Appendix “M”

Greentree (TTM No. 38605) Traffic Analysis

URBAN | CROSSROADS

GREENTREE (TTM NO. 38605)

TRAFFIC ANALYSIS

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Reference Number	Agency	Date
15368-03 TA Report	County of Riverside	October 13, 2023

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CAMUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
DIF	Development Impact Fee
EAP	Existing Plus Ambient Growth Plus Project
EAPC	Existing Plus Ambient Growth Plus Project Plus Cumulative
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
OPR	Office of Planning and Research
PHF	Peak Hour Factor
Project	Greentree
RCTC	Riverside County Transportation Commission
RTA	Riverside Transit Authority
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
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 Greentree development ("Project"), which is located north of El Sobrante Road, east of McCallister Parkway, and south of Travertine Drive 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 Street A at its ultimate full-section width as a Local roadway (60-foot right-of-way), from El Sobrante Road to the Project's southern boundary, consistent with the County's standards.
- At the intersection of Street A & El Sobrante Road, Project to install a stop control on the southbound approach (Street A) to implement a cross-street stop-controlled intersection and construct a shared left-right turn lane.

Additional details and intersection lane geometrics are provided in Section 1.6 *Recommendations* of this report. The proposed Project is not anticipated to require the construction of any off-site improvements but would need to contribute to improvement needs identified at off-site intersections for future near-term cumulative traffic conditions. As such, the Project Applicant's responsibility for the Project's contributions towards deficient off-site intersections is fulfilled through fair share payment 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 7 *Local and Regional Funding Mechanisms*).

EXHIBIT 1-1: LOCATION MAP

1.2 PROJECT OVERVIEW

A preliminary site plan for the proposed Project is shown on Exhibit 1-2. The Project is proposed to consist of the development of 163 single family detached residential dwelling units. As indicated on Exhibit 1-2, Primary access to the Project site will be accommodated via a new proposed connection to El Sobrante Road (via Street A) and a secondary connection to Travertine Drive (via Street G). Both driveways are assumed to allow for full access. Regional access to the Project site is available from the SR-91 Freeway via La Sierra Avenue interchange.

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual for Single Family Detached Residential (ITE Land Use Code 210). (2) The Project is anticipated to generate a total of 1,538 two-way trips per day with 114 AM peak hour trips and 153 PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

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

- Existing (2023) Conditions
- Existing plus Ambient Growth plus Project (EAP) (2028) Conditions
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2028) Conditions

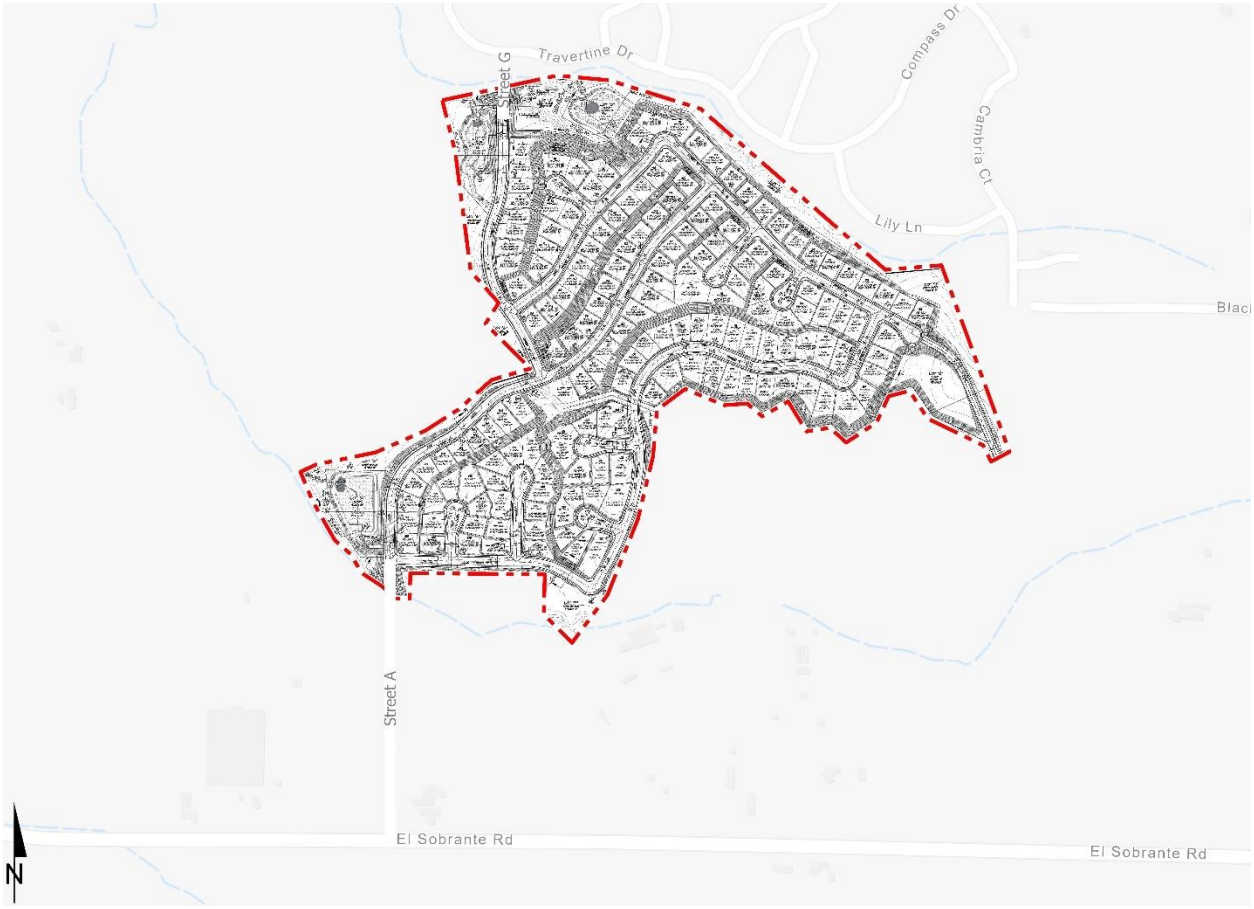
1.3.1 EXISTING (2023) CONDITIONS

Information for Existing (2023) 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 3.6 *Existing Traffic Counts*.

1.3.2 EAP (2028) CONDITIONS

The EAP (2028) 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 (2023) conditions of 10.41% (2 percent per year, compounded over 5 years) is included for EAP (2028) traffic conditions. The assumed ambient growth factor is based on the requirements per the County of Riverside traffic study guidelines. Consistent with Riverside County traffic study guidelines, the EAP analysis is intended to identify "Opening Year" deficiencies associated with the development of the proposed Project based on the expected background growth within the study area.

EXHIBIT 1-2: PRELIMINARY SITE PLAN



1.3.3 EAPC (2028) CONDITIONS

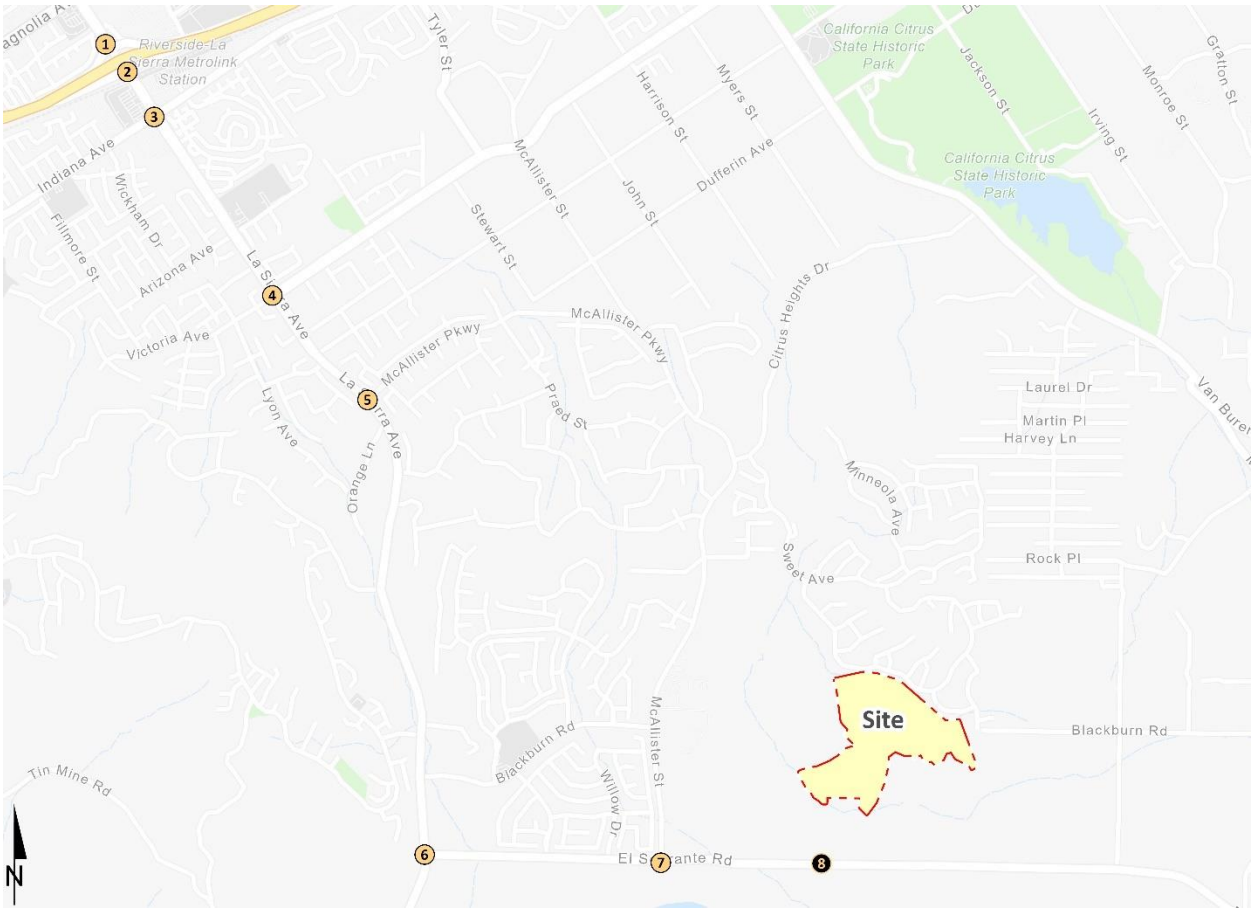
The EAPC (2028) traffic conditions analysis determines the potential near-term cumulative circulation system deficiencies. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. To account for background traffic growth, an ambient growth factor from Existing (2023) conditions of 10.41% (2 percent per year, compounded over 5 years) is included for EAPC (2028) 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 2028 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 2028 conditions.

1.4 STUDY AREA

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

The 8 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).

EXHIBIT 1-3: STUDY AREA



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

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection	Jurisdiction	CMP?
1	La Sierra Av. & SR-91 WB Ramps	City of Riverside, Caltrans	No
2	La Sierra Av. & SR-91 EB Ramps	City of Riverside, Caltrans	No
3	La Sierra Av. & Indiana Av.	City of Riverside	No
4	La Sierra Av. & Victoria Av.	County of Riverside, City of Riverside	No
5	La Sierra Av. & McAllister Pkwy.	County of Riverside	No
6	La Sierra Av. & El Sobrante Rd.	County of Riverside	No
7	McAllister Pkwy. & El Sobrante Rd.	County of Riverside	No
8	Street A & El Sobrante Rd.	County of Riverside	No

1.5 DEFICIENCIES

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

TABLE 1-2: SUMMARY OF LOS

		Existing		EAP		EAPC	
#	Intersection	AM	PM	AM	PM	AM	PM
1	La Sierra Av. & SR-91 WB Ramps						
2	La Sierra Av. & SR-91 EB Ramps						
3	La Sierra Av. & Indiana Av.						
4	La Sierra Av. & Victoria Av.						
5	La Sierra Av. & McAllister Pkwy.						
6	La Sierra Av. & El Sobrante Rd.						
7	McAllister Pkwy. & El Sobrante Rd.						
8	Street A & El Sobrante Rd.	N/A	N/A				

= A - D = E = F

1.5.1 EXISTING (2023) CONDITIONS

Intersections

All existing study area intersections are currently operating at acceptable LOS during the peak hours, with the exception of the following intersection:

- La Sierra Avenue & El Sobrante Road (#6) – LOS F PM peak hour only

Queues

The following movements currently experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows:

- La Sierra Avenue & SR-91 WB Ramps (#1), Northbound left turn lane – AM and PM peak hours
- La Sierra Avenue & SR-91 WB Ramps (#1), Southbound through lane – PM peak hour only
- La Sierra Avenue & Indiana Avenue (#3), Northbound left turn lane – AM peak hour only
- La Sierra Avenue & Indiana Avenue (#3), Eastbound left turn lane – AM and PM peak hours
- La Sierra Avenue & Victoria Avenue (#4), Southbound left turn lane – PM peak hour only
- La Sierra Avenue & Victoria Avenue (#4), Westbound left turn lane – PM peak hour only
- La Sierra Avenue & McAllister Parkway (#5), Southbound left turn lane – PM peak hour only

1.5.2 EAP (2028) CONDITIONS

Intersections

All of the study area intersections are anticipated to continue to operate at an acceptable LOS under EAP traffic conditions, with the exception of the following intersection, consistent with Existing (2023) Conditions.

- La Sierra Avenue & El Sobrante Road (#6) – LOS E AM peak hour; LOS F PM peak hour

Queues

The following additional movement is anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows, in addition to the movements identified under Existing (2023) Conditions:

- La Sierra Avenue & SR-91 RB Ramps (#2), Southbound left turn lane – AM and PM peak hours

1.5.3 EAPC (2028) CONDITIONS

Intersections

All of the study area intersections are anticipated to continue to operate at an acceptable LOS under EAPC (2028) traffic conditions, with the exception of the following intersection, consistent with Existing conditions.

- La Sierra Avenue & El Sobrante Road (#6) – LOS E AM peak hour; LOS F PM peak hour

Queues

The following movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows:

- La Sierra Avenue & SR-91 WB Ramps (#1), Northbound left turn lane – AM and PM peak hours
- La Sierra Avenue & SR-91 WB Ramps (#1), Southbound through lane – AM and PM peak hours
- La Sierra Avenue & SR-91 RB Ramps (#2), Southbound left turn lane – AM and PM peak hours
- La Sierra Avenue & Indiana Avenue (#3), Northbound left turn lane – AM peak hour only
- La Sierra Avenue & Indiana Avenue (#3), Northbound through lane – AM peak hour only
- La Sierra Avenue & Indiana Avenue (#3), Eastbound left turn lane – AM and PM peak hours
- La Sierra Avenue & Victoria Avenue (#4), Southbound left turn lane – AM and PM peak hours
- La Sierra Avenue & Victoria Avenue (#4), Westbound left turn lane – AM and PM peak hours
- La Sierra Avenue & McAllister Parkway (#5), Southbound left turn lane – AM and PM peak hours

1.6 RECOMMENDATIONS

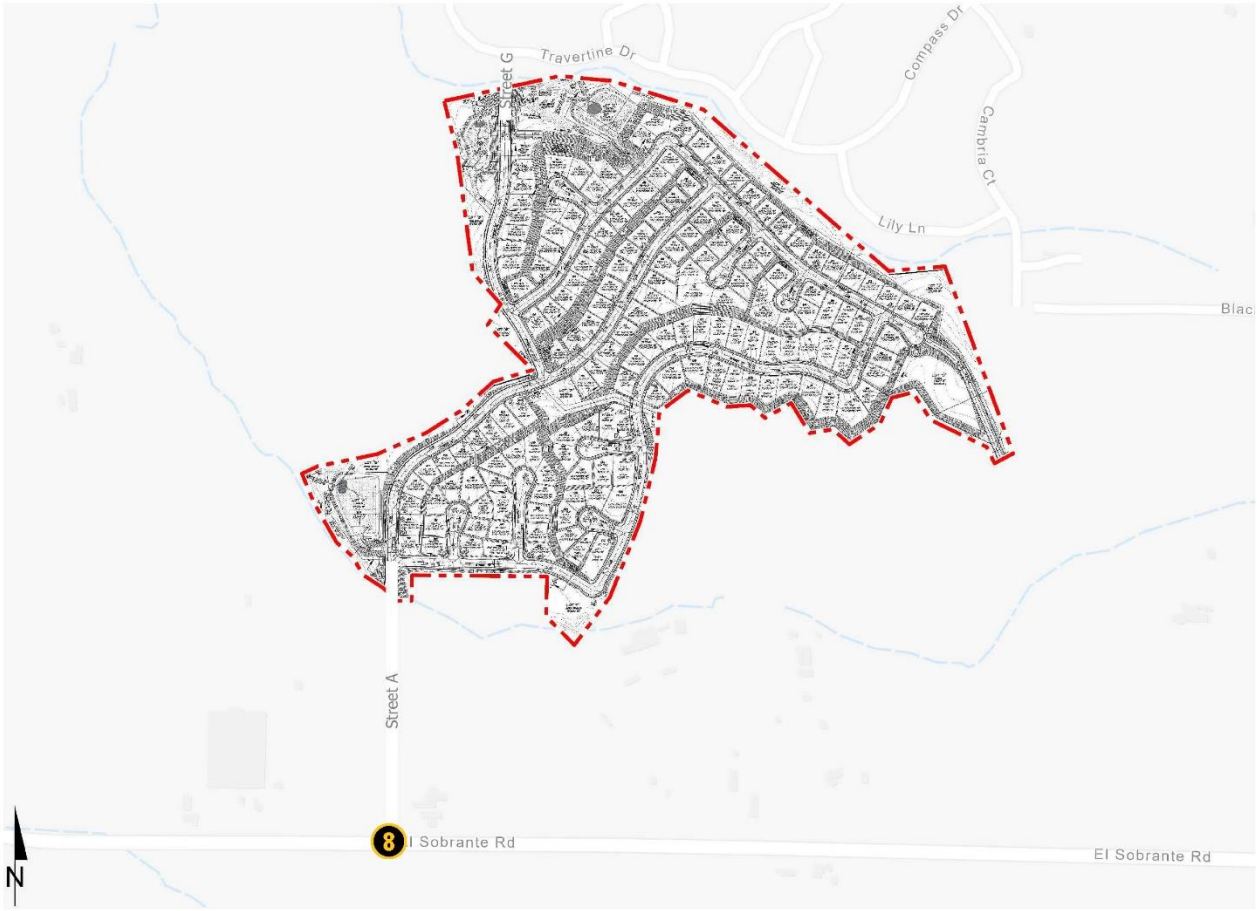
1.6.1 SITE ADJACENT AND SITE ACCESS RECOMMENDATIONS

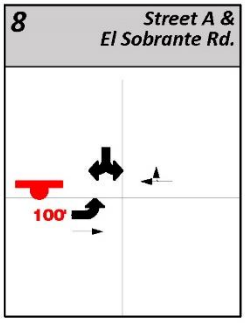
The following recommendations are based on the minimum improvements needed to accommodate site access and maintain acceptable peak hour operations for the proposed Project. The site adjacent recommendations are shown on Exhibit 1-4. The site adjacent queuing analysis worksheets are provided in Appendix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

Recommendation 1 – Street A & El Sobrante Road (#8) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach (Street A) to implement a cross-street stop-controlled intersection and construct a shared left-right turn lane.
- Project to construct an eastbound left turn lane with a minimum of 100-feet of storage.

EXHIBIT 1-4: SITE ACCESS RECOMMENDATIONS





0 = Future Intersection Analysis Location
= Stop Sign Improvement
= Existing Lane
= Lane Improvement
100' = Recommended Turn Pocket Length

Recommendation 2 – Street A is a north-south oriented roadway located south of the Project site, providing primary Project access to El Sobrante Road. Project to construct Street A at its ultimate full-section width as a Local roadway (60-foot right-of-way), from El Sobrante Road to the Project's southern boundary, consistent with the County's standards.

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

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

1.6.2 OFF-SITE RECOMMENDATIONS

The recommended improvements needed to address the deficiencies identified under Existing (2023), EAP (2028), and EAPC (2028) traffic conditions are shown in Table 1-3. Improvements that appear under EAP (2028) that are not also identified for Existing (2023) traffic conditions would be the Project's responsibility to implement/construct in order to maintain acceptable LOS. 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 7 *Local and Regional Funding Mechanisms*).

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]
			Existing (2023)	EAP (2028)	EAPC (2028)			
6	La Sierra Av. & El Sobrante Rd.	County of Riverside	Install a Traffic Signal	Same	Same	No	Fair Share	21.7%

[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.

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

2.2.1 SIGNALIZED INTERSECTIONS

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

The traffic modeling and signal timing optimization software package Synchro (Version 11) has been utilized to analyze signalized intersections. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0[1]
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F

Source: HCM, 6th Edition

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

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

2.2.2 UNSIGNALIZED INTERSECTIONS

The County of Riverside and City of Riverside require the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (4) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2). At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Delay for the intersection is reported for the worst individual movement at a two-way stop-controlled intersection. For all-way stop controlled intersections, LOS is computed for the intersection as a whole (average delay).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

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

Source: HCM, 6th Edition

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

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

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

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

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets. Similarly, the speed limit has been used as the basis for determining the use of Urban and Rural warrants. Traffic signal warrant analyses were performed for the following study area intersection shown in Table 2-3:

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

#	Intersection
6	La Sierra Av. & El Sobrante Rd.
7	McAllister Pkwy. & El Sobrante Rd.
8	Street A & El Sobrante Rd.

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 (2028) Traffic Conditions* and Section 6 *EAPC (2028) Traffic Conditions* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 QUEUING ANALYSIS

Consistent with Caltrans requirements, the 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the freeway ramp intersections at the SR-91 Freeway at the existing La Sierra Avenue interchanges. Specifically, the off-ramp queuing analysis is utilized to identify any potential queuing and "spill back" onto the SR-91 Freeway mainline from the off-ramps. The 95th percentile queue has also been utilized to assess the queues at La Sierra Avenue to identify any potential queuing. Additionally, the County has requested a queueing analysis at all signalized study area intersections, for both turn lanes and through lanes. The results of this analysis are presented in the subsequent sections of this traffic study.

The traffic progression analysis tool and HCM intersection [a]nalysis 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.

At the request of the County of Riverside, the traffic modeling and signal timing optimization software package Synchro/SimTraffic (Version 11) has been utilized to assess queues at the Project access points. Synchro is a macroscopic traffic software program that is based on the signalized and unsignalized intersection capacity analyses as specified in the HCM. SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. SimTraffic uses the input parameters from Synchro to generate random simulations.

The 95th percentile queue is not necessarily ever observed; it is simply based on statistical calculations (or Average Queue plus 1.65 standard deviations). Many jurisdictions utilize the 95th percentile queues for design purposes. SimTraffic simulations have been recorded 5 times, during the weekday AM and weekday PM peak hours, and has been seeded for 15-minute periods with 60-minute recording intervals. For the purposes of this traffic analysis, the County has requested the maximum queues be reported from the Simtraffic software. The results of the queuing analysis are presented in the subsequent sections. Queuing worksheets for the site adjacent queuing analysis are included in Appendix 1.2.

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 Lake Mathews/Woodcrest Area Plan.

2.5.2 CITY OF RIVERSIDE

Per the City of Riverside traffic study guidelines, for Projects that are in conformance with the General Plan:

a) LOS C is to be maintained at all street intersections

b) LOS D is to be maintained at intersections of Collector or higher classification (see General Plan Policy CCM 2.3).

As such and consistent with the County of Riverside, LOS D has been utilized as the minimum acceptable LOS for intersections within the City of Riverside.

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. However, LOS D has been utilized as the target LOS for Caltrans facilities, consistent with the County of Riverside.

2.6 DEFICIENCY CRITERIA

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

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

2.7 PROJECT FAIR SHARE CALCULATION METHODOLOGY

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

Project Fair Share % = Project Traffic / (EAPC (2028) Total Traffic – Existing (2023) 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 8 existing and future intersections as shown previously on Exhibit 1-3, where the Project is anticipated to contribute 50 or more peak hour trips or were added at the County's request during the scoping process. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 COUNTY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT

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

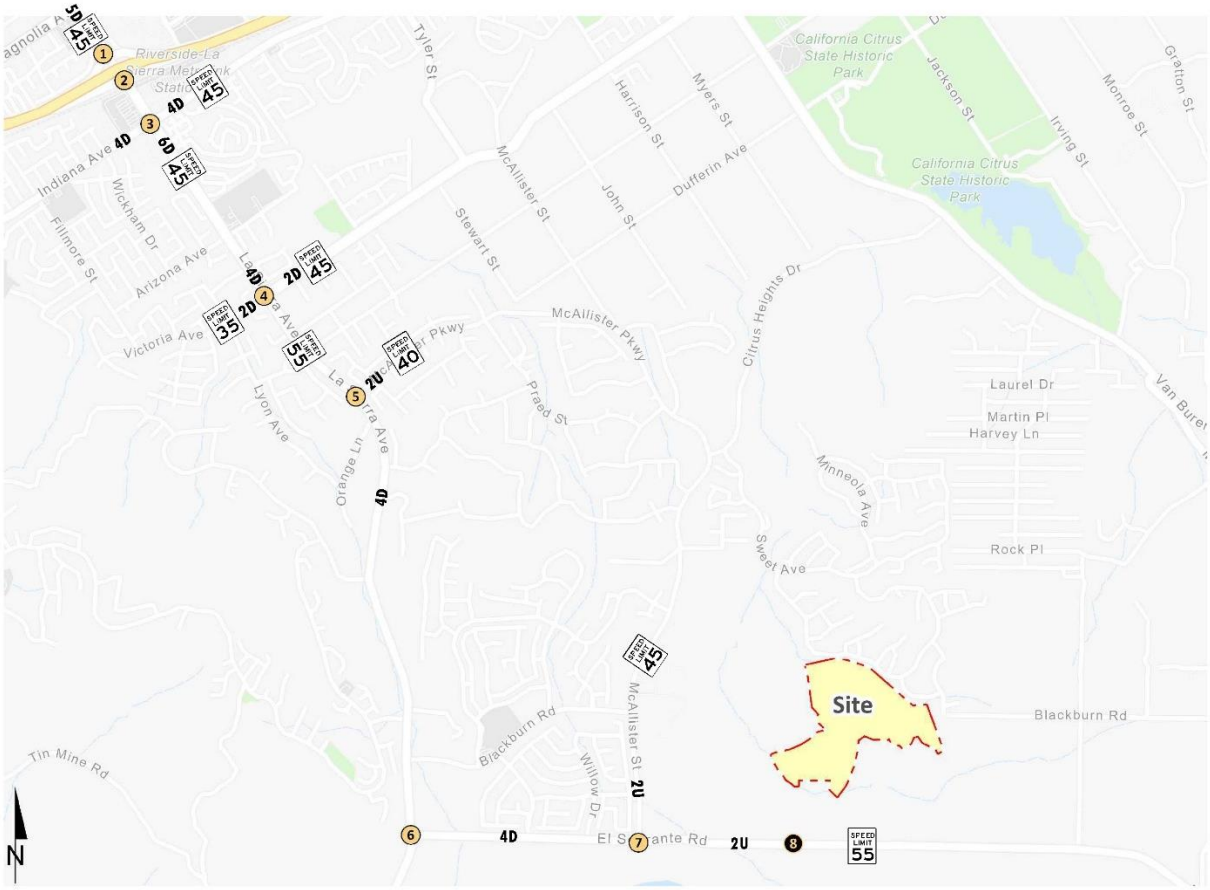
Arterials are four-lane divided roadways (typically divided by a raised median or painted two-way turn-lane) with a 128-foot right-of-way and an 86-foot curb-to-curb measurement. These roadways serve both regional through-traffic and inter-city traffic and typically direct traffic onto and off-of the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

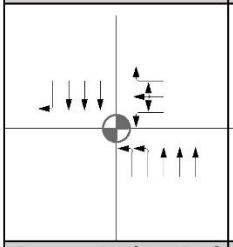
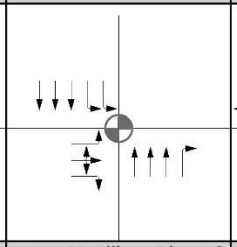
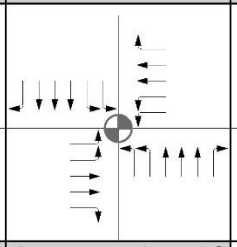
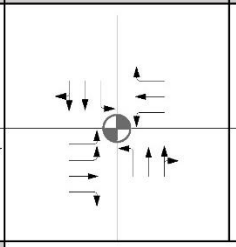
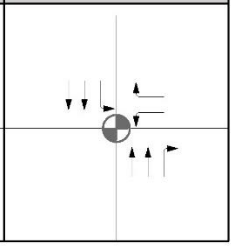
- La Sierra Avenue
- El Sobrante Road

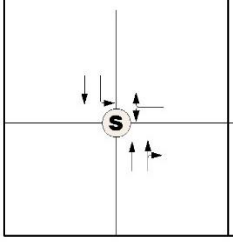
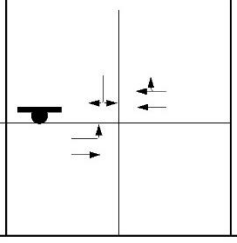
Collectors are two-lane roadways. These roadways typically have a 74-foot right-of-way and a 60-foot curb-to-curb measurement. The following study area roadway within the County of Riverside is classified as a Collector:

- McAllister Street

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



1 La Sierra Av. & SR-91 WB Ramps	2 La Sierra Av. & SR-91 EB Ramps	3 La Sierra Av. & Indiana Av.	4 La Sierra Av. & Victoria Av.	5 La Sierra Av. & McAllister Pkwy.
				

6 La Sierra Av. & El Sobrante Rd.	7 McAllister Pkwy. & El Sobrante Rd.	8 Street A & El Sobrante Rd.
		Future Intersection

4 = Number of Lanes
D = Divided
U = Undivided
55 = Speed Limit (MPH)
= Traffic Signal
S = All Way Stop
= Stop Sign
= Traffic Lane

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

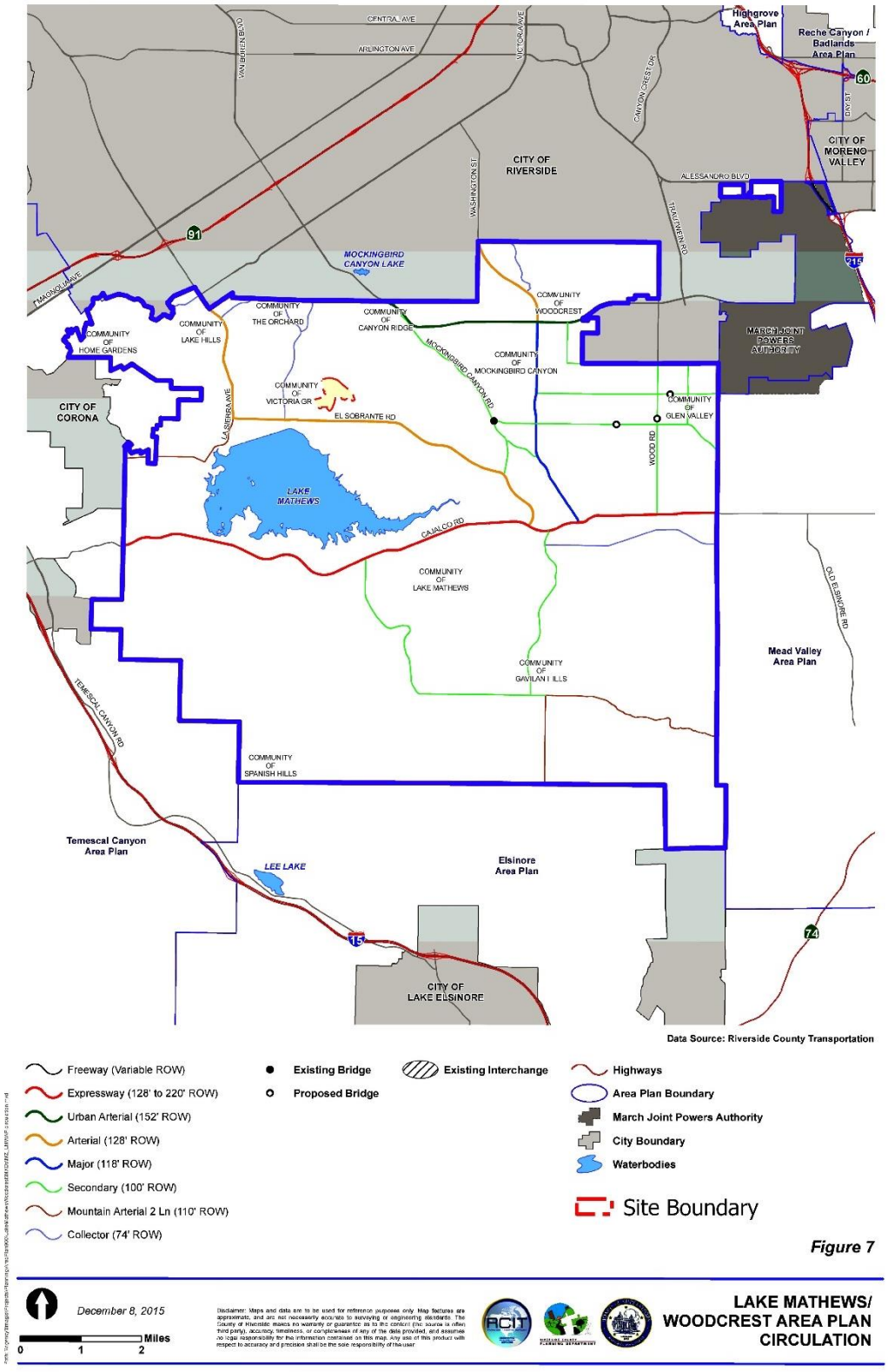
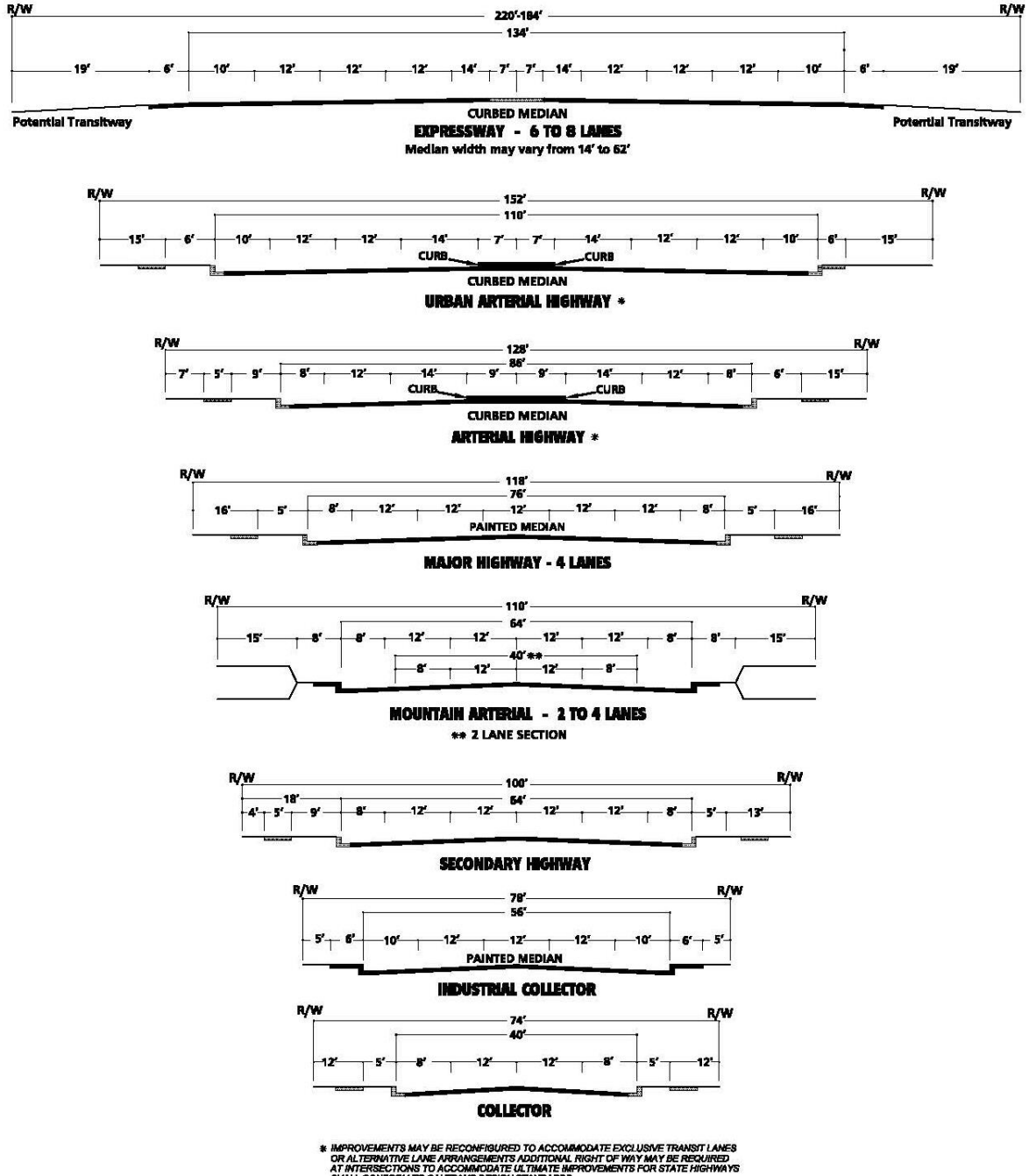


EXHIBIT 3-3: COUNTY OF RIVERSIDE GENERAL PLAN ROADWAY CROSS-SECTIONS



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

NOT TO SCALE

SOURCE: COUNTY OF RIVERSIDE
July 7, 2020

3.3 CITY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT

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

3.4 BICYCLE & PEDESTRIAN FACILITIES

The County of Riverside and City of Riverside bike networks are shown on Exhibit 3-5 and Exhibit 3-6, respectively. As shown on Exhibit 3-5, there is a planned Combination Trail (Regional Trail and Class I Bike Path proposed along La Sierra Avenue and El Sobrante Road. There is a proposed Regional Trail (Urban/Suburban) proposed along McAllister Street and a Community Trail proposed in the vicinity of the Project site.

Exhibit 3-7 illustrates the existing crosswalks throughout the study area. As shown on Exhibit 3-7, there are pedestrian facilities in place in the vicinity of the Project site along portions of McAllister Street and El Sobrante Road.

3.5 TRANSIT SERVICE

The study area is currently served by Riverside Transit Agency (RTA). There are currently no transit routes or stops along El Sobrante Road near the proposed Project. The transit services are illustrated on Exhibit 3-8. As shown, the closest existing transit route that could potentially serve the site is along El Sobrante Road. Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

3.6 EXISTING (2023) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in August 2023 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)

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

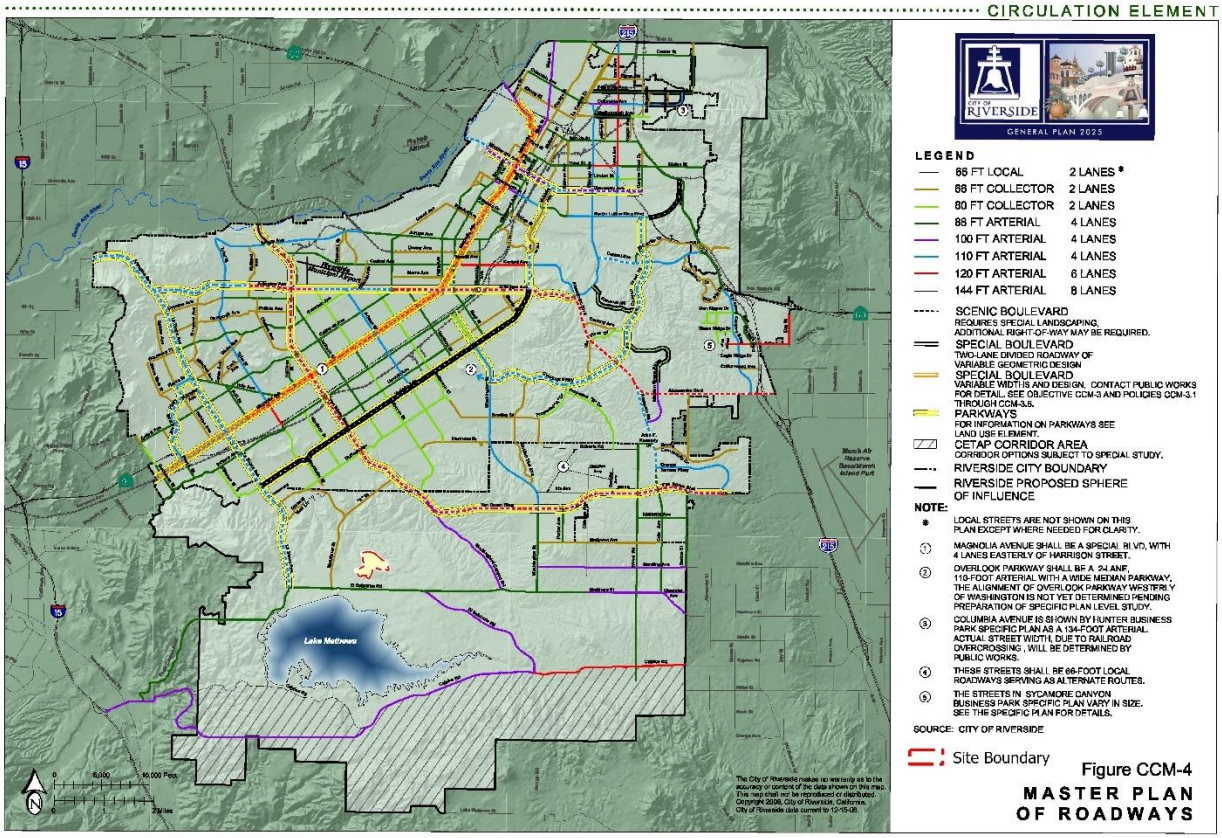


EXHIBIT 3-5: COUNTY OF RIVERSIDE GENERAL PLAN BIKE NETWORK

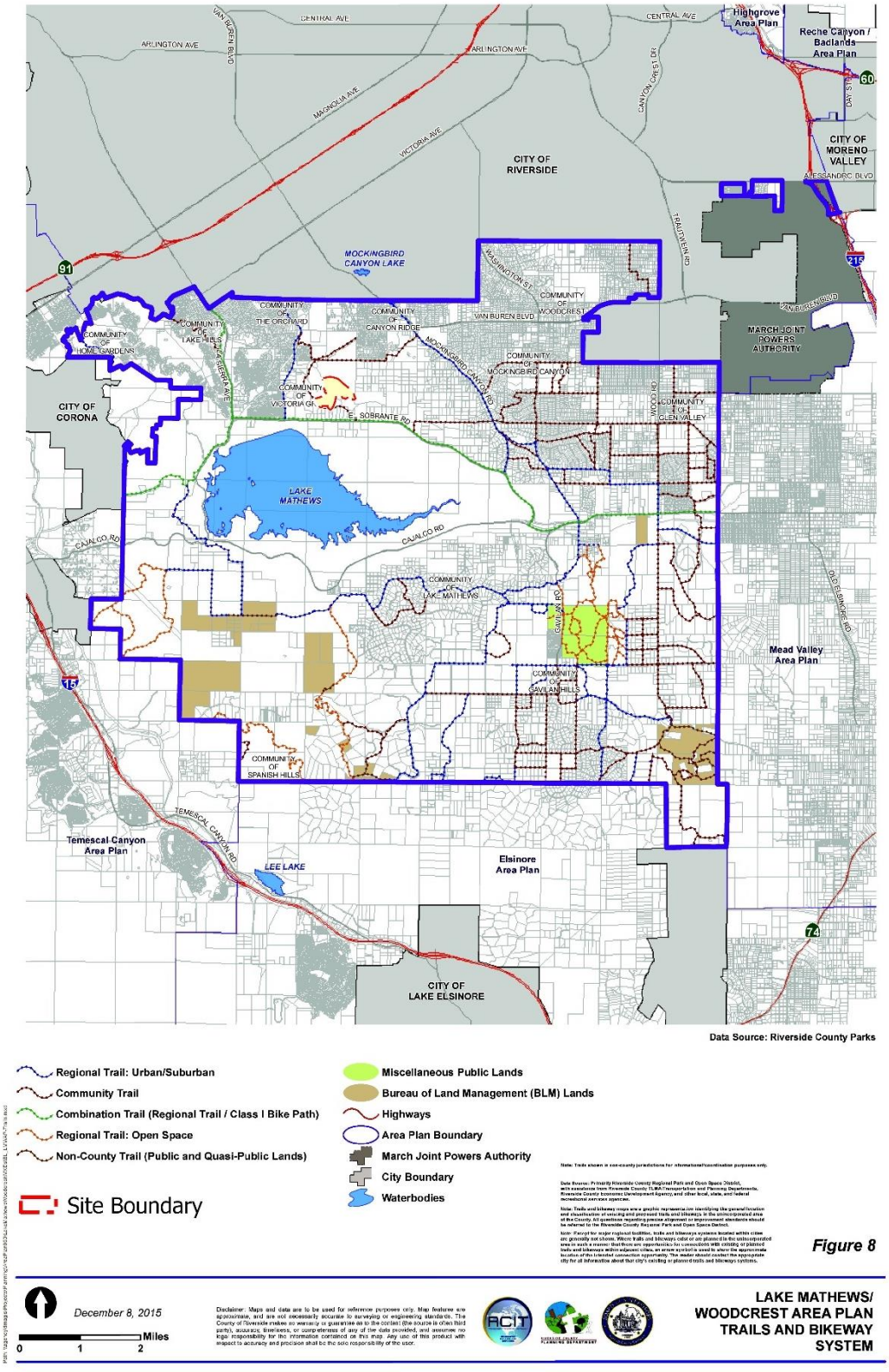


Figure 8

EXHIBIT 3-6: CITY OF RIVERSIDE BIKE PLAN

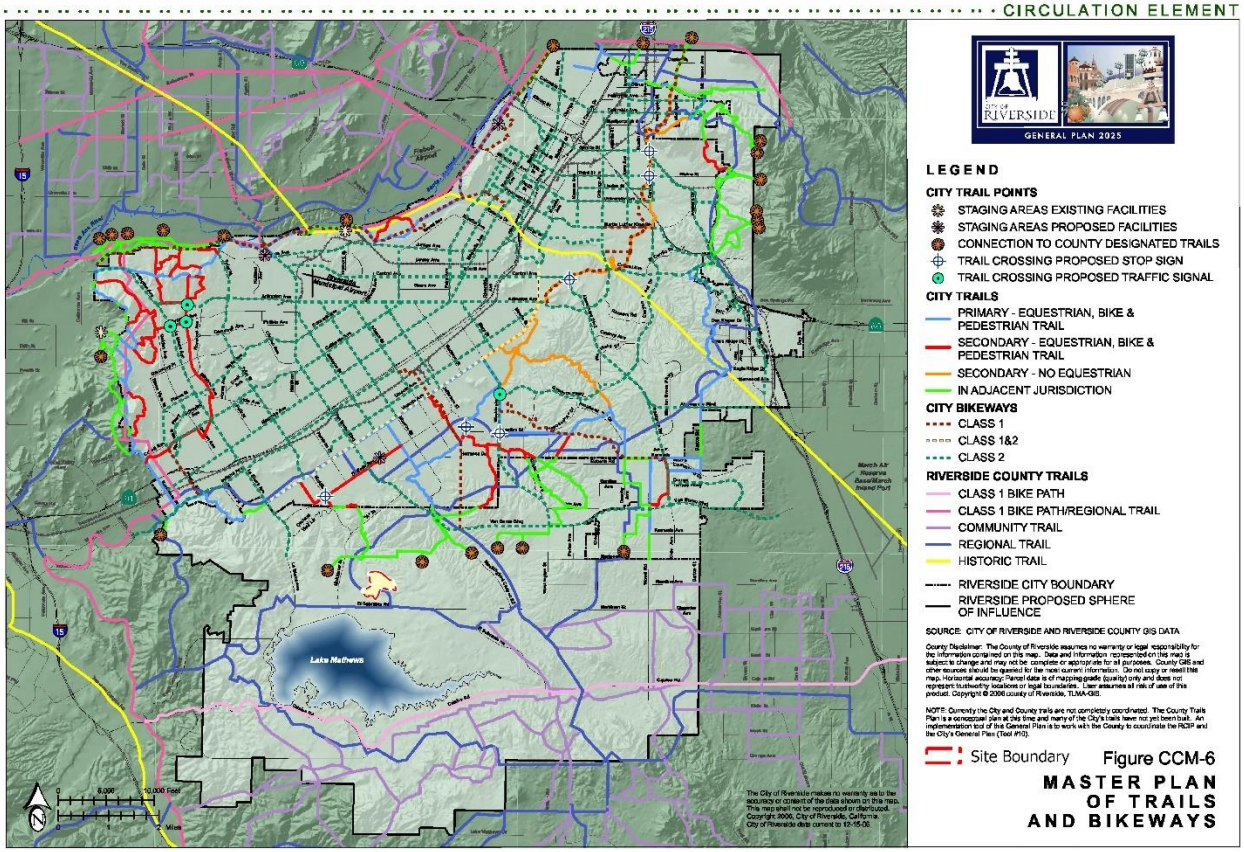


EXHIBIT 3-7: EXISTING PEDESTRIAN FACILITIES

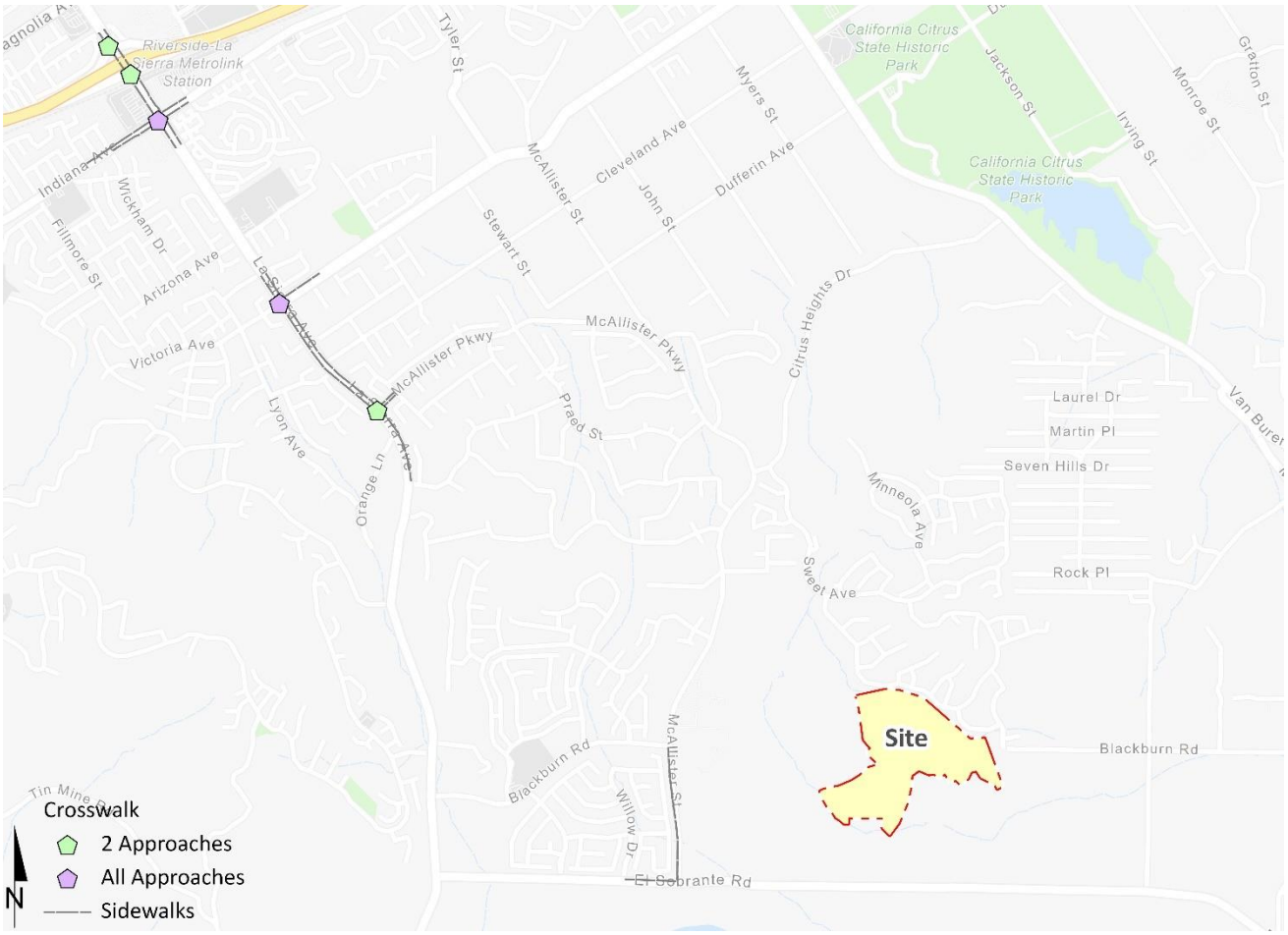
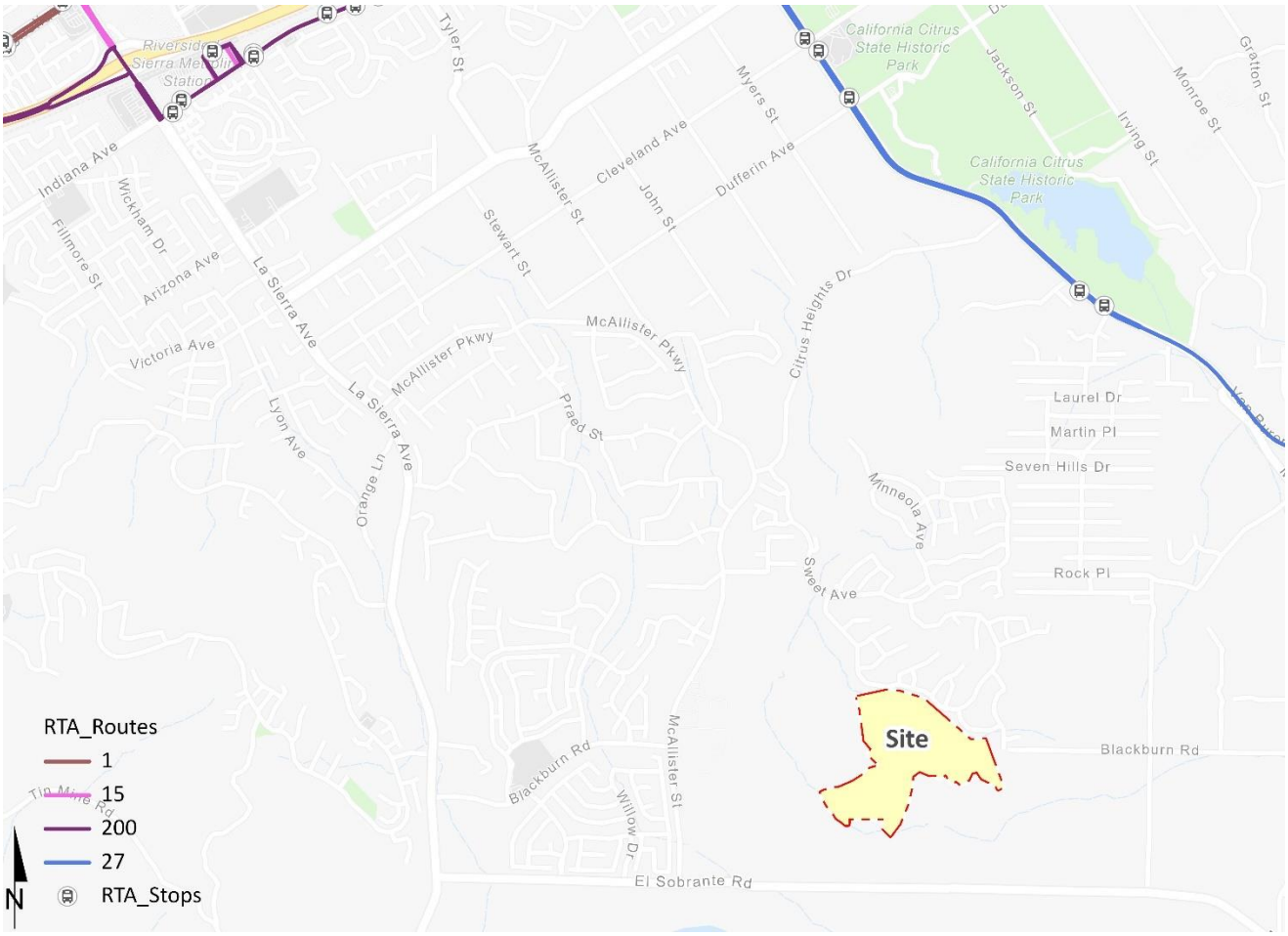


EXHIBIT 3-8: EXISTING TRANSIT ROUTES



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 3-9. Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 10.80 = 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 9.26 percent. As such, the above equation utilizing a factor of 10.80 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 9.26 percent (i.e., 1/0.0926 = 10.80) 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 3-9.

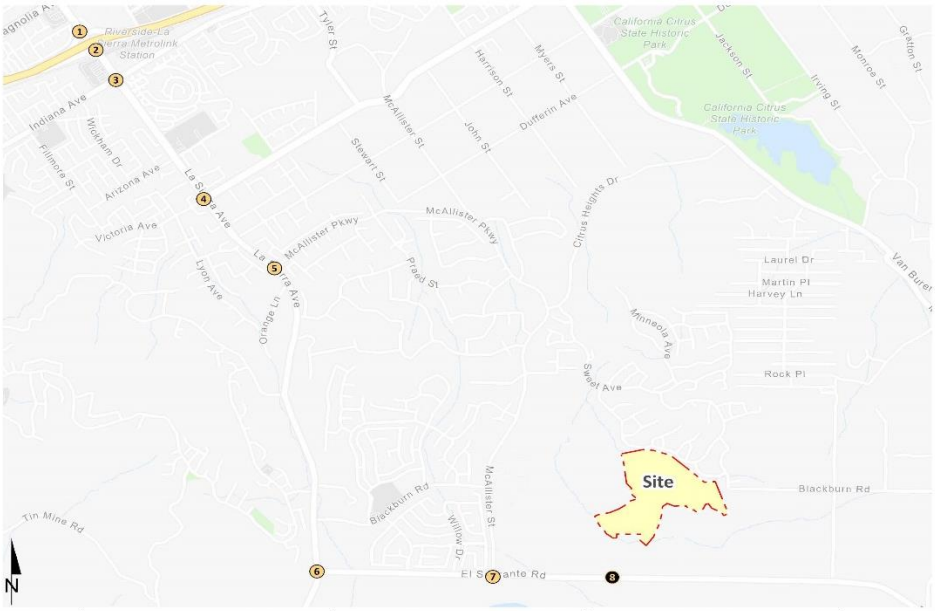
3.7 INTERSECTION OPERATIONS ANALYSIS

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

- La Sierra Avenue & El Sobrante Road (#6) – LOS F PM peak hour only

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

EXHIBIT 3-9: EXISTING (2023) TRAFFIC VOLUMES



1 La Sierra Av. & SR-91 WB Ramps	2 La Sierra Av. & SR-91 EB Ramps	3 La Sierra Av. & Indiana Av.	4 La Sierra Av. & Victoria Av.	5 La Sierra Av. & McAllister Pkwy.
29,850 / 10,550	31,350 / 7,650	35,800 / 11,850	26,000 / 6,900	27,850 / 4,500
↲ 125(227) ← 972(1253)	← 864(1327) ↳ 330(384)	↲ 215(291) ← 813(1499) ↳ 117(262)	↲ 39(42) ← 430(1374) ↳ 109(159)	← 476(1526) ↳ 84(232)
↰ 443(476) ← 1(4) ↰ 236(496)	373(213) → 9(16) → 330(833) ↲	↰ 163(168) ← 219(214) ↰ 115(128)	↰ 186(124) ← 84(71) ↰ 99(233)	↰ 206(155) ↰ 23(17)
↰ ↑ 542(395) 1298(807)	↑ ↱ 1482(980) 386(307)	496(367) → 243(271) → 125(198) ↲ ↰ ↑ ↱ 353(163) 1223(730) 75(55)	74(45) → 58(93) → 45(126) ↲ ↰ ↑ ↱ 48(27) 931(665) 175(118)	↑ ↱ 1005(666) 22(11)
6,750 / 31,850	11,450 / 37,250	16,250 / 35,000	4,350 / 27,450	23,950

6 La Sierra Av. & El Sobrante Rd.	7 McAllister Pkwy. & El Sobrante Rd.	8 Street A & El Sobrante Rd.
17,150 / 11,200	900 / 12,200	10,750
↲ 112(469) ↳ 219(649)	↲ 34(29) ↳ 30(14)	
↱ 455(291) ↰ 59(35)	↱ 43(11) ← 451(297)	← 494(308)
↑ ↱ 96(201) 24(62)	25(28) → 205(673) →	235(687) →
8,300	11,100	10,750

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

Average Daily Trips

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

#	Intersection	Traffic Control[2]	Delay[1] (secs.) AM	Delay[1] (secs.) PM	Level of Service AM	Level of Service PM
1	La Sierra Av. & SR-91 WB Ramps	TS	17.0	21.0	B	C
2	La Sierra Av. & SR-91 EB Ramps	TS	22.0	28.5	C	C
3	La Sierra Av. & Indiana Av.	TS	30.6	26.5	C	C
4	La Sierra Av. & Victoria Av.	TS	23.6	31.1	C	C
5	La Sierra Av. & McAllister Pkwy.	TS	9.9	8.3	A	A
6	La Sierra Av. & El Sobrante Rd.	AWS	19.1	**77.3**	C	**F**
7	McAllister Pkwy. & El Sobrante Rd.	CSS	13.0	11.6	B	B
8	Street A & El Sobrante Rd.		Future Intersection			

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

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

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

3.8 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. The following unsignalized study area intersection currently meets a peak hour traffic signal under Existing traffic conditions:

- La Sierra Avenue & El Sobrante Road (#6)

Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

3.9 QUEUING ANALYSIS

A queuing analysis was performed for all movements at signalized study area intersections. Queuing analysis findings are presented in Table 3-2. As shown in Table 3-2, the following movements currently experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows:

- La Sierra Avenue & SR-91 WB Ramps (#1), Northbound left turn lane – AM and PM peak hours
- La Sierra Avenue & SR-91 WB Ramps (#1), Southbound through lane – PM peak hour only
- La Sierra Avenue & Indiana Avenue (#3), Northbound left turn lane – AM peak hour only
- La Sierra Avenue & Indiana Avenue (#3), Eastbound left turn lane – AM and PM peak hours
- La Sierra Avenue & Victoria Avenue (#4), Southbound left turn lane – PM peak hour only
- La Sierra Avenue & Victoria Avenue (#4), Westbound left turn lane – PM peak hour only
- La Sierra Avenue & McAllister Parkway (#5), Southbound left turn lane – PM peak hour only

It should be noted, the Simtraffic maximum queues have been reported at the request of the County. However, improvements have been identified to address the 95th percentile queueing deficiencies. Worksheets for Existing (2023) traffic conditions off-ramp queuing analysis are provided in Appendix 3.4.

TABLE 3-2: PEAK HOUR QUEUING SUMMARY FOR EXISTING (2023) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	Synchro: 95th Percentile Queue (Feet)		Acceptable? [1]		Simtraffic: Maximum Queue (Feet)	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
La Sierra Av. & SR-91 WB Ramps (#1)	NBL	150	**261**	**184**	**No**	**No**	340	219
	NBT	450	291	228	Yes	Yes	266	218
	SBT	300	259	**324**	Yes	**No**	456	561
	SBR	150	46	81	Yes	Yes	113	168
	WBL	500	218	316	Yes	Yes	215	299
	WBT	1,200	227	290	Yes	Yes	303	364
	WBR	500	192	188	Yes	Yes	263	327
La Sierra Av. & SR-91 EB Ramps (#2)	NBT	900	360	266	Yes	Yes	459	349
	NBR	415	54	64	Yes	Yes	220	198
	SBL	150	130	117	Yes	Yes	189	216
	SBT	450	25	263	Yes	Yes	126	389
	EBL	1,690	248	142	Yes	Yes	453	57
	EBT	1,690	235	398	Yes	Yes	598	401
	EBR	450	126	333	Yes	Yes	495	395
La Sierra Av. & Indiana Av. (#3)	NBL	200	**248** [2]	126 [2]	**No**	Yes	274	128
	NBT	590	416	222	Yes	Yes	346	239
	NBR	315	1	0	Yes	Yes	52	65
	SBL	355	107 [2]	168 [2]	Yes	Yes	122	157
	SBT	900	287	520 [2]	Yes	Yes	227	370
	SBR	540	65	62	Yes	Yes	124	162
	EBL	205	**323** [2]	**245** [2]	**No**	**No**	260	233
	EBT	1,010	97	113	Yes	Yes	316	204
	EBR	205	31	68	Yes	Yes	76	149
	WBL	200	81	85	Yes	Yes	93	102
	WBT	535	104	98	Yes	Yes	128	109
	WBR	130	41	40	Yes	Yes	144	106
La Sierra Av. & Victoria Av. (#4)	NBL	210	83	54	Yes	Yes	177	78
	NBT	1,300	550 [2]	367	Yes	Yes	340	310
	SBL	210	175 [2]	**229** [2]	Yes	**No**	160	274
	SBT	1,310	182	797 [2]	Yes	Yes	183	450
	EBL	130	58	39	Yes	Yes	94	66
	EBT	325	77	109	Yes	Yes	111	144
	EBR	325	0	12	Yes	Yes	58	114
	WBL	200	159 [2]	**356** [2]	Yes	**No**	136	294
	WBT	530	98	76	Yes	Yes	111	341
	WBR	200	60	32	Yes	Yes	139	144
La Sierra Av. & McAllister Pkwy. (#5)	NBT	1,475	387	261	Yes	Yes	202	189
	NBR	200	15	12	Yes	Yes	41	29
	SBL	150	117	**239**	Yes	**No**	53	235
	SBT	1,065	101	428	Yes	Yes	37	224
	WBL	150	37	29	Yes	Yes	51	40
	WBR	400	57	52	Yes	Yes	123	87

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided for the 95th percentile queue only. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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

3.10 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*.

3.10.1 INTERSECTIONS

Intersection improvements necessary to improve project-related traffic deficiencies are shown in Table 3-3. The improvements have been identified to improve the deficiencies back to acceptable levels.

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

			Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
		Traffic	Northbound			Southbound			Eastbound			Westbound						
#	Intersection	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
6	La Sierra Av. & El Sobrante Rd.																	
	- Without Improvements	AWS	0	2	0	1	1	0	0	0	0	0	1	0	19.1	**77.3**	C	**F**
	- With Improvements	**TS**	0	2	0	1	1	0	0	0	0	0	1	0	17.4	26.2	B	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; **1** = Improvement

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

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

3.10.2 QUEUES

Improvements to address queuing deficiencies have been identified where feasible and are shown in Table 3-4. Improvements have not been identified at the following movements, as improvements are not considered feasible due to physical constraints on the existing roadways:

- La Sierra Avenue & SR-91 WB Ramps (#1), Northbound left turn lane
- La Sierra Avenue & SR-91 WB Ramps (#1), Southbound through lane
- La Sierra Avenue & Indiana Avenue (#3), Eastbound left turn lane

TABLE 3-4: PEAK HOUR QUEUING SUMMARY FOR EXISTING (2023) CONDITIONS WITH IMPROVEMENTS

Intersection	Movement	Available Stacking Distance (Feet)[3]	Synchro: 95th Percentile Queue (Feet) AM Peak Hour	Synchro: 95th Percentile Queue (Feet) PM Peak Hour	Acceptable? [1] AM	Acceptable? [1] PM
La Sierra Av. & Indiana Av. (#3)	NBL	**325**	248 [2]	126 [2]	Yes	Yes
La Sierra Av. & Victoria Av. (#4)	SBL	**300**	175 [2]	229 [2]	Yes	Yes
	WBL	**500**	159 [2]	356 [2]	Yes	Yes
La Sierra Av. & McAllister Pkwy. (#5)	SBL	**400**	117	239	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided for the 95th percentile queue only. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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

[3] **100** = Improvement

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4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. The Project is anticipated to have an Opening Year of 2028. The Project includes the development of 163 single family detached residential dwelling units. A preliminary site plan for the proposed Project is shown previously on Exhibit 1-1. Primary access to the Project site will be accommodated via a new proposed connection to El Sobrante Road (via Street A) and a secondary connection to Travertine Drive (via Street G). Both driveways are assumed to allow for full access. Regional access to the Project site is available from the SR-91 Freeway via the La Sierra Avenue interchange.

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 ITE Trip Generation Manual (11th Edition, 2021) for Single Family Detached Residential (ITE Land Use Code 210) was used to calculate the trip generation. (2)

The trip generation summary illustrating daily and peak hour trip generation estimates for the Project in actual vehicles are shown in Table 4-1. The proposed Project is anticipated to generate 1,538 two-way trip-ends per day with 114 AM peak hour trips and 153 PM peak hour trips (see Table 4-1).

TABLE 4-1: PROJECT TRIP GENERATION SUMMARY

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Single Family Detached Residential	DU	210	0.18	0.52	0.70	0.59	0.35	0.94	9.43

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

[2] DU = Dwelling Units

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Greentree (TTM No. 38605)	163	DU	30	84	114	97	57	153	1,538

[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. Exhibit 4-1 shows the Project trip distribution patterns.

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 4-2.

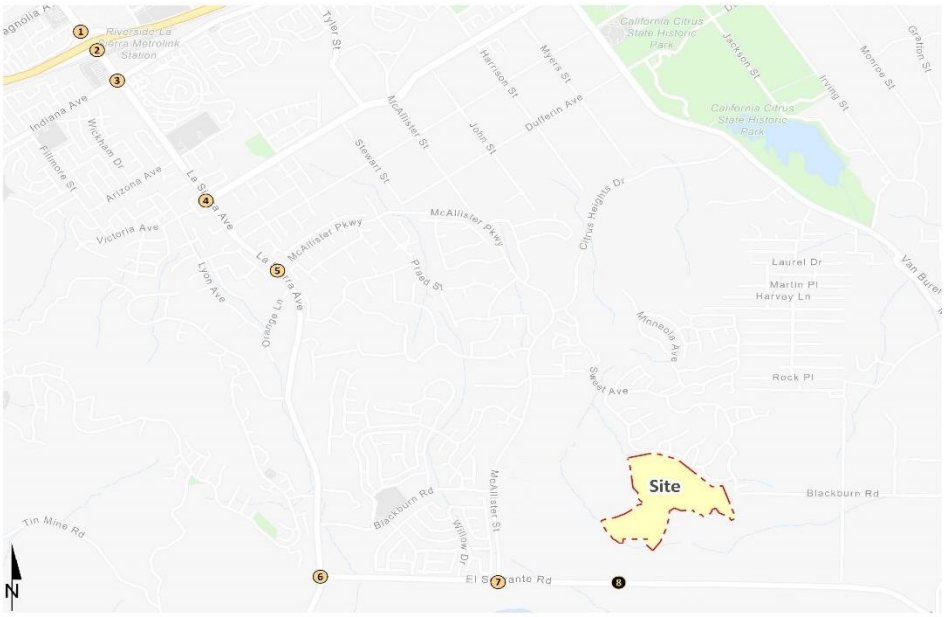
4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year, compounded annually, for 2028 conditions. The total ambient growth is 10.41% for 2028 traffic conditions (compounded growth of 2 percent per year over 5 years or $1.02^{5\ years}$). The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

The currently adopted Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (May 2020) growth forecasts for the County of Riverside identifies projected growth in population of 370,500 in 2016 to 525,600 in 2045, or a 41.9 percent increase over the 29-year period. (6) 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 4-1: PROJECT TRIP DISTRIBUTION

EXHIBIT 4-2: PROJECT ONLY TRAFFIC VOLUMES



1 La Sierra Av. & SR-91 WB Ramps	2 La Sierra Av. & SR-91 EB Ramps	3 La Sierra Av. & Indiana Av.	4 La Sierra Av. & Victoria Av.	5 La Sierra Av. & McAllister Pkwy.
200 / 100 4(12) ← ← 5(15) 13(9) ↰ 10(7) ↑ 100 / 400	400 / 100 8(26) ← 5(15) ↴ 23(15) ↑ 13(9) ↱ 100 / 650	650 / 100 13(41) ← ← 2(6) 2(7) ↴ 6(4) ↰ 35(24) ↑ 5(3) ↱ 100 / 850	850 / 100 17(53) ← ← 2(6) 46(31) ↑ 5(3) ↱ 950	950 18(59) ← 51(35) ↑ 950

6 La Sierra Av. & El Sobrante Rd.	7 McAllister Pkwy. & El Sobrante Rd.	8 Street A & El Sobrante Rd.
950 / 1,100 18(59) ↳ ← 51(35) ← 8(5) ↱ 3(9) 150	300 / 1,350 5(17) ↳ ↱ 15(10) ← 59(40) 21(68) → 1,100	1,550 / 200 74(50) ↲ 10(7) ↳ ↱ 4(12) 26(85) → 1,350

##(##) 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 and City 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 4-3, listed in Table 4-2, 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 on Exhibit 4-3 and listed in Table 4-2. Cumulative Only ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-4.

EXHIBIT 4-3: CUMULATIVE DEVELOPMENT LOCATION MAP

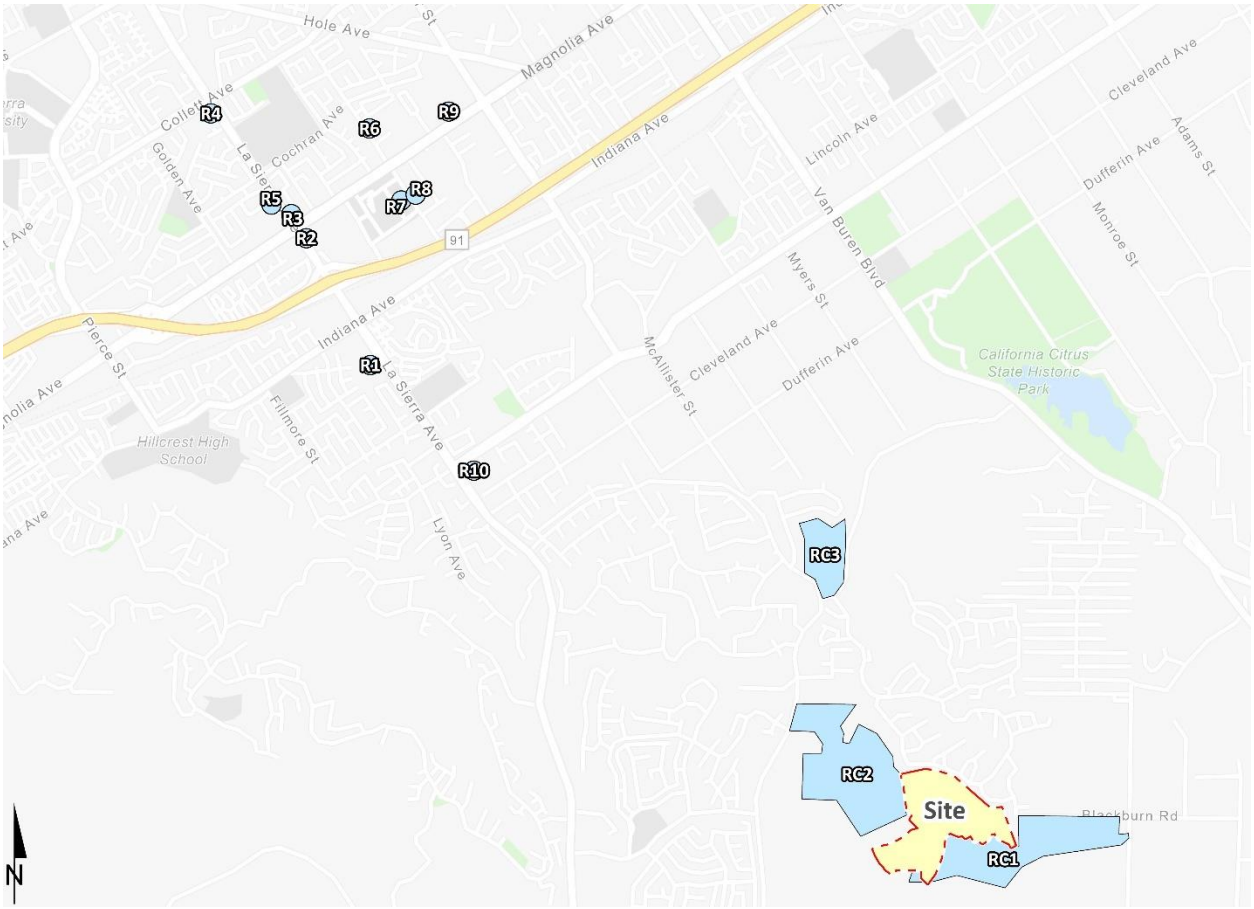
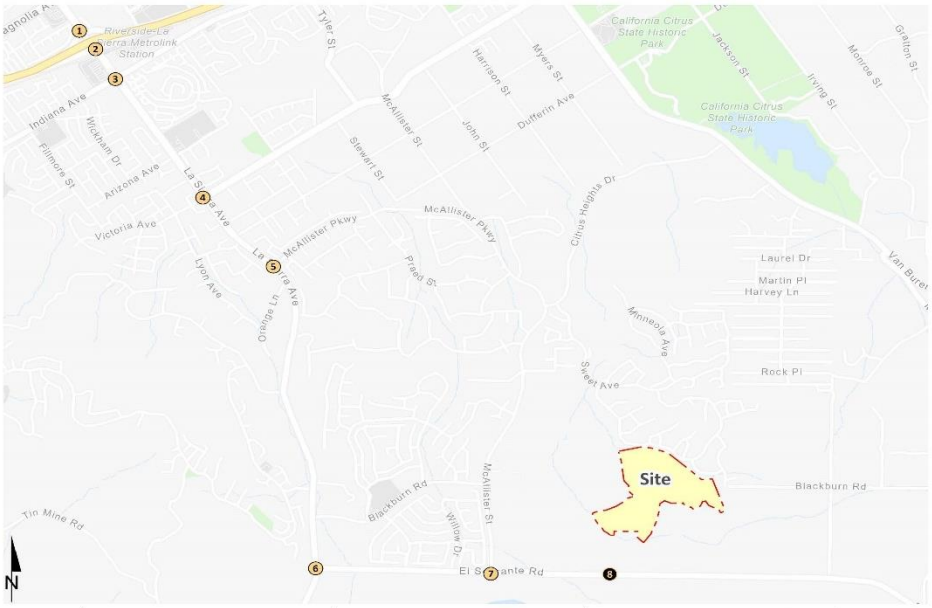
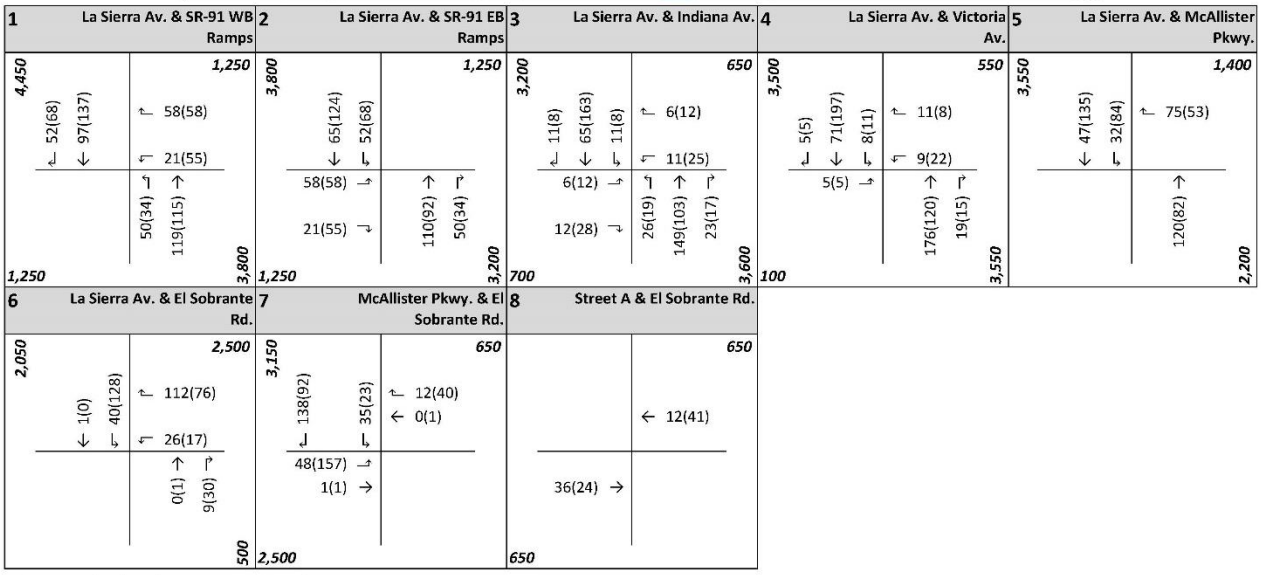


EXHIBIT 4-4: CUMULATIVE ONLY TRAFFIC VOLUMES





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

TABLE 4-2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

No.	Project Name	Land Use[1]	Quantity	Units[2]
County of Riverside				
RC1	PM37227	Single Family Residential	9	DU
RC2	TR37217	Single Family Residential	513	DU
RC3	TTM38520	Single Family Residential	45	DU
City of Riverside				
R1	P13-0165, P13-0166, P13-0167, P13-0168	Gas Sation w/ Car Wash	16.0	AC
R2	P18-0600	Retail/Restaurant w/ Drive Thru	4.494	TSF
R3	PR-2021-001151	Apartment Units & Dental Office	8.139	TSF
R4	P19-0410, P19-0411, P19-0412	Single Family Residential	34	DU
R5	PR-2023-001476	Coffee Shop w/ Drive-Thru (Starbucks)	2.300	TSF
R6	P18-0396, P18-0370	Multi-Family Residential	57	DU
R7	PR-2021-000713	Hospital Tower Expansion	318.433	TSF
R8	PR-2022-001468	Multi-Family Residential	38	DU
R9	P19-0863	Multi-Family Residential	450	DU
		Commercial Retail	9.000	TSF
R10	P14-0176	Single Family Residential	14	DU

[1] TSF = Thousand Square Feet; DU = Dwelling Units; AC = Acres

4.7 NEAR-TERM TRAFFIC CONDITIONS

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

- Existing Plus Ambient Growth Plus Project (2028)
    - Existing 2023 counts
    - Ambient growth traffic (10.41%)
    - Project traffic
- Existing Plus Ambient Growth Plus Project Plus Cumulative (2028)
    - Existing 2023 counts
    - Ambient growth traffic (10.41%)
    - Cumulative Development traffic
    - Project traffic

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5 EAP (2028) TRAFFIC CONDITIONS

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

5.1 ROADWAY IMPROVEMENTS

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

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

5.2 EAP (2028) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2023) traffic volumes plus an ambient growth factor of 10.41% and the addition of Project traffic. The weekday ADT volumes and peak hour volumes which can be expected for EAP (2028) traffic conditions are shown on Exhibit 5-1.

5.3 INTERSECTION OPERATIONS ANALYSIS

EAP (2028) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 5-1 for EAP traffic conditions, which indicate that all of the study area intersections are anticipated to continue to operate at an acceptable LOS under EAP traffic conditions, with the exception of the following intersection, consistent with Existing (2023) Conditions.

- La Sierra Avenue & El Sobrante Road (#6) – LOS E AM peak hour; LOS F PM peak hour

The intersection operations analysis worksheets for EAP traffic conditions are included in Appendix 5.1 of this TA.

EXHIBIT 5-1: EAP (2028) TRAFFIC VOLUMES

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

Average Daily Trips

TABLE 5-1: INTERSECTION ANALYSIS FOR EAP (2028) CONDITIONS

#	Intersection	Traffic Control[2]	Existing (2023) Delay[1] (secs.) AM	Existing (2023) Delay[1] (secs.) PM	Existing (2023) Level of Service AM	Existing (2023) Level of Service PM	EAP (2028) Delay[1] (secs.) AM	EAP (2028) Delay[1] (secs.) PM	EAP (2028) Level of Service AM	EAP (2028) Level of Service PM
1	La Sierra Av. & SR-91 WB Ramps	TS	17.0	21.0	B	C	18.0	22.9	B	C
2	La Sierra Av. & SR-91 EB Ramps	TS	22.0	28.5	C	C	22.2	31.2	C	C
3	La Sierra Av. & Indiana Av.	TS	30.6	26.5	C	C	34.7	29.5	C	C
4	La Sierra Av. & Victoria Av.	TS	23.6	31.1	C	C	27.8	41.8	C	D
5	La Sierra Av. & McAllister Pkwy.	TS	9.9	8.3	A	A	11.1	9.8	B	A
6	La Sierra Av. & El Sobrante Rd.	AWS	19.1	**77.3**	C	**F**	**40.4**	**>100.0**	**E**	**F**
7	McAllister Pkwy. & El Sobrante Rd.	CSS	13.0	11.6	B	B	15.3	14.8	C	B
8	Street A & El Sobrante Rd.	**CSS**	Future Intersection				14.0	12.2	B	B

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

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

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

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAP (2028) traffic conditions are based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. No additional unsignalized study area intersections are anticipated to meet either peak hour volume or ADT volume-based warrants under EAP (2028) Conditions (see Appendix 5.2).

5.5 QUEUING ANALYSIS

Queuing analysis findings are presented in Table 5-2. As shown in Table 5-2, the following additional movement is anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows, in addition to the movements identified under Existing (2023) Conditions:

- La Sierra Avenue & SR-91 RB Ramps (#2), Southbound left turn lane – AM and PM peak hours

It should be noted, the Simtraffic maximum queues have been reported at the request of the County. However, improvements have been identified to address the 95th percentile queues. Worksheets for EAP (2028) traffic conditions off-ramp queuing analysis are provided in Appendix 5.4.

TABLE 5-2: PEAK HOUR QUEUING SUMMARY FOR EAP (2028) CONDITIONS

			Existing (2023)						EAP (2028)					
			Synchro: 95th Percentile Queue (Feet)		Acceptable? [1]		Simtraffic: Maximum Queue (Feet)		Synchro: 95th Percentile Queue (Feet)		Acceptable? [1]		Simtraffic: Maximum Queue (Feet)	
Intersection	Movement	Available Stacking Distance (Feet)	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
La Sierra Av. & SR-91 WB Ramps (#1)	NBL	150	**261**	**184**	**No**	**No**	340	219	**290**	**207** [2]	**No**	**No**	362	239
	NBT	450	291	228	Yes	Yes	266	218	316	250	Yes	Yes	290	218
	SBT	300	259	**324**	Yes	**No**	456	561	293	**374**	Yes	**No**	490	758
	SBR	150	46	81	Yes	Yes	113	168	55	100	Yes	Yes	135	190
	WBL	500	218	316	Yes	Yes	215	299	248	389 [2]	Yes	Yes	255	333
	WBT	1,200	227	290	Yes	Yes	303	364	263	340 [2]	Yes	Yes	323	423
	WBR	500	192	188	Yes	Yes	263	327	224	251	Yes	Yes	288	383
La Sierra Av. & SR-91 EB Ramps (#2)	NBT	900	360	266	Yes	Yes	459	349	406	304	Yes	Yes	563	417
	NBR	415	54	64	Yes	Yes	220	198	55	68	Yes	Yes	299	172
	SBL	150	130	117	Yes	Yes	189	216	**179** [2]	**196** [2]	**No**	**No**	215	216
	SBT	450	25	263	Yes	Yes	126	389	33	301	Yes	Yes	209	258
	EBL	1,690	248	142	Yes	Yes	453	57	276	155	Yes	Yes	551	301
	EBT	1,690	235	398	Yes	Yes	598	401	264	527 [2]	Yes	Yes	689	523
	EBR	450	126	333	Yes	Yes	495	395	176	408 [2]	Yes	Yes	538	440
La Sierra Av. & Indiana Av. (#3)	NBL	200	**248** [2]	126 [2]	**No**	Yes	274	128	**290** [2]	148 [2]	**No**	Yes	275	148
	NBT	590	416	222	Yes	Yes	346	239	530 [2]	256	Yes	Yes	459	162
	NBR	315	1	0	Yes	Yes	52	65	10	0	Yes	Yes	329	263
	SBL	355	107 [2]	168 [2]	Yes	Yes	122	157	120 [2]	194 [2]	Yes	Yes	108	228
	SBT	900	287	520 [2]	Yes	Yes	227	370	326	642 [2]	Yes	Yes	268	442
	SBR	540	65	62	Yes	Yes	124	162	68	64	Yes	Yes	155	159
	EBL	205	**323** [2]	**245** [2]	**No**	**No**	260	233	**374** [2]	**282** [2]	**No**	**No**	265	263
	EBT	1,010	97	113	Yes	Yes	316	204	107	123	Yes	Yes	504	364
	EBR	205	31	68	Yes	Yes	76	149	42	95	Yes	Yes	80	165
	WBL	200	81	85	Yes	Yes	93	102	89	96	Yes	Yes	119	108
	WBT	535	104	98	Yes	Yes	128	109	114	107	Yes	Yes	145	127
	WBR	130	41	40	Yes	Yes	144	106	55	52	Yes	Yes	160	110
La Sierra Av. & Victoria Av. (#4)	NBL	210	83	54	Yes	Yes	177	78	89	59	Yes	Yes	273	88
	NBT	1,300	550 [2]	367	Yes	Yes	340	310	738 [2]	437	Yes	Yes	434	347
	SBL	210	175 [2]	**229** [2]	Yes	**No**	160	274	199 [2]	**265** [2]	Yes	**No**	149	274
	SBT	1,310	182	797 [2]	Yes	Yes	183	450	210	**981** [2]	Yes	**Yes**	193	936
	EBL	130	58	39	Yes	Yes	94	66	63	43	Yes	Yes	131	97
	EBT	325	77	109	Yes	Yes	111	144	83	119	Yes	Yes	119	132
	EBR	325	0	12	Yes	Yes	58	114	1	22	Yes	Yes	65	154
	WBL	200	159 [2]	**356** [2]	Yes	**No**	136	294	187 [2]	**416** [2]	Yes	**No**	148	295
	WBT	530	98	76	Yes	Yes	111	341	108	82	Yes	Yes	127	345
	WBR	200	60	32	Yes	Yes	139	144	88	41	Yes	Yes	170	148
La Sierra Av. & McAllister Pkwy. (#5)	NBT	1,475	387	261	Yes	Yes	202	189	475	319	Yes	Yes	273	208
	NBR	200	15	12	Yes	Yes	41	29	17	13	Yes	Yes	36	36
	SBL	150	117	**239**	Yes	**No**	53	235	132	**270**	Yes	**No**	132	256
	SBT	1,065	101	428	Yes	Yes	37	224	116	457	Yes	Yes	136	292
	WBL	150	37	29	Yes	Yes	51	40	41	33	Yes	Yes	56	57
	WBR	400	57	52	Yes	Yes	123	87	77	56	Yes	Yes	194	68

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided for the 95th percentile queue only. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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

5.6 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*.

5.6.1 INTERSECTIONS

Intersection improvements necessary to improve project-related traffic deficiencies are shown in Table 5-3. The improvements have been identified to improve the deficiencies back to acceptable levels.

TABLE 5-3: INTERSECTION ANALYSIS FOR EAP (2028) CONDITIONS WITH IMPROVEMENTS

			Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
		Traffic	Northbound			Southbound			Eastbound			Westbound						
#	Intersection	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
6	La Sierra Av. & El Sobrante Rd.																	
	- Existing	AWS	0	2	0	1	1	0	0	0	0	0	1	0	17.4	26.2	B	C
	- EAP	**TS**	0	2	0	1	1	0	0	0	0	0	1	0	20.6	24.3	C	C

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

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

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

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

5.6.1 QUEUES

Improvements to address queuing deficiencies have been identified where feasible and are shown in Table 3-4. Improvements have not been identified at the following movements, as improvements are not considered feasible due to physical constraints on the existing roadways:

- La Sierra Avenue & SR-91 WB Ramps (#1), Northbound left turn lane
- La Sierra Avenue & SR-91 WB Ramps (#1), Southbound through lane
- La Sierra Avenue & SR-91 RB Ramps (#2), Southbound left turn lane
- La Sierra Avenue & Indiana Avenue (#3), Eastbound left turn lane

TABLE 5-4: PEAK HOUR QUEUING SUMMARY FOR EAP (2028) CONDITIONS WITH IMPROVEMENTS

			EAP (2028)			
		Available Stacking	Synchro: 95th Percentile Queue (Feet)		Acceptable? [1]	
Intersection	Movement	Distance (Feet)[3]	AM Peak Hour	PM Peak Hour	AM	PM
La Sierra Av. & Indiana Av. (#3)	NBL	**325**	290 [2]	148 [2]	Yes	Yes
La Sierra Av. & Victoria Av. (#4)	SBL	**300**	199 [2]	265 [2]	Yes	Yes
	WBL	**500**	187 [2]	416 [2]	Yes	Yes
La Sierra Av. & McAllister Pkwy. (#5)	SBL	**400**	132	270	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided for the 95th percentile queue only. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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

[3] **100** = Improvement

6 EAPC (2028) TRAFFIC CONDITIONS

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

6.1 ROADWAY IMPROVEMENTS

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

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

6.2 EAPC (2028) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2023) traffic volumes plus an ambient growth factor of 10.41%, the addition of Project traffic, plus the addition of traffic generated by known cumulative development projects. The weekday ADT volumes and peak hour volumes which can be expected for EAPC (2028) traffic conditions are shown on Exhibit 6-1.

6.3 INTERSECTION OPERATIONS ANALYSIS

EAPC (2028) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 5-1 for EAPC traffic conditions, which indicate that all of the study area intersections are anticipated to continue to operate at an acceptable LOS under EAPC (2028) traffic conditions, with the exception of the following intersection, consistent with Existing conditions.

- La Sierra Avenue & El Sobrante Road (#6) – LOS E AM peak hour; LOS F PM peak hour

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

EXHIBIT 6-1: EAPC (2028) TRAFFIC VOLUMES

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

#	Intersection	Traffic Control[2]	EAP (2028) Delay[1] (secs.) AM	PM	Level of Service AM	PM
1	La Sierra Av. & SR-91 WB Ramps	TS	19.1	24.6	B	C
2	La Sierra Av. & SR-91 EB Ramps	TS	24.9	33.9	C	C
3	La Sierra Av. & Indiana Av.	TS	37.1	31.8	D	C
4	La Sierra Av. & Victoria Av.	TS	35.4	54.7	D	D
5	La Sierra Av. & McAllister Pkwy.	TS	14.2	13.2	B	B
6	La Sierra Av. & El Sobrante Rd.	AWS	**98.7**	**>100.0**	**F**	**F**
7	McAllister Pkwy. & El Sobrante Rd.	CSS	16.8	16.1	C	C
8	Street A & El Sobrante Rd.	**CSS**	18.3	15.5	C	C

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

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

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

6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAPC (2028) traffic conditions are based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. The following additional unsignalized study area intersections is anticipated to meet either peak hour volume or ADT volume-based warrant under EAPC (2028) Conditions (see Appendix 6.2), in addition to the intersection identified under Existing (2023) Conditions:

- McAllister Parkway & El Sobrante Road (#7)
- Street A & El Sobrante Road (#8)

6.5 QUEUING ANALYSIS

Queuing analysis findings are presented in Table 6-2. As shown in Table 6-2, the following movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows:

- La Sierra Avenue & SR-91 WB Ramps (#1), Northbound left turn lane – AM and PM peak hours
- La Sierra Avenue & SR-91 WB Ramps (#1), Southbound through lane – AM and PM peak hours
- La Sierra Avenue & SR-91 RB Ramps (#2), Southbound left turn lane – AM and PM peak hours
- La Sierra Avenue & Indiana Avenue (#3), Northbound left turn lane – AM peak hour only
- La Sierra Avenue & Indiana Avenue (#3), Northbound through lane – AM peak hour only
- La Sierra Avenue & Indiana Avenue (#3), Eastbound left turn lane – AM and PM peak hours
- La Sierra Avenue & Victoria Avenue (#4), Southbound left turn lane – AM and PM peak hours
- La Sierra Avenue & Victoria Avenue (#4), Westbound left turn lane – AM and PM peak hours
- La Sierra Avenue & McAllister Parkway (#5), Southbound left turn lane – AM and PM peak hours

It should be noted, the Simtraffic maximum queues have been reported at the request of the County. However, improvements have been identified to address the 95th percentile queues. Worksheets for EAPC (2028) traffic conditions off-ramp queuing analysis are provided in Appendix 6.4.

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

Intersection	Movement	Available Stacking Distance (Feet)	Synchro: 95th Percentile Queue (Feet)		EAPC (2028) Acceptable? [1]		Simtraffic: Maximum Queue (Feet)	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
La Sierra Av. & SR-91 WB Ramps (#1)	NBL	150	**316** [2]	**201**	**No**	**No**	372	232
	NBT	450	361	278	Yes	Yes	289	234
	SBT	300	**327**	**454**	**No**	**No**	666	992
	SBR	150	74	139	Yes	Yes	180	190
	WBL	500	269	461 [2]	Yes	Yes	295	378
	WBT	1,200	351 [2]	424 [2]	Yes	Yes	325	433
	WBR	500	253	310	Yes	Yes	277	393
La Sierra Av. & SR-91 EB Ramps (#2)	NBT	900	449	345 [2]	Yes	Yes	579	502
	NBR	415	57	72	Yes	Yes	396	227
	SBL	150	**226** [2]	**204** [2]	**No**	**No**	215	210
	SBT	450	38	365	Yes	Yes	233	376
	EBL	1,690	332 [2]	194	Yes	Yes	1,470	727
	EBT	1,690	332 [2]	584 [2]	Yes	Yes	1,474	904
	EBR	450	213	483 [2,3]	Yes	Yes	560	524
La Sierra Av. & Indiana Av. (#3)	NBL	200	**316** [2]	168 [2]	**No**	Yes	275	190
	NBT	590	**626** [2]	291	**No**	Yes	453	312
	NBR	315	28	0	Yes	Yes	249	54
	SBL	355	132 [2]	201 [2]	Yes	Yes	111	426
	SBT	900	376 [2]	741 [2]	Yes	Yes	301	738
	SBR	540	69	64	Yes	Yes	168	401
	EBL	205	**380** [2]	**294** [2]	**No**	**No**	265	260
	EBT	1,010	107	123	Yes	Yes	696	330
	EBR	205	42	124	Yes	Yes	95	208
	WBL	200	95	117 [2]	Yes	Yes	114	125
	WBT	535	114	107	Yes	Yes	172	146
	WBR	130	59	61	Yes	Yes	166	162
La Sierra Av. & Victoria Av. (#4)	NBL	210	89	60 [2]	Yes	Yes	274	112
	NBT	1,300	924 [2]	534 [2]	Yes	Yes	626	417
	SBL	210	**216** [2]	**297** [2]	**No**	**No**	183	275
	SBT	1,310	244	1,126 [2]	Yes	Yes	227	1,394
	EBL	130	67	45	Yes	Yes	125	79
	EBT	325	83	119	Yes	Yes	95	156
	EBR	325	1	22	Yes	Yes	68	166
	WBL	200	**206** [2]	**490** [2]	**No**	**No**	173	305
	WBT	530	108	86	Yes	Yes	149	1,442
	WBR	200	107	48	Yes	Yes	188	330
La Sierra Av. & McAllister Pkwy. (#5)	NBT	1,475	555	367	Yes	Yes	313	260
	NBR	200	17	14	Yes	Yes	31	34
	SBL	150	**179** [2]	**384** [2]	**No**	**No**	200	278
	SBT	1,065	127	642	Yes	Yes	137	313
	WBL	150	41	33	Yes	Yes	57	61
	WBR	400	168	63	Yes	Yes	244	154

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided for the 95th percentile queue only. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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

[3] 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 SR-91 Freeway mainline.

6.6 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements based on the County of Riverside deficiency criteria discussed in Section 2.6 *Deficiency Criteria*.

6.6.1 INTERSECTIONS

Intersection improvements necessary to improve project-related traffic deficiencies are shown in Table 5-3. The improvements have been identified to improve the deficiencies back to acceptable levels.

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

			Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
		Traffic	Northbound			Southbound			Eastbound			Westbound						
#	Intersection	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
6	La Sierra Av. & El Sobrante Rd.																	
	- Without Improvements	AWS	0	2	0	1	1	0	0	0	0	0	1	0	**98.7**	**>100.0**	**F**	**F**
	- With Improvements	**TS**	0	2	0	1	1	0	0	0	0	0	1	0	27.4	53.6	C	D

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] TS = Traffic Signal; AWS = All-way Stop; **TS** = Improvement

6.6.1 QUEUES

Improvements to address queuing deficiencies have been identified where feasible and are shown in Table 3-4. Improvements have not been identified at the following movements, as improvements are not considered feasible due to physical constraints on the existing roadways:

- La Sierra Avenue & SR-91 WB Ramps (#1), Northbound left turn lane
- La Sierra Avenue & SR-91 WB Ramps (#1), Southbound through lane
- La Sierra Avenue & SR-91 RB Ramps (#2), Southbound left turn lane
- La Sierra Avenue & Indiana Avenue (#3), Northbound through lane
- La Sierra Avenue & Indiana Avenue (#3), Eastbound left turn lane

TABLE 6-4: PEAK HOUR QUEUING SUMMARY FOR EAP (2028) CONDITIONS WITH

IMPROVEMENTS

Intersection	Movement	Available Stacking Distance (Feet)[3]	EAPC (2028) Synchro: 95th Percentile Queue (Feet) AM Peak Hour	EAPC (2028) Synchro: 95th Percentile Queue (Feet) PM Peak Hour	Acceptable? [1] AM	Acceptable? [1] PM
La Sierra Av. & Indiana Av. (#3)	NBL	**325**	316 [2]	168 [2]	Yes	Yes
La Sierra Av. & Victoria Av. (#4)	SBL	**300**	216 [2]	297 [2]	Yes	Yes
	WBL	**500**	206 [2]	490 [2]	Yes	Yes
La Sierra Av. & McAllister Pkwy. (#5)	SBL	**400**	179 [2]	384 [2]	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided for the 95th percentile queue only. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

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

[3] **100** = Improvement

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7 LOCAL AND REGIONAL FUNDING MECHANISMS

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

7.1 RIVERSIDE COUNTY TRANSPORTATION UNIFORM MITIGATION FEE (TUMF)

The TUMF program is administered by the Western Riverside Council of Governments (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. (7) This regional program was put into place to ensure that development pays its fair share, and that funding is in place for construction of facilities needed to maintain the requisite level of service and critical to mobility in the region. TUMF is a truly regional mitigation fee program and is imposed and implemented in every jurisdiction in Western Riverside County.

7.2 RIVERSIDE COUNTY DEVELOPMENT IMPACT FEE (DIF) PROGRAM

The Project is located within the County's Lake Mathews/Woodcrest 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. (8) A comprehensive review of the DIF program is now planned in order to update the nexus study. This will result in development of a revised "needs list" extending the program time horizon from 2010 to 2030.

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

7.3 MEASURE A

Measure A, Riverside County's half-cent sales tax for transportation, was adopted by voters in 1988 and extended in 2002. It will continue to fund transportation improvements through 2038. Measure A funds a wide variety of transportation projects and services throughout the County. 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.

7.4 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 7-1 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 7-1: PROJECT FAIR SHARE CALCULATIONS

#	Intersection	Existing (2023)	Project	EAPC (2028)	Total New Traffic	Project % of New Traffic[1]
6	La Sierra Av. & El Sobrante Rd.					
	AM:	965	80	1,333	368	**21.7%**
	PM:	1,707	108	2,245	538	20.1%

[1] **BOLD =** Highest fair share percentage is highlighted.

8 REFERENCES

1. **County of Riverside Transportation Department.** *Transportation Analysis Guidelines for Level of Service and Vehicle Miles Traveled.* County of Riverside : s.n., December 2020.
2. **Institute of Transportation Engineers.** *Trip Generation Manual.* 11th Edition. 2021.
3. **VRPA Technologies, Inc. for Riverside County Transportation Commission.** *Riverside County Long Range Transportation Study.* County of Riverside : VRPA Technologies, Inc., December 2019.
4. **Transportation Research Board.** *Highway Capacity Manual (HCM).* 6th Edition. s.l. : National Academy of Sciences, 2016.
5. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CA MUTCD).* 2014, Updated March 30, 2021 (Revision 6).
6. **Southern California Association of Governments (SCAG).** *2020 Regional Transportation Plan / Sustainable Communities Strategy.* Adopted September 2020.
7. **Western Riverside Council of Governments.** *TUMF Nexus Study, 2016 Program Update.* July 2017.
8. **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. TTM No. 38605
Related Cases-
SP No.
EIR No.
GPA No.
CZ No.
Project Name: Greentree (Tentative Tract Map No. 38605)
Project Address: North of El Sobrante Road and East of McCallister Street
Project Description: 163 single family detached residential dwelling units

	Consultant	Developer Representative
Name:	Urban Crossroads Inc. - Charlene So	Adkan Engineers - Mitch Adkison
Address:	1133 Camelback St. #8329	6879 Airport Dr.
	Newport Beach, CA 92658	Riverside, CA 92504
Telephone:	(949) 861-0177	951-688-0241
email:	cso@urbanxroads.com	madkison@adkan.com

A. Trip Generation Source: ITE Trip Generation Manual (11th Edition, 2021)

Current GP Land Use	RC-VLDR & RC-LDR		Proposed Land Use	RC-VLDR & RC-LDR	
Current Zoning	A-1-10		Proposed Zoning	R-1-10,000	

	Current Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips				**30**	**84**	**114**
PM Trips				**97**	**57**	**154**

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

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

B. Trip Geographic Distribution:

N **30** % S **9** % E **39** % W **22** %

C. Background Traffic

Project Build-out Year: 2028 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:

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. La Sierra Av. & SR-91 WB Ramps
2. La Sierra Av. & SR-91 EB Ramps
3. La Sierra Av. & Indiana Av.
4. La Sierra Av. & Victoria Av.
5. La Sierra Av. & McAllister Pkwy.
6. La Sierra Av. & El Sobrante Rd.
7. McAllister Pkwy. & El Sobrante Rd.
8. Street A & El Sobrante Rd. - Future Itnersection
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.

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

1. 2.

F. Other Jurisdictional Impacts

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

If so, name of City jurisdiction:

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 scoping agreement is approved

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

Recommended by:

Charlene So — 2/27/2023

Consultant's Representative — Date

Approved Scoping Agreement:

Eva Covarrubias — 4/19/2023

Riverside County Transportation Department — Date

Scoping Agreement Revised on 4/19/2023

URBAN CROSSROADS

MEMORANDUM

URBAN | CROSSROADS

DATE: April 19, 2023
TO: Kevin Tsang, County of Riverside
FROM: Charlene So, Urban Crossroads, Inc.
JOB NO: 15368-02 TA Scope

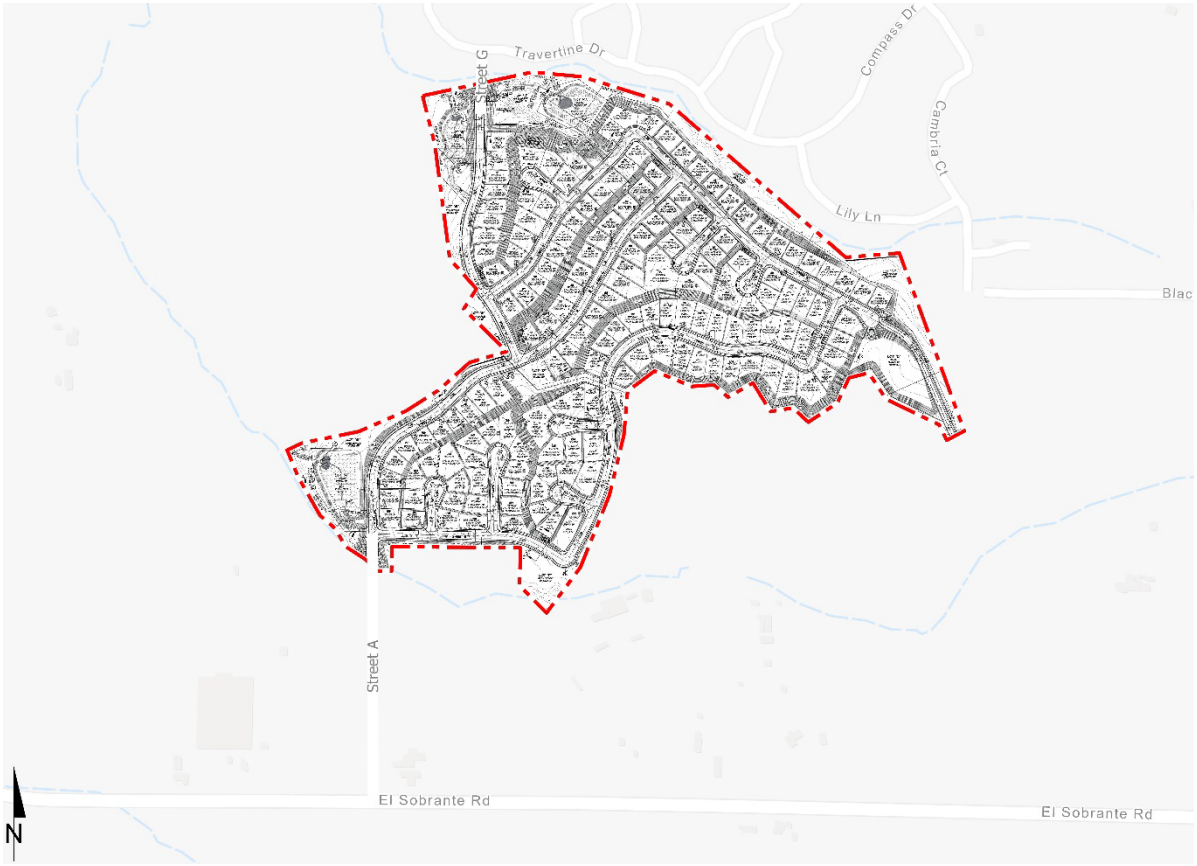
GREENTREE TTM NO. 38605 FOCUSED TRAFFIC STUDY SCOPING AGREEMENT

Urban Crossroads, Inc. is pleased to provide the following Focused Traffic Study Scoping Agreement for the Greentree TTM No. 38605 development (**Project**), which is located north of El Sobrante Road, east of McCallister Parkway, and south of Travertine Drive in the County of Riverside. This letter describes the proposed Project trip generation, trip distribution, and analysis methodology, which have been used to establish the draft proposed Project study area and analysis locations. The proposed analysis methodology and assumptions are in accordance with the County's Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled (dated December 2020) (**County Guidelines**).

PROJECT DESCRIPTION

The Project is anticipated to have an Opening Year of 2028. The Project includes the development of 163 single family detached residential dwelling units. A preliminary site plan for the proposed Project is shown on Exhibit 1. Primary access to the Project site will be accommodated via a new proposed connection to El Sobrante Road (via Street A) and a secondary connection to Travertine Drive (via Street G). Both driveways are assumed to allow for full access.

EXHIBIT 1: PRELIMIARY 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 Institute of Transportation Engineers (**ITE**) Trip Generation Manual (11th Edition, 2021) were used to estimate the Project's trip generation based on the Single Family Detached Housing (ITE Land Use Code 210) land use category. Trip generation rates are summarized on Table 1.

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project are also shown on Table 1. The proposed Project is anticipated to generate 1,538 two-way trip-ends per day with 114 AM peak hour trips and 153 PM peak hour trips (see Table 2).

TABLE 1: PROJECT TRIP GENERATION SUMMARY

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Single Family Detached Residential	DU	210	0.18	0.52	0.70	0.59	0.35	0.94	9.43

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

[2] DU = Dwelling Units

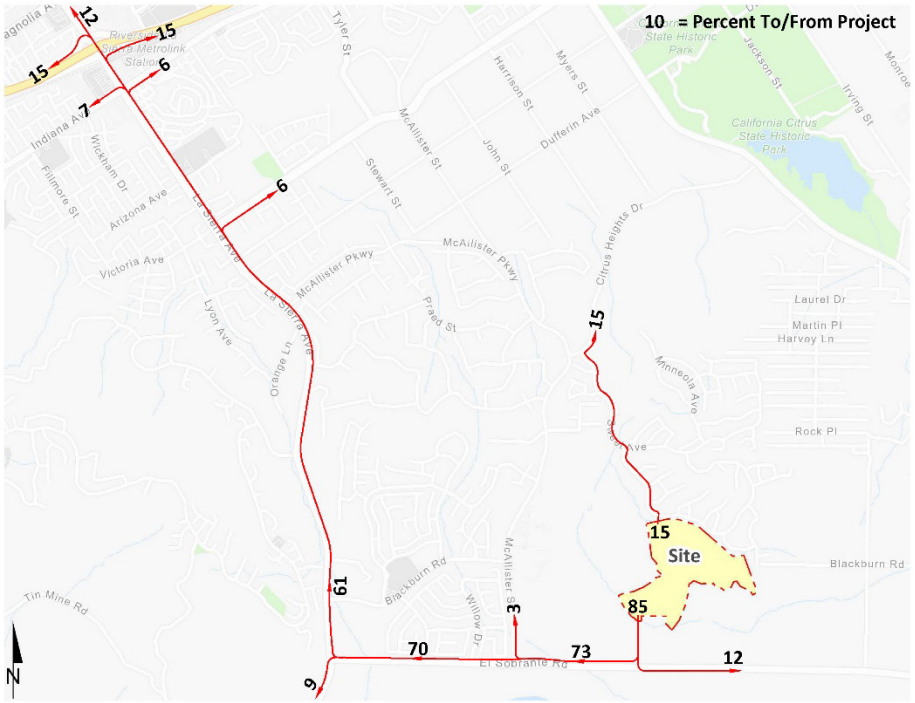
Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Greentree (TTM No. 38605)	163	DU	30	84	114	97	57	153	1,538

[1] DU = Dwelling Units

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. Exhibit 2 shows the Project trip distribution patterns. Traffic counts will be provided to the County for review once they have been conducted to verify the proposed Project distribution patterns.

EXHIBIT 2: PROJECT TRIP DISTRIBUTION



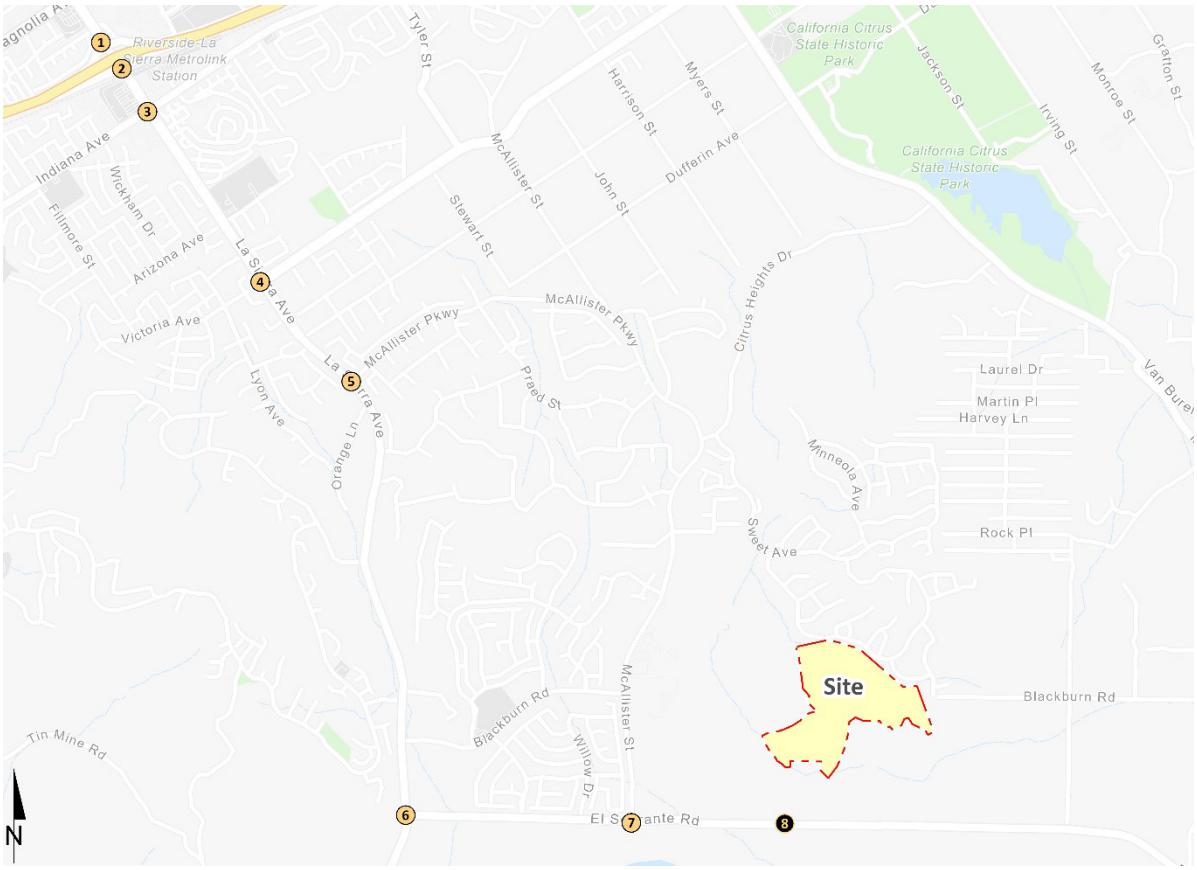
ANALYSIS SCENARIOS

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

- Existing (2023) Conditions
- Existing plus Ambient Growth plus Project (EAP) (2028) Conditions
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2028) Conditions

All study area intersections will be evaluated using the Highway Capacity Manual (HCM) 6th Edition analysis methodology. The study area that is proposed to be evaluated is shown on Exhibit 3.

EXHIBIT 3: STUDY AREA



TRAFFIC COUNTS

Traffic counts (classified by vehicle type) will be conducted during a typical weekday 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 with the exception of volume balancing between closely spaced intersections. Traffic counts will be conducted once the scoping agreement has been approved.

CUMULATIVE PROJECTS

It is requested that the County of Riverside provide current cumulative projects within the study area for inclusion in the Traffic Analysis. The City of Riverside will also be contacted to obtain a current list of cumulative projects for their agency.

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 includes all Project driveways.
- Provide a queuing analysis for the Project driveway (Street A at El Sobrante). This will be used to determine the appropriate turn pocket lengths needed to accommodate peak hour queues.
- Queuing analysis will also be conducted at all signalized study area intersections. Report through movement queues in addition to the turn-lane queues. Include a summary table for the queues for each applicable analysis scenario. Tables should report the available storage, 95th percentile queue from Synchro and Max Queues from SimTraffic.

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

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APPENDIX 1.2: SITE ADJACENT QUEUES

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Intersection: 8: El Sobrante Rd. & Street A

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	46	119
Average Queue (ft)	18	55
95th Queue (ft)	42	98
Link Distance (ft)		1174
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 8: El Sobrante Rd. & Street A

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	73	6	101
Average Queue (ft)	32	0	43
95th Queue (ft)	59	4	79
Link Distance (ft)		2649	1174
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Network Summary

Network wide Queuing Penalty: 0

APPENDIX 3.1: TRAFFIC COUNTS

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

City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W AM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 1

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

	La Sierra Avenue Southbound					SR-91 Westbound Off Ramp Westbound					La Sierra Avenue Northbound					SR-91 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	172	41	3	213	45	0	63	42	108	139	169	0	0	308	0	0	0	0	0	45	629	674
07:15 AM	0	178	29	7	207	59	0	109	56	168	156	232	0	0	388	0	0	0	0	0	63	763	826
07:30 AM	0	251	36	8	287	57	0	94	64	151	118	218	0	0	336	0	0	0	0	0	72	774	846
07:45 AM	0	289	26	6	315	66	0	104	46	170	147	324	0	0	471	0	0	0	0	0	52	956	1008
Total	0	890	132	24	1022	227	0	370	208	597	560	943	0	0	1503	0	0	0	0	0	232	3122	3354
08:00 AM	0	231	28	11	259	65	0	126	25	191	143	415	0	0	558	0	0	0	0	0	36	1008	1044
08:15 AM	0	201	35	14	236	48	1	119	53	168	134	341	0	0	475	0	0	0	0	0	67	879	946
08:30 AM	0	168	24	15	192	40	2	112	58	154	135	258	0	0	393	0	0	0	0	0	73	739	812
08:45 AM	0	148	32	18	180	32	0	84	42	116	135	237	0	0	372	0	0	0	0	0	60	668	728
Total	0	748	119	58	867	185	3	441	178	629	547	1251	0	0	1798	0	0	0	0	0	236	3294	3530
Grand Total	0	1638	251	82	1889	412	3	811	386	1226	1107	2194	0	0	3301	0	0	0	0	0	468	6416	6884
Apprch %	0	86.7	13.3			33.6	0.2	66.2			33.5	66.5	0			0	0	0					
Total %	0	25.5	3.9		29.4	6.4	0	12.6		19.1	17.3	34.2	0		51.4	0	0	0		0	6.8	93.2	
Passenger Vehicles	0	1600	246		1928	401	2	798		1581	1076	2143	0		3219	0	0	0		0	0	0	6728
% Passenger Vehicles	0	97.7	98	100	97.8	97.3	66.7	98.4	98.4	98.1	97.2	97.7	0	0	97.5	0	0	0	0	0	0	0	97.7
Large 2 Axle Vehicles	0	23	4		27	10	1	9		25	20	40	0		60	0	0	0		0	0	0	112
% Large 2 Axle Vehicles	0	1.4	1.6	0	1.4	2.4	33.3	1.1	1.3	1.6	1.8	1.8	0	0	1.8	0	0	0	0	0	0	0	1.6
3 Axle Vehicles	0	9	1		10	0	0	3		4	5	5	0		10	0	0	0		0	0	0	24
% 3 Axle Vehicles	0	0.5	0.4	0	0.5	0	0	0.4	0.3	0.2	0.5	0.2	0	0	0.3	0	0	0	0	0	0	0	0.3
4+ Axle Trucks	0	6	0		6	1	0	1		2	6	6	0		12	0	0	0		0	0	0	20
% 4+ Axle Trucks	0	0.4	0	0	0.3	0.2	0	0.1	0	0.1	0.5	0.3	0	0	0.4	0	0	0	0	0	0	0	0.3

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	251	**36**	287	57	0	94	151	118	218	0	336	0	0	0	0	774
07:45 AM	0	**289**	26	**315**	**66**	0	104	170	**147**	324	0	471	0	0	0	0	956
08:00 AM	0	231	28	259	65	0	**126**	**191**	143	**415**	0	**558**	0	0	0	0	**1008**
08:15 AM	0	201	35	236	48	**1**	119	168	134	341	0	475	0	0	0	0	879
Total Volume	0	972	125	1097	236	1	443	680	542	1298	0	1840	0	0	0	0	3617
% App. Total	0	88.6	11.4		34.7	0.1	65.1		29.5	70.5	0		0	0	0		
PHF	.000	.841	.868	.871	.894	.250	.879	.890	.922	.782	.000	.824	.000	.000	.000	.000	.897

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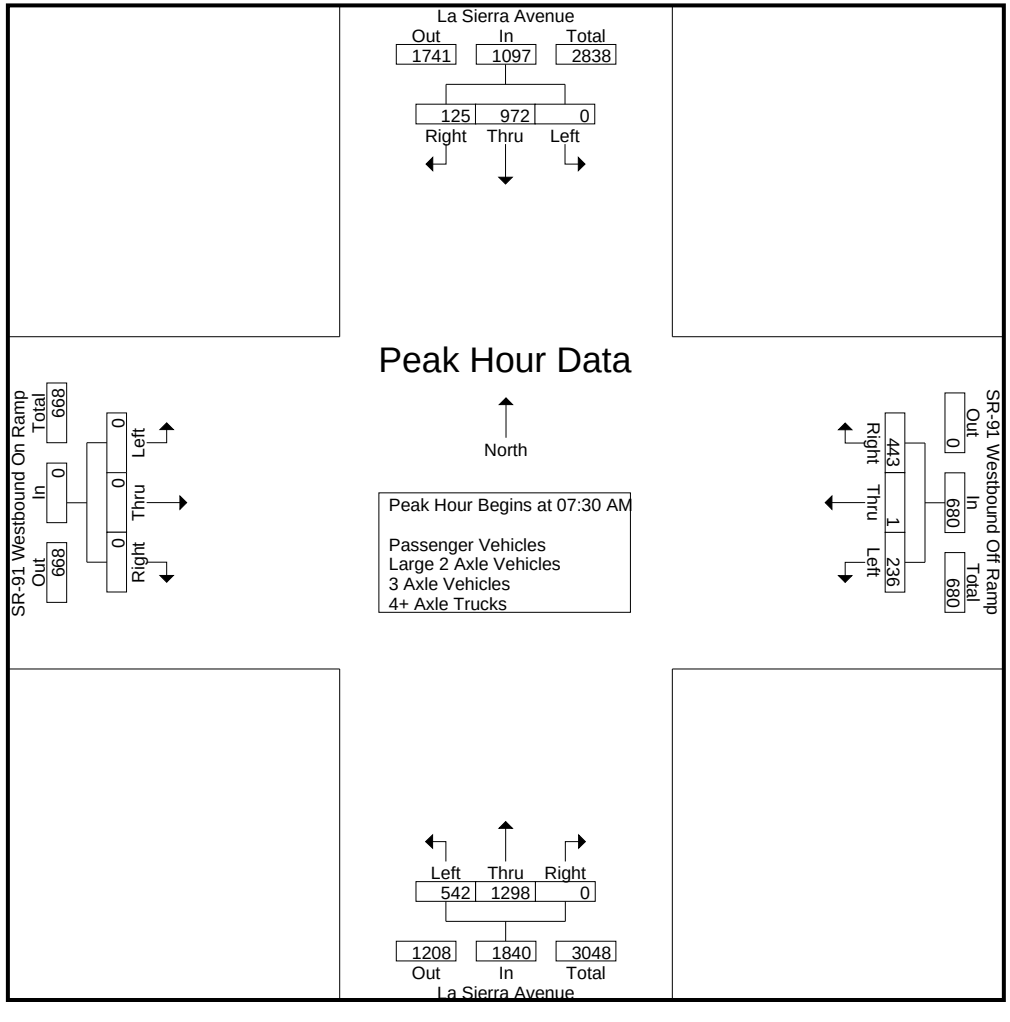
City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W AM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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City of Riverside
N/S: La Sierra Avenue
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File Name : 01_RIV_La S_91W AM
Site Code : 05123396
Start Date : 8/17/2023

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:45 AM				07:45 AM				07:00 AM				
+0 mins.	0	251	**36**	287	**66**	0	104	170	**147**	324	0	471	0	0	0	0	
+15 mins.	0	**289**	26	**315**	65	0	**126**	**191**	143	**415**	0	**558**	0	0	0	0	
+30 mins.	0	231	28	259	48	1	119	168	134	341	0	475	0	0	0	0	
+45 mins.	0	201	35	236	40	**2**	112	154	135	258	0	393	0	0	0	0	
Total Volume	0	972	125	1097	219	3	461	683	559	1338	0	1897	0	0	0	0	
% App. Total	0	88.6	11.4		32.1	0.4	67.5		29.5	70.5	0		0	0	0		
PHF	.000	.841	.868	.871	.830	.375	.915	.894	.951	.806	.000	.850	.000	.000	.000	.000	

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City of Riverside
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Weather: Clear

File Name : 01_RIV_La S_91W AM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 1

Groups Printed- Passenger Vehicles

	La Sierra Avenue Southbound					SR-91 Westbound Off Ramp Westbound					La Sierra Avenue Northbound					SR-91 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	167	40	3	207	41	0	62	41	103	134	163	0	0	297	0	0	0	0	0	44	607	651
07:15 AM	0	172	29	7	201	58	0	105	54	163	154	227	0	0	381	0	0	0	0	0	61	745	806
07:30 AM	0	246	36	8	282	56	0	93	64	149	114	211	0	0	325	0	0	0	0	0	72	756	828
07:45 AM	0	283	26	6	309	65	0	103	46	168	143	316	0	0	459	0	0	0	0	0	52	936	988
Total	0	868	131	24	999	220	0	363	205	583	545	917	0	0	1462	0	0	0	0	0	229	3044	3273
08:00 AM	0	224	27	11	251	65	0	125	25	190	142	407	0	0	549	0	0	0	0	0	36	990	1026
08:15 AM	0	197	33	14	230	46	1	118	52	165	126	336	0	0	462	0	0	0	0	0	66	857	923
08:30 AM	0	166	23	15	189	39	1	110	56	150	131	249	0	0	380	0	0	0	0	0	71	719	790
08:45 AM	0	145	32	18	177	31	0	82	42	113	132	234	0	0	366	0	0	0	0	0	60	656	716
Total	0	732	115	58	847	181	2	435	175	618	531	1226	0	0	1757	0	0	0	0	0	233	3222	3455
Grand Total	0	1600	246	82	1846	401	2	798	380	1201	1076	2143	0	0	3219	0	0	0	0	0	462	6266	6728
Apprch %	0	86.7	13.3			33.4	0.2	66.4			33.4	66.6	0			0	0	0					
Total %	0	25.5	3.9		29.5	6.4	0	12.7		19.2	17.2	34.2	0		51.4	0	0	0		0	6.9	93.1	

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	246	**36**	282	56	0	93	149	114	211	0	325	0	0	0	0	756
07:45 AM	0	**283**	26	**309**	**65**	0	103	168	**143**	316	0	459	0	0	0	0	936
08:00 AM	0	224	27	251	65	0	**125**	**190**	142	**407**	0	**549**	0	0	0	0	**990**
08:15 AM	0	197	33	230	46	**1**	118	165	126	336	0	462	0	0	0	0	857
Total Volume	0	950	122	1072	232	1	439	672	525	1270	0	1795	0	0	0	0	3539
% App. Total	0	88.6	11.4		34.5	0.1	65.3		29.2	70.8	0		0	0	0		
PHF	.000	.839	.847	.867	.892	.250	.878	.884	.918	.780	.000	.817	.000	.000	.000	.000	.894

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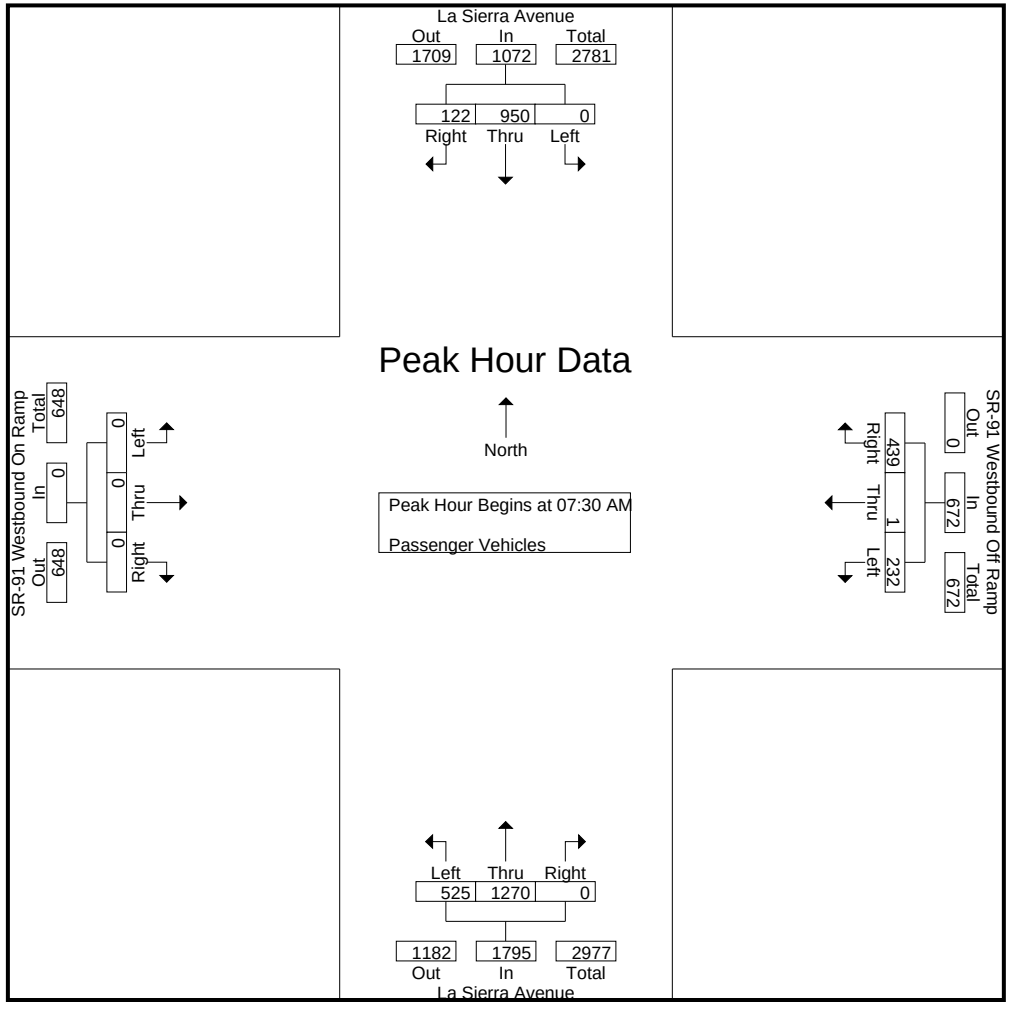
City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W AM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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City of Riverside
N/S: La Sierra Avenue
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File Name : 01_RIV_La S_91W AM
Site Code : 05123396
Start Date : 8/17/2023

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	246	**36**	282	56	0	93	149	114	211	0	325	0	0	0	0	
+15 mins.	0	**283**	26	**309**	**65**	0	103	168	**143**	316	0	459	0	0	0	0	
+30 mins.	0	224	27	251	65	0	**125**	**190**	142	**407**	0	**549**	0	0	0	0	
+45 mins.	0	197	33	230	46	**1**	118	165	126	336	0	462	0	0	0	0	
Total Volume	0	950	122	1072	232	1	439	672	525	1270	0	1795	0	0	0	0	
% App. Total	0	88.6	11.4		34.5	0.1	65.3		29.2	70.8	0		0	0	0		
PHF	.000	.839	.847	.867	.892	.250	.878	.884	.918	.780	.000	.817	.000	.000	.000	.000	

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City of Riverside
N/S: La Sierra Avenue
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Weather: Clear

File Name : 01_RIV_La S_91W AM
Site Code : 05123396
Start Date : 8/17/2023

Groups Printed- Large 2 Axle Vehicles

	La Sierra Avenue Southbound					SR-91 Westbound Off Ramp Westbound					La Sierra Avenue Northbound					SR-91 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	4	1	0	5	3	0	1	1	4	4	4	0	0	8	0	0	0	0	0	1	17	18
07:15 AM	0	3	0	0	3	1	0	4	2	5	1	2	0	0	3	0	0	0	0	0	2	11	13
07:30 AM	0	3	0	0	3	1	0	0	0	1	4	7	0	0	11	0	0	0	0	0	0	15	15
07:45 AM	0	3	0	0	3	1	0	0	0	1	1	6	0	0	7	0	0	0	0	0	0	11	11
Total	0	13	1	0	14	6	0	5	3	11	10	19	0	0	29	0	0	0	0	0	3	54	57
08:00 AM	0	4	1	0	5	0	0	1	0	1	1	7	0	0	8	0	0	0	0	0	0	14	14
08:15 AM	0	3	1	0	4	2	0	1	1	3	6	5	0	0	11	0	0	0	0	0	1	18	19
08:30 AM	0	0	1	0	1	1	1	1	1	3	3	6	0	0	9	0	0	0	0	0	1	13	14
08:45 AM	0	3	0	0	3	1	0	1	0	2	0	3	0	0	3	0	0	0	0	0	0	8	8
Total	0	10	3	0	13	4	1	4	2	9	10	21	0	0	31	0	0	0	0	0	2	53	55
Grand Total	0	23	4	0	27	10	1	9	5	20	20	40	0	0	60	0	0	0	0	0	5	107	112
Apprch %	0	85.2	14.8			50	5	45			33.3	66.7	0			0	0	0					
Total %	0	21.5	3.7		25.2	9.3	0.9	8.4		18.7	18.7	37.4	0		56.1	0	0	0		0	4.5	95.5	

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	3	0	3	1	0	0	1	4	**7**	0	**11**	0	0	0	0	15
07:45 AM	0	3	0	3	1	0	0	1	1	6	0	7	0	0	0	0	11
08:00 AM	0	**4**	**1**	**5**	0	0	**1**	1	1	7	0	8	0	0	0	0	14
08:15 AM	0	3	1	4	**2**	0	1	**3**	**6**	5	0	11	0	0	0	0	**18**
Total Volume	0	13	2	15	4	0	2	6	12	25	0	37	0	0	0	0	58
% App. Total	0	86.7	13.3		66.7	0	33.3		32.4	67.6	0		0	0	0		
PHF	.000	.813	.500	.750	.500	.000	.500	.500	.500	.893	.000	.841	.000	.000	.000	.000	.806

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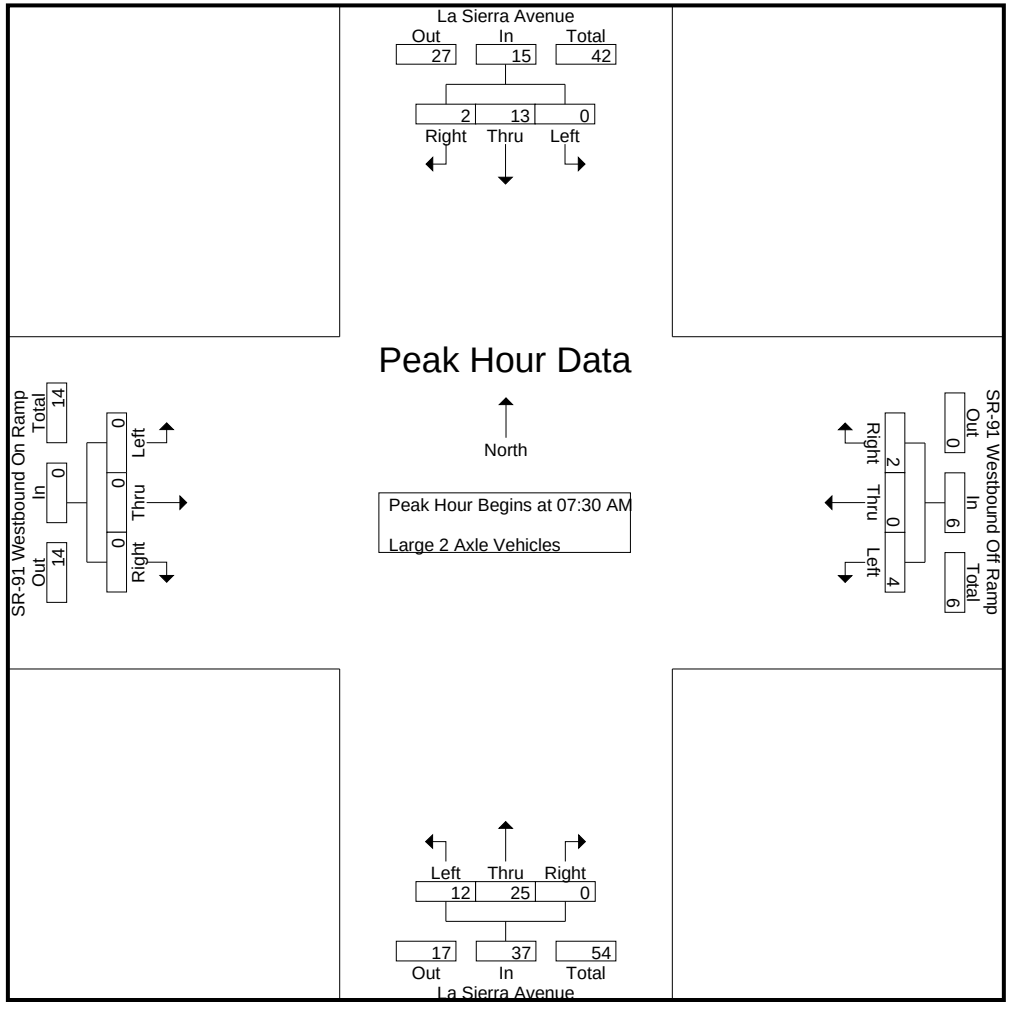
City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W AM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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City of Riverside
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File Name : 01_RIV_La S_91W AM
Site Code : 05123396
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	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	3	0	3	1	0	0	1	4	**7**	0	**11**	0	0	0	0	
+15 mins.	0	3	0	3	1	0	0	1	1	6	0	7	0	0	0	0	
+30 mins.	0	**4**	**1**	**5**	0	0	**1**	1	1	7	0	8	0	0	0	0	
+45 mins.	0	3	1	4	**2**	0	1	**3**	**6**	5	0	11	0	0	0	0	
Total Volume	0	13	2	15	4	0	2	6	12	25	0	37	0	0	0	0	
% App. Total	0	86.7	13.3		66.7	0	33.3		32.4	67.6	0		0	0	0		
PHF	.000	.813	.500	.750	.500	.000	.500	.500	.500	.893	.000	.841	.000	.000	.000	.000	

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File Name : 01_RIV_La S_91W AM
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Start Date : 8/17/2023
Page No : 1

Groups Printed- 3 Axle Vehicles

	La Sierra Avenue Southbound					SR-91 Westbound Off Ramp Westbound					La Sierra Avenue Northbound					SR-91 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3	3
07:15 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	4
07:30 AM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
07:45 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2
Total	0	5	0	0	5	0	0	1	0	1	2	3	0	0	5	0	0	0	0	0	0	11	11
08:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
08:15 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
08:30 AM	0	1	0	0	1	0	0	1	1	1	0	2	0	0	2	0	0	0	0	0	1	4	5
08:45 AM	0	0	0	0	0	0	0	1	0	1	3	0	0	0	3	0	0	0	0	0	0	4	4
Total	0	4	1	0	5	0	0	2	1	2	3	2	0	0	5	0	0	0	0	0	1	12	13
Grand Total	0	9	1	0	10	0	0	3	1	3	5	5	0	0	10	0	0	0	0	0	1	23	24
Apprch %	0	90	10			0	0	100			50	50	0			0	0	0					
Total %	0	39.1	4.3		43.5	0	0	13		13	21.7	21.7	0		43.5	0	0	0		0	4.2	95.8	

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	1	0	1	0	0	**1**	**1**	0	0	0	0	0	0	0	0	**2**
07:45 AM	0	1	0	1	0	0	0	0	**1**	0	0	**1**	0	0	0	0	2
08:00 AM	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	1	**1**	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	5	1	6	0	0	1	1	1	0	0	1	0	0	0	0	8
% App. Total	0	83.3	16.7		0	0	100		100	0	0		0	0	0		
PHF	.000	.625	.250	.750	.000	.000	.250	.250	.250	.000	.000	.250	.000	.000	.000	.000	1.00

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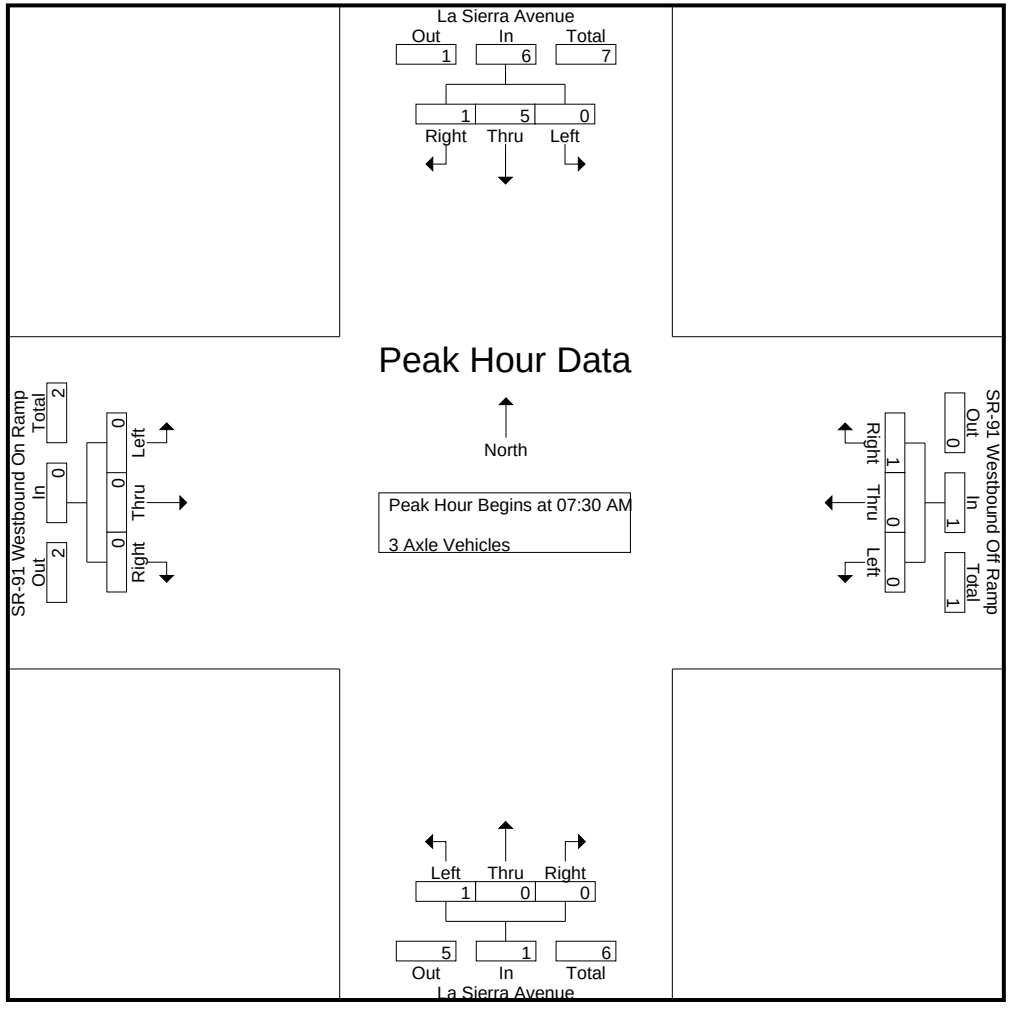

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	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	1	0	1	0	0	**1**	**1**	0	0	0	0	0	0	0	0	
+15 mins.	0	1	0	1	0	0	0	0	**1**	0	0	**1**	0	0	0	0	
+30 mins.	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	1	**1**	2	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	5	1	6	0	0	1	1	1	0	0	1	0	0	0	0	
% App. Total	0	83.3	16.7		0	0	100		100	0	0		0	0	0		
PHF	.000	.625	.250	.750	.000	.000	.250	.250	.250	.000	.000	.250	.000	.000	.000	.000	

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City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W AM
Site Code : 05123396
Start Date : 8/17/2023

Groups Printed- 4+ Axle Trucks

	La Sierra Avenue Southbound					SR-91 Westbound Off Ramp Westbound					La Sierra Avenue Northbound					SR-91 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	2
07:15 AM	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3	3
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:45 AM	0	2	0	0	2	0	0	1	0	1	2	2	0	0	4	0	0	0	0	0	0	7	7
Total	0	4	0	0	4	1	0	1	0	2	3	4	0	0	7	0	0	0	0	0	0	13	13
08:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2	2
08:30 AM	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3	3
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	0	0	0	0	0	3	2	0	0	5	0	0	0	0	0	0	7	7
Grand Total	0	6	0	0	6	1	0	1	0	2	6	6	0	0	12	0	0	0	0	0	0	20	20
Apprch %	0	100	0			50	0	50			50	50	0			0	0	0					
Total %	0	30	0		30	5	0	5		10	30	30	0		60	0	0	0		0	0	100	

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	**2**	0	**2**	0	0	**1**	**1**	**2**	**2**	0	**4**	0	0	0	0	**7**
08:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total Volume	0	4	0	4	0	0	1	1	4	3	0	7	0	0	0	0	12
% App. Total	0	100	0		0	0	100		57.1	42.9	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.250	.250	.500	.375	.000	.438	.000	.000	.000	.000	.429

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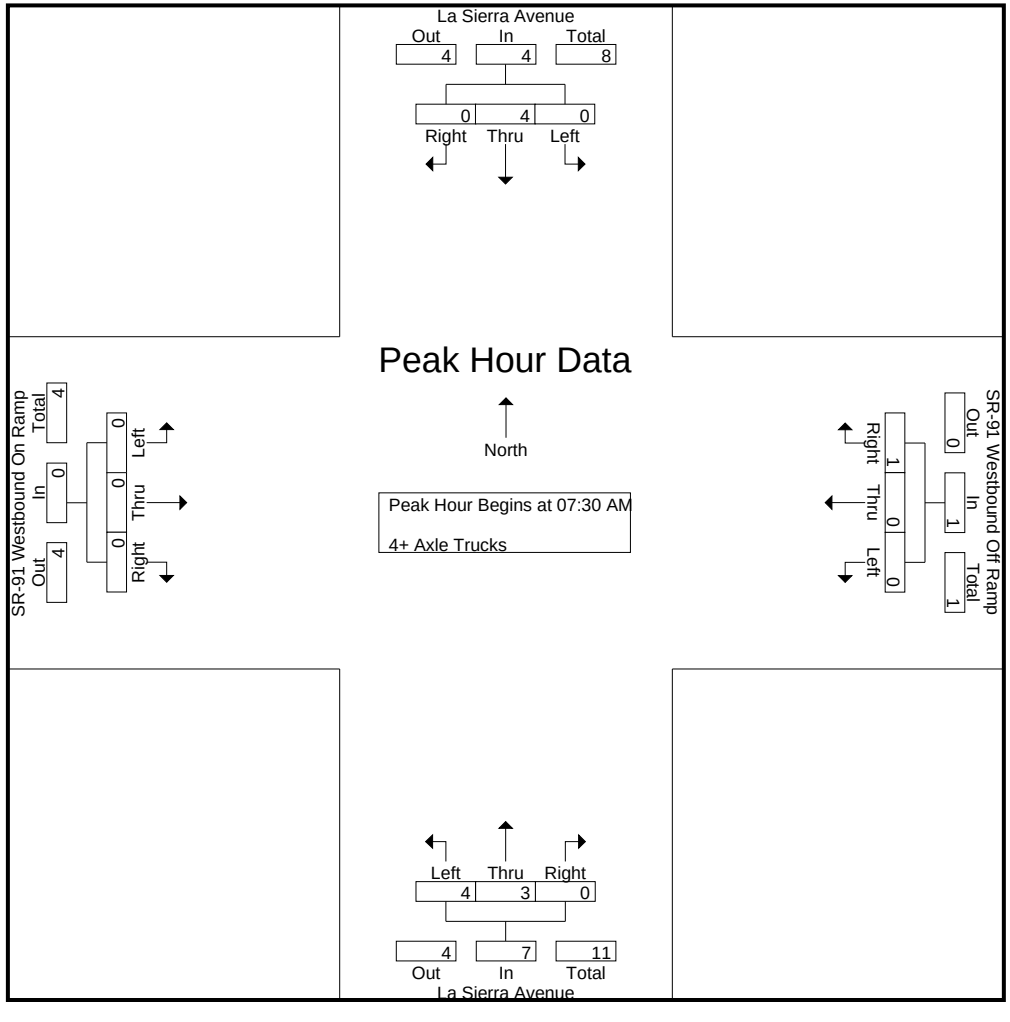
City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W AM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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City of Riverside
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File Name : 01_RIV_La S_91W AM
Site Code : 05123396
Start Date : 8/17/2023

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	**2**	0	**2**	0	0	**1**	**1**	**2**	**2**	0	**4**	0	0	0	0	
+30 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	
Total Volume	0	4	0	4	0	0	1	1	4	3	0	7	0	0	0	0	
% App. Total	0	100	0		0	0	100		57.1	42.9	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.250	.250	.500	.375	.000	.438	.000	.000	.000	.000	

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File Name : 01_RIV_La S_91W PM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 1

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

	La Sierra Avenue Southbound					SR-91 Westbound Off Ramp Westbound					La Sierra Avenue Northbound					SR-91 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	282	56	8	338	127	0	125	60	252	104	209	0	0	313	0	0	0	0	0	68	903	971
04:15 PM	0	251	34	11	285	129	2	125	58	256	90	210	0	0	300	0	0	0	0	0	69	841	910
04:30 PM	0	276	55	14	331	109	1	102	61	212	86	200	0	0	286	0	0	0	0	0	75	829	904
04:45 PM	0	276	48	12	324	126	1	127	68	254	93	186	0	0	279	0	0	0	0	0	80	857	937
Total	0	1085	193	45	1278	491	4	479	247	974	373	805	0	0	1178	0	0	0	0	0	292	3430	3722
05:00 PM	0	330	63	12	393	128	1	117	64	246	107	198	0	0	305	0	0	0	0	0	76	944	1020
05:15 PM	0	342	59	4	401	134	1	126	71	261	101	214	0	0	315	0	0	0	0	0	75	977	1052
05:30 PM	0	305	57	10	362	108	1	106	55	215	94	209	0	0	303	0	0	0	0	0	65	880	945
05:45 PM	0	267	41	11	308	102	0	130	69	232	75	192	0	0	267	0	0	0	0	0	80	807	887
Total	0	1244	220	37	1464	472	3	479	259	954	377	813	0	0	1190	0	0	0	0	0	296	3608	3904
Grand Total	0	2329	413	82	2742	963	7	958	506	1928	750	1618	0	0	2368	0	0	0	0	0	588	7038	7626
Apprch %	0	84.9	15.1			49.9	0.4	49.7			31.7	68.3	0			0	0	0					
Total %	0	33.1	5.9		39	13.7	0.1	13.6		27.4	10.7	23	0		33.6	0	0	0		0	7.7	92.3	
Passenger Vehicles	0	2294	411		2787	953	6	951		2414	729	1590	0		2319	0	0	0		0	0	0	7520
% Passenger Vehicles	0	98.5	99.5	100	98.7	99	85.7	99.3	99.6	99.2	97.2	98.3	0	0	97.9	0	0	0	0	0	0	0	98.6
Large 2 Axle Vehicles	0	29	2		31	6	1	4		13	17	22	0		39	0	0	0		0	0	0	83
% Large 2 Axle Vehicles	0	1.2	0.5	0	1.1	0.6	14.3	0.4	0.4	0.5	2.3	1.4	0	0	1.6	0	0	0	0	0	0	0	1.1
3 Axle Vehicles	0	4	0		4	3	0	1		4	3	3	0		6	0	0	0		0	0	0	14
% 3 Axle Vehicles	0	0.2	0	0	0.1	0.3	0	0.1	0	0.2	0.4	0.2	0	0	0.3	0	0	0	0	0	0	0	0.2
4+ Axle Trucks	0	2	0		2	1	0	2		3	1	3	0		4	0	0	0		0	0	0	9
% 4+ Axle Trucks	0	0.1	0	0	0.1	0.1	0	0.2	0	0.1	0.1	0.2	0	0	0.2	0	0	0	0	0	0	0	0.1

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	276	48	324	126	**1**	**127**	254	93	186	0	279	0	0	0	0	857
05:00 PM	0	330	**63**	393	128	1	117	246	**107**	198	0	305	0	0	0	0	944
05:15 PM	0	**342**	59	**401**	**134**	1	126	**261**	101	**214**	0	**315**	0	0	0	0	**977**
05:30 PM	0	305	57	362	108	1	106	215	94	209	0	303	0	0	0	0	880
Total Volume	0	1253	227	1480	496	4	476	976	395	807	0	1202	0	0	0	0	3658
% App. Total	0	84.7	15.3		50.8	0.4	48.8		32.9	67.1	0		0	0	0		
PHF	.000	.916	.901	.923	.925	1.00	.937	.935	.923	.943	.000	.954	.000	.000	.000	.000	.936

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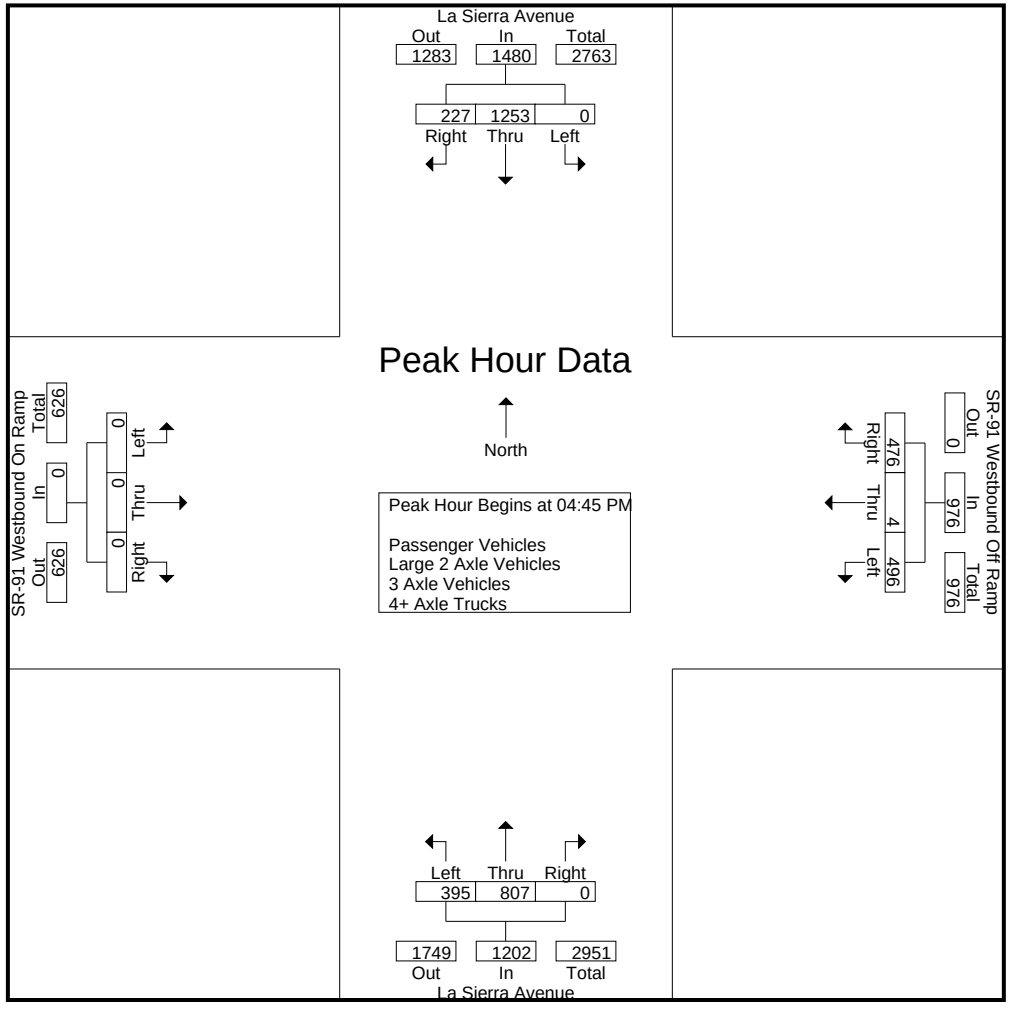
City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W PM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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City of Riverside
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File Name : 01_RIV_La S_91W PM
Site Code : 05123396
Start Date : 8/17/2023

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:00 PM				
+0 mins.	0	276	48	324	126	**1**	**127**	254	93	186	0	279	0	0	0	0	
+15 mins.	0	330	**63**	393	128	1	117	246	**107**	198	0	305	0	0	0	0	
+30 mins.	0	**342**	59	**401**	**134**	1	126	**261**	101	**214**	0	**315**	0	0	0	0	
+45 mins.	0	305	57	362	108	1	106	215	94	209	0	303	0	0	0	0	
Total Volume	0	1253	227	1480	496	4	476	976	395	807	0	1202	0	0	0	0	
% App. Total	0	84.7	15.3		50.8	0.4	48.8		32.9	67.1	0		0	0	0		
PHF	.000	.916	.901	.923	.925	1.000	.937	.935	.923	.943	.000	.954	.000	.000	.000	.000	

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Start Date : 8/17/2023
Page No : 1

Groups Printed- Passenger Vehicles

	La Sierra Avenue Southbound					SR-91 Westbound Off Ramp Westbound					La Sierra Avenue Northbound					SR-91 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	273	56	8	329	124	0	124	60	248	101	205	0	0	306	0	0	0	0	0	68	883	951
04:15 PM	0	244	34	11	278	128	2	124	57	254	87	201	0	0	288	0	0	0	0	0	68	820	888
04:30 PM	0	272	55	14	327	108	1	101	61	210	83	195	0	0	278	0	0	0	0	0	75	815	890
04:45 PM	0	273	48	12	321	126	0	126	68	252	91	185	0	0	276	0	0	0	0	0	80	849	929
Total	0	1062	193	45	1255	486	3	475	246	964	362	786	0	0	1148	0	0	0	0	0	291	3367	3658
05:00 PM	0	325	62	12	387	127	1	116	64	244	104	196	0	0	300	0	0	0	0	0	76	931	1007
05:15 PM	0	337	59	4	396	133	1	125	71	259	96	214	0	0	310	0	0	0	0	0	75	965	1040
05:30 PM	0	304	57	10	361	106	1	106	55	213	93	207	0	0	300	0	0	0	0	0	65	874	939
05:45 PM	0	266	40	11	306	101	0	129	68	230	74	187	0	0	261	0	0	0	0	0	79	797	876
Total	0	1232	218	37	1450	467	3	476	258	946	367	804	0	0	1171	0	0	0	0	0	295	3567	3862
Grand Total	0	2294	411	82	2705	953	6	951	504	1910	729	1590	0	0	2319	0	0	0	0	0	586	6934	7520
Apprch %	0	84.8	15.2			49.9	0.3	49.8			31.4	68.6	0			0	0	0					
Total %	0	33.1	5.9		39	13.7	0.1	13.7		27.5	10.5	22.9	0		33.4	0	0	0		0	7.8	92.2	

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	273	48	321	126	0	**126**	252	91	185	0	276	0	0	0	0	849
05:00 PM	0	325	**62**	387	127	**1**	116	244	**104**	196	0	300	0	0	0	0	931
05:15 PM	0	**337**	59	**396**	**133**	1	125	**259**	96	**214**	0	**310**	0	0	0	0	**965**
05:30 PM	0	304	57	361	106	1	106	213	93	207	0	300	0	0	0	0	874
Total Volume	0	1239	226	1465	492	3	473	968	384	802	0	1186	0	0	0	0	3619
% App. Total	0	84.6	15.4		50.8	0.3	48.9		32.4	67.6	0		0	0	0		
PHF	.000	.919	.911	.925	.925	.750	.938	.934	.923	.937	.000	.956	.000	.000	.000	.000	.938

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File Name : 01_RIV_La S_91W PM
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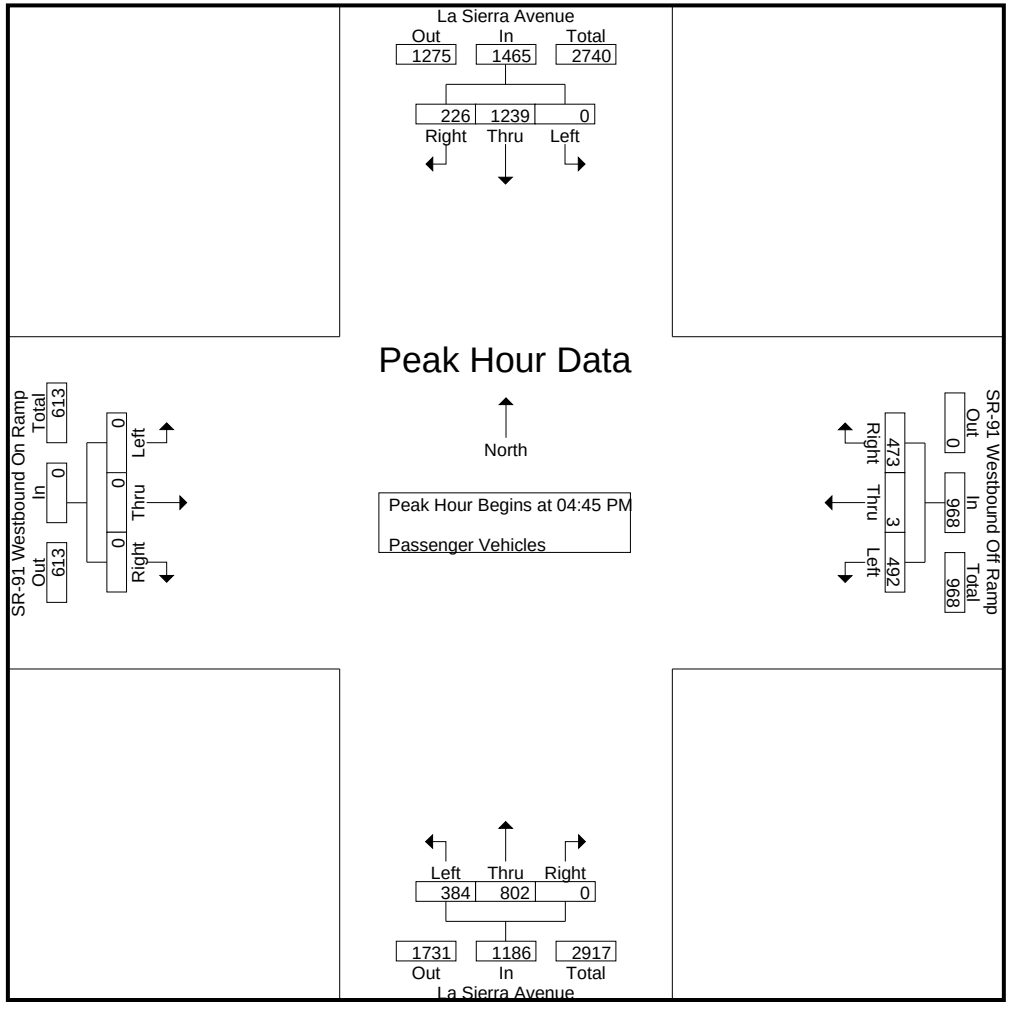

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	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	273	48	321	126	0	**126**	252	91	185	0	276	0	0	0	0	
+15 mins.	0	325	**62**	387	127	**1**	116	244	**104**	196	0	300	0	0	0	0	
+30 mins.	0	**337**	59	**396**	**133**	1	125	**259**	96	**214**	0	**310**	0	0	0	0	
+45 mins.	0	304	57	361	106	1	106	213	93	207	0	300	0	0	0	0	
Total Volume	0	1239	226	1465	492	3	473	968	384	802	0	1186	0	0	0	0	
% App. Total	0	84.6	15.4		50.8	0.3	48.9		32.4	67.6	0		0	0	0		
PHF	.000	.919	.911	.925	.925	.750	.938	.934	.923	.937	.000	.956	.000	.000	.000	.000	

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Groups Printed- Large 2 Axle Vehicles

	La Sierra Avenue Southbound					SR-91 Westbound Off Ramp Westbound					La Sierra Avenue Northbound					SR-91 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	7	0	0	7	3	0	0	0	3	2	3	0	0	5	0	0	0	0	0	0	15	15
04:15 PM	0	7	0	0	7	1	0	1	1	2	3	7	0	0	10	0	0	0	0	0	1	19	20
04:30 PM	0	3	0	0	3	0	0	1	0	1	2	4	0	0	6	0	0	0	0	0	0	10	10
04:45 PM	0	3	0	0	3	0	1	0	0	1	2	0	0	0	2	0	0	0	0	0	0	6	6
Total	0	20	0	0	20	4	1	2	1	7	9	14	0	0	23	0	0	0	0	0	1	50	51
05:00 PM	0	2	1	0	3	0	0	0	0	0	3	2	0	0	5	0	0	0	0	0	0	8	8
05:15 PM	0	5	0	0	5	0	0	1	0	1	3	0	0	0	3	0	0	0	0	0	0	9	9
05:30 PM	0	1	0	0	1	1	0	0	0	1	1	1	0	0	2	0	0	0	0	0	0	4	4
05:45 PM	0	1	1	0	2	1	0	1	1	2	1	5	0	0	6	0	0	0	0	0	1	10	11
Total	0	9	2	0	11	2	0	2	1	4	8	8	0	0	16	0	0	0	0	0	1	31	32
Grand Total	0	29	2	0	31	6	1	4	2	11	17	22	0	0	39	0	0	0	0	0	2	81	83
Apprch %	0	93.5	6.5			54.5	9.1	36.4			43.6	56.4	0			0	0	0					
Total %	0	35.8	2.5		38.3	7.4	1.2	4.9		13.6	21	27.2	0		48.1	0	0	0		0	2.4	97.6	

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	3	0	3	0	**1**	0	**1**	2	0	0	2	0	0	0	0	6
05:00 PM	0	2	**1**	3	0	0	0	0	**3**	**2**	0	**5**	0	0	0	0	8
05:15 PM	0	**5**	0	**5**	0	0	**1**	1	3	0	0	3	0	0	0	0	**9**
05:30 PM	0	1	0	1	**1**	0	0	1	1	1	0	2	0	0	0	0	4
Total Volume	0	11	1	12	1	1	1	3	9	3	0	12	0	0	0	0	27
% App. Total	0	91.7	8.3		33.3	33.3	33.3		75	25	0		0	0	0		
PHF	.000	.550	.250	.600	.250	.250	.250	.750	.750	.375	.000	.600	.000	.000	.000	.000	.750

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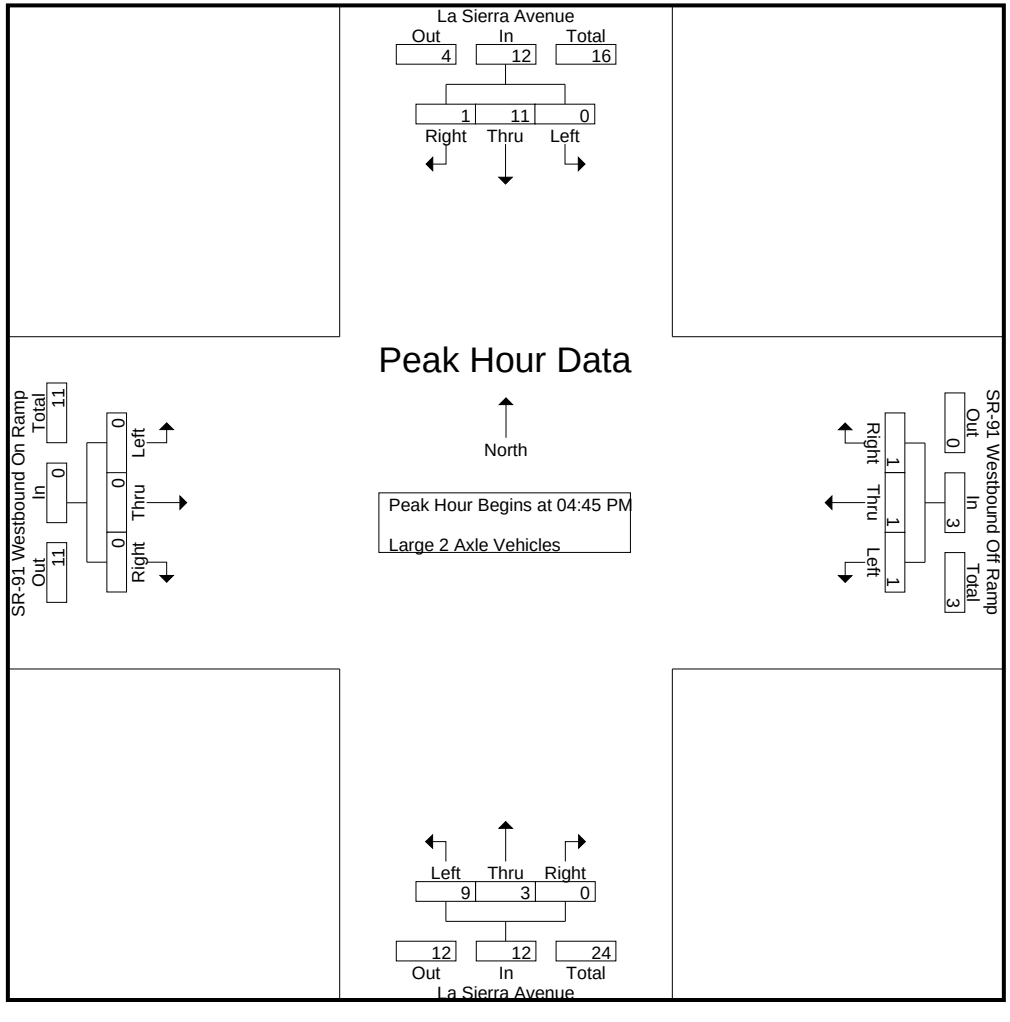
Corona, CA 92878
(951) 268-6268

City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W PM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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Corona, CA 92878
(951) 268-6268

City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W PM
Site Code : 05123396
Start Date : 8/17/2023

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	3	0	3	0	**1**	0	**1**	2	0	0	2	0	0	0	0	
+15 mins.	0	2	**1**	3	0	0	0	0	**3**	**2**	0	**5**	0	0	0	0	
+30 mins.	0	**5**	0	**5**	0	0	**1**	1	3	0	0	3	0	0	0	0	
+45 mins.	0	1	0	1	**1**	0	0	1	1	1	0	2	0	0	0	0	
Total Volume	0	11	1	12	1	1	1	3	9	3	0	12	0	0	0	0	
% App. Total	0	91.7	8.3		33.3	33.3	33.3		75	25	0		0	0	0		
PHF	.000	.550	.250	.600	.250	.250	.250	.750	.750	.375	.000	.600	.000	.000	.000	.000	

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City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W PM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 1

Groups Printed- 3 Axle Vehicles

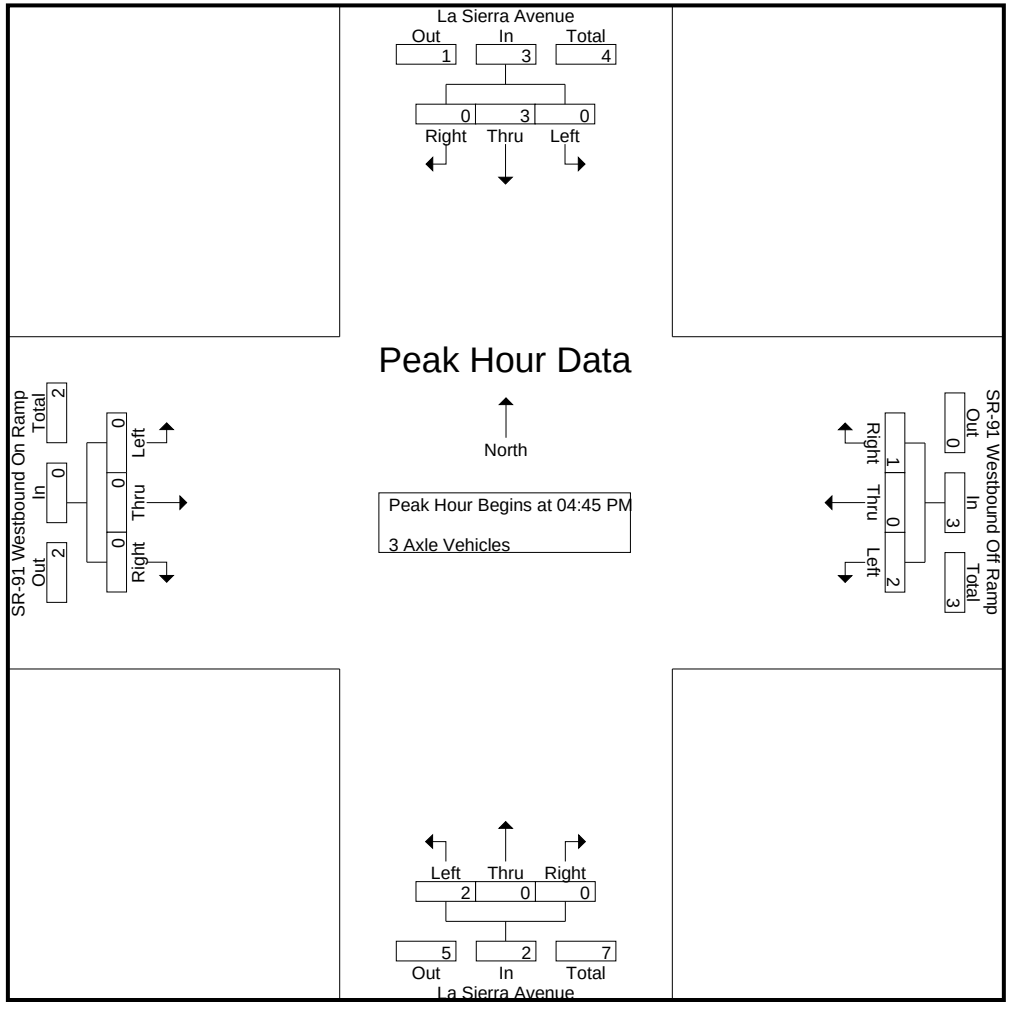
	La Sierra Avenue Southbound					SR-91 Westbound Off Ramp Westbound					La Sierra Avenue Northbound					SR-91 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	1	0	0	0	1	1	3	0	0	4	0	0	0	0	0	0	6	6
05:00 PM	0	3	0	0	3	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	5	5
05:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2	2
05:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	0	0	3	2	0	1	0	3	2	0	0	0	2	0	0	0	0	0	0	8	8
Grand Total	0	4	0	0	4	3	0	1	0	4	3	3	0	0	6	0	0	0	0	0	0	14	14
Apprch %	0	100	0			75	0	25			50	50	0			0	0	0					
Total %	0	28.6	0		28.6	21.4	0	7.1		28.6	21.4	21.4	0		42.9	0	0	0		0	0	100	

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	**3**	0	**3**	**1**	0	**1**	**2**	0	0	0	0	0	0	0	0	**5**
05:15 PM	0	0	0	0	0	0	0	0	**2**	0	0	**2**	0	0	0	0	2
05:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	3	0	3	2	0	1	3	2	0	0	2	0	0	0	0	8
% App. Total	0	100	0		66.7	0	33.3		100	0	0		0	0	0		
PHF	.000	.250	.000	.250	.500	.000	.250	.375	.250	.000	.000	.250	.000	.000	.000	.000	.400

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

City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W PM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W PM
Site Code : 05123396
Start Date : 8/17/2023

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	**3**	0	**3**	**1**	0	**1**	**2**	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	**2**	0	0	**2**	0	0	0	0	
+45 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	
Total Volume	0	3	0	3	2	0	1	3	2	0	0	2	0	0	0	0	
% App. Total	0	100	0		66.7	0	33.3		100	0	0		0	0	0		
PHF	.000	.250	.000	.250	.500	.000	.250	.375	.250	.000	.000	.250	.000	.000	.000	.000	

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City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W PM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 1

Groups Printed- 4+ Axle Trucks

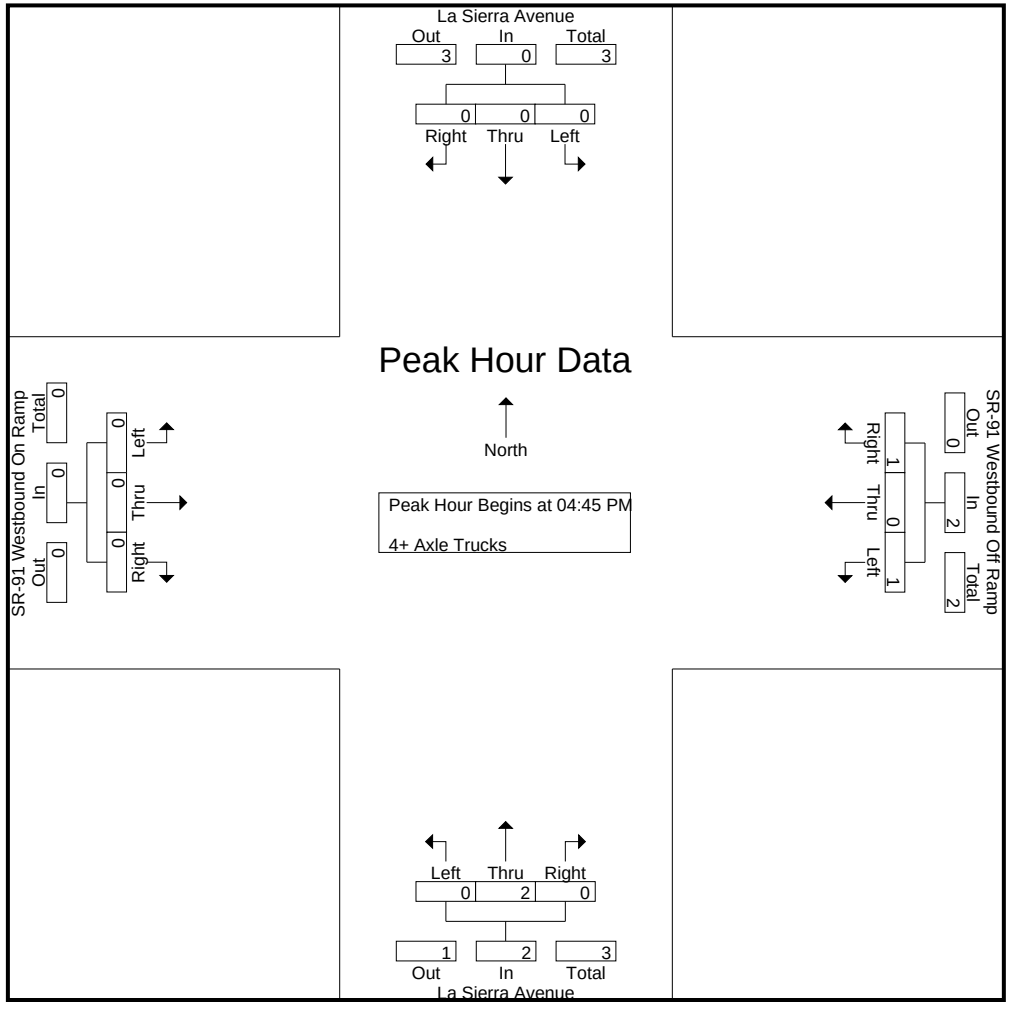
	La Sierra Avenue Southbound					SR-91 Westbound Off Ramp Westbound					La Sierra Avenue Northbound					SR-91 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
04:30 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2
04:45 PM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	2	2
Total	0	2	0	0	2	0	0	2	0	2	1	2	0	0	3	0	0	0	0	0	0	7	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	2
Grand Total	0	2	0	0	2	1	0	2	0	3	1	3	0	0	4	0	0	0	0	0	0	9	9
Apprch %	0	100	0			33.3	0	66.7			25	75	0			0	0	0					
Total %	0	22.2	0		22.2	11.1	0	22.2		33.3	11.1	33.3	0		44.4	0	0	0		0	0	100	

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	**1**	**1**	0	**1**	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	**1**	0	0	1	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	0	0	1
Total Volume	0	0	0	0	1	0	1	2	0	2	0	2	0	0	0	0	4
% App. Total	0	0	0		50	0	50		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.250	.000	.250	.500	.000	.500	.000	.500	.000	.000	.000	.000	.500

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

City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W PM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Westbound Ramps
Weather: Clear

File Name : 01_RIV_La S_91W PM
Site Code : 05123396
Start Date : 8/17/2023

	La Sierra Avenue Southbound				SR-91 Westbound Off Ramp Westbound				La Sierra Avenue Northbound				SR-91 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	0	0	0	0	0	**1**	**1**	0	**1**	0	**1**	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	**1**	0	0	1	0	0	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	1	0	1	2	0	2	0	2	0	0	0	0	
% App. Total	0	0	0		50	0	50		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.250	.000	.250	.500	.000	.500	.000	.500	.000	.000	.000	.000	

Location: Riverside
N/S: La Sierra Avenue
E/W: SR-91 WB Ramps

Date: 8/17/2023
Day: Thursday

PEDESTRIANS

	North Leg La Sierra Avenue	East Leg SR-91 WB Ramps	South Leg La Sierra Avenue	West Leg SR-91 WB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	4	0	1	5
7:15 AM	0	1	0	2	3
7:30 AM	0	0	0	0	0
7:45 AM	0	2	0	1	3
8:00 AM	0	0	0	2	2
8:15 AM	0	1	0	0	1
8:30 AM	0	0	0	2	2
8:45 AM	0	1	0	1	2
TOTAL VOLUMES:	0	9	0	9	18

	North Leg La Sierra Avenue	East Leg SR-91 WB Ramps	South Leg La Sierra Avenue	West Leg SR-91 WB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	3	0	2	5
4:15 PM	0	2	0	2	4
4:30 PM	0	0	0	1	1
4:45 PM	0	0	0	2	2
5:00 PM	0	1	0	1	2
5:15 PM	0	0	0	2	2
5:30 PM	0	0	0	1	1
5:45 PM	0	0	0	1	1
TOTAL VOLUMES:	0	6	0	12	18

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951-268-6268

Location: Riverside
N/S: La Sierra Avenue
E/W: SR-91 WB Ramps

Date: 8/17/2023
Day: Thursday

BICYCLES

	Southbound La Sierra Avenue			Westbound SR-91 WB Ramps			Northbound La Sierra Avenue			Eastbound SR-91 WB Ramps			
	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	3	0	0	0	0	0	1	0	0	0	0	4
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES:	0	5	0	0	0	0	0	4	0	0	0	0	9

	Southbound La Sierra Avenue			Westbound SR-91 WB Ramps			Northbound La Sierra Avenue			Eastbound SR-91 WB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
TOTAL VOLUMES:	0	4	0	0	0	0	0	5	0	0	0	0	9

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(951) 268-6268

City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E AM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 1

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

	La Sierra Avenue Southbound					SR-91 Eastbound On Ramp Westbound					La Sierra Avenue Northbound					SR-91 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	88	121	0	0	209	0	0	0	0	0	0	247	119	31	366	60	0	72	53	132	84	707	791
07:15 AM	106	151	0	0	257	0	0	0	0	0	0	299	112	45	411	74	0	66	45	140	90	808	898
07:30 AM	91	213	0	0	304	0	0	0	0	0	0	289	95	33	384	73	1	77	46	151	79	839	918
07:45 AM	67	274	0	0	341	0	0	0	0	0	0	359	89	37	448	98	2	101	60	201	97	990	1087
Total	352	759	0	0	1111	0	0	0	0	0	0	1194	415	146	1609	305	3	316	204	624	350	3344	3694
08:00 AM	86	214	0	0	300	0	0	0	0	0	0	442	93	37	535	107	5	81	54	193	91	1028	1119
08:15 AM	86	163	0	0	249	0	0	0	0	0	0	392	109	40	501	95	1	71	47	167	87	917	1004
08:30 AM	63	132	0	0	195	0	0	0	0	0	0	303	108	43	411	84	0	84	57	168	100	774	874
08:45 AM	74	111	0	0	185	0	0	0	0	0	0	306	99	28	405	73	1	65	43	139	71	729	800
Total	309	620	0	0	929	0	0	0	0	0	0	1443	409	148	1852	359	7	301	201	667	349	3448	3797
Grand Total	661	1379	0	0	2040	0	0	0	0	0	0	2637	824	294	3461	664	10	617	405	1291	699	6792	7491
Apprch %	32.4	67.6	0			0	0	0			0	76.2	23.8			51.4	0.8	47.8					
Total %	9.7	20.3	0		30	0	0	0		0	0	38.8	12.1		51	9.8	0.1	9.1		19	9.3	90.7	
Passenger Vehicles	644	1348	0		1992	0	0	0		0	0	2570	810		3673	645	8	560		1586	0	0	7251
% Passenger Vehicles	97.4	97.8	0	0	97.6	0	0	0	0	0	0	97.5	98.3	99.7	97.8	97.1	80	90.8	92.1	93.5	0	0	96.8
Large 2 Axle Vehicles	5	25	0		30	0	0	0		0	0	52	9		62	11	1	25		50	0	0	142
% Large 2 Axle Vehicles	0.8	1.8	0	0	1.5	0	0	0	0	0	0	2	1.1	0.3	1.7	1.7	10	4.1	3.2	2.9	0	0	1.9
3 Axle Vehicles	6	5	0		11	0	0	0		0	0	8	3		11	3	1	23		40	0	0	62
% 3 Axle Vehicles	0.9	0.4	0	0	0.5	0	0	0	0	0	0	0.3	0.4	0	0.3	0.5	10	3.7	3.2	2.4	0	0	0.8
4+ Axle Trucks	6	1	0		7	0	0	0		0	0	7	2		9	5	0	9		20	0	0	36
% 4+ Axle Trucks	0.9	0.1	0	0	0.3	0	0	0	0	0	0	0.3	0.2	0	0.2	0.8	0	1.5	1.5	1.2	0	0	0.5

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**91**	213	0	304	0	0	0	0	0	289	95	384	73	1	77	151	839
07:45 AM	67	**274**	0	**341**	0	0	0	0	0	359	89	448	98	2	**101**	**201**	990
08:00 AM	86	214	0	300	0	0	0	0	0	**442**	93	**535**	**107**	**5**	81	193	**1028**
08:15 AM	86	163	0	249	0	0	0	0	0	392	**109**	501	95	1	71	167	917
Total Volume	330	864	0	1194	0	0	0	0	0	1482	386	1868	373	9	330	712	3774
% App. Total	27.6	72.4	0		0	0	0		0	79.3	20.7		52.4	1.3	46.3		
PHF	.907	.788	.000	.875	.000	.000	.000	.000	.000	.838	.885	.873	.871	.450	.817	.886	.918

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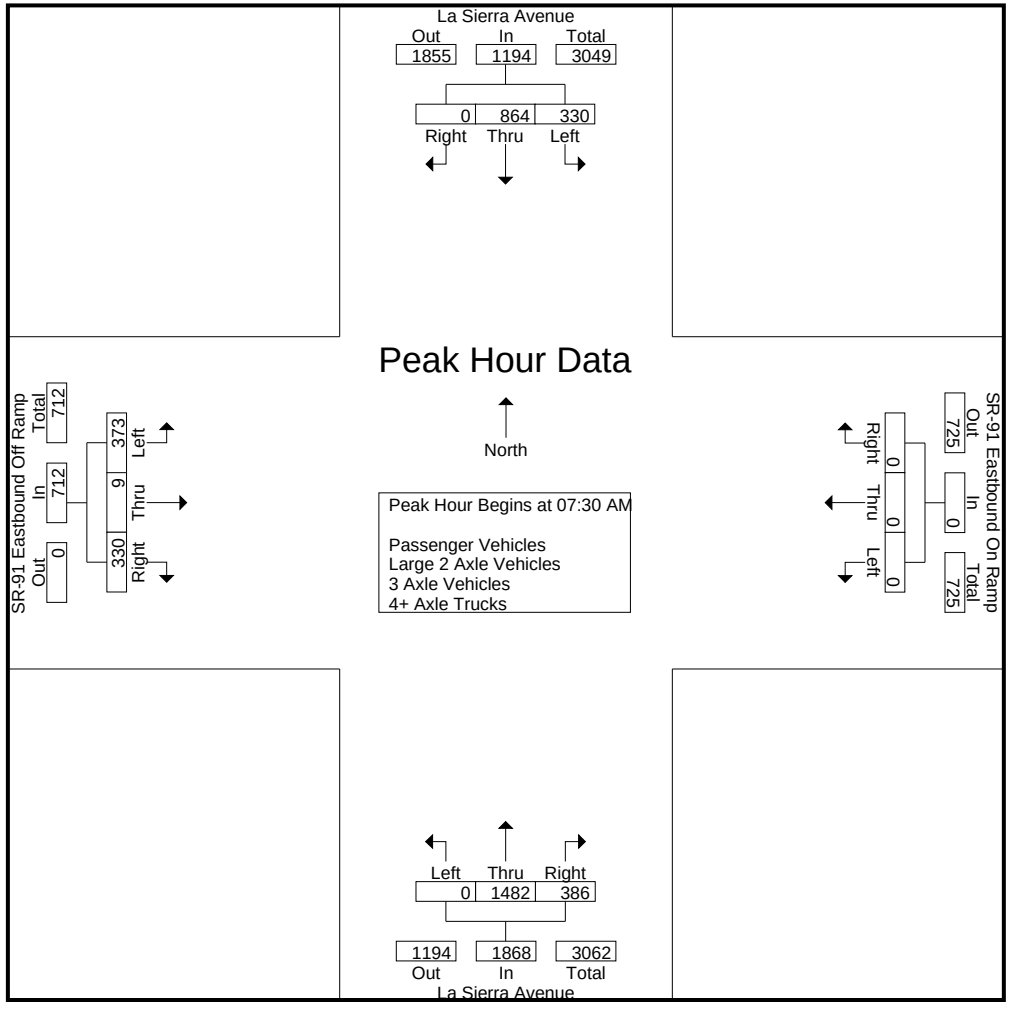
City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E AM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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File Name : 02_RIV_La S_91E AM
Site Code : 05123396
Start Date : 8/17/2023

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:00 AM				07:45 AM				07:45 AM				
+0 mins.	**106**	151	0	257	0	0	0	0	0	359	89	448	98	2	**101**	**201**	
+15 mins.	91	213	0	304	0	0	0	0	0	**442**	93	**535**	**107**	**5**	81	193	
+30 mins.	67	**274**	0	**341**	0	0	0	0	0	392	**109**	501	95	1	71	167	
+45 mins.	86	214	0	300	0	0	0	0	0	303	108	411	84	0	84	168	
Total Volume	350	852	0	1202	0	0	0	0	0	1496	399	1895	384	8	337	729	
% App. Total	29.1	70.9	0		0	0	0		0	78.9	21.1		52.7	1.1	46.2		
PHF	.825	.777	.000	.881	.000	.000	.000	.000	.000	.846	.915	.886	.897	.400	.834	.907	

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File Name : 02_RIV_La S_91E AM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 1

Groups Printed- Passenger Vehicles

	La Sierra Avenue Southbound					SR-91 Eastbound On Ramp Westbound					La Sierra Avenue Northbound					SR-91 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	86	113	0	0	199	0	0	0	0	0	0	236	116	30	352	58	0	65	48	123	78	674	752
07:15 AM	103	147	0	0	250	0	0	0	0	0	0	295	112	45	407	72	0	61	41	133	86	790	876
07:30 AM	89	210	0	0	299	0	0	0	0	0	0	280	94	33	374	71	1	67	40	139	73	812	885
07:45 AM	63	270	0	0	333	0	0	0	0	0	0	349	87	37	436	95	2	93	57	190	94	959	1053
Total	341	740	0	0	1081	0	0	0	0	0	0	1160	409	145	1569	296	3	286	186	585	331	3235	3566
08:00 AM	83	211	0	0	294	0	0	0	0	0	0	435	92	37	527	106	4	74	52	184	89	1005	1094
08:15 AM	86	156	0	0	242	0	0	0	0	0	0	379	109	40	488	93	0	65	44	158	84	888	972
08:30 AM	62	131	0	0	193	0	0	0	0	0	0	294	105	43	399	80	0	77	51	157	94	749	843
08:45 AM	72	110	0	0	182	0	0	0	0	0	0	302	95	28	397	70	1	58	40	129	68	708	776
Total	303	608	0	0	911	0	0	0	0	0	0	1410	401	148	1811	349	5	274	187	628	335	3350	3685
Grand Total	644	1348	0	0	1992	0	0	0	0	0	0	2570	810	293	3380	645	8	560	373	1213	666	6585	7251
Apprch %	32.3	67.7	0			0	0	0			0	76	24			53.2	0.7	46.2					
Total %	9.8	20.5	0		30.3	0	0	0		0	0	39	12.3		51.3	9.8	0.1	8.5		18.4	9.2	90.8	

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**89**	210	0	299	0	0	0	0	0	280	94	374	71	1	67	139	812
07:45 AM	63	**270**	0	**333**	0	0	0	0	0	349	87	436	95	2	**93**	**190**	959
08:00 AM	83	211	0	294	0	0	0	0	0	**435**	92	**527**	**106**	**4**	74	184	**1005**
08:15 AM	86	156	0	242	0	0	0	0	0	379	**109**	488	93	0	65	158	888
Total Volume	321	847	0	1168	0	0	0	0	0	1443	382	1825	365	7	299	671	3664
% App. Total	27.5	72.5	0		0	0	0		0	79.1	20.9		54.4	1	44.6		
PHF	.902	.784	.000	.877	.000	.000	.000	.000	.000	.829	.876	.866	.861	.438	.804	.883	.911

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City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E AM
Site Code : 05123396
Start Date : 8/17/2023
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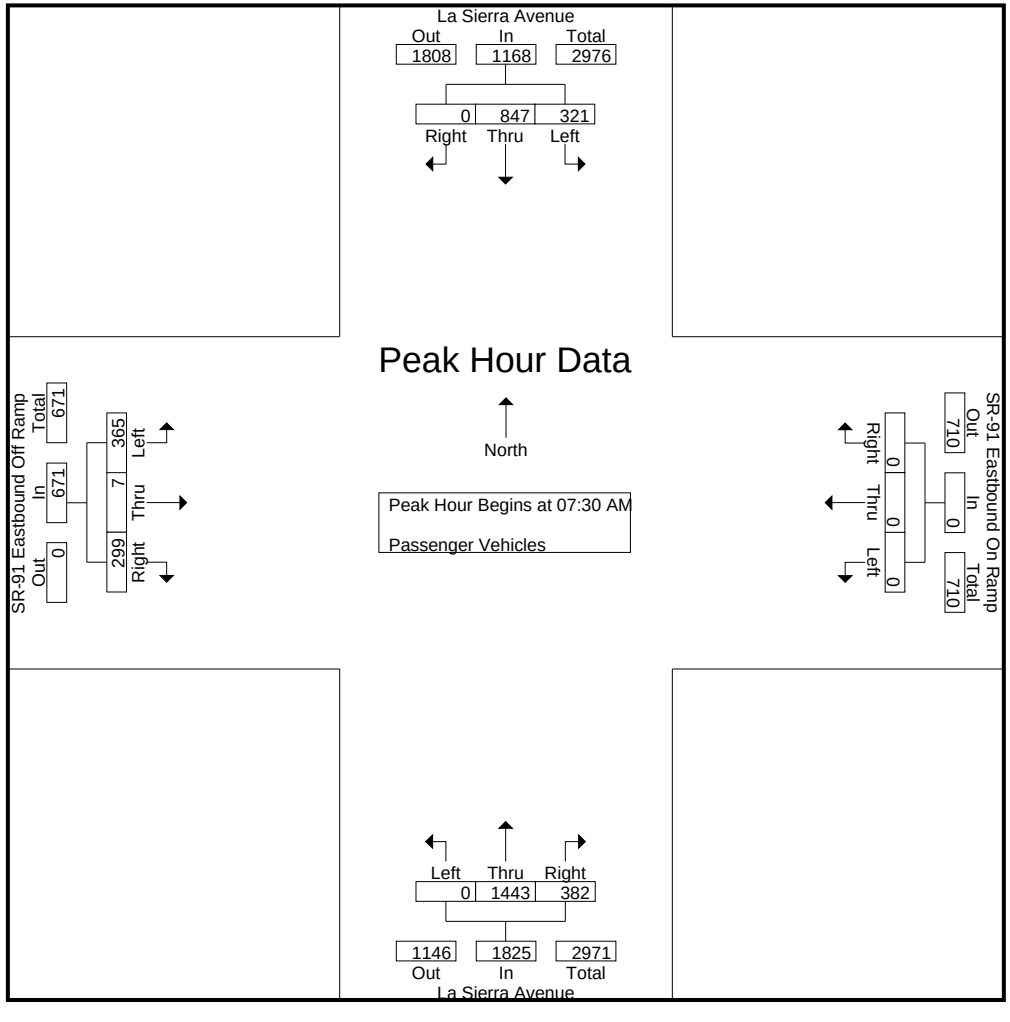

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Site Code : 05123396
Start Date : 8/17/2023

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	**89**	210	0	299	0	0	0	0	0	280	94	374	71	1	67	139	
+15 mins.	63	**270**	0	**333**	0	0	0	0	0	349	87	436	95	2	**93**	**190**	
+30 mins.	83	211	0	294	0	0	0	0	0	**435**	92	**527**	**106**	**4**	74	184	
+45 mins.	86	156	0	242	0	0	0	0	0	379	**109**	488	93	0	65	158	
Total Volume	321	847	0	1168	0	0	0	0	0	1443	382	1825	365	7	299	671	
% App. Total	27.5	72.5	0		0	0	0		0	79.1	20.9		54.4	1	44.6		
PHF	.902	.784	.000	.877	.000	.000	.000	.000	.000	.829	.876	.866	.861	.438	.804	.883	

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City of Riverside
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File Name : 02_RIV_La S_91E AM
Site Code : 05123396
Start Date : 8/17/2023
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Groups Printed- Large 2 Axle Vehicles

	La Sierra Avenue Southbound					SR-91 Eastbound On Ramp Westbound					La Sierra Avenue Northbound					SR-91 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	7	0	0	8	0	0	0	0	0	0	7	3	1	10	2	0	3	2	5	3	23	26
07:15 AM	1	3	0	0	4	0	0	0	0	0	0	3	0	0	3	0	0	2	2	2	2	9	11
07:30 AM	1	2	0	0	3	0	0	0	0	0	0	9	1	0	10	2	0	4	1	6	1	19	20
07:45 AM	1	4	0	0	5	0	0	0	0	0	0	7	1	0	8	1	0	2	0	3	0	16	16
Total	4	16	0	0	20	0	0	0	0	0	0	26	5	1	31	5	0	11	5	16	6	67	73
08:00 AM	0	2	0	0	2	0	0	0	0	0	0	7	0	0	7	0	1	3	1	4	1	13	14
08:15 AM	0	6	0	0	6	0	0	0	0	0	0	11	0	0	11	1	0	1	0	2	0	19	19
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	8	1	0	9	2	0	5	5	7	5	16	21
08:45 AM	1	1	0	0	2	0	0	0	0	0	0	0	3	0	3	3	0	5	2	8	2	13	15
Total	1	9	0	0	10	0	0	0	0	0	0	26	4	0	30	6	1	14	8	21	8	61	69
Grand Total	5	25	0	0	30	0	0	0	0	0	0	52	9	1	61	11	1	25	13	37	14	128	142
Apprch %	16.7	83.3	0			0	0	0			0	85.2	14.8			29.7	2.7	67.6					
Total %	3.9	19.5	0		23.4	0	0	0		0	0	40.6	7		47.7	8.6	0.8	19.5		28.9	9.9	90.1	

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**1**	2	0	3	0	0	0	0	0	9	**1**	10	**2**	0	**4**	**6**	**19**
07:45 AM	1	4	0	5	0	0	0	0	0	7	1	8	1	0	2	3	16
08:00 AM	0	2	0	2	0	0	0	0	0	7	0	7	0	**1**	3	4	13
08:15 AM	0	**6**	0	**6**	0	0	0	0	0	**11**	0	**11**	1	0	1	2	19
Total Volume	2	14	0	16	0	0	0	0	0	34	2	36	4	1	10	15	67
% App. Total	12.5	87.5	0		0	0	0		0	94.4	5.6		26.7	6.7	66.7		
PHF	.500	.583	.000	.667	.000	.000	.000	.000	.000	.773	.500	.818	.500	.250	.625	.625	.882

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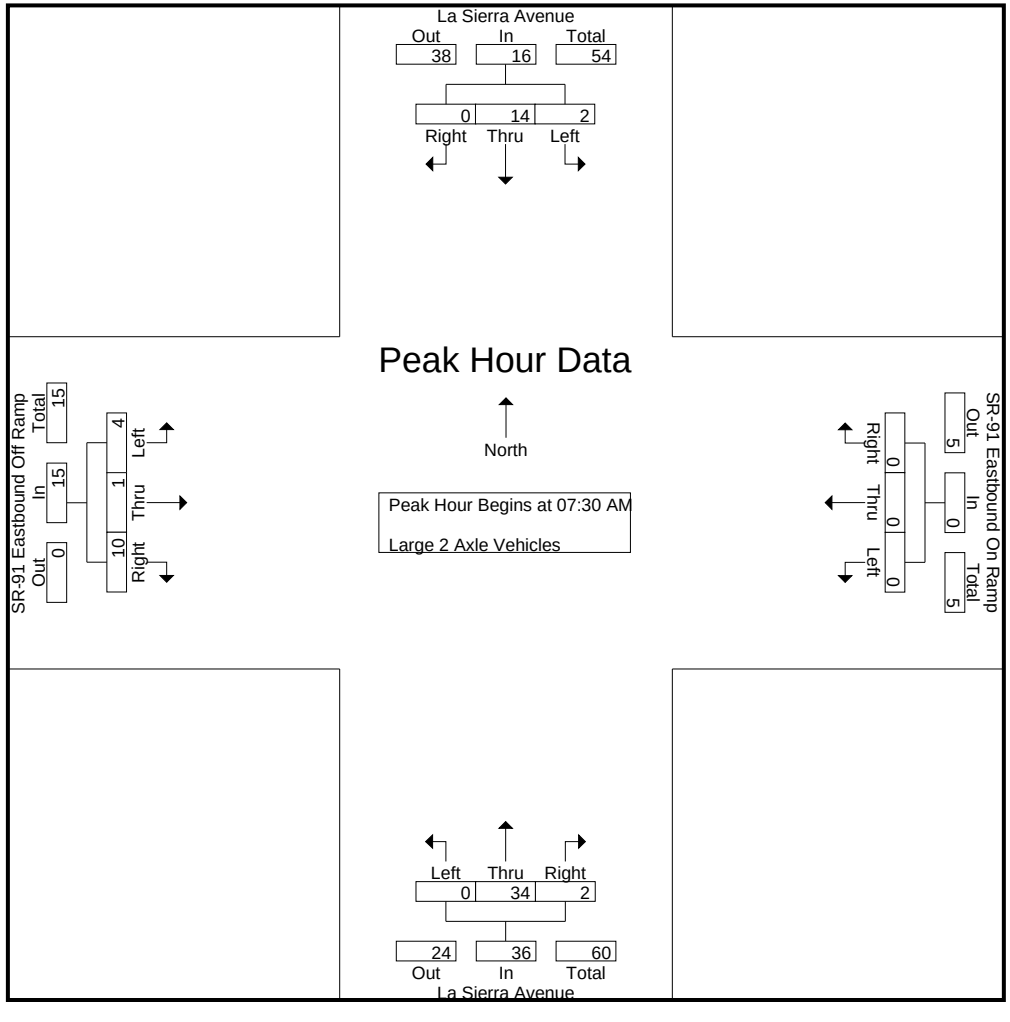

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	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	**1**	2	0	3	0	0	0	0	0	9	**1**	10	**2**	0	**4**	**6**	
+15 mins.	1	4	0	5	0	0	0	0	0	7	1	8	1	0	2	3	
+30 mins.	0	2	0	2	0	0	0	0	0	7	0	7	0	**1**	3	4	
+45 mins.	0	**6**	0	**6**	0	0	0	0	0	**11**	0	**11**	1	0	1	2	
Total Volume	2	14	0	16	0	0	0	0	0	34	2	36	4	1	10	15	
% App. Total	12.5	87.5	0		0	0	0		0	94.4	5.6		26.7	6.7	66.7		
PHF	.500	.583	.000	.667	.000	.000	.000	.000	.000	.773	.500	.818	.500	.250	.625	.625	

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File Name : 02_RIV_La S_91E AM
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Start Date : 8/17/2023

Groups Printed- 3 Axle Vehicles

	La Sierra Avenue Southbound					SR-91 Eastbound On Ramp Westbound					La Sierra Avenue Northbound					SR-91 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	0	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	1	1	1	1	5	6
07:15 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	2	1	3	1	5	6
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	4	5	4	6	10
07:45 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	4	2	4	2	6	8
Total	3	2	0	0	5	0	0	0	0	0	0	4	0	0	4	1	0	12	8	13	8	22	30
08:00 AM	2	1	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	4	1	4	1	8	9
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	5	3	7	3	8	11
08:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	2	1	3	1	5	6
08:45 AM	1	0	0	0	1	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	6	6
Total	3	3	0	0	6	0	0	0	0	0	0	4	3	0	7	2	1	11	5	14	5	27	32
Grand Total	6	5	0	0	11	0	0	0	0	0	0	8	3	0	11	3	1	23	13	27	13	49	62
Apprch %	54.5	45.5	0			0	0	0			0	72.7	27.3			11.1	3.7	85.2					
Total %	12.2	10.2	0		22.4	0	0	0		0	0	16.3	6.1		22.4	6.1	2	46.9		55.1	21	79	

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**1**	0	1	0	0	0	0	0	0	0	0	0	0	**5**	5	6
07:45 AM	1	0	0	1	0	0	0	0	0	**1**	0	**1**	0	0	4	4	6
08:00 AM	**2**	1	0	**3**	0	0	0	0	0	0	**1**	1	0	0	4	4	**8**
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	**1**	**1**	5	**7**	8
Total Volume	3	3	0	6	0	0	0	0	0	1	1	2	1	1	18	20	28
% App. Total	50	50	0		0	0	0		0	50	50		5	5	90		
PHF	.375	.750	.000	.500	.000	.000	.000	.000	.000	.250	.250	.500	.250	.250	.900	.714	.875

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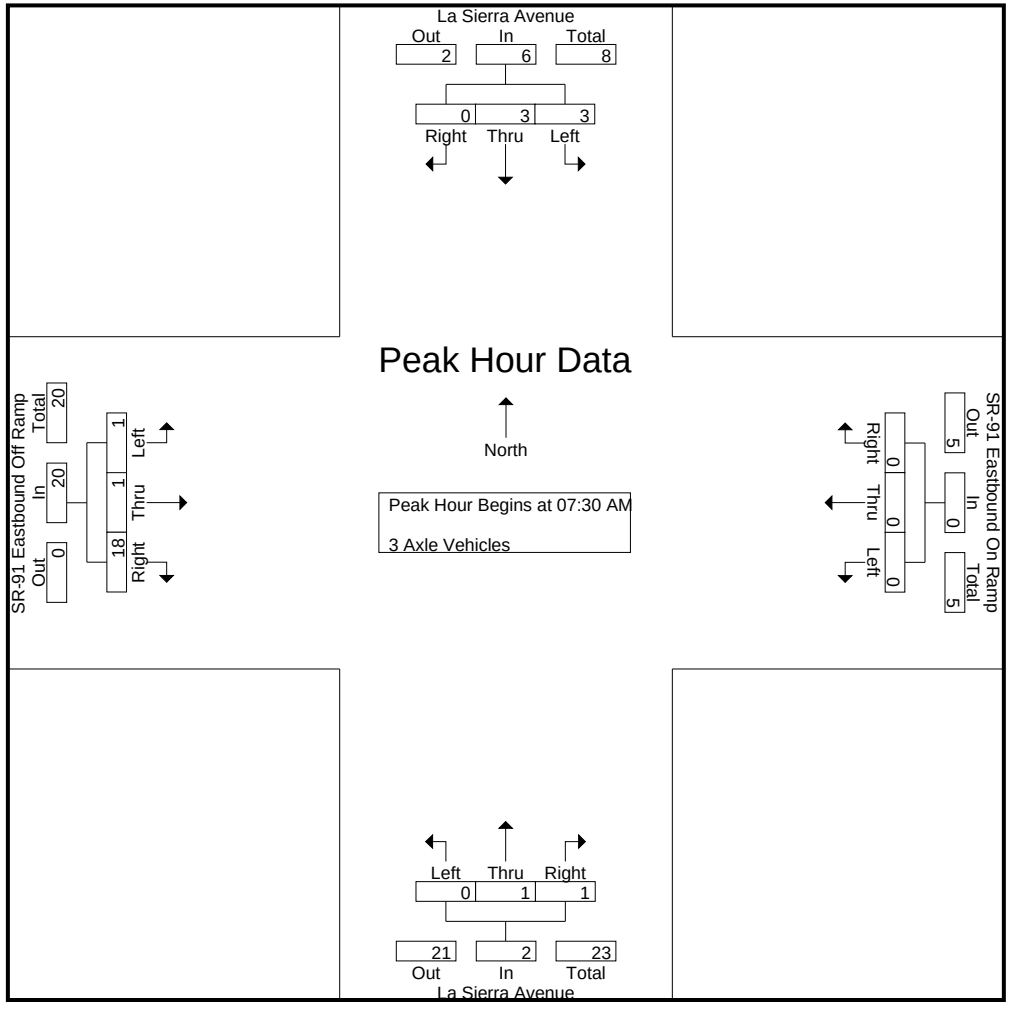

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	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	**1**	0	1	0	0	0	0	0	0	0	0	0	0	**5**	5	
+15 mins.	1	0	0	1	0	0	0	0	0	**1**	0	**1**	0	0	4	4	
+30 mins.	**2**	1	0	**3**	0	0	0	0	0	0	**1**	1	0	0	4	4	
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	**1**	**1**	5	**7**	
Total Volume	3	3	0	6	0	0	0	0	0	1	1	2	1	1	18	20	
% App. Total	50	50	0		0	0	0		0	50	50		5	5	90		
PHF	.375	.750	.000	.500	.000	.000	.000	.000	.000	.250	.250	.500	.250	.250	.900	.714	

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City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E AM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 1

Groups Printed- 4+ Axle Trucks

	La Sierra Avenue Southbound					SR-91 Eastbound On Ramp Westbound					La Sierra Avenue Northbound					SR-91 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	3	2	3	2	5	7
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	1	1	2	1	4	5
07:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	3
07:45 AM	2	0	0	0	2	0	0	0	0	0	0	2	1	0	3	2	0	2	1	4	1	9	10
Total	4	1	0	0	5	0	0	0	0	0	0	4	1	0	5	3	0	7	5	10	5	20	25
08:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	2
08:30 AM	1	0	0	0	1	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	0	4	4
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	1	2	3
Total	2	0	0	0	2	0	0	0	0	0	0	3	1	0	4	2	0	2	1	4	1	10	11
Grand Total	6	1	0	0	7	0	0	0	0	0	0	7	2	0	9	5	0	9	6	14	6	30	36
Apprch %	85.7	14.3	0			0	0	0			0	77.8	22.2			35.7	0	64.3					
Total %	20	3.3	0		23.3	0	0	0		0	0	23.3	6.7		30	16.7	0	30		46.7	16.7	83.3	

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
07:45 AM	**2**	0	0	**2**	0	0	0	0	0	**2**	**1**	**3**	**2**	0	**2**	**4**	**9**
08:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
08:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Total Volume	4	0	0	4	0	0	0	0	0	4	1	5	3	0	3	6	15
% App. Total	100	0	0		0	0	0		0	80	20		50	0	50		
PHF	.500	.000	.000	.500	.000	.000	.000	.000	.000	.500	.250	.417	.375	.000	.375	.375	.417

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City of Riverside
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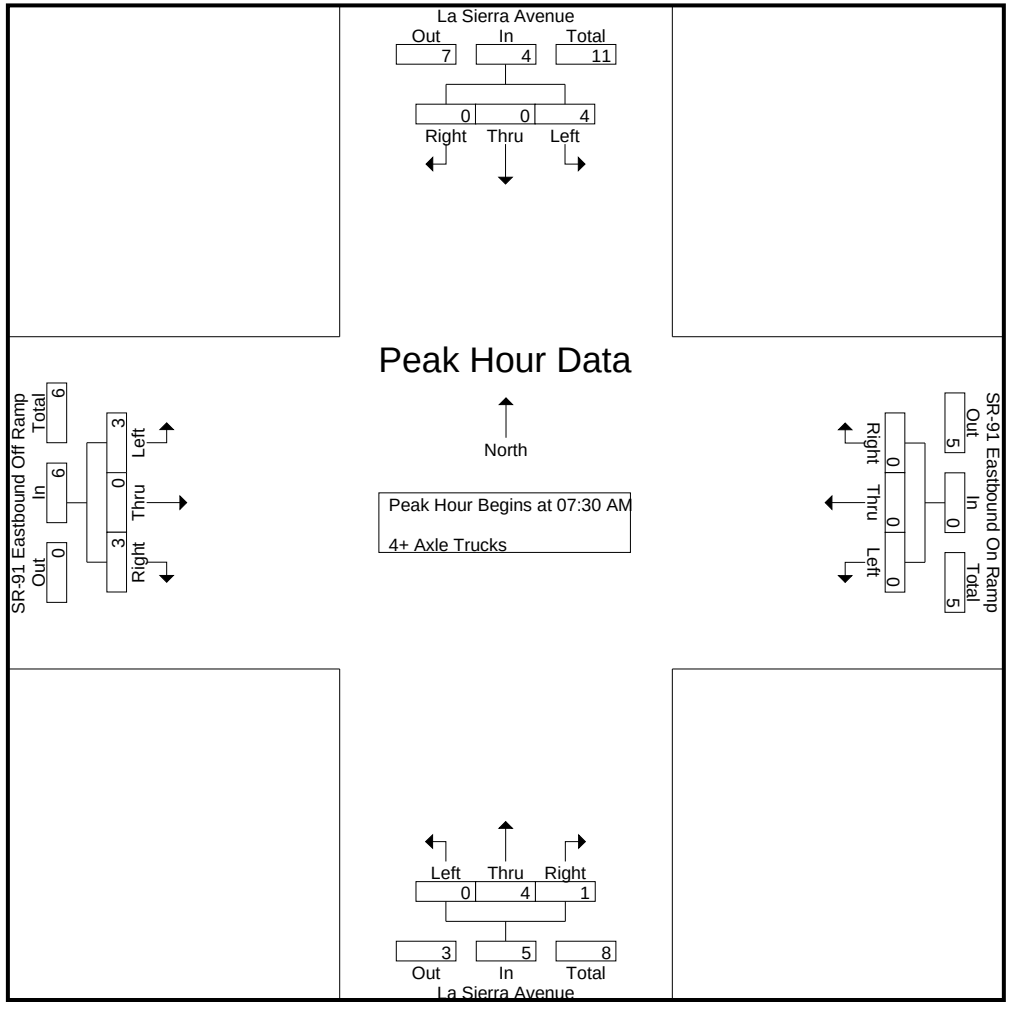
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E AM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	
+15 mins.	**2**	0	0	**2**	0	0	0	0	0	**2**	**1**	**3**	**2**	0	**2**	**4**	
+30 mins.	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	
+45 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	
Total Volume	4	0	0	4	0	0	0	0	0	4	1	5	3	0	3	6	
% App. Total	100	0	0		0	0	0		0	80	20		50	0	50		
PHF	.500	.000	.000	.500	.000	.000	.000	.000	.000	.500	.250	.417	.375	.000	.375	.375	

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Page No : 1

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

	La Sierra Avenue Southbound					SR-91 Eastbound On Ramp Westbound					La Sierra Avenue Northbound					SR-91 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	91	317	0	0	408	0	0	0	0	0	0	252	74	13	326	63	1	235	53	299	66	1033	1099
04:15 PM	87	285	0	0	372	0	0	0	0	0	0	231	72	9	303	47	2	201	57	250	66	925	991
04:30 PM	86	289	0	0	375	0	0	0	0	0	0	230	89	8	319	54	4	227	73	285	81	979	1060
04:45 PM	68	319	0	0	387	0	0	0	0	0	0	230	85	7	315	52	2	211	68	265	75	967	1042
Total	332	1210	0	0	1542	0	0	0	0	0	0	943	320	37	1263	216	9	874	251	1099	288	3904	4192
05:00 PM	127	343	0	0	470	0	0	0	0	0	0	264	64	8	328	55	2	202	47	259	55	1057	1112
05:15 PM	103	376	0	0	479	0	0	0	0	0	0	256	69	8	325	52	8	193	46	253	54	1057	1111
05:30 PM	94	314	0	0	408	0	0	0	0	0	0	250	82	16	332	50	1	175	46	226	62	966	1028
05:45 PM	71	288	0	0	359	0	0	0	0	0	0	218	62	9	280	46	4	188	68	238	77	877	954
Total	395	1321	0	0	1716	0	0	0	0	0	0	988	277	41	1265	203	15	758	207	976	248	3957	4205
Grand Total	727	2531	0	0	3258	0	0	0	0	0	0	1931	597	78	2528	419	24	1632	458	2075	536	7861	8397
Apprch %	22.3	77.7	0			0	0	0			0	76.4	23.6			20.2	1.2	78.7					
Total %	9.2	32.2	0		41.4	0	0	0		0	0	24.6	7.6		32.2	5.3	0.3	20.8		26.4	6.4	93.6	
Passenger Vehicles	718	2493	0		3211	0	0	0		0	0	1888	583		2548	411	23	1581		2460	0	0	8219
% Passenger Vehicles	98.8	98.5	0	0	98.6	0	0	0	0	0	0	97.8	97.7	98.7	97.8	98.1	95.8	96.9	97.2	97.1	0	0	97.9
Large 2 Axle Vehicles	5	32	0		37	0	0	0		0	0	36	7		43	4	1	39		55	0	0	135
% Large 2 Axle Vehicles	0.7	1.3	0	0	1.1	0	0	0	0	0	0	1.9	1.2	0	1.7	1	4.2	2.4	2.4	2.2	0	0	1.6
3 Axle Vehicles	3	4	0		7	0	0	0		0	0	6	3		10	1	0	6		9	0	0	26
% 3 Axle Vehicles	0.4	0.2	0	0	0.2	0	0	0	0	0	0	0.3	0.5	1.3	0.4	0.2	0	0.4	0.4	0.4	0	0	0.3
4+ Axle Trucks	1	2	0		3	0	0	0		0	0	1	4		5	3	0	6		9	0	0	17
% 4+ Axle Trucks	0.1	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0.7	0	0.2	0.7	0	0.4	0	0.4	0	0	0.2

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	86	289	0	375	0	0	0	0	0	230	**89**	319	54	4	**227**	**285**	979
04:45 PM	68	319	0	387	0	0	0	0	0	230	85	315	52	2	211	265	967
05:00 PM	**127**	343	0	470	0	0	0	0	0	**264**	64	**328**	**55**	2	202	259	**1057**
05:15 PM	103	**376**	0	**479**	0	0	0	0	0	256	69	325	52	**8**	193	253	1057
Total Volume	384	1327	0	1711	0	0	0	0	0	980	307	1287	213	16	833	1062	4060
% App. Total	22.4	77.6	0		0	0	0		0	76.1	23.9		20.1	1.5	78.4		
PHF	.756	.882	.000	.893	.000	.000	.000	.000	.000	.928	.862	.981	.968	.500	.917	.932	.960

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City of Riverside
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File Name : 02_RIV_La S_91E PM
Site Code : 05123396
Start Date : 8/17/2023
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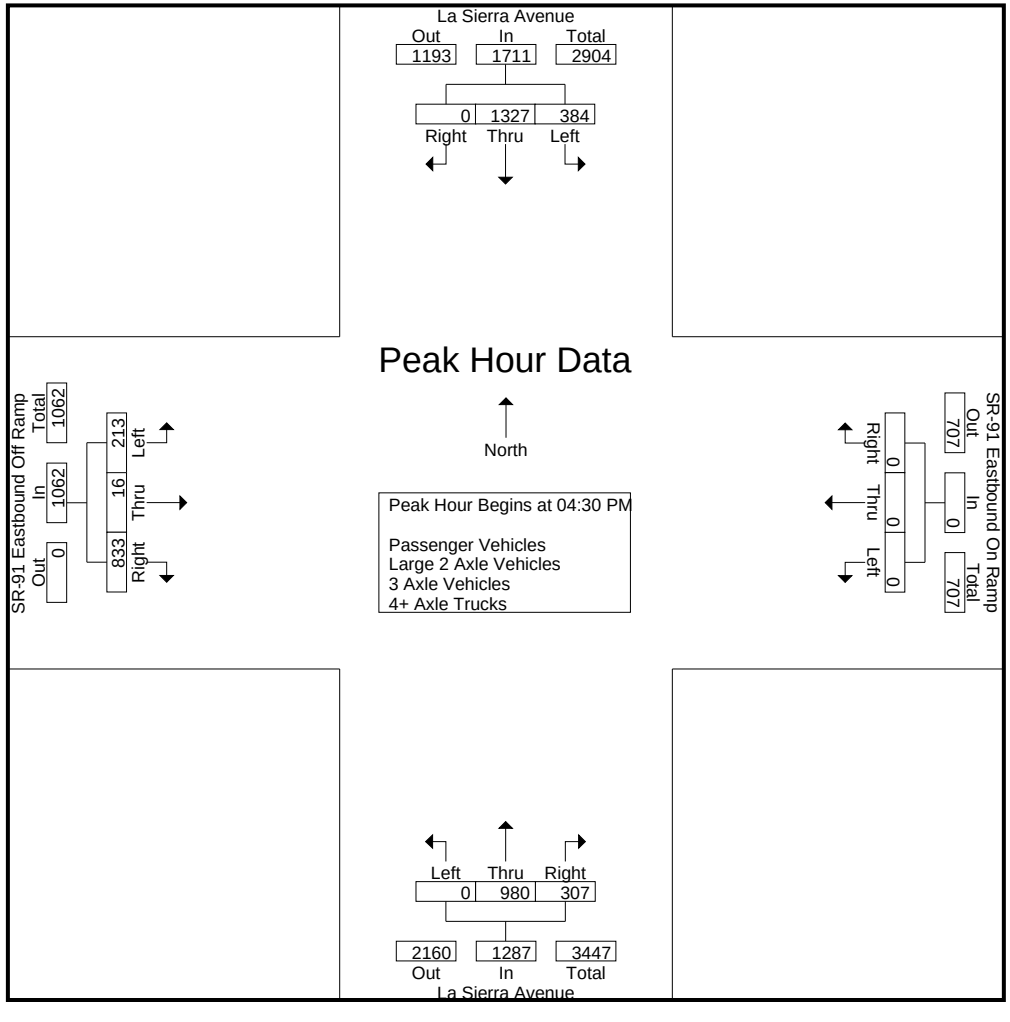

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	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:00 PM				04:45 PM				04:00 PM				
+0 mins.	68	319	0	387	0	0	0	0	0	230	**85**	315	**63**	1	**235**	**299**	
+15 mins.	**127**	343	0	470	0	0	0	0	0	**264**	64	328	47	2	201	250	
+30 mins.	103	**376**	0	**479**	0	0	0	0	0	256	69	325	54	**4**	227	285	
+45 mins.	94	314	0	408	0	0	0	0	0	250	82	**332**	52	2	211	265	
Total Volume	392	1352	0	1744	0	0	0	0	0	1000	300	1300	216	9	874	1099	
% App. Total	22.5	77.5	0		0	0	0		0	76.9	23.1		19.7	0.8	79.5		
PHF	.772	.899	.000	.910	.000	.000	.000	.000	.000	.947	.882	.979	.857	.563	.930	.919	

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Groups Printed- Passenger Vehicles

	La Sierra Avenue Southbound					SR-91 Eastbound On Ramp Westbound					La Sierra Avenue Northbound					SR-91 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	88	308	0	0	396	0	0	0	0	0	0	247	74	13	321	62	1	223	48	286	61	1003	1064
04:15 PM	85	279	0	0	364	0	0	0	0	0	0	221	68	9	289	45	2	193	56	240	65	893	958
04:30 PM	86	284	0	0	370	0	0	0	0	0	0	224	85	8	309	53	3	224	73	280	81	959	1040
04:45 PM	68	317	0	0	385	0	0	0	0	0	0	228	83	7	311	51	2	202	65	255	72	951	1023
Total	327	1188	0	0	1515	0	0	0	0	0	0	920	310	37	1230	211	8	842	242	1061	279	3806	4085
05:00 PM	125	336	0	0	461	0	0	0	0	0	0	259	64	8	323	55	2	194	45	251	53	1035	1088
05:15 PM	102	371	0	0	473	0	0	0	0	0	0	251	68	7	319	52	8	189	45	249	52	1041	1093
05:30 PM	94	311	0	0	405	0	0	0	0	0	0	247	81	16	328	48	1	171	45	220	61	953	1014
05:45 PM	70	287	0	0	357	0	0	0	0	0	0	211	60	9	271	45	4	185	68	234	77	862	939
Total	391	1305	0	0	1696	0	0	0	0	0	0	968	273	40	1241	200	15	739	203	954	243	3891	4134
Grand Total	718	2493	0	0	3211	0	0	0	0	0	0	1888	583	77	2471	411	23	1581	445	2015	522	7697	8219
Apprch %	22.4	77.6	0			0	0	0			0	76.4	23.6			20.4	1.1	78.5					
Total %	9.3	32.4	0		41.7	0	0	0		0	0	24.5	7.6		32.1	5.3	0.3	20.5		26.2	6.4	93.6	

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	86	284	0	370	0	0	0	0	0	224	**85**	309	53	3	**224**	**280**	959
04:45 PM	68	317	0	385	0	0	0	0	0	228	83	311	51	2	202	255	951
05:00 PM	**125**	336	0	461	0	0	0	0	0	**259**	64	**323**	**55**	2	194	251	1035
05:15 PM	102	**371**	0	**473**	0	0	0	0	0	251	68	319	52	**8**	189	249	**1041**
Total Volume	381	1308	0	1689	0	0	0	0	0	962	300	1262	211	15	809	1035	3986
% App. Total	22.6	77.4	0		0	0	0		0	76.2	23.8		20.4	1.4	78.2		
PHF	.762	.881	.000	.893	.000	.000	.000	.000	.000	.929	.882	.977	.959	.469	.903	.924	.957

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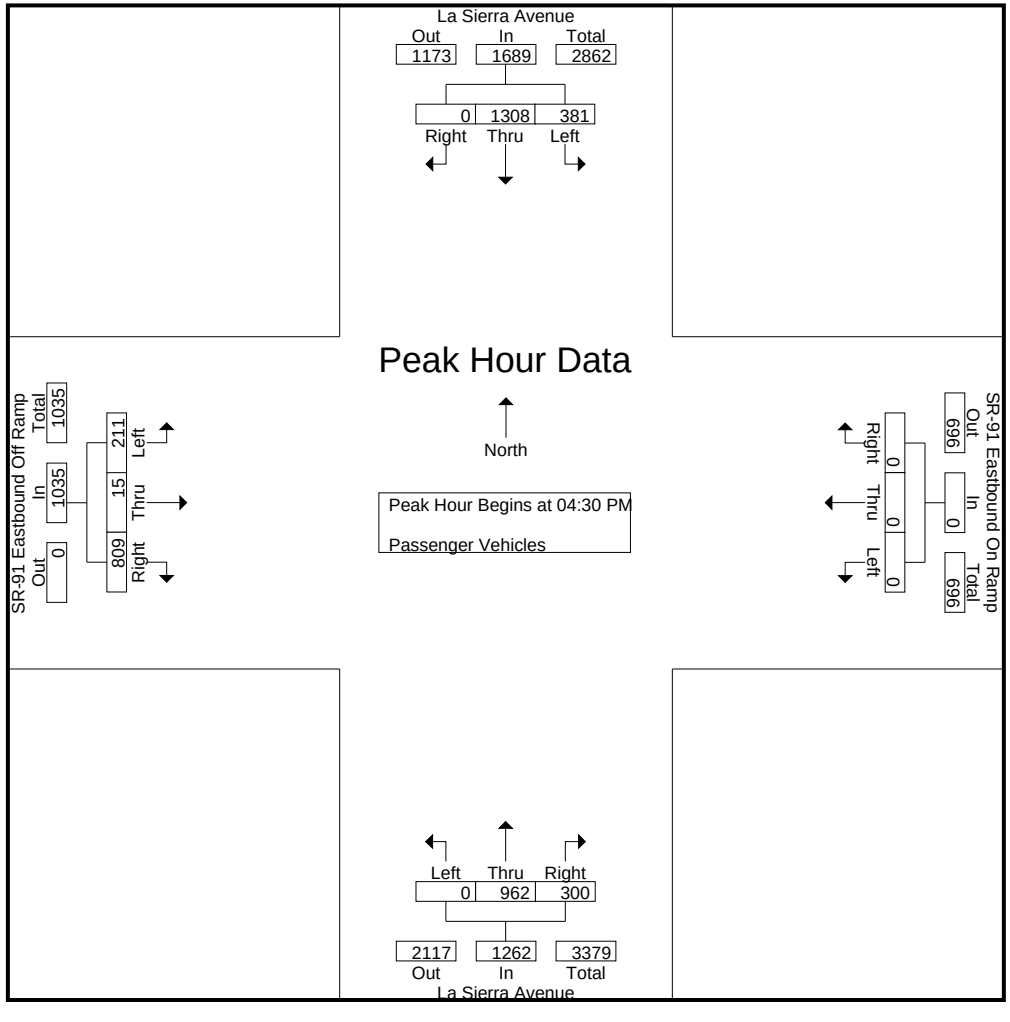

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	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	86	284	0	370	0	0	0	0	0	224	**85**	309	53	3	**224**	**280**	
+15 mins.	68	317	0	385	0	0	0	0	0	228	83	311	51	2	202	255	
+30 mins.	**125**	336	0	461	0	0	0	0	0	**259**	64	**323**	**55**	2	194	251	
+45 mins.	102	**371**	0	**473**	0	0	0	0	0	251	68	319	52	**8**	189	249	
Total Volume	381	1308	0	1689	0	0	0	0	0	962	300	1262	211	15	809	1035	
% App. Total	22.6	77.4	0		0	0	0		0	76.2	23.8		20.4	1.4	78.2		
PHF	.762	.881	.000	.893	.000	.000	.000	.000	.000	.929	.882	.977	.959	.469	.903	.924	

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Groups Printed- Large 2 Axle Vehicles

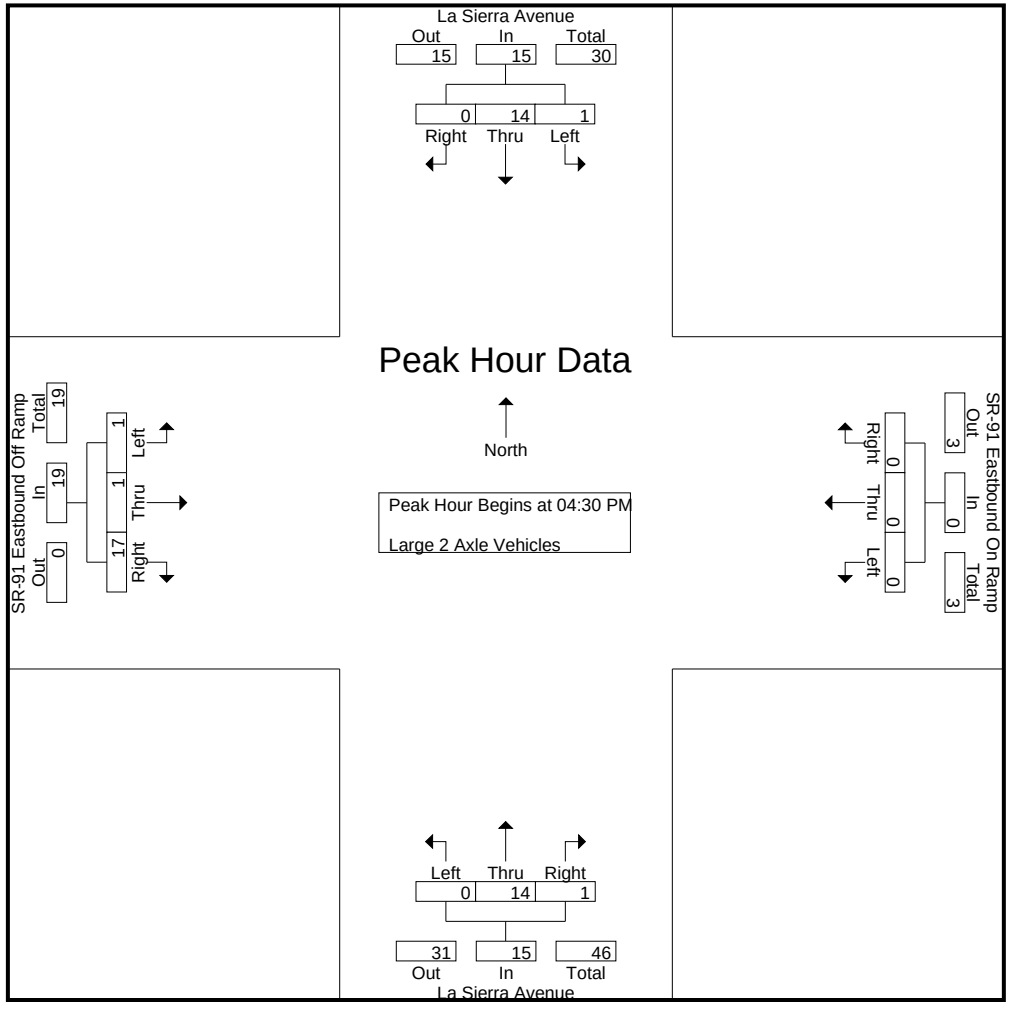
	La Sierra Avenue Southbound					SR-91 Eastbound On Ramp Westbound					La Sierra Avenue Northbound					SR-91 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	9	0	0	10	0	0	0	0	0	0	4	0	0	4	0	0	11	5	11	5	25	30
04:15 PM	2	6	0	0	8	0	0	0	0	0	0	9	4	0	13	1	0	6	1	7	1	28	29
04:30 PM	0	3	0	0	3	0	0	0	0	0	0	4	1	0	5	1	1	3	0	5	0	13	13
04:45 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	4	1	4	1	8	9
Total	3	20	0	0	23	0	0	0	0	0	0	19	5	0	24	2	1	24	7	27	7	74	81
05:00 PM	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	0	0	7	2	7	2	17	19
05:15 PM	1	4	0	0	5	0	0	0	0	0	0	3	0	0	3	0	0	3	1	3	1	11	12
05:30 PM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	1	0	4	1	5	1	10	11
05:45 PM	1	1	0	0	2	0	0	0	0	0	0	6	2	0	8	1	0	1	0	2	0	12	12
Total	2	12	0	0	14	0	0	0	0	0	0	17	2	0	19	2	0	15	4	17	4	50	54
Grand Total	5	32	0	0	37	0	0	0	0	0	0	36	7	0	43	4	1	39	11	44	11	124	135
Apprch %	13.5	86.5	0			0	0	0			0	83.7	16.3			9.1	2.3	88.6					
Total %	4	25.8	0		29.8	0	0	0		0	0	29	5.6		34.7	3.2	0.8	31.5		35.5	8.1	91.9	

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	3	0	3	0	0	0	0	0	4	**1**	**5**	**1**	**1**	3	5	13
04:45 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	4	4	8
05:00 PM	0	**5**	0	**5**	0	0	0	0	0	**5**	0	5	0	0	**7**	**7**	**17**
05:15 PM	**1**	4	0	5	0	0	0	0	0	3	0	3	0	0	3	3	11
Total Volume	1	14	0	15	0	0	0	0	0	14	1	15	1	1	17	19	49
% App. Total	6.7	93.3	0		0	0	0		0	93.3	6.7		5.3	5.3	89.5		
PHF	.250	.700	.000	.750	.000	.000	.000	.000	.000	.700	.250	.750	.250	.250	.607	.679	.721

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

City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E PM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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

City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E PM
Site Code : 05123396
Start Date : 8/17/2023

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	3	0	3	0	0	0	0	0	4	**1**	**5**	**1**	**1**	3	5	
+15 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	0	4	4	
+30 mins.	0	**5**	0	**5**	0	0	0	0	0	**5**	0	5	0	0	**7**	**7**	
+45 mins.	**1**	4	0	5	0	0	0	0	0	3	0	3	0	0	3	3	
Total Volume	1	14	0	15	0	0	0	0	0	14	1	15	1	1	17	19	
% App. Total	6.7	93.3	0		0	0	0		0	93.3	6.7		5.3	5.3	89.5		
PHF	.250	.700	.000	.750	.000	.000	.000	.000	.000	.700	.250	.750	.250	.250	.607	.679	

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Corona, CA 92878
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City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E PM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 1

Groups Printed- 3 Axle Vehicles

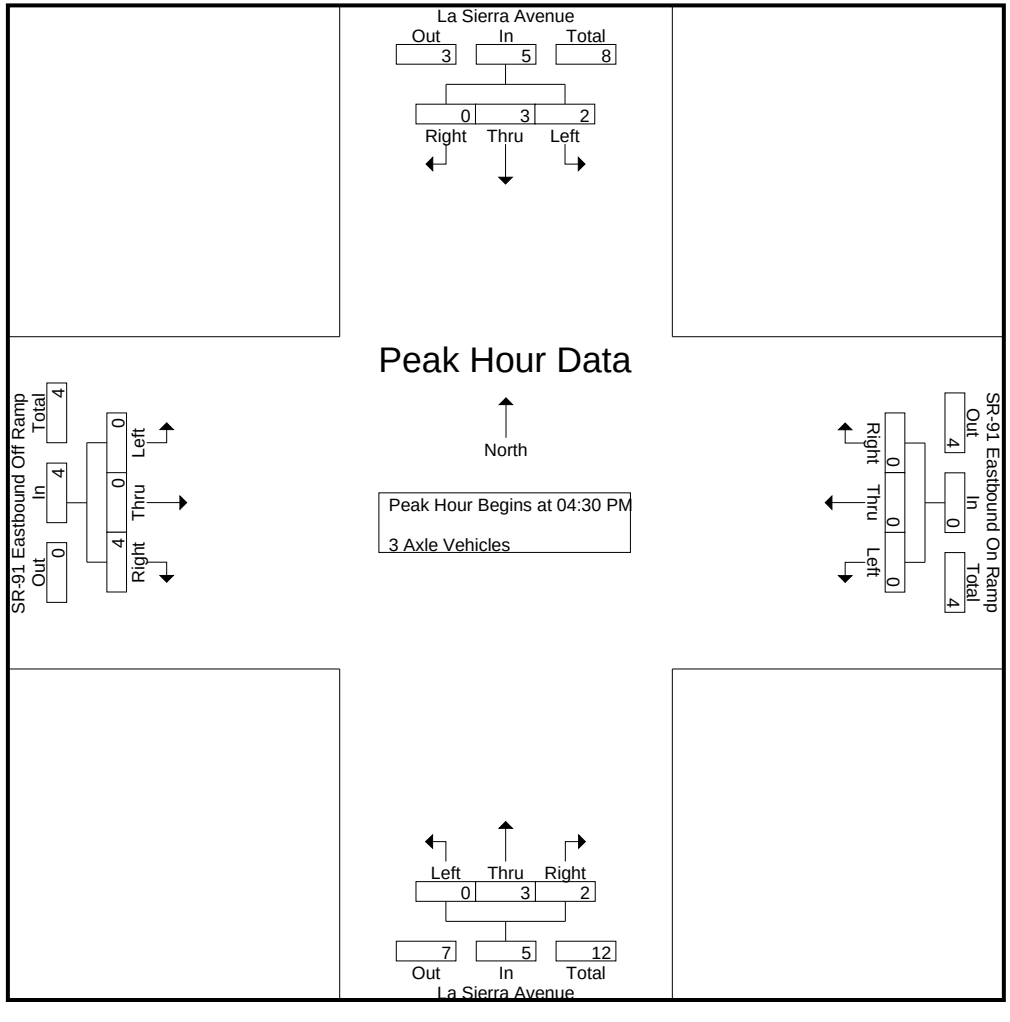
	La Sierra Avenue Southbound					SR-91 Eastbound On Ramp Westbound					La Sierra Avenue Northbound					SR-91 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	3	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	2	2
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	3	2	3	2	4	6
Total	1	1	0	0	2	0	0	0	0	0	0	3	1	0	4	1	0	4	2	5	2	11	13
05:00 PM	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	5	5
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	1	3	0	0	0	0	0	1	3	4
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	2	2
Total	2	3	0	0	5	0	0	0	0	0	0	3	2	1	5	0	0	2	0	2	1	12	13
Grand Total	3	4	0	0	7	0	0	0	0	0	0	6	3	1	9	1	0	6	2	7	3	23	26
Apprch %	42.9	57.1	0			0	0	0			0	66.7	33.3			14.3	0	85.7					
Total %	13	17.4	0		30.4	0	0	0		0	0	26.1	13		39.1	4.3	0	26.1		30.4	11.5	88.5	

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	**1**	1	0	0	**3**	**3**	4
05:00 PM	**2**	**2**	0	**4**	0	0	0	0	0	0	0	0	0	0	1	1	**5**
05:15 PM	0	0	0	0	0	0	0	0	0	**2**	1	**3**	0	0	0	0	3
Total Volume	2	3	0	5	0	0	0	0	0	3	2	5	0	0	4	4	14
% App. Total	40	60	0		0	0	0		0	60	40		0	0	100		
PHF	.250	.375	.000	.313	.000	.000	.000	.000	.000	.375	.500	.417	.000	.000	.333	.333	.700

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

City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E PM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E PM
Site Code : 05123396
Start Date : 8/17/2023

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	**1**	1	0	0	**3**	**3**	
+30 mins.	**2**	**2**	0	**4**	0	0	0	0	0	0	0	0	0	0	1	1	
+45 mins.	0	0	0	0	0	0	0	0	0	**2**	1	**3**	0	0	0	0	
Total Volume	2	3	0	5	0	0	0	0	0	3	2	5	0	0	4	4	
% App. Total	40	60	0		0	0	0		0	60	40		0	0	100		
PHF	.250	.375	.000	.313	.000	.000	.000	.000	.000	.375	.500	.417	.000	.000	.333	.333	

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City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E PM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 1

Groups Printed- 4+ Axle Trucks

	La Sierra Avenue Southbound					SR-91 Eastbound On Ramp Westbound					La Sierra Avenue Northbound					SR-91 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	2
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	3	0	4	0	0	0	0	0	0	5	5
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	2	0	3	0	4	4
Total	1	1	0	0	2	0	0	0	0	0	0	1	4	0	5	2	0	4	0	6	0	13	13
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	0	4	4
Grand Total	1	2	0	0	3	0	0	0	0	0	0	1	4	0	5	3	0	6	0	9	0	17	17
Apprch %	33.3	66.7	0			0	0	0			0	20	80			33.3	0	66.7					
Total %	5.9	11.8	0		17.6	0	0	0		0	0	5.9	23.5		29.4	17.6	0	35.3		52.9	0	100	

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	**1**	0	**1**	0	0	0	0	0	**1**	**3**	**4**	0	0	0	0	**5**
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	**1**	0	**2**	**3**	4
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	1	1	2
Total Volume	0	2	0	2	0	0	0	0	0	1	4	5	1	0	3	4	11
% App. Total	0	100	0		0	0	0		0	20	80		25	0	75		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.250	.333	.313	.250	.000	.375	.333	.550

Counts Unlimited, Inc.
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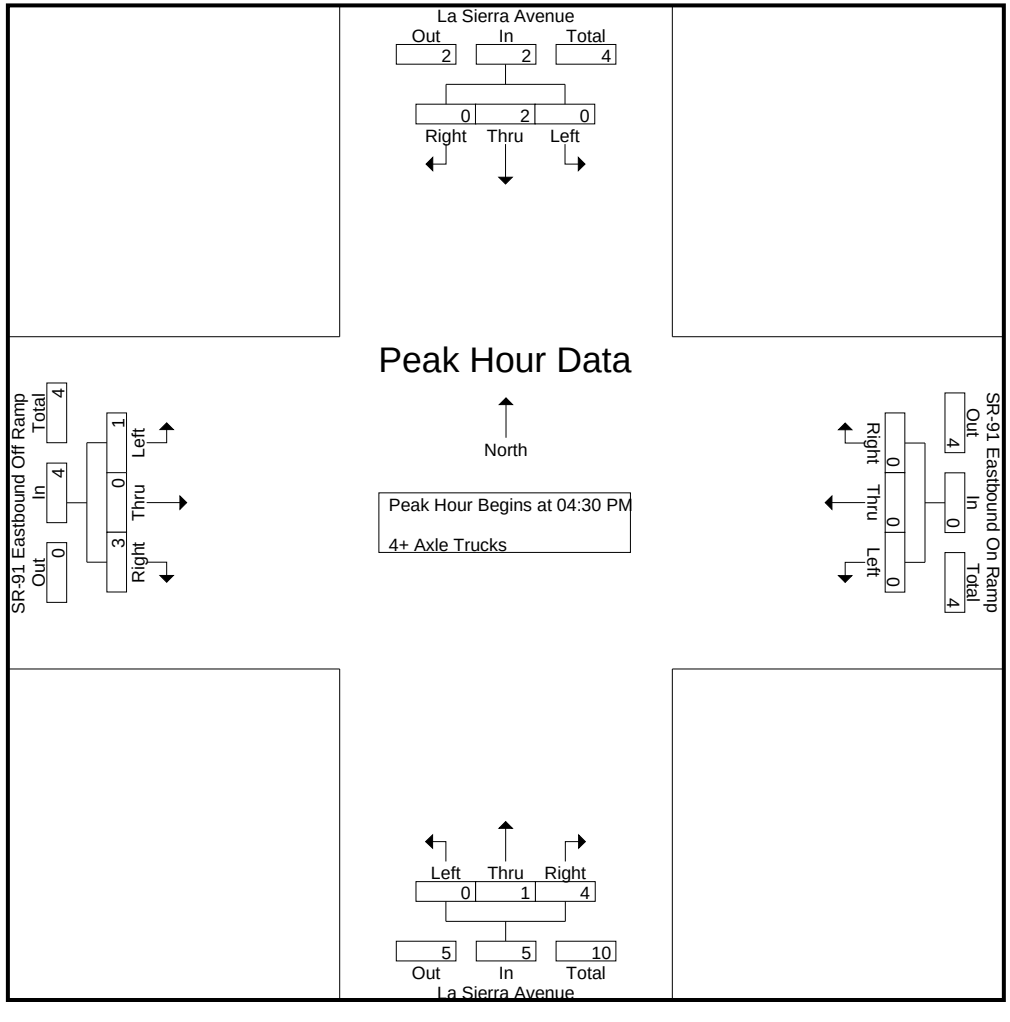
(951) 268-6268

City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E PM
Site Code : 05123396
Start Date : 8/17/2023
Page No : 2



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

City of Riverside
N/S: La Sierra Avenue
E/W: SR-91 Eastbound Ramps
Weather: Clear

File Name : 02_RIV_La S_91E PM
Site Code : 05123396
Start Date : 8/17/2023

	La Sierra Avenue Southbound				SR-91 Eastbound On Ramp Westbound				La Sierra Avenue Northbound				SR-91 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	**1**	0	**1**	0	0	0	0	0	**1**	**3**	**4**	0	0	0	0	
+15 mins.	0	0	0	0	0	0	0	0	0	0	1	1	**1**	0	**2**	**3**	
+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	0	0	0	0	0	0	1	1	
Total Volume	0	2	0	2	0	0	0	0	0	1	4	5	1	0	3	4	
% App. Total	0	100	0		0	0	0		0	20	80		25	0	75		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.250	.333	.313	.250	.000	.375	.333	

Location: Riverside
N/S: La Sierra Avenue
E/W: SR-91 EB Ramps

Date: 8/17/2023
Day: Thursday

PEDESTRIANS

	North Leg La Sierra Avenue	East Leg SR-91 EB Ramps	South Leg La Sierra Avenue	West Leg SR-91 EB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	3	0	3	6
7:15 AM	0	2	0	4	6
7:30 AM	0	0	0	1	1
7:45 AM	0	3	0	1	4
8:00 AM	0	1	0	2	3
8:15 AM	0	1	0	0	1
8:30 AM	0	0	0	0	0
8:45 AM	0	1	0	3	4
TOTAL VOLUMES:	0	11	0	14	25

	North Leg La Sierra Avenue	East Leg SR-91 EB Ramps	South Leg La Sierra Avenue	West Leg SR-91 EB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	2	0	1	3
4:15 PM	0	2	0	2	4
4:30 PM	0	0	0	1	1
4:45 PM	0	1	0	3	4
5:00 PM	0	0	0	3	3
5:15 PM	0	0	0	1	1
5:30 PM	0	0	0	1	1
5:45 PM	0	0	0	1	1
TOTAL VOLUMES:	0	5	0	13	18

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951-268-6268

Location: Riverside
N/S: La Sierra Avenue
E/W: SR-91 EB Ramps

Date: 8/17/2023
Day: Thursday

BICYCLES

	Southbound La Sierra Avenue			Westbound SR-91 EB Ramps			Northbound La Sierra Avenue			Eastbound SR-91 EB Ramps			
	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	2	0	0	0	0	0	1	0	0	0	0	3
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	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES:	0	2	0	0	0	0	0	3	0	0	0	0	5

	Southbound La Sierra Avenue			Westbound SR-91 EB Ramps			Northbound La Sierra Avenue			Eastbound SR-91 EB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	1	0	0	0	0	0	2	0	0	0	0	3
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
TOTAL VOLUMES:	0	4	0	0	0	0	0	5	0	0	0	0	9

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City of Riverside
N/S: La Sierra Avenue
E/W: Indiana Avenue
Weather: Clear

File Name : 03_RIV_La S_Indi AM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 1

Groups Printed- Total Volume

	La Sierra Avenue Southbound					Indiana Avenue Westbound					La Sierra Avenue Northbound					Indiana Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	21	117	28	13	166	18	33	36	18	87	53	263	8	2	324	67	30	15	12	112	45	689	734
07:15 AM	36	125	40	28	201	22	45	43	20	110	62	284	8	5	354	61	32	18	11	111	64	776	840
07:30 AM	30	201	41	19	272	33	39	39	31	111	75	257	19	8	351	109	36	28	22	173	80	907	987
07:45 AM	27	276	50	22	353	31	54	40	15	125	94	343	14	5	451	114	44	21	11	179	53	1108	1161
Total	114	719	159	82	992	104	171	158	84	433	284	1147	49	20	1480	351	142	82	56	575	242	3480	3722
08:00 AM	33	196	64	43	293	24	58	45	15	127	103	327	27	19	457	150	61	41	20	252	97	1129	1226
08:15 AM	27	140	60	47	227	27	68	39	22	134	81	296	15	7	392	123	102	35	18	260	94	1013	1107
08:30 AM	39	129	38	27	206	15	54	27	16	96	57	299	12	4	368	124	44	31	15	199	62	869	931
08:45 AM	33	105	28	18	166	8	38	31	22	77	49	241	12	3	302	88	36	13	9	137	52	682	734
Total	132	570	190	135	892	74	218	142	75	434	290	1163	66	33	1519	485	243	120	62	848	305	3693	3998
Grand Total	246	1289	349	217	1884	178	389	300	159	867	574	2310	115	53	2999	836	385	202	118	1423	547	7173	7720
Apprch %	13.1	68.4	18.5			20.5	44.9	34.6			19.1	77	3.8			58.7	27.1	14.2					
Total %	3.4	18	4.9		26.3	2.5	5.4	4.2		12.1	8	32.2	1.6		41.8	11.7	5.4	2.8		19.8	7.1	92.9	

	La Sierra Avenue Southbound				Indiana Avenue Westbound				La Sierra Avenue Northbound				Indiana Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	30	201	41	272	**33**	39	39	111	75	257	19	351	109	36	28	173	907
07:45 AM	27	**276**	50	**353**	31	54	40	125	94	**343**	14	451	114	44	21	179	1108
08:00 AM	**33**	196	**64**	293	24	58	**45**	127	**103**	327	**27**	**457**	**150**	61	**41**	252	**1129**
08:15 AM	27	140	60	227	27	**68**	39	**134**	81	296	15	392	123	**102**	35	**260**	1013
Total Volume	117	813	215	1145	115	219	163	497	353	1223	75	1651	496	243	125	864	4157
% App. Total	10.2	71	18.8		23.1	44.1	32.8		21.4	74.1	4.5		57.4	28.1	14.5		
PHF	.886	.736	.840	.811	.871	.805	.906	.927	.857	.891	.694	.903	.827	.596	.762	.831	.921

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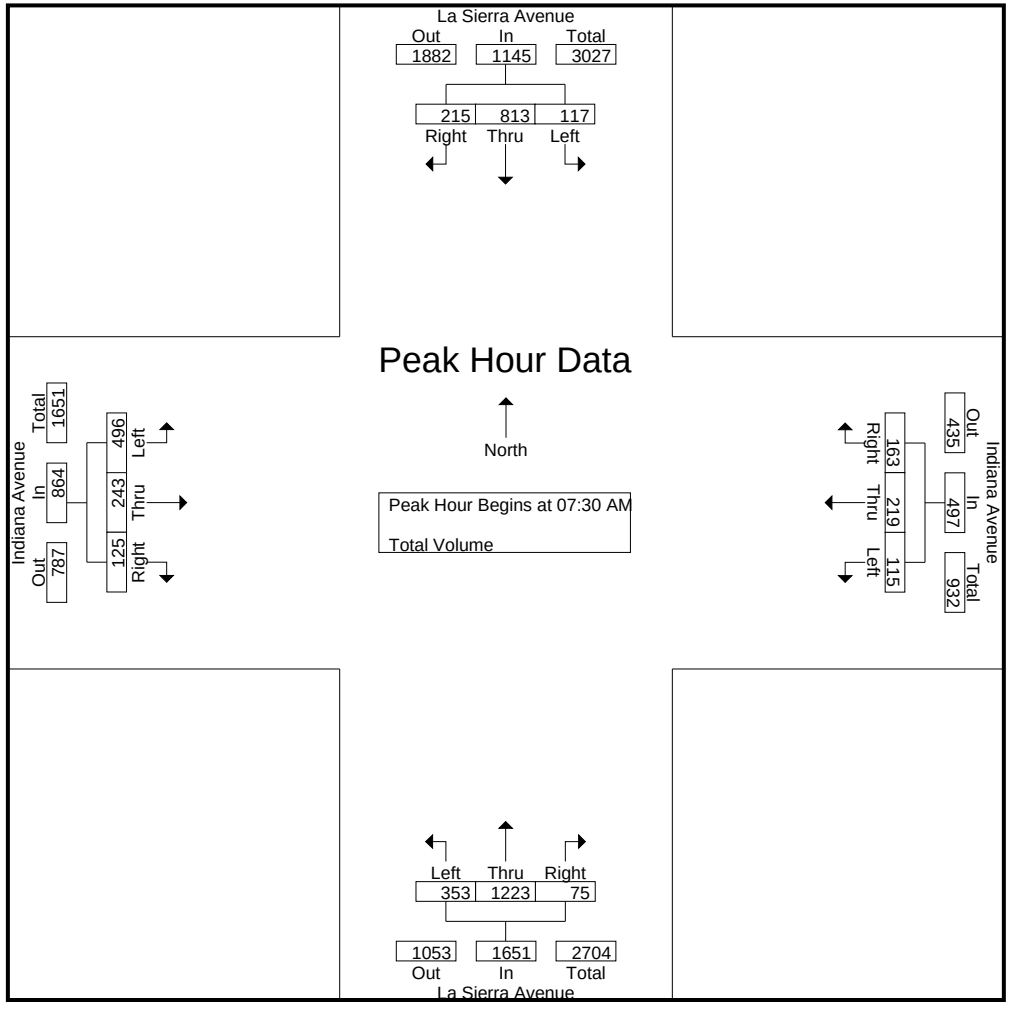
City of Riverside
N/S: La Sierra Avenue
E/W: Indiana Avenue
Weather: Clear

File Name : 03_RIV_La S_Indi AM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 2



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File Name : 03_RIV_La S_Indi AM
Site Code : 05123396
Start Date : 8/15/2023

	La Sierra Avenue Southbound				Indiana Avenue Westbound				La Sierra Avenue Northbound				Indiana Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:45 AM				07:45 AM				
+0 mins.	30	201	41	272	**33**	39	39	111	94	**343**	14	451	114	44	21	179	
+15 mins.	27	**276**	50	**353**	31	54	40	125	**103**	327	**27**	**457**	**150**	61	**41**	252	
+30 mins.	**33**	196	**64**	293	24	58	**45**	127	81	296	15	392	123	**102**	35	**260**	
+45 mins.	27	140	60	227	27	**68**	39	**134**	57	299	12	368	124	44	31	199	
Total Volume	117	813	215	1145	115	219	163	497	335	1265	68	1668	511	251	128	890	
% App. Total	10.2	71	18.8		23.1	44.1	32.8		20.1	75.8	4.1		57.4	28.2	14.4		
PHF	.886	.736	.840	.811	.871	.805	.906	.927	.813	.922	.630	.912	.852	.615	.780	.856	

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Groups Printed- Total Volume

	La Sierra Avenue Southbound					Indiana Avenue Westbound					La Sierra Avenue Northbound					Indiana Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	74	331	88	35	493	33	60	30	18	123	42	178	17	13	237	90	76	49	11	215	77	1068	1145
04:15 PM	54	367	84	24	505	33	50	33	25	116	56	183	17	10	256	106	69	53	16	228	75	1105	1180
04:30 PM	67	320	71	20	458	45	47	33	24	125	50	172	11	2	233	80	80	46	13	206	59	1022	1081
04:45 PM	66	374	76	21	516	32	50	40	24	122	36	180	11	4	227	87	60	42	13	189	62	1054	1116
Total	261	1392	319	100	1972	143	207	136	91	486	184	713	56	29	953	363	285	190	53	838	273	4249	4522
05:00 PM	61	389	76	23	526	43	58	47	28	148	42	177	16	7	235	94	70	54	19	218	77	1127	1204
05:15 PM	61	376	76	23	513	25	57	37	32	119	43	191	16	9	250	89	76	60	21	225	85	1107	1192
05:30 PM	74	360	63	13	497	28	49	44	30	121	42	182	12	8	236	97	65	42	10	204	61	1058	1119
05:45 PM	60	351	70	19	481	28	31	26	21	85	40	174	14	10	228	84	63	45	15	192	65	986	1051
Total	256	1476	285	78	2017	124	195	154	111	473	167	724	58	34	949	364	274	201	65	839	288	4278	4566
Grand Total	517	2868	604	178	3989	267	402	290	202	959	351	1437	114	63	1902	727	559	391	118	1677	561	8527	9088
Apprch %	13	71.9	15.1			27.8	41.9	30.2			18.5	75.6	6			43.4	33.3	23.3					
Total %	6.1	33.6	7.1		46.8	3.1	4.7	3.4		11.2	4.1	16.9	1.3		22.3	8.5	6.6	4.6		19.7	6.2	93.8	

	La Sierra Avenue Southbound				Indiana Avenue Westbound				La Sierra Avenue Northbound				Indiana Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	66	374	**76**	516	32	50	40	122	36	180	11	227	87	60	42	189	1054
05:00 PM	61	**389**	76	**526**	**43**	**58**	**47**	**148**	42	177	**16**	235	94	70	54	218	**1127**
05:15 PM	61	376	76	513	25	57	37	119	**43**	**191**	16	**250**	89	**76**	**60**	**225**	1107
05:30 PM	**74**	360	63	497	28	49	44	121	42	182	12	236	**97**	65	42	204	1058
Total Volume	262	1499	291	2052	128	214	168	510	163	730	55	948	367	271	198	836	4346
% App. Total	12.8	73.1	14.2		25.1	42	32.9		17.2	77	5.8		43.9	32.4	23.7		
PHF	.885	.963	.957	.975	.744	.922	.894	.861	.948	.955	.859	.948	.946	.891	.825	.929	.964

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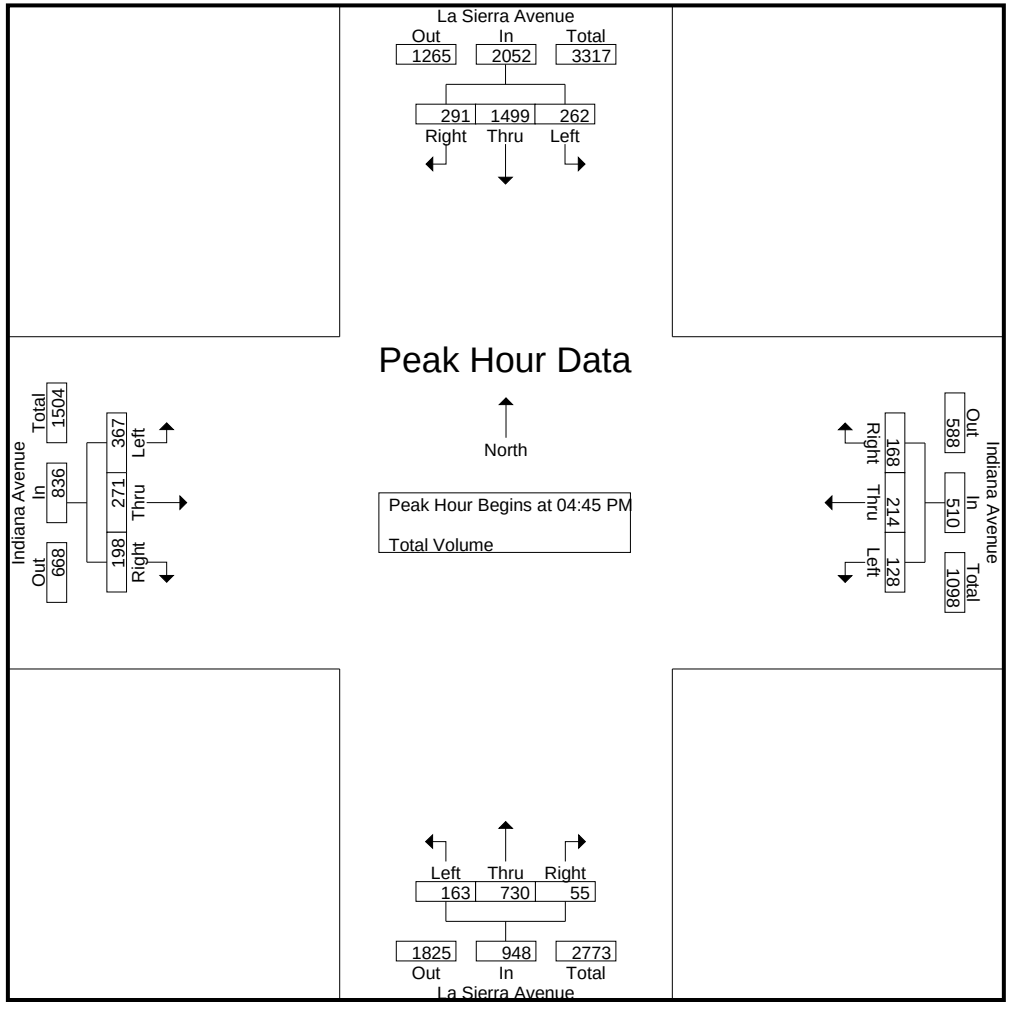

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Site Code : 05123396
Start Date : 8/15/2023

	La Sierra Avenue Southbound				Indiana Avenue Westbound				La Sierra Avenue Northbound				Indiana Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:30 PM				04:00 PM				04:15 PM				
+0 mins.	66	374	**76**	516	**45**	47	33	125	42	178	**17**	237	**106**	69	53	**228**	
+15 mins.	61	**389**	76	**526**	32	50	40	122	**56**	**183**	17	**256**	80	**80**	46	206	
+30 mins.	61	376	76	513	43	**58**	**47**	**148**	50	172	11	233	87	60	42	189	
+45 mins.	**74**	360	63	497	25	57	37	119	36	180	11	227	94	70	**54**	218	
Total Volume	262	1499	291	2052	145	212	157	514	184	713	56	953	367	279	195	841	
% App. Total	12.8	73.1	14.2		28.2	41.2	30.5		19.3	74.8	5.9		43.6	33.2	23.2		
PHF	.885	.963	.957	.975	.806	.914	.835	.868	.821	.974	.824	.931	.866	.872	.903	.922	

Location: Riverside
N/S: La Sierra Avenue
E/W: Indiana Avenue

Date: 8/17/2023
Day: Thursday

PEDESTRIANS

	North Leg La Sierra Avenue	East Leg Indiana Avenue	South Leg La Sierra Avenue	West Leg Indiana Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	3	3	3	0	9
7:30 AM	0	1	0	0	1
7:45 AM	2	1	0	1	4
8:00 AM	5	1	1	3	10
8:15 AM	3	1	2	1	7
8:30 AM	2	0	2	1	5
8:45 AM	0	3	1	1	5
TOTAL VOLUMES:	15	10	9	7	41

	North Leg La Sierra Avenue	East Leg Indiana Avenue	South Leg La Sierra Avenue	West Leg Indiana Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	2	0	2	2	6
4:15 PM	0	1	1	0	2
4:30 PM	2	0	0	1	3
4:45 PM	1	0	0	0	1
5:00 PM	1	0	0	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	6	1	3	3	13

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Location: Riverside
N/S: La Sierra Avenue
E/W: Indiana Avenue

Date: 8/17/2023
Day: Thursday

BICYCLES

	Southbound La Sierra Avenue			Westbound Indiana Avenue			Northbound La Sierra Avenue			Eastbound Indiana 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	1	0	0	0	0	0	1
7:30 AM	1	2	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	1	0	0	23	0	24
TOTAL VOLUMES:	1	3	0	0	1	0	1	1	0	0	23	0	30

	Southbound La Sierra Avenue			Westbound Indiana Avenue			Northbound La Sierra Avenue			Eastbound Indiana 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	1	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	1	0	0	0	1	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	2	0	0	0	1	0	0	1	0	4

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City of Riverside
N/S: La Sierra Avenue
E/W: Victoria Avenue
Weather: Clear

File Name : 04_RIV_La S_Vic AM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 1

Groups Printed- Total Volume

	La Sierra Avenue Southbound					Victoria Avenue Westbound					La Sierra Avenue Northbound					Victoria Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	18	104	6	0	128	13	17	28	16	58	3	263	20	8	286	20	5	4	3	29	27	501	528
07:15 AM	14	87	4	2	105	18	12	33	25	63	10	284	42	8	336	19	9	12	8	40	43	544	587
07:30 AM	20	84	5	2	109	22	16	42	15	80	7	237	28	3	272	12	18	13	12	43	32	504	536
07:45 AM	28	129	5	1	162	26	25	53	29	104	13	237	54	3	304	24	16	14	9	54	42	624	666
Total	80	404	20	5	504	79	70	156	85	305	33	1021	144	22	1198	75	48	43	32	166	144	2173	2317
08:00 AM	27	105	11	1	143	26	23	56	18	105	18	233	53	10	304	24	12	11	6	47	35	599	634
08:15 AM	32	104	13	4	149	19	16	40	33	75	11	218	35	3	264	15	17	14	10	46	50	534	584
08:30 AM	22	92	10	3	124	28	20	37	23	85	6	243	33	5	282	11	13	6	5	30	36	521	557
08:45 AM	12	87	3	1	102	17	20	42	18	79	4	199	13	4	216	17	8	3	2	28	25	425	450
Total	93	388	37	9	518	90	79	175	92	344	39	893	134	22	1066	67	50	34	23	151	146	2079	2225
Grand Total	173	792	57	14	1022	169	149	331	177	649	72	1914	278	44	2264	142	98	77	55	317	290	4252	4542
Apprch %	16.9	77.5	5.6			26	23	51			3.2	84.5	12.3			44.8	30.9	24.3					
Total %	4.1	18.6	1.3		24	4	3.5	7.8		15.3	1.7	45	6.5		53.2	3.3	2.3	1.8		7.5	6.4	93.6	

	La Sierra Avenue Southbound				Victoria Avenue Westbound				La Sierra Avenue Northbound				Victoria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	28	**129**	5	**162**	26	**25**	53	104	13	237	**54**	**304**	**24**	16	**14**	**54**	**624**
08:00 AM	27	105	11	143	26	23	**56**	**105**	**18**	233	53	304	24	12	11	47	599
08:15 AM	**32**	104	**13**	149	19	16	40	75	11	218	35	264	15	**17**	14	46	534
08:30 AM	22	92	10	124	**28**	20	37	85	6	**243**	33	282	11	13	6	30	521
Total Volume	109	430	39	578	99	84	186	369	48	931	175	1154	74	58	45	177	2278
% App. Total	18.9	74.4	6.7		26.8	22.8	50.4		4.2	80.7	15.2		41.8	32.8	25.4		
PHF	.852	.833	.750	.892	.884	.840	.830	.879	.667	.958	.810	.949	.771	.853	.804	.819	.913

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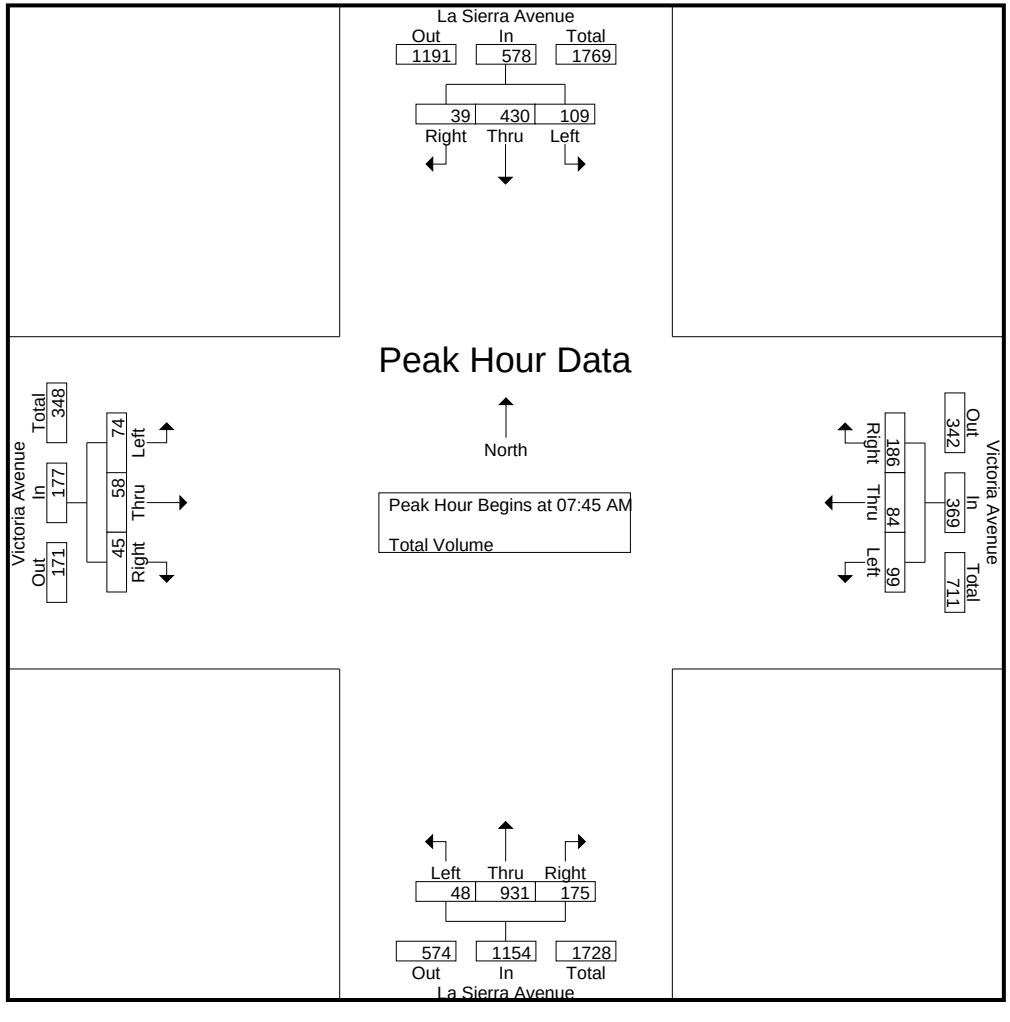

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	La Sierra Avenue Southbound				Victoria Avenue Westbound				La Sierra Avenue Northbound				Victoria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:15 AM				07:30 AM				
+0 mins.	28	**129**	5	**162**	26	**25**	53	104	10	**284**	42	**336**	12	**18**	13	43	
+15 mins.	27	105	11	143	26	23	**56**	**105**	7	237	28	272	**24**	16	**14**	**54**	
+30 mins.	**32**	104	**13**	149	19	16	40	75	13	237	**54**	304	24	12	11	47	
+45 mins.	22	92	10	124	**28**	20	37	85	**18**	233	53	304	15	17	14	46	
Total Volume	109	430	39	578	99	84	186	369	48	991	177	1216	75	63	52	190	
% App. Total	18.9	74.4	6.7		26.8	22.8	50.4		3.9	81.5	14.6		39.5	33.2	27.4		
PHF	.852	.833	.750	.892	.884	.840	.830	.879	.667	.872	.819	.905	.781	.875	.929	.880	

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	La Sierra Avenue Southbound					Victoria Avenue Westbound					La Sierra Avenue Northbound					Victoria Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	38	274	19	5	331	56	17	39	20	112	5	161	32	9	198	6	19	29	14	54	48	695	743
04:15 PM	42	330	12	3	384	53	17	31	23	101	5	156	23	3	184	4	20	31	16	55	45	724	769
04:30 PM	29	297	12	0	338	53	12	34	20	99	7	166	36	11	209	11	23	33	13	67	44	713	757
04:45 PM	40	353	6	2	399	58	17	30	22	105	11	163	37	2	211	11	24	27	8	62	34	777	811
Total	149	1254	49	10	1452	220	63	134	85	417	28	646	128	25	802	32	86	120	51	238	171	2909	3080
05:00 PM	43	362	12	3	417	61	16	35	22	112	6	158	22	10	186	13	20	26	14	59	49	774	823
05:15 PM	47	362	12	6	421	61	26	25	15	112	3	178	23	5	204	10	26	40	14	76	40	813	853
05:30 PM	28	305	14	3	347	64	13	27	17	104	11	152	27	10	190	20	24	26	10	70	40	711	751
05:45 PM	38	290	12	4	340	68	15	27	15	110	5	153	28	11	186	10	18	28	9	56	39	692	731
Total	156	1319	50	16	1525	254	70	114	69	438	25	641	100	36	766	53	88	120	47	261	168	2990	3158
Grand Total	305	2573	99	26	2977	474	133	248	154	855	53	1287	228	61	1568	85	174	240	98	499	339	5899	6238
Apprch %	10.2	86.4	3.3			55.4	15.6	29			3.4	82.1	14.5			17	34.9	48.1					
Total %	5.2	43.6	1.7		50.5	8	2.3	4.2		14.5	0.9	21.8	3.9		26.6	1.4	2.9	4.1		8.5	5.4	94.6	

	La Sierra Avenue Southbound				Victoria Avenue Westbound				La Sierra Avenue Northbound				Victoria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	29	297	**12**	338	53	12	34	99	7	166	36	209	11	23	33	67	713
04:45 PM	40	353	6	399	58	17	30	105	**11**	163	**37**	**211**	11	24	27	62	777
05:00 PM	43	**362**	12	417	**61**	16	**35**	**112**	6	158	22	186	**13**	20	26	59	774
05:15 PM	**47**	362	12	**421**	61	**26**	25	112	3	**178**	23	204	10	**26**	**40**	**76**	**813**
Total Volume	159	1374	42	1575	233	71	124	428	27	665	118	810	45	93	126	264	3077
% App. Total	10.1	87.2	2.7		54.4	16.6	29		3.3	82.1	14.6		17	35.2	47.7		
PHF	.846	.949	.875	.935	.955	.683	.886	.955	.614	.934	.797	.960	.865	.894	.788	.868	.946

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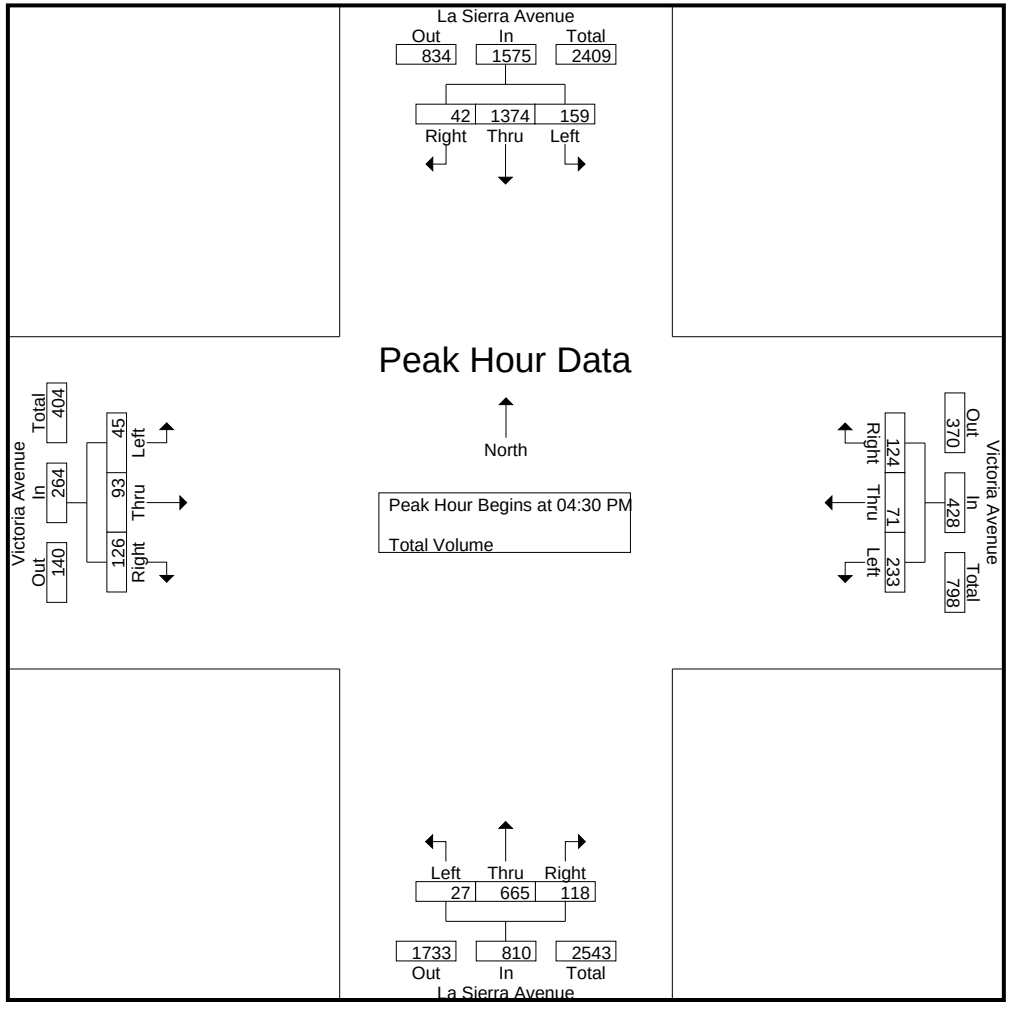
City of Riverside
N/S: La Sierra Avenue
E/W: Victoria Avenue
Weather: Clear

File Name : 04_RIV_La S_Vic PM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 2



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City of Riverside
N/S: La Sierra Avenue
E/W: Victoria Avenue
Weather: Clear

File Name : 04_RIV_La S_Vic PM
Site Code : 05123396
Start Date : 8/15/2023

	La Sierra Avenue Southbound				Victoria Avenue Westbound				La Sierra Avenue Northbound				Victoria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				05:00 PM				04:30 PM				04:45 PM				
+0 mins.	40	353	6	399	61	16	**35**	**112**	7	166	36	209	11	24	27	62	
+15 mins.	43	**362**	12	417	61	**26**	25	112	**11**	163	**37**	**211**	13	20	26	59	
+30 mins.	**47**	362	12	**421**	64	13	27	104	6	158	22	186	10	**26**	**40**	**76**	
+45 mins.	28	305	**14**	347	**68**	15	27	110	3	**178**	23	204	**20**	24	26	70	
Total Volume	158	1382	44	1584	254	70	114	438	27	665	118	810	54	94	119	267	
% App. Total	10	87.2	2.8		58	16	26		3.3	82.1	14.6		20.2	35.2	44.6		
PHF	.840	.954	.786	.941	.934	.673	.814	.978	.614	.934	.797	.960	.675	.904	.744	.878	

Location: Riverside
N/S: La Sierra Avenue
E/W: Victoria Avenue

Date: 8/17/2023
Day: Thursday

PEDESTRIANS

	North Leg La Sierra Avenue	East Leg Victoria Avenue	South Leg La Sierra Avenue	West Leg Victoria Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	1	1	0	0	2
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	1	0	0	1
8:00 AM	2	0	0	0	2
8:15 AM	0	0	1	0	1
8:30 AM	2	0	0	0	2
8:45 AM	0	0	0	1	1
TOTAL VOLUMES:	5	2	1	1	9

	North Leg La Sierra Avenue	East Leg Victoria Avenue	South Leg La Sierra Avenue	West Leg Victoria Avenue	
	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	0	0	0
5:45 PM	2	0	0	0	2
TOTAL VOLUMES:	2	1	0	0	3

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Location: Riverside
N/S: La Sierra Avenue
E/W: Victoria Avenue

Date: 8/17/2023
Day: Thursday

BICYCLES

	Southbound La Sierra Avenue			Westbound Victoria Avenue			Northbound La Sierra Avenue			Eastbound Victoria 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	1	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
7:45 AM	0	0	0	0	2	0	0	0	0	0	2	0	4
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	1	0	0	0	0	0	0	1
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	0	1	0	3	1	0	0	0	0	4	0	9

	Southbound La Sierra Avenue			Westbound Victoria Avenue			Northbound La Sierra Avenue			Eastbound Victoria 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	1	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	4	1	6

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City of Riverside
N/S: La Sierra Avenue
E/W: McAllister Parkway
Weather: Clear

File Name : 05_RIV_La S_McA AM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 1

Groups Printed- Total Volume

	La Sierra Avenue Southbound			McAllister Parkway Westbound				La Sierra Avenue Northbound						
Start Time	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	24	95	119	3	47	39	50	226	1	0	227	39	396	435
07:15 AM	16	105	121	2	60	48	62	251	4	2	255	50	438	488
07:30 AM	23	97	120	4	52	42	56	211	2	0	213	42	389	431
07:45 AM	21	150	171	6	57	40	63	274	8	0	282	40	516	556
Total	84	447	531	15	216	169	231	962	15	2	977	171	1739	1910
08:00 AM	24	124	148	11	37	30	48	269	8	1	277	31	473	504
08:15 AM	26	109	135	2	43	34	45	195	4	1	199	35	379	414
08:30 AM	23	109	132	4	43	36	47	233	0	0	233	36	412	448
08:45 AM	24	85	109	1	39	27	40	234	0	0	234	27	383	410
Total	97	427	524	18	162	127	180	931	12	2	943	129	1647	1776
Grand Total	181	874	1055	33	378	296	411	1893	27	4	1920	300	3386	3686
Apprch %	17.2	82.8		8	92			98.6	1.4					
Total %	5.3	25.8	31.2	1	11.2		12.1	55.9	0.8		56.7	8.1	91.9	

	La Sierra Avenue Southbound			McAllister Parkway Westbound			La Sierra Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	16	105	121	2	**60**	62	251	4	255	438
07:30 AM	23	97	120	4	52	56	211	2	213	389
07:45 AM	21	**150**	**171**	6	57	**63**	**274**	**8**	**282**	**516**
08:00 AM	**24**	124	148	**11**	37	48	269	8	277	473
Total Volume	84	476	560	23	206	229	1005	22	1027	1816
% App. Total	15	85		10	90		97.9	2.1		
PHF	.875	.793	.819	.523	.858	.909	.917	.688	.910	.880

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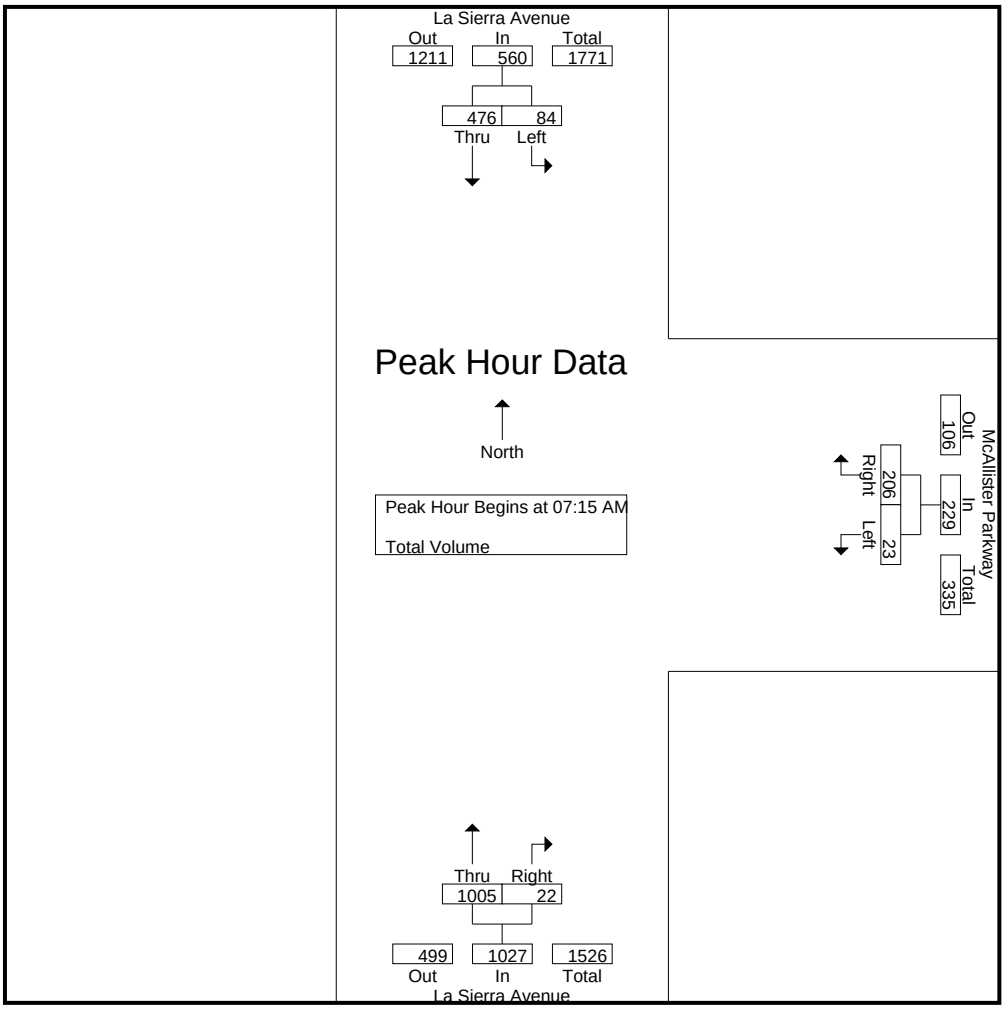
City of Riverside
N/S: La Sierra Avenue
E/W: McAllister Parkway
Weather: Clear

File Name : 05_RIV_La S_McA AM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 2



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

	07:45 AM			07:00 AM			07:15 AM		
+0 mins.	21	**150**	**171**	3	47	50	251	4	255
+15 mins.	24	124	148	2	**60**	62	211	2	213
+30 mins.	**26**	109	135	4	52	56	**274**	**8**	**282**
+45 mins.	23	109	132	**6**	57	**63**	269	8	277
Total Volume	94	492	586	15	216	231	1005	22	1027
% App. Total	16	84		6.5	93.5		97.9	2.1	
PHF	.904	.820	.857	.625	.900	.917	.917	.688	.910

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City of Riverside
N/S: La Sierra Avenue
E/W: McAllister Parkway
Weather: Clear

File Name : 05_RIV_La S_McA PM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 1

Groups Printed- Total Volume

	La Sierra Avenue Southbound			McAllister Parkway Westbound				La Sierra Avenue Northbound						
Start Time	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	59	316	375	1	36	35	37	191	3	0	194	35	606	641
04:15 PM	55	364	419	8	34	28	42	125	3	1	128	29	589	618
04:30 PM	44	369	413	3	42	38	45	192	3	0	195	38	653	691
04:45 PM	59	365	424	4	40	34	44	164	0	0	164	34	632	666
Total	217	1414	1631	16	152	135	168	672	9	1	681	136	2480	2616
05:00 PM	64	383	447	8	36	32	44	156	2	0	158	32	649	681
05:15 PM	65	409	474	2	37	34	39	154	6	0	160	34	673	707
05:30 PM	73	342	415	2	36	33	38	163	3	0	166	33	619	652
05:45 PM	58	339	397	7	38	34	45	138	2	0	140	34	582	616
Total	260	1473	1733	19	147	133	166	611	13	0	624	133	2523	2656
Grand Total	477	2887	3364	35	299	268	334	1283	22	1	1305	269	5003	5272
Apprch %	14.2	85.8		10.5	89.5			98.3	1.7					
Total %	9.5	57.7	67.2	0.7	6		6.7	25.6	0.4		26.1	5.1	94.9	

	La Sierra Avenue Southbound			McAllister Parkway Westbound			La Sierra Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	44	369	413	3	**42**	**45**	**192**	3	**195**	653
04:45 PM	59	365	424	4	40	44	164	0	164	632
05:00 PM	64	383	447	**8**	36	44	156	2	158	649
05:15 PM	**65**	**409**	**474**	2	37	39	154	**6**	160	**673**
Total Volume	232	1526	1758	17	155	172	666	11	677	2607
% App. Total	13.2	86.8		9.9	90.1		98.4	1.6		
PHF	.892	.933	.927	.531	.923	.956	.867	.458	.868	.968

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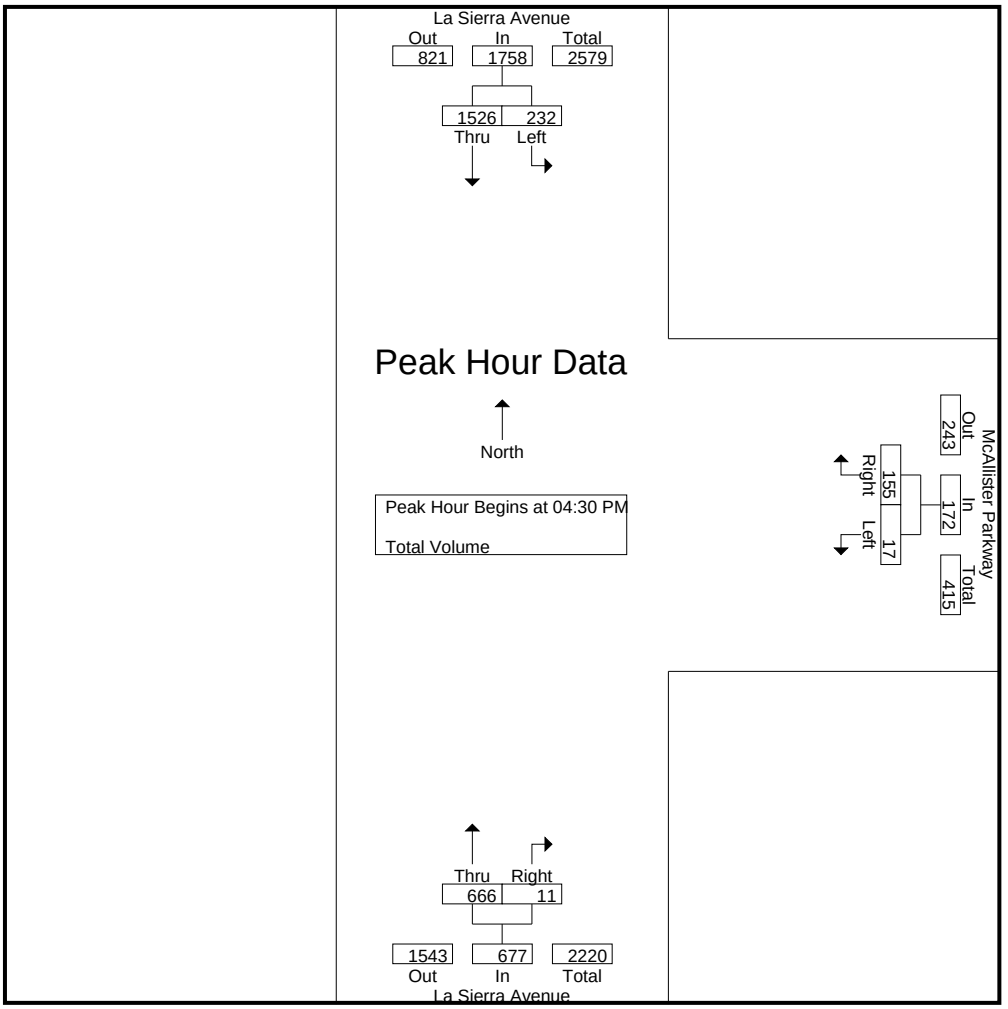
City of Riverside
N/S: La Sierra Avenue
E/W: McAllister Parkway
Weather: Clear

File Name : 05_RIV_La S_McA PM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 2



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

	04:45 PM			04:15 PM			04:00 PM		
+0 mins.	59	365	424	**8**	34	42	191	**3**	194
+15 mins.	64	383	447	3	**42**	**45**	125	3	128
+30 mins.	65	**409**	**474**	4	40	44	**192**	3	**195**
+45 mins.	**73**	342	415	8	36	44	164	0	164
Total Volume	261	1499	1760	23	152	175	672	9	681
% App. Total	14.8	85.2		13.1	86.9		98.7	1.3	
PHF	.894	.916	.928	.719	.905	.972	.875	.750	.873

Location: Riverside
N/S: La Sierra Avenue
E/W: McAllister Parkway

Date: 8/17/2023
Day: Thursday

PEDESTRIANS

	North Leg La Sierra Avenue	East Leg McAllister Parkway	South Leg La Sierra Avenue	West Leg McAllister Parkway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	2	0	0	2
7:30 AM	0	1	0	0	1
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	3	0	0	3

	North Leg La Sierra Avenue	East Leg McAllister Parkway	South Leg La Sierra Avenue	West Leg McAllister Parkway	
	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

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Location: Riverside
N/S: La Sierra Avenue
E/W: McAllister Parkway

Date: 8/17/2023
Day: Thursday

BICYCLES

	Southbound La Sierra Avenue			Westbound McAllister Parkway			Northbound La Sierra Avenue			Eastbound McAllister Parkway			
	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	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

	Southbound La Sierra Avenue			Westbound McAllister Parkway			Northbound La Sierra Avenue			Eastbound McAllister Parkway			
	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	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	0	0	0	0	0	0	0	0	1

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City of Riverside
N/S: La Sierra Avenue
E/W: El Sobrante Road
Weather: Clear

File Name : 06_RIV_La S_El S AM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 1

Groups Printed- Total Volume

	La Sierra Avenue Southbound			El Sobrante Road Westbound			La Sierra Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	54	31	85	18	112	130	22	5	27	242
07:15 AM	47	25	72	21	100	121	17	7	24	217
07:30 AM	36	32	68	19	104	123	23	8	31	222
07:45 AM	69	29	98	12	144	156	14	7	21	275
Total	206	117	323	70	460	530	76	27	103	956
08:00 AM	54	32	86	15	103	118	36	6	42	246
08:15 AM	52	29	81	14	83	97	23	7	30	208
08:30 AM	44	22	66	18	125	143	23	4	27	236
08:45 AM	39	32	71	8	131	139	17	9	26	236
Total	189	115	304	55	442	497	99	26	125	926
Grand Total	395	232	627	125	902	1027	175	53	228	1882
Apprch %	63	37		12.2	87.8		76.8	23.2		
Total %	21	12.3	33.3	6.6	47.9	54.6	9.3	2.8	12.1	

	La Sierra Avenue Southbound			El Sobrante Road Westbound			La Sierra Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	**69**	29	**98**	12	**144**	**156**	14	**7**	21	**275**
08:00 AM	54	**32**	86	15	103	118	**36**	6	**42**	246
08:15 AM	52	29	81	14	83	97	23	7	30	208
08:30 AM	44	22	66	**18**	125	143	23	4	27	236
Total Volume	219	112	331	59	455	514	96	24	120	965
% App. Total	66.2	33.8		11.5	88.5		80	20		
PHF	.793	.875	.844	.819	.790	.824	.667	.857	.714	.877

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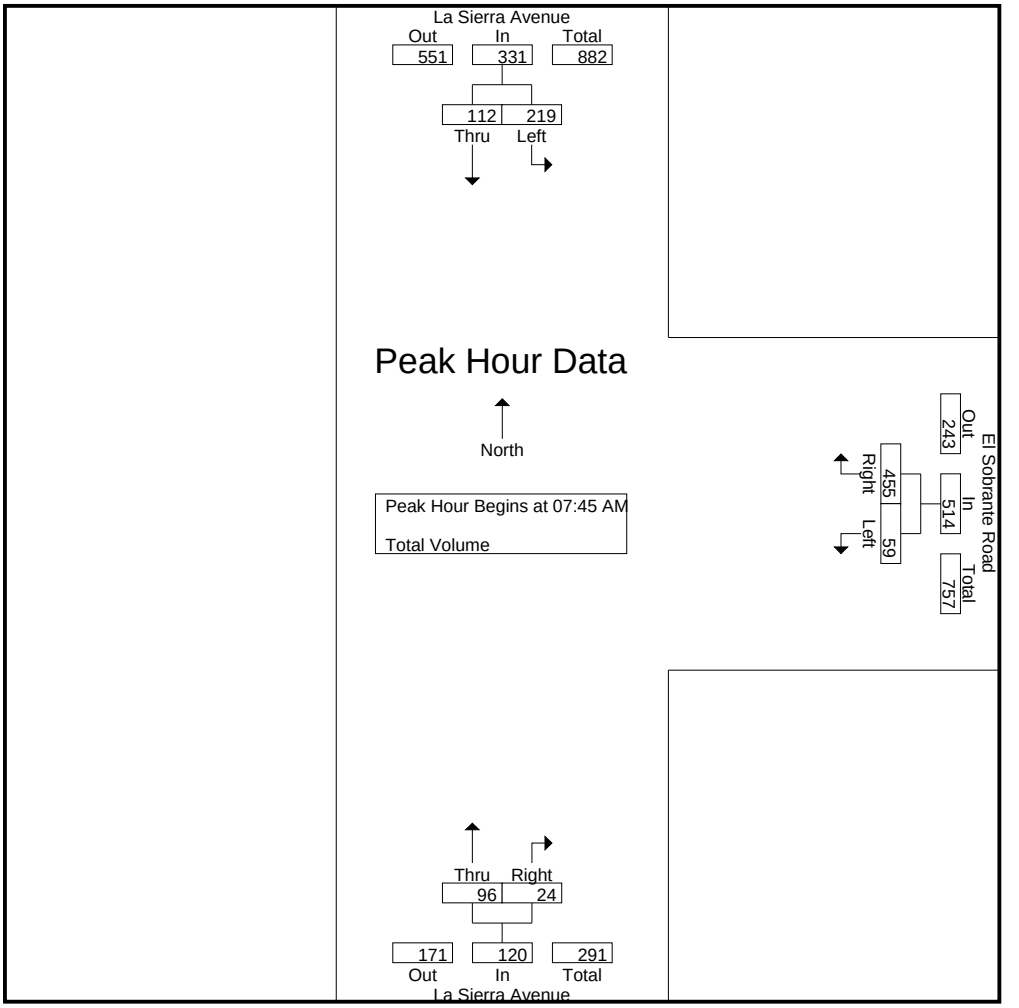
City of Riverside
N/S: La Sierra Avenue
E/W: El Sobrante Road
Weather: Clear

File Name : 06_RIV_La S_El S AM
Site Code : 05123396
Start Date : 8/15/2023
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			08:00 AM		
+0 mins.	36	**32**	68	18	112	130	**36**	6	**42**
+15 mins.	**69**	29	**98**	**21**	100	121	23	7	30
+30 mins.	54	32	86	19	104	123	23	4	27
+45 mins.	52	29	81	12	**144**	**156**	17	**9**	26
Total Volume	211	122	333	70	460	530	99	26	125
% App. Total	63.4	36.6		13.2	86.8		79.2	20.8	
PHF	.764	.953	.849	.833	.799	.849	.688	.722	.744

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City of Riverside
N/S: La Sierra Avenue
E/W: El Sobrante Road
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File Name : 06_RIV_La S_El S PM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 1

Groups Printed- Total Volume

	La Sierra Avenue Southbound			El Sobrante Road Westbound			La Sierra Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	150	94	244	9	84	93	43	20	63	400
04:15 PM	159	108	267	7	71	78	54	15	69	414
04:30 PM	163	102	265	11	86	97	42	10	52	414
04:45 PM	170	132	302	9	66	75	64	19	83	460
Total	642	436	1078	36	307	343	203	64	267	1688
05:00 PM	157	127	284	8	68	76	41	18	59	419
05:15 PM	167	124	291	12	53	65	40	12	52	408
05:30 PM	147	109	256	11	77	88	55	15	70	414
05:45 PM	139	77	216	8	66	74	38	11	49	339
Total	610	437	1047	39	264	303	174	56	230	1580
Grand Total	1252	873	2125	75	571	646	377	120	497	3268
Apprch %	58.9	41.1		11.6	88.4		75.9	24.1		
Total %	38.3	26.7	65	2.3	17.5	19.8	11.5	3.7	15.2	

	La Sierra Avenue Southbound			El Sobrante Road Westbound			La Sierra Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	159	108	267	7	71	78	54	15	69	414
04:30 PM	163	102	265	**11**	**86**	**97**	42	10	52	414
04:45 PM	**170**	**132**	**302**	9	66	75	**64**	**19**	**83**	**460**
05:00 PM	157	127	284	8	68	76	41	18	59	419
Total Volume	649	469	1118	35	291	326	201	62	263	1707
% App. Total	58.1	41.9		10.7	89.3		76.4	23.6		
PHF	.954	.888	.925	.795	.846	.840	.785	.816	.792	.928

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Corona, CA 92878
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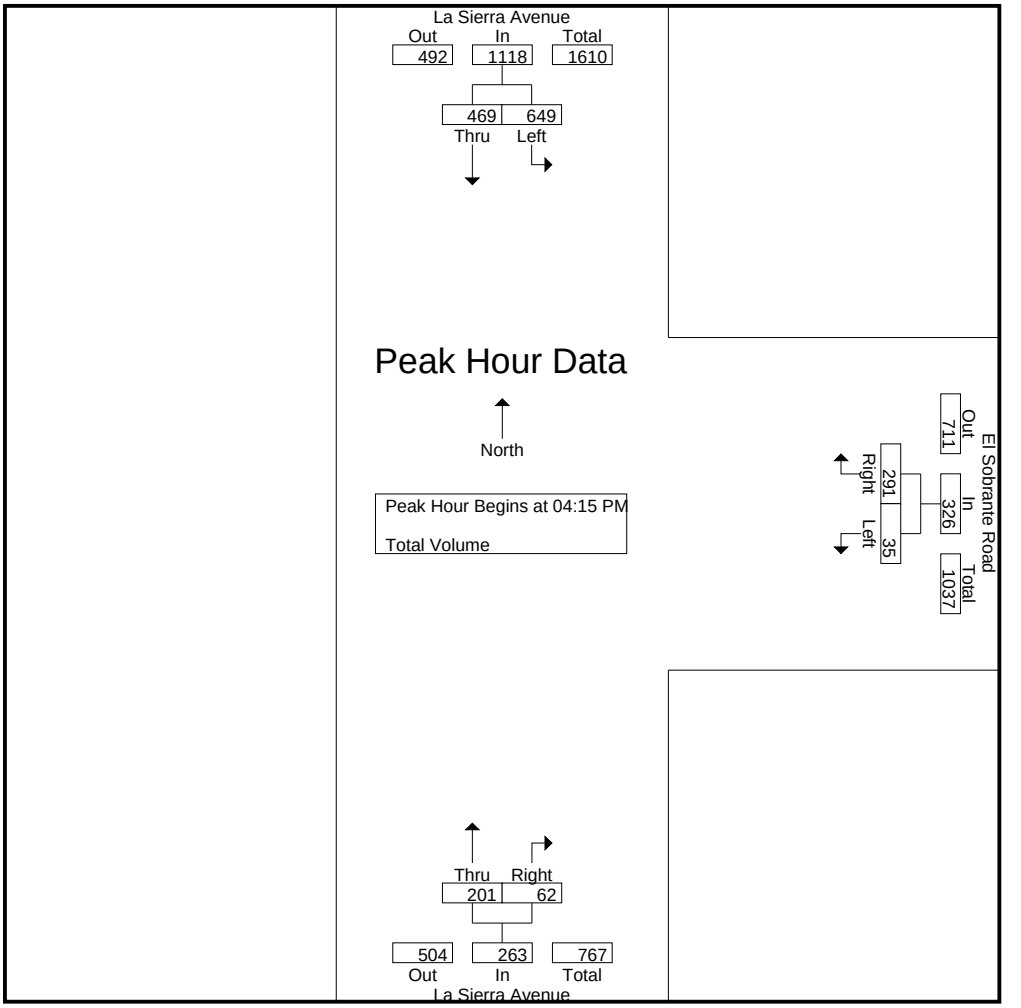
City of Riverside
N/S: La Sierra Avenue
E/W: El Sobrante Road
Weather: Clear

File Name : 06_RIV_La S_El S PM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 2



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

	04:30 PM			04:00 PM			04:00 PM		
+0 mins.	163	102	265	9	84	93	43	**20**	63
+15 mins.	**170**	**132**	**302**	7	71	78	54	15	69
+30 mins.	157	127	284	**11**	**86**	**97**	42	10	52
+45 mins.	167	124	291	9	66	75	**64**	19	**83**
Total Volume	657	485	1142	36	307	343	203	64	267
% App. Total	57.5	42.5		10.5	89.5		76	24	
PHF	.966	.919	.945	.818	.892	.884	.793	.800	.804

Location: Riverside
N/S: La Sierra Avenue
E/W: El Sobrante Road

Date: 8/17/2023
Day: Thursday

PEDESTRIANS

	North Leg La Sierra Avenue	East Leg El Sobrante Road	South Leg La Sierra Avenue	West Leg El Sobrante Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg La Sierra Avenue	East Leg El Sobrante Road	South Leg La Sierra Avenue	West Leg El Sobrante Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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Corona, CA 92878
951-268-6268

Location: Riverside
N/S: La Sierra Avenue
E/W: El Sobrante Road

Date: 8/17/2023
Day: Thursday

BICYCLES

	Southbound La Sierra Avenue			Westbound El Sobrante Road			Northbound La Sierra Avenue			Eastbound El Sobrante Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound La Sierra Avenue			Westbound El Sobrante Road			Northbound La Sierra Avenue			Eastbound El Sobrante Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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

City of Riverside
N/S: McAllister Street
E/W: El Sobrante Road
Weather: Clear

File Name : 07_RIV_McA_El S AM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 1

Groups Printed- Total Volume

	McAllister Street Southbound			El Sobrante Road Westbound			El Sobrante Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	1	8	9	97	2	99	12	54	66	174
07:15 AM	4	12	16	102	3	105	6	49	55	176
07:30 AM	2	12	14	120	4	124	4	44	48	186
07:45 AM	8	6	14	127	25	152	9	60	69	235
Total	15	38	53	446	34	480	31	207	238	771
08:00 AM	7	9	16	88	14	102	9	57	66	184
08:15 AM	13	2	15	111	2	113	5	42	47	175
08:30 AM	2	17	19	125	2	127	2	46	48	194
08:45 AM	2	8	10	124	3	127	6	35	41	178
Total	24	36	60	448	21	469	22	180	202	731
Grand Total	39	74	113	894	55	949	53	387	440	1502
Apprch %	34.5	65.5		94.2	5.8		12	88		
Total %	2.6	4.9	7.5	59.5	3.7	63.2	3.5	25.8	29.3	

	McAllister Street Southbound			El Sobrante Road Westbound			El Sobrante Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	8	6	14	**127**	**25**	**152**	**9**	**60**	**69**	**235**
08:00 AM	7	9	16	88	14	102	9	57	66	184
08:15 AM	**13**	2	15	111	2	113	5	42	47	175
08:30 AM	2	**17**	**19**	125	2	127	2	46	48	194
Total Volume	30	34	64	451	43	494	25	205	230	788
% App. Total	46.9	53.1		91.3	8.7		10.9	89.1		
PHF	.577	.500	.842	.888	.430	.813	.694	.854	.833	.838

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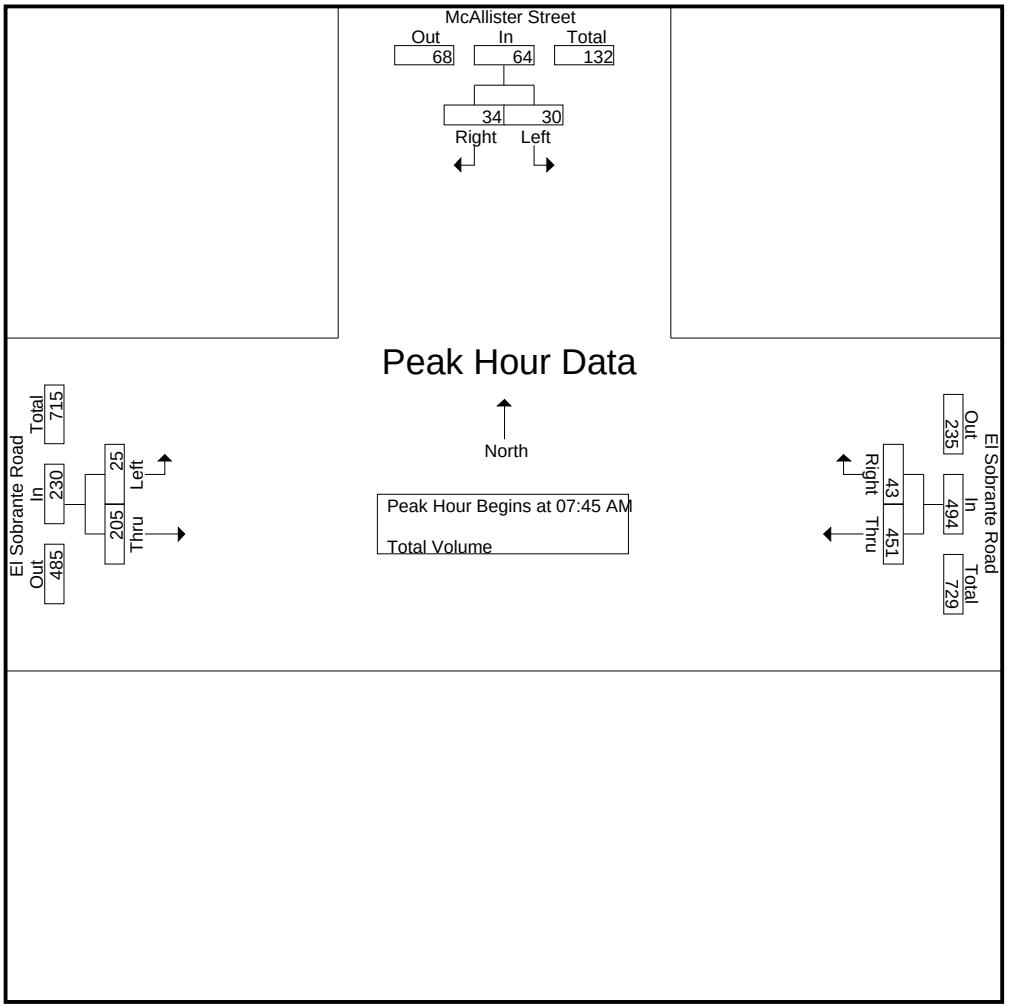
City of Riverside
N/S: McAllister Street
E/W: El Sobrante Road
Weather: Clear

File Name : 07_RIV_McA_El S AM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 2



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

	07:45 AM			07:45 AM			07:00 AM		
+0 mins.	8	6	14	**127**	**25**	**152**	**12**	54	66
+15 mins.	7	9	16	88	14	102	6	49	55
+30 mins.	**13**	2	15	111	2	113	4	44	48
+45 mins.	2	**17**	**19**	125	2	127	9	**60**	**69**
Total Volume	30	34	64	451	43	494	31	207	238
% App. Total	46.9	53.1		91.3	8.7		13	87	
PHF	.577	.500	.842	.888	.430	.813	.646	.863	.862

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City of Riverside
N/S: McAllister Street
E/W: El Sobrante Road
Weather: Clear

File Name : 07_RIV_McA_El S PM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 1

Groups Printed- Total Volume

	McAllister Street Southbound			El Sobrante Road Westbound			El Sobrante Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	1	7	8	87	3	90	8	159	167	265
04:15 PM	4	5	9	75	5	80	7	166	173	262
04:30 PM	7	8	15	77	0	77	5	172	177	269
04:45 PM	2	9	11	58	3	61	8	176	184	256
Total	14	29	43	297	11	308	28	673	701	1052
05:00 PM	4	5	9	74	2	76	5	166	171	256
05:15 PM	6	15	21	56	3	59	11	158	169	249
05:30 PM	4	15	19	69	12	81	7	150	157	257
05:45 PM	1	8	9	61	17	78	8	143	151	238
Total	15	43	58	260	34	294	31	617	648	1000
Grand Total	29	72	101	557	45	602	59	1290	1349	2052
Apprch %	28.7	71.3		92.5	7.5		4.4	95.6		
Total %	1.4	3.5	4.9	27.1	2.2	29.3	2.9	62.9	65.7	

	McAllister Street Southbound			El Sobrante Road Westbound			El Sobrante Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	1	7	8	**87**	3	**90**	**8**	159	167	265
04:15 PM	4	5	9	75	**5**	80	7	166	173	262
04:30 PM	**7**	8	**15**	77	0	77	5	172	177	**269**
04:45 PM	2	**9**	11	58	3	61	8	**176**	**184**	256
Total Volume	14	29	43	297	11	308	28	673	701	1052
% App. Total	32.6	67.4		96.4	3.6		4	96		
PHF	.500	.806	.717	.853	.550	.856	.875	.956	.952	.978

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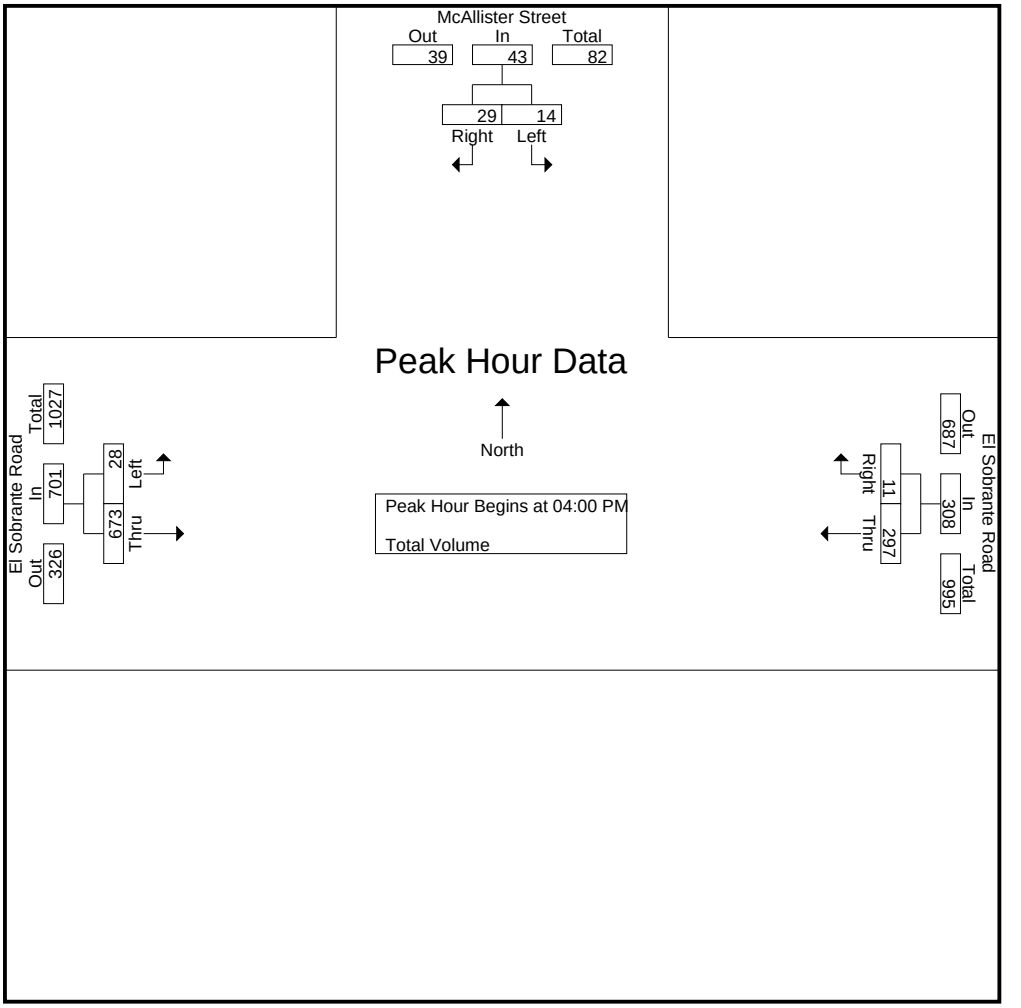
City of Riverside
N/S: McAllister Street
E/W: El Sobrante Road
Weather: Clear

File Name : 07_RIV_McA_El S PM
Site Code : 05123396
Start Date : 8/15/2023
Page No : 2



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

	04:45 PM			04:00 PM			04:15 PM		
+0 mins.	2	9	11	**87**	3	**90**	7	166	173
+15 mins.	4	5	9	75	**5**	80	5	172	177
+30 mins.	**6**	**15**	**21**	77	0	77	**8**	**176**	**184**
+45 mins.	4	15	19	58	3	61	5	166	171
Total Volume	16	44	60	297	11	308	25	680	705
% App. Total	26.7	73.3		96.4	3.6		3.5	96.5	
PHF	.667	.733	.714	.853	.550	.856	.781	.966	.958

Location: Riverside
N/S: McAllister Street
E/W: El Sobrante Road

Date: 8/17/2023
Day: Thursday

PEDESTRIANS

	North Leg McAllister Street	East Leg El Sobrante Road	South Leg McAllister Street	West Leg El Sobrante Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg McAllister Street	East Leg El Sobrante Road	South Leg McAllister Street	West Leg El Sobrante Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Riverside
N/S: McAllister Street
E/W: El Sobrante Road

Date: 8/17/2023
Day: Thursday

BICYCLES

	Southbound McAllister Street			Westbound El Sobrante Road			Northbound McAllister Street			Eastbound El Sobrante Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound McAllister Street			Westbound El Sobrante Road			Northbound McAllister Street			Eastbound El Sobrante Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	1	0	1	0	0	0	0	0	0	0	0	0	2

Counts Unlimited, Inc.
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951-268-6268

Counts Unlimited, Inc.

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email: counts@countsunlimited.com

City of Riverside
El Sobrante Road
E/ McAllister Street
24 Hour Directional Volume Count

RIV004
Site Code: 051-23396

Start Time	8/17/23 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		11	71			11	50				
12:15		19	60			18	74				
12:30		12	68			15	47				
12:45		20	75	62	274	12	55	56	226	118	500
01:00		4	75			8	67				
01:15		9	90			3	86				
01:30		8	89			5	75				
01:45		8	121	29	375	8	68	24	296	53	671
02:00		7	119			10	83				
02:15		6	142			6	74				
02:30		16	127			19	85				
02:45		7	156	36	544	19	86	54	328	90	872
03:00		7	145			18	61				
03:15		8	145			26	82				
03:30		7	160			32	72				
03:45		11	151	33	601	48	**89**	124	304	157	905
04:00		11	163			77	**89**				
04:15		10	**171**			90	**79**				
04:30		15	**183**			116	**77**				
04:45		18	**177**	54	694	104	61	387	306	441	1000
05:00		25	**175**			113	78				
05:15		42	166			95	60				
05:30		30	157			110	79				
05:45		61	145	158	643	110	81	428	298	586	941
06:00		49	128			80	66				
06:15		45	122			131	61				
06:30		59	148			72	37				
06:45		54	128	207	526	117	58	400	222	607	748
07:00		55	128			101	37				
07:15		58	84			106	33				
07:30		49	90			122	38				
07:45		**75**	84	237	386	**161**	42	490	150	727	536
08:00		**70**	79			**106**	32				
08:15		**59**	75			**119**	33				
08:30		**50**	66			**127**	28				
08:45		37	59	216	279	129	27	481	120	697	399
09:00		44	60			104	24				
09:15		41	48			95	22				
09:30		43	57			86	14				
09:45		42	46	170	211	82	17	367	77	537	288
10:00		37	37			78	30				
10:15		39	29			67	18				
10:30		48	44			115	12				
10:45		50	33	174	143	72	12	332	72	506	215
11:00		47	34			70	14				
11:15		51	26			58	11				
11:30		60	11			57	13				
11:45		57	18	215	89	56	8	241	46	456	135
Total		1591	4765	1591	4765	3384	2445	3384	2445	4975	7210
Combined Total		6356		6356		5829		5829		12185	
AM Peak	-	07:45	-	-	-	07:45	-	-	-	-	-
Vol.	-	254	-	-	-	513	-	-	-	-	-
P.H.F.		0.847				0.797					
PM Peak	-	-	04:15	-	-	-	03:45	-	-	-	-
Vol.	-	-	706	-	-	-	334	-	-	-	-
P.H.F.			0.964				0.938				
Percentage		25.0%	75.0%			58.1%	41.9%				
ADT/AADT		ADT 12,185		AADT 12,185							

Counts Unlimited, Inc.

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City of Riverside
La Sierra Avenue
N/ El Sobrante Road
24 Hour Directional Volume Count

RIV003
Site Code: 051-23396

Start Time	8/17/23 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		19	85			22	76				
12:15		24	90			17	80				
12:30		21	73			19	124				
12:45		19	78	83	326	16	97	74	377	157	703
01:00		9	99			5	108				
01:15		8	110			9	122				
01:30		7	96			8	123				
01:45		9	107	33	412	9	141	31	494	64	906
02:00		12	93			10	204				
02:15		7	111			5	146				
02:30		21	106			20	188				
02:45		22	115	62	425	12	266	47	804	109	1229
03:00		16	101			9	205				
03:15		31	126			8	320				
03:30		30	111			10	263				
03:45		49	134	126	472	12	316	39	1104	165	1576
04:00		70	**134**			17	238				
04:15		92	**126**			12	**306**				
04:30		121	**126**			24	**387**				
04:45		103	**142**	386	528	25	**406**	78	1337	464	1865
05:00		122	114			42	**287**				
05:15		100	97			52	292				
05:30		102	132			79	260				
05:45		118	104	442	447	87	219	260	1058	702	1505
06:00		87	118			81	206				
06:15		113	89			75	167				
06:30		98	66			87	180				
06:45		128	71	426	344	77	157	320	710	746	1054
07:00		137	57			86	125				
07:15		115	71			75	105				
07:30		125	62			75	106				
07:45		**163**	59	540	249	108	107	344	443	884	692
08:00		**143**	50			95	91				
08:15		**108**	45			65	102				
08:30		**154**	52			79	71				
08:45		151	43	556	190	59	73	298	337	854	527
09:00		130	45			61	77				
09:15		124	30			72	55				
09:30		104	33			67	62				
09:45		101	23	459	131	75	55	275	249	734	380
10:00		96	40			57	40				
10:15		87	23			67	36				
10:30		123	21			**95**	48				
10:45		96	15	402	99	**76**	38	295	162	697	261
11:00		96	19			**91**	34				
11:15		85	14			**101**	31				
11:30		72	22			83	17				
11:45		74	12	327	67	79	26	354	108	681	175
Total		3842	3690	3842	3690	2415	7183	2415	7183	6257	10873
Combined Total		7532		7532		9598		9598		17130	
AM Peak	-	07:45	-	-	-	10:30	-	-	-	-	-
Vol.	-	568	-	-	-	363	-	-	-	-	-
P.H.F.		0.871				0.840					
PM Peak	-	-	04:00	-	-	-	04:15	-	-	-	-
Vol.	-	-	528	-	-	-	1386	-	-	-	-
P.H.F.			0.930				0.853				
Percentage		51.0%	49.0%			25.2%	74.8%				
ADT/AADT		ADT 17,130		AADT 17,130							

Counts Unlimited, Inc.

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City of Riverside
La Sierra Avenue
S/ Indiana Avenue
24 Hour Directional Volume Count

RIV001
Site Code: 051-23396

Start Time	8/17/23 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		33	205			53	195				
12:15		34	189			41	209				
12:30		32	235			34	256				
12:45		28	175	127	804	35	215	163	875	290	1679
01:00		28	156			22	240				
01:15		20	212			40	280				
01:30		17	181			27	269				
01:45		18	209	83	758	26	303	115	1092	198	1850
02:00		23	217			16	292				
02:15		16	208			15	303				
02:30		33	195			27	346				
02:45		25	226	97	846	18	388	76	1329	173	2175
03:00		36	**385**			22	324				
03:15		47	**334**			18	350				
03:30		58	**241**			15	349				
03:45		68	**235**	209	1195	20	415	75	1438	284	2633
04:00		96	239			21	373				
04:15		163	240			24	408				
04:30		159	252			34	**427**				
04:45		187	225	605	956	34	**401**	113	1609	718	2565
05:00		210	226			59	**425**				
05:15		168	234			69	**426**				
05:30		222	238			68	385				
05:45		229	225	829	923	94	383	290	1619	1119	2542
06:00		212	209			106	351				
06:15		250	203			111	351				
06:30		268	199			133	356				
06:45		296	196	1026	807	120	321	470	1379	1496	2186
07:00		325	200			156	260				
07:15		338	216			162	283				
07:30		**332**	182			**249**	293				
07:45		**420**	188	1415	786	**315**	284	882	1120	2297	1906
08:00		**423**	154			**264**	264				
08:15		**382**	139			**183**	266				
08:30		310	135			171	261				
08:45		333	109	1448	537	146	208	764	999	2212	1536
09:00		251	101			137	206				
09:15		226	98			141	186				
09:30		256	95			147	160				
09:45		278	75	1011	369	157	141	582	693	1593	1062
10:00		289	88			129	123				
10:15		247	57			136	135				
10:30		222	47			192	109				
10:45		238	63	996	255	181	118	638	485	1634	740
11:00		241	48			186	69				
11:15		224	36			193	83				
11:30		218	41			204	71				
11:45		190	35	873	160	222	50	805	273	1678	433
Total		8719	8396	8719	8396	4973	12911	4973	12911	13692	21307
Combined Total		17115		17115		17884		17884		34999	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	1557	-	-	-	1011	-	-	-	-	-
P.H.F.		0.920				0.802					
PM Peak	-	-	03:00	-	-	-	04:30	-	-	-	-
Vol.	-	-	1195	-	-	-	1679	-	-	-	-
P.H.F.			0.776				0.983				
Percentage		50.9%	49.1%			27.8%	72.2%				
ADT/AADT		ADT 34,999		AADT 34,999							

Counts Unlimited, Inc.

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City of Riverside
Victoria Avenue
E/ La Sierra Avenue
24 Hour Directional Volume Count

RIV002
Site Code: 051-23396

Start Time	8/17/23 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		2	43			3	36				
12:15		0	35			4	45				
12:30		1	37			2	45				
12:45		3	41	6	156	4	51	13	177	19	333
01:00		3	43			1	40				
01:15		3	60			4	59				
01:30		0	39			0	40				
01:45		4	54	10	196	2	51	7	190	17	386
02:00		2	54			2	59				
02:15		1	56			1	48				
02:30		1	65			0	73				
02:45		2	73	6	248	1	**103**	4	283	10	531
03:00		2	66			2	**78**				
03:15		1	89			2	**105**				
03:30		4	79			2	**94**				
03:45		2	**111**	9	345	2	71	8	348	17	693
04:00		3	**82**			3	78				
04:15		1	**82**			7	73				
04:30		6	**91**			10	72				
04:45		9	79	19	334	10	77	30	300	49	634
05:00		7	92			10	80				
05:15		12	85			14	88				
05:30		8	75			20	74				
05:45		9	87	36	339	33	87	77	329	113	668
06:00		11	70			17	53				
06:15		18	55			21	64				
06:30		27	59			34	48				
06:45		36	50	92	234	46	37	118	202	210	436
07:00		33	45			41	35				
07:15		54	50			48	38				
07:30		54	44			60	44				
07:45		**92**	34	233	173	**84**	23	233	140	466	313
08:00		**80**	27			**89**	33				
08:15		**82**	33			**56**	41				
08:30		**65**	18			**62**	22				
08:45		33	20	260	98	61	21	268	117	528	215
09:00		22	14			56	22				
09:15		41	27			43	16				
09:30		34	19			57	27				
09:45		30	14	127	74	42	8	198	73	325	147
10:00		29	11			46	17				
10:15		27	11			58	6				
10:30		32	10			59	7				
10:45		31	9	119	41	43	10	206	40	325	81
11:00		29	6			49	9				
11:15		29	6			54	8				
11:30		39	7			52	13				
11:45		43	6	140	25	38	4	193	34	333	59
Total		1057	2263	1057	2263	1355	2233	1355	2233	2412	4496
Combined Total		3320		3320		3588		3588		6908	
AM Peak	-	07:45	-	-	-	07:45	-	-	-	-	-
Vol.	-	319	-	-	-	291	-	-	-	-	-
P.H.F.		0.867				0.817					
PM Peak	-	-	03:45	-	-	-	02:45	-	-	-	-
Vol.	-	-	366	-	-	-	380	-	-	-	-
P.H.F.			0.824				0.905				
Percentage		31.8%	68.2%			37.8%	62.2%				
ADT/AADT		ADT 6,908		AADT 6,908							

APPENDIX 3.2: EXISTING (2023) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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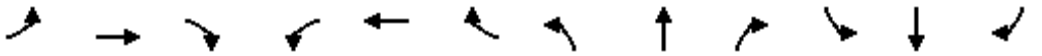
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	236	1	443	542	1298	972	125
Future Volume (vph)	236	1	443	542	1298	972	125
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	9.0	26.5	29.5	29.5
Total Split (s)	32.0	32.0	32.0	29.0	68.0	39.0	39.0
Total Split (%)	32.0%	32.0%	32.0%	29.0%	68.0%	39.0%	39.0%
Yellow Time (s)	4.0	4.0	4.0	3.0	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)	5.0	5.0	5.0	4.0	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 1: La Sierra Av. & SR-91 WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	236	1	443	542	1298	0	0	972	125
Future Volume (veh/h)	0	0	0	236	1	443	542	1298	0	0	972	125
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		0.98
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				1781	1900	1885	1856	1870	0	0	1856	1885
Adj Flow Rate, veh/h				354	0	186	602	1442	0	0	1080	92
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.94
Percent Heavy Veh, %				8	0	1	3	2	0	0	3	1
Cap, veh/h				492	0	231	663	3830	0	0	2617	812
Arrive On Green				0.14	0.00	0.14	0.39	1.00	0.00	0.00	0.52	0.52
Sat Flow, veh/h				3393	0	1594	3428	5274	0	0	5233	1572
Grp Volume(v), veh/h				354	0	186	602	1442	0	0	1080	92
Grp Sat Flow(s),veh/h/ln				1697	0	1594	1714	1702	0	0	1689	1572
Q Serve(g_s), s				10.0	0.0	11.3	16.6	0.0	0.0	0.0	13.1	3.0
Cycle Q Clear(g_c), s				10.0	0.0	11.3	16.6	0.0	0.0	0.0	13.1	3.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				492	0	231	663	3830	0	0	2617	812
V/C Ratio(X)				0.72	0.00	0.80	0.91	0.38	0.00	0.00	0.41	0.11
Avail Cap(c_a), veh/h				916	0	430	857	3830	0	0	2617	812
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.71	0.71	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				40.8	0.0	41.4	29.8	0.0	0.0	0.0	14.8	12.4
Incr Delay (d2), s/veh				1.5	0.0	4.9	7.3	0.2	0.0	0.0	0.5	0.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.1	0.0	4.6	5.6	0.1	0.0	0.0	4.6	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				42.3	0.0	46.3	37.1	0.2	0.0	0.0	15.3	12.7
LnGrp LOS				D	A	D	D	A	A	A	B	B
Approach Vol, veh/h					540			2044			1172	
Approach Delay, s/veh					43.7			11.1			15.1	
Approach LOS					D			B			B	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		80.5			23.3	57.2		19.5				
Change Period (Y+Rc), s		5.5			4.0	5.5		5.0				
Max Green Setting (Gmax), s		62.5			25.0	33.5		27.0				
Max Q Clear Time (g_c+I1), s		2.0			18.6	15.1		13.3				
Green Ext Time (p_c), s		14.0			0.8	7.1		1.2				

Intersection Summary		
HCM 6th Ctrl Delay	17.0	
HCM 6th LOS	B	

Notes

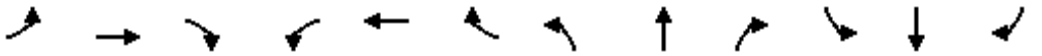
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	373	9	330	1482	386	330	864
Future Volume (vph)	373	9	330	1482	386	330	864
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4	4		2		1	6
Permitted Phases			4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	29.5	29.5	9.0	26.5
Total Split (s)	31.0	31.0	31.0	49.0	49.0	20.0	69.0
Total Split (%)	31.0%	31.0%	31.0%	49.0%	49.0%	20.0%	69.0%
Yellow Time (s)	4.0	4.0	4.0	4.5	4.5	3.0	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)	5.0	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 28 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: La Sierra Av. & SR-91 EB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	373	9	330	0	0	0	0	1482	386	330	864	0
Future Volume (veh/h)	373	9	330	0	0	0	0	1482	386	330	864	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1811				0	1870	1870	1870	1826	0
Adj Flow Rate, veh/h	451	0	93				0	1611	260	359	939	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	6				0	2	2	2	5	0
Cap, veh/h	549	0	237				0	2931	896	438	3693	0
Arrive On Green	0.15	0.00	0.15				0.00	0.57	0.57	0.04	0.24	0.00
Sat Flow, veh/h	3563	0	1535				0	5274	1561	3456	5149	0
Grp Volume(v), veh/h	451	0	93				0	1611	260	359	939	0
Grp Sat Flow(s),veh/h/ln	1781	0	1535				0	1702	1561	1728	1662	0
Q Serve(g_s), s	12.3	0.0	5.5				0.0	19.6	8.5	10.3	15.2	0.0
Cycle Q Clear(g_c), s	12.3	0.0	5.5				0.0	19.6	8.5	10.3	15.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	549	0	237				0	2931	896	438	3693	0
V/C Ratio(X)	0.82	0.00	0.39				0.00	0.55	0.29	0.82	0.25	0.00
Avail Cap(c_a), veh/h	926	0	399				0	2931	896	553	3693	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.63	0.63	0.83	0.83	0.00
Uniform Delay (d), s/veh	41.0	0.0	38.1				0.0	13.2	10.9	46.8	15.5	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.8				0.0	0.5	0.5	6.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	2.0				0.0	6.6	2.7	5.0	6.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	0.0	38.9				0.0	13.7	11.4	52.7	15.7	0.0
LnGrp LOS	D	A	D				A	B	B	D	B	A
Approach Vol, veh/h		544						1871			1298	
Approach Delay, s/veh		42.5						13.4			25.9	
Approach LOS		D						B			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.7	62.9		20.4		79.6						
Change Period (Y+Rc), s	4.0	5.5		5.0		5.5						
Max Green Setting (Gmax), s	16.0	43.5		26.0		63.5						
Max Q Clear Time (g_c+I1), s	12.3	21.6		14.3		17.2						
Green Ext Time (p_c), s	0.4	12.7		1.2		7.2						

Intersection Summary			
HCM 6th Ctrl Delay			22.0
HCM 6th LOS			C

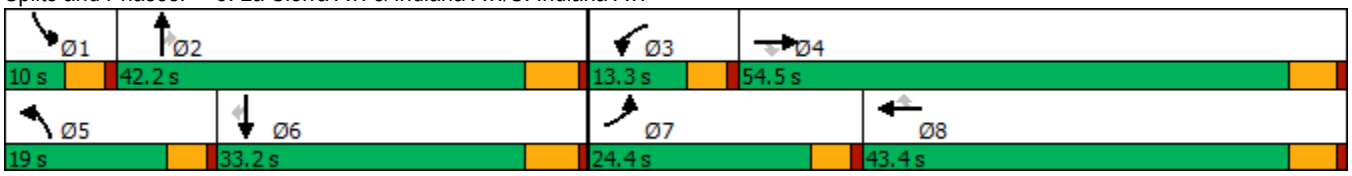
Notes

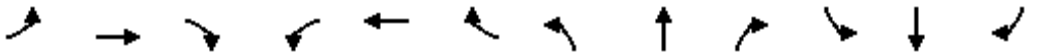
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	496	243	125	115	219	163	353	1223	75	117	813	215
Future Volume (vph)	496	243	125	115	219	163	353	1223	75	117	813	215
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.4	43.4	9.6	43.4	43.4	9.6	37.8	37.8	9.6	32.8	32.8
Total Split (s)	24.4	54.5	54.5	13.3	43.4	43.4	19.0	42.2	42.2	10.0	33.2	33.2
Total Split (%)	20.3%	45.4%	45.4%	11.1%	36.2%	36.2%	15.8%	35.2%	35.2%	8.3%	27.7%	27.7%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	5.4	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 95.8
Natural Cycle: 115
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: La Sierra Av. & Indiana Av./S. Indiana Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	496	243	125	115	219	163	353	1223	75	117	813	215
Future Volume (veh/h)	496	243	125	115	219	163	353	1223	75	117	813	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	539	264	59	125	238	87	384	1329	40	127	884	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	626	1026	456	195	582	252	465	1846	571	195	1448	441
Arrive On Green	0.18	0.29	0.29	0.06	0.16	0.16	0.13	0.36	0.36	0.06	0.28	0.28
Sat Flow, veh/h	3456	3554	1580	3456	3554	1536	3456	5106	1580	3456	5106	1554
Grp Volume(v), veh/h	539	264	59	125	238	87	384	1329	40	127	884	92
Grp Sat Flow(s),veh/h/ln	1728	1777	1580	1728	1777	1536	1728	1702	1580	1728	1702	1554
Q Serve(g_s), s	13.0	4.9	2.4	3.0	5.2	4.3	9.3	19.3	1.4	3.1	12.9	3.9
Cycle Q Clear(g_c), s	13.0	4.9	2.4	3.0	5.2	4.3	9.3	19.3	1.4	3.1	12.9	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	626	1026	456	195	582	252	465	1846	571	195	1448	441
V/C Ratio(X)	0.86	0.26	0.13	0.64	0.41	0.35	0.83	0.72	0.07	0.65	0.61	0.21
Avail Cap(c_a), veh/h	795	2028	902	349	1569	678	578	2160	668	217	1626	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	23.5	22.6	39.8	32.2	31.9	36.3	23.7	18.0	39.8	26.7	23.5
Incr Delay (d2), s/veh	6.6	0.1	0.1	1.3	0.5	0.8	6.5	1.2	0.1	4.0	0.7	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	5.8	2.0	0.9	1.3	2.2	1.6	4.1	7.2	0.5	1.4	4.9	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	23.7	22.7	41.1	32.7	32.7	42.8	24.9	18.1	43.8	27.4	23.8
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	C
Approach Vol, veh/h		862			450			1753			1103	
Approach Delay, s/veh		34.3			35.0			28.6			29.0	
Approach LOS		C			D			C			C	

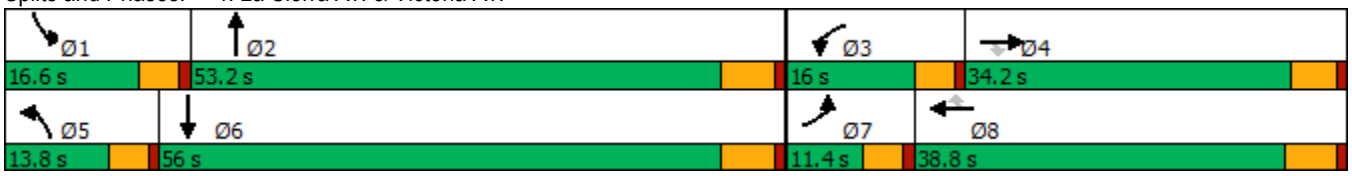
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	36.9	9.4	30.2	16.2	30.2	20.2	19.5
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4
Max Green Setting (Gmax), s	5.4	36.4	8.7	49.1	14.4	27.4	19.8	38.0
Max Q Clear Time (g_c+I1), s	5.1	21.3	5.0	6.9	11.3	14.9	15.0	7.2
Green Ext Time (p_c), s	0.0	9.7	0.1	1.9	0.3	6.1	0.6	1.7

Intersection Summary	
HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	74	58	45	99	84	186	48	931	109	430
Future Volume (vph)	74	58	45	99	84	186	48	931	109	430
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.1	34.1	9.6	33.8	33.8	9.6	35.8	9.6	33.8
Total Split (s)	11.4	34.2	34.2	16.0	38.8	38.8	13.8	53.2	16.6	56.0
Total Split (%)	9.5%	28.5%	28.5%	13.3%	32.3%	32.3%	11.5%	44.3%	13.8%	46.7%
Yellow Time (s)	3.6	4.1	4.1	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	5.1	5.1	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 93
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: La Sierra Av. & Victoria Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	58	45	99	84	186	48	931	175	109	430	39
Future Volume (veh/h)	74	58	45	99	84	186	48	931	175	109	430	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	81	64	16	109	92	91	53	1023	169	120	473	33
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	256	213	139	305	253	77	1350	223	152	1633	114
Arrive On Green	0.05	0.14	0.14	0.08	0.16	0.16	0.04	0.44	0.44	0.09	0.48	0.48
Sat Flow, veh/h	3456	1870	1557	1781	1870	1550	1781	3052	504	1781	3370	235
Grp Volume(v), veh/h	81	64	16	109	92	91	53	595	597	120	249	257
Grp Sat Flow(s),veh/h/ln	1728	1870	1557	1781	1870	1550	1781	1777	1779	1781	1777	1828
Q Serve(g_s), s	1.8	2.5	0.7	4.9	3.5	4.2	2.4	22.7	22.8	5.3	6.8	6.8
Cycle Q Clear(g_c), s	1.8	2.5	0.7	4.9	3.5	4.2	2.4	22.7	22.8	5.3	6.8	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		0.13
Lane Grp Cap(c), veh/h	179	256	213	139	305	253	77	786	787	152	861	886
V/C Ratio(X)	0.45	0.25	0.08	0.78	0.30	0.36	0.69	0.76	0.76	0.79	0.29	0.29
Avail Cap(c_a), veh/h	291	674	561	251	764	633	203	1043	1044	265	1104	1136
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	31.2	30.4	36.6	29.8	30.1	38.1	18.9	18.9	36.2	12.5	12.5
Incr Delay (d2), s/veh	0.7	0.5	0.1	3.6	0.6	0.9	4.1	2.8	2.9	3.5	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	0.8	1.1	0.3	2.1	1.5	1.5	1.1	8.6	8.7	2.3	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	31.7	30.5	40.2	30.3	30.9	42.2	21.7	21.8	39.7	12.7	12.7
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	B	B
Approach Vol, veh/h		161			292			1245			626	
Approach Delay, s/veh		34.7			34.2			22.6			17.9	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	41.5	10.9	16.9	8.1	44.9	8.8	19.0
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	12.0	47.4	11.4	* 29	9.2	50.2	6.8	33.0
Max Q Clear Time (g_c+I1), s	7.3	24.8	6.9	4.5	4.4	8.8	3.8	6.2
Green Ext Time (p_c), s	0.1	11.0	0.0	0.3	0.0	4.4	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Notes

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

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	23	206	1005	22	84	476
Future Volume (vph)	23	206	1005	22	84	476
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	33.4	33.4	27.5	27.5	9.6	16.5
Total Split (s)	35.0	35.0	66.0	66.0	19.0	85.0
Total Split (%)	29.2%	29.2%	55.0%	55.0%	15.8%	70.8%
Yellow Time (s)	4.4	4.4	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 72
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: La Sierra Av. & McAllister Pkwy.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	23	206	1005	22	84	476
Future Volume (veh/h)	23	206	1005	22	84	476
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	52	1142	22	95	541
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	223	198	1823	813	123	2358
Arrive On Green	0.13	0.13	0.51	0.51	0.07	0.66
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	26	52	1142	22	95	541
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	0.7	1.7	13.0	0.4	3.0	3.4
Cycle Q Clear(g_c), s	0.7	1.7	13.0	0.4	3.0	3.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	223	198	1823	813	123	2358
V/C Ratio(X)	0.12	0.26	0.63	0.03	0.77	0.23
Avail Cap(c_a), veh/h	936	833	3755	1675	456	4955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	22.3	9.8	6.8	25.8	3.8
Incr Delay (d2), s/veh	0.2	0.7	0.5	0.0	3.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.6	3.2	0.1	1.2	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.1	23.0	10.4	6.8	29.7	3.8
LnGrp LOS	C	C	B	A	C	A
Approach Vol, veh/h	78		1164			636
Approach Delay, s/veh	22.7		10.3			7.7
Approach LOS	C		B			A

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	8.5	35.4			43.9	12.4
Change Period (Y+Rc), s	4.6	6.5			6.5	5.4
Max Green Setting (Gmax), s	14.4	59.5			78.5	29.6
Max Q Clear Time (g_c+I1), s	5.0	15.0			5.4	3.7
Green Ext Time (p_c), s	0.1	13.9			5.2	0.2

Intersection Summary	
HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	19.1
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	59	455	96	24	219	112
Future Vol, veh/h	59	455	96	24	219	112
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	517	109	27	249	127
Number of Lanes	1	0	2	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	24.3	10.4	14.1
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	11%	100%	0%
Vol Thru, %	100%	57%	0%	0%	100%
Vol Right, %	0%	43%	89%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	56	514	219	112
LT Vol	0	0	59	219	0
Through Vol	64	32	0	0	112
RT Vol	0	24	455	0	0
Lane Flow Rate	73	64	584	249	127
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0.137	0.114	0.797	0.474	0.224
Departure Headway (Hd)	6.765	6.458	4.914	6.855	6.344
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	528	552	742	525	565
Service Time	4.536	4.229	2.914	4.61	4.099
HCM Lane V/C Ratio	0.138	0.116	0.787	0.474	0.225
HCM Control Delay	10.6	10.1	24.3	15.7	10.9
HCM Lane LOS	B	B	C	C	B
HCM 95th-tile Q	0.5	0.4	8.2	2.5	0.9

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	205	451	43	30	34
Future Vol, veh/h	25	205	451	43	30	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	244	537	51	36	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	588	0	-	0	867	294
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	304	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	985	-	-	-	307	703
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	748	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	985	-	-	-	298	703
Mov Cap-2 Maneuver	-	-	-	-	407	-
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	748	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	13
HCM LOS			B

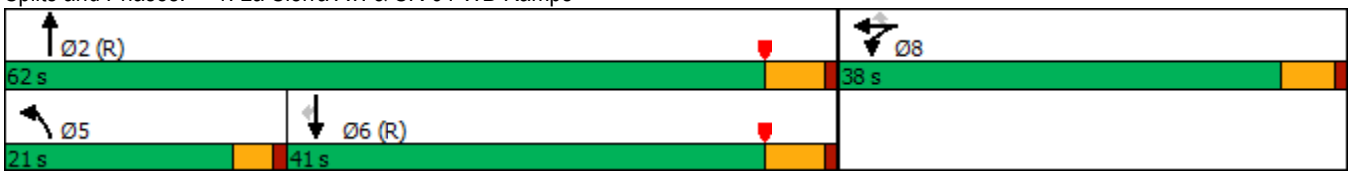
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	985	-	-	-	524
HCM Lane V/C Ratio	0.03	-	-	-	0.145
HCM Control Delay (s)	8.8	-	-	-	13
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

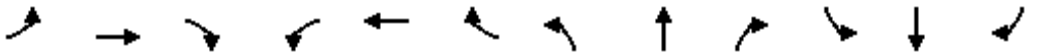
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	496	4	476	395	807	1253	227
Future Volume (vph)	496	4	476	395	807	1253	227
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	9.0	26.5	29.5	29.5
Total Split (s)	38.0	38.0	38.0	21.0	62.0	41.0	41.0
Total Split (%)	38.0%	38.0%	38.0%	21.0%	62.0%	41.0%	41.0%
Yellow Time (s)	4.0	4.0	4.0	3.0	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)	5.0	5.0	5.0	4.0	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 1: La Sierra Av. & SR-91 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	496	4	476	395	807	0	0	1253	227
Future Volume (veh/h)	0	0	0	496	4	476	395	807	0	0	1253	227
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.98
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				1781	1900	1885	1856	1870	0	0	1856	1885
Adj Flow Rate, veh/h				602	0	156	420	859	0	0	1333	201
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				8	0	1	3	2	0	0	3	1
Cap, veh/h				708	0	333	480	3504	0	0	2565	795
Arrive On Green				0.21	0.00	0.21	0.28	1.00	0.00	0.00	0.51	0.51
Sat Flow, veh/h				3393	0	1598	3428	5274	0	0	5233	1571
Grp Volume(v), veh/h				602	0	156	420	859	0	0	1333	201
Grp Sat Flow(s),veh/h/ln				1697	0	1598	1714	1702	0	0	1689	1571
Q Serve(g_s), s				17.1	0.0	8.6	11.7	0.0	0.0	0.0	17.6	7.2
Cycle Q Clear(g_c), s				17.1	0.0	8.6	11.7	0.0	0.0	0.0	17.6	7.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				708	0	333	480	3504	0	0	2565	795
V/C Ratio(X)				0.85	0.00	0.47	0.88	0.25	0.00	0.00	0.52	0.25
Avail Cap(c_a), veh/h				1120	0	527	583	3504	0	0	2565	795
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.82	0.82	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.1	0.0	34.7	35.2	0.0	0.0	0.0	16.5	14.0
Incr Delay (d2), s/veh				3.1	0.0	0.8	9.1	0.1	0.0	0.0	0.8	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.1	0.0	3.3	4.6	0.0	0.0	0.0	6.3	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.1	0.0	35.5	44.2	0.1	0.0	0.0	17.3	14.7
LnGrp LOS				D	A	D	D	A	A	A	B	B
Approach Vol, veh/h					758			1279			1534	
Approach Delay, s/veh					40.0			14.6			17.0	
Approach LOS					D			B			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	74.1		18.0	56.1		25.9						
Change Period (Y+Rc), s	5.5		4.0	5.5		5.0						
Max Green Setting (Gmax), s	56.5		17.0	35.5		33.0						
Max Q Clear Time (g_c+I1), s	2.0		13.7	19.6		19.1						
Green Ext Time (p_c), s	6.5		0.3	8.5		1.8						

Intersection Summary		
HCM 6th Ctrl Delay	21.0	
HCM 6th LOS	C	

Notes

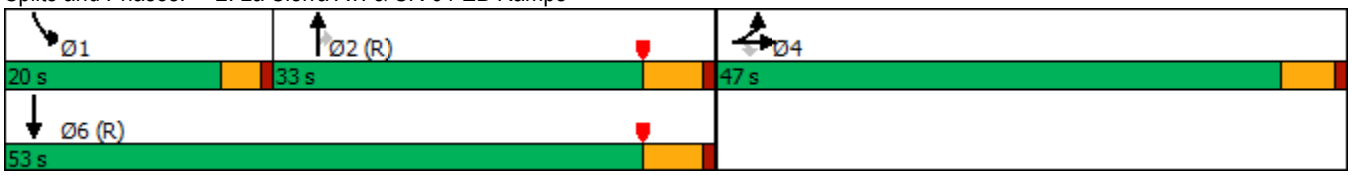
User approved volume balancing among the lanes for turning movement.

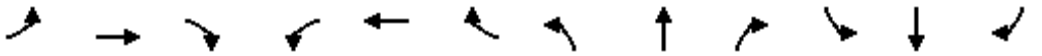
Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	213	16	833	980	307	384	1327
Future Volume (vph)	213	16	833	980	307	384	1327
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4	4		2		1	6
Permitted Phases			4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	29.5	29.5	9.0	26.5
Total Split (s)	47.0	47.0	47.0	33.0	33.0	20.0	53.0
Total Split (%)	47.0%	47.0%	47.0%	33.0%	33.0%	20.0%	53.0%
Yellow Time (s)	4.0	4.0	4.0	4.5	4.5	3.0	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)	5.0	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 28 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 2: La Sierra Av. & SR-91 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	16	833	0	0	0	0	980	307	384	1327	0
Future Volume (veh/h)	213	16	833	0	0	0	0	980	307	384	1327	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1811				0	1870	1870	1870	1826	0
Adj Flow Rate, veh/h	154	0	709				0	1021	288	400	1382	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	6				0	2	2	2	5	0
Cap, veh/h	473	0	814				0	2307	706	477	3139	0
Arrive On Green	0.27	0.00	0.27				0.00	0.45	0.45	0.05	0.21	0.00
Sat Flow, veh/h	1781	0	3070				0	5274	1562	3456	5149	0
Grp Volume(v), veh/h	154	0	709				0	1021	288	400	1382	0
Grp Sat Flow(s),veh/h/ln	1781	0	1535				0	1702	1562	1728	1662	0
Q Serve(g_s), s	7.0	0.0	22.1				0.0	13.7	12.4	11.5	24.2	0.0
Cycle Q Clear(g_c), s	7.0	0.0	22.1				0.0	13.7	12.4	11.5	24.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	473	0	814				0	2307	706	477	3139	0
V/C Ratio(X)	0.33	0.00	0.87				0.00	0.44	0.41	0.84	0.44	0.00
Avail Cap(c_a), veh/h	748	0	1289				0	2307	706	553	3139	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.85	0.85	0.69	0.69	0.00
Uniform Delay (d), s/veh	29.5	0.0	35.1				0.0	18.8	18.4	46.6	24.2	0.0
Incr Delay (d2), s/veh	0.3	0.0	3.4				0.0	0.5	1.5	6.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	8.2				0.0	5.1	4.4	5.6	10.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	0.0	38.5				0.0	19.3	19.9	53.3	24.6	0.0
LnGrp LOS	C	A	D				A	B	B	D	C	A
Approach Vol, veh/h		863						1309			1782	
Approach Delay, s/veh		37.0						19.4			31.0	
Approach LOS		D						B			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	17.8	50.7		31.5		68.5						
Change Period (Y+Rc), s	4.0	5.5		5.0		5.5						
Max Green Setting (Gmax), s	16.0	27.5		42.0		47.5						
Max Q Clear Time (g_c+I1), s	13.5	15.7		24.1		26.2						
Green Ext Time (p_c), s	0.3	5.8		2.5		9.6						

Intersection Summary			
HCM 6th Ctrl Delay			28.5
HCM 6th LOS			C

Notes

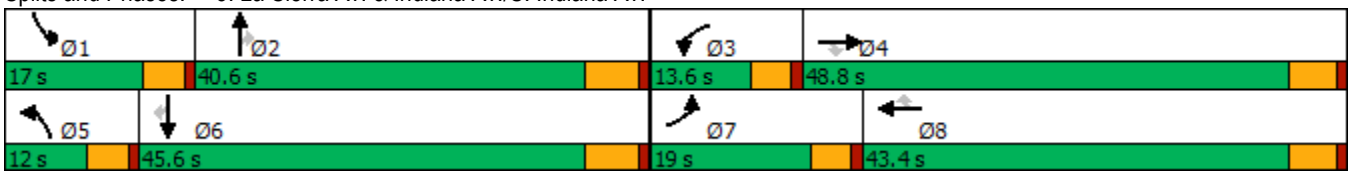
User approved volume balancing among the lanes for turning movement.

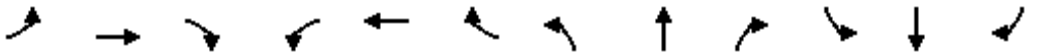
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	367	271	198	128	214	168	163	730	55	262	1499	291
Future Volume (vph)	367	271	198	128	214	168	163	730	55	262	1499	291
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.4	43.4	9.6	43.4	43.4	9.6	37.8	37.8	9.6	32.8	32.8
Total Split (s)	19.0	48.8	48.8	13.6	43.4	43.4	12.0	40.6	40.6	17.0	45.6	45.6
Total Split (%)	15.8%	40.7%	40.7%	11.3%	36.2%	36.2%	10.0%	33.8%	33.8%	14.2%	38.0%	38.0%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	5.4	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 97.8
Natural Cycle: 115
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: La Sierra Av. & Indiana Av./S. Indiana Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	367	271	198	128	214	168	163	730	55	262	1499	291
Future Volume (veh/h)	367	271	198	128	214	168	163	730	55	262	1499	291
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	382	282	140	133	223	56	170	760	28	273	1561	220
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	465	718	320	206	451	200	245	2005	622	356	2168	673
Arrive On Green	0.13	0.20	0.20	0.06	0.13	0.13	0.07	0.39	0.39	0.10	0.42	0.42
Sat Flow, veh/h	3456	3554	1585	3456	3554	1578	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	382	282	140	133	223	56	170	760	28	273	1561	220
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1578	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	9.0	5.8	6.5	3.2	4.9	2.7	4.0	8.9	0.9	6.5	21.3	7.8
Cycle Q Clear(g_c), s	9.0	5.8	6.5	3.2	4.9	2.7	4.0	8.9	0.9	6.5	21.3	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	465	718	320	206	451	200	245	2005	622	356	2168	673
V/C Ratio(X)	0.82	0.39	0.44	0.65	0.49	0.28	0.69	0.38	0.04	0.77	0.72	0.33
Avail Cap(c_a), veh/h	593	1836	819	370	1608	714	304	2116	657	510	2420	751
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	29.0	29.3	38.6	34.2	33.2	38.1	18.2	15.8	36.7	20.0	16.1
Incr Delay (d2), s/veh	5.7	0.3	0.9	1.3	0.8	0.8	3.0	0.2	0.0	2.4	1.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	2.4	2.4	1.3	2.1	1.0	1.7	3.2	0.3	2.7	7.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	29.4	30.3	39.9	35.0	33.9	41.2	18.4	15.8	39.1	21.1	16.5
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	C	B
Approach Vol, veh/h		804			412			958			2054	
Approach Delay, s/veh		35.1			36.4			22.3			23.0	
Approach LOS		D			D			C			C	

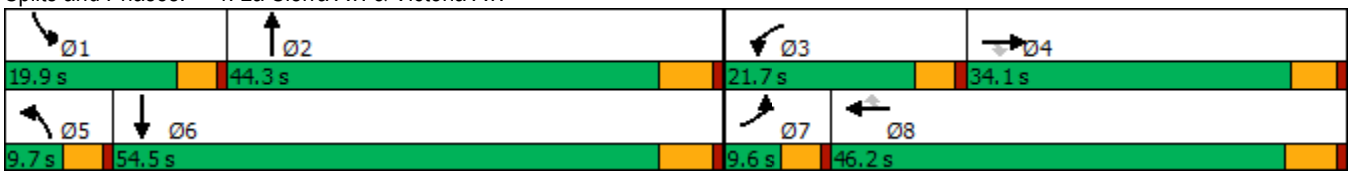
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	38.8	9.6	22.4	10.6	41.5	15.9	16.1
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4
Max Green Setting (Gmax), s	12.4	34.8	9.0	43.4	7.4	39.8	14.4	38.0
Max Q Clear Time (g_c+I1), s	8.5	10.9	5.2	8.5	6.0	23.3	11.0	6.9
Green Ext Time (p_c), s	0.2	7.1	0.1	2.2	0.0	12.4	0.3	1.5

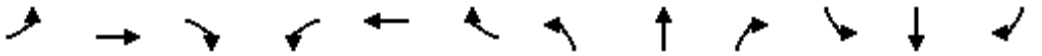
Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	45	93	126	233	71	124	27	665	159	1374
Future Volume (vph)	45	93	126	233	71	124	27	665	159	1374
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.1	34.1	9.6	33.8	33.8	9.6	35.8	9.6	33.8
Total Split (s)	9.6	34.1	34.1	21.7	46.2	46.2	9.7	44.3	19.9	54.5
Total Split (%)	8.0%	28.4%	28.4%	18.1%	38.5%	38.5%	8.1%	36.9%	16.6%	45.4%
Yellow Time (s)	3.6	4.1	4.1	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	5.1	5.1	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 101.4
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: La Sierra Av. & Victoria Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	93	126	233	71	124	27	665	118	159	1374	42
Future Volume (veh/h)	45	93	126	233	71	124	27	665	118	159	1374	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	98	81	245	75	48	28	700	95	167	1446	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	202	168	279	425	355	49	1250	170	201	1716	38
Arrive On Green	0.04	0.11	0.11	0.16	0.23	0.23	0.03	0.40	0.40	0.11	0.48	0.48
Sat Flow, veh/h	3456	1870	1556	1781	1870	1564	1781	3144	426	1781	3554	79
Grp Volume(v), veh/h	47	98	81	245	75	48	28	395	400	167	722	756
Grp Sat Flow(s),veh/h/ln	1728	1870	1556	1781	1870	1564	1781	1777	1794	1781	1777	1856
Q Serve(g_s), s	1.2	4.6	4.5	12.4	3.0	2.3	1.4	16.0	16.0	8.5	32.8	32.9
Cycle Q Clear(g_c), s	1.2	4.6	4.5	12.4	3.0	2.3	1.4	16.0	16.0	8.5	32.8	32.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		0.04
Lane Grp Cap(c), veh/h	131	202	168	279	425	355	49	706	713	201	858	896
V/C Ratio(X)	0.36	0.48	0.48	0.88	0.18	0.14	0.57	0.56	0.56	0.83	0.84	0.84
Avail Cap(c_a), veh/h	187	586	488	329	817	683	98	739	746	295	935	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	38.8	38.8	38.1	28.8	28.5	44.4	21.6	21.6	40.2	20.9	20.9
Incr Delay (d2), s/veh	0.6	1.8	2.1	18.3	0.2	0.2	3.8	1.1	1.1	8.1	7.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.2	1.8	6.6	1.3	0.8	0.7	6.3	6.4	4.0	13.5	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	40.6	41.0	56.4	29.0	28.7	48.2	22.7	22.7	48.3	27.8	27.7
LnGrp LOS	D	D	D	E	C	C	D	C	C	D	C	C
Approach Vol, veh/h		226			368			823			1645	
Approach Delay, s/veh		41.5			47.2			23.6			29.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	42.6	19.1	15.8	7.2	50.5	8.1	26.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	15.3	38.5	17.1	* 29	5.1	48.7	5.0	40.4
Max Q Clear Time (g_c+I1), s	10.5	18.0	14.4	6.6	3.4	34.9	3.2	5.0
Green Ext Time (p_c), s	0.1	6.4	0.1	0.7	0.0	9.8	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Notes

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

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	155	666	11	232	1526
Future Volume (vph)	17	155	666	11	232	1526
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	33.4	33.4	27.5	27.5	9.6	16.5
Total Split (s)	35.0	35.0	50.0	50.0	35.0	85.0
Total Split (%)	29.2%	29.2%	41.7%	41.7%	29.2%	70.8%
Yellow Time (s)	4.4	4.4	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 69.4
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: La Sierra Av. & McAllister Pkwy.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	17	155	666	11	232	1526
Future Volume (veh/h)	17	155	666	11	232	1526
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	18	687	11	239	1573
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	136	121	1669	744	295	2543
Arrive On Green	0.08	0.08	0.47	0.47	0.17	0.72
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	18	18	687	11	239	1573
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	0.5	0.6	7.3	0.2	7.4	12.9
Cycle Q Clear(g_c), s	0.5	0.6	7.3	0.2	7.4	12.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	136	121	1669	744	295	2543
V/C Ratio(X)	0.13	0.15	0.41	0.01	0.81	0.62
Avail Cap(c_a), veh/h	923	821	2707	1207	948	4884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	24.7	10.0	8.1	23.0	4.1
Incr Delay (d2), s/veh	0.4	0.6	0.2	0.0	2.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	1.9	0.1	2.7	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.1	25.2	10.2	8.1	25.0	4.5
LnGrp LOS	C	C	B	A	C	A
Approach Vol, veh/h	36		698			1812
Approach Delay, s/veh	25.1		10.2			7.2
Approach LOS	C		B			A

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.0	33.3			47.4	9.8
Change Period (Y+Rc), s	4.6	6.5			6.5	5.4
Max Green Setting (Gmax), s	30.4	43.5			78.5	29.6
Max Q Clear Time (g_c+I1), s	9.4	9.3			14.9	2.6
Green Ext Time (p_c), s	0.3	6.6			26.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	8.3
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	77.3
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	291	201	62	649	469
Future Vol, veh/h	35	291	201	62	649	469
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	313	216	67	698	504
Number of Lanes	1	0	2	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	16.5	12.5	110.2
HCM LOS	C	B	F

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	11%	100%	0%
Vol Thru, %	100%	52%	0%	0%	100%
Vol Right, %	0%	48%	89%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	129	326	649	469
LT Vol	0	0	35	649	0
Through Vol	134	67	0	0	469
RT Vol	0	62	291	0	0
Lane Flow Rate	144	139	351	698	504
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0.282	0.258	0.564	1.289	0.86
Departure Headway (Hd)	7.354	7.009	5.994	6.65	6.141
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	491	516	606	551	595
Service Time	5.054	4.709	3.994	4.36	3.851
HCM Lane V/C Ratio	0.293	0.269	0.579	1.267	0.847
HCM Control Delay	12.9	12.1	16.5	164.3	35.4
HCM Lane LOS	B	B	C	F	E
HCM 95th-tile Q	1.1	1	3.5	28.6	9.5

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	673	297	11	14	29
Future Vol, veh/h	28	673	297	11	14	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	687	303	11	14	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	314	0	-	0	1054	157
Stage 1	-	-	-	-	309	-
Stage 2	-	-	-	-	745	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1245	-	-	-	235	861
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	468	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1245	-	-	-	230	861
Mov Cap-2 Maneuver	-	-	-	-	354	-
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	468	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1245	-	-	-	587
HCM Lane V/C Ratio	0.023	-	-	-	0.075
HCM Control Delay (s)	8	-	-	-	11.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

APPENDIX 3.3: EXISTING (2023) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

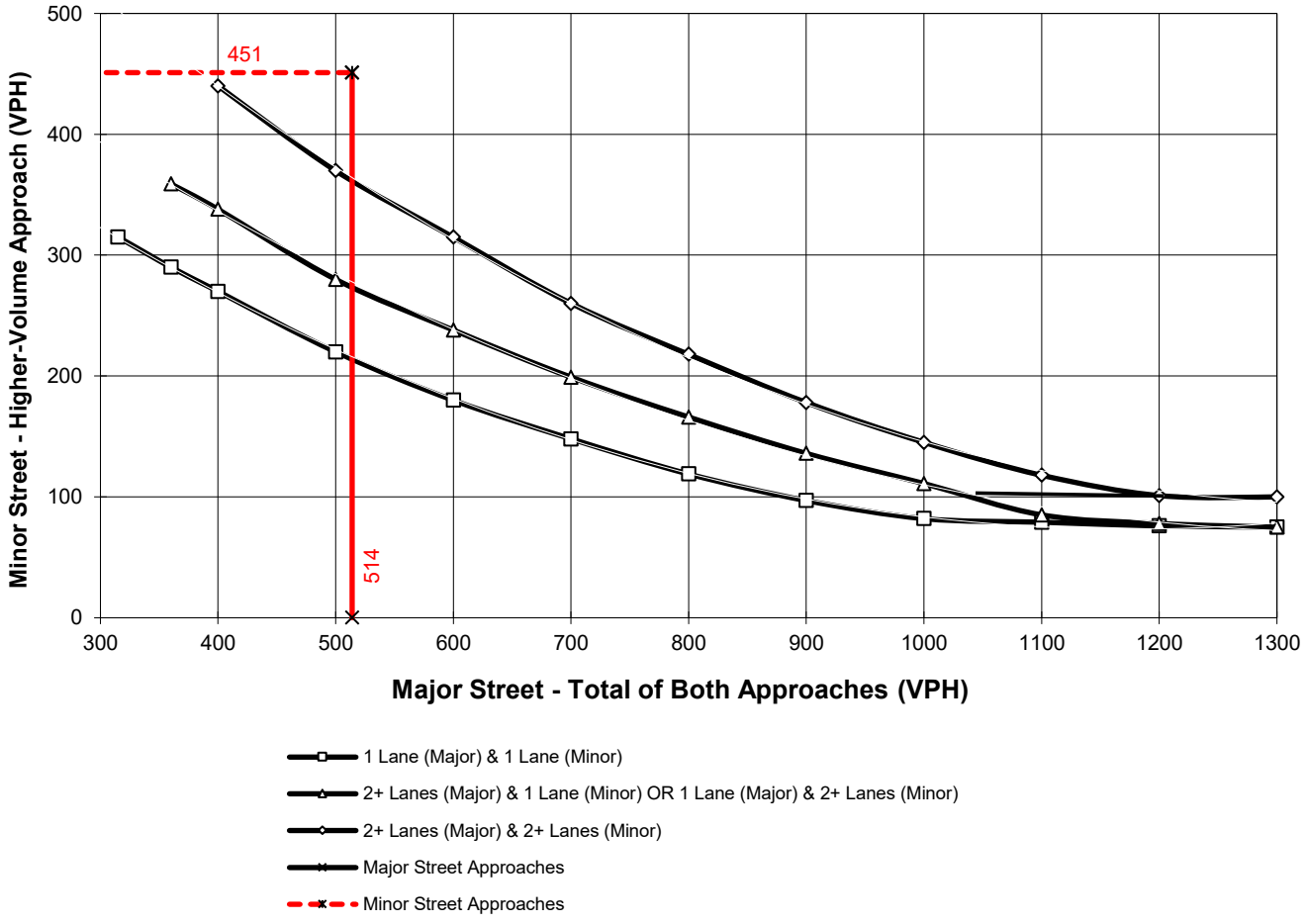
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2023) Conditions - Weekday AM Peak Hour**

Major Street Name = **El Sobrante Rd.** Total of Both Approaches (VPH) = **514**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **La Sierra AV.** High Volume Approach (VPH) = **451**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



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

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

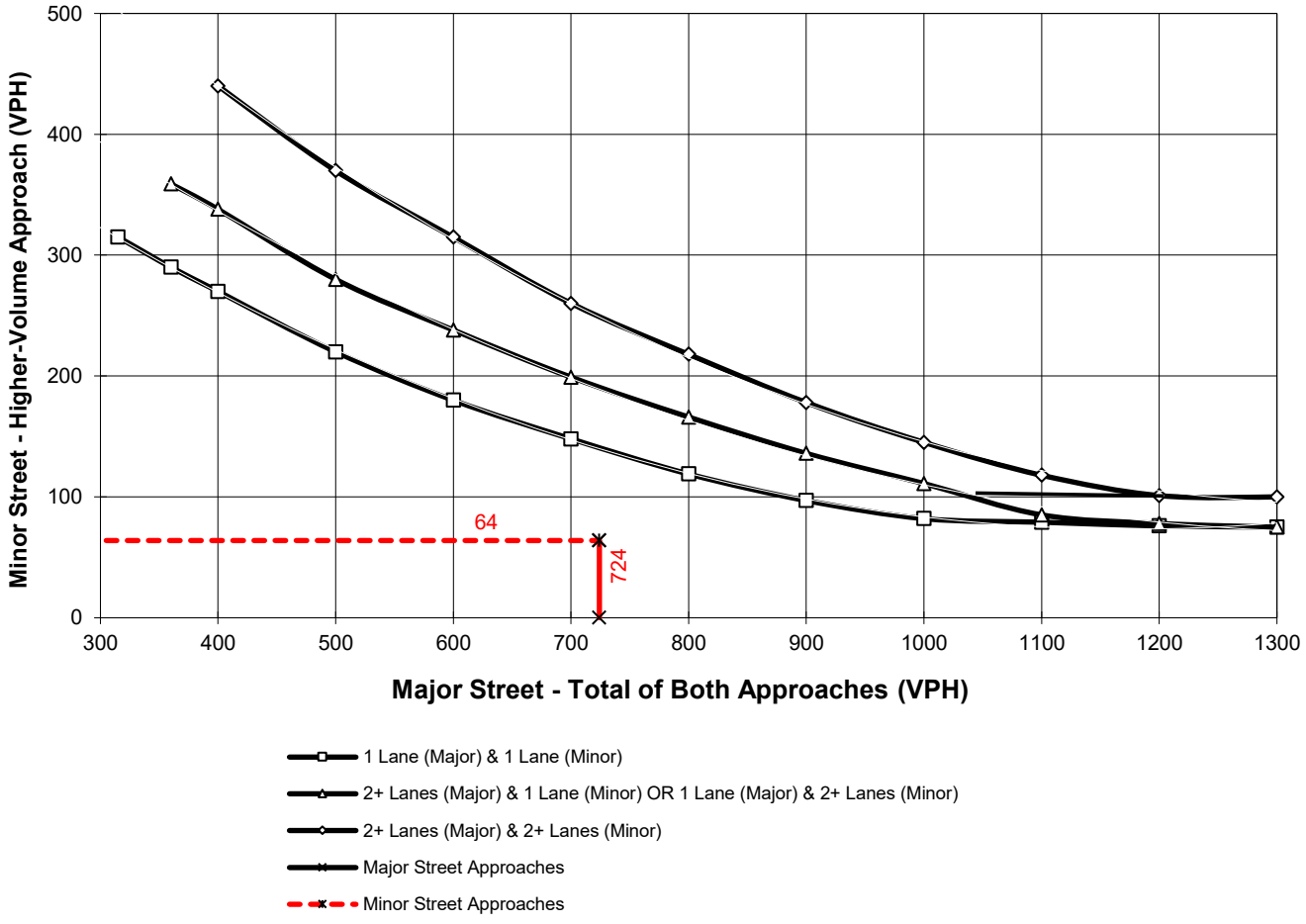
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2023) Conditions - Weekday AM Peak Hour**

Major Street Name = **El Sobrante Rd.** Total of Both Approaches (VPH) = **724**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **McAllister St.** High Volume Approach (VPH) = **64**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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

APPENDIX 3.4: EXISTING (2023) CONDITIONS QUEUING ANALYSIS WORKSHEETS

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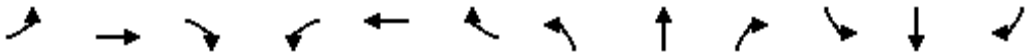
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	236	263	256	602	1442	1080	133
v/c Ratio	0.73	0.79	0.71	0.82	0.41	0.49	0.18
Control Delay	49.7	46.7	36.6	40.7	13.8	22.9	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	49.7	46.7	36.6	40.7	14.2	22.9	6.0
Queue Length 50th (ft)	148	142	115	211	208	179	5
Queue Length 95th (ft)	218	227	192	261	291	259	46
Internal Link Dist (ft)		1180			412	935	
Turn Bay Length (ft)	500		500	155			140
Base Capacity (vph)	428	426	456	850	3512	2195	751
Starvation Cap Reductn	0	0	0	0	1360	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	0.55	0.62	0.56	0.71	0.67	0.49	0.18

Intersection Summary

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	267	263	244	1611	420	359	939
v/c Ratio	0.76	0.76	0.58	0.63	0.43	0.72	0.28
Control Delay	51.1	45.6	18.6	20.8	3.3	46.2	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	45.6	18.6	20.8	3.3	46.2	1.5
Queue Length 50th (ft)	168	148	51	271	0	31	0
Queue Length 95th (ft)	248	235	126	360	54	130	25
Internal Link Dist (ft)		1416		886			412
Turn Bay Length (ft)			450		415	155	
Base Capacity (vph)	437	422	489	2549	988	554	3390
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	0.62	0.50	0.63	0.43	0.65	0.28

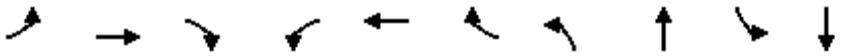
Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	539	264	136	125	238	177	384	1329	82	127	884	234
v/c Ratio	0.78	0.26	0.25	0.46	0.41	0.43	0.75	0.72	0.12	0.64	0.64	0.40
Control Delay	46.8	26.9	4.2	50.8	37.7	7.0	51.2	30.4	0.4	62.9	34.6	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.8	26.9	4.2	50.8	37.7	7.0	51.2	30.4	0.4	62.9	34.6	6.7
Queue Length 50th (ft)	155	66	0	37	71	0	113	234	0	38	163	0
Queue Length 95th (ft)	#323	97	31	81	104	41	#248	416	1	#107	287	65
Internal Link Dist (ft)		2549			2428			2703			886	
Turn Bay Length (ft)	205		205	205		130	200		305	355		535
Base Capacity (vph)	722	1845	885	317	1428	740	524	1965	691	197	1479	616
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.14	0.15	0.39	0.17	0.24	0.73	0.68	0.12	0.64	0.60	0.38

Intersection Summary

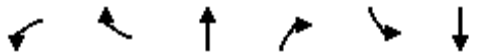
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	81	64	49	109	92	204	53	1215	120	516
v/c Ratio	0.34	0.24	0.15	0.51	0.29	0.47	0.38	0.79	0.61	0.29
Control Delay	51.7	41.2	1.0	54.0	39.1	9.3	55.2	27.8	58.6	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	41.2	1.0	54.0	39.1	9.3	55.2	27.8	58.6	16.0
Queue Length 50th (ft)	25	38	0	66	53	2	32	311	72	91
Queue Length 95th (ft)	58	77	0	#159	98	60	83	#550	#175	182
Internal Link Dist (ft)		810			1637			2644		1335
Turn Bay Length (ft)	130			205		200	215		210	
Base Capacity (vph)	265	616	589	229	699	708	185	1864	241	2002
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.10	0.08	0.48	0.13	0.29	0.29	0.65	0.50	0.26

Intersection Summary

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



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	234	1142	25	95	541
v/c Ratio	0.08	0.49	0.67	0.03	0.43	0.24
Control Delay	30.2	8.5	17.6	6.3	41.0	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.2	8.5	17.6	6.3	41.0	5.9
Queue Length 50th (ft)	9	0	178	1	36	36
Queue Length 95th (ft)	37	57	387	15	117	101
Internal Link Dist (ft)	3339		1159			2644
Turn Bay Length (ft)	150			200	300	
Base Capacity (vph)	798	842	2976	1334	388	3316
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.28	0.38	0.02	0.24	0.16

Intersection Summary

Intersection: 1: La Sierra Av. & SR-91 WB Ramps

Movement	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LTR	R	L	L	T	T	T	T	T	T	R
Maximum Queue (ft)	215	303	263	244	340	266	262	259	456	393	183	113
Average Queue (ft)	103	198	140	177	201	161	161	164	267	180	70	36
95th Queue (ft)	206	284	249	262	305	257	256	263	403	319	145	79
Link Distance (ft)		1183			444	444	444	444	960	960	960	
Upstream Blk Time (%)					0							
Queuing Penalty (veh)					1							
Storage Bay Dist (ft)	500		500	155								140
Storage Blk Time (%)				9	17						0	
Queuing Penalty (veh)				23	45						1	

Intersection: 2: La Sierra Av. & SR-91 EB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	LTR	R	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	453	598	495	459	434	412	220	181	189	112	108	126
Average Queue (ft)	75	328	235	249	212	213	95	109	115	32	37	50
95th Queue (ft)	333	527	451	406	375	361	178	166	172	88	85	104
Link Distance (ft)	1430	1430		861	861	861				444	444	444
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			450				415	155	155			
Storage Blk Time (%)		5	0			0		3	5	0		
Queuing Penalty (veh)		9	0			1		10	15	0		

Intersection: 3: La Sierra Av. & Indiana Av./S. Indiana Av.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	234	260	316	180	76	58	93	128	128	144	190	274
Average Queue (ft)	153	181	72	61	29	23	45	66	52	60	106	135
95th Queue (ft)	249	253	212	124	57	53	79	109	99	115	168	231
Link Distance (ft)			2553	2553				2432	2432			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	205	205			205	205	205			130	200	200
Storage Blk Time (%)	1	6	0						0	1	0	1
Queuing Penalty (veh)	1	7	0						1	1	0	3

Intersection: 3: La Sierra Av. & Indiana Av./S. Indiana Av.

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	346	316	336	52	101	122	216	227	226	124
Average Queue (ft)	168	177	200	18	38	58	120	134	126	47
95th Queue (ft)	282	284	323	38	83	98	194	205	198	97
Link Distance (ft)	2685	2685	2685				861	861	861	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				305	355	355				535
Storage Blk Time (%)	5		1							
Queuing Penalty (veh)	16		1							

Intersection: 4: La Sierra Av. & Victoria Av.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	37	94	111	58	136	111	139	177	316	340	160	152
Average Queue (ft)	13	43	46	24	67	50	59	39	157	183	68	50
95th Queue (ft)	37	81	92	53	121	93	103	102	274	303	124	124
Link Distance (ft)			843	843		1670			2640	2640		1340
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130	130			205		200	215			210	
Storage Blk Time (%)		0	0						3			0
Queuing Penalty (veh)		0	0						2			0

Intersection: 4: La Sierra Av. & Victoria Av.

Movement	SB
Directions Served	TR
Maximum Queue (ft)	183
Average Queue (ft)	64
95th Queue (ft)	150
Link Distance (ft)	1340
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: La Sierra Av. & McAllister Pkwy.

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (ft)	51	123	232	202	41	119	84	104
Average Queue (ft)	13	55	109	86	6	53	21	37
95th Queue (ft)	40	99	193	165	26	96	58	89
Link Distance (ft)		3360	1207	1207			2640	2640
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150				200	300		
Storage Blk Time (%)		0		0				
Queuing Penalty (veh)		0		0				

Network Summary

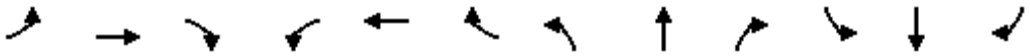
Network wide Queuing Penalty: 136

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	359	350	329	420	859	1333	241
v/c Ratio	0.82	0.77	0.62	0.80	0.27	0.63	0.31
Control Delay	48.4	39.2	21.6	40.8	21.2	25.6	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	39.2	21.6	40.8	21.2	25.6	7.7
Queue Length 50th (ft)	221	187	102	143	185	249	23
Queue Length 95th (ft)	316	290	188	184	228	324	81
Internal Link Dist (ft)		1180			412	935	
Turn Bay Length (ft)	500		500	155			140
Base Capacity (vph)	524	529	599	578	3140	2130	766
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.66	0.55	0.73	0.27	0.63	0.31

Intersection Summary

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	200	456	451	1021	320	400	1382
v/c Ratio	0.33	0.86	0.79	0.59	0.43	0.78	0.53
Control Delay	23.2	44.6	33.4	30.5	5.4	29.2	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	23.2	44.6	33.4	30.5	5.4	29.2	11.5
Queue Length 50th (ft)	91	270	217	206	0	72	225
Queue Length 95th (ft)	142	398	333	266	64	117	263
Internal Link Dist (ft)		1416		886			412
Turn Bay Length (ft)			450		415	155	
Base Capacity (vph)	706	603	648	1725	740	551	2614
Starvation Cap Reductn	0	0	0	0	0	0	426
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.76	0.70	0.59	0.43	0.73	0.63

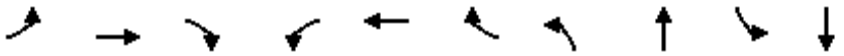
Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	382	282	206	133	223	175	170	760	57	273	1561	303
v/c Ratio	0.77	0.36	0.42	0.49	0.40	0.43	0.66	0.40	0.08	0.69	0.75	0.37
Control Delay	52.8	32.7	9.6	51.4	38.2	6.9	58.5	25.2	0.2	52.7	28.7	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	32.7	9.6	51.4	38.2	6.9	58.5	25.2	0.2	52.7	28.7	4.3
Queue Length 50th (ft)	111	77	15	39	66	0	51	117	0	79	271	0
Queue Length 95th (ft)	#245	113	68	85	98	40	#126	222	0	#168	#520	62
Internal Link Dist (ft)		2549			2428			2703			886	
Turn Bay Length (ft)	205		205	205		130	200		305	355		535
Base Capacity (vph)	511	1589	807	319	1391	731	262	1888	706	440	2093	830
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.18	0.26	0.42	0.16	0.24	0.65	0.40	0.08	0.62	0.75	0.37

Intersection Summary

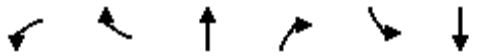
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	47	98	133	245	75	131	28	824	167	1490
v/c Ratio	0.27	0.39	0.35	0.82	0.14	0.23	0.31	0.65	0.74	0.87
Control Delay	54.4	44.6	3.7	64.6	29.8	4.3	60.1	30.1	64.1	31.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	44.6	3.7	64.6	29.8	4.3	60.1	30.1	64.1	31.8
Queue Length 50th (ft)	15	61	0	155	40	0	18	216	104	441
Queue Length 95th (ft)	39	109	12	#356	76	32	54	367	#229	#797
Internal Link Dist (ft)		810			1637			2644		1335
Turn Bay Length (ft)	130			205		200	215		210	
Base Capacity (vph)	171	538	588	301	749	719	89	1344	269	1711
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.18	0.23	0.81	0.10	0.18	0.31	0.61	0.62	0.87

Intersection Summary

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



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	18	160	687	11	239	1573
v/c Ratio	0.05	0.38	0.58	0.02	0.62	0.71
Control Delay	28.3	8.3	21.8	10.5	34.6	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	8.3	21.8	10.5	34.6	10.9
Queue Length 50th (ft)	6	0	107	0	79	165
Queue Length 95th (ft)	29	52	261	12	239	428
Internal Link Dist (ft)	3339		1159			2644
Turn Bay Length (ft)	150			200	300	
Base Capacity (vph)	815	815	2396	1075	837	3324
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.20	0.29	0.01	0.29	0.47

Intersection Summary

Intersection: 1: La Sierra Av. & SR-91 WB Ramps

Movement	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LTR	R	L	L	T	T	T	T	T	T	R
Maximum Queue (ft)	299	364	327	208	219	216	206	218	561	468	298	168
Average Queue (ft)	180	255	188	125	142	134	131	132	370	295	131	55
95th Queue (ft)	273	333	279	192	209	204	202	209	507	444	251	112
Link Distance (ft)		1183			444	444	444	444	960	960	960	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500		500	155								140
Storage Blk Time (%)				2	5						3	
Queuing Penalty (veh)				4	10						8	

Intersection: 2: La Sierra Av. & SR-91 EB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	LTR	R	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	57	401	395	349	320	300	198	178	216	389	342	297
Average Queue (ft)	3	275	224	208	157	163	81	101	118	118	119	134
95th Queue (ft)	25	373	338	331	274	260	152	162	189	246	222	227
Link Distance (ft)	1430	1430		861	861	861				444	444	444
Upstream Blk Time (%)										0	0	
Queuing Penalty (veh)										2	1	
Storage Bay Dist (ft)			450				415	155	155			
Storage Blk Time (%)		0						1	4	2		
Queuing Penalty (veh)		0						7	16	8		

Intersection: 3: La Sierra Av. & Indiana Av./S. Indiana Av.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	220	233	204	183	149	84	102	109	102	106	120	128
Average Queue (ft)	111	147	72	74	65	38	52	62	50	48	49	63
95th Queue (ft)	195	222	175	135	123	73	90	101	93	85	95	111
Link Distance (ft)			2553	2553				2432	2432			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	205	205			205	205	205			130	200	200
Storage Blk Time (%)	2	3	0						0	0		
Queuing Penalty (veh)	2	5	0						0	0		

Intersection: 3: La Sierra Av. & Indiana Av./S. Indiana Av.

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB		
Directions Served	T	T	T	R	L	L	T	T	T	R		
Maximum Queue (ft)	185	185	239	65	140	157	323	359	370	162		
Average Queue (ft)	92	91	116	15	74	90	176	204	198	49		
95th Queue (ft)	170	170	210	40	124	137	296	323	321	111		
Link Distance (ft)	2685	2685	2685				861	861	861			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				305	355	355				535		
Storage Blk Time (%)	0						0					
Queuing Penalty (veh)	0						0					

Intersection: 4: La Sierra Av. & Victoria Av.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	36	66	144	114	294	341	144	78	259	310	274	450
Average Queue (ft)	6	30	66	60	159	72	45	20	129	155	140	245
95th Queue (ft)	27	61	116	102	279	240	114	51	228	267	275	415
Link Distance (ft)			843	843		1670			2640	2640		1340
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130	130			205		200	215			210	
Storage Blk Time (%)			0		10	0			1		3	13
Queuing Penalty (veh)			0		20	0			0		24	21

Intersection: 4: La Sierra Av. & Victoria Av.

Movement	SB	B6
Directions Served	TR	T
Maximum Queue (ft)	455	668
Average Queue (ft)	256	22
95th Queue (ft)	420	423
Link Distance (ft)	1340	2685
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: La Sierra Av. & McAllister Pkwy.

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (ft)	40	87	187	189	29	235	215	224
Average Queue (ft)	9	36	91	70	4	120	65	87
95th Queue (ft)	32	68	166	142	20	203	164	193
Link Distance (ft)		3360	1207	1207			2640	2640
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150				200	300		
Storage Blk Time (%)				0				
Queuing Penalty (veh)				0				

Network Summary

Network wide Queuing Penalty: 128

APPENDIX 3.5: EXISTING (2023) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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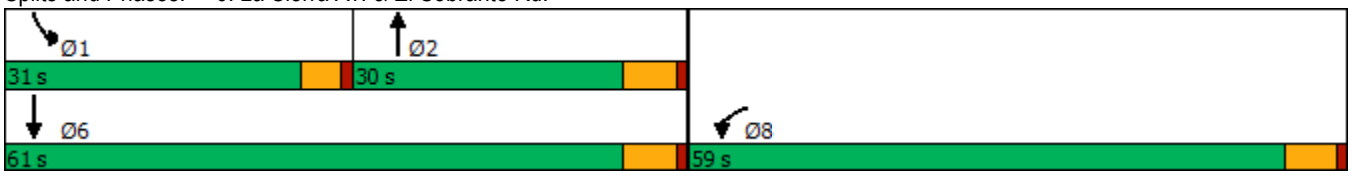
Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	59	96	219	112
Future Volume (vph)	59	96	219	112
Turn Type	Prot	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8
Total Split (s)	59.0	30.0	31.0	61.0
Total Split (%)	49.2%	25.0%	25.8%	50.8%
Yellow Time (s)	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min
Act Effct Green (s)	16.0	12.3	13.1	30.3
Actuated g/C Ratio	0.27	0.21	0.22	0.52
v/c Ratio	0.78	0.19	0.63	0.13
Control Delay	14.8	19.9	30.5	9.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.8	19.9	30.5	9.0
LOS	B	B	C	A
Approach Delay	14.8	19.9		23.3
Approach LOS	B	B		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 58.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 59.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: La Sierra Av. & El Sobrante Rd.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	59	455	96	24	219	112
Future Volume (veh/h)	59	455	96	24	219	112
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	284	109	16	249	127
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	83	350	662	95	312	908
Arrive On Green	0.27	0.27	0.21	0.21	0.18	0.49
Sat Flow, veh/h	308	1307	3211	449	1781	1870
Grp Volume(v), veh/h	352	0	61	64	249	127
Grp Sat Flow(s),veh/h/ln	1620	0	1777	1790	1781	1870
Q Serve(g_s), s	9.6	0.0	1.3	1.4	6.3	1.8
Cycle Q Clear(g_c), s	9.6	0.0	1.3	1.4	6.3	1.8
Prop In Lane	0.19	0.81		0.25	1.00	
Lane Grp Cap(c), veh/h	434	0	377	380	312	908
V/C Ratio(X)	0.81	0.00	0.16	0.17	0.80	0.14
Avail Cap(c_a), veh/h	1830	0	913	920	999	2193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	0.0	15.1	15.1	18.6	6.7
Incr Delay (d2), s/veh	3.7	0.0	0.2	0.2	1.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.4	0.4	2.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.8	0.0	15.3	15.3	20.4	6.8
LnGrp LOS	B	A	B	B	C	A
Approach Vol, veh/h	352		125			376
Approach Delay, s/veh	19.8		15.3			15.8
Approach LOS	B		B			B

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.9	15.8			28.7	18.4
Change Period (Y+Rc), s	4.6	5.8			5.8	5.8
Max Green Setting (Gmax), s	26.4	24.2			55.2	53.2
Max Q Clear Time (g_c+I1), s	8.3	3.4			3.8	11.6
Green Ext Time (p_c), s	0.3	0.5			0.6	1.2

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

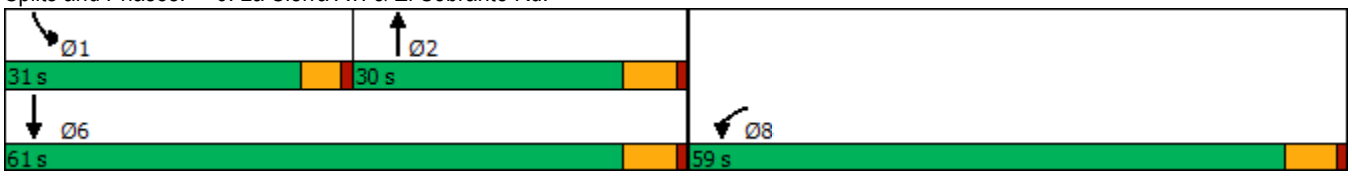
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	35	201	649	469
Future Volume (vph)	35	201	649	469
Turn Type	Prot	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8
Total Split (s)	59.0	30.0	31.0	61.0
Total Split (%)	49.2%	25.0%	25.8%	50.8%
Yellow Time (s)	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min
Act Effct Green (s)	12.1	12.4	26.8	43.8
Actuated g/C Ratio	0.18	0.18	0.40	0.65
v/c Ratio	0.66	0.46	1.05	0.44
Control Delay	11.1	24.7	73.0	7.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	11.1	24.7	73.0	7.8
LOS	B	C	E	A
Approach Delay	11.1	24.7		45.7
Approach LOS	B	C		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 67.7	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 35.9	Intersection LOS: D
Intersection Capacity Utilization 77.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: La Sierra Av. & El Sobrante Rd.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	291	201	62	649	469
Future Volume (veh/h)	35	291	201	62	649	469
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	98	228	59	738	533
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	69	170	455	115	762	1243
Arrive On Green	0.15	0.15	0.16	0.16	0.43	0.66
Sat Flow, veh/h	472	1155	2902	711	1781	1870
Grp Volume(v), veh/h	139	0	142	145	738	533
Grp Sat Flow(s),veh/h/ln	1639	0	1777	1742	1781	1870
Q Serve(g_s), s	4.9	0.0	4.5	4.7	25.0	8.2
Cycle Q Clear(g_c), s	4.9	0.0	4.5	4.7	25.0	8.2
Prop In Lane	0.29	0.71		0.41	1.00	
Lane Grp Cap(c), veh/h	241	0	288	283	762	1243
V/C Ratio(X)	0.58	0.00	0.49	0.51	0.97	0.43
Avail Cap(c_a), veh/h	1414	0	697	684	762	1674
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	0.0	23.5	23.6	17.2	4.8
Incr Delay (d2), s/veh	2.2	0.0	1.3	1.4	24.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.7	1.7	12.5	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.7	0.0	24.8	25.0	41.9	5.1
LnGrp LOS	C	A	C	C	D	A
Approach Vol, veh/h	139		287			1271
Approach Delay, s/veh	26.7		24.9			26.5
Approach LOS	C		C			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	31.0	15.8			46.8	14.9
Change Period (Y+Rc), s	4.6	5.8			5.8	5.8
Max Green Setting (Gmax), s	26.4	24.2			55.2	53.2
Max Q Clear Time (g_c+I1), s	27.0	6.7			10.2	6.9
Green Ext Time (p_c), s	0.0	1.2			3.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

APPENDIX 5.1: EAP (2028) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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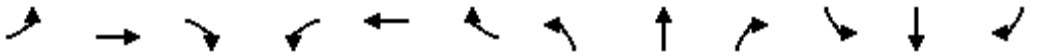
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	266	1	489	611	1443	1077	138
Future Volume (vph)	266	1	489	611	1443	1077	138
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	9.0	26.5	29.5	29.5
Total Split (s)	32.0	32.0	32.0	29.0	68.0	39.0	39.0
Total Split (%)	32.0%	32.0%	32.0%	29.0%	68.0%	39.0%	39.0%
Yellow Time (s)	4.0	4.0	4.0	3.0	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)	5.0	5.0	5.0	4.0	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	22.2	22.2	22.2	23.0	67.3	40.3	40.3
Actuated g/C Ratio	0.22	0.22	0.22	0.23	0.67	0.40	0.40
v/c Ratio	0.76	0.82	0.74	0.87	0.47	0.59	0.21
Control Delay	49.8	51.5	38.6	43.9	15.3	26.2	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Total Delay	49.8	51.5	38.6	43.9	15.9	26.2	7.4
LOS	D	D	D	D	B	C	A
Approach Delay		46.5			24.2	24.2	
Approach LOS		D			C	C	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 28.4	Intersection LOS: C
Intersection Capacity Utilization 69.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: La Sierra Av. & SR-91 WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	266	1	489	611	1443	0	0	1077	138
Future Volume (veh/h)	0	0	0	266	1	489	611	1443	0	0	1077	138
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		0.98
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				1781	1900	1885	1856	1870	0	0	1856	1885
Adj Flow Rate, veh/h				406	0	217	679	1603	0	0	1197	106
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.94
Percent Heavy Veh, %				8	0	1	3	2	0	0	3	1
Cap, veh/h				560	0	263	735	3727	0	0	2410	748
Arrive On Green				0.17	0.00	0.17	0.43	1.00	0.00	0.00	0.48	0.48
Sat Flow, veh/h				3393	0	1595	3428	5274	0	0	5233	1572
Grp Volume(v), veh/h				406	0	217	679	1603	0	0	1197	106
Grp Sat Flow(s),veh/h/ln				1697	0	1595	1714	1702	0	0	1689	1572
Q Serve(g_s), s				11.3	0.0	13.2	18.7	0.0	0.0	0.0	16.2	3.8
Cycle Q Clear(g_c), s				11.3	0.0	13.2	18.7	0.0	0.0	0.0	16.2	3.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				560	0	263	735	3727	0	0	2410	748
V/C Ratio(X)				0.73	0.00	0.82	0.92	0.43	0.00	0.00	0.50	0.14
Avail Cap(c_a), veh/h				916	0	431	857	3727	0	0	2410	748
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.60	0.60	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				39.6	0.0	40.4	27.8	0.0	0.0	0.0	18.0	14.7
Incr Delay (d2), s/veh				1.3	0.0	5.0	8.8	0.2	0.0	0.0	0.7	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.6	0.0	5.3	6.2	0.1	0.0	0.0	5.9	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				40.9	0.0	45.4	36.6	0.2	0.0	0.0	18.7	15.1
LnGrp LOS				D	A	D	D	A	A	A	B	B
Approach Vol, veh/h					623			2282			1303	
Approach Delay, s/veh					42.5			11.1			18.4	
Approach LOS					D			B			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	78.5		25.4	53.1		21.5						
Change Period (Y+Rc), s	5.5		4.0	5.5		5.0						
Max Green Setting (Gmax), s	62.5		25.0	33.5		27.0						
Max Q Clear Time (g_c+I1), s	2.0		20.7	18.2		15.2						
Green Ext Time (p_c), s	16.9		0.7	7.2		1.4						

Intersection Summary		
HCM 6th Ctrl Delay	18.0	
HCM 6th LOS	B	

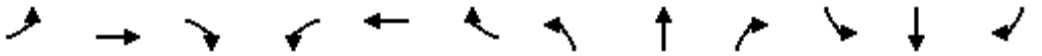
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	412	10	369	1659	439	364	962
Future Volume (vph)	412	10	369	1659	439	364	962
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4	4		2		1	6
Permitted Phases			4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	29.5	29.5	9.0	26.5
Total Split (s)	31.0	31.0	31.0	51.0	51.0	18.0	69.0
Total Split (%)	31.0%	31.0%	31.0%	51.0%	51.0%	18.0%	69.0%
Yellow Time (s)	4.0	4.0	4.0	4.5	4.5	3.0	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)	5.0	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	22.1	22.1	22.1	49.1	49.1	14.3	67.4
Actuated g/C Ratio	0.22	0.22	0.22	0.49	0.49	0.14	0.67
v/c Ratio	0.80	0.80	0.66	0.72	0.47	0.81	0.31
Control Delay	52.6	47.9	26.6	23.0	3.3	60.3	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	47.9	26.6	23.0	3.3	60.3	1.8
LOS	D	D	C	C	A	E	A
Approach Delay		42.8		18.9			17.8
Approach LOS		D		B			B

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 28 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 23.0	Intersection LOS: C
Intersection Capacity Utilization 69.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: La Sierra Av. & SR-91 EB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	412	10	369	0	0	0	0	1659	439	364	962	0
Future Volume (veh/h)	412	10	369	0	0	0	0	1659	439	364	962	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1811				0	1870	1870	1870	1826	0
Adj Flow Rate, veh/h	507	0	121				0	1803	317	396	1046	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	6				0	2	2	2	5	0
Cap, veh/h	608	0	262				0	2811	859	463	3611	0
Arrive On Green	0.17	0.00	0.17				0.00	0.55	0.55	0.09	0.49	0.00
Sat Flow, veh/h	3563	0	1535				0	5274	1561	3456	5149	0
Grp Volume(v), veh/h	507	0	121				0	1803	317	396	1046	0
Grp Sat Flow(s),veh/h/ln	1781	0	1535				0	1702	1561	1728	1662	0
Q Serve(g_s), s	13.8	0.0	7.1				0.0	24.5	11.5	11.3	12.6	0.0
Cycle Q Clear(g_c), s	13.8	0.0	7.1				0.0	24.5	11.5	11.3	12.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	608	0	262				0	2811	859	463	3611	0
V/C Ratio(X)	0.83	0.00	0.46				0.00	0.64	0.37	0.86	0.29	0.00
Avail Cap(c_a), veh/h	926	0	399				0	2811	859	484	3611	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.52	0.52	0.75	0.75	0.00
Uniform Delay (d), s/veh	40.1	0.0	37.3				0.0	15.6	12.7	44.6	10.3	0.0
Incr Delay (d2), s/veh	3.4	0.0	0.9				0.0	0.6	0.6	10.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	2.6				0.0	8.4	3.7	5.5	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	0.0	38.3				0.0	16.2	13.3	54.9	10.5	0.0
LnGrp LOS	D	A	D				A	B	B	D	B	A
Approach Vol, veh/h		628						2120			1442	
Approach Delay, s/veh		42.5						15.8			22.7	
Approach LOS		D						B			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.4	60.5		22.1		77.9
Change Period (Y+Rc), s	4.0	5.5		5.0		5.5
Max Green Setting (Gmax), s	14.0	45.5		26.0		63.5
Max Q Clear Time (g_c+I1), s	13.3	26.5		15.8		14.6
Green Ext Time (p_c), s	0.1	13.0		1.3		8.4

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

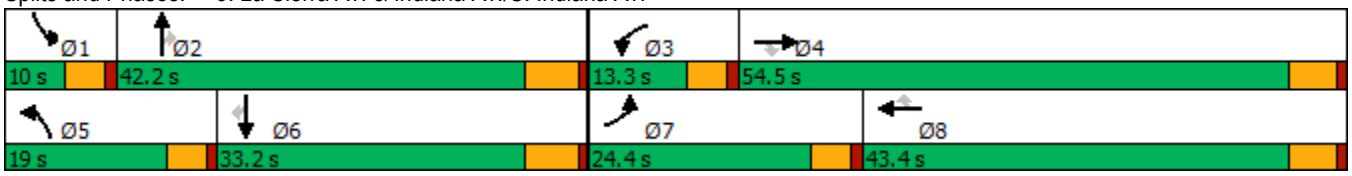
Notes

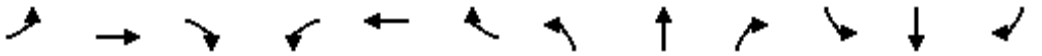
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	548	268	140	129	242	180	396	1385	88	129	911	237
Future Volume (vph)	548	268	140	129	242	180	396	1385	88	129	911	237
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.4	43.4	9.6	43.4	43.4	9.6	37.8	37.8	9.6	32.8	32.8
Total Split (s)	24.4	54.5	54.5	13.3	43.4	43.4	19.0	42.2	42.2	10.0	33.2	33.2
Total Split (%)	20.3%	45.4%	45.4%	11.1%	36.2%	36.2%	15.8%	35.2%	35.2%	8.3%	27.7%	27.7%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	5.4	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.0	28.6	28.6	7.8	16.3	16.3	14.5	36.7	36.7	5.5	27.7	27.7
Actuated g/C Ratio	0.20	0.29	0.29	0.08	0.16	0.16	0.15	0.37	0.37	0.06	0.28	0.28
v/c Ratio	0.86	0.29	0.27	0.52	0.45	0.47	0.85	0.80	0.14	0.74	0.70	0.42
Control Delay	53.1	27.6	5.2	52.9	38.8	8.9	59.6	33.0	1.6	71.6	36.3	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	27.6	5.2	52.9	38.8	8.9	59.6	33.0	1.6	71.6	36.3	6.6
LOS	D	C	A	D	D	A	E	C	A	E	D	A
Approach Delay		39.0			32.3			37.2			34.4	
Approach LOS		D			C			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 99.1	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 36.2	Intersection LOS: D
Intersection Capacity Utilization 78.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: La Sierra Av. & Indiana Av./S. Indiana Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	548	268	140	129	242	180	396	1385	88	129	911	237
Future Volume (veh/h)	548	268	140	129	242	180	396	1385	88	129	911	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	596	291	75	140	263	106	430	1505	54	140	990	116
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	670	1034	460	208	560	242	500	1884	583	202	1445	440
Arrive On Green	0.19	0.29	0.29	0.06	0.16	0.16	0.14	0.37	0.37	0.06	0.28	0.28
Sat Flow, veh/h	3456	3554	1580	3456	3554	1534	3456	5106	1580	3456	5106	1554
Grp Volume(v), veh/h	596	291	75	140	263	106	430	1505	54	140	990	116
Grp Sat Flow(s),veh/h/ln	1728	1777	1580	1728	1777	1534	1728	1702	1580	1728	1702	1554
Q Serve(g_s), s	15.5	5.8	3.3	3.7	6.2	5.8	11.2	24.3	2.1	3.7	15.9	5.3
Cycle Q Clear(g_c), s	15.5	5.8	3.3	3.7	6.2	5.8	11.2	24.3	2.1	3.7	15.9	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	670	1034	460	208	560	242	500	1884	583	202	1445	440
V/C Ratio(X)	0.89	0.28	0.16	0.67	0.47	0.44	0.86	0.80	0.09	0.69	0.69	0.26
Avail Cap(c_a), veh/h	742	1891	841	326	1464	632	539	2015	623	202	1517	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	25.3	24.3	42.5	35.4	35.2	38.5	26.0	19.0	42.6	29.4	25.6
Incr Delay (d2), s/veh	11.3	0.1	0.2	1.4	0.6	1.3	11.7	2.4	0.1	8.2	1.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	2.4	1.2	1.6	2.6	2.2	5.3	9.4	0.7	1.7	6.2	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	25.4	24.5	43.9	36.0	36.4	50.2	28.4	19.1	50.8	30.8	26.1
LnGrp LOS	D	C	C	D	D	D	D	C	B	D	C	C
Approach Vol, veh/h		962			509			1989			1246	
Approach Delay, s/veh		39.1			38.2			32.9			32.6	
Approach LOS		D			D			C			C	

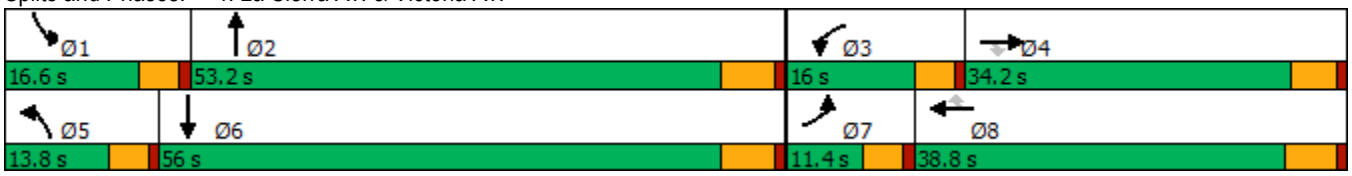
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	39.8	10.2	32.2	17.9	31.9	22.5	19.9
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4
Max Green Setting (Gmax), s	5.4	36.4	8.7	49.1	14.4	27.4	19.8	38.0
Max Q Clear Time (g_c+I1), s	5.7	26.3	5.7	7.8	13.2	17.9	17.5	8.2
Green Ext Time (p_c), s	0.0	7.7	0.1	2.1	0.1	5.6	0.4	2.0

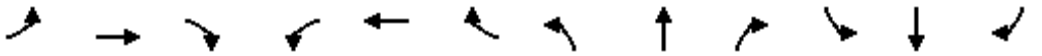
Intersection Summary	
HCM 6th Ctrl Delay	34.7
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	82	64	50	111	93	205	53	1074	120	492
Future Volume (vph)	82	64	50	111	93	205	53	1074	120	492
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.1	34.1	9.6	33.8	33.8	9.6	35.8	9.6	33.8
Total Split (s)	11.4	34.2	34.2	16.0	38.8	38.8	13.8	53.2	16.6	56.0
Total Split (%)	9.5%	28.5%	28.5%	13.3%	32.3%	32.3%	11.5%	44.3%	13.8%	46.7%
Yellow Time (s)	3.6	4.1	4.1	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	5.1	5.1	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.4	13.4	13.4	11.2	16.2	16.2	7.4	48.1	10.8	53.9
Actuated g/C Ratio	0.06	0.13	0.13	0.11	0.16	0.16	0.07	0.48	0.11	0.54
v/c Ratio	0.41	0.28	0.18	0.62	0.34	0.55	0.45	0.84	0.69	0.31
Control Delay	54.5	43.1	1.3	60.0	40.7	14.4	59.0	30.3	65.1	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	43.1	1.3	60.0	40.7	14.4	59.0	30.3	65.1	16.1
LOS	D	D	A	E	D	B	E	C	E	B
Approach Delay		37.2			32.8			31.4		25.1
Approach LOS		D			C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.2	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 30.5	Intersection LOS: C
Intersection Capacity Utilization 70.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: La Sierra Av. & Victoria Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	64	50	111	93	205	53	1074	198	120	492	43
Future Volume (veh/h)	82	64	50	111	93	205	53	1074	198	120	492	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	90	70	22	122	102	112	58	1180	195	132	541	37
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	232	193	153	299	248	76	1430	235	164	1747	119
Arrive On Green	0.05	0.12	0.12	0.09	0.16	0.16	0.04	0.47	0.47	0.09	0.52	0.52
Sat Flow, veh/h	3456	1870	1557	1781	1870	1550	1781	3054	502	1781	3375	230
Grp Volume(v), veh/h	90	70	22	122	102	112	58	684	691	132	284	294
Grp Sat Flow(s),veh/h/ln	1728	1870	1557	1781	1870	1550	1781	1777	1779	1781	1777	1829
Q Serve(g_s), s	2.3	3.1	1.1	6.1	4.4	5.9	2.9	30.0	30.5	6.6	8.3	8.3
Cycle Q Clear(g_c), s	2.3	3.1	1.1	6.1	4.4	5.9	2.9	30.0	30.5	6.6	8.3	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		0.13
Lane Grp Cap(c), veh/h	171	232	193	153	299	248	76	832	833	164	920	947
V/C Ratio(X)	0.53	0.30	0.11	0.80	0.34	0.45	0.77	0.82	0.83	0.81	0.31	0.31
Avail Cap(c_a), veh/h	260	603	502	225	684	567	182	933	935	237	988	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	36.0	35.1	40.5	33.7	34.3	42.8	20.8	20.9	40.2	12.5	12.5
Incr Delay (d2), s/veh	0.9	0.7	0.3	6.9	0.7	1.3	5.9	5.9	6.2	7.8	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	1.0	1.4	0.4	2.8	1.9	2.2	1.3	12.2	12.5	3.1	3.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	36.7	35.4	47.4	34.4	35.6	48.7	26.6	27.1	48.0	12.8	12.8
LnGrp LOS	D	D	D	D	C	D	D	C	C	D	B	B
Approach Vol, veh/h		182			336			1433			710	
Approach Delay, s/veh		39.5			39.5			27.7			19.3	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	48.0	12.3	17.0	8.4	52.5	9.1	20.2
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	12.0	47.4	11.4	* 29	9.2	50.2	6.8	33.0
Max Q Clear Time (g_c+I1), s	8.6	32.5	8.1	5.1	4.9	10.3	4.3	7.9
Green Ext Time (p_c), s	0.0	9.8	0.0	0.4	0.0	5.2	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	27.8
HCM 6th LOS	C

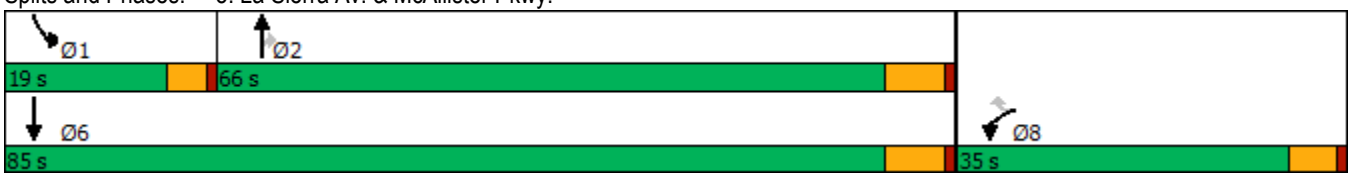
Notes

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

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	227	1161	24	93	544
Future Volume (vph)	25	227	1161	24	93	544
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	33.4	33.4	27.5	27.5	9.6	16.5
Total Split (s)	35.0	35.0	66.0	66.0	19.0	85.0
Total Split (%)	29.2%	29.2%	55.0%	55.0%	15.8%	70.8%
Yellow Time (s)	4.4	4.4	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	13.3	13.3	41.3	41.3	9.9	52.8
Actuated g/C Ratio	0.17	0.17	0.52	0.52	0.13	0.67
v/c Ratio	0.09	0.56	0.71	0.03	0.48	0.26
Control Delay	33.8	11.7	18.3	6.5	45.9	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	11.7	18.3	6.5	45.9	5.6
LOS	C	B	B	A	D	A
Approach Delay	13.8		18.1			11.5
Approach LOS	B		B			B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 79.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 15.5	Intersection LOS: B
Intersection Capacity Utilization 59.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: La Sierra Av. & McAllister Pkwy.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	227	1161	24	93	544
Future Volume (veh/h)	25	227	1161	24	93	544
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	76	1319	24	106	618
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	229	203	1943	867	137	2462
Arrive On Green	0.13	0.13	0.55	0.55	0.08	0.69
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	28	76	1319	24	106	618
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	0.9	2.9	17.8	0.5	3.9	4.3
Cycle Q Clear(g_c), s	0.9	2.9	17.8	0.5	3.9	4.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	229	203	1943	867	137	2462
V/C Ratio(X)	0.12	0.37	0.68	0.03	0.77	0.25
Avail Cap(c_a), veh/h	793	705	3178	1418	386	4193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	26.5	10.9	6.9	30.1	3.8
Incr Delay (d2), s/veh	0.2	1.1	0.6	0.0	3.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	4.7	0.1	1.6	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.9	27.7	11.5	7.0	33.6	3.9
LnGrp LOS	C	C	B	A	C	A
Approach Vol, veh/h	104		1343			724
Approach Delay, s/veh	27.2		11.4			8.2
Approach LOS	C		B			A

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.7	42.9			52.6	13.9
Change Period (Y+Rc), s	4.6	6.5			6.5	5.4
Max Green Setting (Gmax), s	14.4	59.5			78.5	29.6
Max Q Clear Time (g_c+I1), s	5.9	19.8			6.3	4.9
Green Ext Time (p_c), s	0.1	16.6			6.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	40.4
Intersection LOS	E

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	553	106	29	260	124
Future Vol, veh/h	73	553	106	29	260	124
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	628	120	33	295	141
Number of Lanes	1	0	2	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	60.4	11.4	17.9
HCM LOS	F	B	C

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	12%	100%	0%
Vol Thru, %	100%	55%	0%	0%	100%
Vol Right, %	0%	45%	88%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	64	626	260	124
LT Vol	0	0	73	260	0
Through Vol	71	35	0	0	124
RT Vol	0	29	553	0	0
Lane Flow Rate	80	73	711	295	141
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0.163	0.144	1.015	0.597	0.269
Departure Headway (Hd)	7.503	7.088	5.135	7.447	6.861
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	481	503	704	487	521
Service Time	5.203	4.877	3.187	5.147	4.634
HCM Lane V/C Ratio	0.166	0.145	1.01	0.606	0.271
HCM Control Delay	11.7	11.1	60.4	20.6	12.2
HCM Lane LOS	B	B	F	C	B
HCM 95th-tile Q	0.6	0.5	16.9	3.8	1.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	247	557	62	38	38
Future Vol, veh/h	28	247	557	62	38	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	294	663	74	45	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	737	0	-	0	1060	369
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	360	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	867	-	-	-	233	629
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	867	-	-	-	224	629
Mov Cap-2 Maneuver	-	-	-	-	340	-
Stage 1	-	-	-	-	438	-
Stage 2	-	-	-	-	705	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	867	-	-	-	441
HCM Lane V/C Ratio	0.038	-	-	-	0.205
HCM Control Delay (s)	9.3	-	-	-	15.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	259	545	4	10	74
Future Vol, veh/h	26	259	545	4	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	282	592	4	11	80

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	596	0	-	0	932	594
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	338	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	980	-	-	-	296	505
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	722	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	980	-	-	-	287	505
Mov Cap-2 Maneuver	-	-	-	-	407	-
Stage 1	-	-	-	-	536	-
Stage 2	-	-	-	-	722	-

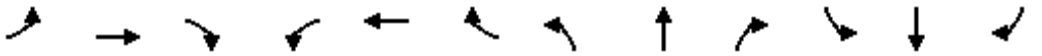
Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	14
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	980	-	-	-	491
HCM Lane V/C Ratio	0.029	-	-	-	0.186
HCM Control Delay (s)	8.8	-	-	-	14
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	563	4	526	445	898	1395	251
Future Volume (vph)	563	4	526	445	898	1395	251
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	9.0	26.5	29.5	29.5
Total Split (s)	38.0	38.0	38.0	21.0	62.0	41.0	41.0
Total Split (%)	38.0%	38.0%	38.0%	21.0%	62.0%	41.0%	41.0%
Yellow Time (s)	4.0	4.0	4.0	3.0	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)	5.0	5.0	5.0	4.0	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	29.7	29.7	29.7	16.4	59.8	39.4	39.4
Actuated g/C Ratio	0.30	0.30	0.30	0.16	0.60	0.39	0.39
v/c Ratio	0.85	0.82	0.70	0.85	0.31	0.75	0.37
Control Delay	50.5	42.6	27.9	41.8	22.9	29.9	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	42.6	27.9	41.8	22.9	29.9	9.6
LOS	D	D	C	D	C	C	A
Approach Delay		40.6			29.2	26.8	
Approach LOS		D			C	C	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 31.3	Intersection LOS: C
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: La Sierra Av. & SR-91 WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	563	4	526	445	898	0	0	1395	251
Future Volume (veh/h)	0	0	0	563	4	526	445	898	0	0	1395	251
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		0.98
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				1781	1900	1885	1856	1870	0	0	1856	1885
Adj Flow Rate, veh/h				689	0	192	473	955	0	0	1484	227
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				8	0	1	3	2	0	0	3	1
Cap, veh/h				798	0	376	528	3370	0	0	2360	731
Arrive On Green				0.24	0.00	0.24	0.31	1.00	0.00	0.00	0.47	0.47
Sat Flow, veh/h				3393	0	1598	3428	5274	0	0	5233	1570
Grp Volume(v), veh/h				689	0	192	473	955	0	0	1484	227
Grp Sat Flow(s),veh/h/ln				1697	0	1598	1714	1702	0	0	1689	1570
Q Serve(g_s), s				19.5	0.0	10.4	13.2	0.0	0.0	0.0	22.1	9.0
Cycle Q Clear(g_c), s				19.5	0.0	10.4	13.2	0.0	0.0	0.0	22.1	9.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				798	0	376	528	3370	0	0	2360	731
V/C Ratio(X)				0.86	0.00	0.51	0.90	0.28	0.00	0.00	0.63	0.31
Avail Cap(c_a), veh/h				1120	0	527	583	3370	0	0	2360	731
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.69	0.69	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.7	0.0	33.3	33.8	0.0	0.0	0.0	20.2	16.7
Incr Delay (d2), s/veh				4.7	0.0	0.8	10.7	0.1	0.0	0.0	1.3	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				8.2	0.0	3.9	5.1	0.0	0.0	0.0	8.2	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.4	0.0	34.1	44.6	0.1	0.0	0.0	21.5	17.8
LnGrp LOS				D	A	C	D	A	A	A	C	B
Approach Vol, veh/h					881			1428			1711	
Approach Delay, s/veh					39.8			14.9			21.0	
Approach LOS					D			B			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	71.5		19.4	52.1		28.5						
Change Period (Y+Rc), s	5.5		4.0	5.5		5.0						
Max Green Setting (Gmax), s	56.5		17.0	35.5		33.0						
Max Q Clear Time (g_c+I1), s	2.0		15.2	24.1		21.5						
Green Ext Time (p_c), s	7.5		0.2	7.5		2.0						

Intersection Summary		
HCM 6th Ctrl Delay	22.9	
HCM 6th LOS	C	

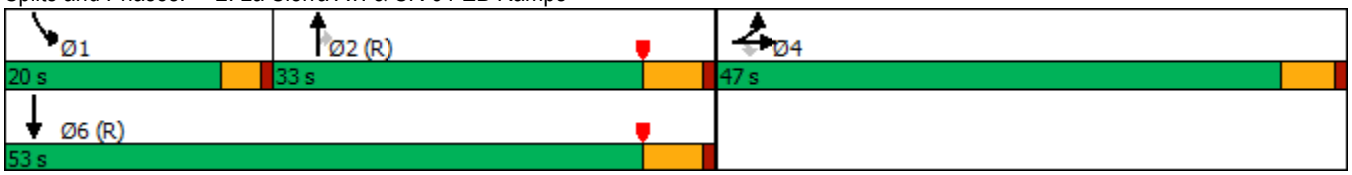
Notes

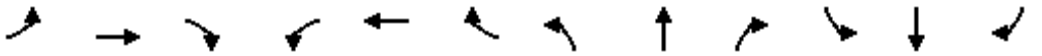
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	235	18	935	1097	348	424	1491
Future Volume (vph)	235	18	935	1097	348	424	1491
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4	4		2		1	6
Permitted Phases			4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	29.5	29.5	9.0	26.5
Total Split (s)	47.0	47.0	47.0	33.0	33.0	20.0	53.0
Total Split (%)	47.0%	47.0%	47.0%	33.0%	33.0%	20.0%	53.0%
Yellow Time (s)	4.0	4.0	4.0	4.5	4.5	3.0	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)	5.0	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	39.3	39.3	39.3	30.7	30.7	15.5	50.2
Actuated g/C Ratio	0.39	0.39	0.39	0.31	0.31	0.16	0.50
v/c Ratio	0.33	0.91	0.83	0.73	0.50	0.83	0.63
Control Delay	22.1	50.1	35.8	35.2	5.8	32.9	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	22.1	50.1	35.8	35.2	5.8	32.9	13.4
LOS	C	D	D	D	A	C	B
Approach Delay		39.3		28.1			17.7
Approach LOS		D		C			B

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 28 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 26.6	Intersection LOS: C
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: La Sierra Av. & SR-91 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	18	935	0	0	0	0	1097	348	424	1491	0
Future Volume (veh/h)	235	18	935	0	0	0	0	1097	348	424	1491	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1811				0	1870	1870	1870	1826	0
Adj Flow Rate, veh/h	170	0	824				0	1143	330	442	1553	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	6				0	2	2	2	5	0
Cap, veh/h	540	0	931				0	2056	629	515	2949	0
Arrive On Green	0.30	0.00	0.30				0.00	0.40	0.40	0.05	0.20	0.00
Sat Flow, veh/h	1781	0	3070				0	5274	1561	3456	5149	0
Grp Volume(v), veh/h	170	0	824				0	1143	330	442	1553	0
Grp Sat Flow(s),veh/h/ln	1781	0	1535				0	1702	1561	1728	1662	0
Q Serve(g_s), s	7.3	0.0	25.6				0.0	17.2	16.0	12.7	27.9	0.0
Cycle Q Clear(g_c), s	7.3	0.0	25.6				0.0	17.2	16.0	12.7	27.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	540	0	931				0	2056	629	515	2949	0
V/C Ratio(X)	0.31	0.00	0.88				0.00	0.56	0.52	0.86	0.53	0.00
Avail Cap(c_a), veh/h	748	0	1289				0	2056	629	553	2949	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.80	0.80	0.55	0.55	0.00
Uniform Delay (d), s/veh	26.8	0.0	33.2				0.0	23.0	22.6	46.5	27.7	0.0
Incr Delay (d2), s/veh	0.2	0.0	5.3				0.0	0.9	2.5	7.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	9.6				0.0	6.6	5.9	6.3	12.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	0.0	38.5				0.0	23.9	25.1	53.5	28.0	0.0
LnGrp LOS	C	A	D				A	C	C	D	C	A
Approach Vol, veh/h		994						1473			1995	
Approach Delay, s/veh		36.5						24.1			33.7	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	18.9	45.8		35.3		64.7						
Change Period (Y+Rc), s	4.0	5.5		5.0		5.5						
Max Green Setting (Gmax), s	16.0	27.5		42.0		47.5						
Max Q Clear Time (g_c+I1), s	14.7	19.2		27.6		29.9						
Green Ext Time (p_c), s	0.2	5.0		2.8		9.8						

Intersection Summary			
HCM 6th Ctrl Delay			31.2
HCM 6th LOS			C

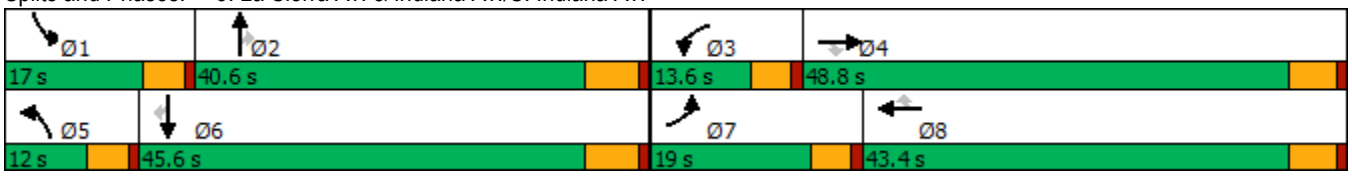
Notes

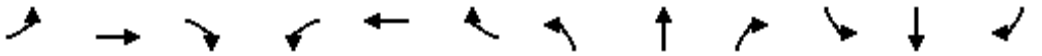
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	405	299	226	147	236	185	184	830	64	289	1696	321
Future Volume (vph)	405	299	226	147	236	185	184	830	64	289	1696	321
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.4	43.4	9.6	43.4	43.4	9.6	37.8	37.8	9.6	32.8	32.8
Total Split (s)	19.0	48.8	48.8	13.6	43.4	43.4	12.0	40.6	40.6	17.0	45.6	45.6
Total Split (%)	15.8%	40.7%	40.7%	11.3%	36.2%	36.2%	10.0%	33.8%	33.8%	14.2%	38.0%	38.0%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	5.4	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.6	22.3	22.3	8.1	15.8	15.8	7.5	35.9	35.9	11.8	40.2	40.2
Actuated g/C Ratio	0.15	0.23	0.23	0.08	0.16	0.16	0.08	0.36	0.36	0.12	0.41	0.41
v/c Ratio	0.83	0.39	0.48	0.55	0.43	0.47	0.74	0.47	0.10	0.73	0.85	0.40
Control Delay	57.4	33.2	13.2	52.8	38.7	8.6	63.8	26.6	0.3	54.4	32.7	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	33.2	13.2	52.8	38.7	8.6	63.8	26.6	0.3	54.4	32.7	4.3
LOS	E	C	B	D	D	A	E	C	A	D	C	A
Approach Delay		38.9			32.5			31.4			31.5	
Approach LOS		D			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 98.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 33.0	Intersection LOS: C
Intersection Capacity Utilization 76.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: La Sierra Av. & Indiana Av./S. Indiana Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	299	226	147	236	185	184	830	64	289	1696	321
Future Volume (veh/h)	405	299	226	147	236	185	184	830	64	289	1696	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	422	311	169	153	246	74	192	865	38	301	1767	251
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	497	707	315	225	428	190	264	2028	629	378	2196	682
Arrive On Green	0.14	0.20	0.20	0.07	0.12	0.12	0.08	0.40	0.40	0.11	0.43	0.43
Sat Flow, veh/h	3456	3554	1585	3456	3554	1577	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	422	311	169	153	246	74	192	865	38	301	1767	251
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1577	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.6	6.8	8.5	3.9	5.8	3.9	4.8	10.9	1.3	7.6	26.8	9.5
Cycle Q Clear(g_c), s	10.6	6.8	8.5	3.9	5.8	3.9	4.8	10.9	1.3	7.6	26.8	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	497	707	315	225	428	190	264	2028	629	378	2196	682
V/C Ratio(X)	0.85	0.44	0.54	0.68	0.58	0.39	0.73	0.43	0.06	0.80	0.80	0.37
Avail Cap(c_a), veh/h	560	1735	774	350	1519	674	288	2028	629	482	2286	710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	31.3	31.9	40.7	37.0	36.1	40.1	19.5	16.6	38.6	22.1	17.2
Incr Delay (d2), s/veh	9.8	0.4	1.4	1.4	1.2	1.3	6.7	0.2	0.1	5.4	2.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	2.8	3.2	1.6	2.5	1.5	2.2	4.0	0.5	3.3	9.9	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	31.7	33.3	42.0	38.2	37.4	46.8	19.7	16.6	44.1	24.3	17.6
LnGrp LOS	D	C	C	D	D	D	D	B	B	D	C	B
Approach Vol, veh/h		902			473			1095			2319	
Approach Delay, s/veh		39.1			39.3			24.3			26.2	
Approach LOS		D			D			C			C	

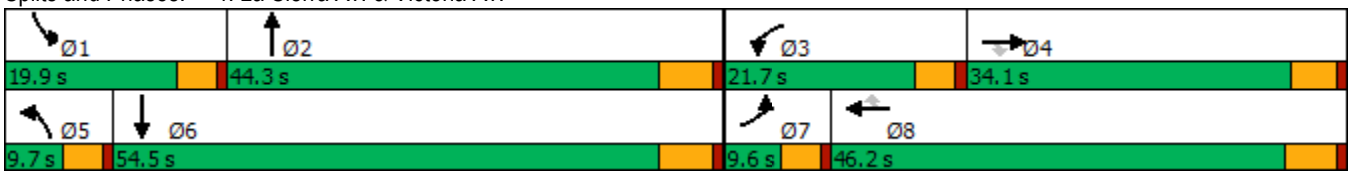
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	41.1	10.4	23.1	11.4	44.0	17.4	16.1
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4
Max Green Setting (Gmax), s	12.4	34.8	9.0	43.4	7.4	39.8	14.4	38.0
Max Q Clear Time (g_c+I1), s	9.6	12.9	5.9	10.5	6.8	28.8	12.6	7.8
Green Ext Time (p_c), s	0.2	7.9	0.1	2.5	0.0	9.4	0.2	1.7

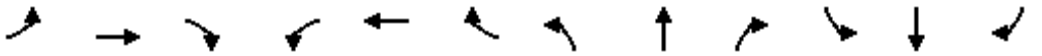
Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	50	103	139	263	78	137	30	765	176	1570
Future Volume (vph)	50	103	139	263	78	137	30	765	176	1570
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.1	34.1	9.6	33.8	33.8	9.6	35.8	9.6	33.8
Total Split (s)	9.6	34.1	34.1	21.7	46.2	46.2	9.7	44.3	19.9	54.5
Total Split (%)	8.0%	28.4%	28.4%	18.1%	38.5%	38.5%	8.1%	36.9%	16.6%	45.4%
Yellow Time (s)	3.6	4.1	4.1	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	5.1	5.1	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	5.0	14.1	14.1	17.3	27.8	27.8	5.1	36.2	13.9	49.3
Actuated g/C Ratio	0.05	0.14	0.14	0.17	0.27	0.27	0.05	0.36	0.14	0.48
v/c Ratio	0.31	0.42	0.38	0.92	0.16	0.27	0.36	0.76	0.77	1.00
Control Delay	55.3	45.3	4.8	79.8	30.8	5.6	62.4	34.2	65.1	48.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.3	45.3	4.8	79.8	30.8	5.6	62.4	34.2	65.1	48.9
LOS	E	D	A	E	C	A	E	C	E	D
Approach Delay		27.7			50.6			35.2		50.5
Approach LOS		C			D			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 44.5	Intersection LOS: D
Intersection Capacity Utilization 83.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: La Sierra Av. & Victoria Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	103	139	263	78	137	30	765	133	176	1570	46
Future Volume (veh/h)	50	103	139	263	78	137	30	765	133	176	1570	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	108	94	277	82	61	32	805	111	185	1653	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	188	157	307	438	366	53	1241	171	217	1736	38
Arrive On Green	0.04	0.10	0.10	0.17	0.23	0.23	0.03	0.40	0.40	0.12	0.49	0.49
Sat Flow, veh/h	3456	1870	1556	1781	1870	1565	1781	3137	433	1781	3556	77
Grp Volume(v), veh/h	53	108	94	277	82	61	32	456	460	185	824	865
Grp Sat Flow(s),veh/h/ln	1728	1870	1556	1781	1870	1565	1781	1777	1793	1781	1777	1856
Q Serve(g_s), s	1.5	5.5	5.7	15.1	3.5	3.1	1.8	20.7	20.7	10.1	44.0	44.3
Cycle Q Clear(g_c), s	1.5	5.5	5.7	15.1	3.5	3.1	1.8	20.7	20.7	10.1	44.0	44.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		0.04
Lane Grp Cap(c), veh/h	134	188	157	307	438	366	53	703	709	217	867	906
V/C Ratio(X)	0.40	0.57	0.60	0.90	0.19	0.17	0.61	0.65	0.65	0.85	0.95	0.95
Avail Cap(c_a), veh/h	174	546	454	307	761	637	91	703	709	274	871	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	42.6	42.7	40.3	30.4	30.3	47.6	24.4	24.4	42.7	24.3	24.4
Incr Delay (d2), s/veh	0.7	2.7	3.7	27.5	0.2	0.2	4.2	2.4	2.4	15.5	19.6	19.7
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	0.6	2.6	2.3	8.7	1.5	1.1	0.8	8.5	8.6	5.2	21.0	22.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	45.3	46.4	67.8	30.7	30.5	51.8	26.8	26.8	58.2	43.9	44.1
LnGrp LOS	D	D	D	E	C	C	D	C	C	E	D	D
Approach Vol, veh/h		255			420			948			1874	
Approach Delay, s/veh		46.1			55.1			27.6			45.4	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	45.1	21.7	15.8	7.5	54.3	8.4	29.1
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	15.3	38.5	17.1	* 29	5.1	48.7	5.0	40.4
Max Q Clear Time (g_c+I1), s	12.1	22.7	17.1	7.7	3.8	46.3	3.5	5.5
Green Ext Time (p_c), s	0.1	6.6	0.0	0.8	0.0	2.1	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Notes

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

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	19	171	770	12	256	1744
Future Volume (vph)	19	171	770	12	256	1744
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	33.4	33.4	27.5	27.5	9.6	16.5
Total Split (s)	35.0	35.0	50.0	50.0	35.0	85.0
Total Split (%)	29.2%	29.2%	41.7%	41.7%	29.2%	70.8%
Yellow Time (s)	4.4	4.4	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	13.0	13.0	30.2	30.2	18.0	53.1
Actuated g/C Ratio	0.16	0.16	0.38	0.38	0.23	0.67
v/c Ratio	0.07	0.43	0.59	0.02	0.65	0.75
Control Delay	32.8	9.3	22.5	10.2	37.8	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	9.3	22.5	10.2	37.8	11.3
LOS	C	A	C	B	D	B
Approach Delay	11.7		22.3			14.7
Approach LOS	B		C			B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 78.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 16.5	Intersection LOS: B
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: La Sierra Av. & McAllister Pkwy.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	19	171	770	12	256	1744
Future Volume (veh/h)	19	171	770	12	256	1744
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	34	794	12	264	1798
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	165	146	1775	792	312	2628
Arrive On Green	0.09	0.09	0.50	0.50	0.18	0.74
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	20	34	794	12	264	1798
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	0.7	1.4	10.2	0.3	10.2	18.9
Cycle Q Clear(g_c), s	0.7	1.4	10.2	0.3	10.2	18.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	165	146	1775	792	312	2628
V/C Ratio(X)	0.12	0.23	0.45	0.02	0.85	0.68
Avail Cap(c_a), veh/h	744	662	2183	973	765	3939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	29.8	11.4	8.9	28.3	4.9
Incr Delay (d2), s/veh	0.3	0.8	0.3	0.0	2.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.5	3.0	0.1	4.0	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.8	30.6	11.7	8.9	30.8	5.3
LnGrp LOS	C	C	B	A	C	A
Approach Vol, veh/h	54		806			2062
Approach Delay, s/veh	30.3		11.6			8.6
Approach LOS	C		B			A

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	17.0	41.9			58.9	11.9
Change Period (Y+Rc), s	4.6	6.5			6.5	5.4
Max Green Setting (Gmax), s	30.4	43.5			78.5	29.6
Max Q Clear Time (g_c+I1), s	12.2	12.2			20.9	3.4
Green Ext Time (p_c), s	0.3	7.7			31.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	145.5
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	356	222	77	776	518
Future Vol, veh/h	44	356	222	77	776	518
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	383	239	83	834	557
Number of Lanes	1	0	2	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	21.9	13.8	214.2
HCM LOS	C	B	F

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	11%	100%	0%
Vol Thru, %	100%	49%	0%	0%	100%
Vol Right, %	0%	51%	89%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	148	151	400	776	518
LT Vol	0	0	44	776	0
Through Vol	148	74	0	0	518
RT Vol	0	77	356	0	0
Lane Flow Rate	159	162	430	834	557
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0.325	0.316	0.702	1.635	1.012
Departure Headway (Hd)	7.807	7.439	6.011	7.056	6.544
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	463	487	606	526	557
Service Time	5.507	5.139	4.011	4.767	4.256
HCM Lane V/C Ratio	0.343	0.333	0.71	1.586	1
HCM Control Delay	14.2	13.5	21.9	312.7	66.7
HCM Lane LOS	B	B	C	F	F
HCM 95th-tile Q	1.4	1.3	5.6	47.1	14.9

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	811	368	22	32	32
Future Vol, veh/h	31	811	368	22	32	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	828	376	22	33	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	398	0	-	0	1279	199
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	892	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1159	-	-	-	170	809
Stage 1	-	-	-	-	657	-
Stage 2	-	-	-	-	399	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1159	-	-	-	165	809
Mov Cap-2 Maneuver	-	-	-	-	294	-
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	399	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1159	-	-	-	431
HCM Lane V/C Ratio	0.027	-	-	-	0.152
HCM Control Delay (s)	8.2	-	-	-	14.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	759	340	12	7	50
Future Vol, veh/h	85	759	340	12	7	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	825	370	13	8	54

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	383	0	-	0	1386	377
Stage 1	-	-	-	-	377	-
Stage 2	-	-	-	-	1009	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1175	-	-	-	158	670
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	352	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1175	-	-	-	146	670
Mov Cap-2 Maneuver	-	-	-	-	266	-
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	352	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1175	-	-	-	565
HCM Lane V/C Ratio	0.079	-	-	-	0.11
HCM Control Delay (s)	8.3	-	-	-	12.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.4

APPENDIX 5.2: EAP (2028) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

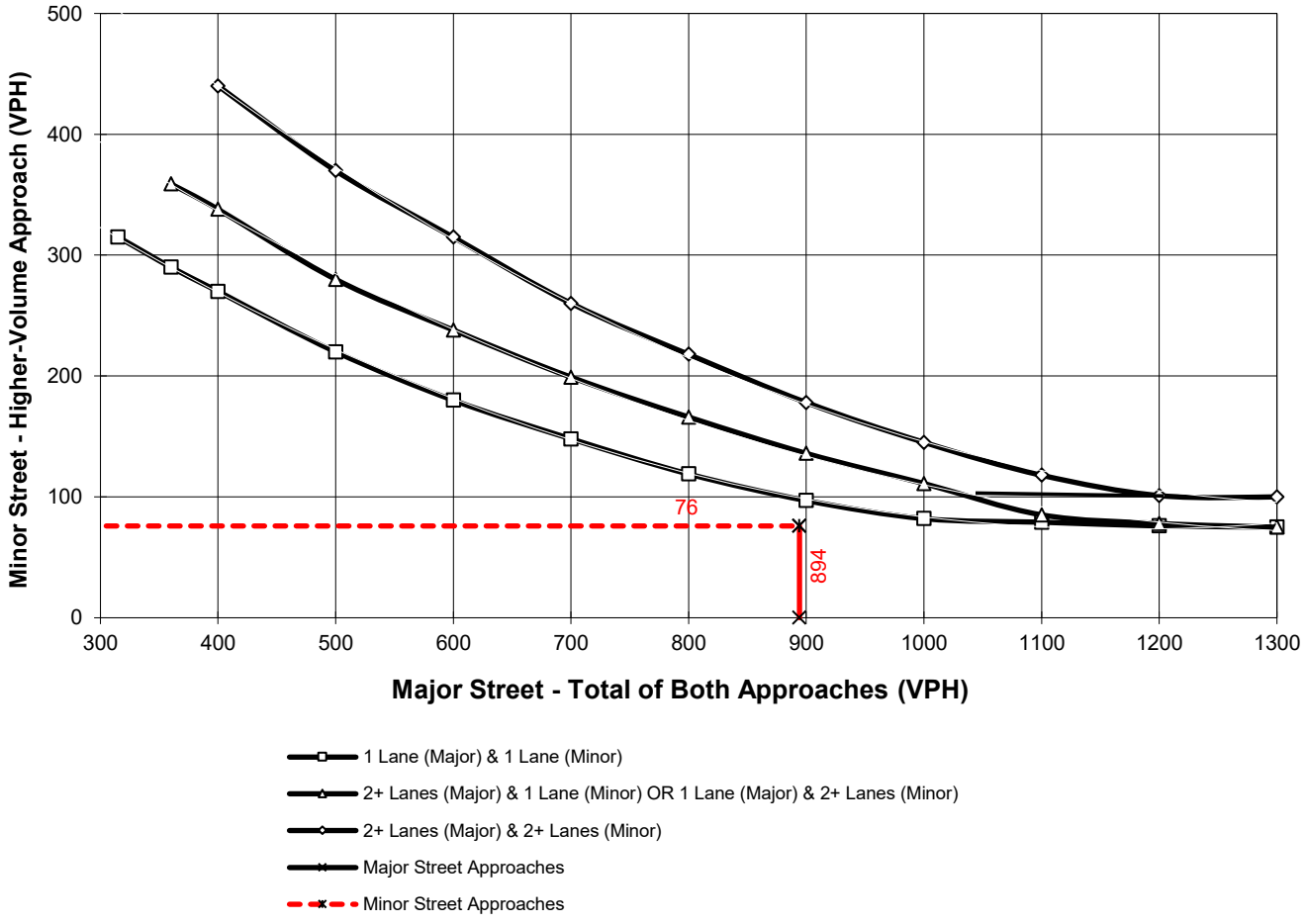
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2028) Conditions - Weekday AM Peak Hour**

Major Street Name = **El Sobrante Rd.** Total of Both Approaches (VPH) = **894**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **McAllister St.** 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-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS	EAP (2028)
				CALC CP	DATE 10/05/23
Jurisdiction: **County of Riverside**				CHK CP	DATE 10/05/23
Major Street: **El Sobrante Rd.**				Critical Approach Speed (Major)	45 mph
Minor Street: **Street A**				Critical Approach Speed (Minor)	25 mph

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

Major Street Future ADT = **12,633** vpd Minor Street Future ADT = **769** 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 ……..

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches)		Minimum Requirements EADT: Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	Urban	Rural	Urban	Rural
CONDITION A - Minimum Vehicular Volume				
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **12,633** / 1 **769**	8,000	5,600 *	2,400	1,680
2 + / 1	9,600	6,720	2,400	1,680
2 + / 2 +	9,600	6,720	3,200	2,240
1 / 2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic				
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **12,633** / 1 **769**	12,000	8,400 *	1,200	850
2 + / 1	14,400	10,080	1,200	850
2 + / 2 +	14,400	10,080	1,600	1,120
1 / 2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 46% B: 90%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

APPENDIX 5.3: EAP (2028) CONDITIONS QUEUING ANALYSIS WORKSHEETS

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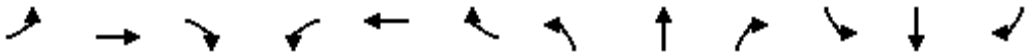
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	266	286	288	679	1603	1197	147
v/c Ratio	0.76	0.82	0.74	0.87	0.47	0.59	0.21
Control Delay	49.8	51.5	38.6	43.9	15.3	26.2	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Total Delay	49.8	51.5	38.6	43.9	15.9	26.2	7.4
Queue Length 50th (ft)	165	167	134	238	254	224	11
Queue Length 95th (ft)	248	263	224	290	316	293	55
Internal Link Dist (ft)		1180			412	935	
Turn Bay Length (ft)	500		500	155			140
Base Capacity (vph)	428	415	456	850	3423	2030	704
Starvation Cap Reductn	0	0	0	0	1290	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	0.69	0.63	0.80	0.75	0.59	0.21

Intersection Summary

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	296	291	273	1803	477	396	1046
v/c Ratio	0.80	0.80	0.66	0.72	0.47	0.81	0.31
Control Delay	52.6	47.9	26.6	23.0	3.3	60.3	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	47.9	26.6	23.0	3.3	60.3	1.8
Queue Length 50th (ft)	184	164	88	344	0	74	4
Queue Length 95th (ft)	276	264	176	406	55	#179	33
Internal Link Dist (ft)		1416		886			412
Turn Bay Length (ft)			450		415	155	
Base Capacity (vph)	437	423	466	2497	1006	501	3329
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	0.68	0.69	0.59	0.72	0.47	0.79	0.31

Intersection Summary

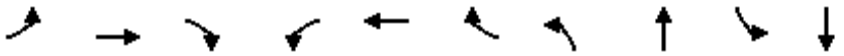
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	596	291	152	140	263	196	430	1505	96	140	990	258
v/c Ratio	0.86	0.29	0.27	0.52	0.45	0.47	0.85	0.80	0.14	0.74	0.70	0.42
Control Delay	53.1	27.6	5.2	52.9	38.8	8.9	59.6	33.0	1.6	71.6	36.3	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	27.6	5.2	52.9	38.8	8.9	59.6	33.0	1.6	71.6	36.3	6.6
Queue Length 50th (ft)	176	74	0	41	78	2	129	281	0	43	190	0
Queue Length 95th (ft)	#374	107	41	89	114	55	#290	#530	10	#120	326	68
Internal Link Dist (ft)		2549			2428			2703			886	
Turn Bay Length (ft)	205		205	205		130	200		305	355		535
Base Capacity (vph)	692	1770	856	304	1369	718	503	1885	669	188	1419	618
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.16	0.18	0.46	0.19	0.27	0.85	0.80	0.14	0.74	0.70	0.42

Intersection Summary

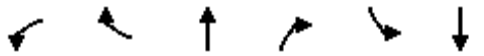
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	90	70	55	122	102	225	58	1398	132	588
v/c Ratio	0.41	0.28	0.18	0.62	0.34	0.55	0.45	0.84	0.69	0.31
Control Delay	54.5	43.1	1.3	60.0	40.7	14.4	59.0	30.3	65.1	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	43.1	1.3	60.0	40.7	14.4	59.0	30.3	65.1	16.1
Queue Length 50th (ft)	29	43	0	76	61	23	36	401	82	109
Queue Length 95th (ft)	63	83	1	#187	108	88	89	#738	#199	210
Internal Link Dist (ft)		810			1637			2644		1335
Turn Bay Length (ft)	130			205		200	215		210	
Base Capacity (vph)	236	549	536	204	622	643	164	1665	215	1885
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.13	0.10	0.60	0.16	0.35	0.35	0.84	0.61	0.31

Intersection Summary

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



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	28	258	1319	27	106	618
v/c Ratio	0.09	0.56	0.71	0.03	0.48	0.26
Control Delay	33.8	11.7	18.3	6.5	45.9	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	11.7	18.3	6.5	45.9	5.6
Queue Length 50th (ft)	12	9	232	1	47	43
Queue Length 95th (ft)	41	77	475	17	132	116
Internal Link Dist (ft)	3339		1159			2644
Turn Bay Length (ft)	150			200	300	
Base Capacity (vph)	720	784	2738	1229	350	3248
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.33	0.48	0.02	0.30	0.19

Intersection Summary

Intersection: 1: La Sierra Av. & SR-91 WB Ramps

Movement	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LTR	R	L	L	T	T	T	T	T	T	R
Maximum Queue (ft)	255	323	288	245	362	272	289	290	490	395	195	135
Average Queue (ft)	115	216	168	205	243	171	175	176	319	231	90	40
95th Queue (ft)	224	303	266	289	359	267	267	272	436	369	176	86
Link Distance (ft)		1183			444	444	444	444	960	960	960	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500		500	155								140
Storage Blk Time (%)				11	20						1	
Queuing Penalty (veh)				34	61						2	

Intersection: 2: La Sierra Av. & SR-91 EB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	LTR	R	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	551	689	538	563	526	471	299	192	215	209	164	176
Average Queue (ft)	124	391	320	300	255	244	110	125	127	37	45	59
95th Queue (ft)	434	602	538	518	469	427	221	179	190	128	117	139
Link Distance (ft)	1430	1430		861	861	861				444	444	444
Upstream Blk Time (%)										0		
Queuing Penalty (veh)										0		
Storage Bay Dist (ft)			450				415	155	155			
Storage Blk Time (%)		11	0			0		7	10	0		
Queuing Penalty (veh)		21	1			2		23	31	2		

Intersection: 3: La Sierra Av. & Indiana Av./S. Indiana Av.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	235	265	504	311	80	96	119	142	145	160	229	275
Average Queue (ft)	200	228	191	92	33	35	56	70	60	71	133	181
95th Queue (ft)	277	300	489	252	67	80	97	119	117	132	209	293
Link Distance (ft)			2553	2553				2432	2432			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	205	205			205	205	205			130	200	200
Storage Blk Time (%)	6	25	1						1	1	1	3
Queuing Penalty (veh)	8	34	5						1	2	3	13

Intersection: 3: La Sierra Av. & Indiana Av./S. Indiana Av.

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB		
Directions Served	T	T	T	R	L	L	T	T	T	R		
Maximum Queue (ft)	459	403	445	329	85	108	251	265	268	155		
Average Queue (ft)	238	235	276	32	37	58	142	162	151	59		
95th Queue (ft)	385	369	420	154	77	95	229	242	229	126		
Link Distance (ft)	2685	2685	2685				861	861	861			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				305	355	355				535		
Storage Blk Time (%)	16		9									
Queuing Penalty (veh)	62		8									

Intersection: 4: La Sierra Av. & Victoria Av.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	92	131	119	65	148	127	170	273	411	434	149	193
Average Queue (ft)	20	52	47	25	75	58	69	48	234	261	77	69
95th Queue (ft)	59	96	99	55	131	108	128	141	382	409	136	164
Link Distance (ft)			843	843		1670			2640	2640		1340
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130	130			205		200	215			210	
Storage Blk Time (%)	0	0	0				0		12			0
Queuing Penalty (veh)	0	0	0				0		6			0

Intersection: 4: La Sierra Av. & Victoria Av.

Movement	SB
Directions Served	TR
Maximum Queue (ft)	193
Average Queue (ft)	82
95th Queue (ft)	181
Link Distance (ft)	1340
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: La Sierra Av. & McAllister Pkwy.

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (ft)	56	194	273	243	36	132	111	136
Average Queue (ft)	17	73	139	117	6	57	35	49
95th Queue (ft)	43	145	227	214	26	105	87	109
Link Distance (ft)		3360	1207	1207			2640	2640
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150				200	300		
Storage Blk Time (%)		1		1				
Queuing Penalty (veh)		0		0				

Network Summary

Network wide Queuing Penalty: 320

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	401	392	370	473	955	1484	267
v/c Ratio	0.85	0.82	0.70	0.85	0.31	0.75	0.37
Control Delay	50.5	42.6	27.9	41.8	22.9	29.9	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	42.6	27.9	41.8	22.9	29.9	9.6
Queue Length 50th (ft)	242	214	144	163	214	313	37
Queue Length 95th (ft)	#389	#340	251	#207	m250	374	100
Internal Link Dist (ft)		1180			412	935	
Turn Bay Length (ft)	500		500	155			140
Base Capacity (vph)	524	527	578	582	3042	1984	726
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	0.77	0.74	0.64	0.81	0.31	0.75	0.37

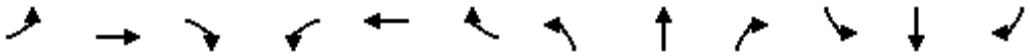
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	220	512	506	1143	363	442	1553
v/c Ratio	0.33	0.91	0.83	0.73	0.50	0.83	0.63
Control Delay	22.1	50.1	35.8	35.2	5.8	32.9	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	22.1	50.1	35.8	35.2	5.8	32.9	13.4
Queue Length 50th (ft)	95	310	249	249	0	71	247
Queue Length 95th (ft)	155	#527	#408	304	68	#196	301
Internal Link Dist (ft)		1416		886			412
Turn Bay Length (ft)			450		415	155	
Base Capacity (vph)	706	599	648	1563	730	549	2479
Starvation Cap Reductn	0	0	0	0	0	0	353
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.85	0.78	0.73	0.50	0.81	0.73

Intersection Summary

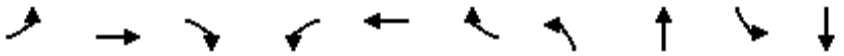
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	422	311	235	153	246	193	192	865	67	301	1767	334
v/c Ratio	0.83	0.39	0.48	0.55	0.43	0.47	0.74	0.47	0.10	0.73	0.85	0.40
Control Delay	57.4	33.2	13.2	52.8	38.7	8.6	63.8	26.6	0.3	54.4	32.7	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	33.2	13.2	52.8	38.7	8.6	63.8	26.6	0.3	54.4	32.7	4.3
Queue Length 50th (ft)	126	87	34	45	73	0	58	140	0	89	331	0
Queue Length 95th (ft)	#282	123	95	96	107	52	#148	256	0	#194	#642	64
Internal Link Dist (ft)		2549			2428			2703			886	
Turn Bay Length (ft)	205		205	205		130	200		305	355		535
Base Capacity (vph)	506	1572	797	316	1376	725	260	1847	695	435	2072	843
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.20	0.29	0.48	0.18	0.27	0.74	0.47	0.10	0.69	0.85	0.40

Intersection Summary

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

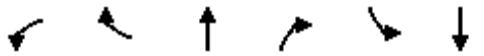


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	53	108	146	277	82	144	32	945	185	1701
v/c Ratio	0.31	0.42	0.38	0.92	0.16	0.27	0.36	0.76	0.77	1.00
Control Delay	55.3	45.3	4.8	79.8	30.8	5.6	62.4	34.2	65.1	48.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.3	45.3	4.8	79.8	30.8	5.6	62.4	34.2	65.1	48.9
Queue Length 50th (ft)	17	68	0	180	44	0	21	268	116	~584
Queue Length 95th (ft)	43	119	22	#416	82	41	59	437	#265	#981
Internal Link Dist (ft)		810			1637			2644		1335
Turn Bay Length (ft)	130			205		200	215		210	
Base Capacity (vph)	170	535	586	300	746	717	89	1332	268	1707
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.20	0.25	0.92	0.11	0.20	0.36	0.71	0.69	1.00

Intersection Summary

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

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



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	20	176	794	12	264	1798
v/c Ratio	0.07	0.43	0.59	0.02	0.65	0.75
Control Delay	32.8	9.3	22.5	10.2	37.8	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	9.3	22.5	10.2	37.8	11.3
Queue Length 50th (ft)	8	0	142	0	106	212
Queue Length 95th (ft)	33	56	319	13	270	547
Internal Link Dist (ft)	3339		1159			2644
Turn Bay Length (ft)	150			200	300	
Base Capacity (vph)	706	737	2083	936	726	3284
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.24	0.38	0.01	0.36	0.55

Intersection Summary

Intersection: 1: La Sierra Av. & SR-91 WB Ramps

Movement	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LTR	R	L	L	T	T	T	T	T	T	R
Maximum Queue (ft)	333	423	383	213	239	218	210	214	758	694	438	190
Average Queue (ft)	198	269	212	143	159	149	147	148	493	417	182	79
95th Queue (ft)	304	364	329	201	219	208	198	204	685	620	348	171
Link Distance (ft)		1183			444	444	444	444	960	960	960	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500		500	155								140
Storage Blk Time (%)				2	6						8	0
Queuing Penalty (veh)				5	14						19	1

Intersection: 2: La Sierra Av. & SR-91 EB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	LTR	R	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	301	523	440	417	295	278	172	188	216	254	258	232
Average Queue (ft)	15	317	267	237	165	168	90	108	119	101	108	134
95th Queue (ft)	143	453	407	384	280	262	155	155	174	190	198	216
Link Distance (ft)	1430	1430		861	861	861				444	444	444
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			450				415	155	155			
Storage Blk Time (%)		1	0					0	1	1		
Queuing Penalty (veh)		6	1					1	3	5		

Intersection: 3: La Sierra Av. & Indiana Av./S. Indiana Av.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	234	263	364	197	165	95	108	112	127	110	148	162
Average Queue (ft)	134	166	87	77	85	36	61	65	60	50	68	77
95th Queue (ft)	235	256	227	163	150	71	95	103	108	94	129	141
Link Distance (ft)			2553	2553				2432	2432			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	205	205			205	205	205			130	200	200
Storage Blk Time (%)	2	7	0	0					0	0	0	1
Queuing Penalty (veh)	3	10	0	0					0	0	1	3

Intersection: 3: La Sierra Av. & Indiana Av./S. Indiana Av.

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	212	194	245	62	148	228	442	429	437	159
Average Queue (ft)	103	99	129	19	84	103	258	278	279	68
95th Queue (ft)	188	178	228	48	139	192	394	401	408	133
Link Distance (ft)	2685	2685	2685				861	861	861	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				305	355	355				535
Storage Blk Time (%)	1						2			
Queuing Penalty (veh)	2						5			

Intersection: 4: La Sierra Av. & Victoria Av.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	37	97	132	154	295	345	148	88	337	347	274	936
Average Queue (ft)	7	39	66	65	196	87	58	27	162	191	181	436
95th Queue (ft)	28	82	115	117	302	278	166	69	284	316	321	788
Link Distance (ft)			843	843		1670			2640	2640		1340
Upstream Blk Time (%)												0
Queuing Penalty (veh)												1
Storage Bay Dist (ft)	130	130			205		200	215			210	
Storage Blk Time (%)		0	0		18	0			4		2	31
Queuing Penalty (veh)		0	0		39	0			1		12	54

Intersection: 4: La Sierra Av. & Victoria Av.

Movement	SB	B6
Directions Served	TR	T
Maximum Queue (ft)	921	13
Average Queue (ft)	442	0
95th Queue (ft)	791	8
Link Distance (ft)	1340	2685
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	1	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: La Sierra Av. & McAllister Pkwy.

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (ft)	57	68	198	208	36	256	262	292
Average Queue (ft)	14	38	110	88	6	143	78	98
95th Queue (ft)	40	65	185	168	25	234	202	229
Link Distance (ft)		3360	1207	1207			2640	2640
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150				200	300		
Storage Blk Time (%)				0		0	0	
Queuing Penalty (veh)				0		0	0	

Network Summary

Network wide Queuing Penalty: 190

APPENDIX 5.4: EAP (2028) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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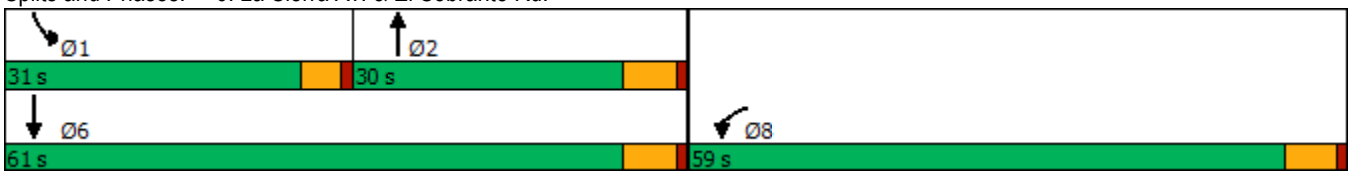
Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	73	106	260	124
Future Volume (vph)	73	106	260	124
Turn Type	Prot	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8
Total Split (s)	59.0	30.0	31.0	61.0
Total Split (%)	49.2%	25.0%	25.8%	50.8%
Yellow Time (s)	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min
Act Effct Green (s)	24.8	12.6	17.2	34.8
Actuated g/C Ratio	0.34	0.17	0.24	0.48
v/c Ratio	0.86	0.25	0.70	0.16
Control Delay	20.8	27.5	38.6	14.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.8	27.5	38.6	14.1
LOS	C	C	D	B
Approach Delay	20.8	27.5		30.7
Approach LOS	C	C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 72.4	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 24.9	Intersection LOS: C
Intersection Capacity Utilization 74.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: La Sierra Av. & El Sobrante Rd.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	73	553	106	29	260	124
Future Volume (veh/h)	73	553	106	29	260	124
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	395	120	22	295	141
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	96	456	528	95	353	850
Arrive On Green	0.34	0.34	0.18	0.18	0.20	0.45
Sat Flow, veh/h	280	1333	3104	540	1781	1870
Grp Volume(v), veh/h	479	0	70	72	295	141
Grp Sat Flow(s),veh/h/ln	1616	0	1777	1773	1781	1870
Q Serve(g_s), s	15.8	0.0	1.9	2.0	9.1	2.5
Cycle Q Clear(g_c), s	15.8	0.0	1.9	2.0	9.1	2.5
Prop In Lane	0.17	0.82		0.30	1.00	
Lane Grp Cap(c), veh/h	553	0	312	311	353	850
V/C Ratio(X)	0.87	0.00	0.22	0.23	0.84	0.17
Avail Cap(c_a), veh/h	1509	0	755	753	825	1812
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	0.0	20.2	20.2	22.0	9.2
Incr Delay (d2), s/veh	4.3	0.0	0.4	0.4	2.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	0.7	0.7	3.3	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.8	0.0	20.5	20.6	24.0	9.3
LnGrp LOS	C	A	C	C	C	A
Approach Vol, veh/h	479		142			436
Approach Delay, s/veh	21.8		20.5			19.2
Approach LOS	C		C			B

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	15.9	15.8			31.7	25.3
Change Period (Y+Rc), s	4.6	5.8			5.8	5.8
Max Green Setting (Gmax), s	26.4	24.2			55.2	53.2
Max Q Clear Time (g_c+I1), s	11.1	4.0			4.5	17.8
Green Ext Time (p_c), s	0.3	0.5			0.7	1.7

Intersection Summary	
HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

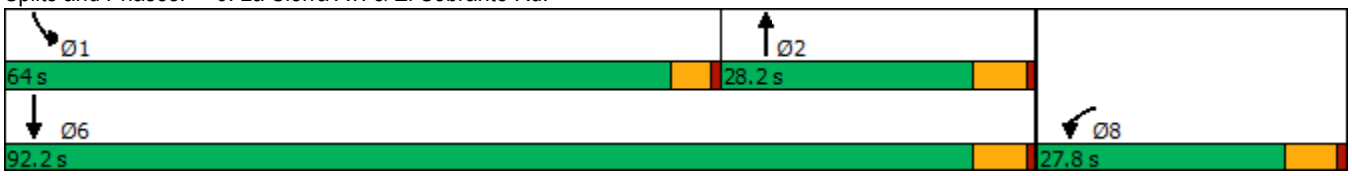
Notes

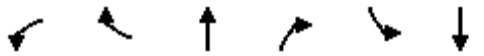
User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	44	222	776	518
Future Volume (vph)	44	222	776	518
Turn Type	Prot	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8
Total Split (s)	27.8	28.2	64.0	92.2
Total Split (%)	23.2%	23.5%	53.3%	76.8%
Yellow Time (s)	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min
Act Effct Green (s)	16.0	14.8	51.4	71.0
Actuated g/C Ratio	0.16	0.15	0.52	0.72
v/c Ratio	0.84	0.60	0.91	0.42
Control Delay	29.1	41.6	38.1	7.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.1	41.6	38.1	7.0
LOS	C	D	D	A
Approach Delay	29.1	41.6		25.7
Approach LOS	C	D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 99.1	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 28.8	Intersection LOS: C
Intersection Capacity Utilization 89.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: La Sierra Av. & El Sobrante Rd.





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	44	356	222	77	776	518
Future Volume (veh/h)	44	356	222	77	776	518
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	195	239	45	834	557
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	55	229	381	71	873	1265
Arrive On Green	0.18	0.18	0.13	0.13	0.49	0.68
Sat Flow, veh/h	313	1300	3086	555	1781	1870
Grp Volume(v), veh/h	243	0	140	144	834	557
Grp Sat Flow(s),veh/h/ln	1621	0	1777	1771	1781	1870
Q Serve(g_s), s	11.4	0.0	5.9	6.1	35.2	10.8
Cycle Q Clear(g_c), s	11.4	0.0	5.9	6.1	35.2	10.8
Prop In Lane	0.19	0.80		0.31	1.00	
Lane Grp Cap(c), veh/h	285	0	226	225	873	1265
V/C Ratio(X)	0.85	0.00	0.62	0.64	0.95	0.44
Avail Cap(c_a), veh/h	454	0	507	505	1348	2058
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	0.0	32.5	32.5	19.2	5.9
Incr Delay (d2), s/veh	8.7	0.0	2.8	3.0	9.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	2.5	2.5	13.4	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.1	0.0	35.2	35.5	28.2	6.1
LnGrp LOS	D	A	D	D	C	A
Approach Vol, veh/h	243		284			1391
Approach Delay, s/veh	40.1		35.4			19.3
Approach LOS	D		D			B

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	43.1	15.8			58.9	19.6
Change Period (Y+Rc), s	4.6	5.8			5.8	5.8
Max Green Setting (Gmax), s	59.4	22.4			86.4	22.0
Max Q Clear Time (g_c+I1), s	37.2	8.1			12.8	13.4
Green Ext Time (p_c), s	1.3	1.1			3.3	0.5

Intersection Summary	
HCM 6th Ctrl Delay	24.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

APPENDIX 6.1: EAPC (2028) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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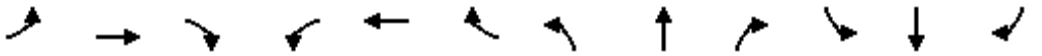
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	287	1	547	661	1562	1174	190
Future Volume (vph)	287	1	547	661	1562	1174	190
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	9.0	26.5	29.5	29.5
Total Split (s)	32.0	32.0	32.0	29.0	68.0	39.0	39.0
Total Split (%)	32.0%	32.0%	32.0%	29.0%	68.0%	39.0%	39.0%
Yellow Time (s)	4.0	4.0	4.0	3.0	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)	5.0	5.0	5.0	4.0	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	24.4	24.4	24.4	23.9	65.1	37.3	37.3
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.65	0.37	0.37
v/c Ratio	0.74	0.88	0.76	0.90	0.52	0.70	0.30
Control Delay	47.0	57.9	38.7	46.6	17.6	29.9	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Total Delay	47.0	57.9	38.7	46.6	18.4	29.9	8.6
LOS	D	E	D	D	B	C	A
Approach Delay		48.0			26.7	27.0	
Approach LOS		D			C	C	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 30.9	Intersection LOS: C
Intersection Capacity Utilization 75.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: La Sierra Av. & SR-91 WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	287	1	547	661	1562	0	0	1174	190
Future Volume (veh/h)	0	0	0	287	1	547	661	1562	0	0	1174	190
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		0.98
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				1781	1900	1885	1856	1870	0	0	1856	1885
Adj Flow Rate, veh/h				456	0	253	734	1736	0	0	1304	161
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.94
Percent Heavy Veh, %				8	0	1	3	2	0	0	3	1
Cap, veh/h				637	0	299	784	3612	0	0	2223	689
Arrive On Green				0.19	0.00	0.19	0.46	1.00	0.00	0.00	0.44	0.44
Sat Flow, veh/h				3393	0	1595	3428	5274	0	0	5233	1571
Grp Volume(v), veh/h				456	0	253	734	1736	0	0	1304	161
Grp Sat Flow(s),veh/h/ln				1697	0	1595	1714	1702	0	0	1689	1571
Q Serve(g_s), s				12.6	0.0	15.3	20.3	0.0	0.0	0.0	19.5	6.4
Cycle Q Clear(g_c), s				12.6	0.0	15.3	20.3	0.0	0.0	0.0	19.5	6.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				637	0	299	784	3612	0	0	2223	689
V/C Ratio(X)				0.72	0.00	0.85	0.94	0.48	0.00	0.00	0.59	0.23
Avail Cap(c_a), veh/h				916	0	431	857	3612	0	0	2223	689
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.49	0.49	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.1	0.0	39.2	26.5	0.0	0.0	0.0	21.2	17.5
Incr Delay (d2), s/veh				1.1	0.0	8.9	9.2	0.2	0.0	0.0	1.1	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.1	0.0	6.5	6.4	0.1	0.0	0.0	7.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				39.3	0.0	48.2	35.7	0.2	0.0	0.0	22.4	18.3
LnGrp LOS				D	A	D	D	A	A	A	C	B
Approach Vol, veh/h					709			2470			1465	
Approach Delay, s/veh					42.4			10.8			21.9	
Approach LOS					D			B			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	76.2		26.9	49.4		23.8						
Change Period (Y+Rc), s	5.5		4.0	5.5		5.0						
Max Green Setting (Gmax), s	62.5		25.0	33.5		27.0						
Max Q Clear Time (g_c+I1), s	2.0		22.3	21.5		17.3						
Green Ext Time (p_c), s	19.5		0.5	6.9		1.5						

Intersection Summary		
HCM 6th Ctrl Delay	19.1	
HCM 6th LOS	B	

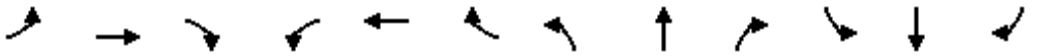
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	470	10	390	1769	489	416	1027
Future Volume (vph)	470	10	390	1769	489	416	1027
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4	4		2		1	6
Permitted Phases			4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	29.5	29.5	9.0	26.5
Total Split (s)	31.0	31.0	31.0	51.0	51.0	18.0	69.0
Total Split (%)	31.0%	31.0%	31.0%	51.0%	51.0%	18.0%	69.0%
Yellow Time (s)	4.0	4.0	4.0	4.5	4.5	3.0	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)	5.0	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	23.3	23.3	23.3	47.2	47.2	15.1	66.2
Actuated g/C Ratio	0.23	0.23	0.23	0.47	0.47	0.15	0.66
v/c Ratio	0.84	0.85	0.71	0.80	0.52	0.88	0.34
Control Delay	55.3	53.5	32.1	26.2	3.6	70.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.3	53.5	32.1	26.2	3.6	70.0	2.2
LOS	E	D	C	C	A	E	A
Approach Delay		47.4		21.3			21.7
Approach LOS		D		C			C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 28 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 26.4	Intersection LOS: C
Intersection Capacity Utilization 75.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: La Sierra Av. & SR-91 EB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	470	10	390	0	0	0	0	1769	489	416	1027	0
Future Volume (veh/h)	470	10	390	0	0	0	0	1769	489	416	1027	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1811				0	1870	1870	1870	1826	0
Adj Flow Rate, veh/h	577	0	136				0	1923	372	452	1116	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	6				0	2	2	2	5	0
Cap, veh/h	678	0	292				0	2679	819	484	3513	0
Arrive On Green	0.19	0.00	0.19				0.00	0.52	0.52	0.09	0.47	0.00
Sat Flow, veh/h	3563	0	1535				0	5274	1561	3456	5149	0
Grp Volume(v), veh/h	577	0	136				0	1923	372	452	1116	0
Grp Sat Flow(s),veh/h/ln	1781	0	1535				0	1702	1561	1728	1662	0
Q Serve(g_s), s	15.6	0.0	7.9				0.0	28.7	14.9	13.0	13.9	0.0
Cycle Q Clear(g_c), s	15.6	0.0	7.9				0.0	28.7	14.9	13.0	13.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	678	0	292				0	2679	819	484	3513	0
V/C Ratio(X)	0.85	0.00	0.47				0.00	0.72	0.45	0.93	0.32	0.00
Avail Cap(c_a), veh/h	926	0	399				0	2679	819	484	3513	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.41	0.41	0.64	0.64	0.00
Uniform Delay (d), s/veh	39.1	0.0	36.0				0.0	18.1	14.8	44.9	11.5	0.0
Incr Delay (d2), s/veh	5.2	0.0	0.9				0.0	0.7	0.7	18.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	2.9				0.0	10.1	4.9	6.9	5.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	0.0	36.8				0.0	18.8	15.6	63.4	11.6	0.0
LnGrp LOS	D	A	D				A	B	B	E	B	A
Approach Vol, veh/h		713						2295			1568	
Approach Delay, s/veh		42.9						18.3			26.5	
Approach LOS		D						B			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	18.0	58.0		24.0		76.0
Change Period (Y+Rc), s	4.0	5.5		5.0		5.5
Max Green Setting (Gmax), s	14.0	45.5		26.0		63.5
Max Q Clear Time (g_c+I1), s	15.0	30.7		17.6		15.9
Green Ext Time (p_c), s	0.0	11.4		1.4		9.2

Intersection Summary		
HCM 6th Ctrl Delay		24.9
HCM 6th LOS		C

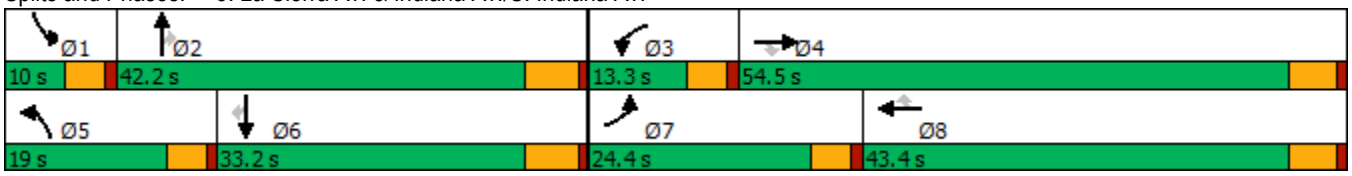
Notes

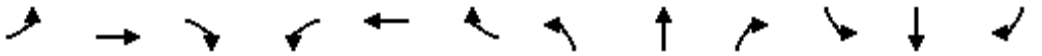
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	554	268	152	140	242	186	422	1534	111	140	976	248
Future Volume (vph)	554	268	152	140	242	186	422	1534	111	140	976	248
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.4	43.4	9.6	43.4	43.4	9.6	37.8	37.8	9.6	32.8	32.8
Total Split (s)	24.4	54.5	54.5	13.3	43.4	43.4	19.0	42.2	42.2	10.0	33.2	33.2
Total Split (%)	20.3%	45.4%	45.4%	11.1%	36.2%	36.2%	15.8%	35.2%	35.2%	8.3%	27.7%	27.7%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	5.4	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.0	28.4	28.4	7.9	16.3	16.3	14.5	36.7	36.7	5.5	27.7	27.7
Actuated g/C Ratio	0.20	0.29	0.29	0.08	0.16	0.16	0.15	0.37	0.37	0.06	0.28	0.28
v/c Ratio	0.87	0.29	0.29	0.55	0.45	0.49	0.91	0.88	0.18	0.81	0.75	0.43
Control Delay	53.9	27.7	5.2	53.7	38.8	9.7	66.7	37.1	3.5	78.4	37.7	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	27.7	5.2	53.7	38.8	9.7	66.7	37.1	3.5	78.4	37.7	6.6
LOS	D	C	A	D	D	A	E	D	A	E	D	A
Approach Delay		39.1			32.9			41.3			36.2	
Approach LOS		D			C			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 99.1	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 38.5	Intersection LOS: D
Intersection Capacity Utilization 81.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: La Sierra Av. & Indiana Av./S. Indiana Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	554	268	152	140	242	186	422	1534	111	140	976	248
Future Volume (veh/h)	554	268	152	140	242	186	422	1534	111	140	976	248
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	602	291	88	152	263	112	459	1667	79	152	1061	128
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	671	1020	453	220	556	240	523	1922	595	197	1441	439
Arrive On Green	0.19	0.29	0.29	0.06	0.16	0.16	0.15	0.38	0.38	0.06	0.28	0.28
Sat Flow, veh/h	3456	3554	1580	3456	3554	1534	3456	5106	1580	3456	5106	1554
Grp Volume(v), veh/h	602	291	88	152	263	112	459	1667	79	152	1061	128
Grp Sat Flow(s),veh/h/ln	1728	1777	1580	1728	1777	1534	1728	1702	1580	1728	1702	1554
Q Serve(g_s), s	16.1	6.0	4.0	4.1	6.4	6.3	12.3	28.6	3.1	4.1	17.8	6.1
Cycle Q Clear(g_c), s	16.1	6.0	4.0	4.1	6.4	6.3	12.3	28.6	3.1	4.1	17.8	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	671	1020	453	220	556	240	523	1922	595	197	1441	439
V/C Ratio(X)	0.90	0.29	0.19	0.69	0.47	0.47	0.88	0.87	0.13	0.77	0.74	0.29
Avail Cap(c_a), veh/h	724	1846	821	318	1428	617	526	1966	608	197	1480	450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	26.2	25.4	43.3	36.3	36.3	39.3	27.3	19.3	44.0	30.7	26.5
Incr Delay (d2), s/veh	12.6	0.2	0.2	1.5	0.6	1.4	14.9	4.5	0.1	15.3	2.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	2.5	1.5	1.7	2.7	2.4	6.0	11.4	1.1	2.1	7.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	26.3	25.7	44.8	37.0	37.7	54.1	31.8	19.5	59.3	32.8	27.1
LnGrp LOS	D	C	C	D	D	D	D	C	B	E	C	C
Approach Vol, veh/h		981			527			2205			1341	
Approach Delay, s/veh		40.7			39.4			36.0			35.3	
Approach LOS		D			D			D			D	

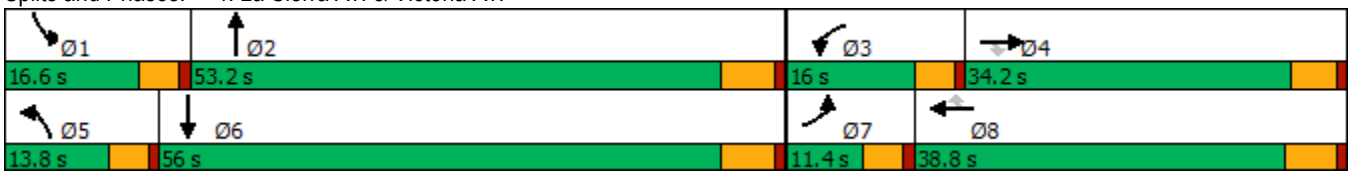
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	41.4	10.6	32.5	18.9	32.5	23.0	20.2
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4
Max Green Setting (Gmax), s	5.4	36.4	8.7	49.1	14.4	27.4	19.8	38.0
Max Q Clear Time (g_c+I1), s	6.1	30.6	6.1	8.0	14.3	19.8	18.1	8.4
Green Ext Time (p_c), s	0.0	5.0	0.1	2.2	0.0	5.0	0.3	2.0

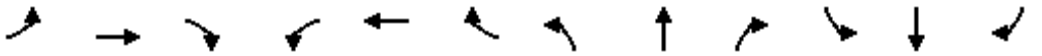
Intersection Summary	
HCM 6th Ctrl Delay	37.1
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	87	64	50	120	93	216	53	1250	128	563
Future Volume (vph)	87	64	50	120	93	216	53	1250	128	563
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.1	34.1	9.6	33.8	33.8	9.6	35.8	9.6	33.8
Total Split (s)	11.4	34.2	34.2	16.0	38.8	38.8	13.8	53.2	16.6	56.0
Total Split (%)	9.5%	28.5%	28.5%	13.3%	32.3%	32.3%	11.5%	44.3%	13.8%	46.7%
Yellow Time (s)	3.6	4.1	4.1	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	5.1	5.1	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.4	13.4	13.4	11.4	16.4	16.4	7.4	48.1	11.2	54.2
Actuated g/C Ratio	0.06	0.13	0.13	0.11	0.16	0.16	0.07	0.48	0.11	0.54
v/c Ratio	0.44	0.28	0.18	0.66	0.34	0.59	0.45	0.97	0.72	0.36
Control Delay	55.1	43.2	1.3	62.4	40.7	17.6	59.1	44.4	66.7	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	43.2	1.3	62.4	40.7	17.6	59.1	44.4	66.7	16.7
LOS	E	D	A	E	D	B	E	D	E	B
Approach Delay		38.0			35.2			44.9		25.4
Approach LOS		D			D			D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 38.0	Intersection LOS: D
Intersection Capacity Utilization 76.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: La Sierra Av. & Victoria Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	64	50	120	93	216	53	1250	217	128	563	48
Future Volume (veh/h)	87	64	50	120	93	216	53	1250	217	128	563	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	96	70	22	132	102	124	58	1374	215	141	619	43
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	217	181	162	298	247	75	1487	230	172	1810	126
Arrive On Green	0.05	0.12	0.12	0.09	0.16	0.16	0.04	0.48	0.48	0.10	0.54	0.54
Sat Flow, veh/h	3456	1870	1556	1781	1870	1550	1781	3083	477	1781	3371	234
Grp Volume(v), veh/h	96	70	22	132	102	124	58	786	803	141	326	336
Grp Sat Flow(s),veh/h/ln	1728	1870	1556	1781	1870	1550	1781	1777	1784	1781	1777	1828
Q Serve(g_s), s	2.6	3.3	1.2	7.1	4.7	7.1	3.1	39.8	41.2	7.5	10.1	10.1
Cycle Q Clear(g_c), s	2.6	3.3	1.2	7.1	4.7	7.1	3.1	39.8	41.2	7.5	10.1	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		0.13
Lane Grp Cap(c), veh/h	165	217	181	162	298	247	75	857	860	172	954	981
V/C Ratio(X)	0.58	0.32	0.12	0.81	0.34	0.50	0.78	0.92	0.93	0.82	0.34	0.34
Avail Cap(c_a), veh/h	242	561	466	209	636	527	169	868	871	220	954	981
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	39.4	38.5	43.3	36.3	37.3	46.1	23.3	23.7	43.0	12.8	12.8
Incr Delay (d2), s/veh	1.2	0.9	0.3	13.5	0.7	1.6	6.3	14.5	16.9	13.8	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	1.1	1.6	0.5	3.6	2.1	2.7	1.5	18.1	19.2	3.8	3.6	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	40.3	38.8	56.8	37.0	38.9	52.4	37.8	40.5	56.9	13.1	13.1
LnGrp LOS	D	D	D	E	D	D	D	D	D	E	B	B
Approach Vol, veh/h		188			358			1647			803	
Approach Delay, s/veh		43.3			44.9			39.7			20.7	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	52.6	13.4	17.1	8.7	57.9	9.2	21.3
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	12.0	47.4	11.4	* 29	9.2	50.2	6.8	33.0
Max Q Clear Time (g_c+I1), s	9.5	43.2	9.1	5.3	5.1	12.1	4.6	9.1
Green Ext Time (p_c), s	0.0	3.6	0.0	0.4	0.0	6.1	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Notes

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

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	302	1281	24	125	591
Future Volume (vph)	25	302	1281	24	125	591
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	33.4	33.4	27.5	27.5	9.6	16.5
Total Split (s)	35.0	35.0	66.0	66.0	19.0	85.0
Total Split (%)	29.2%	29.2%	55.0%	55.0%	15.8%	70.8%
Yellow Time (s)	4.4	4.4	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	15.5	15.5	48.0	48.0	11.7	64.6
Actuated g/C Ratio	0.17	0.17	0.52	0.52	0.13	0.70
v/c Ratio	0.09	0.75	0.79	0.03	0.63	0.27
Control Delay	36.6	24.9	22.9	7.3	56.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	24.9	22.9	7.3	56.2	5.9
LOS	D	C	C	A	E	A
Approach Delay	25.8		22.6			14.7
Approach LOS	C		C			B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 92.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 20.6	Intersection LOS: C
Intersection Capacity Utilization 64.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: La Sierra Av. & McAllister Pkwy.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	302	1281	24	125	591
Future Volume (veh/h)	25	302	1281	24	125	591
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	161	1456	24	142	672
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	229	204	1986	886	178	2552
Arrive On Green	0.13	0.13	0.56	0.56	0.10	0.72
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	28	161	1456	24	142	672
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	1.1	7.7	23.8	0.5	6.1	5.1
Cycle Q Clear(g_c), s	1.1	7.7	23.8	0.5	6.1	5.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	229	204	1986	886	178	2552
V/C Ratio(X)	0.12	0.79	0.73	0.03	0.80	0.26
Avail Cap(c_a), veh/h	679	604	2723	1214	330	3592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	32.8	12.8	7.7	34.2	3.8
Incr Delay (d2), s/veh	0.2	6.7	0.9	0.0	3.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.1	7.0	0.1	2.5	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.2	39.5	13.7	7.7	37.3	3.9
LnGrp LOS	C	D	B	A	D	A
Approach Vol, veh/h	189		1480			814
Approach Delay, s/veh	38.1		13.6			9.7
Approach LOS	D		B			A

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.4	49.9			62.3	15.4
Change Period (Y+Rc), s	4.6	6.5			6.5	5.4
Max Green Setting (Gmax), s	14.4	59.5			78.5	29.6
Max Q Clear Time (g_c+I1), s	8.1	25.8			7.1	9.7
Green Ext Time (p_c), s	0.1	17.6			6.8	0.5

Intersection Summary	
HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	98.7
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	99	665	106	38	300	125
Future Vol, veh/h	99	665	106	38	300	125
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	113	756	120	43	341	142
Number of Lanes	1	0	2	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	157.3	12.3	22.6
HCM LOS	F	B	C

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	13%	100%	0%
Vol Thru, %	100%	48%	0%	0%	100%
Vol Right, %	0%	52%	87%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	73	764	300	125
LT Vol	0	0	99	300	0
Through Vol	71	35	0	0	125
RT Vol	0	38	665	0	0
Lane Flow Rate	80	83	868	341	142
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0.164	0.161	1.285	0.686	0.266
Departure Headway (Hd)	8.238	7.859	5.33	8.065	7.548
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	438	459	686	450	479
Service Time	5.938	5.559	3.33	5.765	5.248
HCM Lane V/C Ratio	0.183	0.181	1.265	0.758	0.296
HCM Control Delay	12.5	12.1	157.3	26.6	13
HCM Lane LOS	B	B	F	D	B
HCM 95th-tile Q	0.6	0.6	33.7	5.1	1.1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	277	641	62	38	38
Future Vol, veh/h	28	277	641	62	38	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	330	763	74	45	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	837	0	-	0	1196	419
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	396	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	795	-	-	-	192	584
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	795	-	-	-	184	584
Mov Cap-2 Maneuver	-	-	-	-	299	-
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	679	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	16.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	795	-	-	-	396
HCM Lane V/C Ratio	0.042	-	-	-	0.228
HCM Control Delay (s)	9.7	-	-	-	16.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	275	551	11	30	158
Future Vol, veh/h	56	275	551	11	30	158
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	299	599	12	33	172

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	611	0	-	0	1026	605
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	421	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	968	-	-	-	260	498
Stage 1	-	-	-	-	545	-
Stage 2	-	-	-	-	662	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	968	-	-	-	244	498
Mov Cap-2 Maneuver	-	-	-	-	371	-
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	662	-

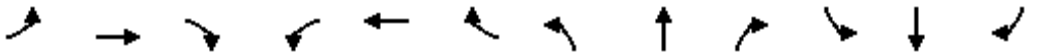
Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	18.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	968	-	-	-	472
HCM Lane V/C Ratio	0.063	-	-	-	0.433
HCM Control Delay (s)	9	-	-	-	18.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	2.2

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	618	4	584	479	1013	1532	319
Future Volume (vph)	618	4	584	479	1013	1532	319
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	9.0	26.5	29.5	29.5
Total Split (s)	38.0	38.0	38.0	21.0	62.0	41.0	41.0
Total Split (%)	38.0%	38.0%	38.0%	21.0%	62.0%	41.0%	41.0%
Yellow Time (s)	4.0	4.0	4.0	3.0	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)	5.0	5.0	5.0	4.0	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	31.3	31.3	31.3	16.8	58.2	37.4	37.4
Actuated g/C Ratio	0.31	0.31	0.31	0.17	0.58	0.37	0.37
v/c Ratio	0.90	0.86	0.76	0.89	0.36	0.87	0.47
Control Delay	55.4	45.3	33.9	43.5	23.8	35.6	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	45.3	33.9	43.5	23.8	35.6	11.8
LOS	E	D	C	D	C	D	B
Approach Delay		45.2			30.1	31.5	
Approach LOS		D			C	C	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 34.7	Intersection LOS: C
Intersection Capacity Utilization 80.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: La Sierra Av. & SR-91 WB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	618	4	584	479	1013	0	0	1532	319
Future Volume (veh/h)	0	0	0	618	4	584	479	1013	0	0	1532	319
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		0.98
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				1781	1900	1885	1856	1870	0	0	1856	1885
Adj Flow Rate, veh/h				766	0	232	510	1078	0	0	1630	299
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				8	0	1	3	2	0	0	3	1
Cap, veh/h				875	0	412	561	3254	0	0	2196	681
Arrive On Green				0.26	0.00	0.26	0.33	1.00	0.00	0.00	0.43	0.43
Sat Flow, veh/h				3393	0	1598	3428	5274	0	0	5233	1570
Grp Volume(v), veh/h				766	0	232	510	1078	0	0	1630	299
Grp Sat Flow(s),veh/h/ln				1697	0	1598	1714	1702	0	0	1689	1570
Q Serve(g_s), s				21.6	0.0	12.6	14.2	0.0	0.0	0.0	26.9	13.3
Cycle Q Clear(g_c), s				21.6	0.0	12.6	14.2	0.0	0.0	0.0	26.9	13.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				875	0	412	561	3254	0	0	2196	681
V/C Ratio(X)				0.88	0.00	0.56	0.91	0.33	0.00	0.00	0.74	0.44
Avail Cap(c_a), veh/h				1120	0	527	583	3254	0	0	2196	681
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.55	0.55	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.6	0.0	32.2	32.9	0.0	0.0	0.0	23.6	19.8
Incr Delay (d2), s/veh				6.1	0.0	0.9	10.8	0.2	0.0	0.0	2.3	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				9.2	0.0	4.7	5.4	0.0	0.0	0.0	10.2	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.7	0.0	33.1	43.7	0.2	0.0	0.0	26.0	21.9
LnGrp LOS				D	A	C	D	A	A	A	C	C
Approach Vol, veh/h					998			1588			1929	
Approach Delay, s/veh					39.7			14.1			25.3	
Approach LOS					D			B			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	69.2		20.4	48.9		30.8						
Change Period (Y+Rc), s	5.5		4.0	5.5		5.0						
Max Green Setting (Gmax), s	56.5		17.0	35.5		33.0						
Max Q Clear Time (g_c+I1), s	2.0		16.2	28.9		23.6						
Green Ext Time (p_c), s	8.8		0.1	5.2		2.1						

Intersection Summary		
HCM 6th Ctrl Delay	24.6	
HCM 6th LOS	C	

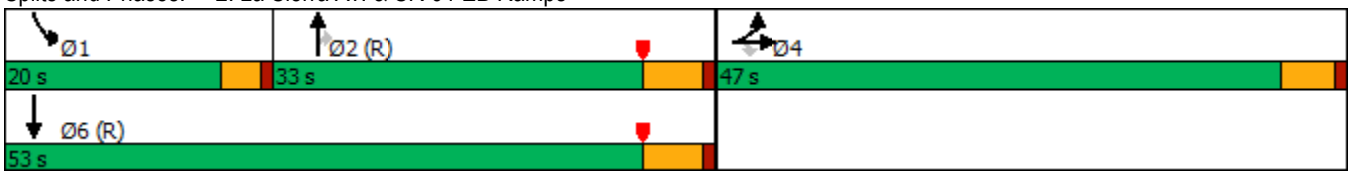
Notes

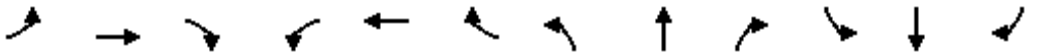
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	293	18	990	1189	382	492	1615
Future Volume (vph)	293	18	990	1189	382	492	1615
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4	4		2		1	6
Permitted Phases			4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	29.5	29.5	9.0	26.5
Total Split (s)	47.0	47.0	47.0	33.0	33.0	20.0	53.0
Total Split (%)	47.0%	47.0%	47.0%	33.0%	33.0%	20.0%	53.0%
Yellow Time (s)	4.0	4.0	4.0	4.5	4.5	3.0	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)	5.0	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	40.7	40.7	40.7	28.6	28.6	16.1	48.8
Actuated g/C Ratio	0.41	0.41	0.41	0.29	0.29	0.16	0.49
v/c Ratio	0.40	0.94	0.85	0.85	0.55	0.93	0.70
Control Delay	22.7	54.4	37.4	40.9	6.1	40.7	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Total Delay	22.7	54.4	37.4	40.9	6.1	40.7	14.8
LOS	C	D	D	D	A	D	B
Approach Delay		41.3		32.4			20.8
Approach LOS		D		C			C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 28 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 29.8	Intersection LOS: C
Intersection Capacity Utilization 80.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: La Sierra Av. & SR-91 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	293	18	990	0	0	0	0	1189	382	492	1615	0
Future Volume (veh/h)	293	18	990	0	0	0	0	1189	382	492	1615	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1811				0	1870	1870	1870	1826	0
Adj Flow Rate, veh/h	210	0	902				0	1239	366	512	1682	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	6				0	2	2	2	5	0
Cap, veh/h	586	0	1009				0	1870	572	553	2822	0
Arrive On Green	0.33	0.00	0.33				0.00	0.37	0.37	0.05	0.19	0.00
Sat Flow, veh/h	1781	0	3070				0	5274	1561	3456	5149	0
Grp Volume(v), veh/h	210	0	902				0	1239	366	512	1682	0
Grp Sat Flow(s),veh/h/ln	1781	0	1535				0	1702	1561	1728	1662	0
Q Serve(g_s), s	9.0	0.0	27.9				0.0	20.3	19.4	14.8	30.9	0.0
Cycle Q Clear(g_c), s	9.0	0.0	27.9				0.0	20.3	19.4	14.8	30.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	586	0	1009				0	1870	572	553	2822	0
V/C Ratio(X)	0.36	0.00	0.89				0.00	0.66	0.64	0.93	0.60	0.00
Avail Cap(c_a), veh/h	748	0	1289				0	1870	572	553	2822	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.75	0.75	0.37	0.37	0.00
Uniform Delay (d), s/veh	25.5	0.0	31.9				0.0	26.5	26.2	46.8	30.2	0.0
Incr Delay (d2), s/veh	0.3	0.0	6.5				0.0	1.4	4.1	10.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	10.5				0.0	7.9	7.4	7.5	13.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	0.0	38.4				0.0	27.9	30.3	56.9	30.5	0.0
LnGrp LOS	C	A	D				A	C	C	E	C	A
Approach Vol, veh/h		1112						1605			2194	
Approach Delay, s/veh		36.0						28.5			36.7	
Approach LOS		D						C			D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.0	42.1		37.9		62.1						
Change Period (Y+Rc), s	4.0	5.5		5.0		5.5						
Max Green Setting (Gmax), s	16.0	27.5		42.0		47.5						
Max Q Clear Time (g_c+I1), s	16.8	22.3		29.9		32.9						
Green Ext Time (p_c), s	0.0	3.7		3.0		9.4						

Intersection Summary												
HCM 6th Ctrl Delay			33.9									
HCM 6th LOS			C									

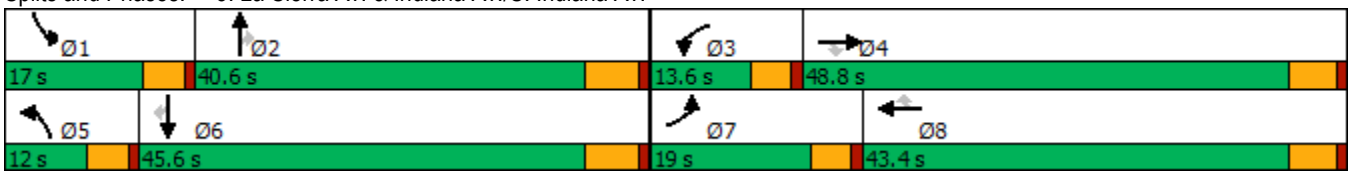
Notes

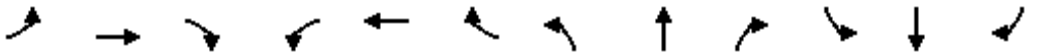
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	417	299	254	172	236	197	203	933	81	297	1859	329
Future Volume (vph)	417	299	254	172	236	197	203	933	81	297	1859	329
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	43.4	43.4	9.6	43.4	43.4	9.6	37.8	37.8	9.6	32.8	32.8
Total Split (s)	19.0	48.8	48.8	13.6	43.4	43.4	12.0	40.6	40.6	17.0	45.6	45.6
Total Split (%)	15.8%	40.7%	40.7%	11.3%	36.2%	36.2%	10.0%	33.8%	33.8%	14.2%	38.0%	38.0%
Yellow Time (s)	3.6	4.4	4.4	3.6	4.4	4.4	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	5.4	5.4	4.6	5.4	5.4	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.6	22.1	22.1	8.5	16.0	16.0	7.5	35.7	35.7	12.0	40.2	40.2
Actuated g/C Ratio	0.15	0.22	0.22	0.09	0.16	0.16	0.08	0.36	0.36	0.12	0.41	0.41
v/c Ratio	0.86	0.39	0.55	0.61	0.43	0.50	0.81	0.53	0.12	0.74	0.94	0.40
Control Delay	60.0	33.5	17.0	54.6	38.5	10.1	70.7	27.7	0.4	54.9	39.0	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	33.5	17.0	54.6	38.5	10.1	70.7	27.7	0.4	54.9	39.0	4.3
LOS	E	C	B	D	D	B	E	C	A	D	D	A
Approach Delay		40.5			33.8			33.0			36.3	
Approach LOS		D			C			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 98.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 36.0	Intersection LOS: D
Intersection Capacity Utilization 80.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: La Sierra Av. & Indiana Av./S. Indiana Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	417	299	254	172	236	197	203	933	81	297	1859	329
Future Volume (veh/h)	417	299	254	172	236	197	203	933	81	297	1859	329
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	434	311	199	179	246	86	211	972	55	309	1936	260
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	505	679	303	251	418	185	281	2051	637	383	2203	684
Arrive On Green	0.15	0.19	0.19	0.07	0.12	0.12	0.08	0.40	0.40	0.11	0.43	0.43
Sat Flow, veh/h	3456	3554	1585	3456	3554	1577	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	434	311	199	179	246	86	211	972	55	309	1936	260
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1577	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	11.2	7.1	10.6	4.6	6.0	4.6	5.4	12.8	2.0	8.0	31.7	10.2
Cycle Q Clear(g_c), s	11.2	7.1	10.6	4.6	6.0	4.6	5.4	12.8	2.0	8.0	31.7	10.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	505	679	303	251	418	185	281	2051	637	383	2203	684
V/C Ratio(X)	0.86	0.46	0.66	0.71	0.59	0.46	0.75	0.47	0.09	0.81	0.88	0.38
Avail Cap(c_a), veh/h	546	1692	755	341	1481	657	281	2051	637	470	2229	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	32.7	34.1	41.3	38.1	37.5	41.0	20.2	16.9	39.6	23.7	17.6
Incr Delay (d2), s/veh	11.5	0.5	2.4	2.2	1.3	1.8	9.7	0.2	0.1	6.7	4.5	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	5.3	3.0	4.1	2.0	2.6	1.8	2.6	4.7	0.7	3.6	12.2	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	33.2	36.5	43.6	39.5	39.3	50.7	20.4	17.0	46.3	28.2	18.1
LnGrp LOS	D	C	D	D	D	D	D	C	B	D	C	B
Approach Vol, veh/h		944			511			1238			2505	
Approach Delay, s/veh		41.4			40.9			25.4			29.4	
Approach LOS		D			D			C			C	

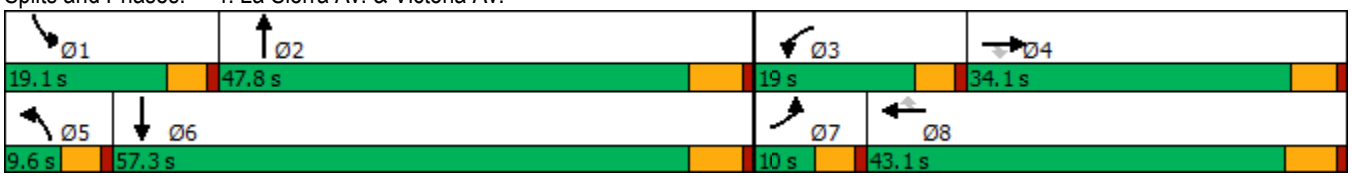
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	42.4	11.2	22.8	12.0	45.1	17.9	16.1
Change Period (Y+Rc), s	4.6	5.8	4.6	5.4	4.6	5.8	4.6	5.4
Max Green Setting (Gmax), s	12.4	34.8	9.0	43.4	7.4	39.8	14.4	38.0
Max Q Clear Time (g_c+I1), s	10.0	14.8	6.6	12.6	7.4	33.7	13.2	8.0
Green Ext Time (p_c), s	0.2	8.7	0.1	2.6	0.0	5.7	0.1	1.8

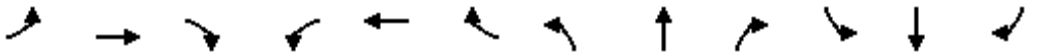
Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	55	103	139	285	78	145	30	885	187	1767
Future Volume (vph)	55	103	139	285	78	145	30	885	187	1767
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.1	34.1	9.6	33.8	33.8	9.6	35.8	9.6	33.8
Total Split (s)	10.0	34.1	34.1	19.0	43.1	43.1	9.6	47.8	19.1	57.3
Total Split (%)	8.3%	28.4%	28.4%	15.8%	35.9%	35.9%	8.0%	39.8%	15.9%	47.8%
Yellow Time (s)	3.6	4.1	4.1	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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	5.1	5.1	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	5.4	14.2	14.2	14.5	24.8	24.8	5.0	39.6	14.2	52.9
Actuated g/C Ratio	0.05	0.14	0.14	0.14	0.24	0.24	0.05	0.39	0.14	0.52
v/c Ratio	0.32	0.42	0.38	1.20	0.18	0.31	0.37	0.81	0.81	1.05
Control Delay	55.2	45.7	4.8	162.1	33.7	6.9	63.4	34.3	69.4	63.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	45.7	4.8	162.1	33.7	6.9	63.4	34.3	69.4	63.1
LOS	E	D	A	F	C	A	E	C	E	E
Approach Delay		28.3			98.0			35.1		63.7
Approach LOS		C			F			D		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 102.7	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 57.6	Intersection LOS: E
Intersection Capacity Utilization 90.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: La Sierra Av. & Victoria Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	103	139	285	78	145	30	885	148	187	1767	51
Future Volume (veh/h)	55	103	139	285	78	145	30	885	148	187	1767	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	108	94	300	82	70	32	932	127	197	1860	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	188	156	257	383	320	53	1313	179	229	1836	41
Arrive On Green	0.04	0.10	0.10	0.14	0.20	0.20	0.03	0.42	0.42	0.13	0.52	0.52
Sat Flow, veh/h	3456	1870	1556	1781	1870	1564	1781	3142	428	1781	3553	80
Grp Volume(v), veh/h	58	108	94	300	82	70	32	527	532	197	927	975
Grp Sat Flow(s),veh/h/ln	1728	1870	1556	1781	1870	1564	1781	1777	1793	1781	1777	1856
Q Serve(g_s), s	1.6	5.5	5.8	14.4	3.6	3.7	1.8	24.5	24.5	10.8	51.5	51.5
Cycle Q Clear(g_c), s	1.6	5.5	5.8	14.4	3.6	3.7	1.8	24.5	24.5	10.8	51.5	51.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		0.04
Lane Grp Cap(c), veh/h	139	188	156	257	383	320	53	743	750	229	918	959
V/C Ratio(X)	0.42	0.58	0.60	1.17	0.21	0.22	0.61	0.71	0.71	0.86	1.01	1.02
Avail Cap(c_a), veh/h	187	544	453	257	700	586	89	749	756	259	918	959
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	42.8	42.9	42.6	32.9	33.0	47.8	24.0	24.0	42.6	24.1	24.1
Incr Delay (d2), s/veh	0.7	2.8	3.7	108.3	0.3	0.3	4.2	3.4	3.4	20.6	32.0	33.2
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	0.7	2.6	2.3	13.8	1.6	1.4	0.8	10.1	10.2	5.9	26.8	28.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	45.6	46.6	150.9	33.2	33.3	52.0	27.4	27.4	63.1	56.1	57.3
LnGrp LOS	D	D	D	F	C	C	D	C	C	E	F	F
Approach Vol, veh/h		260			452			1091			2099	
Approach Delay, s/veh		46.4			111.3			28.1			57.3	
Approach LOS		D			F			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.4	47.4	19.0	15.8	7.5	57.3	8.6	26.2
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	14.5	42.0	14.4	* 29	5.0	51.5	5.4	37.3
Max Q Clear Time (g_c+I1), s	12.8	26.5	16.4	7.8	3.8	53.5	3.6	5.7
Green Ext Time (p_c), s	0.0	7.7	0.0	0.8	0.0	0.0	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	54.7
HCM 6th LOS	D

Notes

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

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	19	224	852	12	340	1879
Future Volume (vph)	19	224	852	12	340	1879
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	33.4	33.4	27.5	27.5	9.6	16.5
Total Split (s)	35.0	35.0	50.0	50.0	35.0	85.0
Total Split (%)	29.2%	29.2%	41.7%	41.7%	29.2%	70.8%
Yellow Time (s)	4.4	4.4	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	13.1	13.1	32.2	32.2	22.8	59.9
Actuated g/C Ratio	0.15	0.15	0.38	0.38	0.27	0.70
v/c Ratio	0.07	0.53	0.66	0.02	0.74	0.78
Control Delay	35.5	9.8	25.8	11.4	41.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	9.8	25.8	11.4	41.3	11.8
LOS	D	A	C	B	D	B
Approach Delay	11.9		25.6			16.4
Approach LOS	B		C			B

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 85.4		
Natural Cycle: 90		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.78		
Intersection Signal Delay: 18.4	Intersection LOS: B	
Intersection Capacity Utilization 70.2%	ICU Level of Service C	
Analysis Period (min) 15		

Splits and Phases: 5: La Sierra Av. & McAllister Pkwy.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	19	224	852	12	340	1879
Future Volume (veh/h)	19	224	852	12	340	1879
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	89	878	12	351	1937
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	200	178	1649	735	393	2634
Arrive On Green	0.11	0.11	0.46	0.46	0.22	0.74
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	20	89	878	12	351	1937
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	0.8	4.3	14.3	0.3	15.5	25.2
Cycle Q Clear(g_c), s	0.8	4.3	14.3	0.3	15.5	25.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	200	178	1649	735	393	2634
V/C Ratio(X)	0.10	0.50	0.53	0.02	0.89	0.74
Avail Cap(c_a), veh/h	649	577	1902	848	666	3432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	33.9	15.5	11.8	30.8	6.0
Incr Delay (d2), s/veh	0.2	2.2	0.4	0.0	4.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.7	4.8	0.1	6.4	4.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.6	36.1	15.9	11.8	35.3	6.7
LnGrp LOS	C	D	B	B	D	A
Approach Vol, veh/h	109		890			2288
Approach Delay, s/veh	35.4		15.8			11.1
Approach LOS	D		B			B

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	22.5	44.2			66.7	14.5
Change Period (Y+Rc), s	4.6	6.5			6.5	5.4
Max Green Setting (Gmax), s	30.4	43.5			78.5	29.6
Max Q Clear Time (g_c+I1), s	17.5	16.3			27.2	6.3
Green Ext Time (p_c), s	0.4	8.3			33.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	229.4
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	432	223	107	904	518
Future Vol, veh/h	61	432	223	107	904	518
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	465	240	115	972	557
Number of Lanes	1	0	2	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	37.2	15.1	345.7
HCM LOS	E	C	F

Lane	NBLn1	NBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	0%	12%	100%	0%
Vol Thru, %	100%	41%	0%	0%	100%
Vol Right, %	0%	59%	88%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	181	493	904	518
LT Vol	0	0	61	904	0
Through Vol	149	74	0	0	518
RT Vol	0	107	432	0	0
Lane Flow Rate	160	195	530	972	557
Geometry Grp	7	7	2	7	7
Degree of Util (X)	0.34	0.392	0.877	2.037	1.088
Departure Headway (Hd)	8.081	7.654	5.954	7.543	7.029
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	448	474	610	496	518
Service Time	5.781	5.354	3.972	5.255	4.74
HCM Lane V/C Ratio	0.357	0.411	0.869	1.96	1.075
HCM Control Delay	14.9	15.2	37.2	491.3	91.5
HCM Lane LOS	B	C	E	F	F
HCM 95th-tile Q	1.5	1.8	10.2	67.2	17.5

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	907	425	22	32	32
Future Vol, veh/h	31	907	425	22	32	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	926	434	22	33	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	456	0	-	0	1435	228
Stage 1	-	-	-	-	445	-
Stage 2	-	-	-	-	990	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1103	-	-	-	135	775
Stage 1	-	-	-	-	614	-
Stage 2	-	-	-	-	359	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1103	-	-	-	131	775
Mov Cap-2 Maneuver	-	-	-	-	259	-
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	359	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1103	-	-	-	388
HCM Lane V/C Ratio	0.029	-	-	-	0.168
HCM Control Delay (s)	8.4	-	-	-	16.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	180	770	358	34	20	106
Future Vol, veh/h	180	770	358	34	20	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	196	837	389	37	22	115

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	426	0	-	0	1637	408
Stage 1	-	-	-	-	408	-
Stage 2	-	-	-	-	1229	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1133	-	-	-	111	643
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	276	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1133	-	-	-	92	643
Mov Cap-2 Maneuver	-	-	-	-	204	-
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	276	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1133	-	-	-	479
HCM Lane V/C Ratio	0.173	-	-	-	0.286
HCM Control Delay (s)	8.8	-	-	-	15.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.6	-	-	-	1.2

APPENDIX 6.2: EAPC (2028) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

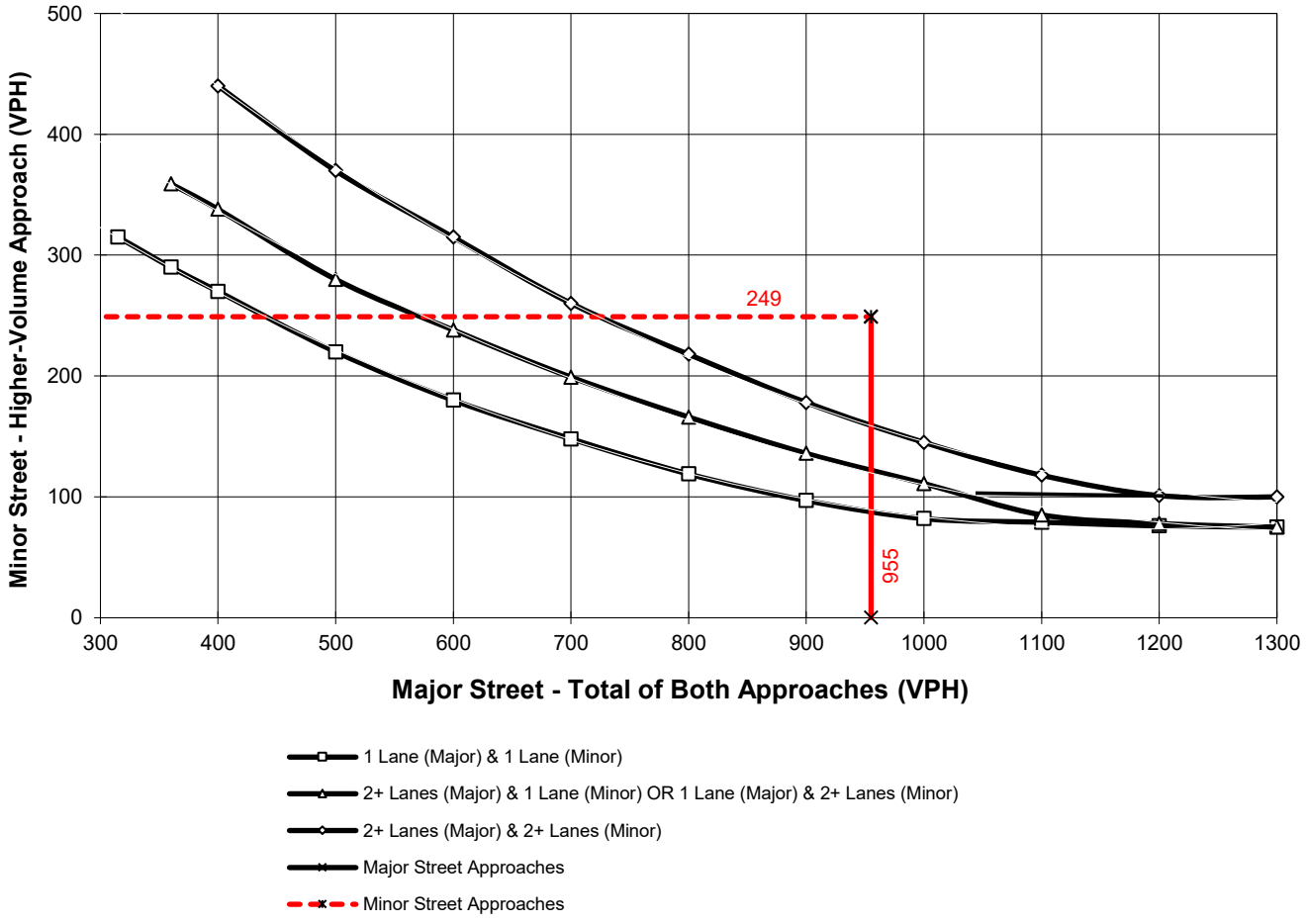
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAPC (2028) Conditions - Weekday AM Peak Hour**

Major Street Name = **El Sobrante Rd.** Total of Both Approaches (VPH) = **955**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **McAllister St.** High Volume Approach (VPH) = **249**
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)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS		EAPC (2028)
				CALC CP	DATE	10/05/23
Jurisdiction:	County of Riverside			CHK CP	DATE	10/05/23
Major Street:	El Sobrante Rd.			Critical Approach Speed (Major)		45 mph
Minor Street:	Street A			Critical Approach Speed (Minor)		25 mph

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

Major Street Future ADT = **13,862** vpd Minor Street Future ADT = **1,708** 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 ..... [ ]

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
	XX				
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied	Urban	Rural	Urban	Rural
XX					
Number of lanes for moving traffic on each approach					
Major Street	Minor Street				
1 **13,862**	*1* **1,708**	8,000	5,600 *	2,400	1,680 *
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied	Urban	Rural	Urban	Rural
XX					
Number of lanes for moving traffic on each approach					
Major Street	Minor Street				
1 **13,862**	*1* **1,708**	12,000	8,400 *	1,200	850 *
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied				
XX		2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more	A / B				
	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 6.3: EAPC (2028) CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	287	325	316	734	1736	1304	202
v/c Ratio	0.74	0.88	0.76	0.90	0.52	0.70	0.30
Control Delay	47.0	57.9	38.7	46.6	17.6	29.9	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Total Delay	47.0	57.9	38.7	46.6	18.4	29.9	8.6
Queue Length 50th (ft)	171	196	148	257	331	270	22
Queue Length 95th (ft)	269	#351	253	#316	361	327	74
Internal Link Dist (ft)		1180			412	935	
Turn Bay Length (ft)	500		500	155			140
Base Capacity (vph)	428	408	456	850	3312	1876	679
Starvation Cap Reductn	0	0	0	0	1122	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	0.80	0.69	0.86	0.79	0.70	0.30

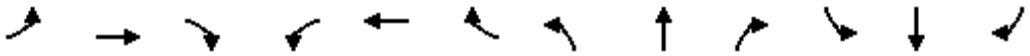
Intersection Summary

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

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	327	322	297	1923	532	452	1116
v/c Ratio	0.84	0.85	0.71	0.80	0.52	0.88	0.34
Control Delay	55.3	53.5	32.1	26.2	3.6	70.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.3	53.5	32.1	26.2	3.6	70.0	2.2
Queue Length 50th (ft)	202	189	114	381	0	133	13
Queue Length 95th (ft)	#332	#332	213	449	57	#226	38
Internal Link Dist (ft)		1416		886			412
Turn Bay Length (ft)			450		415	155	
Base Capacity (vph)	437	420	453	2397	1014	516	3271
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	0.75	0.77	0.66	0.80	0.52	0.88	0.34

Intersection Summary

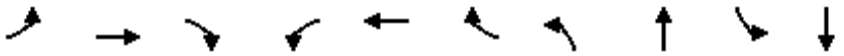
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	602	291	165	152	263	202	459	1667	121	152	1061	270
v/c Ratio	0.87	0.29	0.29	0.55	0.45	0.49	0.91	0.88	0.18	0.81	0.75	0.43
Control Delay	53.9	27.7	5.2	53.7	38.8	9.7	66.7	37.1	3.5	78.4	37.7	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	27.7	5.2	53.7	38.8	9.7	66.7	37.1	3.5	78.4	37.7	6.6
Queue Length 50th (ft)	178	75	0	45	78	5	140	326	0	47	207	0
Queue Length 95th (ft)	#380	107	42	95	114	59	#316	#626	28	#132	#376	69
Internal Link Dist (ft)		2549			2428			2703			886	
Turn Bay Length (ft)	205		205	205		130	200		305	355		535
Base Capacity (vph)	692	1770	862	304	1369	718	503	1885	669	188	1419	627
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.16	0.19	0.50	0.19	0.28	0.91	0.88	0.18	0.81	0.75	0.43

Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	96	70	55	132	102	237	58	1612	141	672
v/c Ratio	0.44	0.28	0.18	0.66	0.34	0.59	0.45	0.97	0.72	0.36
Control Delay	55.1	43.2	1.3	62.4	40.7	17.6	59.1	44.4	66.7	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	43.2	1.3	62.4	40.7	17.6	59.1	44.4	66.7	16.7
Queue Length 50th (ft)	30	43	0	83	61	35	36	518	88	129
Queue Length 95th (ft)	67	83	1	#206	108	107	89	#924	#216	244
Internal Link Dist (ft)		810			1637			2644		1335
Turn Bay Length (ft)	130			205		200	215		210	
Base Capacity (vph)	234	546	534	203	618	634	163	1656	213	1885
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.13	0.10	0.65	0.17	0.37	0.36	0.97	0.66	0.36

Intersection Summary

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

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	28	343	1456	27	142	672
v/c Ratio	0.09	0.75	0.79	0.03	0.63	0.27
Control Delay	36.6	24.9	22.9	7.3	56.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	24.9	22.9	7.3	56.2	5.9
Queue Length 50th (ft)	15	63	337	2	80	60
Queue Length 95th (ft)	41	168	555	17	#179	127
Internal Link Dist (ft)	3339		1159			2644
Turn Bay Length (ft)	150			200	300	
Base Capacity (vph)	594	683	2386	1073	289	2988
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.50	0.61	0.03	0.49	0.22

Intersection Summary

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

Intersection: 1: La Sierra Av. & SR-91 WB Ramps

Movement	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LTR	R	L	L	T	T	T	T	T	T	R
Maximum Queue (ft)	295	325	277	245	372	289	280	280	666	550	234	180
Average Queue (ft)	151	237	182	212	252	183	185	178	379	291	112	56
95th Queue (ft)	263	314	280	285	369	268	272	262	564	490	203	115
Link Distance (ft)		1183			444	444	444	444	960	960	960	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500		500	155								140
Storage Blk Time (%)				13	21						3	0
Queuing Penalty (veh)				43	70						5	0

Intersection: 2: La Sierra Av. & SR-91 EB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	LTR	R	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	1470	1474	560	579	530	517	396	192	215	233	175	163
Average Queue (ft)	1246	1301	555	312	274	253	135	141	145	39	44	54
95th Queue (ft)	1677	1686	639	541	487	444	272	190	204	147	133	120
Link Distance (ft)	1430	1430		861	861	861				444	444	444
Upstream Blk Time (%)	31	48								0		
Queuing Penalty (veh)	0	0								1		
Storage Bay Dist (ft)			450				415	155	155			
Storage Blk Time (%)		87	1			0		17	20	1		
Queuing Penalty (veh)		169	5			1		57	69	3		

Intersection: 3: La Sierra Av. & Indiana Av./S. Indiana Av.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	235	265	696	587	95	101	114	131	172	166	237	275
Average Queue (ft)	190	222	230	142	36	40	57	67	62	71	156	198
95th Queue (ft)	286	300	682	481	74	78	98	107	119	136	246	312
Link Distance (ft)			2553	2553				2432	2432			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	205	205			205	205	205			130	200	200
Storage Blk Time (%)	8	25	0						0	2	4	9
Queuing Penalty (veh)	10	34	3						1	2	19	44

Intersection: 3: La Sierra Av. & Indiana Av./S. Indiana Av.

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB		
Directions Served	T	T	T	R	L	L	T	T	T	R		
Maximum Queue (ft)	520	508	453	249	96	111	263	301	286	168		
Average Queue (ft)	259	266	293	36	43	57	147	165	157	57		
95th Queue (ft)	441	424	426	142	85	95	238	258	249	116		
Link Distance (ft)	2685	2685	2685				861	861	861			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				305	355	355				535		
Storage Blk Time (%)	15		9									
Queuing Penalty (veh)	64		10									

Intersection: 4: La Sierra Av. & Victoria Av.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	97	125	95	68	173	149	188	274	600	626	183	170
Average Queue (ft)	20	59	45	27	82	64	78	55	337	365	87	65
95th Queue (ft)	58	108	85	54	145	124	140	171	570	587	156	150
Link Distance (ft)			843	843		1670			2640	2640		1340
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130	130			205		200	215			210	
Storage Blk Time (%)	0	0	0		0		0		23		0	0
Queuing Penalty (veh)	0	0	0		0		0		12		0	0

Intersection: 4: La Sierra Av. & Victoria Av.

Movement	SB
Directions Served	TR
Maximum Queue (ft)	227
Average Queue (ft)	80
95th Queue (ft)	177
Link Distance (ft)	1340
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: La Sierra Av. & McAllister Pkwy.

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (ft)	57	244	313	291	31	200	116	137
Average Queue (ft)	17	108	172	147	9	88	36	54
95th Queue (ft)	47	203	277	252	32	167	96	113
Link Distance (ft)		3360	1207	1207			2640	2640
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150				200	300		
Storage Blk Time (%)		4		2				
Queuing Penalty (veh)		1		1				

Network Summary

Network wide Queuing Penalty: 626

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	447	431	404	510	1078	1630	339
v/c Ratio	0.90	0.86	0.76	0.89	0.36	0.87	0.47
Control Delay	55.4	45.3	33.9	43.5	23.8	35.6	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	45.3	33.9	43.5	23.8	35.6	11.8
Queue Length 50th (ft)	277	242	188	176	241	358	58
Queue Length 95th (ft)	#461	#424	310	m201	m278	#454	139
Internal Link Dist (ft)		1180			412	935	
Turn Bay Length (ft)	500		500	155			140
Base Capacity (vph)	524	529	558	583	2959	1884	716
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	0.81	0.72	0.87	0.36	0.87	0.47

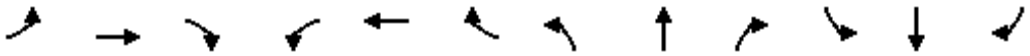
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	274	545	536	1239	398	513	1682
v/c Ratio	0.40	0.94	0.85	0.85	0.55	0.93	0.70
Control Delay	22.7	54.4	37.4	40.9	6.1	40.7	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Total Delay	22.7	54.4	37.4	40.9	6.1	40.7	14.8
Queue Length 50th (ft)	124	346	275	277	0	109	280
Queue Length 95th (ft)	194	#584	#483	#345	72	m#204	365
Internal Link Dist (ft)		1416		886			412
Turn Bay Length (ft)			450		415	155	
Base Capacity (vph)	706	597	648	1456	729	553	2408
Starvation Cap Reductn	0	0	0	0	0	0	356
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.91	0.83	0.85	0.55	0.93	0.82

Intersection Summary

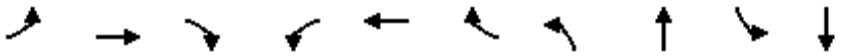
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	434	311	265	179	246	205	211	972	84	309	1936	343
v/c Ratio	0.86	0.39	0.55	0.61	0.43	0.50	0.81	0.53	0.12	0.74	0.94	0.40
Control Delay	60.0	33.5	17.0	54.6	38.5	10.1	70.7	27.7	0.4	54.9	39.0	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	33.5	17.0	54.6	38.5	10.1	70.7	27.7	0.4	54.9	39.0	4.3
Queue Length 50th (ft)	130	87	53	53	73	6	64	161	0	91	381	0
Queue Length 95th (ft)	#294	123	124	#117	107	61	#168	291	0	#201	#741	64
Internal Link Dist (ft)		2549			2428			2703			886	
Turn Bay Length (ft)	205		205	205		130	200		305	355		535
Base Capacity (vph)	505	1569	793	315	1373	724	259	1834	692	434	2067	847
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.20	0.33	0.57	0.18	0.28	0.81	0.53	0.12	0.71	0.94	0.40

Intersection Summary

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

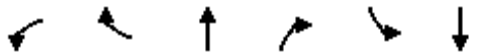


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	58	108	146	300	82	153	32	1088	197	1914
v/c Ratio	0.32	0.42	0.38	1.20	0.18	0.31	0.37	0.81	0.81	1.05
Control Delay	55.2	45.7	4.8	162.1	33.7	6.9	63.4	34.3	69.4	63.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	45.7	4.8	162.1	33.7	6.9	63.4	34.3	69.4	63.1
Queue Length 50th (ft)	19	68	0	~239	46	0	21	308	126	~737
Queue Length 95th (ft)	45	119	22	#490	86	48	#60	#534	#297	#1126
Internal Link Dist (ft)		810			1637			2644		1335
Turn Bay Length (ft)	130			205		200	215		210	
Base Capacity (vph)	182	530	582	250	682	669	86	1437	252	1817
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.20	0.25	1.20	0.12	0.23	0.37	0.76	0.78	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.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	20	231	878	12	351	1937
v/c Ratio	0.07	0.53	0.66	0.02	0.74	0.78
Control Delay	35.5	9.8	25.8	11.4	41.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	9.8	25.8	11.4	41.3	11.8
Queue Length 50th (ft)	9	0	188	0	156	248
Queue Length 95th (ft)	33	63	367	14	#384	642
Internal Link Dist (ft)	3339		1159			2644
Turn Bay Length (ft)	150			200	300	
Base Capacity (vph)	642	721	1887	849	659	3179
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.32	0.47	0.01	0.53	0.61

Intersection Summary

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

Intersection: 1: La Sierra Av. & SR-91 WB Ramps

Movement	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LTR	R	L	L	T	T	T	T	T	T	R
Maximum Queue (ft)	378	433	393	220	232	229	234	227	988	992	969	190
Average Queue (ft)	230	305	240	154	164	157	161	162	801	741	389	150
95th Queue (ft)	346	401	349	203	211	210	221	220	1106	1091	805	248
Link Distance (ft)		1183			444	444	444	444	960	960	960	
Upstream Blk Time (%)									27	8	0	
Queuing Penalty (veh)									0	0	0	
Storage Bay Dist (ft)	500		500	155								140
Storage Blk Time (%)		0		4	6						27	1
Queuing Penalty (veh)		0		9	15						87	3

Intersection: 2: La Sierra Av. & SR-91 EB Ramps

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	LTR	R	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	727	904	524	502	468	427	227	178	210	376	330	333
Average Queue (ft)	404	666	406	307	242	221	108	118	129	138	149	167
95th Queue (ft)	1377	1419	617	514	432	371	195	162	188	295	300	314
Link Distance (ft)	1430	1430		861	861	861				444	444	444
Upstream Blk Time (%)	12	18								0	0	0
Queuing Penalty (veh)	0	0								2	2	3
Storage Bay Dist (ft)			450				415	155	155			
Storage Blk Time (%)		22	17			0		2	1	6		
Queuing Penalty (veh)		111	111			0		12	7	30		

Intersection: 3: La Sierra Av. & Indiana Av./S. Indiana Av.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	234	260	330	218	208	110	125	146	139	162	159	190
Average Queue (ft)	145	178	90	80	91	48	72	67	58	65	72	88
95th Queue (ft)	247	264	249	165	162	91	116	112	107	126	139	154
Link Distance (ft)			2553	2553				2432	2432			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	205	205			205	205	205			130	200	200
Storage Blk Time (%)	1	9			0				0	1	0	
Queuing Penalty (veh)	1	13			0				0	1	0	

Intersection: 3: La Sierra Av. & Indiana Av./S. Indiana Av.

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB		
Directions Served	T	T	T	R	L	L	T	T	T	R		
Maximum Queue (ft)	228	232	312	54	183	426	738	722	708	401		
Average Queue (ft)	114	112	150	21	92	213	462	483	479	226		
95th Queue (ft)	203	202	270	47	150	472	871	888	886	659		
Link Distance (ft)	2685	2685	2685				861	861	861			
Upstream Blk Time (%)							1	2	3			
Queuing Penalty (veh)							9	16	24			
Storage Bay Dist (ft)				305	355	355				535		
Storage Blk Time (%)	1		0			0	25		17			
Queuing Penalty (veh)	2		0			0	73		57			

Intersection: 4: La Sierra Av. & Victoria Av.

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	T	R	L	T	TR	L	T
Maximum Queue (ft)	31	79	156	166	305	1442	330	112	374	417	275	1392
Average Queue (ft)	9	35	68	68	304	1147	251	23	202	238	214	983
95th Queue (ft)	30	72	126	127	308	1809	463	72	344	389	349	1596
Link Distance (ft)			843	843		1670			2640	2640		1340
Upstream Blk Time (%)						22						13
Queuing Penalty (veh)						0						147
Storage Bay Dist (ft)	130	130			205		200	215			210	
Storage Blk Time (%)			1		88	0			8		5	43
Queuing Penalty (veh)			0		197	2			2		40	80

Intersection: 4: La Sierra Av. & Victoria Av.

Movement	SB	B6	B6	B6
Directions Served	TR	T	T	
Maximum Queue (ft)	1394	1445	1454	139
Average Queue (ft)	985	191	237	5
95th Queue (ft)	1607	1025	1215	88
Link Distance (ft)	1340	2685	2685	2685
Upstream Blk Time (%)	14	0	0	
Queuing Penalty (veh)	162	0	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: La Sierra Av. & McAllister Pkwy.

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (ft)	61	154	260	240	34	278	266	313
Average Queue (ft)	13	60	143	118	4	176	91	113
95th Queue (ft)	40	114	235	215	21	264	206	243
Link Distance (ft)		3360	1207	1207			2640	2640
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150				200	300		
Storage Blk Time (%)		0		1		0	0	
Queuing Penalty (veh)		0		0		4	0	

Network Summary

Network wide Queuing Penalty: 1226

APPENDIX 6.4: EAPC (2028) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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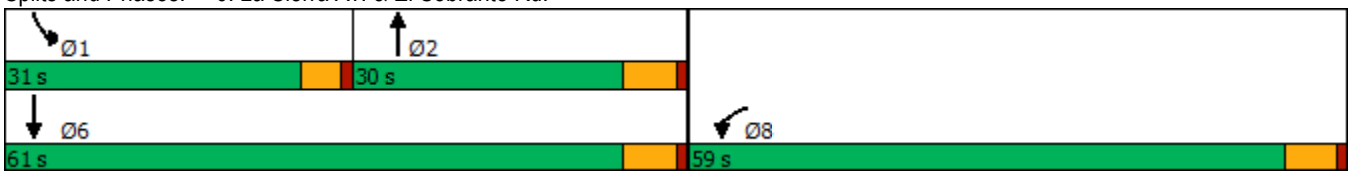
Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	99	106	300	125
Future Volume (vph)	99	106	300	125
Turn Type	Prot	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8
Total Split (s)	59.0	30.0	31.0	61.0
Total Split (%)	49.2%	25.0%	25.8%	50.8%
Yellow Time (s)	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min
Act Effct Green (s)	45.4	12.4	23.2	40.4
Actuated g/C Ratio	0.46	0.13	0.24	0.41
v/c Ratio	0.91	0.35	0.81	0.18
Control Delay	29.5	34.2	53.6	20.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.5	34.2	53.6	20.5
LOS	C	C	D	C
Approach Delay	29.5	34.2		43.8
Approach LOS	C	C		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 34.6	Intersection LOS: C
Intersection Capacity Utilization 85.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: La Sierra Av. & El Sobrante Rd.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	99	665	106	38	300	125
Future Volume (veh/h)	99	665	106	38	300	125
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	523	120	32	341	142
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	122	571	377	97	386	775
Arrive On Green	0.43	0.43	0.14	0.14	0.22	0.41
Sat Flow, veh/h	285	1330	2889	722	1781	1870
Grp Volume(v), veh/h	636	0	75	77	341	142
Grp Sat Flow(s),veh/h/ln	1617	0	1777	1740	1781	1870
Q Serve(g_s), s	27.4	0.0	2.8	3.0	13.7	3.6
Cycle Q Clear(g_c), s	27.4	0.0	2.8	3.0	13.7	3.6
Prop In Lane	0.18	0.82		0.41	1.00	
Lane Grp Cap(c), veh/h	694	0	240	235	386	775
V/C Ratio(X)	0.92	0.00	0.31	0.33	0.88	0.18
Avail Cap(c_a), veh/h	1162	0	581	569	635	1394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	28.9	29.0	28.1	13.8
Incr Delay (d2), s/veh	7.0	0.0	0.7	0.8	4.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	0.0	1.1	1.2	5.6	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.9	0.0	29.7	29.8	32.8	13.9
LnGrp LOS	C	A	C	C	C	B
Approach Vol, veh/h	636		152			483
Approach Delay, s/veh	26.9		29.7			27.3
Approach LOS	C		C			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	20.7	15.8			36.5	37.6
Change Period (Y+Rc), s	4.6	5.8			5.8	5.8
Max Green Setting (Gmax), s	26.4	24.2			55.2	53.2
Max Q Clear Time (g_c+I1), s	15.7	5.0			5.6	29.4
Green Ext Time (p_c), s	0.4	0.6			0.7	2.4

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

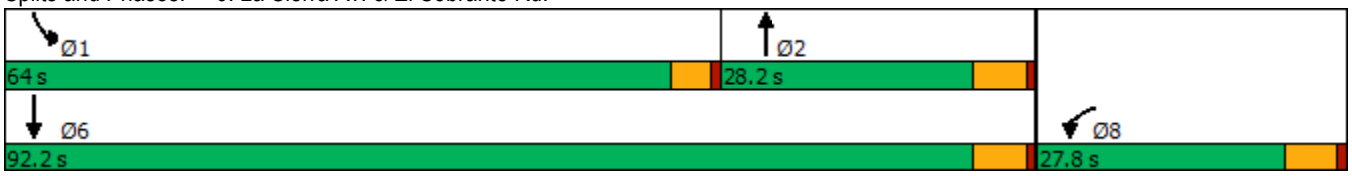
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	61	223	904	518
Future Volume (vph)	61	223	904	518
Turn Type	Prot	NA	Prot	NA
Protected Phases	8	2	1	6
Permitted Phases				
Detector Phase	8	2	1	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	5.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8
Total Split (s)	27.8	28.2	64.0	92.2
Total Split (%)	23.2%	23.5%	53.3%	76.8%
Yellow Time (s)	4.8	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min
Act Effct Green (s)	22.0	15.6	59.4	79.7
Actuated g/C Ratio	0.19	0.14	0.52	0.70
v/c Ratio	1.01	0.69	1.05	0.43
Control Delay	66.1	45.8	70.5	8.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	66.1	45.8	70.5	8.2
LOS	E	D	E	A
Approach Delay	66.1	45.8		47.8
Approach LOS	E	D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.3	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 51.5	Intersection LOS: D
Intersection Capacity Utilization 103.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 6: La Sierra Av. & El Sobrante Rd.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	61	432	223	107	904	518
Future Volume (veh/h)	61	432	223	107	904	518
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	277	240	77	972	557
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	62	259	313	98	957	1302
Arrive On Green	0.20	0.20	0.12	0.12	0.54	0.70
Sat Flow, veh/h	311	1304	2757	834	1781	1870
Grp Volume(v), veh/h	344	0	158	159	972	557
Grp Sat Flow(s),veh/h/ln	1620	0	1777	1720	1781	1870
Q Serve(g_s), s	22.0	0.0	9.5	9.9	59.4	14.2
Cycle Q Clear(g_c), s	22.0	0.0	9.5	9.9	59.4	14.2
Prop In Lane	0.19	0.81		0.48	1.00	
Lane Grp Cap(c), veh/h	322	0	209	202	957	1302
V/C Ratio(X)	1.07	0.00	0.76	0.79	1.02	0.43
Avail Cap(c_a), veh/h	322	0	360	348	957	1461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.3	0.0	47.3	47.4	25.6	7.3
Incr Delay (d2), s/veh	69.2	0.0	5.5	6.6	33.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.7	0.0	4.3	4.4	29.9	4.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	113.5	0.0	52.8	54.0	58.8	7.5
LnGrp LOS	F	A	D	D	F	A
Approach Vol, veh/h	344		317			1529
Approach Delay, s/veh	113.5		53.4			40.1
Approach LOS	F		D			D

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	64.0	18.8			82.8	27.8
Change Period (Y+Rc), s	4.6	5.8			5.8	5.8
Max Green Setting (Gmax), s	59.4	22.4			86.4	22.0
Max Q Clear Time (g_c+I1), s	61.4	11.9			16.2	24.0
Green Ext Time (p_c), s	0.0	1.1			3.3	0.0

Intersection Summary		
HCM 6th Ctrl Delay		53.6
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.