1	10.2	47.0	15.6	48.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.1	32.6	18.7	35.0	5.6	* 41	11.0	42.7				
Max Q Clear Time (g_c+I1), s	14.1	36.3	16.5	11.2	7.6	42.8	13.0	22.7				
Green Ext Time (p_c), s	0.0	0.0	0.2	1.7	0.0	0.0	0.0	3.9				

Intersection Summary

HCM 6th Ctrl Delay	168.8
HCM 6th LOS	F

Notes

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

Intersection

Intersection Delay, s/veh 86.6

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↕		↘	↑↕	
Traffic Vol, veh/h	69	11	132	49	13	35	39	966	4	21	1648	30
Future Vol, veh/h	69	11	132	49	13	35	39	966	4	21	1648	30
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	73	12	139	52	14	37	41	1017	4	22	1735	32
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	20.4	17.1	203	562.4
HCM LOS	C	C	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	99%	0%	100%	0%	0%	100%	0%	0%	100%	95%
Vol Right, %	0%	0%	1%	0%	0%	100%	0%	0%	100%	0%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	644	326	69	11	132	49	13	35	21	1099	579
LT Vol	39	0	0	69	0	0	49	0	0	21	0	0
Through Vol	0	644	322	0	11	0	0	13	0	0	1099	549
RT Vol	0	0	4	0	0	132	0	0	35	0	0	30
Lane Flow Rate	41	678	343	73	12	139	52	14	37	22	1156	610
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.101	1.58	0.799	0.215	0.033	0.366	0.16	0.041	0.102	0.053	2.63	1.381
Departure Headway (Hd)	9.941	9.441	9.432	13.106	12.606	11.906	13.144	12.644	11.944	9.22	8.72	8.684
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	363	393	388	276	286	304	275	285	302	391	428	421
Service Time	7.641	7.141	7.132	10.806	10.306	9.606	10.844	10.344	9.644	6.92	6.42	6.384
HCM Lane V/C Ratio	0.113	1.725	0.884	0.264	0.042	0.457	0.189	0.049	0.123	0.056	2.701	1.449
HCM Control Delay	13.8	296.7	40.6	19.4	15.7	21.3	18.3	15.9	16	12.4	758.7	210
HCM Lane LOS	B	F	E	C	C	C	C	C	C	C	B	F
HCM 95th-tile Q	0.3	34.2	6.9	0.8	0.1	1.6	0.6	0.1	0.3	0.2	88.7	27.5

Timings
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

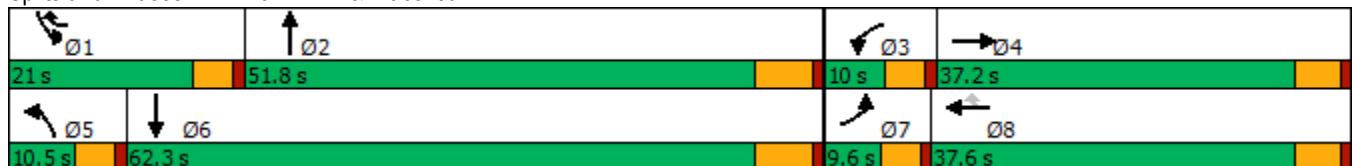


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖↗	↕	↖↗	↖	↕↗	↖	↕↗
Traffic Volume (vph)	17	81	208	111	714	19	1588	504	799
Future Volume (vph)	17	81	208	111	714	19	1588	504	799
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	1	5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.2	9.6	37.2	9.6	9.6	33.2	9.6	33.2
Total Split (s)	9.6	37.2	10.0	37.6	21.0	10.5	51.8	21.0	62.3
Total Split (%)	8.0%	31.0%	8.3%	31.3%	17.5%	8.8%	43.2%	17.5%	51.9%
Yellow Time (s)	3.6	4.2	3.6	4.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.0	14.6	5.4	21.0	42.8	5.5	45.9	16.5	63.0
Actuated g/C Ratio	0.05	0.14	0.05	0.20	0.42	0.05	0.45	0.16	0.61
v/c Ratio	0.22	0.38	1.27	0.32	1.13	0.22	1.41	1.97	0.41
Control Delay	56.4	41.3	199.5	38.2	102.5	55.3	215.4	471.7	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	41.3	199.5	38.2	102.5	55.3	215.4	471.7	13.2
LOS	E	D	F	D	F	E	F	F	B
Approach Delay		43.7		115.1			213.9		188.7
Approach LOS		D		F			F		F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.1
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.97
 Intersection Signal Delay: 179.4
 Intersection Capacity Utilization 117.5%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

























Splits and Phases: 7: Harvill Av. & Placentia Av.



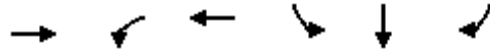
HCM 6th Signalized Intersection Summary
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (veh/h)	17	81	11	208	111	714	19	1588	389	504	799	13
Future Volume (veh/h)	17	81	11	208	111	714	19	1588	389	504	799	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	19	91	12	234	125	802	21	1784	437	566	898	15
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	36	411	54	162	525	670	38	1127	265	253	1844	31
Arrive On Green	0.02	0.25	0.25	0.05	0.28	0.28	0.02	0.39	0.39	0.14	0.51	0.51
Sat Flow, veh/h	1810	1644	217	3510	1900	1610	1810	2900	682	1810	3633	61
Grp Volume(v), veh/h	19	0	103	234	125	802	21	1082	1139	566	446	467
Grp Sat Flow(s),veh/h/ln	1810	0	1861	1755	1900	1610	1810	1805	1777	1810	1805	1889
Q Serve(g_s), s	1.2	0.0	5.2	5.4	6.0	32.4	1.3	45.6	45.6	16.4	19.0	19.0
Cycle Q Clear(g_c), s	1.2	0.0	5.2	5.4	6.0	32.4	1.3	45.6	45.6	16.4	19.0	19.0
Prop In Lane	1.00		0.12	1.00		1.00	1.00		0.38	1.00		0.03
Lane Grp Cap(c), veh/h	36	0	465	162	525	670	38	702	691	253	916	958
V/C Ratio(X)	0.53	0.00	0.22	1.45	0.24	1.20	0.55	1.54	1.65	2.24	0.49	0.49
Avail Cap(c_a), veh/h	77	0	508	162	525	670	91	702	691	253	916	958
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	34.9	56.0	32.9	34.3	56.9	35.9	35.9	50.5	18.9	18.9
Incr Delay (d2), s/veh	4.5	0.0	0.2	232.8	0.2	102.9	4.5	251.1	298.4	569.4	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.4	7.6	2.8	37.4	0.6	67.5	75.5	47.1	7.4	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.5	0.0	35.2	288.8	33.1	137.1	61.4	286.9	334.2	619.8	19.3	19.3
LnGrp LOS	E	A	D	F	C	F	E	F	F	F	B	B
Approach Vol, veh/h		122			1161			2242			1479	
Approach Delay, s/veh		39.3			156.5			308.8			249.1	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	51.8	10.0	34.5	7.1	65.7	6.9	37.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.2	4.6	6.2	4.6	5.2				
Max Green Setting (Gmax), s	16.4	45.6	5.4	32.0	5.9	56.1	5.0	32.4				
Max Q Clear Time (g_c+I1), s	18.4	47.6	7.4	7.2	3.3	21.0	3.2	34.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	5.7	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	249.3											
HCM 6th LOS	F											

Timings
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↖	↑↑	↖	↖	↗
Traffic Volume (vph)	1080	574	1387	960	1	383
Future Volume (vph)	1080	574	1387	960	1	383
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	2	1	6	4	4	
Permitted Phases						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)	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	44.0	27.0	71.0	39.0	39.0	39.0
Total Split (%)	40.0%	24.5%	64.5%	35.5%	35.5%	35.5%
Yellow Time (s)	5.0	3.5	5.0	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)	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	38.0	22.5	65.0	33.5	33.5	33.5
Actuated g/C Ratio	0.35	0.20	0.59	0.30	0.30	0.30
v/c Ratio	1.29	1.59	0.66	0.94	0.94	0.72
Control Delay	165.6	291.6	4.2	65.0	65.0	36.0
Queue Delay	0.6	0.0	2.3	72.0	71.7	0.0
Total Delay	166.2	291.6	6.5	137.0	136.7	36.0
LOS	F	F	A	F	F	D
Approach Delay	166.2		90.0		108.1	
Approach LOS	F		F		F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 34 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.59
 Intersection Signal Delay: 119.3
 Intersection LOS: F
 Intersection Capacity Utilization 179.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↖	↖
Traffic Volume (veh/h)	0	1080	469	574	1387	0	0	0	0	960	1	383
Future Volume (veh/h)	0	1080	469	574	1387	0	0	0	0	960	1	383
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1102	350	586	1415	0				981	0	328
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	931	292	370	2133	0				1102	0	490
Arrive On Green	0.00	0.35	0.35	0.12	0.35	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	2791	844	1810	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	733	719	586	1415	0				981	0	328
Grp Sat Flow(s),veh/h/ln	0	1805	1735	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	38.0	38.0	22.5	36.4	0.0				28.4	0.0	19.6
Cycle Q Clear(g_c), s	0.0	38.0	38.0	22.5	36.4	0.0				28.4	0.0	19.6
Prop In Lane	0.00		0.49	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	624	599	370	2133	0				1102	0	490
V/C Ratio(X)	0.00	1.17	1.20	1.58	0.66	0.00				0.89	0.00	0.67
Avail Cap(c_a), veh/h	0	624	599	370	2133	0				1102	0	490
HCM Platoon Ratio	1.00	1.00	1.00	0.60	0.60	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	36.0	36.0	48.2	26.3	0.0				36.5	0.0	33.4
Incr Delay (d2), s/veh	0.0	80.4	91.6	263.6	0.1	0.0				10.8	0.0	7.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	29.4	30.1	37.4	16.2	0.0				13.6	0.0	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	116.4	127.6	311.9	26.4	0.0				47.3	0.0	40.5
LnGrp LOS	A	F	F	F	C	A				D	A	D
Approach Vol, veh/h		1452			2001						1309	
Approach Delay, s/veh		122.0			110.0						45.6	
Approach LOS		F			F						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.0	44.0		39.0		71.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	22.5	38.0		33.5		65.0						
Max Q Clear Time (g_c+I1), s	24.5	40.0		30.4		38.4						
Green Ext Time (p_c), s	0.0	0.0		1.6		6.9						

Intersection Summary

HCM 6th Ctrl Delay	96.0
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

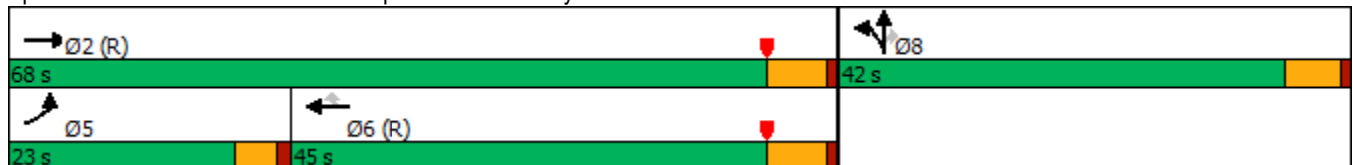


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶	↷	↶	↷	↶	↷	↷
Traffic Volume (vph)	156	1884	1518	735	443	2	856
Future Volume (vph)	156	1884	1518	735	443	2	856
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0	26.0	10.5	10.5	10.5
Total Split (s)	23.0	68.0	45.0	45.0	42.0	42.0	42.0
Total Split (%)	20.9%	61.8%	40.9%	40.9%	38.2%	38.2%	38.2%
Yellow Time (s)	3.5	5.0	5.0	5.0	4.5	4.5	4.5
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)	4.5	6.0	6.0	6.0	5.5	5.5	5.5
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)	14.6	62.0	42.9	42.9	36.5	36.5	36.5
Actuated g/C Ratio	0.13	0.56	0.39	0.39	0.33	0.33	0.33
v/c Ratio	0.67	0.95	1.11	0.86	0.40	0.41	1.51
Control Delay	35.1	36.8	94.0	25.0	31.0	31.0	264.8
Queue Delay	0.0	45.6	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	82.4	94.1	25.0	31.0	31.0	264.8
LOS	D	F	F	C	C	C	F
Approach Delay		78.8	71.5			184.8	
Approach LOS		E	E			F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.51
 Intersection Signal Delay: 100.5
 Intersection LOS: F
 Intersection Capacity Utilization 179.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘	↖	↗			
Traffic Volume (veh/h)	156	1884	0	0	1518	735	443	2	856	0	0	0
Future Volume (veh/h)	156	1884	0	0	1518	735	443	2	856	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	161	1942	0	0	1565	610	458	0	730			
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	190	2035	0	0	1509	673	1201	0	534			
Arrive On Green	0.21	1.00	0.00	0.00	0.42	0.42	0.33	0.00	0.33			
Sat Flow, veh/h	1810	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	161	1942	0	0	1565	610	458	0	730			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	9.4	0.0	0.0	0.0	46.0	39.1	10.6	0.0	36.5			
Cycle Q Clear(g_c), s	9.4	0.0	0.0	0.0	46.0	39.1	10.6	0.0	36.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	190	2035	0	0	1509	673	1201	0	534			
V/C Ratio(X)	0.85	0.95	0.00	0.00	1.04	0.91	0.38	0.00	1.37			
Avail Cap(c_a), veh/h	304	2035	0	0	1509	673	1201	0	534			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.6	0.0	0.0	0.0	32.0	30.0	28.1	0.0	36.8			
Incr Delay (d2), s/veh	1.2	1.6	0.0	0.0	33.5	18.1	0.2	0.0	176.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.7	0.4	0.0	0.0	25.2	17.2	4.4	0.0	39.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	1.6	0.0	0.0	65.5	48.1	28.3	0.0	213.3			
LnGrp LOS	D	A	A	A	F	D	C	A	F			
Approach Vol, veh/h		2103			2175			1188				
Approach Delay, s/veh		4.8			60.6			142.0				
Approach LOS		A			E			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		68.0			16.0	52.0		42.0				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		62.0			18.5	39.0		36.5				
Max Q Clear Time (g_c+I1), s		2.0			11.4	48.0		38.5				
Green Ext Time (p_c), s		14.0			0.2	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	56.8
HCM 6th LOS	E

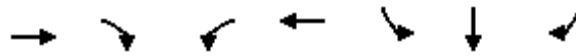
Notes

User approved volume balancing among the lanes for turning movement.

Timings
10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

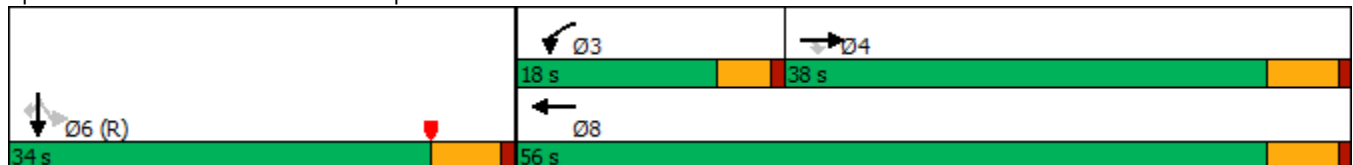


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↗↘	↑↑	↘	↖	↗
Traffic Volume (vph)	760	216	260	764	453	0	269
Future Volume (vph)	760	216	260	764	453	0	269
Turn Type	NA	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	4		3	8		6	
Permitted Phases		4			6		6
Detector Phase	4	4	3	8	6	6	6
Switch Phase							
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	23.8	23.8	23.8
Total Split (s)	38.0	38.0	18.0	56.0	34.0	34.0	34.0
Total Split (%)	42.2%	42.2%	20.0%	62.2%	37.8%	37.8%	37.8%
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	None	C-Min	C-Min	C-Min
Act Effct Green (s)	27.6	27.6	11.4	43.6	34.8	34.8	34.8
Actuated g/C Ratio	0.31	0.31	0.13	0.48	0.39	0.39	0.39
v/c Ratio	0.75	0.36	0.64	0.48	0.37	0.37	0.41
Control Delay	32.3	4.5	34.9	10.7	23.8	23.8	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	4.5	34.9	10.7	23.8	23.8	12.6
LOS	C	A	C	B	C	C	B
Approach Delay	26.1			16.9		19.6	
Approach LOS	C			B		B	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2: and 6:SBTL, Start of Yellow, Master Intersection
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 20.9
 Intersection LOS: C
 Intersection Capacity Utilization 74.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 10: I-215 SB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	760	216	260	764	0	0	0	0	453	0	269
Future Volume (veh/h)	0	760	216	260	764	0	0	0	0	453	0	269
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	826	235	283	830	0				492	0	292
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	1028	459	367	1590	0				1559	0	694
Arrive On Green	0.00	0.28	0.28	0.03	0.15	0.00				0.43	0.00	0.43
Sat Flow, veh/h	0	3705	1610	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	826	235	283	830	0				492	0	292
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	19.1	11.0	7.2	19.1	0.0				8.1	0.0	11.3
Cycle Q Clear(g_c), s	0.0	19.1	11.0	7.2	19.1	0.0				8.1	0.0	11.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1028	459	367	1590	0				1559	0	694
V/C Ratio(X)	0.00	0.80	0.51	0.77	0.52	0.00				0.32	0.00	0.42
Avail Cap(c_a), veh/h	0	1292	576	523	2014	0				1559	0	694
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.81	0.81	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.9	27.0	42.4	29.7	0.0				16.9	0.0	17.8
Incr Delay (d2), s/veh	0.0	0.3	0.1	2.1	0.2	0.0				0.5	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.7	4.0	3.2	9.1	0.0				3.2	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	30.1	27.0	44.4	29.9	0.0				17.4	0.0	19.7
LnGrp LOS	A	C	C	D	C	A				B	A	B
Approach Vol, veh/h		1061			1113							784
Approach Delay, s/veh		29.4			33.6							18.3
Approach LOS		C			C							B
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			14.0	31.4		44.6		45.4				
Change Period (Y+Rc), s			4.6	5.8		5.8		5.8				
Max Green Setting (Gmax), s			13.4	32.2		28.2		50.2				
Max Q Clear Time (g_c+I1), s			9.2	21.1		13.3		21.1				
Green Ext Time (p_c), s			0.2	4.5		2.5		5.8				
Intersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

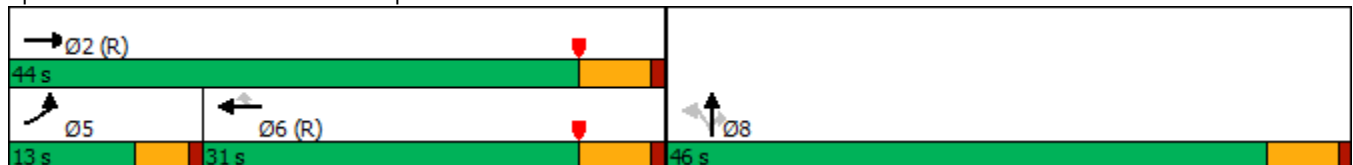


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↗↗	↑↑	↑↑	↖	↖	↑	↗
Traffic Volume (vph)	197	1015	670	469	355	0	598
Future Volume (vph)	197	1015	670	469	355	0	598
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	6			8	
Permitted Phases				6	8		8
Detector Phase	5	2	6	6	8	8	8
Switch 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	23.8	23.8	23.8
Total Split (s)	13.0	44.0	31.0	31.0	46.0	46.0	46.0
Total Split (%)	14.4%	48.9%	34.4%	34.4%	51.1%	51.1%	51.1%
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-Min	C-Min	C-Min	None	None	None
Act Effct Green (s)	8.1	41.2	28.4	28.4	37.2	37.2	37.2
Actuated g/C Ratio	0.09	0.46	0.32	0.32	0.41	0.41	0.41
v/c Ratio	0.68	0.67	0.64	0.59	0.27	0.27	0.90
Control Delay	44.7	16.8	30.5	5.8	17.7	17.7	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.7	16.8	30.5	5.8	17.7	17.7	38.2
LOS	D	B	C	A	B	B	D
Approach Delay		21.4	20.3			30.6	
Approach LOS		C	C			C	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 23.7
 Intersection LOS: C
 Intersection Capacity Utilization 74.8%
 ICU Level of Service D
 Analysis Period (min) 15























Splits and Phases: 11: I-215 NB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 							
Traffic Volume (veh/h)	197	1015	0	0	670	469	355	0	598	0	0	0
Future Volume (veh/h)	197	1015	0	0	670	469	355	0	598	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	214	1103	0	0	728	510	386	0	650			
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	291	1605	0	0	1121	500	1544	0	687			
Arrive On Green	0.03	0.15	0.00	0.00	0.31	0.31	0.43	0.00	0.43			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	214	1103	0	0	728	510	386	0	650			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	5.4	26.1	0.0	0.0	15.7	28.0	6.2	0.0	34.9			
Cycle Q Clear(g_c), s	5.4	26.1	0.0	0.0	15.7	28.0	6.2	0.0	34.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	291	1605	0	0	1121	500	1544	0	687			
V/C Ratio(X)	0.74	0.69	0.00	0.00	0.65	1.02	0.25	0.00	0.95			
Avail Cap(c_a), veh/h	328	1605	0	0	1121	500	1617	0	719			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.70	0.70	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.8	32.5	0.0	0.0	26.8	31.0	16.6	0.0	24.8			
Incr Delay (d2), s/veh	4.2	1.7	0.0	0.0	2.9	45.3	0.1	0.0	21.0			
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	2.6	12.9	0.0	0.0	7.0	16.7	2.5	0.0	16.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.0	34.2	0.0	0.0	29.7	76.3	16.6	0.0	45.8			
LnGrp LOS	D	C	A	A	C	F	B	A	D			
Approach Vol, veh/h		1317			1238			1036				
Approach Delay, s/veh		36.3			48.9			34.9				
Approach LOS		D			D			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		45.8			12.1	33.8		44.2				
Change Period (Y+Rc), s		5.8			4.6	5.8		5.8				
Max Green Setting (Gmax), s		38.2			8.4	25.2		40.2				
Max Q Clear Time (g_c+I1), s		28.1			7.4	30.0		36.9				
Green Ext Time (p_c), s		5.4			0.0	0.0		1.5				

Intersection Summary

HCM 6th Ctrl Delay	40.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑	↗	↙	↗			↕	
Traffic Vol, veh/h	5	134	6	11	76	8	5	5	5	12	5	5
Future Vol, veh/h	5	134	6	11	76	8	5	5	5	12	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	100	-	100	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	146	7	12	83	9	5	5	5	13	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	92	0	0	153	0	0	273	272	146	272	270	83
Stage 1	-	-	-	-	-	-	156	156	-	107	107	-
Stage 2	-	-	-	-	-	-	117	116	-	165	163	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1515	-	-	1440	-	-	684	638	906	685	640	982
Stage 1	-	-	-	-	-	-	851	772	-	903	811	-
Stage 2	-	-	-	-	-	-	892	803	-	842	767	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1515	-	-	1440	-	-	670	631	906	671	633	982
Mov Cap-2 Maneuver	-	-	-	-	-	-	670	631	-	671	633	-
Stage 1	-	-	-	-	-	-	848	770	-	900	805	-
Stage 2	-	-	-	-	-	-	874	797	-	828	765	-

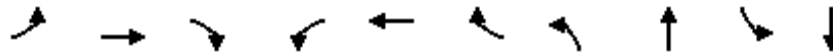
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.9			10.1			10.2		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	670	744	1515	-	-	1440	-	-	713
HCM Lane V/C Ratio	0.008	0.015	0.004	-	-	0.008	-	-	0.034
HCM Control Delay (s)	10.4	9.9	7.4	-	-	7.5	-	-	10.2
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-	-	0.1

Timings
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

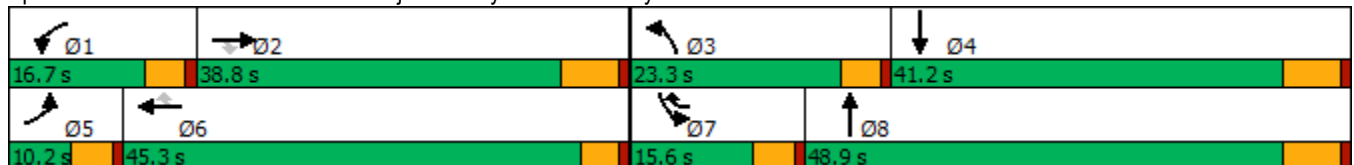


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘↗	↑↑	↗	↘↗	↑↘	↘↗	↑↘
Traffic Volume (vph)	130	1300	546	362	975	498	315	241	947	549
Future Volume (vph)	130	1300	546	362	975	498	315	241	947	549
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	7	3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	7	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.2	36.2	9.6	32.5	9.6	9.6	16.2	9.6	41.2
Total Split (s)	10.2	38.8	38.8	16.7	45.3	15.6	23.3	48.9	15.6	41.2
Total Split (%)	8.5%	32.3%	32.3%	13.9%	37.8%	13.0%	19.4%	40.8%	13.0%	34.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.5	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.5	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	5.6	32.6	32.6	12.1	40.8	56.3	15.6	42.7	11.0	38.1
Actuated g/C Ratio	0.05	0.27	0.27	0.10	0.34	0.47	0.13	0.36	0.09	0.32
v/c Ratio	1.67	1.43	0.88	1.10	0.85	0.56	0.75	0.97dr	3.17	0.70
Control Delay	381.4	231.9	34.4	127.8	45.0	8.7	60.6	31.5	1003.6	38.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	381.4	231.9	34.4	127.8	45.0	8.7	60.6	31.5	1003.6	38.5
LOS	F	F	C	F	D	A	E	C	F	D
Approach Delay		187.2			51.5			39.4		582.8
Approach LOS		F			D			D		F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.17
 Intersection Signal Delay: 223.6
 Intersection LOS: F
 Intersection Capacity Utilization 117.7%
 ICU Level of Service H
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

























Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	1300	546	362	975	498	315	241	611	947	549	183
Future Volume (veh/h)	130	1300	546	362	975	498	315	241	611	947	549	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	140	1398	474	389	1048	455	339	259	589	1018	590	186
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	84	981	437	354	1176	672	400	642	573	322	901	283
Arrive On Green	0.05	0.27	0.27	0.10	0.33	0.33	0.11	0.36	0.36	0.09	0.33	0.33
Sat Flow, veh/h	1810	3610	1610	3510	3610	1610	3510	1805	1610	3510	2702	850
Grp Volume(v), veh/h	140	1398	474	389	1048	455	339	259	589	1018	394	382
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1747
Q Serve(g_s), s	5.6	32.6	32.6	12.1	33.1	27.5	11.4	12.9	42.7	11.0	22.3	22.4
Cycle Q Clear(g_c), s	5.6	32.6	32.6	12.1	33.1	27.5	11.4	12.9	42.7	11.0	22.3	22.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	84	981	437	354	1176	672	400	642	573	322	602	583
V/C Ratio(X)	1.66	1.43	1.08	1.10	0.89	0.68	0.85	0.40	1.03	3.16	0.65	0.66
Avail Cap(c_a), veh/h	84	981	437	354	1227	695	547	642	573	322	602	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	43.7	43.7	53.9	38.4	28.4	52.1	29.1	38.7	54.5	34.1	34.1
Incr Delay (d2), s/veh	342.5	197.4	67.4	77.1	8.3	2.5	6.8	1.9	44.9	981.7	5.5	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	40.7	20.5	8.9	15.1	10.4	5.2	5.7	22.9	48.6	10.2	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	399.7	241.1	111.1	131.1	46.7	30.9	58.9	30.9	83.6	1036.2	39.5	39.8
LnGrp LOS	F	F	F	F	D	C	E	C	F	F	D	D
Approach Vol, veh/h		2012			1892			1187			1794	
Approach Delay, s/veh		221.5			60.2			65.1			605.1	
Approach LOS		F			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	38.8	18.3	46.2	10.2	45.3	15.6	48.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.1	32.6	18.7	35.0	5.6	* 41	11.0	42.7				
Max Q Clear Time (g_c+1), s	14.1	34.6	13.4	24.4	7.6	35.1	13.0	44.7				
Green Ext Time (p_c), s	0.0	0.0	0.3	3.2	0.0	3.7	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			250.2									
HCM 6th LOS			F									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection												
Intersection Delay, s/veh	77.1											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↔		↘	↑↔	
Traffic Vol, veh/h	34	10	107	42	15	23	31	1148	6	14	1334	49
Future Vol, veh/h	34	10	107	42	15	23	31	1148	6	14	1334	49
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	40	12	124	49	17	27	36	1335	7	16	1551	57
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	20	17.1	339.2	468.5
HCM LOS	C	C	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	98%	0%	100%	0%	0%	100%	0%	0%	100%	90%
Vol Right, %	0%	0%	2%	0%	0%	100%	0%	0%	100%	0%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	765	389	34	10	107	42	15	23	14	889	494
LT Vol	31	0	0	34	0	0	42	0	0	14	0	0
Through Vol	0	765	383	0	10	0	0	15	0	0	889	445
RT Vol	0	0	6	0	0	107	0	0	23	0	0	49
Lane Flow Rate	36	890	452	40	12	124	49	17	27	16	1034	574
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.086	2.01	1.02	0.118	0.033	0.332	0.151	0.051	0.074	0.039	2.358	1.298
Departure Headway (Hd)	9.54	9.04	9.029	13.537	13.037	12.337	13.255	12.755	12.055	9.366	8.866	8.797
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	378	409	407	266	276	294	273	283	299	385	424	419
Service Time	7.24	6.74	6.729	11.237	10.737	10.037	10.955	10.455	9.755	7.066	6.566	6.497
HCM Lane V/C Ratio	0.095	2.176	1.111	0.15	0.043	0.422	0.179	0.06	0.09	0.042	2.439	1.37
HCM Control Delay	13.1	483.6	80.8	18	16.2	21	18.3	16.1	15.7	12.4	637.7	176.7
HCM Lane LOS	B	F	F	C	C	C	C	C	C	B	F	F
HCM 95th-tile Q	0.3	55.7	12.9	0.4	0.1	1.4	0.5	0.2	0.2	0.1	73.8	23.7

Timings
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

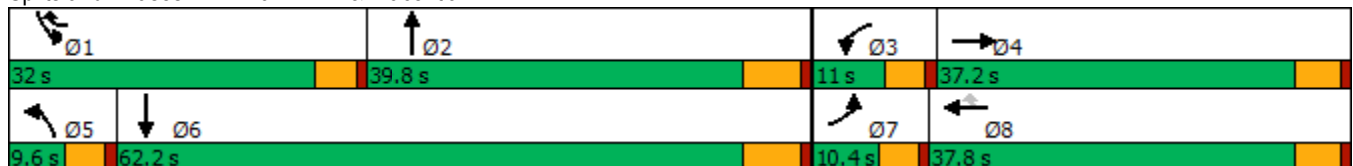


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖↗	↕	↖↗	↖	↕↗	↖	↕↗
Traffic Volume (vph)	21	147	248	103	522	22	854	879	1510
Future Volume (vph)	21	147	248	103	522	22	854	879	1510
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	1	5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.2	9.6	37.2	9.6	9.6	33.2	9.6	33.2
Total Split (s)	10.4	37.2	11.0	37.8	32.0	9.6	39.8	32.0	62.2
Total Split (%)	8.7%	31.0%	9.2%	31.5%	26.7%	8.0%	33.2%	26.7%	51.8%
Yellow Time (s)	3.6	4.2	3.6	4.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.5	18.0	6.4	25.2	57.9	5.0	33.7	27.5	60.3
Actuated g/C Ratio	0.05	0.17	0.06	0.24	0.54	0.05	0.32	0.26	0.57
v/c Ratio	0.27	0.65	1.38	0.27	0.67	0.31	1.16	2.22	0.87
Control Delay	58.7	48.8	237.7	35.7	19.6	61.5	115.5	577.8	28.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	48.8	237.7	35.7	19.6	61.5	115.5	577.8	28.2
LOS	E	D	F	D	B	E	F	F	C
Approach Delay		49.9		83.5			114.5		229.6
Approach LOS		D		F			F		F

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 106.4	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.22	
Intersection Signal Delay: 165.9	Intersection LOS: F
Intersection Capacity Utilization 114.2%	ICU Level of Service H
Analysis Period (min) 15	


























Splits and Phases: 7: Harvill Av. & Placentia Av.



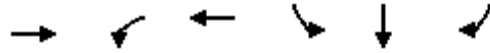
HCM 6th Signalized Intersection Summary
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 		 	 	
Traffic Volume (veh/h)	21	147	30	248	103	522	22	854	253	879	1510	9
Future Volume (veh/h)	21	147	30	248	103	522	22	854	253	879	1510	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	25	173	35	292	121	614	26	1005	298	1034	1776	11
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	43	380	77	192	529	826	44	789	233	424	1828	11
Arrive On Green	0.02	0.25	0.25	0.05	0.28	0.28	0.02	0.29	0.29	0.23	0.50	0.50
Sat Flow, veh/h	1810	1534	310	3510	1900	1610	1810	2748	810	1810	3678	23
Grp Volume(v), veh/h	25	0	208	292	121	614	26	658	645	1034	871	916
Grp Sat Flow(s),veh/h/ln	1810	0	1844	1755	1900	1610	1810	1805	1753	1810	1805	1896
Q Serve(g_s), s	1.6	0.0	11.2	6.4	5.7	32.6	1.7	33.6	33.6	27.4	54.8	55.0
Cycle Q Clear(g_c), s	1.6	0.0	11.2	6.4	5.7	32.6	1.7	33.6	33.6	27.4	54.8	55.0
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.46	1.00		0.01
Lane Grp Cap(c), veh/h	43	0	457	192	529	826	44	518	504	424	897	942
V/C Ratio(X)	0.58	0.00	0.46	1.52	0.23	0.74	0.59	1.27	1.28	2.44	0.97	0.97
Avail Cap(c_a), veh/h	90	0	504	192	529	826	77	518	504	424	897	942
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	0.0	37.3	55.3	32.5	22.4	56.5	41.7	41.7	44.8	28.6	28.6
Incr Delay (d2), s/veh	4.5	0.0	0.7	258.9	0.2	3.7	4.6	135.8	140.9	654.9	23.1	22.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	5.1	9.7	2.7	13.5	0.8	33.7	33.4	88.8	26.9	28.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	0.0	38.0	314.2	32.7	26.1	61.1	177.5	182.6	699.7	51.6	51.3
LnGrp LOS	E	A	D	F	C	C	E	F	F	F	D	D
Approach Vol, veh/h		233			1027			1329			2821	
Approach Delay, s/veh		40.5			108.8			177.7			289.1	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.0	39.8	11.0	34.2	7.5	64.3	7.4	37.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.2	4.6	6.2	4.6	5.2				
Max Green Setting (Gmax), s	27.4	33.6	6.4	32.0	5.0	56.0	5.8	32.6				
Max Q Clear Time (g_c+I1), s	29.4	35.6	8.4	13.2	3.7	57.0	3.6	34.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			216.8									
HCM 6th LOS			F									

Timings
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↖	↑↑	↖	↕	↗
Traffic Volume (vph)	1015	970	1338	1001	4	434
Future Volume (vph)	1015	970	1338	1001	4	434
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	2	1	6	4	4	
Permitted Phases						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)	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	44.0	27.0	71.0	39.0	39.0	39.0
Total Split (%)	40.0%	24.5%	64.5%	35.5%	35.5%	35.5%
Yellow Time (s)	5.0	3.5	5.0	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)	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	38.0	22.5	65.0	33.5	33.5	33.5
Actuated g/C Ratio	0.35	0.20	0.59	0.30	0.30	0.30
v/c Ratio	1.19	2.66	0.63	0.97	0.98	0.81
Control Delay	126.1	764.8	2.4	70.8	72.5	42.1
Queue Delay	0.0	0.0	4.6	55.2	53.9	0.0
Total Delay	126.2	764.8	7.0	126.0	126.4	42.1
LOS	F	F	A	F	F	D
Approach Delay	126.2		325.4		100.9	
Approach LOS	F		F		F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 34 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.66
 Intersection Signal Delay: 207.6
 Intersection LOS: F
 Intersection Capacity Utilization 167.7%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↖	↖
Traffic Volume (veh/h)	0	1015	440	970	1338	0	0	0	0	1001	4	434
Future Volume (veh/h)	0	1015	440	970	1338	0	0	0	0	1001	4	434
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	1025	336	980	1352	0				1014	0	379
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99				0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	925	301	370	2133	0				1102	0	490
Arrive On Green	0.00	0.35	0.35	0.12	0.35	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	2773	870	1810	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	688	673	980	1352	0				1014	0	379
Grp Sat Flow(s),veh/h/ln	0	1805	1743	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	38.0	38.0	22.5	34.3	0.0				29.8	0.0	23.5
Cycle Q Clear(g_c), s	0.0	38.0	38.0	22.5	34.3	0.0				29.8	0.0	23.5
Prop In Lane	0.00		0.50	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	624	602	370	2133	0				1102	0	490
V/C Ratio(X)	0.00	1.10	1.12	2.65	0.63	0.00				0.92	0.00	0.77
Avail Cap(c_a), veh/h	0	624	602	370	2133	0				1102	0	490
HCM Platoon Ratio	1.00	1.00	1.00	0.60	0.60	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	36.0	36.0	48.2	25.6	0.0				37.0	0.0	34.8
Incr Delay (d2), s/veh	0.0	49.0	55.4	742.2	0.1	0.0				13.6	0.0	11.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	23.9	24.2	86.6	15.2	0.0				14.5	0.0	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	85.0	91.4	790.4	25.7	0.0				50.6	0.0	46.0
LnGrp LOS	A	F	F	F	C	A				D	A	D
Approach Vol, veh/h		1361			2332						1393	
Approach Delay, s/veh		88.2			347.1						49.3	
Approach LOS		F			F						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.0	44.0		39.0		71.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	22.5	38.0		33.5		65.0						
Max Q Clear Time (g_c+I1), s	24.5	40.0		31.8		36.3						
Green Ext Time (p_c), s	0.0	0.0		1.0		6.6						

Intersection Summary

HCM 6th Ctrl Delay	196.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

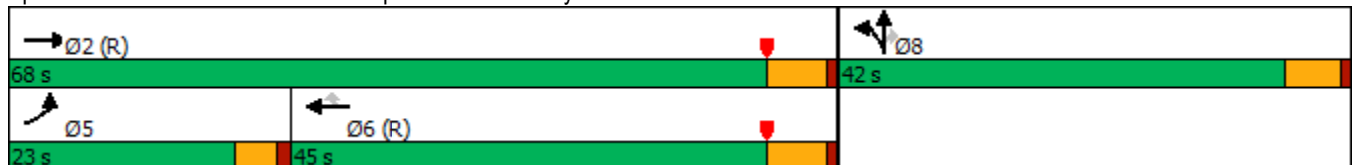


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶	↷	↷	↷	↶	↷	↷
Traffic Volume (vph)	339	1675	1932	861	376	2	559
Future Volume (vph)	339	1675	1932	861	376	2	559
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0	26.0	10.5	10.5	10.5
Total Split (s)	23.0	68.0	45.0	45.0	42.0	42.0	42.0
Total Split (%)	20.9%	61.8%	40.9%	40.9%	38.2%	38.2%	38.2%
Yellow Time (s)	3.5	5.0	5.0	5.0	4.5	4.5	4.5
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)	4.5	6.0	6.0	6.0	5.5	5.5	5.5
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)	18.5	62.0	39.0	39.0	36.5	36.5	36.5
Actuated g/C Ratio	0.17	0.56	0.35	0.35	0.33	0.33	0.33
v/c Ratio	1.19	0.88	1.61	1.13	0.35	0.35	1.02
Control Delay	129.8	30.4	304.5	94.0	30.0	30.1	74.5
Queue Delay	0.0	48.3	0.1	0.0	0.0	0.0	0.0
Total Delay	129.8	78.7	304.6	94.0	30.0	30.1	74.5
LOS	F	E	F	F	C	C	E
Approach Delay		87.3	239.7			56.5	
Approach LOS		F	F			E	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.61
 Intersection Signal Delay: 156.4
 Intersection LOS: F
 Intersection Capacity Utilization 167.7%
 ICU Level of Service H
 Analysis Period (min) 15

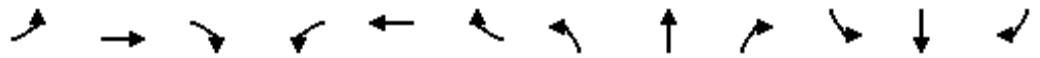
Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘	↗	↗			
Traffic Volume (veh/h)	339	1675	0	0	1932	861	376	2	559	0	0	0
Future Volume (veh/h)	339	1675	0	0	1932	861	376	2	559	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	361	1782	0	0	2055	766	401	0	514			
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	304	2035	0	0	1280	570	1200	0	534			
Arrive On Green	0.34	1.00	0.00	0.00	0.35	0.35	0.33	0.00	0.33			
Sat Flow, veh/h	1810	3705	0	0	3705	1606	3619	0	1610			
Grp Volume(v), veh/h	361	1782	0	0	2055	766	401	0	514			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1606	1810	0	1610			
Q Serve(g_s), s	18.5	0.0	0.0	0.0	39.0	39.0	9.2	0.0	34.5			
Cycle Q Clear(g_c), s	18.5	0.0	0.0	0.0	39.0	39.0	9.2	0.0	34.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	304	2035	0	0	1280	570	1200	0	534			
V/C Ratio(X)	1.19	0.88	0.00	0.00	1.60	1.34	0.33	0.00	0.96			
Avail Cap(c_a), veh/h	304	2035	0	0	1280	570	1201	0	534			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	36.5	0.0	0.0	0.0	35.5	35.5	27.6	0.0	36.1			
Incr Delay (d2), s/veh	87.1	0.6	0.0	0.0	275.9	166.6	0.2	0.0	29.6			
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	13.4	0.2	0.0	0.0	64.9	40.4	3.8	0.0	17.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.6	0.6	0.0	0.0	311.4	202.1	27.8	0.0	65.6			
LnGrp LOS	F	A	A	A	F	F	C	A	E			
Approach Vol, veh/h		2143			2821			915				
Approach Delay, s/veh		21.3			281.7			49.1				
Approach LOS		C			F			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		68.0			23.0	45.0		42.0				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		62.0			18.5	39.0		36.5				
Max Q Clear Time (g_c+I1), s		2.0			20.5	41.0		36.5				
Green Ext Time (p_c), s		11.6			0.0	0.0		0.0				

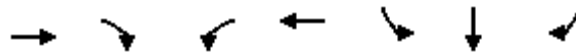
Intersection Summary

HCM 6th Ctrl Delay	150.6
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
10: I-215 SB Ramps & Placentia Av.

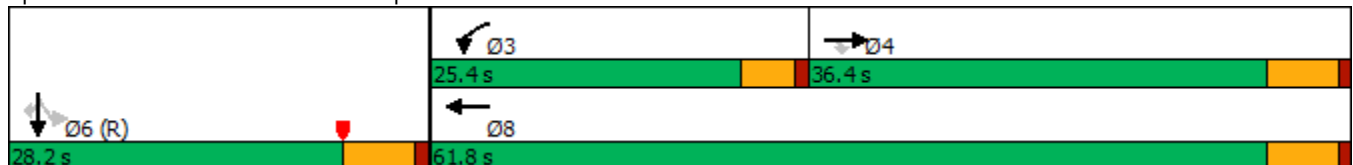


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑	↑	↑
Traffic Volume (vph)	975	305	617	758	578	1	114
Future Volume (vph)	975	305	617	758	578	1	114
Turn Type	NA	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	4		3	8		6	
Permitted Phases		4			6		6
Detector Phase	4	4	3	8	6	6	6
Switch Phase							
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	23.8	23.8	23.8
Total Split (s)	36.4	36.4	25.4	61.8	28.2	28.2	28.2
Total Split (%)	40.4%	40.4%	28.2%	68.7%	31.3%	31.3%	31.3%
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	None	C-Min	C-Min	C-Min
Act Effct Green (s)	30.8	30.8	19.7	55.2	23.2	23.2	23.2
Actuated g/C Ratio	0.34	0.34	0.22	0.61	0.26	0.26	0.26
v/c Ratio	0.86	0.43	0.87	0.37	0.71	0.71	0.24
Control Delay	36.0	4.5	35.8	16.5	41.3	41.2	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	4.5	35.8	16.5	41.3	41.2	6.6
LOS	D	A	D	B	D	D	A
Approach Delay	28.5			25.2		35.6	
Approach LOS	C			C		D	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2: and 6:SBTL, Start of Yellow, Master Intersection
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 28.6
 Intersection LOS: C
 Intersection Capacity Utilization 74.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 10: I-215 SB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	975	305	617	758	0	0	0	0	578	1	114
Future Volume (veh/h)	0	975	305	617	758	0	0	0	0	578	1	114
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	1060	332	671	824	0				629	0	124
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	1187	529	742	2134	0				1013	0	451
Arrive On Green	0.00	0.33	0.33	0.28	0.79	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	3705	1610	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	1060	332	671	824	0				629	0	124
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	25.1	15.7	16.6	6.3	0.0				13.6	0.0	5.4
Cycle Q Clear(g_c), s	0.0	25.1	15.7	16.6	6.3	0.0				13.6	0.0	5.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1187	529	742	2134	0				1013	0	451
V/C Ratio(X)	0.00	0.89	0.63	0.90	0.39	0.00				0.62	0.00	0.28
Avail Cap(c_a), veh/h	0	1227	547	811	2246	0				1013	0	451
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.66	0.66	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.7	25.5	31.5	4.6	0.0				28.2	0.0	25.3
Incr Delay (d2), s/veh	0.0	0.9	0.2	8.6	0.1	0.0				2.9	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.6	5.8	7.2	1.8	0.0				6.2	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	29.6	25.7	40.1	4.7	0.0				31.1	0.0	26.8
LnGrp LOS	A	C	C	D	A	A				C	A	C
Approach Vol, veh/h		1392			1495							753
Approach Delay, s/veh		28.7			20.6							30.4
Approach LOS		C			C							C
Timer - Assigned Phs			3	4		6			8			
Phs Duration (G+Y+Rc), s			23.6	35.4		31.0			59.0			
Change Period (Y+Rc), s			4.6	5.8		5.8			5.8			
Max Green Setting (Gmax), s			20.8	30.6		22.4			56.0			
Max Q Clear Time (g_c+I1), s			18.6	27.1		15.6			8.3			
Green Ext Time (p_c), s			0.4	2.5		1.7			7.1			
Intersection Summary												
HCM 6th Ctrl Delay			25.7									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
11: I-215 NB Ramps & Placentia Av.

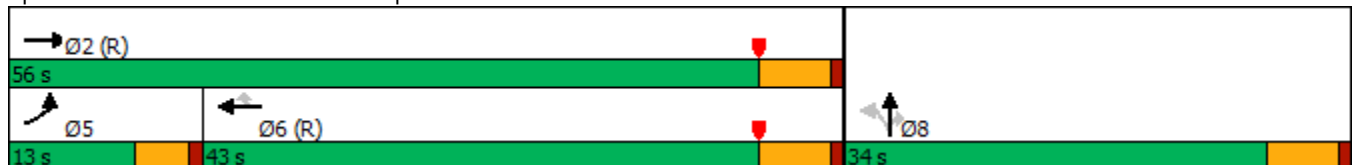


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↗↗	↑↑	↑↑	↖	↖	↖	↖
Traffic Volume (vph)	202	1351	1104	529	271	0	420
Future Volume (vph)	202	1351	1104	529	271	0	420
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	6			8	
Permitted Phases				6	8		8
Detector Phase	5	2	6	6	8	8	8
Switch 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	23.8	23.8	23.8
Total Split (s)	13.0	56.0	43.0	43.0	34.0	34.0	34.0
Total Split (%)	14.4%	62.2%	47.8%	47.8%	37.8%	37.8%	37.8%
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-Min	C-Min	C-Min	None	None	None
Act Effct Green (s)	8.2	53.1	40.3	40.3	25.3	25.3	25.3
Actuated g/C Ratio	0.09	0.59	0.45	0.45	0.28	0.28	0.28
v/c Ratio	0.69	0.69	0.74	0.55	0.30	0.31	0.88
Control Delay	60.7	6.9	25.0	3.9	26.3	26.3	44.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	6.9	25.0	3.9	26.3	26.3	44.0
LOS	E	A	C	A	C	C	D
Approach Delay		13.9	18.2			37.1	
Approach LOS		B	B			D	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 19.8
 Intersection LOS: B
 Intersection Capacity Utilization 74.1%
 ICU Level of Service D
 Analysis Period (min) 15























Splits and Phases: 11: I-215 NB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 							
Traffic Volume (veh/h)	202	1351	0	0	1104	529	271	0	420	0	0	0
Future Volume (veh/h)	202	1351	0	0	1104	529	271	0	420	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	220	1468	0	0	1200	575	295	0	457			
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	2049	0	0	1563	697	1098	0	489			
Arrive On Green	0.08	0.57	0.00	0.00	0.43	0.43	0.30	0.00	0.30			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	220	1468	0	0	1200	575	295	0	457			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	5.5	26.7	0.0	0.0	25.4	28.3	5.6	0.0	24.8			
Cycle Q Clear(g_c), s	5.5	26.7	0.0	0.0	25.4	28.3	5.6	0.0	24.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	293	2049	0	0	1563	697	1098	0	489			
V/C Ratio(X)	0.75	0.72	0.00	0.00	0.77	0.82	0.27	0.00	0.94			
Avail Cap(c_a), veh/h	328	2049	0	0	1563	697	1134	0	505			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.46	0.46	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.3	14.2	0.0	0.0	21.7	22.5	23.8	0.0	30.5			
Incr Delay (d2), s/veh	3.3	1.0	0.0	0.0	3.7	10.7	0.1	0.0	24.6			
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	2.4	9.3	0.0	0.0	10.3	11.6	2.2	0.0	12.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.6	15.2	0.0	0.0	25.3	33.2	23.9	0.0	55.1			
LnGrp LOS	D	B	A	A	C	C	C	A	E			
Approach Vol, veh/h		1688			1775			752				
Approach Delay, s/veh		18.9			27.9			42.9				
Approach LOS		B			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		56.9			12.1	44.8		33.1				
Change Period (Y+Rc), s		5.8			4.6	5.8		5.8				
Max Green Setting (Gmax), s		50.2			8.4	37.2		28.2				
Max Q Clear Time (g_c+I1), s		28.7			7.5	30.3		26.8				
Green Ext Time (p_c), s		10.8			0.0	4.9		0.5				

Intersection Summary

HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

**APPENDIX 7.2: HORIZON YEAR (2045) WITH PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**

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Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↘	↑		↘
Traffic Vol, veh/h	207	0	9	78	0	9
Future Vol, veh/h	207	0	9	78	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	225	0	10	85	0	10

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3	
Conflicting Flow All	0	-	225	0	-	225
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.1	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.2	-	-	3.3
Pot Cap-1 Maneuver	-	0	1356	-	0	819
Stage 1	-	0	-	-	0	-
Stage 2	-	0	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1356	-	-	819
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	819	-	1356	-
HCM Lane V/C Ratio	0.012	-	0.007	-
HCM Control Delay (s)	9.4	-	7.7	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0	-	0	-

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	200	11	35	75	9	7	5	16	10	10	5
Future Vol, veh/h	5	200	11	35	75	9	7	5	16	10	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	100	-	100	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	253	14	44	95	11	9	6	20	13	13	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	106	0	0	267	0	0	463	459	253	468	462	95
Stage 1	-	-	-	-	-	-	265	265	-	183	183	-
Stage 2	-	-	-	-	-	-	198	194	-	285	279	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1498	-	-	1308	-	-	513	502	791	509	500	967
Stage 1	-	-	-	-	-	-	745	693	-	823	752	-
Stage 2	-	-	-	-	-	-	808	744	-	727	683	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1498	-	-	1308	-	-	485	483	791	477	481	967
Mov Cap-2 Maneuver	-	-	-	-	-	-	485	483	-	477	481	-
Stage 1	-	-	-	-	-	-	742	690	-	820	726	-
Stage 2	-	-	-	-	-	-	762	719	-	699	680	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			2.3			11			12.2		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	485	687	1498	-	-	1308	-	-	533
HCM Lane V/C Ratio	0.018	0.039	0.004	-	-	0.034	-	-	0.059
HCM Control Delay (s)	12.6	10.5	7.4	-	-	7.8	-	-	12.2
HCM Lane LOS	B	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	0	-	-	0.1	-	-	0.2

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	1	19	20	42	14
Future Vol, veh/h	8	1	19	20	42	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	1	-	-	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	1	21	22	46	15

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	118	54	61	0	0
Stage 1	54	-	-	-	-
Stage 2	64	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	883	1019	1555	-	-
Stage 1	974	-	-	-	-
Stage 2	964	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	871	1019	1555	-	-
Mov Cap-2 Maneuver	837	-	-	-	-
Stage 1	960	-	-	-	-
Stage 2	964	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	3.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1555	-	854	-	-
HCM Lane V/C Ratio	0.013	-	0.011	-	-
HCM Control Delay (s)	7.3	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	↗
Traffic Vol, veh/h	0	11	0	39	23	20
Future Vol, veh/h	0	11	0	39	23	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
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	12	0	42	25	22

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	25	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	1057	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	1057	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

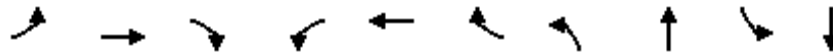
Approach	EB	NB	SB
HCM Control Delay, s	8.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 1057	-	-
HCM Lane V/C Ratio	- 0.011	-	-
HCM Control Delay (s)	- 8.4	-	-
HCM Lane LOS	- A	-	-
HCM 95th %tile Q(veh)	- 0	-	-

Timings
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

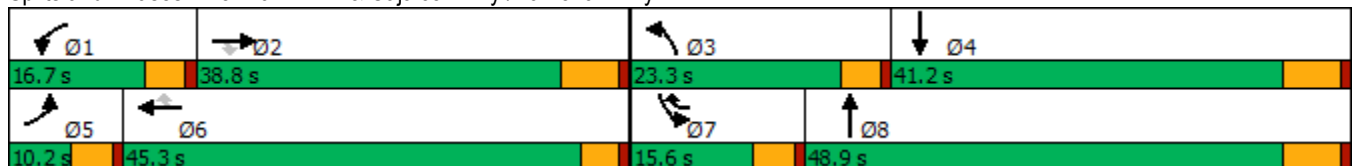


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↙	↕	↘	↙↘	↕	↘	↙↘	↕	↙↘	↕
Traffic Volume (vph)	198	989	228	672	1186	776	401	481	447	241
Future Volume (vph)	198	989	228	672	1186	776	401	481	447	241
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	7	3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	7	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.2	36.2	9.6	32.5	9.6	9.6	16.2	9.6	41.2
Total Split (s)	10.2	38.8	38.8	16.7	45.3	15.6	23.3	48.9	15.6	41.2
Total Split (%)	8.5%	32.3%	32.3%	13.9%	37.8%	13.0%	19.4%	40.8%	13.0%	34.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.5	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.5	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	5.6	32.6	32.6	12.1	40.8	56.3	17.5	42.7	11.0	36.2
Actuated g/C Ratio	0.05	0.27	0.27	0.10	0.34	0.47	0.15	0.36	0.09	0.30
v/c Ratio	2.54	1.08	0.42	2.05	1.04	1.00	0.84	0.62	1.50	0.33
Control Delay	748.0	96.1	10.6	509.3	75.4	58.9	65.4	30.7	277.6	29.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	748.0	96.1	10.6	509.3	75.4	58.9	65.4	30.7	277.6	29.7
LOS	F	F	B	F	E	E	E	C	F	C
Approach Delay		173.6			181.3			43.0		172.7
Approach LOS		F			F			D		F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.54
 Intersection Signal Delay: 152.0
 Intersection LOS: F
 Intersection Capacity Utilization 98.6%
 ICU Level of Service F
 Analysis Period (min) 15
























Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	989	228	672	1186	776	401	481	252	447	241	87
Future Volume (veh/h)	198	989	228	672	1186	776	401	481	252	447	241	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	213	1063	194	723	1275	766	431	517	217	481	259	92
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	83	1017	454	349	1210	685	487	867	362	317	796	276
Arrive On Green	0.05	0.28	0.28	0.10	0.34	0.34	0.14	0.35	0.35	0.09	0.30	0.30
Sat Flow, veh/h	1810	3610	1610	3510	3610	1610	3510	2471	1032	3510	2630	911
Grp Volume(v), veh/h	213	1063	194	723	1275	766	431	377	357	481	176	175
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1805	1610	1755	1805	1699	1755	1805	1736
Q Serve(g_s), s	5.6	34.3	12.0	12.1	40.8	40.8	14.7	20.9	21.0	11.0	9.2	9.5
Cycle Q Clear(g_c), s	5.6	34.3	12.0	12.1	40.8	40.8	14.7	20.9	21.0	11.0	9.2	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.61	1.00		0.53
Lane Grp Cap(c), veh/h	83	1017	454	349	1210	685	487	633	596	317	546	525
V/C Ratio(X)	2.56	1.04	0.43	2.07	1.05	1.12	0.89	0.60	0.60	1.52	0.32	0.33
Avail Cap(c_a), veh/h	83	1017	454	349	1210	685	539	633	596	317	546	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.0	43.7	35.7	54.8	40.5	34.9	51.5	32.4	32.5	55.3	32.8	32.9
Incr Delay (d2), s/veh	735.0	40.6	0.6	491.9	41.2	71.4	14.1	4.1	4.4	247.8	1.6	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	20.3	4.6	29.0	23.9	32.3	7.2	9.4	8.9	15.6	4.1	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	793.1	84.3	36.3	546.7	81.6	106.4	65.6	36.5	36.9	303.1	34.3	34.6
LnGrp LOS	F	F	D	F	F	F	E	D	D	F	C	C
Approach Vol, veh/h		1470			2764			1165			832	
Approach Delay, s/veh		180.7			210.2			47.4			189.8	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	40.5	21.5	43.0	10.2	47.0	15.6	48.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.1	32.6	18.7	35.0	5.6	* 41	11.0	42.7				
Max Q Clear Time (g_c+I1), s	14.1	36.3	16.7	11.5	7.6	42.8	13.0	23.0				
Green Ext Time (p_c), s	0.0	0.0	0.2	1.7	0.0	0.0	0.0	4.0				
Intersection Summary												
HCM 6th Ctrl Delay			170.0									
HCM 6th LOS			F									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection	
Intersection Delay, s/veh	396
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↕		↘	↕	
Traffic Vol, veh/h	82	11	134	49	13	35	49	966	4	21	1648	57
Future Vol, veh/h	82	11	134	49	13	35	49	966	4	21	1648	57
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	86	12	141	52	14	37	52	1017	4	22	1735	60
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	21.3	17.5	206.1	578.6
HCM LOS	C	C	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	99%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	1%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	644	326	82	11	134	49	13	35	21	1099
LT Vol	49	0	0	82	0	0	49	0	0	21	0
Through Vol	0	644	322	0	11	0	0	13	0	0	1099
RT Vol	0	0	4	0	0	134	0	0	35	0	0
Lane Flow Rate	52	678	343	86	12	141	52	14	37	22	1156
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.129	1.596	0.807	0.257	0.033	0.374	0.162	0.041	0.103	0.054	2.665
Departure Headway (Hd)	10.022	9.522	9.514	13.447	12.947	12.247	13.445	12.945	12.245	9.343	8.843
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	360	386	384	269	278	296	269	278	294	386	428
Service Time	7.722	7.222	7.214	11.147	10.647	9.947	11.145	10.645	9.945	7.043	6.543
HCM Lane V/C Ratio	0.144	1.756	0.893	0.32	0.043	0.476	0.193	0.05	0.126	0.057	2.701
HCM Control Delay	14.2	303.9	41.9	20.7	16.1	22.1	18.7	16.2	16.3	12.6	774.7
HCM Lane LOS	B	F	E	C	C	C	C	C	C	B	F
HCM 95th-tile Q	0.4	34.7	7.1	1	0.1	1.7	0.6	0.1	0.3	0.2	89.3

Timings
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

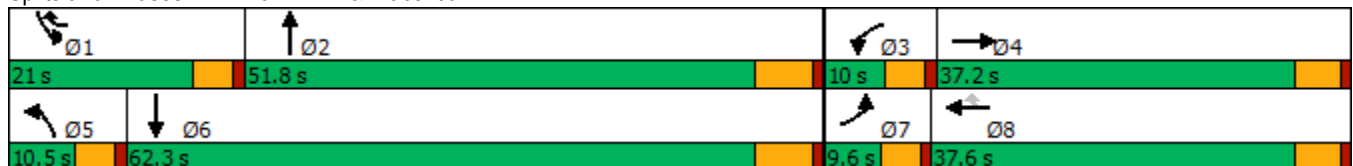


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	17	92	208	127	722	22	1590	506	800
Future Volume (vph)	17	92	208	127	722	22	1590	506	800
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	1	5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.2	9.6	37.2	9.6	9.6	33.2	9.6	33.2
Total Split (s)	9.6	37.2	10.0	37.6	21.0	10.5	51.8	21.0	62.3
Total Split (%)	8.0%	31.0%	8.3%	31.3%	17.5%	8.8%	43.2%	17.5%	51.9%
Yellow Time (s)	3.6	4.2	3.6	4.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.0	15.0	5.4	21.4	43.2	5.5	45.9	16.5	63.1
Actuated g/C Ratio	0.05	0.14	0.05	0.21	0.42	0.05	0.44	0.16	0.61
v/c Ratio	0.22	0.42	1.28	0.36	1.14	0.26	1.42	1.98	0.42
Control Delay	56.7	42.3	201.3	38.7	105.1	56.7	218.1	479.2	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	42.3	201.3	38.7	105.1	56.7	218.1	479.2	13.4
LOS	E	D	F	D	F	E	F	F	B
Approach Delay		44.4		116.1			216.3		192.1
Approach LOS		D		F			F		F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.5
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.98
 Intersection Signal Delay: 181.1
 Intersection Capacity Utilization 118.1%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H
























Splits and Phases: 7: Harvill Av. & Placentia Av.



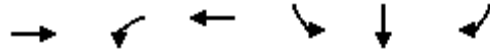
HCM 6th Signalized Intersection Summary
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	92	12	208	127	722	22	1590	389	506	800	13
Future Volume (veh/h)	17	92	12	208	127	722	22	1590	389	506	800	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	19	103	13	234	143	811	25	1787	437	569	899	15
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	36	413	52	162	525	670	43	1128	265	253	1834	31
Arrive On Green	0.02	0.25	0.25	0.05	0.28	0.28	0.02	0.39	0.39	0.14	0.50	0.50
Sat Flow, veh/h	1810	1654	209	3510	1900	1610	1810	2901	681	1810	3633	61
Grp Volume(v), veh/h	19	0	116	234	143	811	25	1083	1141	569	447	467
Grp Sat Flow(s),veh/h/ln	1810	0	1862	1755	1900	1610	1810	1805	1777	1810	1805	1889
Q Serve(g_s), s	1.2	0.0	5.8	5.4	6.9	32.4	1.6	45.6	45.6	16.4	19.1	19.1
Cycle Q Clear(g_c), s	1.2	0.0	5.8	5.4	6.9	32.4	1.6	45.6	45.6	16.4	19.1	19.1
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.38	1.00		0.03
Lane Grp Cap(c), veh/h	36	0	465	162	525	670	43	702	691	253	911	954
V/C Ratio(X)	0.53	0.00	0.25	1.45	0.27	1.21	0.58	1.54	1.65	2.25	0.49	0.49
Avail Cap(c_a), veh/h	77	0	508	162	525	670	91	702	691	253	911	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	35.2	56.0	33.2	34.3	56.7	35.9	35.9	50.5	19.1	19.1
Incr Delay (d2), s/veh	4.5	0.0	0.3	232.8	0.3	108.4	4.6	252.0	299.3	574.7	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.7	7.6	3.2	38.4	0.8	67.6	75.7	47.5	7.4	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.5	0.0	35.5	288.8	33.5	142.6	61.2	287.8	335.1	625.1	19.5	19.5
LnGrp LOS	E	A	D	F	C	F	E	F	F	F	B	B
Approach Vol, veh/h		135			1188			2249			1483	
Approach Delay, s/veh		39.1			158.3			309.3			251.9	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	51.8	10.0	34.5	7.4	65.4	6.9	37.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.2	4.6	6.2	4.6	5.2				
Max Green Setting (Gmax), s	16.4	45.6	5.4	32.0	5.9	56.1	5.0	32.4				
Max Q Clear Time (g_c+I1), s	18.4	47.6	7.4	7.8	3.6	21.1	3.2	34.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	5.7	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	249.7											
HCM 6th LOS	F											

Timings
8: I-215 SB Ramps & Ramona Exwy.

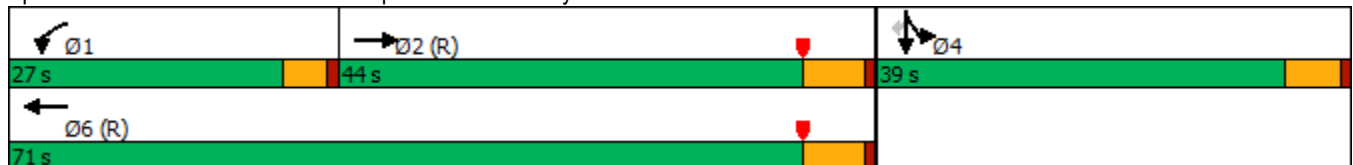


Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↖	↑↑	↖	↖	↖
Traffic Volume (vph)	1084	574	1388	960	1	390
Future Volume (vph)	1084	574	1388	960	1	390
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	2	1	6	4	4	
Permitted Phases						4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	44.0	27.0	71.0	39.0	39.0	39.0
Total Split (%)	40.0%	24.5%	64.5%	35.5%	35.5%	35.5%
Yellow Time (s)	5.0	3.5	5.0	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)	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	38.0	22.5	65.0	33.5	33.5	33.5
Actuated g/C Ratio	0.35	0.20	0.59	0.30	0.30	0.30
v/c Ratio	1.29	1.59	0.66	0.94	0.94	0.73
Control Delay	167.0	291.7	4.2	65.0	65.0	36.8
Queue Delay	0.6	0.0	2.3	72.0	71.7	0.0
Total Delay	167.6	291.7	6.4	137.0	136.7	36.8
LOS	F	F	A	F	F	D
Approach Delay	167.6		89.9		108.0	
Approach LOS	F		F		F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 34 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.59
 Intersection Signal Delay: 119.7
 Intersection LOS: F
 Intersection Capacity Utilization 179.6%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖	↖	↖
Traffic Volume (veh/h)	0	1084	469	574	1388	0	0	0	0	960	1	390
Future Volume (veh/h)	0	1084	469	574	1388	0	0	0	0	960	1	390
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1106	350	586	1416	0				981	0	335
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	932	291	370	2133	0				1102	0	490
Arrive On Green	0.00	0.35	0.35	0.12	0.35	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	2794	842	1810	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	734	722	586	1416	0				981	0	335
Grp Sat Flow(s),veh/h/ln	0	1805	1736	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	38.0	38.0	22.5	36.4	0.0				28.4	0.0	20.1
Cycle Q Clear(g_c), s	0.0	38.0	38.0	22.5	36.4	0.0				28.4	0.0	20.1
Prop In Lane	0.00		0.49	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	624	600	370	2133	0				1102	0	490
V/C Ratio(X)	0.00	1.18	1.20	1.58	0.66	0.00				0.89	0.00	0.68
Avail Cap(c_a), veh/h	0	624	600	370	2133	0				1102	0	490
HCM Platoon Ratio	1.00	1.00	1.00	0.60	0.60	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	36.0	36.0	48.2	26.3	0.0				36.5	0.0	33.6
Incr Delay (d2), s/veh	0.0	81.7	93.1	263.6	0.1	0.0				10.8	0.0	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	29.6	30.4	37.4	16.2	0.0				13.6	0.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	117.7	129.1	311.9	26.4	0.0				47.3	0.0	41.1
LnGrp LOS	A	F	F	F	C	A				D	A	D
Approach Vol, veh/h		1456			2002						1316	
Approach Delay, s/veh		123.4			110.0						45.8	
Approach LOS		F			F						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.0	44.0		39.0		71.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	22.5	38.0		33.5		65.0						
Max Q Clear Time (g_c+I1), s	24.5	40.0		30.4		38.4						
Green Ext Time (p_c), s	0.0	0.0		1.6		7.0						

Intersection Summary

HCM 6th Ctrl Delay	96.4
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶	↷	↷	↷	↶	↷	↷
Traffic Volume (vph)	160	1884	1519	735	443	2	856
Future Volume (vph)	160	1884	1519	735	443	2	856
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	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0	26.0	10.5	10.5	10.5
Total Split (s)	23.0	68.0	45.0	45.0	42.0	42.0	42.0
Total Split (%)	20.9%	61.8%	40.9%	40.9%	38.2%	38.2%	38.2%
Yellow Time (s)	3.5	5.0	5.0	5.0	4.5	4.5	4.5
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)	4.5	6.0	6.0	6.0	5.5	5.5	5.5
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)	14.8	62.0	42.7	42.7	36.5	36.5	36.5
Actuated g/C Ratio	0.13	0.56	0.39	0.39	0.33	0.33	0.33
v/c Ratio	0.68	0.95	1.12	0.86	0.40	0.41	1.51
Control Delay	35.3	36.8	96.4	25.2	31.0	31.0	264.8
Queue Delay	0.0	45.6	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	82.4	96.5	25.2	31.0	31.0	264.8
LOS	D	F	F	C	C	C	F
Approach Delay		78.7	73.2			184.8	
Approach LOS		E	E			F	

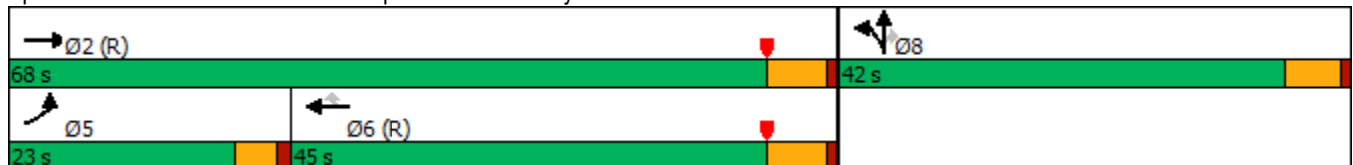
Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.51
 Intersection Signal Delay: 101.1
 Intersection Capacity Utilization 179.6%
 Analysis Period (min) 15

Intersection LOS: F

ICU Level of Service H




















Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	1884	0	0	1519	735	443	2	856	0	0	0
Future Volume (veh/h)	160	1884	0	0	1519	735	443	2	856	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	165	1942	0	0	1566	610	458	0	730			
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	194	2035	0	0	1501	669	1201	0	534			
Arrive On Green	0.21	1.00	0.00	0.00	0.42	0.42	0.33	0.00	0.33			
Sat Flow, veh/h	1810	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	165	1942	0	0	1566	610	458	0	730			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	9.6	0.0	0.0	0.0	45.7	39.2	10.6	0.0	36.5			
Cycle Q Clear(g_c), s	9.6	0.0	0.0	0.0	45.7	39.2	10.6	0.0	36.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	194	2035	0	0	1501	669	1201	0	534			
V/C Ratio(X)	0.85	0.95	0.00	0.00	1.04	0.91	0.38	0.00	1.37			
Avail Cap(c_a), veh/h	304	2035	0	0	1501	669	1201	0	534			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.4	0.0	0.0	0.0	32.1	30.2	28.1	0.0	36.8			
Incr Delay (d2), s/veh	1.3	1.6	0.0	0.0	35.5	18.8	0.2	0.0	176.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.8	0.4	0.0	0.0	25.4	17.3	4.4	0.0	39.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.7	1.6	0.0	0.0	67.6	49.0	28.3	0.0	213.3			
LnGrp LOS	D	A	A	A	F	D	C	A	F			
Approach Vol, veh/h		2107			2176			1188				
Approach Delay, s/veh		4.9			62.4			142.0				
Approach LOS		A			E			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		68.0			16.3	51.7		42.0				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		62.0			18.5	39.0		36.5				
Max Q Clear Time (g_c+I1), s		2.0			11.6	47.7		38.5				
Green Ext Time (p_c), s		14.0			0.2	0.0		0.0				

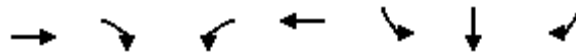
Intersection Summary

HCM 6th Ctrl Delay	57.5
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Timings
10: I-215 SB Ramps & Placentia Av.

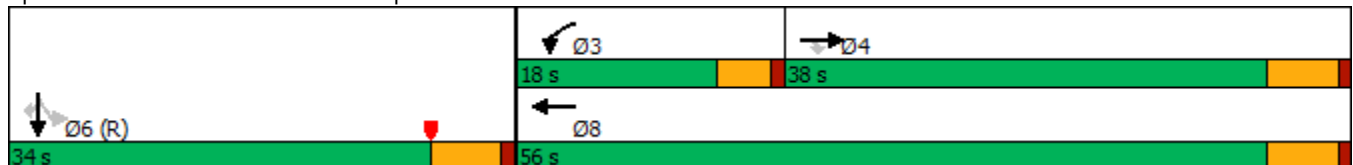


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↗↘	↑↑	↘	↖	↗
Traffic Volume (vph)	760	228	260	787	453	0	269
Future Volume (vph)	760	228	260	787	453	0	269
Turn Type	NA	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	4		3	8		6	
Permitted Phases		4			6		6
Detector Phase	4	4	3	8	6	6	6
Switch Phase							
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	23.8	23.8	23.8
Total Split (s)	38.0	38.0	18.0	56.0	34.0	34.0	34.0
Total Split (%)	42.2%	42.2%	20.0%	62.2%	37.8%	37.8%	37.8%
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	None	C-Min	C-Min	C-Min
Act Effct Green (s)	27.9	27.9	11.4	43.9	34.5	34.5	34.5
Actuated g/C Ratio	0.31	0.31	0.13	0.49	0.38	0.38	0.38
v/c Ratio	0.74	0.37	0.64	0.49	0.37	0.37	0.41
Control Delay	31.8	4.5	35.5	10.7	24.0	24.0	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.8	4.5	35.5	10.7	24.0	24.0	13.4
LOS	C	A	D	B	C	C	B
Approach Delay	25.5			16.9		20.1	
Approach LOS	C			B		C	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2: and 6:SBTL, Start of Yellow, Master Intersection
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 20.8
 Intersection LOS: C
 Intersection Capacity Utilization 74.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 10: I-215 SB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↘↗	↑↑					↘	↗	↗
Traffic Volume (veh/h)	0	760	228	260	787	0	0	0	0	453	0	269
Future Volume (veh/h)	0	760	228	260	787	0	0	0	0	453	0	269
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	826	248	283	855	0				492	0	292
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	1029	459	367	1591	0				1558	0	693
Arrive On Green	0.00	0.29	0.29	0.03	0.15	0.00				0.43	0.00	0.43
Sat Flow, veh/h	0	3705	1610	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	826	248	283	855	0				492	0	292
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	19.1	11.7	7.2	19.8	0.0				8.1	0.0	11.4
Cycle Q Clear(g_c), s	0.0	19.1	11.7	7.2	19.8	0.0				8.1	0.0	11.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1029	459	367	1591	0				1558	0	693
V/C Ratio(X)	0.00	0.80	0.54	0.77	0.54	0.00				0.32	0.00	0.42
Avail Cap(c_a), veh/h	0	1292	576	523	2014	0				1558	0	693
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.80	0.80	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.8	27.2	42.4	30.0	0.0				16.9	0.0	17.8
Incr Delay (d2), s/veh	0.0	0.3	0.1	2.0	0.2	0.0				0.5	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.7	4.2	3.2	9.4	0.0				3.2	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	30.1	27.3	44.4	30.2	0.0				17.4	0.0	19.7
LnGrp LOS	A	C	C	D	C	A				B	A	B
Approach Vol, veh/h		1074			1138							784
Approach Delay, s/veh		29.4			33.7							18.3
Approach LOS		C			C							B
Timer - Assigned Phs			3	4		6			8			
Phs Duration (G+Y+Rc), s			14.0	31.5		44.5			45.5			
Change Period (Y+Rc), s			4.6	5.8		5.8			5.8			
Max Green Setting (Gmax), s			13.4	32.2		28.2			50.2			
Max Q Clear Time (g_c+I1), s			9.2	21.1		13.4			21.8			
Green Ext Time (p_c), s			0.2	4.6		2.5			6.0			
Intersection Summary												
HCM 6th Ctrl Delay			28.1									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

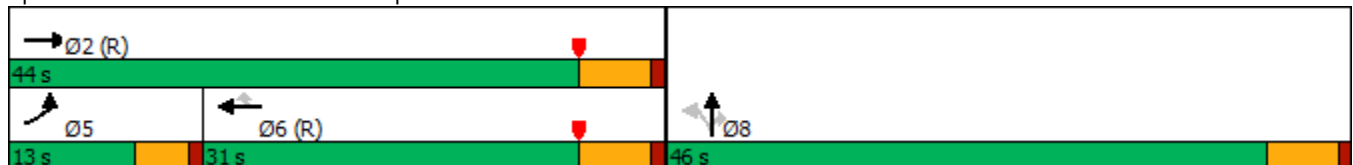


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↗↗	↑↑	↑↑	↖	↖	↖	↖
Traffic Volume (vph)	197	1015	671	469	377	0	598
Future Volume (vph)	197	1015	671	469	377	0	598
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	6			8	
Permitted Phases				6	8		8
Detector Phase	5	2	6	6	8	8	8
Switch 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	23.8	23.8	23.8
Total Split (s)	13.0	44.0	31.0	31.0	46.0	46.0	46.0
Total Split (%)	14.4%	48.9%	34.4%	34.4%	51.1%	51.1%	51.1%
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-Min	C-Min	C-Min	None	None	None
Act Effct Green (s)	8.1	41.2	28.4	28.4	37.2	37.2	37.2
Actuated g/C Ratio	0.09	0.46	0.32	0.32	0.41	0.41	0.41
v/c Ratio	0.68	0.67	0.64	0.59	0.29	0.29	0.90
Control Delay	45.1	16.8	30.5	5.8	18.0	18.0	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.1	16.8	30.5	5.8	18.0	18.0	38.2
LOS	D	B	C	A	B	B	D
Approach Delay		21.4	20.3			30.4	
Approach LOS		C	C			C	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 23.7
 Intersection LOS: C
 Intersection Capacity Utilization 74.8%
 ICU Level of Service D
 Analysis Period (min) 15
























Splits and Phases: 11: I-215 NB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 				
Traffic Volume (veh/h)	197	1015	0	0	671	469	377	0	598	0	0	0
Future Volume (veh/h)	197	1015	0	0	671	469	377	0	598	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	214	1103	0	0	729	510	410	0	650			
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	291	1604	0	0	1121	500	1545	0	687			
Arrive On Green	0.03	0.15	0.00	0.00	0.31	0.31	0.43	0.00	0.43			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	214	1103	0	0	729	510	410	0	650			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	5.4	26.1	0.0	0.0	15.7	27.9	6.6	0.0	34.9			
Cycle Q Clear(g_c), s	5.4	26.1	0.0	0.0	15.7	27.9	6.6	0.0	34.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	291	1604	0	0	1121	500	1545	0	687			
V/C Ratio(X)	0.74	0.69	0.00	0.00	0.65	1.02	0.27	0.00	0.95			
Avail Cap(c_a), veh/h	328	1604	0	0	1121	500	1617	0	719			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.71	0.71	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.8	32.5	0.0	0.0	26.8	31.0	16.7	0.0	24.8			
Incr Delay (d2), s/veh	4.3	1.7	0.0	0.0	2.9	45.5	0.1	0.0	20.9			
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	2.6	12.9	0.0	0.0	7.0	16.7	2.7	0.0	16.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	34.2	0.0	0.0	29.8	76.6	16.8	0.0	45.7			
LnGrp LOS	D	C	A	A	C	F	B	A	D			
Approach Vol, veh/h		1317			1239			1060				
Approach Delay, s/veh		36.3			49.0			34.5				
Approach LOS		D			D			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		45.8			12.1	33.7		44.2				
Change Period (Y+Rc), s		5.8			4.6	5.8		5.8				
Max Green Setting (Gmax), s		38.2			8.4	25.2		40.2				
Max Q Clear Time (g_c+I1), s		28.1			7.4	29.9		36.9				
Green Ext Time (p_c), s		5.4			0.0	0.0		1.5				

Intersection Summary

HCM 6th Ctrl Delay	40.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↘	↑		↘
Traffic Vol, veh/h	147	0	8	91	0	10
Future Vol, veh/h	147	0	8	91	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	160	0	9	99	0	11

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	- 160	0 - 160
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.1	- 6.2
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.2	- 3.3
Pot Cap-1 Maneuver	- 0	1432	- 0 890
Stage 1	- 0	-	- 0 -
Stage 2	- 0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1432	- 890
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	890	- 1432	-	-
HCM Lane V/C Ratio	0.012	- 0.006	-	-
HCM Control Delay (s)	9.1	- 7.5	-	-
HCM Lane LOS	A	- A	-	-
HCM 95th %tile Q(veh)	0	- 0	-	-

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑	↗	↙	↗			↕	
Traffic Vol, veh/h	5	144	8	29	83	8	11	5	35	12	5	5
Future Vol, veh/h	5	144	8	29	83	8	11	5	35	12	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	100	-	100	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	157	9	32	90	9	12	5	38	13	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	99	0	0	166	0	0	331	330	157	347	330	90
Stage 1	-	-	-	-	-	-	167	167	-	154	154	-
Stage 2	-	-	-	-	-	-	164	163	-	193	176	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1507	-	-	1424	-	-	626	592	894	611	592	973
Stage 1	-	-	-	-	-	-	840	764	-	853	774	-
Stage 2	-	-	-	-	-	-	843	767	-	813	757	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1507	-	-	1424	-	-	606	577	894	569	577	973
Mov Cap-2 Maneuver	-	-	-	-	-	-	606	577	-	569	577	-
Stage 1	-	-	-	-	-	-	837	762	-	850	757	-
Stage 2	-	-	-	-	-	-	814	750	-	770	755	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			1.8			9.8			10.9		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	606	837	1507	-	-	1424	-	-	630
HCM Lane V/C Ratio	0.02	0.052	0.004	-	-	0.022	-	-	0.038
HCM Control Delay (s)	11.1	9.5	7.4	-	-	7.6	-	-	10.9
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.2	0	-	-	0.1	-	-	0.1

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	3	10	15	34	7
Future Vol, veh/h	37	3	10	15	34	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
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	40	3	11	16	37	8

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	79	41	45	0	0
Stage 1	41	-	-	-	-
Stage 2	38	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	929	1036	1576	-	-
Stage 1	987	-	-	-	-
Stage 2	990	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	922	1036	1576	-	-
Mov Cap-2 Maneuver	922	-	-	-	-
Stage 1	980	-	-	-	-
Stage 2	990	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	2.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1576	-	930	-	-
HCM Lane V/C Ratio	0.007	-	0.047	-	-
HCM Control Delay (s)	7.3	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	↗
Traffic Vol, veh/h	0	28	0	25	24	13
Future Vol, veh/h	0	28	0	25	24	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
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	30	0	27	26	14

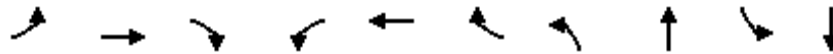
Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	26	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	1056	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	1056	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 1056	-	-
HCM Lane V/C Ratio	- 0.029	-	-
HCM Control Delay (s)	- 8.5	-	-
HCM Lane LOS	- A	-	-
HCM 95th %tile Q(veh)	- 0.1	-	-

Timings

5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

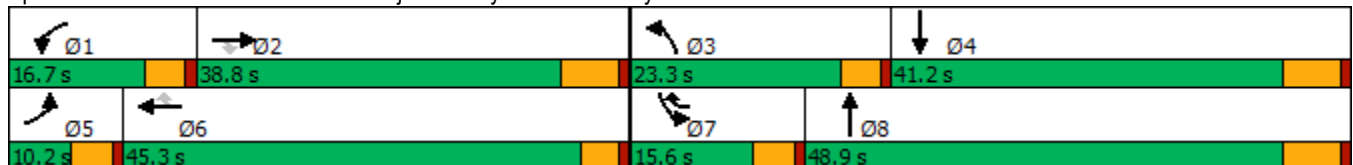


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕	↗	↖↗	↕	↗	↖↗	↕↗	↖↗	↕↗
Traffic Volume (vph)	130	1300	552	367	975	498	327	254	947	555
Future Volume (vph)	130	1300	552	367	975	498	327	254	947	555
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	5	2		1	6	7	3	8	7	4
Permitted Phases			2			6				
Detector Phase	5	2	2	1	6	7	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.2	36.2	9.6	32.5	9.6	9.6	16.2	9.6	41.2
Total Split (s)	10.2	38.8	38.8	16.7	45.3	15.6	23.3	48.9	15.6	41.2
Total Split (%)	8.5%	32.3%	32.3%	13.9%	37.8%	13.0%	19.4%	40.8%	13.0%	34.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.5	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.5	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	Max
Act Effct Green (s)	5.6	32.6	32.6	12.1	40.8	56.3	15.9	42.7	11.0	37.8
Actuated g/C Ratio	0.05	0.27	0.27	0.10	0.34	0.47	0.13	0.36	0.09	0.32
v/c Ratio	1.67	1.43	0.89	1.12	0.85	0.57	0.76	0.99dr	3.17	0.71
Control Delay	381.4	231.9	36.2	132.9	45.0	9.5	61.0	32.3	1003.6	39.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	381.4	231.9	36.2	132.9	45.0	9.5	61.0	32.3	1003.6	39.1
LOS	F	F	D	F	D	A	E	C	F	D
Approach Delay		187.2			52.9			40.1		580.9
Approach LOS		F			D			D		F

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 3.17
 Intersection Signal Delay: 222.9
 Intersection LOS: F
 Intersection Capacity Utilization 118.5%
 ICU Level of Service H
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

























Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	1300	552	367	975	498	327	254	621	947	555	183
Future Volume (veh/h)	130	1300	552	367	975	498	327	254	621	947	555	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	140	1398	481	395	1048	455	352	273	600	1018	597	186
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	84	981	437	354	1176	672	413	642	573	322	894	278
Arrive On Green	0.05	0.27	0.27	0.10	0.33	0.33	0.12	0.36	0.36	0.09	0.33	0.33
Sat Flow, veh/h	1810	3610	1610	3510	3610	1610	3510	1805	1610	3510	2711	843
Grp Volume(v), veh/h	140	1398	481	395	1048	455	352	273	600	1018	397	386
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1748
Q Serve(g_s), s	5.6	32.6	32.6	12.1	33.1	27.5	11.8	13.8	42.7	11.0	22.7	22.8
Cycle Q Clear(g_c), s	5.6	32.6	32.6	12.1	33.1	27.5	11.8	13.8	42.7	11.0	22.7	22.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	84	981	437	354	1176	672	413	642	573	322	595	577
V/C Ratio(X)	1.66	1.43	1.10	1.12	0.89	0.68	0.85	0.43	1.05	3.16	0.67	0.67
Avail Cap(c_a), veh/h	84	981	437	354	1227	695	547	642	573	322	595	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	43.7	43.7	53.9	38.4	28.4	51.9	29.3	38.7	54.5	34.5	34.6
Incr Delay (d2), s/veh	342.5	197.4	72.8	82.9	8.3	2.5	7.8	2.1	50.5	981.7	5.8	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	40.7	21.2	9.2	15.1	10.4	5.5	6.0	23.8	48.6	10.4	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	399.7	241.1	116.5	136.9	46.7	30.9	59.7	31.4	89.2	1036.2	40.4	40.6
LnGrp LOS	F	F	F	F	D	C	E	C	F	F	D	D
Approach Vol, veh/h		2019			1898			1225			1801	
Approach Delay, s/veh		222.4			61.7			67.8			603.3	
Approach LOS		F			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	38.8	18.7	45.8	10.2	45.3	15.6	48.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.1	32.6	18.7	35.0	5.6	* 41	11.0	42.7				
Max Q Clear Time (g_c+I1), s	14.1	34.6	13.8	24.8	7.6	35.1	13.0	44.7				
Green Ext Time (p_c), s	0.0	0.0	0.3	3.2	0.0	3.7	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	250.0
HCM 6th LOS	F

Notes

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

Intersection	
Intersection Delay, s/veh	392.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↕		↖	↕	
Traffic Vol, veh/h	69	10	112	42	15	23	39	1148	6	14	1334	66
Future Vol, veh/h	69	10	112	42	15	23	39	1148	6	14	1334	66
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	80	12	130	49	17	27	45	1335	7	16	1551	77
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	21.7	17.8	356.6	494.6
HCM LOS	C	C	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	98%	0%	100%	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	0%	2%	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	765	389	69	10	112	42	15	23	14	889
LT Vol	39	0	0	69	0	0	42	0	0	14	0
Through Vol	0	765	383	0	10	0	0	15	0	0	889
RT Vol	0	0	6	0	0	112	0	0	23	0	0
Lane Flow Rate	45	890	452	80	12	130	49	17	27	16	1034
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.112	2.067	1.048	0.243	0.034	0.351	0.155	0.053	0.076	0.04	2.42
Departure Headway (Hd)	9.802	9.302	9.291	14.089	13.589	12.889	13.789	13.289	12.589	9.682	9.182
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	368	400	393	257	265	281	262	271	286	372	403
Service Time	7.502	7.002	6.991	11.789	11.289	10.589	11.489	10.989	10.289	7.382	6.882
HCM Lane V/C Ratio	0.122	2.225	1.15	0.311	0.045	0.463	0.187	0.063	0.094	0.043	2.566
HCM Control Delay	13.7	509.5	89.9	21.3	16.8	22.4	19	16.7	16.3	12.8	666.2
HCM Lane LOS	B	F	F	C	C	C	C	C	C	B	F
HCM 95th-tile Q	0.4	56.9	13.6	0.9	0.1	1.5	0.5	0.2	0.2	0.1	74.4

Timings
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

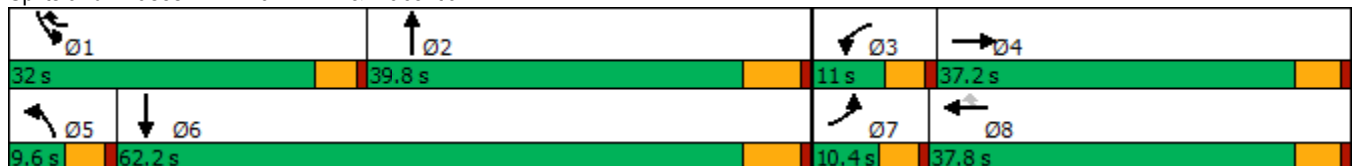


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖↗	↕	↖↗	↖	↕↗	↖	↕↗
Traffic Volume (vph)	21	174	248	111	529	24	855	881	1513
Future Volume (vph)	21	174	248	111	529	24	855	881	1513
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	1	5	2	1	6
Permitted Phases	8								
Detector Phase	7	4	3	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.2	9.6	37.2	9.6	9.6	33.2	9.6	33.2
Total Split (s)	10.4	37.2	11.0	37.8	32.0	9.6	39.8	32.0	62.2
Total Split (%)	8.7%	31.0%	9.2%	31.5%	26.7%	8.0%	33.2%	26.7%	51.8%
Yellow Time (s)	3.6	4.2	3.6	4.2	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	4.6	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.5	19.8	6.4	24.8	57.5	5.0	33.7	27.5	60.3
Actuated g/C Ratio	0.05	0.18	0.06	0.23	0.53	0.05	0.31	0.25	0.56
v/c Ratio	0.27	0.71	1.41	0.30	0.69	0.34	1.18	2.26	0.89
Control Delay	59.6	51.3	247.9	37.4	21.3	63.7	124.0	595.7	30.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	51.3	247.9	37.4	21.3	63.7	124.0	595.7	30.2
LOS	E	D	F	D	C	E	F	F	C
Approach Delay	52.0		86.6			122.7		237.4	
Approach LOS	D		F			F		F	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 108.1
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 2.26
 Intersection Signal Delay: 171.6
 Intersection Capacity Utilization 116.0%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

























Splits and Phases: 7: Harvill Av. & Placentia Av.



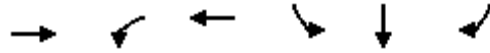
HCM 6th Signalized Intersection Summary
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (veh/h)	21	174	34	248	111	529	24	855	253	881	1513	9
Future Volume (veh/h)	21	174	34	248	111	529	24	855	253	881	1513	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	25	205	40	292	131	622	28	1006	298	1036	1780	11
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	43	383	75	192	529	826	46	790	233	424	1824	11
Arrive On Green	0.02	0.25	0.25	0.05	0.28	0.28	0.03	0.29	0.29	0.23	0.50	0.50
Sat Flow, veh/h	1810	1544	301	3510	1900	1610	1810	2749	809	1810	3678	23
Grp Volume(v), veh/h	25	0	245	292	131	622	28	659	645	1036	873	918
Grp Sat Flow(s),veh/h/ln	1810	0	1846	1755	1900	1610	1810	1805	1753	1810	1805	1896
Q Serve(g_s), s	1.6	0.0	13.5	6.4	6.2	32.6	1.8	33.6	33.6	27.4	55.2	55.4
Cycle Q Clear(g_c), s	1.6	0.0	13.5	6.4	6.2	32.6	1.8	33.6	33.6	27.4	55.2	55.4
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.46	1.00		0.01
Lane Grp Cap(c), veh/h	43	0	457	192	529	826	46	518	504	424	895	940
V/C Ratio(X)	0.58	0.00	0.54	1.52	0.25	0.75	0.61	1.27	1.28	2.44	0.98	0.98
Avail Cap(c_a), veh/h	90	0	505	192	529	826	77	518	504	424	895	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	0.0	38.2	55.3	32.7	22.6	56.4	41.7	41.7	44.8	28.8	28.8
Incr Delay (d2), s/veh	4.5	0.0	1.0	258.9	0.2	3.9	4.7	136.2	141.3	657.1	24.0	23.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	6.2	9.7	2.9	14.0	0.9	34.4	34.1	89.5	28.8	30.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	0.0	39.1	314.2	32.9	26.5	61.1	177.9	183.0	701.8	52.8	52.5
LnGrp LOS	E	A	D	F	C	C	E	F	F	F	D	D
Approach Vol, veh/h		270			1045			1332			2827	
Approach Delay, s/veh		41.2			107.7			177.9			290.6	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.0	39.8	11.0	34.2	7.6	64.2	7.4	37.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.2	4.6	6.2	4.6	5.2				
Max Green Setting (Gmax), s	27.4	33.6	6.4	32.0	5.0	56.0	5.8	32.6				
Max Q Clear Time (g_c+I1), s	29.4	35.6	8.4	15.5	3.8	57.4	3.6	34.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			216.0									
HCM 6th LOS			F									

Timings
8: I-215 SB Ramps & Ramona Exwy.

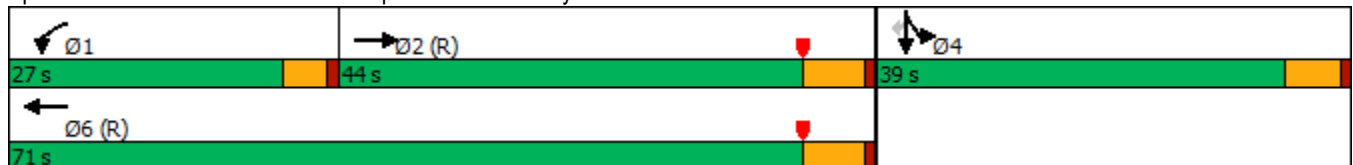


Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↖	↑↑	↖	↖	↖
Traffic Volume (vph)	1025	970	1339	1001	4	438
Future Volume (vph)	1025	970	1339	1001	4	438
Turn Type	NA	Prot	NA	Split	NA	Perm
Protected Phases	2	1	6	4	4	
Permitted Phases						4
Detector Phase	2	1	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	44.0	27.0	71.0	39.0	39.0	39.0
Total Split (%)	40.0%	24.5%	64.5%	35.5%	35.5%	35.5%
Yellow Time (s)	5.0	3.5	5.0	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)	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Recall Mode	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	38.0	22.5	65.0	33.5	33.5	33.5
Actuated g/C Ratio	0.35	0.20	0.59	0.30	0.30	0.30
v/c Ratio	1.20	2.66	0.63	0.97	0.98	0.81
Control Delay	129.4	764.8	2.4	70.8	72.5	42.7
Queue Delay	0.0	0.0	4.6	55.5	54.2	0.0
Total Delay	129.5	764.8	7.0	126.3	126.7	42.7
LOS	F	F	A	F	F	D
Approach Delay	129.5		325.3		101.1	
Approach LOS	F		F		F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 34 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.66
 Intersection Signal Delay: 208.3
 Intersection LOS: F
 Intersection Capacity Utilization 168.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↘	↖	↗
Traffic Volume (veh/h)	0	1025	440	970	1339	0	0	0	0	1001	4	438
Future Volume (veh/h)	0	1025	440	970	1339	0	0	0	0	1001	4	438
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	1035	336	980	1353	0				1014	0	383
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99				0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	928	298	370	2133	0				1102	0	490
Arrive On Green	0.00	0.35	0.35	0.12	0.35	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	2781	864	1810	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	692	679	980	1353	0				1014	0	383
Grp Sat Flow(s),veh/h/ln	0	1805	1745	1810	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	38.0	38.0	22.5	34.3	0.0				29.8	0.0	23.9
Cycle Q Clear(g_c), s	0.0	38.0	38.0	22.5	34.3	0.0				29.8	0.0	23.9
Prop In Lane	0.00		0.50	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	624	603	370	2133	0				1102	0	490
V/C Ratio(X)	0.00	1.11	1.13	2.65	0.63	0.00				0.92	0.00	0.78
Avail Cap(c_a), veh/h	0	624	603	370	2133	0				1102	0	490
HCM Platoon Ratio	1.00	1.00	1.00	0.60	0.60	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	36.0	36.0	48.2	25.6	0.0				37.0	0.0	34.9
Incr Delay (d2), s/veh	0.0	52.2	59.0	742.2	0.1	0.0				13.6	0.0	11.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	24.5	24.8	86.6	15.2	0.0				14.5	0.0	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	88.2	95.0	790.4	25.7	0.0				50.6	0.0	46.6
LnGrp LOS	A	F	F	F	C	A				D	A	D
Approach Vol, veh/h		1371			2333						1397	
Approach Delay, s/veh		91.6			347.0						49.5	
Approach LOS		F			F						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.0	44.0		39.0		71.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	22.5	38.0		33.5		65.0						
Max Q Clear Time (g_c+I1), s	24.5	40.0		31.8		36.3						
Green Ext Time (p_c), s	0.0	0.0		1.0		6.6						

Intersection Summary

HCM 6th Ctrl Delay	196.8
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

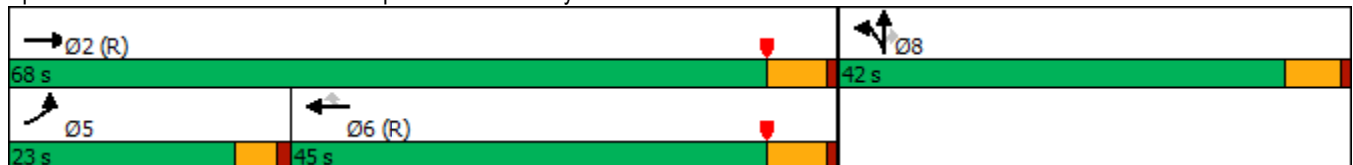


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶	↷	↶	↷	↶	↷	↷
Traffic Volume (vph)	348	1677	1933	861	376	2	559
Future Volume (vph)	348	1677	1933	861	376	2	559
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0	26.0	10.5	10.5	10.5
Total Split (s)	23.0	68.0	45.0	45.0	42.0	42.0	42.0
Total Split (%)	20.9%	61.8%	40.9%	40.9%	38.2%	38.2%	38.2%
Yellow Time (s)	3.5	5.0	5.0	5.0	4.5	4.5	4.5
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)	4.5	6.0	6.0	6.0	5.5	5.5	5.5
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)	18.5	62.0	39.0	39.0	36.5	36.5	36.5
Actuated g/C Ratio	0.17	0.56	0.35	0.35	0.33	0.33	0.33
v/c Ratio	1.22	0.88	1.61	1.13	0.35	0.35	1.02
Control Delay	141.7	30.5	304.9	94.0	30.0	30.1	74.5
Queue Delay	0.0	48.3	0.1	0.0	0.0	0.0	0.0
Total Delay	141.7	78.7	304.9	94.0	30.0	30.1	74.5
LOS	F	E	F	F	C	C	E
Approach Delay		89.6	239.9			56.5	
Approach LOS		F	F			E	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.61
 Intersection Signal Delay: 157.2
 Intersection LOS: F
 Intersection Capacity Utilization 168.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘	↗	↗			
Traffic Volume (veh/h)	348	1677	0	0	1933	861	376	2	559	0	0	0
Future Volume (veh/h)	348	1677	0	0	1933	861	376	2	559	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	370	1784	0	0	2056	766	401	0	514			
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	304	2035	0	0	1280	570	1200	0	534			
Arrive On Green	0.34	1.00	0.00	0.00	0.35	0.35	0.33	0.00	0.33			
Sat Flow, veh/h	1810	3705	0	0	3705	1606	3619	0	1610			
Grp Volume(v), veh/h	370	1784	0	0	2056	766	401	0	514			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1805	1606	1810	0	1610			
Q Serve(g_s), s	18.5	0.0	0.0	0.0	39.0	39.0	9.2	0.0	34.5			
Cycle Q Clear(g_c), s	18.5	0.0	0.0	0.0	39.0	39.0	9.2	0.0	34.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	304	2035	0	0	1280	570	1200	0	534			
V/C Ratio(X)	1.22	0.88	0.00	0.00	1.61	1.34	0.33	0.00	0.96			
Avail Cap(c_a), veh/h	304	2035	0	0	1280	570	1201	0	534			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	36.5	0.0	0.0	0.0	35.5	35.5	27.6	0.0	36.1			
Incr Delay (d2), s/veh	100.0	0.6	0.0	0.0	276.3	166.6	0.2	0.0	29.6			
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	14.5	0.2	0.0	0.0	64.9	40.4	3.8	0.0	17.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	136.5	0.6	0.0	0.0	311.7	202.1	27.8	0.0	65.6			
LnGrp LOS	F	A	A	A	F	F	C	A	E			
Approach Vol, veh/h		2154			2822			915				
Approach Delay, s/veh		23.9			282.0			49.1				
Approach LOS		C			F			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		68.0			23.0	45.0		42.0				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		62.0			18.5	39.0		36.5				
Max Q Clear Time (g_c+I1), s		2.0			20.5	41.0		36.5				
Green Ext Time (p_c), s		11.7			0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	151.4
HCM 6th LOS	F

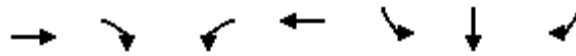
Notes

User approved volume balancing among the lanes for turning movement.

Timings
10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

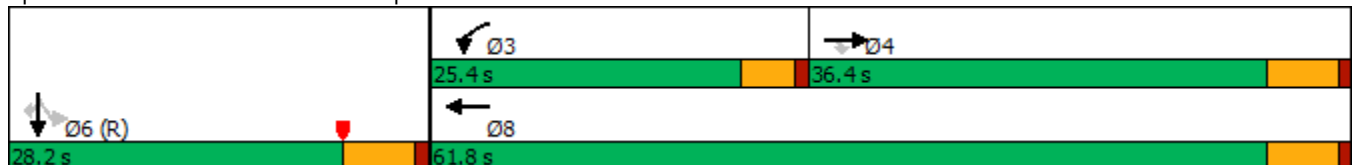


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑	↑	↑
Traffic Volume (vph)	977	332	617	773	578	1	114
Future Volume (vph)	977	332	617	773	578	1	114
Turn Type	NA	Perm	Prot	NA	Perm	NA	Perm
Protected Phases	4		3	8		6	
Permitted Phases		4			6		6
Detector Phase	4	4	3	8	6	6	6
Switch Phase							
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	23.8	23.8	23.8
Total Split (s)	36.4	36.4	25.4	61.8	28.2	28.2	28.2
Total Split (%)	40.4%	40.4%	28.2%	68.7%	31.3%	31.3%	31.3%
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	None	C-Min	C-Min	C-Min
Act Effct Green (s)	31.1	31.1	19.7	55.4	23.0	23.0	23.0
Actuated g/C Ratio	0.35	0.35	0.22	0.62	0.26	0.26	0.26
v/c Ratio	0.85	0.45	0.87	0.38	0.72	0.72	0.25
Control Delay	35.5	4.5	36.9	16.4	41.9	41.8	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	4.5	36.9	16.4	41.9	41.8	6.6
LOS	D	A	D	B	D	D	A
Approach Delay	27.6			25.5		36.0	
Approach LOS	C			C		D	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2: and 6:SBTL, Start of Yellow, Master Intersection
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 28.5
 Intersection LOS: C
 Intersection Capacity Utilization 74.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 10: I-215 SB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 10: I-215 SB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↘↗	↑↑					↘	↗	↗
Traffic Volume (veh/h)	0	977	332	617	773	0	0	0	0	578	1	114
Future Volume (veh/h)	0	977	332	617	773	0	0	0	0	578	1	114
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	1062	361	671	840	0				629	0	124
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	1189	530	742	2136	0				1011	0	450
Arrive On Green	0.00	0.33	0.33	0.28	0.79	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	3705	1610	3510	3705	0				3619	0	1610
Grp Volume(v), veh/h	0	1062	361	671	840	0				629	0	124
Grp Sat Flow(s),veh/h/ln	0	1805	1610	1755	1805	0				1810	0	1610
Q Serve(g_s), s	0.0	25.2	17.4	16.6	6.5	0.0				13.6	0.0	5.4
Cycle Q Clear(g_c), s	0.0	25.2	17.4	16.6	6.5	0.0				13.6	0.0	5.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1189	530	742	2136	0				1011	0	450
V/C Ratio(X)	0.00	0.89	0.68	0.90	0.39	0.00				0.62	0.00	0.28
Avail Cap(c_a), veh/h	0	1227	547	811	2246	0				1011	0	450
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.66	0.66	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.7	26.1	31.5	4.6	0.0				28.3	0.0	25.3
Incr Delay (d2), s/veh	0.0	0.9	0.3	8.6	0.1	0.0				2.9	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.6	6.5	7.2	1.8	0.0				6.2	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	29.6	26.4	40.1	4.7	0.0				31.2	0.0	26.8
LnGrp LOS	A	C	C	D	A	A				C	A	C
Approach Vol, veh/h		1423			1511							753
Approach Delay, s/veh		28.8			20.4							30.4
Approach LOS		C			C							C
Timer - Assigned Phs			3	4		6			8			
Phs Duration (G+Y+Rc), s			23.6	35.4		30.9			59.1			
Change Period (Y+Rc), s			4.6	5.8		5.8			5.8			
Max Green Setting (Gmax), s			20.8	30.6		22.4			56.0			
Max Q Clear Time (g_c+I1), s			18.6	27.2		15.6			8.5			
Green Ext Time (p_c), s			0.4	2.5		1.7			7.3			
Intersection Summary												
HCM 6th Ctrl Delay			25.7									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings
11: I-215 NB Ramps & Placentia Av.

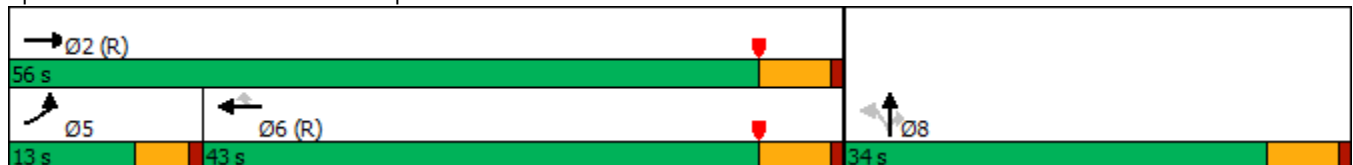


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↶	↶↶	↶↶	↷	↶	↶	↷
Traffic Volume (vph)	202	1353	1105	529	286	0	420
Future Volume (vph)	202	1353	1105	529	286	0	420
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	6			8	
Permitted Phases				6	8		8
Detector Phase	5	2	6	6	8	8	8
Switch 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	23.8	23.8	23.8
Total Split (s)	13.0	56.0	43.0	43.0	34.0	34.0	34.0
Total Split (%)	14.4%	62.2%	47.8%	47.8%	37.8%	37.8%	37.8%
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-Min	C-Min	C-Min	None	None	None
Act Effct Green (s)	8.2	53.1	40.3	40.3	25.3	25.3	25.3
Actuated g/C Ratio	0.09	0.59	0.45	0.45	0.28	0.28	0.28
v/c Ratio	0.69	0.69	0.74	0.55	0.32	0.32	0.88
Control Delay	60.7	7.0	25.0	3.9	26.6	26.6	44.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	7.0	25.0	3.9	26.6	26.6	44.0
LOS	E	A	C	A	C	C	D
Approach Delay		14.0	18.2			37.0	
Approach LOS		B	B			D	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 19.9
 Intersection LOS: B
 Intersection Capacity Utilization 74.1%
 ICU Level of Service D
 Analysis Period (min) 15























Splits and Phases: 11: I-215 NB Ramps & Placentia Av.



HCM 6th Signalized Intersection Summary
 11: I-215 NB Ramps & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 							
Traffic Volume (veh/h)	202	1353	0	0	1105	529	286	0	420	0	0	0
Future Volume (veh/h)	202	1353	0	0	1105	529	286	0	420	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	220	1471	0	0	1201	575	311	0	457			
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	2049	0	0	1563	697	1098	0	489			
Arrive On Green	0.08	0.57	0.00	0.00	0.43	0.43	0.30	0.00	0.30			
Sat Flow, veh/h	3510	3705	0	0	3705	1610	3619	0	1610			
Grp Volume(v), veh/h	220	1471	0	0	1201	575	311	0	457			
Grp Sat Flow(s),veh/h/ln	1755	1805	0	0	1805	1610	1810	0	1610			
Q Serve(g_s), s	5.5	26.8	0.0	0.0	25.4	28.3	5.9	0.0	24.8			
Cycle Q Clear(g_c), s	5.5	26.8	0.0	0.0	25.4	28.3	5.9	0.0	24.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	293	2049	0	0	1563	697	1098	0	489			
V/C Ratio(X)	0.75	0.72	0.00	0.00	0.77	0.82	0.28	0.00	0.94			
Avail Cap(c_a), veh/h	328	2049	0	0	1563	697	1134	0	505			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.46	0.46	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.3	14.2	0.0	0.0	21.7	22.5	23.9	0.0	30.5			
Incr Delay (d2), s/veh	3.3	1.0	0.0	0.0	3.7	10.7	0.1	0.0	24.6			
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	2.4	9.3	0.0	0.0	10.4	11.6	2.4	0.0	12.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.6	15.2	0.0	0.0	25.4	33.2	24.0	0.0	55.1			
LnGrp LOS	D	B	A	A	C	C	C	A	E			
Approach Vol, veh/h		1691			1776			768				
Approach Delay, s/veh		18.9			27.9			42.5				
Approach LOS		B			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		56.9			12.1	44.8		33.1				
Change Period (Y+Rc), s		5.8			4.6	5.8		5.8				
Max Green Setting (Gmax), s		50.2			8.4	37.2		28.2				
Max Q Clear Time (g_c+I1), s		28.8			7.5	30.3		26.8				
Green Ext Time (p_c), s		10.8			0.0	4.9		0.5				

Intersection Summary

HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

**APPENDIX 7.3: HORIZON YEAR (2045) WITHOUT PROJECT
CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**

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Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Horizon Year (2045) Without Project Conditions - Weekday AM Peak Hour**

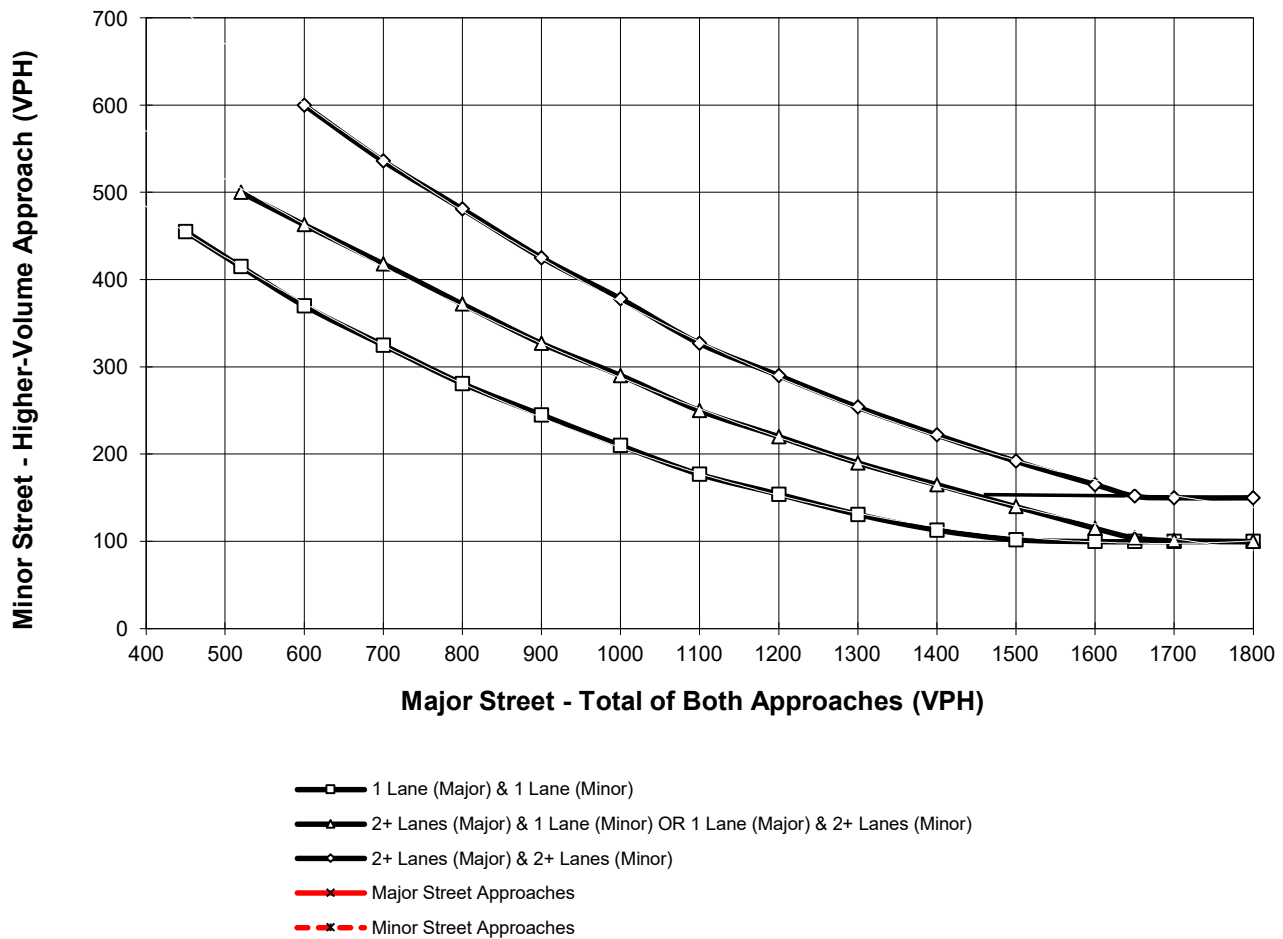
Major Street Name = **Rider Street**

Total of Both Approaches (VPH) = **286**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Patterson Avenue**

High Volume Approach (VPH) = **25**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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**APPENDIX 7.4: HORIZON YEAR (2045) WITH PROJECT CONDITIONS
TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**

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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY (2045) WP</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>JB</u>		DATE <u>09/27/22</u>
Major Street: <u>Rider Street</u>				CHK <u>JB</u>	Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Driveway 1</u>					Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes =			<u>1</u>	lane	Minor Street Approach Lanes	<u>1</u> lane
Major Street Future ADT =			<u>1,930</u>	vpd	Minor Street Future ADT =	<u>67</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
CONDITION A - Minimum Vehicular Volume		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 1,930	1 67				
2 +	1	8,000	5,600	2,400	1,680
2 +	2 +	9,600	6,720	2,400	1,680
1	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
	XX				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 1,930	1 67	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	3%				
	<u>B</u>				
	6%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Horizon Year (2045) With Project Conditions - Weekday PM Peak Hour**

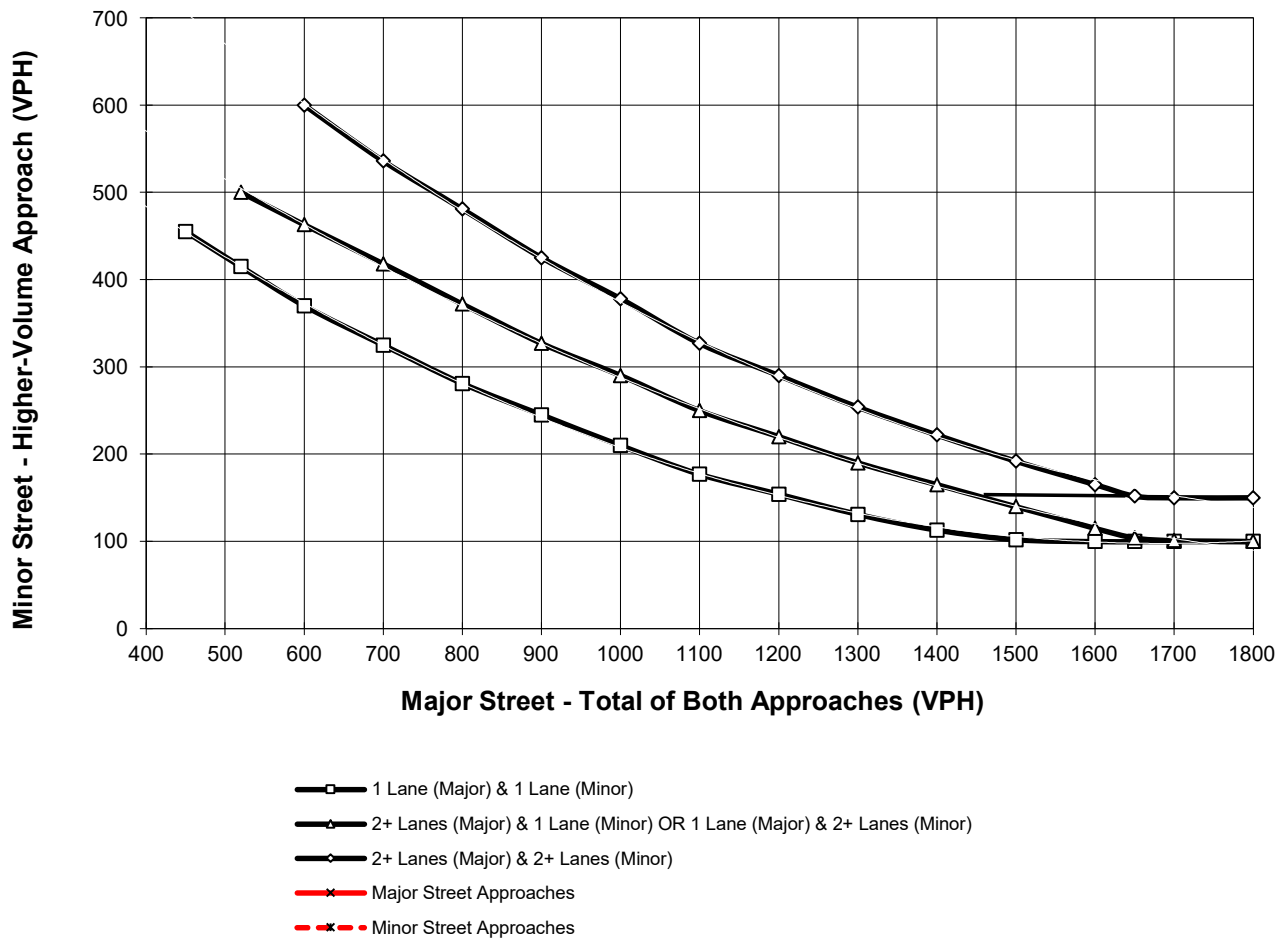
Major Street Name = **Rider Street**

Total of Both Approaches (VPH) = **277**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Patterson Avenue**

High Volume Approach (VPH) = **51**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY (2045) WP</u>
Jurisdiction: <u>County of Riverside</u>				<u>JB</u>		<u>DATE 09/27/22</u>
Major Street: <u>Patterson Avenue</u>				<u>CHK JB</u>		<u>DATE 09/27/22</u>
Minor Street: <u>Driveway 2</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes =		<u>1</u>	lane	Minor Street Approach Lanes =		<u>1</u> lane
Major Street Future ADT =		<u>855</u>	vpd	Minor Street Future ADT =		<u>350</u> vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population						<input type="checkbox"/>

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 855	1 350	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>	<u>Minor Street</u>				
1 855	1 350	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more					
	<u>A</u>				
	11%				
	<u>B</u>				
	7%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



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

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY (2045) WP</u>
Jurisdiction: <u>County of Riverside</u>				CHK <u>JB</u>		DATE <u>09/27/22</u>
Major Street: <u>Patterson Avenue</u>				CHK <u>JB</u>	Critical Approach Speed (Major) <u>25</u> mph	DATE <u>09/27/22</u>
Minor Street: <u>Driveway 3</u>					Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes = <u>1</u>	lane	Minor Street Approach Lanes = <u>1</u>	lane			
Major Street Future ADT = <u>752</u>	vpd	Minor Street Future ADT = <u>213</u>	vpd			
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);	<input type="checkbox"/>	or	<input type="checkbox"/>			URBAN (U)
In built up area of isolated community of < 10,000 population	<input type="checkbox"/>		<input type="checkbox"/>			

(Based on Estimated Average Daily Traffic - See Note)

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
XX		EADT			
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 752	1 213	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	XX	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 752	1 213	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more	XX				
	A				
	9%				
	B				
	6%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

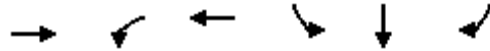
The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



**APPENDIX 7.5: HORIZON YEAR (2045) WITHOUT PROJECT
CONDITIONS FREEWAY OFF-RAMP QUEUING ANALYSIS WORKSHEETS**

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Queues
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1581	586	1415	490	491	391
v/c Ratio	1.29	1.59	0.66	0.94	0.94	0.72
Control Delay	165.6	291.6	4.2	65.0	65.0	36.0
Queue Delay	0.6	0.0	2.3	72.0	71.7	0.0
Total Delay	166.2	291.6	6.5	137.0	136.7	36.0
Queue Length 50th (ft)	~735	~571	69	353	354	201
Queue Length 95th (ft)	#876	m#480	m22	#568	#571	317
Internal Link Dist (ft)	1408		344		1111	
Turn Bay Length (ft)		100		510		510
Base Capacity (vph)	1230	369	2133	522	523	543
Starvation Cap Reductn	0	0	552	0	0	0
Spillback Cap Reductn	151	0	0	438	438	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.47	1.59	0.90	5.83	5.78	0.72

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues
9: I-215 NB Ramps & Ramona Exwy.

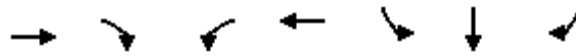


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	161	1942	1565	758	228	231	882
v/c Ratio	0.67	0.95	1.11	0.86	0.40	0.41	1.51
Control Delay	35.1	36.8	94.0	25.0	31.0	31.0	264.8
Queue Delay	0.0	45.6	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	82.4	94.1	25.0	31.0	31.0	264.8
Queue Length 50th (ft)	118	771	~672	239	129	131	~838
Queue Length 95th (ft)	m91	m705	#855	#521	204	206	#1083
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	303	2034	1407	885	569	570	585
Starvation Cap Reductn	0	1005	0	0	0	0	0
Spillback Cap Reductn	0	0	18	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	1.89	1.13	0.86	0.40	0.41	1.51

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
10: I-215 SB Ramps & Placentia Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	826	235	283	830	246	246	292
v/c Ratio	0.75	0.36	0.64	0.48	0.37	0.37	0.41
Control Delay	32.3	4.5	34.9	10.7	23.8	23.8	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	4.5	34.9	10.7	23.8	23.8	12.6
Queue Length 50th (ft)	218	0	57	165	105	105	52
Queue Length 95th (ft)	266	47	124	220	193	193	134
Internal Link Dist (ft)	1019			680		1465	
Turn Bay Length (ft)		230	250				330
Base Capacity (vph)	1291	728	526	2018	665	665	721
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	0.64	0.32	0.54	0.41	0.37	0.37	0.40

Intersection Summary

Queues
11: I-215 NB Ramps & Placentia Av.

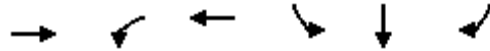


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	214	1103	728	510	193	193	650
v/c Ratio	0.68	0.67	0.64	0.59	0.27	0.27	0.90
Control Delay	44.7	16.8	30.5	5.8	17.7	17.7	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.7	16.8	30.5	5.8	17.7	17.7	38.2
Queue Length 50th (ft)	66	334	195	0	69	69	279
Queue Length 95th (ft)	#87	332	260	76	117	117	#494
Internal Link Dist (ft)		680	570			1375	
Turn Bay Length (ft)	260			365	575		
Base Capacity (vph)	328	1651	1139	858	766	766	771
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	0.65	0.67	0.64	0.59	0.25	0.25	0.84

Intersection Summary

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

Queues
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1469	980	1352	505	510	438
v/c Ratio	1.19	2.66	0.63	0.97	0.98	0.81
Control Delay	126.1	764.8	2.4	70.8	72.5	42.1
Queue Delay	0.0	0.0	4.6	55.2	53.9	0.0
Total Delay	126.2	764.8	7.0	126.0	126.4	42.1
Queue Length 50th (ft)	~645	~1139	19	369	373	240
Queue Length 95th (ft)	#786	m#602	m14	#593	#603	#404
Internal Link Dist (ft)	1408		344		1111	
Turn Bay Length (ft)		100		510		510
Base Capacity (vph)	1234	369	2133	522	523	543
Starvation Cap Reductn	0	0	696	0	0	0
Spillback Cap Reductn	14	0	0	372	373	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.20	2.66	0.94	3.37	3.40	0.81

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues
9: I-215 NB Ramps & Ramona Exwy.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	361	1782	2055	916	200	202	595
v/c Ratio	1.19	0.88	1.61	1.13	0.35	0.35	1.02
Control Delay	129.8	30.4	304.5	94.0	30.0	30.1	74.5
Queue Delay	0.0	48.3	0.1	0.0	0.0	0.0	0.0
Total Delay	129.8	78.7	304.6	94.0	30.0	30.1	74.5
Queue Length 50th (ft)	~270	682	~1096	~564	111	112	~394
Queue Length 95th (ft)	m203	m626	#1235	#811	180	181	#630
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	303	2034	1279	812	569	570	585
Starvation Cap Reductn	0	994	0	0	0	0	0
Spillback Cap Reductn	0	0	21	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.19	1.71	1.63	1.13	0.35	0.35	1.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

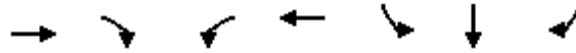
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues
10: I-215 SB Ramps & Placentia Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1060	332	671	824	314	315	124
v/c Ratio	0.86	0.43	0.87	0.37	0.71	0.71	0.24
Control Delay	36.0	4.5	35.8	16.5	41.3	41.2	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	4.5	35.8	16.5	41.3	41.2	6.6
Queue Length 50th (ft)	292	0	192	214	173	173	0
Queue Length 95th (ft)	#405	56	#269	266	#294	#296	42
Internal Link Dist (ft)	1019			680		1465	
Turn Bay Length (ft)		230	250				330
Base Capacity (vph)	1253	777	809	2263	450	452	515
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	0.85	0.43	0.83	0.36	0.70	0.70	0.24

Intersection Summary

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

Queues
11: I-215 NB Ramps & Placentia Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	220	1468	1200	575	147	148	457
v/c Ratio	0.69	0.69	0.74	0.55	0.30	0.31	0.88
Control Delay	60.7	6.9	25.0	3.9	26.3	26.3	44.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	6.9	25.0	3.9	26.3	26.3	44.0
Queue Length 50th (ft)	61	60	307	0	65	66	193
Queue Length 95th (ft)	m80	105	393	61	116	117	#353
Internal Link Dist (ft)		680	570			1375	
Turn Bay Length (ft)	260			365	575		
Base Capacity (vph)	329	2129	1615	1040	537	537	567
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	0.67	0.69	0.74	0.55	0.27	0.28	0.81

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

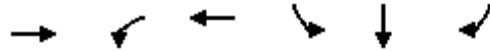
Queue shown is maximum after two cycles.

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

**APPENDIX 7.6: HORIZON YEAR (2045) WITH PROJECT CONDITIONS
FREEWAY OFF-RAMP QUEUING ANALYSIS WORKSHEETS**

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Queues
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1585	586	1416	490	491	398
v/c Ratio	1.29	1.59	0.66	0.94	0.94	0.73
Control Delay	167.0	291.7	4.2	65.0	65.0	36.8
Queue Delay	0.6	0.0	2.3	72.0	71.7	0.0
Total Delay	167.6	291.7	6.4	137.0	136.7	36.8
Queue Length 50th (ft)	~739	~571	61	353	354	207
Queue Length 95th (ft)	#880	m#476	m22	#568	#571	325
Internal Link Dist (ft)	1408		344		1111	
Turn Bay Length (ft)		100		510		510
Base Capacity (vph)	1230	369	2133	522	523	543
Starvation Cap Reductn	0	0	552	0	0	0
Spillback Cap Reductn	151	0	0	438	438	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.47	1.59	0.90	5.83	5.78	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues
9: I-215 NB Ramps & Ramona Exwy.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	165	1942	1566	758	228	231	882
v/c Ratio	0.68	0.95	1.12	0.86	0.40	0.41	1.51
Control Delay	35.3	36.8	96.4	25.2	31.0	31.0	264.8
Queue Delay	0.0	45.6	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	82.4	96.5	25.2	31.0	31.0	264.8
Queue Length 50th (ft)	122	771	~677	241	129	131	~838
Queue Length 95th (ft)	m93	m704	#855	#521	204	206	#1083
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	303	2034	1400	883	569	570	585
Starvation Cap Reductn	0	1005	0	0	0	0	0
Spillback Cap Reductn	0	0	18	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	1.89	1.13	0.86	0.40	0.41	1.51

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

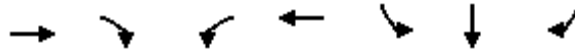
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues
10: I-215 SB Ramps & Placentia Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	826	248	283	855	246	246	292
v/c Ratio	0.74	0.37	0.64	0.49	0.37	0.37	0.41
Control Delay	31.8	4.5	35.5	10.6	24.0	24.0	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.8	4.5	35.5	10.6	24.0	24.0	13.4
Queue Length 50th (ft)	215	0	59	178	106	106	57
Queue Length 95th (ft)	266	48	124	222	193	193	139
Internal Link Dist (ft)	1019			680		1465	
Turn Bay Length (ft)		230	250				330
Base Capacity (vph)	1291	737	526	2018	660	660	710
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	0.64	0.34	0.54	0.42	0.37	0.37	0.41

Intersection Summary

Queues
11: I-215 NB Ramps & Placentia Av.

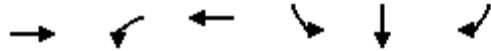


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	214	1103	729	510	205	205	650
v/c Ratio	0.68	0.67	0.64	0.59	0.29	0.29	0.90
Control Delay	45.1	16.8	30.5	5.8	18.0	18.0	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.1	16.8	30.5	5.8	18.0	18.0	38.2
Queue Length 50th (ft)	65	290	196	0	74	74	279
Queue Length 95th (ft)	#87	332	261	76	125	125	#494
Internal Link Dist (ft)		680	570			1375	
Turn Bay Length (ft)	260			365	575		
Base Capacity (vph)	328	1651	1139	858	766	766	771
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	0.65	0.67	0.64	0.59	0.27	0.27	0.84

Intersection Summary

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

Queues
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1479	980	1353	505	510	442
v/c Ratio	1.20	2.66	0.63	0.97	0.98	0.81
Control Delay	129.4	764.8	2.4	70.8	72.5	42.7
Queue Delay	0.0	0.0	4.6	55.5	54.2	0.0
Total Delay	129.5	764.8	7.0	126.3	126.7	42.7
Queue Length 50th (ft)	~654	~1139	18	369	373	244
Queue Length 95th (ft)	#794	m#602	m14	#593	#603	#410
Internal Link Dist (ft)	1408		344		1111	
Turn Bay Length (ft)		100		510		510
Base Capacity (vph)	1234	369	2133	522	523	543
Starvation Cap Reductn	0	0	696	0	0	0
Spillback Cap Reductn	14	0	0	374	375	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.21	2.66	0.94	3.41	3.45	0.81

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues
9: I-215 NB Ramps & Ramona Exwy.

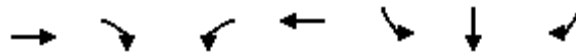


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	370	1784	2056	916	200	202	595
v/c Ratio	1.22	0.88	1.61	1.13	0.35	0.35	1.02
Control Delay	141.7	30.5	304.9	94.0	30.0	30.1	74.5
Queue Delay	0.0	48.3	0.1	0.0	0.0	0.0	0.0
Total Delay	141.7	78.7	304.9	94.0	30.0	30.1	74.5
Queue Length 50th (ft)	~281	683	~1097	~564	111	112	~394
Queue Length 95th (ft)	m205	m627	#1236	#811	180	181	#630
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	303	2034	1279	812	569	570	585
Starvation Cap Reductn	0	994	0	0	0	0	0
Spillback Cap Reductn	0	0	21	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.22	1.72	1.63	1.13	0.35	0.35	1.02

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
10: I-215 SB Ramps & Placentia Av.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1062	361	671	840	314	315	124
v/c Ratio	0.85	0.45	0.87	0.38	0.72	0.72	0.25
Control Delay	35.5	4.5	36.9	16.4	41.9	41.8	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	4.5	36.9	16.4	41.9	41.8	6.6
Queue Length 50th (ft)	293	0	193	216	173	173	0
Queue Length 95th (ft)	#407	58	#270	268	#294	#296	42
Internal Link Dist (ft)	1019			680		1465	
Turn Bay Length (ft)		230	250				330
Base Capacity (vph)	1257	798	809	2268	447	449	513
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	0.84	0.45	0.83	0.37	0.70	0.70	0.24

Intersection Summary

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

Queues
11: I-215 NB Ramps & Placentia Av.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	220	1471	1201	575	155	156	457
v/c Ratio	0.69	0.69	0.74	0.55	0.32	0.32	0.88
Control Delay	60.7	7.0	25.0	3.9	26.6	26.6	44.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	7.0	25.0	3.9	26.6	26.6	44.0
Queue Length 50th (ft)	61	60	308	0	69	69	193
Queue Length 95th (ft)	m79	105	393	61	123	123	#353
Internal Link Dist (ft)		680	570			1375	
Turn Bay Length (ft)	260			365	575		
Base Capacity (vph)	329	2129	1615	1040	537	537	567
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	0.67	0.69	0.74	0.55	0.29	0.29	0.81

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

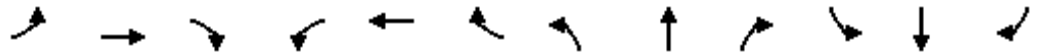
**APPENDIX 7.7: HORIZON YEAR (2045) WITH PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH
IMPROVEMENTS**

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Timings

5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

09/27/2022

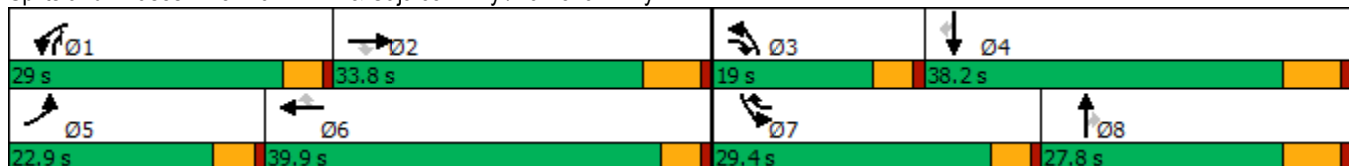


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑	↗	↘↗	↑↑	↗
Traffic Volume (vph)	198	989	228	672	1186	776	401	481	252	447	241	87
Future Volume (vph)	198	989	228	672	1186	776	401	481	252	447	241	87
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	33.2	9.6	9.6	31.5	9.6	9.6	16.2	9.6	9.6	38.2	38.2
Total Split (s)	22.9	33.8	19.0	29.0	39.9	29.4	19.0	27.8	29.0	29.4	38.2	38.2
Total Split (%)	19.1%	28.2%	15.8%	24.2%	33.3%	24.5%	15.8%	23.2%	24.2%	24.5%	31.8%	31.8%
Yellow Time (s)	3.6	5.2	3.6	3.6	3.5	3.6	3.6	5.2	3.6	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	4.5	4.6	4.6	6.2	4.6	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	None	Max	Max
Act Effct Green (s)	16.7	27.3	47.9	24.4	36.7	63.4	14.4	24.2	50.2	22.1	32.0	32.0
Actuated g/C Ratio	0.14	0.23	0.40	0.20	0.31	0.53	0.12	0.20	0.42	0.18	0.27	0.27
v/c Ratio	0.85	0.90	0.32	1.01	0.80	0.93	1.02	0.71	0.37	0.74	0.27	0.17
Control Delay	78.6	55.9	8.0	84.5	43.1	40.9	102.0	51.4	14.0	53.4	35.6	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.6	55.9	8.0	84.5	43.1	40.9	102.0	51.4	14.0	53.4	35.6	1.2
LOS	E	E	A	F	D	D	F	D	B	D	D	A
Approach Delay		51.4			53.0			61.0			42.0	
Approach LOS		D			D			E			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 119.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 52.7	Intersection LOS: D
Intersection Capacity Utilization 85.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	989	228	672	1186	776	401	481	252	447	241	87
Future Volume (veh/h)	198	989	228	672	1186	776	401	481	252	447	241	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	213	1063	87	723	1275	444	431	517	163	481	259	49
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	241	1172	558	718	1543	729	423	842	700	546	968	432
Arrive On Green	0.13	0.23	0.23	0.20	0.30	0.30	0.12	0.23	0.23	0.16	0.27	0.27
Sat Flow, veh/h	1810	5187	1610	3510	5187	1610	3510	3610	1589	3510	3610	1610
Grp Volume(v), veh/h	213	1063	87	723	1275	444	431	517	163	481	259	49
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1610	1755	1805	1589	1755	1805	1610
Q Serve(g_s), s	13.8	23.8	4.5	24.4	27.3	24.9	14.4	15.3	7.7	16.0	6.8	2.7
Cycle Q Clear(g_c), s	13.8	23.8	4.5	24.4	27.3	24.9	14.4	15.3	7.7	16.0	6.8	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	241	1172	558	718	1543	729	423	842	700	546	968	432
V/C Ratio(X)	0.89	0.91	0.16	1.01	0.83	0.61	1.02	0.61	0.23	0.88	0.27	0.11
Avail Cap(c_a), veh/h	277	1199	567	718	1543	729	423	842	700	729	968	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	45.0	26.9	47.5	39.1	24.7	52.5	41.0	21.0	49.3	34.4	33.0
Incr Delay (d2), s/veh	22.9	10.0	0.1	35.5	3.9	1.5	48.3	3.3	0.8	7.9	0.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	10.8	1.7	13.7	11.5	9.1	8.9	6.9	2.8	7.3	2.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.8	54.9	27.1	82.9	42.9	26.1	100.8	44.3	21.8	57.2	35.1	33.5
LnGrp LOS	E	D	C	F	D	C	F	D	C	E	D	C
Approach Vol, veh/h		1363			2442			1111			789	
Approach Delay, s/veh		56.1			51.7			62.9			48.5	
Approach LOS		E			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.0	33.2	19.0	38.2	20.5	41.7	23.2	34.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	24.4	27.6	14.4	32.0	18.3	* 35	24.8	21.6				
Max Q Clear Time (g_c+I1), s	26.4	25.8	16.4	8.8	15.8	29.3	18.0	17.3				
Green Ext Time (p_c), s	0.0	1.1	0.0	1.5	0.1	4.3	0.6	1.4				

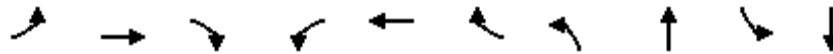
Intersection Summary

HCM 6th Ctrl Delay	54.5
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
6: Harvill Av. & Rider St.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↔	↘	↑↔
Traffic Volume (vph)	82	11	134	49	13	35	49	966	21	1648
Future Volume (vph)	82	11	134	49	13	35	49	966	21	1648
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Prot	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8				
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	36.6	36.6	36.6	36.6	36.6	36.6	9.6	28.2	9.6	28.2
Total Split (s)	36.6	36.6	36.6	36.6	36.6	36.6	9.6	43.4	10.0	43.8
Total Split (%)	40.7%	40.7%	40.7%	40.7%	40.7%	40.7%	10.7%	48.2%	11.1%	48.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag							Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.8	13.8	13.8	13.8	13.8	13.8	5.1	42.3	5.3	38.5
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.20	0.07	0.62	0.08	0.56
v/c Ratio	0.30	0.03	0.33	0.18	0.04	0.09	0.39	0.46	0.16	0.89
Control Delay	26.5	22.0	7.5	24.4	22.1	0.5	44.0	10.3	37.4	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	22.0	7.5	24.4	22.1	0.5	44.0	10.3	37.4	23.5
LOS	C	C	A	C	C	A	D	B	D	C
Approach Delay		15.1			15.5			11.9		23.6
Approach LOS		B			B			B		C

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 68.7	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 76.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Harvill Av. & Rider St.



HCM 6th Signalized Intersection Summary
6: Harvill Av. & Rider St.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	11	134	49	13	35	49	966	4	21	1648	57
Future Volume (veh/h)	82	11	134	49	13	35	49	966	4	21	1648	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	86	12	141	52	14	37	52	1017	4	22	1735	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	324	294	249	326	294	249	85	2133	8	46	1982	68
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.58	0.58	0.03	0.56	0.56
Sat Flow, veh/h	1422	1900	1610	1424	1900	1610	1810	3688	15	1810	3560	123
Grp Volume(v), veh/h	86	12	141	52	14	37	52	498	523	22	876	919
Grp Sat Flow(s),veh/h/ln	1422	1900	1610	1424	1900	1610	1810	1805	1897	1810	1805	1878
Q Serve(g_s), s	3.5	0.3	5.2	2.1	0.4	1.3	1.8	10.2	10.2	0.8	26.7	27.1
Cycle Q Clear(g_c), s	3.9	0.3	5.2	2.4	0.4	1.3	1.8	10.2	10.2	0.8	26.7	27.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.07
Lane Grp Cap(c), veh/h	324	294	249	326	294	249	85	1044	1098	46	1005	1045
V/C Ratio(X)	0.27	0.04	0.57	0.16	0.05	0.15	0.61	0.48	0.48	0.48	0.87	0.88
Avail Cap(c_a), veh/h	818	954	808	820	954	808	142	1053	1107	153	1065	1108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	22.9	25.0	23.9	22.9	23.3	29.8	7.8	7.8	30.7	12.2	12.3
Incr Delay (d2), s/veh	0.4	0.1	2.0	0.2	0.1	0.3	2.6	0.3	0.3	2.9	7.8	8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.2	2.0	0.7	0.2	0.5	0.8	2.6	2.7	0.3	9.1	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	23.0	27.0	24.2	23.0	23.6	32.4	8.2	8.1	33.5	19.9	20.3
LnGrp LOS	C	C	C	C	C	C	C	A	A	C	B	C
Approach Vol, veh/h		239			103			1073			1817	
Approach Delay, s/veh		26.1			23.8			9.3			20.3	
Approach LOS		C			C			A			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	43.1		14.5	7.6	41.7		14.5				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.4	37.2		32.0	5.0	37.6		32.0				
Max Q Clear Time (g_c+I1), s	2.8	12.2		7.2	3.8	29.1		4.4				
Green Ext Time (p_c), s	0.0	6.2		0.8	0.0	6.4		0.3				

Intersection Summary

HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

Timings
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

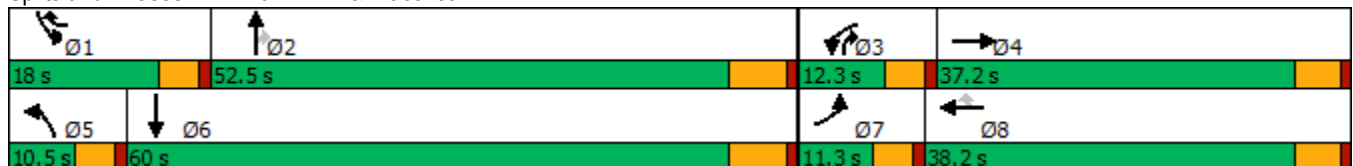


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	17	92	208	127	722	22	1590	389	506	800
Future Volume (vph)	17	92	208	127	722	22	1590	389	506	800
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8	1	5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	1	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	9.6	37.2	9.6	37.2	9.6	9.6	33.2	9.6	9.6	33.2
Total Split (s)	11.3	37.2	12.3	38.2	18.0	10.5	52.5	12.3	18.0	60.0
Total Split (%)	9.4%	31.0%	10.3%	31.8%	15.0%	8.8%	43.8%	10.3%	15.0%	50.0%
Yellow Time (s)	3.6	4.2	3.6	4.2	3.6	3.6	5.2	3.6	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	4.6	4.6	6.2	4.6	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.7	14.7	7.7	23.0	41.7	5.5	46.6	60.6	13.5	60.8
Actuated g/C Ratio	0.06	0.14	0.07	0.22	0.40	0.05	0.45	0.59	0.13	0.59
v/c Ratio	0.19	0.43	0.89	0.34	0.65	0.26	1.10	0.40	1.25	0.43
Control Delay	53.9	42.6	82.5	37.2	23.1	56.5	82.7	3.8	166.3	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	42.6	82.5	37.2	23.1	56.5	82.7	3.8	166.3	14.7
LOS	D	D	F	D	C	E	F	A	F	B
Approach Delay		44.2		36.5			67.1			72.8
Approach LOS		D		D			E			E

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 103.3
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.25
 Intersection Signal Delay: 61.0
 Intersection LOS: E
 Intersection Capacity Utilization 86.2%
 ICU Level of Service E
 Analysis Period (min) 15
























Splits and Phases: 7: Harvill Av. & Placentia Av.



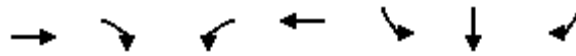
HCM 6th Signalized Intersection Summary
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	92	12	208	127	722	22	1590	389	506	800	13
Future Volume (veh/h)	17	92	12	208	127	722	22	1590	389	506	800	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	19	103	13	234	143	382	25	1787	268	569	899	15
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	37	162	20	277	297	832	46	1713	891	482	2132	36
Arrive On Green	0.02	0.10	0.10	0.08	0.16	0.16	0.03	0.47	0.47	0.14	0.59	0.59
Sat Flow, veh/h	1810	1654	209	3510	1900	2834	1810	3610	1610	3510	3633	61
Grp Volume(v), veh/h	19	0	116	234	143	382	25	1787	268	569	447	467
Grp Sat Flow(s),veh/h/ln	1810	0	1862	1755	1900	1417	1810	1805	1610	1755	1805	1889
Q Serve(g_s), s	1.0	0.0	5.8	6.4	6.7	10.7	1.3	46.3	8.7	13.4	13.3	13.3
Cycle Q Clear(g_c), s	1.0	0.0	5.8	6.4	6.7	10.7	1.3	46.3	8.7	13.4	13.3	13.3
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	37	0	183	277	297	832	46	1713	891	482	1059	1108
V/C Ratio(X)	0.51	0.00	0.64	0.84	0.48	0.46	0.55	1.04	0.30	1.18	0.42	0.42
Avail Cap(c_a), veh/h	124	0	611	277	643	1348	109	1713	891	482	1059	1108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	0.0	42.3	44.3	37.5	28.1	47.0	25.6	11.7	42.1	11.1	11.1
Incr Delay (d2), s/veh	3.9	0.0	3.6	19.7	1.2	0.4	3.8	33.9	0.2	100.8	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.8	3.5	3.2	3.6	0.6	25.1	2.9	12.2	4.5	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	0.0	45.9	64.0	38.8	28.5	50.8	59.6	11.9	142.8	11.3	11.3
LnGrp LOS	D	A	D	E	D	C	D	F	B	F	B	B
Approach Vol, veh/h		135			759			2080			1483	
Approach Delay, s/veh		46.7			41.4			53.3			61.8	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	52.5	12.3	14.8	7.1	63.4	6.6	20.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.2	4.6	6.2	4.6	5.2				
Max Green Setting (Gmax), s	13.4	46.3	7.7	32.0	5.9	53.8	6.7	33.0				
Max Q Clear Time (g_c+I1), s	15.4	48.3	8.4	7.8	3.3	15.3	3.0	12.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	5.7	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay				53.9								
HCM 6th LOS				D								

Timings
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↗↘	↑↑↑	↗↘	↕	↑
Traffic Volume (vph)	1084	469	574	1388	960	1	390
Future Volume (vph)	1084	469	574	1388	960	1	390
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	39.0	39.0	30.0	69.0	41.0	41.0	41.0
Total Split (%)	35.5%	35.5%	27.3%	62.7%	37.3%	37.3%	37.3%
Yellow Time (s)	5.0	5.0	3.5	5.0	4.5	4.5	4.5
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)	6.0	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	35.7	35.7	22.8	63.0	35.5	35.5	35.5
Actuated g/C Ratio	0.32	0.32	0.21	0.57	0.32	0.32	0.32
v/c Ratio	0.66	0.57	0.81	0.48	0.62	0.61	0.70
Control Delay	34.6	5.7	30.4	3.4	34.6	37.3	33.7
Queue Delay	0.0	0.0	0.0	0.8	65.0	78.0	0.0
Total Delay	34.6	5.7	30.4	4.2	99.6	115.3	33.7
LOS	C	A	C	A	F	F	C
Approach Delay	25.9			11.9		84.3	
Approach LOS	C			B		F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 34 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 36.5
 Intersection LOS: D
 Intersection Capacity Utilization 99.0%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑↑					↖↗	↖	↗
Traffic Volume (veh/h)	0	1084	469	574	1388	0	0	0	0	960	1	390
Future Volume (veh/h)	0	1084	469	574	1388	0	0	0	0	960	1	390
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1106	350	586	1416	0				981	0	335
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98				0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1761	540	675	2971	0				1752	0	520
Arrive On Green	0.00	0.34	0.34	0.12	0.34	0.00				0.32	0.00	0.32
Sat Flow, veh/h	0	5358	1590	3510	5358	0				5429	0	1610
Grp Volume(v), veh/h	0	1106	350	586	1416	0				981	0	335
Grp Sat Flow(s),veh/h/ln	0	1729	1590	1755	1729	0				1810	0	1610
Q Serve(g_s), s	0.0	19.7	20.5	18.1	23.6	0.0				16.4	0.0	19.6
Cycle Q Clear(g_c), s	0.0	19.7	20.5	18.1	23.6	0.0				16.4	0.0	19.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1761	540	675	2971	0				1752	0	520
V/C Ratio(X)	0.00	0.63	0.65	0.87	0.48	0.00				0.56	0.00	0.64
Avail Cap(c_a), veh/h	0	1761	540	814	2971	0				1752	0	520
HCM Platoon Ratio	1.00	1.00	1.00	0.60	0.60	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.54	0.54	0.30	0.30	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	30.5	30.8	47.3	23.2	0.0				30.8	0.0	31.9
Incr Delay (d2), s/veh	0.0	0.9	3.3	2.8	0.2	0.0				1.3	0.0	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.8	7.8	8.3	10.1	0.0				7.1	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.4	34.0	50.1	23.3	0.0				32.1	0.0	37.9
LnGrp LOS	A	C	C	D	C	A				C	A	D
Approach Vol, veh/h		1456			2002							1316
Approach Delay, s/veh		32.0			31.2							33.6
Approach LOS		C			C							C
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	25.6	43.4		41.0		69.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	25.5	33.0		35.5		63.0						
Max Q Clear Time (g_c+I1), s	20.1	22.5		21.6		25.6						
Green Ext Time (p_c), s	1.1	4.1		4.5		7.1						

Intersection Summary

HCM 6th Ctrl Delay	32.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

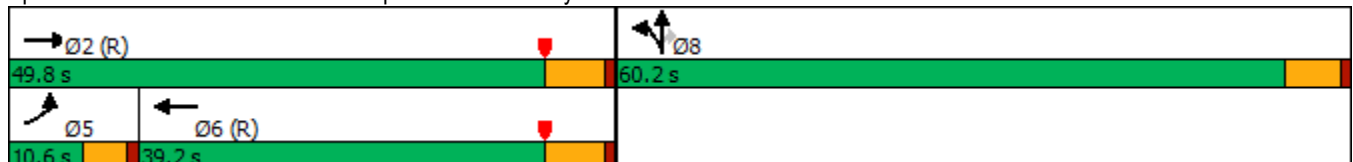


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↷	↑↑↑	↶↶↶	↷	↶	↶	↷
Traffic Volume (vph)	160	1884	1519	735	443	2	856
Future Volume (vph)	160	1884	1519	735	443	2	856
Turn Type	Prot	NA	NA	Free	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				Free			8
Detector Phase	5	2	6		8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0		10.5	10.5	10.5
Total Split (s)	10.6	49.8	39.2		60.2	60.2	60.2
Total Split (%)	9.6%	45.3%	35.6%		54.7%	54.7%	54.7%
Yellow Time (s)	3.5	5.0	5.0		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)	4.5	6.0	6.0		5.5	5.5	5.5
Lead/Lag	Lead		Lag				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	None	C-Max	C-Max		None	None	None
Act Effct Green (s)	6.1	43.8	33.2	110.0	54.7	54.7	54.7
Actuated g/C Ratio	0.06	0.40	0.30	1.00	0.50	0.50	0.50
v/c Ratio	0.85	0.94	1.00	0.47	0.27	0.27	1.05
Control Delay	80.4	56.4	61.7	1.0	17.1	17.1	71.2
Queue Delay	0.0	45.6	0.0	0.0	0.0	0.0	0.0
Total Delay	80.4	102.0	61.7	1.0	17.1	17.1	71.2
LOS	F	F	E	A	B	B	E
Approach Delay		100.3	41.9			52.7	
Approach LOS		F	D			D	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 65.7
 Intersection LOS: E
 Intersection Capacity Utilization 99.0%
 ICU Level of Service F
 Analysis Period (min) 15

























Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  							
Traffic Volume (veh/h)	160	1884	0	0	1519	735	443	2	856	0	0	0
Future Volume (veh/h)	160	1884	0	0	1519	735	443	2	856	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	165	1942	0	0	1566	0	458	0	730			
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	195	2186	0	0	1686		1715	0	763			
Arrive On Green	0.11	0.84	0.00	0.00	0.33	0.00	0.47	0.00	0.47			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	165	1942	0	0	1566	0	458	0	730			
Grp Sat Flow(s),veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	5.1	25.8	0.0	0.0	32.1	0.0	8.4	0.0	48.0			
Cycle Q Clear(g_c), s	5.1	25.8	0.0	0.0	32.1	0.0	8.4	0.0	48.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	195	2186	0	0	1686		1715	0	763			
V/C Ratio(X)	0.85	0.89	0.00	0.00	0.93		0.27	0.00	0.96			
Avail Cap(c_a), veh/h	195	2186	0	0	1686		1800	0	801			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.72	0.72	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	48.4	7.0	0.0	0.0	35.9	0.0	17.4	0.0	27.8			
Incr Delay (d2), s/veh	21.5	4.3	0.0	0.0	10.5	0.0	0.1	0.0	21.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.6	3.6	0.0	0.0	14.2	0.0	3.3	0.0	21.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.9	11.4	0.0	0.0	46.4	0.0	17.5	0.0	49.2			
LnGrp LOS	E	B	A	A	D		B	A	D			
Approach Vol, veh/h		2107			1566			1188				
Approach Delay, s/veh		15.9			46.4			37.0				
Approach LOS		B			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		52.4			10.6	41.8		57.6				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		43.8			6.1	33.2		54.7				
Max Q Clear Time (g_c+I1), s		27.8			7.1	34.1		50.0				
Green Ext Time (p_c), s		8.4			0.0	0.0		2.2				

Intersection Summary

HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

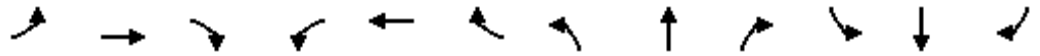
Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Timings

5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

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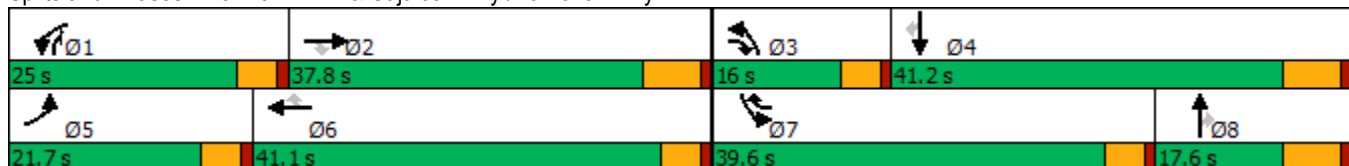


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑	↗	↘↗	↑↑	↗
Traffic Volume (vph)	130	1300	552	367	975	498	327	254	621	947	555	183
Future Volume (vph)	130	1300	552	367	975	498	327	254	621	947	555	183
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.2	9.6	9.6	32.5	9.6	9.6	16.2	9.6	9.6	41.2	41.2
Total Split (s)	21.7	37.8	16.0	25.0	41.1	39.6	16.0	17.6	25.0	39.6	41.2	41.2
Total Split (%)	18.1%	31.5%	13.3%	20.8%	34.3%	33.0%	13.3%	14.7%	20.8%	33.0%	34.3%	34.3%
Yellow Time (s)	3.6	5.2	3.6	3.6	3.5	3.6	3.6	5.2	3.6	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	4.5	4.6	4.6	6.2	4.6	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	None	None	Max	Max
Act Effct Green (s)	13.2	31.6	49.2	20.4	40.5	80.0	11.4	11.4	38.0	35.0	35.0	35.0
Actuated g/C Ratio	0.11	0.26	0.41	0.17	0.34	0.67	0.10	0.10	0.32	0.29	0.29	0.29
v/c Ratio	0.71	1.02	0.82	0.66	0.60	0.47	1.06	0.80	1.14	1.00	0.57	0.32
Control Delay	70.0	74.3	35.7	52.7	35.3	7.7	117.8	71.0	112.7	70.2	38.6	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.0	74.3	35.7	52.7	35.3	7.7	117.8	71.0	112.7	70.2	38.6	5.9
LOS	E	E	D	D	D	A	F	E	F	E	D	A
Approach Delay		63.3			31.3			105.3			52.8	
Approach LOS		E			C			F			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 59.4
 Intersection LOS: E
 Intersection Capacity Utilization 103.4%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 5: Harvill Av. & Cajalco Exwy./Ramona Exwy.



HCM 6th Signalized Intersection Summary
5: Harvill Av. & Cajalco Exwy./Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑	↗	↘↗	↑↑	↗
Traffic Volume (veh/h)	130	1300	552	367	975	498	327	254	621	947	555	183
Future Volume (veh/h)	130	1300	552	367	975	498	327	254	621	947	555	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	140	1398	374	395	1048	348	352	273	385	1018	597	79
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	168	1430	604	460	1627	993	349	367	375	1064	1102	492
Arrive On Green	0.09	0.28	0.28	0.13	0.31	0.31	0.10	0.10	0.10	0.30	0.31	0.31
Sat Flow, veh/h	1810	5187	1610	3510	5187	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	140	1398	374	395	1048	348	352	273	385	1018	597	79
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	8.7	30.6	21.7	12.6	19.9	12.1	11.4	8.4	11.6	32.6	15.8	4.1
Cycle Q Clear(g_c), s	8.7	30.6	21.7	12.6	19.9	12.1	11.4	8.4	11.6	32.6	15.8	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	168	1430	604	460	1627	993	349	367	375	1064	1102	492
V/C Ratio(X)	0.83	0.98	0.62	0.86	0.64	0.35	1.01	0.74	1.03	0.96	0.54	0.16
Avail Cap(c_a), veh/h	270	1430	604	625	1656	1002	349	367	375	1072	1102	492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	41.2	29.2	48.8	33.8	10.7	51.6	50.1	44.0	39.2	33.1	29.1
Incr Delay (d2), s/veh	5.6	18.6	1.9	6.9	0.8	0.2	50.3	12.9	53.7	17.7	1.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	14.8	8.2	5.8	8.0	3.8	7.3	4.3	15.7	15.8	6.8	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.7	59.8	31.1	55.7	34.7	10.9	101.9	62.9	97.7	56.9	35.1	29.8
LnGrp LOS	E	E	C	E	C	B	F	E	F	E	D	C
Approach Vol, veh/h		1912			1791			1010			1694	
Approach Delay, s/veh		54.0			34.7			89.8			47.9	
Approach LOS		D			C			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.6	37.8	16.0	41.2	15.3	42.2	39.4	17.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	* 6.2	4.6	6.2				
Max Green Setting (Gmax), s	20.4	31.6	11.4	35.0	17.1	* 37	35.0	11.4				
Max Q Clear Time (g_c+I1), s	14.6	32.6	13.4	17.8	10.7	21.9	34.6	13.6				
Green Ext Time (p_c), s	0.4	0.0	0.0	3.5	0.1	6.8	0.1	0.0				

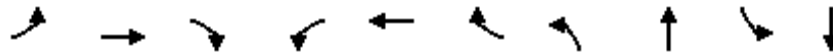
Intersection Summary

HCM 6th Ctrl Delay	52.6
HCM 6th LOS	D

Notes

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

Timings
6: Harvill Av. & Rider St.

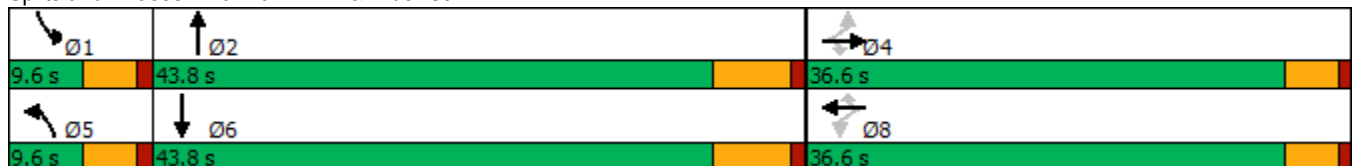


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↓	↖	↑↓
Traffic Volume (vph)	69	10	112	42	15	23	39	1148	14	1334
Future Volume (vph)	69	10	112	42	15	23	39	1148	14	1334
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Prot	NA
Protected Phases		4			8		5	2	1	6
Permitted Phases	4		4	8		8				
Detector Phase	4	4	4	8	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	36.6	36.6	36.6	36.6	36.6	36.6	9.6	28.2	9.6	28.2
Total Split (s)	36.6	36.6	36.6	36.6	36.6	36.6	9.6	43.8	9.6	43.8
Total Split (%)	40.7%	40.7%	40.7%	40.7%	40.7%	40.7%	10.7%	48.7%	10.7%	48.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	6.2	4.6	6.2
Lead/Lag							Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.9	13.9	13.9	13.9	13.9	13.9	5.3	45.3	5.3	41.6
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.21	0.08	0.69	0.08	0.63
v/c Ratio	0.27	0.03	0.29	0.16	0.04	0.07	0.31	0.54	0.11	0.72
Control Delay	25.9	22.0	6.5	24.1	22.3	0.3	40.6	11.4	37.1	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	22.0	6.5	24.1	22.3	0.3	40.6	11.4	37.1	17.0
LOS	C	C	A	C	C	A	D	B	D	B
Approach Delay		14.3			16.9			12.3		17.2
Approach LOS		B			B			B		B

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 65.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 15.0
 Intersection LOS: B
 Intersection Capacity Utilization 68.5%
 ICU Level of Service C
 Analysis Period (min) 15

























Splits and Phases: 6: Harvill Av. & Rider St.



HCM 6th Signalized Intersection Summary
6: Harvill Av. & Rider St.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	10	112	42	15	23	39	1148	6	14	1334	66
Future Volume (veh/h)	69	10	112	42	15	23	39	1148	6	14	1334	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	80	12	130	49	17	27	45	1335	7	16	1551	77
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	333	307	260	317	307	260	79	2075	11	35	1887	93
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.04	0.56	0.56	0.02	0.54	0.54
Sat Flow, veh/h	1384	1900	1610	1266	1900	1610	1810	3682	19	1810	3501	173
Grp Volume(v), veh/h	80	12	130	49	17	27	45	654	688	16	797	831
Grp Sat Flow(s),veh/h/ln	1384	1900	1610	1266	1900	1610	1810	1805	1897	1810	1805	1869
Q Serve(g_s), s	3.1	0.3	4.4	2.0	0.5	0.9	1.5	15.0	15.0	0.5	22.0	22.3
Cycle Q Clear(g_c), s	3.6	0.3	4.4	2.4	0.5	0.9	1.5	15.0	15.0	0.5	22.0	22.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.09
Lane Grp Cap(c), veh/h	333	307	260	317	307	260	79	1017	1069	35	973	1008
V/C Ratio(X)	0.24	0.04	0.50	0.15	0.06	0.10	0.57	0.64	0.64	0.45	0.82	0.82
Avail Cap(c_a), veh/h	843	1008	854	784	1008	854	150	1125	1182	150	1125	1165
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	21.3	23.1	22.3	21.4	21.6	28.3	9.0	9.0	29.3	11.5	11.5
Incr Delay (d2), s/veh	0.4	0.1	1.5	0.2	0.1	0.2	2.3	1.1	1.0	3.4	4.3	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.1	1.7	0.6	0.2	0.3	0.6	3.9	4.1	0.2	6.8	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	21.4	24.5	22.6	21.5	21.7	30.6	10.1	10.1	32.6	15.8	15.9
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		222			93			1387			1644	
Approach Delay, s/veh		23.9			22.1			10.7			16.0	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	40.2		14.4	7.2	38.7		14.4				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	37.6		32.0	5.0	37.6		32.0				
Max Q Clear Time (g_c+I1), s	2.5	17.0		6.4	3.5	24.3		4.4				
Green Ext Time (p_c), s	0.0	8.4		0.7	0.0	8.3		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				14.5								
HCM 6th LOS				B								

Timings
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

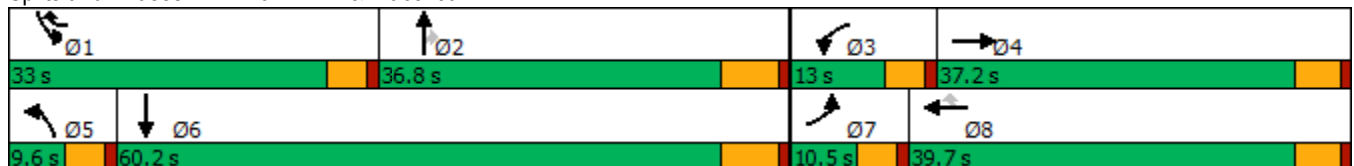


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	21	174	248	111	529	24	855	253	881	1513
Future Volume (vph)	21	174	248	111	529	24	855	253	881	1513
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	1	5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	1	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.2	9.6	37.2	9.6	9.6	33.2	33.2	9.6	33.2
Total Split (s)	10.5	37.2	13.0	39.7	33.0	9.6	36.8	36.8	33.0	60.2
Total Split (%)	8.8%	31.0%	10.8%	33.1%	27.5%	8.0%	30.7%	30.7%	27.5%	50.2%
Yellow Time (s)	3.6	4.2	3.6	4.2	3.6	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.2	4.6	5.2	4.6	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	5.6	19.8	8.4	26.8	60.5	5.0	30.7	30.7	28.5	58.3
Actuated g/C Ratio	0.05	0.18	0.08	0.25	0.56	0.05	0.28	0.28	0.26	0.54
v/c Ratio	0.27	0.71	1.07	0.28	0.37	0.34	0.98	0.45	1.12	0.92
Control Delay	59.4	51.3	123.1	35.6	10.5	63.7	63.5	6.4	107.2	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.4	51.3	123.1	35.6	10.5	63.7	63.5	6.4	107.2	34.1
LOS	E	D	F	D	B	E	E	A	F	C
Approach Delay		52.0		45.1			50.7			60.9
Approach LOS		D		D			D			E

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 108.1	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay: 55.0	Intersection LOS: D
Intersection Capacity Utilization 84.2%	ICU Level of Service E
Analysis Period (min) 15	
























Splits and Phases: 7: Harvill Av. & Placentia Av.



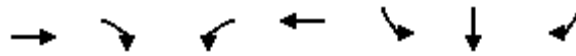
HCM 6th Signalized Intersection Summary
7: Harvill Av. & Placentia Av.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	174	34	248	111	529	24	855	253	881	1513	9
Future Volume (veh/h)	21	174	34	248	111	529	24	855	253	881	1513	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	25	205	40	292	131	387	28	1006	180	1036	1780	11
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	45	246	48	282	408	1378	48	1055	470	952	1975	12
Arrive On Green	0.02	0.16	0.16	0.08	0.21	0.21	0.03	0.29	0.29	0.27	0.54	0.54
Sat Flow, veh/h	1810	1544	301	3510	1900	2834	1810	3610	1609	3510	3678	23
Grp Volume(v), veh/h	25	0	245	292	131	387	28	1006	180	1036	873	918
Grp Sat Flow(s),veh/h/ln	1810	0	1846	1755	1900	1417	1810	1805	1609	1755	1805	1896
Q Serve(g_s), s	1.4	0.0	13.5	8.4	6.1	8.5	1.6	28.6	9.3	28.4	45.4	45.5
Cycle Q Clear(g_c), s	1.4	0.0	13.5	8.4	6.1	8.5	1.6	28.6	9.3	28.4	45.4	45.5
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	45	0	294	282	408	1378	48	1055	470	952	969	1018
V/C Ratio(X)	0.56	0.00	0.83	1.04	0.32	0.28	0.58	0.95	0.38	1.09	0.90	0.90
Avail Cap(c_a), veh/h	102	0	564	282	626	1703	86	1055	470	952	969	1018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	0.0	42.6	48.1	34.6	16.0	50.4	36.3	29.5	38.1	21.7	21.8
Incr Delay (d2), s/veh	4.0	0.0	6.1	63.5	0.4	0.1	4.1	17.6	0.5	56.1	11.3	11.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	6.6	6.1	2.9	2.7	0.8	14.9	3.7	19.4	20.9	21.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.5	0.0	48.7	111.6	35.1	16.1	54.5	53.9	30.0	94.2	33.1	32.8
LnGrp LOS	D	A	D	F	D	B	D	D	C	F	C	C
Approach Vol, veh/h		270			810			1214			2827	
Approach Delay, s/veh		49.3			53.6			50.4			55.4	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.0	36.8	13.0	21.9	7.4	62.4	7.2	27.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.2	4.6	6.2	4.6	5.2				
Max Green Setting (Gmax), s	28.4	30.6	8.4	32.0	5.0	54.0	5.9	34.5				
Max Q Clear Time (g_c+I1), s	30.4	30.6	10.4	15.5	3.6	47.5	3.4	10.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.0	5.4	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			53.6									
HCM 6th LOS			D									

Timings
8: I-215 SB Ramps & Ramona Exwy.

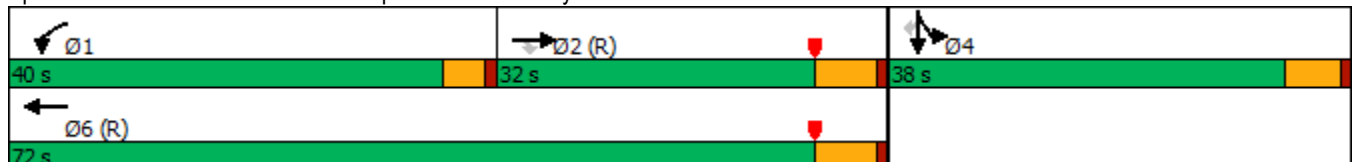


Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑	↑	↑
Traffic Volume (vph)	1025	440	970	1339	1001	4	438
Future Volume (vph)	1025	440	970	1339	1001	4	438
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	9.5	31.0	10.5	10.5	10.5
Total Split (s)	32.0	32.0	40.0	72.0	38.0	38.0	38.0
Total Split (%)	29.1%	29.1%	36.4%	65.5%	34.5%	34.5%	34.5%
Yellow Time (s)	5.0	5.0	3.5	5.0	4.5	4.5	4.5
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)	6.0	6.0	4.5	6.0	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	27.5	27.5	34.0	66.0	32.5	32.5	32.5
Actuated g/C Ratio	0.25	0.25	0.31	0.60	0.30	0.30	0.30
v/c Ratio	0.80	0.60	0.90	0.43	0.70	0.70	0.84
Control Delay	44.6	7.2	11.7	2.7	39.0	43.1	45.4
Queue Delay	0.0	0.0	2.9	0.5	54.0	60.4	0.0
Total Delay	44.6	7.2	14.6	3.3	92.9	103.6	45.4
LOS	D	A	B	A	F	F	D
Approach Delay	33.3			8.0		81.0	
Approach LOS	C			A		F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 34 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 35.3
 Intersection LOS: D
 Intersection Capacity Utilization 86.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 8: I-215 SB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
8: I-215 SB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑↑					↘↗	↖	↗
Traffic Volume (veh/h)	0	1025	440	970	1339	0	0	0	0	1001	4	438
Future Volume (veh/h)	0	1025	440	970	1339	0	0	0	0	1001	4	438
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	1035	336	980	1353	0				1014	0	383
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99				0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1320	410	1069	3112	0				1604	0	476
Arrive On Green	0.00	0.25	0.25	0.18	0.36	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	5358	1610	3510	5358	0				5429	0	1610
Grp Volume(v), veh/h	0	1035	336	980	1353	0				1014	0	383
Grp Sat Flow(s),veh/h/ln	0	1729	1610	1755	1729	0				1810	0	1610
Q Serve(g_s), s	0.0	20.4	21.6	30.1	21.8	0.0				17.8	0.0	24.2
Cycle Q Clear(g_c), s	0.0	20.4	21.6	30.1	21.8	0.0				17.8	0.0	24.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1320	410	1069	3112	0				1604	0	476
V/C Ratio(X)	0.00	0.78	0.82	0.92	0.43	0.00				0.63	0.00	0.81
Avail Cap(c_a), veh/h	0	1320	410	1133	3112	0				1604	0	476
HCM Platoon Ratio	1.00	1.00	1.00	0.60	0.60	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.28	0.28	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	38.2	38.6	43.6	21.0	0.0				33.6	0.0	35.8
Incr Delay (d2), s/veh	0.0	0.4	1.8	3.7	0.1	0.0				1.9	0.0	13.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.2	8.3	13.9	9.3	0.0				7.7	0.0	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	38.6	40.4	47.3	21.2	0.0				35.5	0.0	49.4
LnGrp LOS	A	D	D	D	C	A				D	A	D
Approach Vol, veh/h		1371			2333						1397	
Approach Delay, s/veh		39.1			32.1						39.3	
Approach LOS		D			C						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	38.0	34.0		38.0		72.0						
Change Period (Y+Rc), s	4.5	6.0		5.5		6.0						
Max Green Setting (Gmax), s	35.5	26.0		32.5		66.0						
Max Q Clear Time (g_c+I1), s	32.1	23.6		26.2		23.8						
Green Ext Time (p_c), s	1.4	1.3		3.0		6.7						

Intersection Summary

HCM 6th Ctrl Delay	36.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings
9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

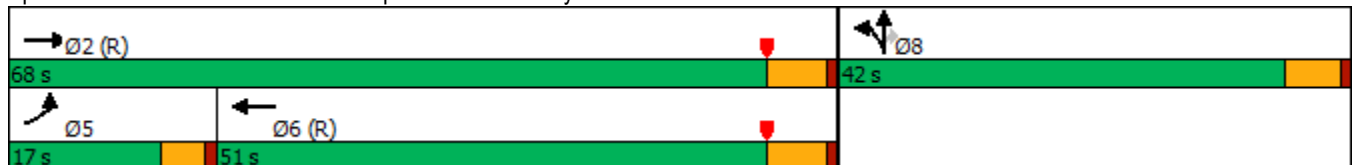


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	↶↷	↑↑↑	↶↷↶	↷	↶	↶	↷
Traffic Volume (vph)	348	1677	1933	861	376	2	559
Future Volume (vph)	348	1677	1933	861	376	2	559
Turn Type	Prot	NA	NA	Free	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				Free			8
Detector Phase	5	2	6		8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	26.0		10.5	10.5	10.5
Total Split (s)	17.0	68.0	51.0		42.0	42.0	42.0
Total Split (%)	15.5%	61.8%	46.4%		38.2%	38.2%	38.2%
Yellow Time (s)	3.5	5.0	5.0		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)	4.5	6.0	6.0		5.5	5.5	5.5
Lead/Lag	Lead		Lag				
Lead-Lag Optimize?	Yes		Yes				
Recall Mode	None	C-Max	C-Max		None	None	None
Act Effct Green (s)	12.5	62.0	45.0	110.0	36.5	36.5	36.5
Actuated g/C Ratio	0.11	0.56	0.41	1.00	0.33	0.33	0.33
v/c Ratio	0.93	0.61	0.97	0.57	0.35	0.35	1.02
Control Delay	57.9	22.8	45.8	1.5	30.0	30.1	74.5
Queue Delay	0.0	48.5	3.3	0.0	0.0	0.0	0.0
Total Delay	57.9	71.3	49.1	1.5	30.0	30.1	74.5
LOS	E	E	D	A	C	C	E
Approach Delay		69.0	34.4			56.5	
Approach LOS		E	C			E	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 50.2
 Intersection LOS: D
 Intersection Capacity Utilization 86.8%
 ICU Level of Service E
 Analysis Period (min) 15

























Splits and Phases: 9: I-215 NB Ramps & Ramona Exwy.



HCM 6th Signalized Intersection Summary
 9: I-215 NB Ramps & Ramona Exwy.

Rider & Patterson Business Center (JN 14198)

09/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  							
Traffic Volume (veh/h)	348	1677	0	0	1933	861	376	2	559	0	0	0
Future Volume (veh/h)	348	1677	0	0	1933	861	376	2	559	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	370	1784	0	0	2056	0	401	0	514			
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	399	2924	0	0	2123		1200	0	534			
Arrive On Green	0.23	1.00	0.00	0.00	0.41	0.00	0.33	0.00	0.33			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	370	1784	0	0	2056	0	401	0	514			
Grp Sat Flow(s),veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	11.4	0.0	0.0	0.0	42.7	0.0	9.2	0.0	34.5			
Cycle Q Clear(g_c), s	11.4	0.0	0.0	0.0	42.7	0.0	9.2	0.0	34.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	399	2924	0	0	2123		1200	0	534			
V/C Ratio(X)	0.93	0.61	0.00	0.00	0.97		0.33	0.00	0.96			
Avail Cap(c_a), veh/h	399	2924	0	0	2123		1201	0	534			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.57	0.57	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.1	0.0	0.0	0.0	31.8	0.0	27.6	0.0	36.1			
Incr Delay (d2), s/veh	18.6	0.5	0.0	0.0	13.4	0.0	0.2	0.0	29.6			
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	5.2	0.1	0.0	0.0	18.8	0.0	3.8	0.0	17.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	0.5	0.0	0.0	45.2	0.0	27.8	0.0	65.6			
LnGrp LOS	E	A	A	A	D		C	A	E			
Approach Vol, veh/h		2154			2056			915				
Approach Delay, s/veh		10.9			45.2			49.1				
Approach LOS		B			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		68.0			17.0	51.0		42.0				
Change Period (Y+Rc), s		6.0			4.5	6.0		5.5				
Max Green Setting (Gmax), s		62.0			12.5	45.0		36.5				
Max Q Clear Time (g_c+I1), s		2.0			13.4	44.7		36.5				
Green Ext Time (p_c), s		10.8			0.0	0.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	31.5
HCM 6th LOS	C

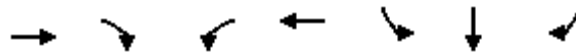
Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

**APPENDIX 7.8: HORIZON YEAR (2045) WITH PROJECT CONDITIONS
FREEWAY OFF-RAMP QUEUING ANALYSIS WORKSHEETS WITH
IMPROVEMENTS**

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Queues
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1106	479	586	1416	657	324	398
v/c Ratio	0.66	0.57	0.81	0.48	0.62	0.61	0.70
Control Delay	34.6	5.7	30.4	3.4	34.6	37.3	33.7
Queue Delay	0.0	0.0	0.0	0.8	65.0	78.0	0.0
Total Delay	34.6	5.7	30.4	4.2	99.6	115.3	33.7
Queue Length 50th (ft)	246	0	78	37	214	210	201
Queue Length 95th (ft)	306	79	m64	m38	280	317	315
Internal Link Dist (ft)	1408			344		1111	
Turn Bay Length (ft)		200	100		510		510
Base Capacity (vph)	1684	841	811	2970	1060	531	571
Starvation Cap Reductn	0	0	0	1128	0	0	0
Spillback Cap Reductn	0	0	0	0	865	434	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.57	0.72	0.77	3.37	3.34	0.70

Intersection Summary

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

Queues
9: I-215 NB Ramps & Ramona Exwy.

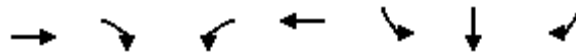


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	165	1942	1566	758	228	231	882
v/c Ratio	0.85	0.94	1.00	0.47	0.27	0.27	1.05
Control Delay	80.4	56.4	61.7	1.0	17.1	17.1	71.2
Queue Delay	0.0	45.6	0.0	0.0	0.0	0.0	0.0
Total Delay	80.4	102.0	61.7	1.0	17.1	17.1	71.2
Queue Length 50th (ft)	62	538	~404	0	94	95	~653
Queue Length 95th (ft)	m#110	#587	#518	0	149	151	#898
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	194	2065	1565	1615	852	855	840
Starvation Cap Reductn	0	784	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	0.85	1.52	1.00	0.47	0.27	0.27	1.05

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
8: I-215 SB Ramps & Ramona Exwy.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1035	444	980	1353	677	338	442
v/c Ratio	0.80	0.60	0.90	0.43	0.70	0.70	0.84
Control Delay	44.6	7.2	11.7	2.7	39.0	43.1	45.4
Queue Delay	0.0	0.0	2.9	0.5	54.0	60.4	0.0
Total Delay	44.6	7.2	14.6	3.3	92.9	103.6	45.4
Queue Length 50th (ft)	256	0	65	41	232	231	248
Queue Length 95th (ft)	310	84	m106	m43	303	348	#420
Internal Link Dist (ft)	1408			344		1111	
Turn Bay Length (ft)		200	100		510		510
Base Capacity (vph)	1296	736	1130	3112	970	486	529
Starvation Cap Reductn	0	0	78	1176	0	0	0
Spillback Cap Reductn	0	0	0	0	497	249	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.60	0.93	0.70	1.43	1.43	0.84

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Queues
9: I-215 NB Ramps & Ramona Exwy.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	370	1784	2056	916	200	202	595
v/c Ratio	0.93	0.61	0.97	0.57	0.35	0.35	1.02
Control Delay	57.9	22.8	45.8	1.5	30.0	30.1	74.5
Queue Delay	0.0	48.5	3.3	0.0	0.0	0.0	0.0
Total Delay	57.9	71.3	49.1	1.5	30.0	30.1	74.5
Queue Length 50th (ft)	131	473	511	0	111	112	~394
Queue Length 95th (ft)	m151	502	#633	0	180	181	#630
Internal Link Dist (ft)		344	532			1162	
Turn Bay Length (ft)	105			200			500
Base Capacity (vph)	397	2923	2121	1594	569	570	585
Starvation Cap Reductn	0	1488	0	0	0	0	0
Spillback Cap Reductn	0	0	47	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	1.24	0.99	0.57	0.35	0.35	1.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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