Renaissance Ranch Specific Plan (SP00333A01)

TRAFFIC ANALYSIS

COUNTY OF RIVERSIDE

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CA MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
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
HCS	Highway Capacity Software
HOV	High-Occupancy Vehicle
ITE	Institute of Transportation Engineers
LOS	Level of Service
NCHRP	National Cooperative Highway Research Program
PCE	Passenger Car Equivalents
PeMS	Performance Measurement System
PHF	Peak Hour Factor
Project	Renaissance Ranch Specific Plan
RCTC	Riverside County Transportation Commission
RivTAM	Riverside County Transportation Analysis Model
RTA	Riverside Transit Authority
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SHS	State Highway System
TCR	Transportation Concept Report
TA	Traffic Analysis
TUMF	Transportation Uniform Mitigation Fee
WRCOG	Western Riverside Council of Governments
V/C	Volume to Capacity

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1 INTRODUCTION

This report presents the results of the traffic analysis (TA) for the proposed Renaissance Ranch Specific Plan development ("Project"), which is located east of Horsethief Canyon Road and south of the I-15 Freeway in the County of Riverside, as shown on Exhibit 1-1.

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

1.1 SUMMARY OF FINDINGS

The Project is proposing to construct the following improvement as a design feature in conjunction with development of the site:

- Project to construct Street A from Horsethief Canyon Road to the Project site at its ultimate full-section width as an Industrial Collector (78-foot right-of-way) in compliance with the circulation recommendations found in the County of Riverside General Plan Circulation Element

Additional details and intersection lane geometrics are provided in Section 1.6 *Recommendations* of this report.

1.2 PROJECT OVERVIEW

Project is proposing to amend the Specific Plan with a mix of industrial and business park uses, as described below:

- 423,403 square feet of high-cube cold storage warehousing use within the Light Industrial area (20% of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 740,956 square feet of high-cube fulfillment center warehousing use within the Light Industrial area (35% of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 740,956 square feet of high-cube transload/short-term storage warehousing use within the Light Industrial area (35% of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 211,702 square feet of manufacturing use within the Light Industrial area (10% of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 156,816 square feet of warehousing use within the Business Park area (40% of the Business Park square footage, calculated assuming 0.5 floor-to-area ratio)
- 235,224 square feet of industrial park use within the Business Park area (60% of the Business Park square footage, calculated assuming 0.5 floor-to-area ratio)

EXHIBIT 1-1: PRELIMINARY SITE PLAN

The anticipated Project opening year is 2025. Vehicular access will be provided via the following driveways (see Exhibit 1-1):

- Horsethief Canyon Road via Street A – full access for both passenger cars and trucks
- Hostettler Road via Bolo Court – secondary full access for passenger cars only

Regional access to the Project site is available to the I-15 Freeway via Indian Truck Trail and Lake Street interchanges. Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, (10th Edition, 2017) was used to estimate the trip generation. (3) The proposed Project is anticipated to generate 5,422 vehicle trip-ends per day with 449 AM peak hour trips and 514 PM peak hour trips (in actual vehicles). For the purposes of the operations analysis, the passenger car equivalent (PCE) trip generation has been utilized consistent with the County's traffic study guidelines. 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 (2020)
- Existing Plus Ambient Growth Plus Project (EAP) (2025)
- Existing Plus Ambient Growth Plus Project Plus Cumulative Projects (EAPC) (2025)
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Project

1.3.1 EXISTING (2020) CONDITIONS

Information for Existing (2020) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. Traffic counts were conducted on Thursday, January 23, 2020, when local schools were in session and operating on a typical bell schedule (prior to the currently ongoing COVID-19 pandemic). Traffic counts based on vehicle classification were converted to PCE. Use of PCE here accounts for the effects of large trucks present within the existing study area. By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is also much longer than for passenger cars and varies depending on the type of vehicle and number of axles.

1.3.3 EXISTING PLUS AMBIENT GROWTH PLUS PROJECT (2025) CONDITIONS

The EAP (2025) conditions analysis determines the potential circulation system deficiencies based on a comparison of the EAP traffic conditions to Existing conditions. To account for background traffic growth, an ambient growth factor from Existing (2020) conditions of 10.41% (2 percent per year, compounded over 5 years) is included for EAP (2025) traffic conditions. The

assumed ambient growth factor is based on the requirements per the County of Riverside traffic study guidelines. Consistent with Riverside County traffic study guidelines, the EAP analysis is intended to identify "Opening Year" deficiencies associated with the development of the proposed Project based on the expected background growth within the study area.

1.3.4 EXISTING PLUS AMBIENT GROWTH PLUS PROJECT PLUS CUMULATIVE (2025) CONDITIONS

The EAPC (2025) traffic conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, an ambient growth factor of 10.41% from Existing conditions are included for EAPC traffic conditions (2 percent per year, compounded over 5 years). Conservatively, the 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 10.41% of ambient growth; and some of these related projects would likely not be implemented and operational within the 2025 Opening Year time frame assumed for the Project. The resulting traffic growth utilized in the TA (10.41% ambient growth factor plus traffic generated by related projects) would therefore tend to overstate rather than understate background cumulative traffic deficiencies under 2025 traffic conditions.

1.3.5 HORIZON YEAR (2040) CONDITIONS

Traffic projections for Horizon Year (2040) conditions were derived from the County of Riverside Transportation Analysis Model (RivTAM) using accepted procedures for model forecast refinement and smoothing. This scenario evaluates the circulation network in order to compare the findings between the County's currently adopted General Plan. The Horizon Year conditions analyses will be utilized to determine if improvements funded through regional transportation mitigation fee programs, such as the Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF) and Development Impact Fee (DIF) programs, can accommodate the long-range cumulative traffic at the target level of service (LOS) identified in the County of Riverside (lead agency) General Plan. (4) Each of these regional transportation fee programs are discussed in more detail in Section 8 *Local and Regional Funding Mechanisms*.

1.4 STUDY AREA

To ensure that this TA satisfies the County of Riverside's traffic study requirements, Urban Crossroads, Inc. prepared a project traffic study scoping package for review by County of Riverside staff prior to the preparation of this report. The Project traffic study scoping agreement is provided in Appendix 1.1.

1.4.1 STUDY AREA INTERSECTIONS

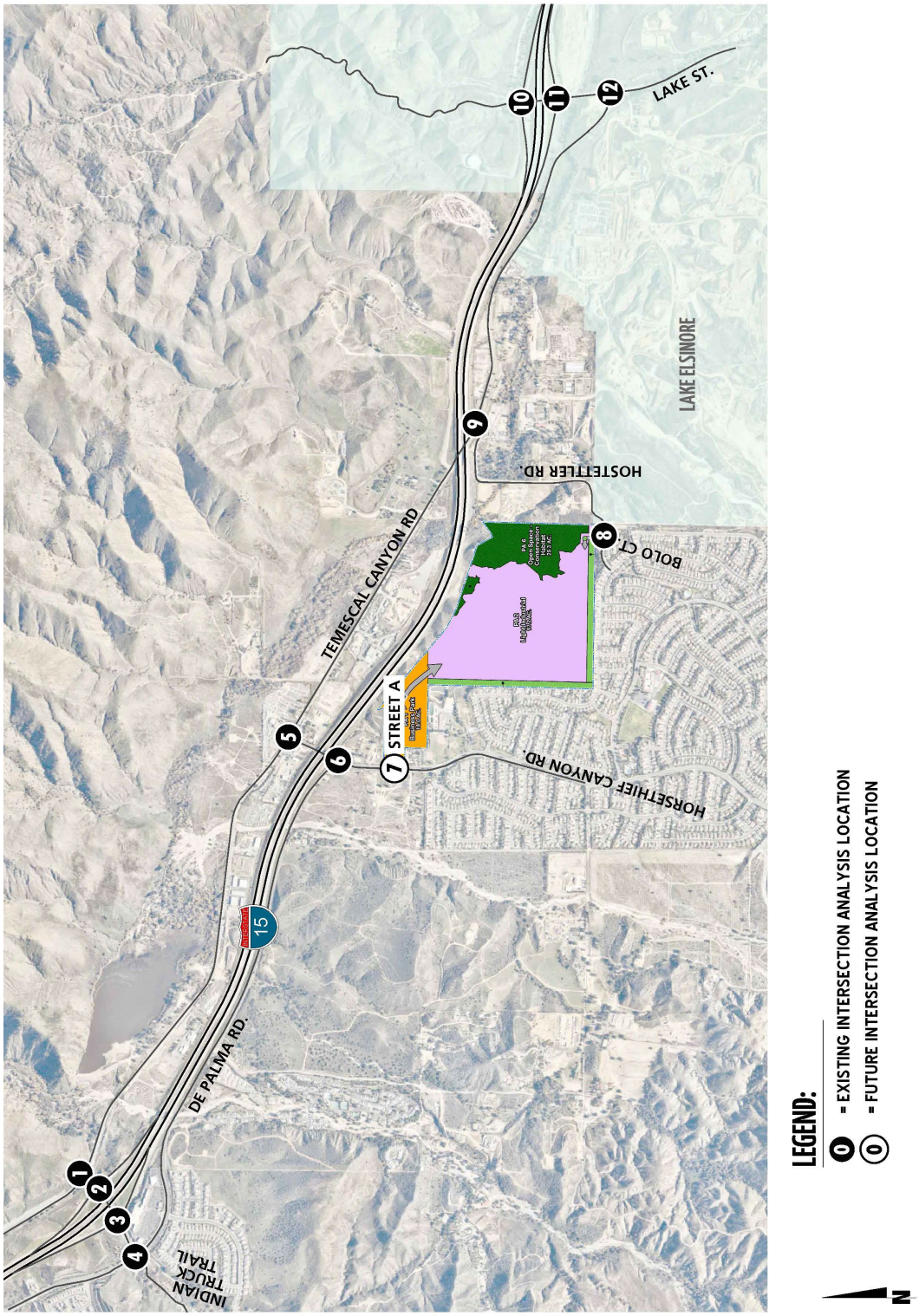
The 12 study area intersections shown on Exhibit 1-2 and listed in Table 1-1 were selected for evaluation in this TA based on consultation with County of Riverside staff. The study area includes intersections where the Project is anticipated to contribute 50 or more peak hour trips per the County of Riverside's traffic study guidelines. (1) The "50 peak hour trip" criteria represent a minimum number of trips at which a typical intersection would have the potential to be substantively affected by a given development proposal. The 50 peak hour trip criterion is a traffic engineering rule of thumb that is accepted and widely used within Riverside County for estimating a potential area of influence (i.e., study area).

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction	CMP?
1	Temescal Canyon Rd. & Indian Truck Tr.	County of Riverside	No
2	I-15 NB Ramps & Indian Truck Tr.	Caltrans, County of Riverside	No
3	I-15 SB Ramps & Indian Truck Tr.	Caltrans, County of Riverside	No
4	De Palma Rd. & Indian Truck Tr.	County of Riverside	No
5	Horsethief Canyon Rd. & Temescal Canyon Rd.	County of Riverside	No
6	Horsethief Canyon Rd. & De Palma Rd.	County of Riverside	No
7	Horsethief Canyon Rd. & Street A – Future Intersection	County of Riverside	No
8	Bolo Ct. & Hostettler Rd.	County of Riverside	No
9	Temescal Canyon Rd. & Hostettler Rd.	County of Riverside	No
10	Lake St. & I-15 NB Ramps	Caltrans, City of Lake Elsinore	No
11	Lake St. & I-15 SB Ramps	Caltrans, City of Lake Elsinore	No
12	Lake St. & Temescal Canyon Rd.	City of Lake Elsinore	No

The intent of a Congestion Management Program (CMP) is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. The County of Riverside CMP became effective with the passage of Proposition 111 in 1990 and updated most recently updated in 2011. The Riverside County Transportation Commission (RCTC) adopted the 2011 CMP for the County of Riverside in December 2011. (5) CMP intersections are identified in Table 1-1. There are no study area intersections identified as a Riverside County CMP facility.

EXHIBIT 1-2: LOCATION MAP



1.4.2 FREEWAY MAINLINE AND RAMP JUNCTION ANALYSIS

Consistent with recent Caltrans guidance, and because deficiencies to freeway segments tend to dissipate with distance from the point of State Highway System (SHS) entry, quantitative study of freeway segments beyond those immediately adjacent to the point of entry typically is not required. This study evaluates the following freeway facilities adjacent to the point of entry to the SHS at the I-15 Freeway and Indian Truck Trail and Lake Street (see Table 1-2):

TABLE 1-2: FREEWAY FACILITY ANALYSIS LOCATIONS

ID	Freeway Facilities
1	I-15 Freeway Southbound, North of Indian Truck Tr.
2	I-15 Freeway Southbound, Off-Ramp at Indian Truck Tr.
3	I-15 Freeway Southbound, On-Ramp at Lake St.
4	I-15 Freeway Southbound, South of Lake St.
5	I-15 Freeway Northbound, North of Indian Truck Tr.
6	I-15 Freeway Northbound, On-Ramp at Indian Truck Tr.
7	I-15 Freeway Northbound, Off-Ramp at Lake St.
8	I-15 Freeway Northbound, South of Lake St.

1.5 DEFICIENCIES

This section provides a summary of deficiencies by analysis scenario. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 5 *EAP (2025) Traffic Conditions*, Section 6 *EAPC (2025) Traffic Conditions*, and Section 7 *Horizon Year (2040) Traffic Conditions* includes the detailed analysis. A summary of LOS results for all analysis scenarios is presented on Exhibit 1-3.

1.5.1 EAP (2025) CONDITIONS

Intersections

All study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours for EAP (2025) traffic conditions, consistent with Existing (2020) traffic conditions.

Off-Ramp Queues

There are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows, consistent with Existing (2020) traffic conditions.

EXHIBIT 1-3: SUMMARY OF DEFICIENT INTERSECTIONS BY ANALYSIS SCENARIO

#	Intersection	Existing (2020)	EAP (2025)	EAPC (2025)	Horizon Year (2040) Without Project	Horizon Year (2040) With Project
1	Temescal Canyon Rd. & Indian Truck Tr.					
2	I-15 NB Ramps & Indian Truck Trail					
3	I-15 SB Ramps & Indian Truck Trail					
4	De Palma Rd. & Indian Truck Trail					
5	Horsethief Canyon Rd. & Temescal Canyon Rd.					
6	Horsethief Canyon Rd. & De Palma Rd.					
7	Horsethief Canyon Rd. & Street A	NA			NA	
8	Bolo Ct. & Hostettler Rd.					
9	Temescal Canyon Rd. & Hostettler Rd.					
10	Lake St. & I-15 NB Ramps					
11	Lake St. & I-15 SB Ramps					
12	Lake St. & Temescal Canyon Rd.					

LEGEND:

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

Freeway Facilities

Consistent with Existing (2020) traffic conditions, the following study area freeway segment is anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for EAP (2025) traffic conditions:

- I-15 Freeway Southbound, North of Indian Truck Trail (#1) – LOS E PM peak hour only

1.5.2 EAPC (2025) CONDITIONS

Intersections

The following study area intersections are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours under EAPC (2025) traffic conditions:

- Temescal Canyon Road & Indian Truck Trail (#1) – LOS E PM peak hour only
- De Palma Road & Indian Truck Trail (#4) – LOS E AM peak hour; LOS F PM peak hour
- Horsethief Canyon Road & Street A (#7) – LOS F AM and PM peak hours
- Lake Street & I-15 SB Ramps (#11) – LOS E PM peak hour only
- Lake Street & Temescal Canyon Road (#12) – LOS F PM peak hour only

Off-Ramp Queues

There are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows, consistent with Existing (2020) traffic conditions.

Freeway Facilities

The study area freeway segments and merge/diverge ramp junctions analyzed for this study are anticipated to operate at an acceptable LOS (i.e., LOS D or better) during the peak hours for EAPC (2025) traffic conditions, with the exception of the following study area freeway segment:

- I-15 Freeway Southbound, North of Indian Truck Trail (#1) – LOS E PM peak hour only

1.6.4 HORIZON YEAR (2040) CONDITIONS

Intersections

The following study area intersections are anticipated to operate at a deficient LOS (i.e., LOS E or worse) during one or both peak hours under Horizon Year (2040) Without Project traffic conditions:

- Temescal Canyon Road & Indian Truck Trail (#1) – LOS E AM and PM peak hours
- De Palma Road & Indian Truck Trail (#4) – LOS E AM peak hour; LOS F PM peak hour
- Horsethief Canyon Road & Temescal Canyon Road (#5) – LOS F AM and PM peak hours
- Horsethief Canyon Road & De Palma Road (#6) – LOS F PM peak hour only
- Lake Street & I-15 NB Ramps (#10) – LOS E AM peak hour only
- Lake Street & I-15 SB Ramps (#11) – LOS F PM peak hour only
- Lake Street & Temescal Canyon Road (#12) – LOS F AM and PM peak hours

With the addition of Project traffic, the following additional study area intersection is anticipated to result in an unacceptable LOS, in addition to the intersections previously identified under Horizon Year (2040) Without Project traffic conditions.

- Horsethief Canyon Road & Street A (#7) – LOS F PM peak hour only

Off-Ramp Queues

There are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows, consistent with Existing (2020) traffic conditions.

Freeway Facilities

The study area freeway segments and merge/diverge ramp junctions analyzed for this study are anticipated to operate at an acceptable LOS (i.e., LOS D or better) during the peak hours for Horizon Year (2040) Without Project traffic conditions, with the exception of the following freeway segments and marge/diverge ramp junctions:

- I-15 Freeway Southbound, North of Indian Truck Trail (#1) – LOS F PM peak hour only
- I-15 Freeway Southbound, Off-Ramp at Indian Truck Trail (#2) – LOS F PM peak hour only

1.6 RECOMMENDATIONS

1.6.1 SITE ADJACENT AND SITE ACCESS RECOMMENDATIONS

The following recommendations are based on the improvements needed to accommodate site access. Exhibit 1-4 shows the site adjacent recommendations. Exhibit 1-5 shows the proposed Specific Plan Cross-sections for Street A and the existing Horsethief Canyon Road.

At the intersections of Bolo Court & Hostettler Road (#8), no improvements are recommended; the existing traffic control and intersection geometrics should be maintained.

Recommendation 1 – ***Horsethief Canyon Road & Street A (#7)*** – The following improvements are necessary to accommodate site access:

- Project to construct a southbound left turn lane within the existing striped two-way left-turn lane median.
- Project to install a stop control on the westbound approach and a shared left-right turn lane (Street A).

There are 3 potential roundabout locations proposed along Street A within Planning Areas 3, 4, 5, and 6. Exhibit 1-6 illustrates the conceptual roundabout layouts for the potential locations.

Recommendation 2 – Street A is an east-west oriented roadway bisecting the Project site. Project to construct Street A from Horsethief Canyon Road through Planning Areas 1 and 2 at its ultimate full-section width as an Industrial Collector (81-foot right-of-way, 56-foot curb-to-curb) in compliance with the circulation recommendations found in the Specific Plan and/or County of Riverside General Plan Circulation Element.

Project to construct Street A within Planning Area 2 at its ultimate full-section width as a Modified Local Street (64-foot right-of-way, 40-foot curb-to-curb) in compliance with the circulation recommendations found in the Specific Plan and/or County of Riverside General Plan Circulation Element.

Recommendation 3 – Horsethief Canyon Road is a north-south oriented roadway located along the western boundary of the Project. Project to construct Horsethief Canyon Road along the Project's frontage at its ultimate half-section width as a Modified Secondary Highway (94-foot right-of-way, 64-foot curb-to-curb) in compliance with the circulation recommendations found in the Specific Plan and/or County of Riverside General Plan Circulation Element.

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.

EXHIBIT 1-4: SITE ADJACENT ROADWAY AND SITE ACCESS RECOMMENDATIONS

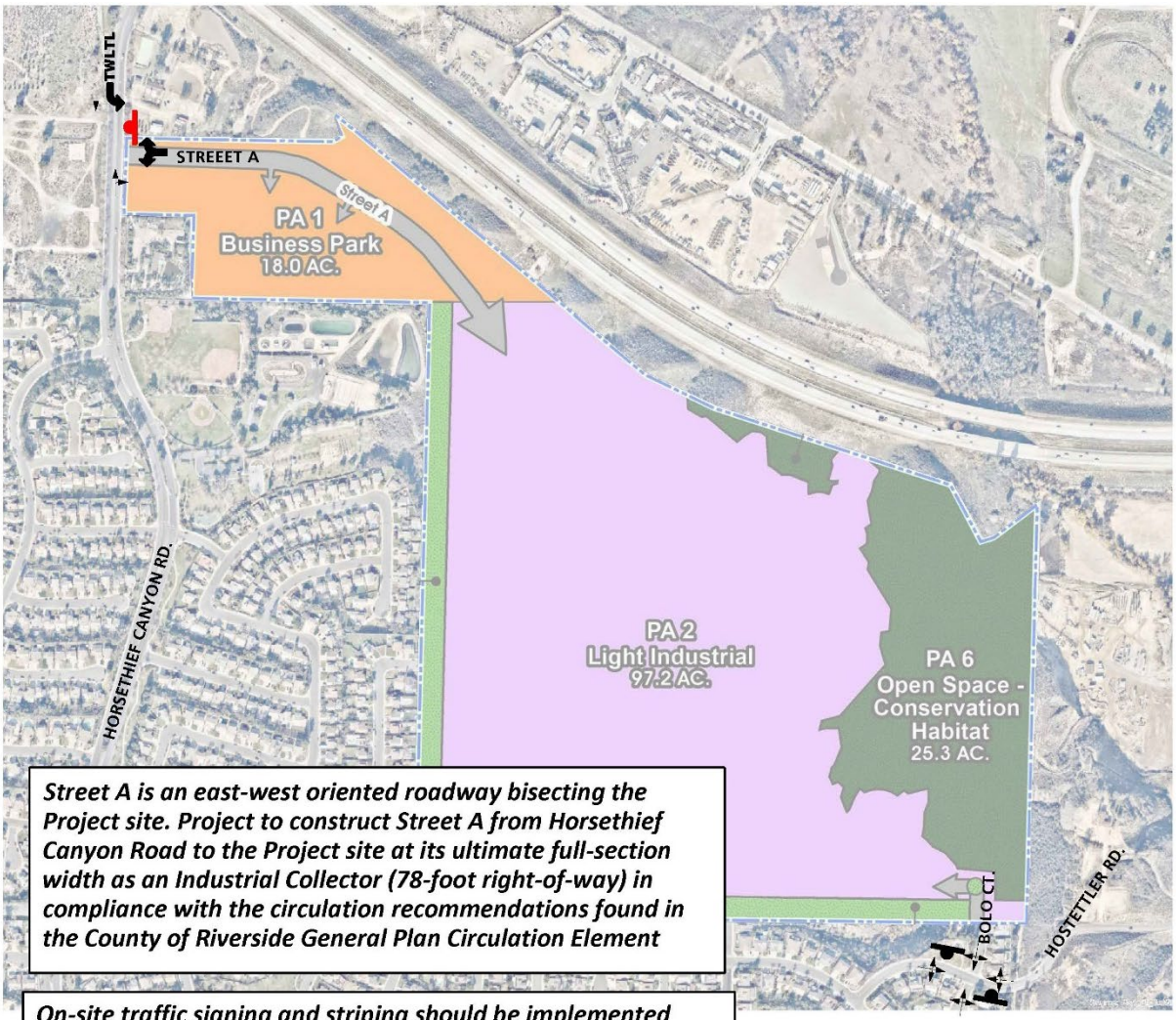
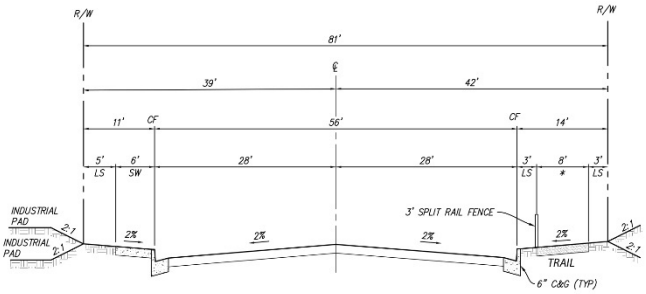
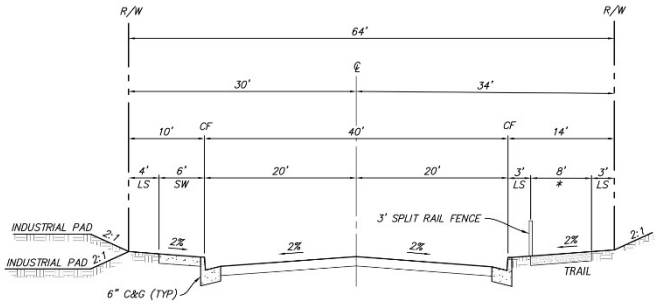


EXHIBIT 1-5: SPECIFIC PLAN ROADWAY CROSS-SECTIONS

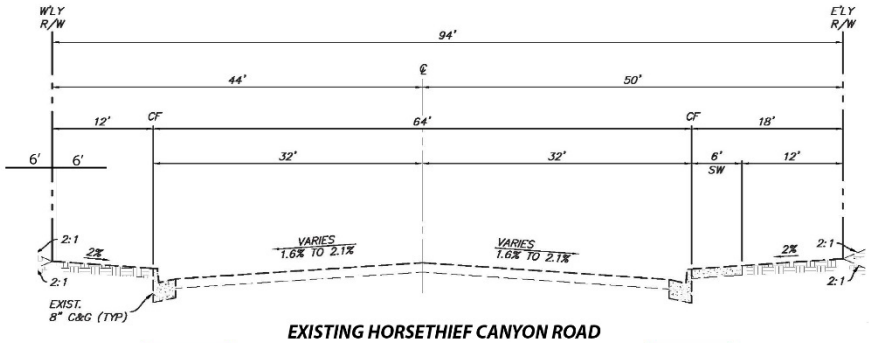


"STREET A" ENTRANCE FROM HORSETHIEF CANYON ROAD (WITHIN PA 1 and PA 2)
MODIFIED INDUSTRIAL COLLECTOR (78' ROW)
PUBLIC

*Community Trail to be provided along Street 'A'
on either side, to be determined with implementing project(s).

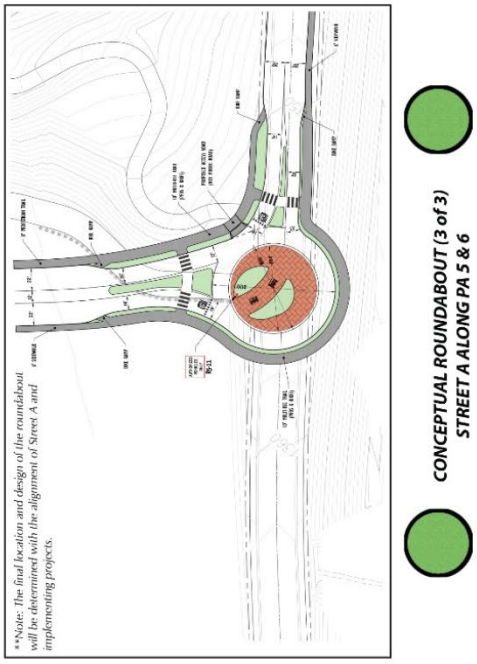


"STREET A" ENTRANCE
FROM BOLO COURT (WITHIN PA 2)
MODIFIED LOCAL STREET (60' ROW)
PUBLIC



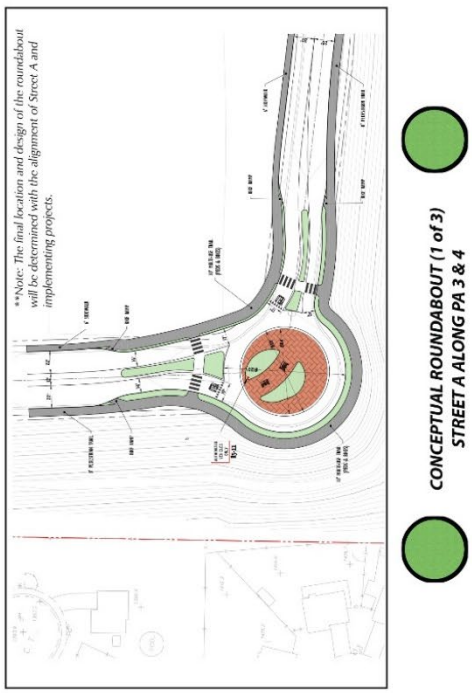
EXISTING HORSETHIEF CANYON ROAD
MODIFIED SECONDARY HIGHWAY (94' ROW)
PUBLIC

EXHIBIT 1-6: CONCEPTUAL LAYOUT OF ROUNDABOUTS ALONG STREET A



CONCEPTUAL ROUNDABOUT (3 of 3)
STREET A ALONG PA 5 & 6

CONCEPTUAL ROUNDABOUT (2 of 3)
STREET A ALONG PA 3 & 4



CONCEPTUAL ROUNDABOUT (1 of 3)
STREET A ALONG PA 3 & 4

1.6.2 OFF-SITE RECOMMENDATIONS

The recommended improvements needed to address the cumulative deficiencies identified under Existing (2020), EAP (2025), EAPC (2025), and Horizon Year (2040) traffic conditions are shown in Table 1-3. For those improvements listed in Table 1-3 and not constructed as part of the Project, the Applicant's responsibility for the Project's contributions towards deficient intersections is fulfilled through payment of fair share and/or TUMF/DIF fees (if applicable) that would be assigned to construction of the identified recommended improvements. The Project Applicant would be required to pay TUMF/DIF and/or fair share fees consistent with the County's requirements (see Section 8 *Local and Regional Funding Mechanisms*).

1.7 TRUCK ACCESS

Due to the typical wide turning radius of large trucks, a truck turning template has been overlaid on the site plan at each applicable Project driveway anticipated to be utilized by heavy trucks in order to determine appropriate curb radii and to verify that trucks will have sufficient space to execute turning maneuvers (see Exhibit 1-7). A WB-67 truck (53-foot trailer) has been utilized for the purposes of this analysis.

As shown on Exhibit 1-7, the following curb radii modifications are necessary in order to accommodate the ingress and egress of heavy trucks:

- Street A on Horsethief Canyon Road should provide a 55-foot curb radius on the northeast corner and a 40-foot curb radius on the southeast corner.

1.8 QUEUING ANALYSIS

At the direction of County staff, a queuing analysis was performed for the study area intersections along Horsethief Canyon Road, from Temescal Canyon Road to Street A.

The traffic modeling and signal timing optimization software package SimTraffic has been utilized to assess the queues. SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. SimTraffic uses the input parameters from Synchro to generate random simulations. These random simulations generated by SimTraffic have been utilized to determine the 95th percentile queue lengths observed for each applicable turn lane. A SimTraffic simulation has been recorded up to 5 times, during the weekday AM and weekday PM peak hours, and has been seeded for 30-minute periods with 60-minute recording intervals. Queuing analysis worksheets for the weekday AM and PM peak hours are provided in Appendix 1.2 of this report for both Horizon Year (2040) and EAP (2025) traffic conditions.

Table 1-3

Summary of Improvements

#	Intersection	Jurisdiction	Existing (2020)	EAP (2025)	EAPC (2025)	Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements in City DIF or County TUMF?[1]	Project Responsibility[2]	Fair Share %[3]
1	Temescal Canyon Rd. & Indian Truck Tr.	County of Riverside	None	None	Modify the traffic signal to implement overlap phasing for the SB right turn lane	Same	Same	No	Fair Share	13.2%
4	De Palma Rd. & Indian Truck Tr.	County of Riverside	None	None	Restripe the WB approach to provide one left turn lane, one shared left-through lane, and dual right turn lanes	Same	Same	No	Fair Share	5.4%
					Modify the traffic signal to implement overlap phasing for the WB right turn lanes	Same	Same	No	Fair Share	
5	Horsethief Canyon Rd. & Temescal Canyon Rd.	County of Riverside	None	None	None	Install a Traffic Signal	Same	Yes (DIF)	Fees	33.0%
						Add 2nd NB left turn lane	Same	No	Fair Share	
						Stripe the NB right turn defacto lane	Same	No	Fair Share	
						Add 2nd EB through lane	Same	Yes (TUMF)	Fees	
						Add 2nd WB left turn lane	Same	No	Fair Share	
						Add 2nd WB through lane	Same	Yes (TUMF)	Fees	
6	Horsethief Canyon Rd. & De Palma Rd.	County of Riverside	None	None	None	Install a Traffic Signal	Same	Yes (DIF)	Fees	38.2%
						Add 2nd NB through lane	Same	No	Fair Share	
						Add 2nd SB through lane	Same	No	Fair Share	
						Add EB left turn lane	Same	No	Fair Share	
7	Horsethief Canyon Rd. & Street A	County of Riverside	None	Install a stop control on the WB approach	Same	Not Applicable	Same as EAP (2025)	No	Construct	38.0%
				Add WB shared left-right turn lane	Same	Not Applicable	Same as EAP (2025)	No	Construct	
				Add SB left turn lane	Same	Same	Same	No	Construct	
					Install a stop controll on the EB approach	Same	Same	No	Other[4]	
					Add EB shared left-through-right turn lane	Same	Same	No	Other[4]	
					Add NB left turn lane	Same	Same	No	Other[4]	
					Add 2nd NB through lane	Not Applicable	Same as EAPC (2025)	No	Construct	
					Add 2nd SB through lane	Not Applicable	Same as EAPC (2025)	No	Other[4]	
						Install a Traffic Signal	Same	No	Fair Share	
10	Lake St. & I-15 NB Ramps	Caltrans, Lake Elsinore, County	None	None	None	Add 2nd NB left turn lane	Same	Yes (TUMF)	Fees	--

Table 1-3
Page 2 of 2

Summary of Improvements

#	Intersection	Jurisdiction	Existing (2020)	EAP (2025)	EAPC (2025)	Horizon Year (2040) Without Project	Horizon Year (2040) With Project	Improvements in City DIF or County TUMF?[1]	Project Responsibility[2]	Fair Share %[3]
11	Lake St. & I-15 SB Ramps	Caltrans, Lake Elsinore, County	None	None	Add 2nd NB through lane	Same	Same	Yes (TUMF)	Fees	--
					Add 2nd SB through lane	Same	Same	Yes (TUMF)	Fees	
12	Lake St. & Temescal Canyon Rd.	Lake Elsinore, County	None	None	Add 2nd NB left turn lane	Same	Same	Yes (TUMF)	Fees	--
					Add 2nd NB through lane	Same	Same	Yes (TUMF)	Fees	
					Add 2nd SB through lane	Same	Same	Yes (TUMF)	Fees	
					Add 2nd EB left turn lane	Same	Same	Yes (TUMF)	Fees	
						Add 3rd NB through lane	Same	Yes (TUMF)	Fees	
						Add 3rd SB through lane	Same	Yes (TUMF)	Fees	

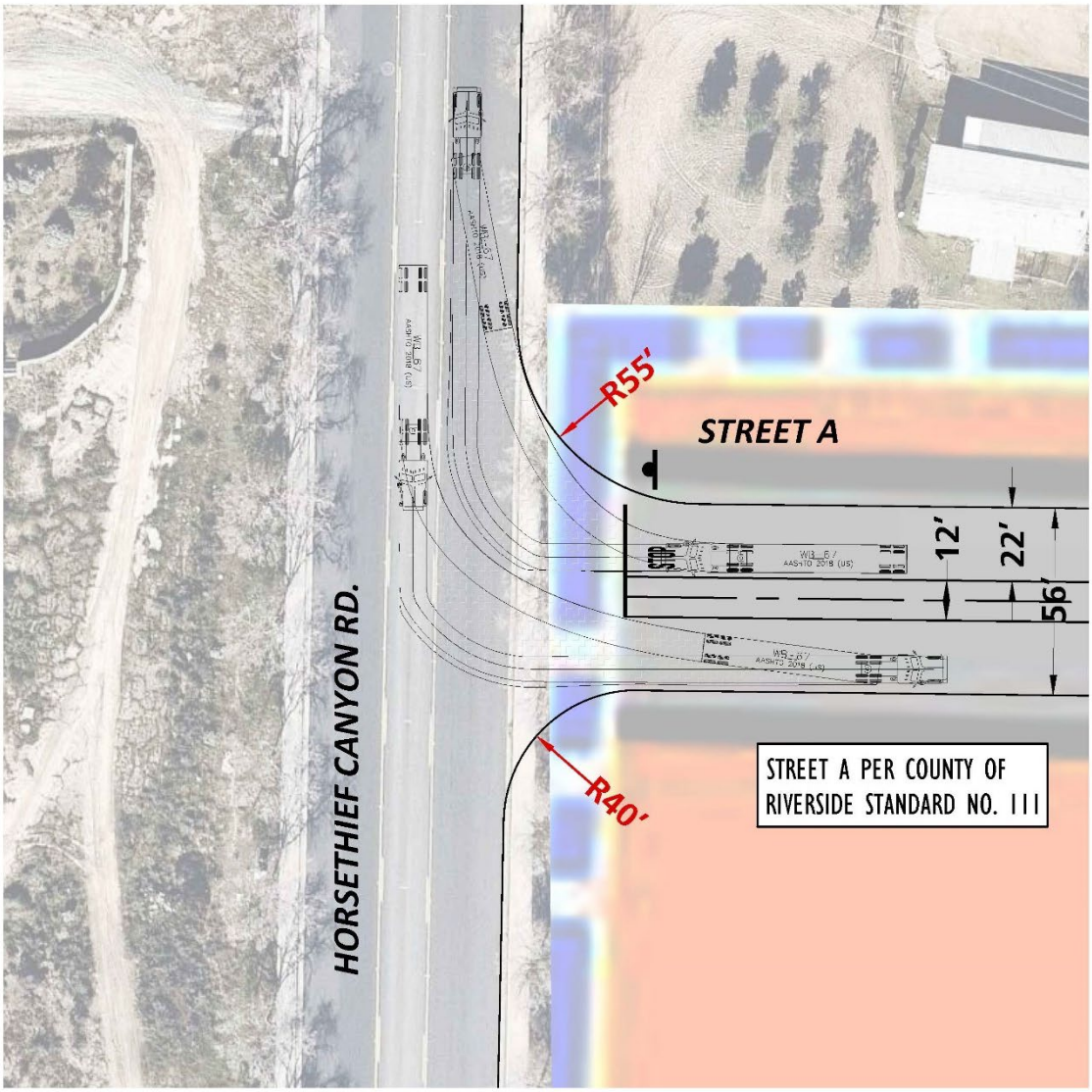
[1] Improvements included in County of Riverside DIF or County TUMF programs for local and regional components.

[2] Identifies the Project's responsibility to construct an improvement or contribute fair share or fee payment towards the implementation of the improvement shown.

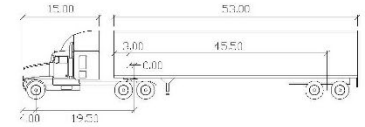
[3] Program improvements constructed by project may be eligible for fee credit, at discretion of City. See Table 8-1 for Fair Share Calculations.

[4] The 2nd southbound lanes are to be constructed by the adjacent Tract 37002 along its frontage through this intersection.

EXHIBIT 1-7: TRUCK ACCESS



LEGEND:



WB-67

Feet

Tractor Width	8.50	Lock to Lock Time	6.0
Trailer Width	8.50	Steering Angle	28.4
Tractor Track	8.50	Articulating Angle	75.0
Trailer Track	8.50		

GRAPHIC SCALE
0 25 50
1"=50'

N

At the request of County staff, a queuing assessment has also been performed for EAP (2025) traffic conditions with existing lane geometrics plus those improvements to be implemented by the Project (see Table 1-4). The results of the queuing analysis are shown in Table 1-5 for Horizon Year (2040) With Project traffic conditions. For Horizon Year traffic conditions, improvements to the turning movements are consistent with the intersection improvements identified under Horizon Year (2040) With Project traffic conditions. There is sufficient spacing between De Palma Road and Street A along Horsethief Canyon Road to accommodate southbound left turning vehicles at Street A under both near-term and long-range traffic conditions.

1.8 SIGHT DISTANCE ANALYSIS

Horizontal sight distance has been evaluated for Street A on Horsethief Canyon Road based on Riverside County's Ordinance 461, Standard No. 821, due to the existing trees that currently line Horsethief Canyon Road on the east side of the roadway. Sight distance is the continuous length of highway ahead visible to the driver.

At unsignalized intersections, corner sight distance must provide a substantially clear line of sight between the driver of the vehicle waiting on the minor road (driveway) and the driver of an approaching vehicle. For the purposes of this analysis, a 7 ½ second criterion has been applied to the outside travel lanes in either direction to provide the most conservative sight distance. The 7 ½ second criterion allows waiting vehicles to either cross all lanes of through traffic by turning left or cross the near lanes by turning right without requiring through traffic to radically alter their speed. Vertical sight distance has been evaluated utilizing a 3.5-foot eye height and a 4.25-foot object height. The sight distance is based on the posted speed limit.

Adequate visibility for vehicular and pedestrian traffic can be provided at each Project driveway by limiting sight obstructions within the limited use area. Any landscaping/hardscape within the limited use area should not exceed 30-inches (2.5-feet) in height. The limited use area should be kept clear of any landscaping or any other obstructions that may impede the visibility of the driver, including on-street parking. Minimum horizontal sight distance for Street A at Horsethief Canyon Road is illustrated on Exhibit 1-6, however, sight distance should be re-evaluated in the field once the driveway has been constructed.

It is anticipated that the minimum 440-foot sight distance could be accommodated for Street A along Horsethief Canyon Road, based on a speed limit of 40 miles per hour, with the removal of the affected trees adjacent to the driveway (Street A). The sight distance lines, limited use area, and clear sight triangles per Standard No. 821 are illustrated on Exhibit 1-8. Obstructions within the limited use are to be limited to 30-inches in height.

Table 1-4

Peak Hour Queuing Summary for Horsethief Canyon Road for EAP (2025) Conditions

Intersection	Movement[1]	EAP (2025)				
		Available Stacking Distance (Feet)[1,2]	95th Percentile Queue (Feet)		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM
Horsethief Canyon Rd. & Temescal Canyon Rd.	NBL	Trap	94	100	Yes	Yes
Horsethief Canyon Rd. & De Palma Rd.	EBL/R	Trap	70	118	Yes	Yes
	NBL	150	85	68	Yes	Yes
Horsethief Canyon Rd. & Street A	SBL	**TWLTL**	82	52	Yes	Yes

BOLD = 95th percentile queue exceeds the available storage.

[1] **NBR** = Improvement

[2] Trap = Trap Lane; TWLTL = Two-way left-turn lane

Table 1-5

Peak Hour Queuing Summary for Horsethief Canyon Road for Horizon Year (2040) Conditions

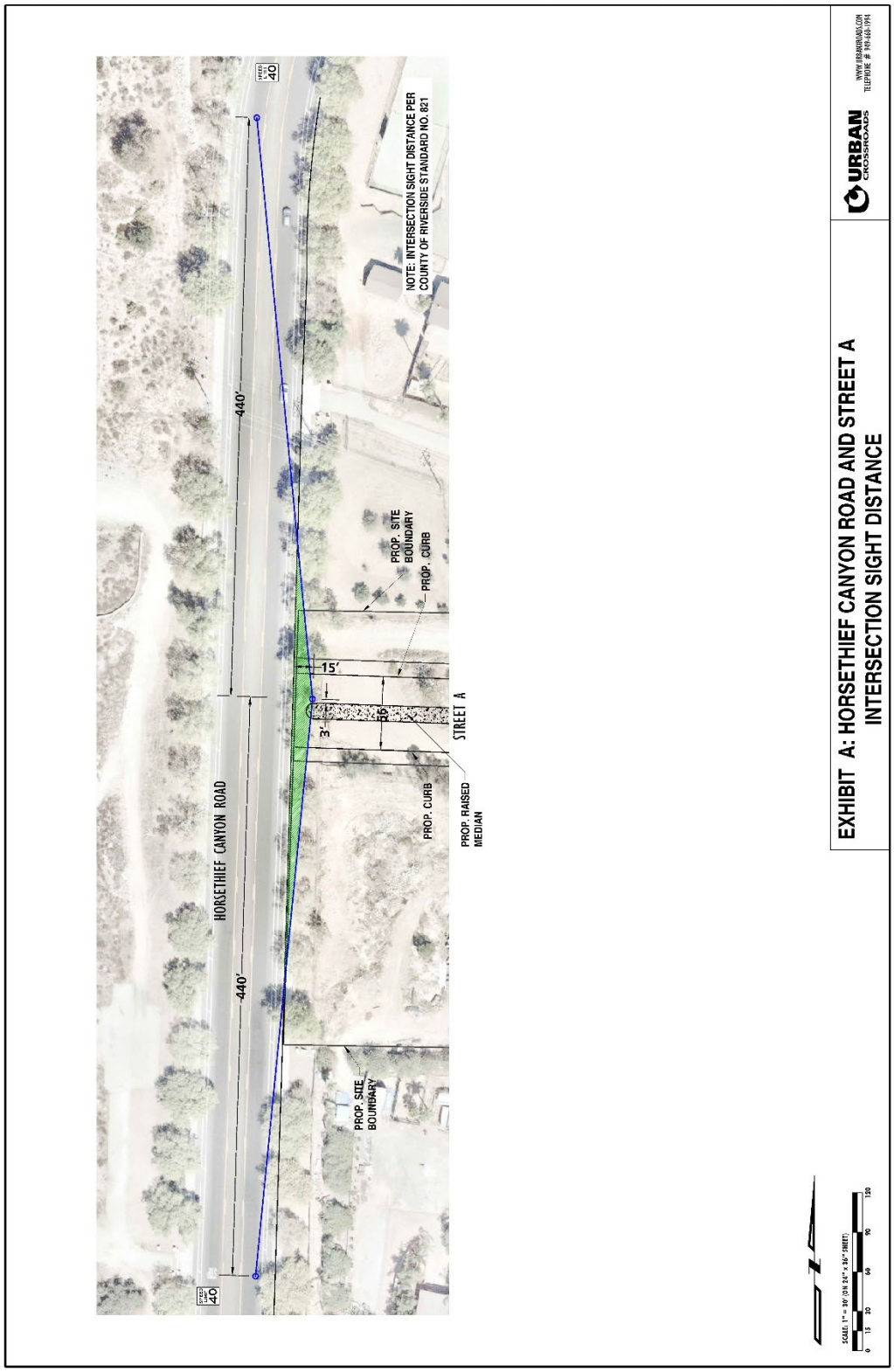
Intersection	Movement[1]	Horizon Year (2040) With Project				
		Available Stacking Distance (Feet)[1,2]	95th Percentile Queue (Feet)		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM
Horsethief Canyon Rd. & Temescal Canyon Rd.	WBL	**325**	180	317	Yes	Yes
	NBL	Trap	234	791	Yes	Yes
	NBR	**125**	116	117	Yes	Yes
Horsethief Canyon Rd. & De Palma Rd.	EBL	Trap	74	518	Yes	Yes
	EBR	**150**	106	150	Yes	Yes
	NBL	**250**	234	220	Yes	Yes
Horsethief Canyon Rd. & Street A	SBL	**TWLTL**	157	89	Yes	Yes

BOLD = 95th percentile queue exceeds the available storage.

[1] **NBR** = Improvement

[2] Trap = Trap Lane; TWLTL = Two-way left-turn lane

EXHIBIT 1-8: SIGHT DISTANCE



2 METHODOLOGIES

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

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (6) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

County of Riverside and City of Lake Elsinore

The County of Riverside and City of Lake Elsinore require signalized intersection operations analysis based on the methodology described in the HCM (6th Edition). Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1. Study area intersections have been evaluated using the Synchro (Version 10) analysis software package.

The traffic modeling and signal timing optimization software package Synchro (Version 10) is utilized to analyze signalized intersections within the County of Riverside and City of Lake Elsinore. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

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

Source: HCM, 6th Edition

A saturation flow rate of 1900 has been utilized for all study area intersections located within the County of Riverside and City of Lake Elsinore. The peak hour traffic volumes are adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g., PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (6)

2.2.2 UNSIGNALIZED INTERSECTIONS

The County of Riverside and City of Lake Elsinore require the operations of unsignalized intersections be evaluated using the methodology described the HCM. (6) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

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

Source: HCM, 6th Edition

At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. For all-way stop controlled intersections, LOS is computed for the intersection as a whole.

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by the Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (7)

The signal warrant criteria for Existing conditions are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The Caltrans CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (7) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing study area intersections for all analysis scenarios. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics (e.g., located in communities with populations of less than 10,000 persons or with adjacent major streets operating above 40 miles per hour). For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection.

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

Traffic signal warrant analyses were performed for the following unsignalized study area intersection shown in Table 2-3:

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction
5	Horsethief Rd. & Temescal Canyon Rd.	County of Riverside
6	Horsethief Rd. & De Palma Rd.	County of Riverside
7	Horsethief Canyon Rd. & Street A – Future Intersection	County of Riverside
8	Bolo Ct. & Hostettler Rd.	County of Riverside
9	Temescal Canyon Rd. & Hostettler Rd.	County of Riverside

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *EAP (2025) Traffic Conditions,* Section 6 *EAPC (2025) Traffic Conditions,* and Section 7 *Horizon Year (2040) 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 FREEWAY OFF-RAMP QUEUING ANALYSIS

Consistent with Caltrans requirements, the 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the freeway ramp intersections at the I-15 Freeway at Indian Truck Trail and Lake Street interchanges. Specifically, the queuing analysis is utilized to identify any potential queuing and "spill back" onto the I-15 Freeway mainline from the off-ramps.

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the Synchro progression analysis. The 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.

Although only the 95th percentile queue has been reported in the tables, the 50th percentile queue can be found in the appendix alongside the 95th percentile queue for each ramp location. The queue length reported is for the lane with the highest queue in the lane group. The 50th

percentile or average queue represents the typical queue length for peak hour traffic conditions, while the 95th percentile queue is derived from the average queue plus 1.65 standard deviations. The 95th percentile queue is not necessarily ever observed it is simply based on statistical calculations.

2.5 FREEWAY MAINLINE SEGMENT ANALYSIS METHODOLOGY

The traffic study has evaluated all freeway segments where the Project is anticipated to contribute 50 or more peak hour one-way trips, in an effort to conduct a conservative analysis and overstate as opposed to understand potential deficiencies.

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

The number of lanes for existing baseline conditions has been obtained from field observations conducted by Urban Crossroads in January 2020. These existing freeway geometrics have been utilized for Existing (2020), EAP (2025), EAPC (2025), and Horizon Year (2040) traffic conditions. The I-15 Freeway mainline volume data was obtained from the Caltrans Performance Measurement System (PeMS) website for the segments of the I-15 Freeway north of Indian Truck Trail. The data was obtained from January 2020. In an effort to conduct a conservative analysis, the maximum value observed within the 3-day period was utilized for the weekday morning (AM) and weekday evening (PM) peak hours. In addition, truck traffic, represented as a percentage of total traffic and actual vehicles (as opposed to PCE volumes) have been utilized for the purposes of the basic freeway segment analysis. (8)

TABLE 2-4: DESCRIPTION OF FREEWAY MAINLINE LOS

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

[1] pc/mi/ln = passenger cars per mile per lane. Source: HCM (6th Edition)

2.6 FREEWAY MERGE/DIVERGE RAMP JUNCTION ANALYSIS

The freeway system in the study area has been broken into segments defined by freeway-to-arterial interchange locations where the Project is anticipated to contribute 50 or more peak hour trips (see Table 1-3). Although the HCM indicates the influence area for a merge/diverge junction is 1,500 feet, the analysis presented in this traffic study has been performed at all ramp locations with respect to the nearest on or off-ramp at each interchange in an effort to be consistent with Caltrans guidance/comments on other projects Urban Crossroads has worked on in the region.

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

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

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

[1] pc/mi/ln = passenger cars per mile per lane. Source: HCM (6th Edition)

Similar to the basic freeway segment analysis, the I-15 Freeway volume data was obtained from the Caltrans maintained PeMS website for the segments of the I-15 Freeway north of Indian Truck Trail. The ramp data (per the count data presented in Appendix 3.1) was then utilized to flow conserve the mainline volumes to determine the remaining I-15 Freeway mainline segment volumes. Flow conservation checks ensure that traffic flows from north to south (and vice versa) of the interchange area with no unexplained loss of vehicles. The data was obtained from January 2020. In an effort to conduct a conservative analysis, the maximum value observed within the 3-day period was utilized for the weekday morning (AM) and weekday evening (PM) peak hours. In addition, truck traffic, represented as a percentage of total traffic and actual vehicles (as opposed to PCE volumes) have been utilized for the purposes of the freeway ramp junction (merge/diverge) analysis. (8)

2.7 MINIMUM LEVEL OF SERVICE (LOS)

2.7.1 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 a Community Development Area of the Temescal Canyon Area Plan.

2.7.2 CITY OF LAKE ELSINORE

The City of Lake Elsinore, pursuant to its 2011 General Plan, requires that peak hour intersection operations be at LOS D or better to be considered acceptable. Therefore, City of Lake Elsinore intersections operating at LOS E or F would be considered deficient.

2.7.3 CALTRANS

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

2.8 DEFICIENCY CRITERIA

2.8.1 INTERSECTIONS

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 50 or more peak hour trips to pre-project traffic conditions.

2.8.2 CALTRANS FACILITIES

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

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

2.9 PROJECT FAIR SHARE CALCULATION METHODOLOGY

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

The Project's fair share 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 / (Horizon Year (2040) Total Traffic – Existing (2020) Traffic)

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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, off-ramp queuing, and freeway facility operations 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 12 existing and future intersections as shown previously on Exhibit 1-2, where the Project is anticipated to contribute 50 or more peak hour trips or has been added at the direction of County staff. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 GENERAL PLAN CIRCULATION ELEMENTS

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.

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

- Temescal Canyon Road, north of Indian Truck Trail

Major Highways can accommodate four travel lanes. These facilities serve property zoned for major industrial and commercial uses, or to serve through traffic. The following roadways are classified as a Major Highway within the study area:

- De Palma Road
- Temescal Canyon Road, south of Indian Truck Trail

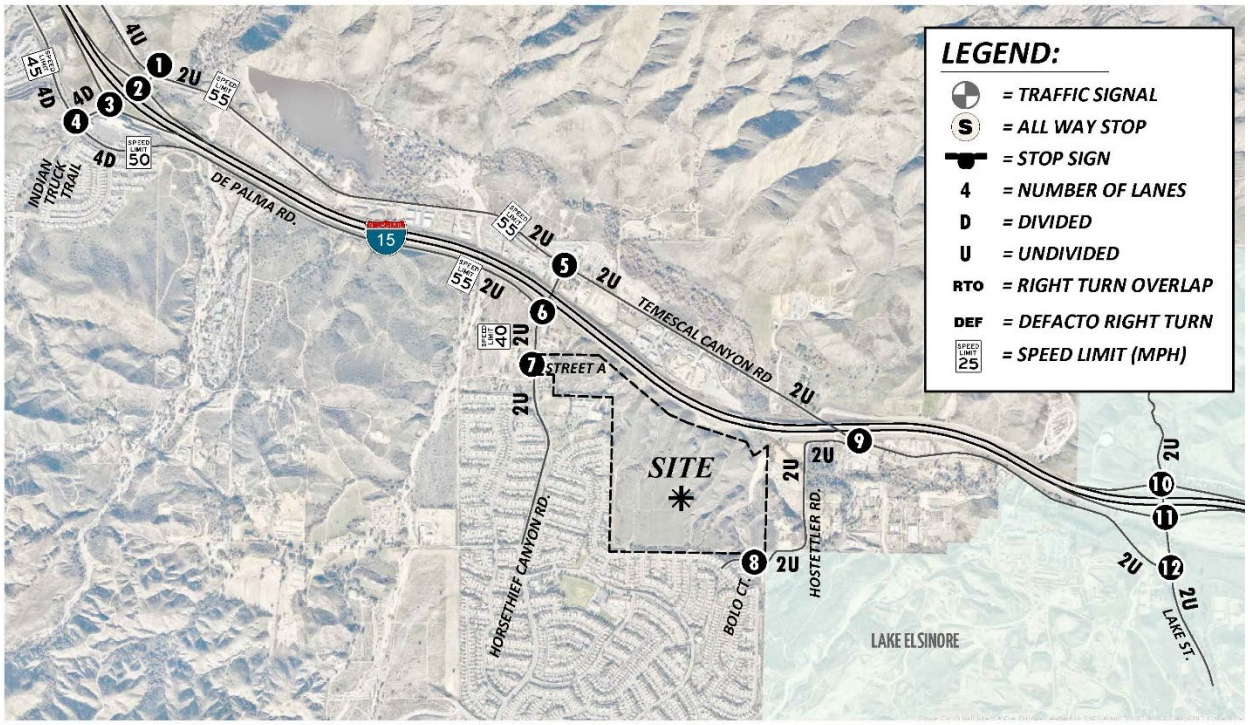
Secondary Highways can accommodate four travel lanes. These facilities serve property zoned for industrial, residential, and commercial uses, or to serve traffic from Collector and Local streets. The following roadway is classified as a Secondary Highway within the study area:

- Horsethief Canyon Road

3.3 CITY OF LAKE ELSINORE GENERAL PLAN CIRCULATION ELEMENT

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

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



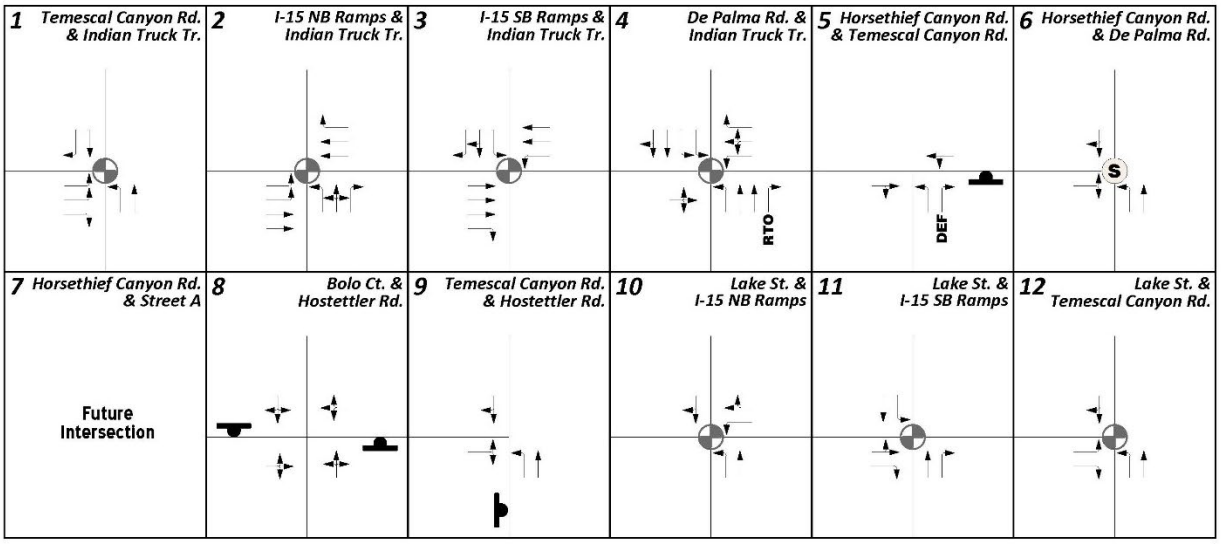
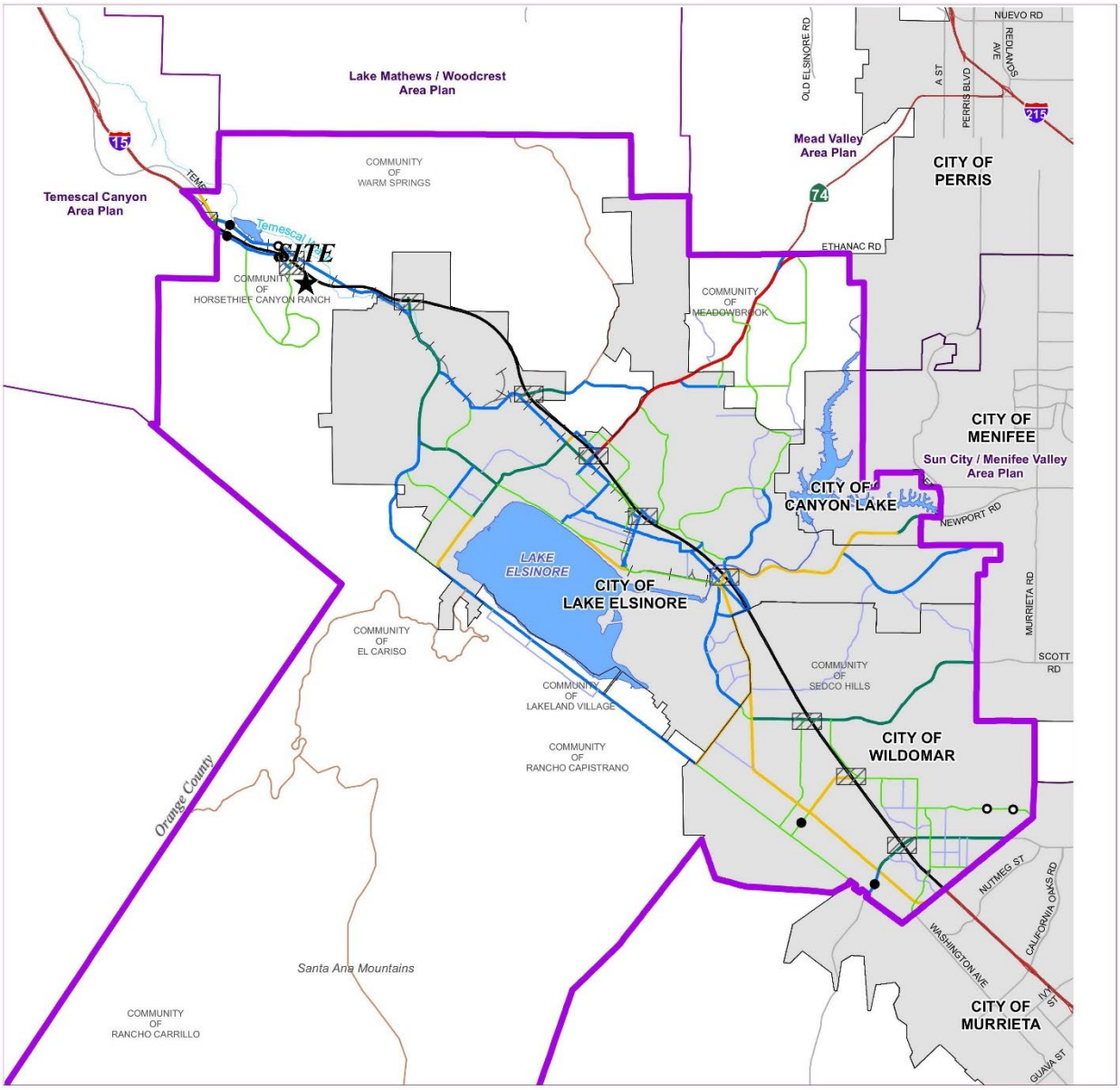
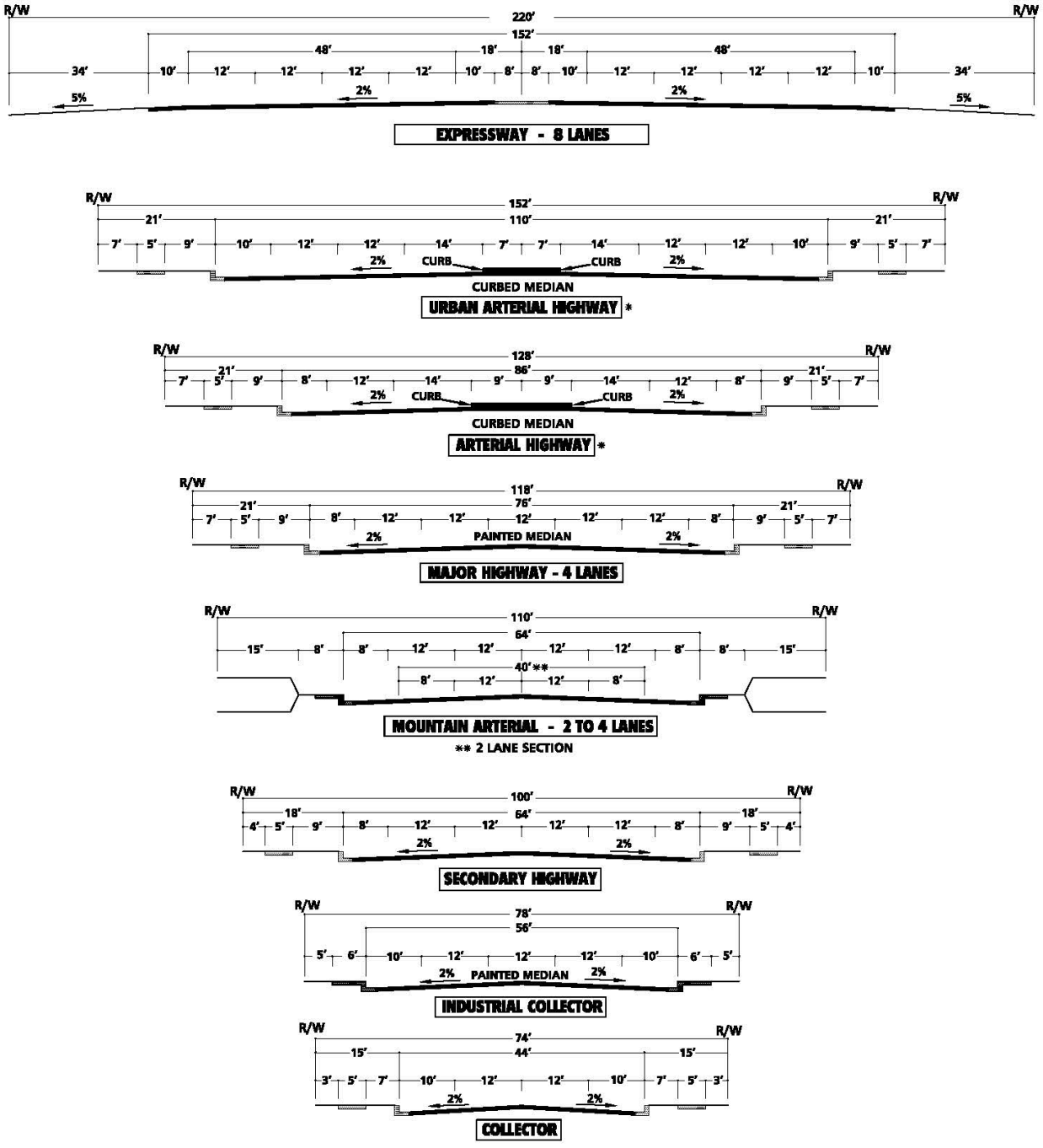


EXHIBIT 3-2: COUNTY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT



Source: Riverside County EAP
April 11, 2017

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

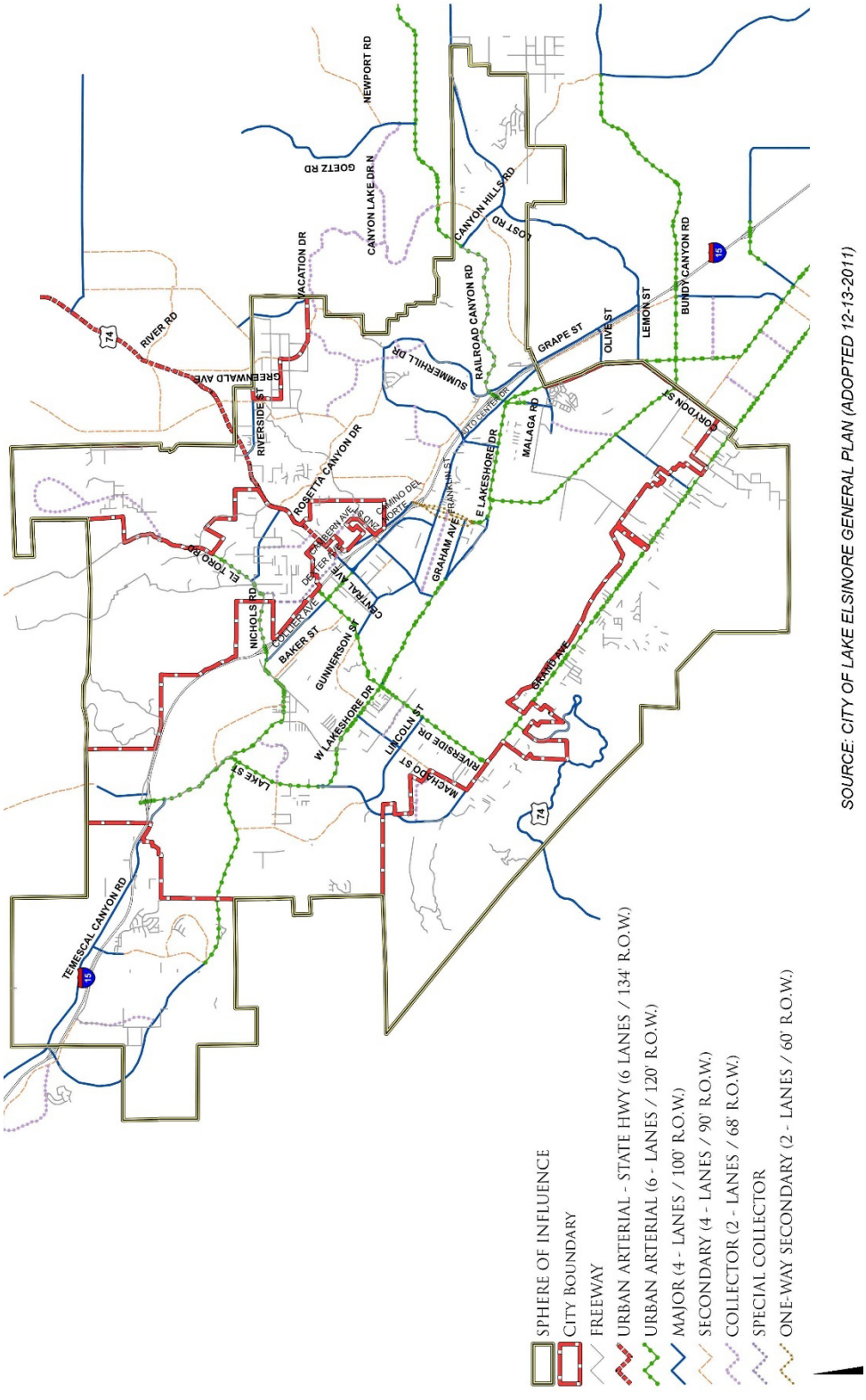


* IMPROVEMENTS MAY BE RECONFIGURED TO ACCOMMODATE EXCLUSIVE TRANSIT LANES OR ALTERNATIVE LANE ARRANGEMENTS ADDITIONAL RIGHT OF WAY MAY BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE ULTIMATE IMPROVEMENTS FOR STATE HIGHWAYS SHALL CONFORM TO CALTRANS DESIGN STANDARDS.

NOT TO SCALE

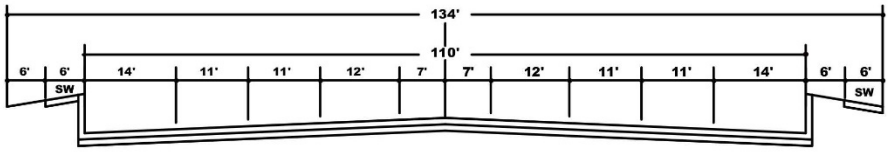
SOURCE: COUNTY OF RIVERSIDE

EXHIBIT 3-4: CITY OF LAKE ELSINORE GENERAL PLAN CIRCULATION ELEMENT

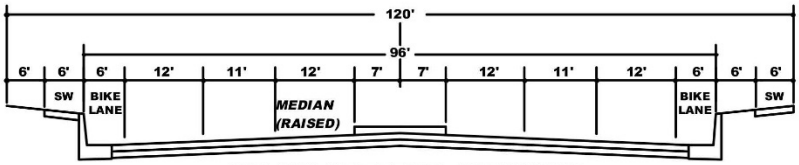


SOURCE: CITY OF LAKE ELSINORE GENERAL PLAN (ADOPTED 12-13-2011)

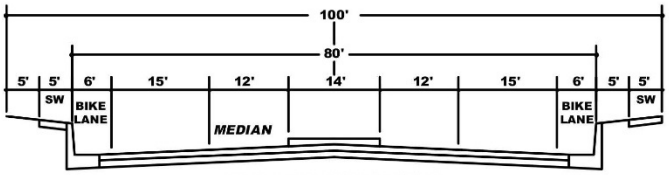
EXHIBIT 3-5: CITY OF LAKE ELSINORE ROADWAY CROSS-SECTIONS



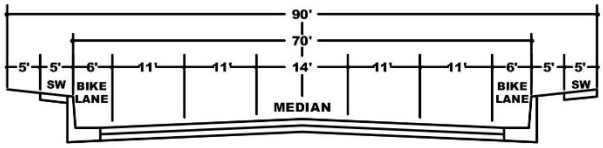
AUGMENTED URBAN ARTERIAL - STATE HIGHWAY
(8-LANE)



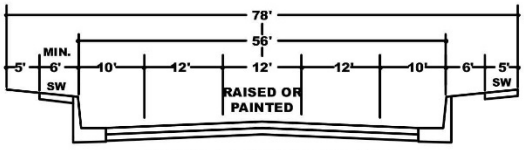
URBAN ARTERIAL HIGHWAY
(6-LANE)



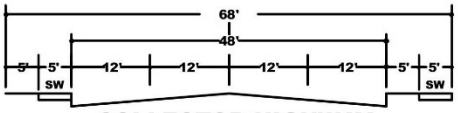
MAJOR HIGHWAY
(4-LANE)



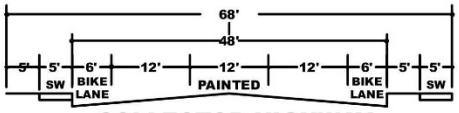
SECONDARY HIGHWAY
(4-LANE)



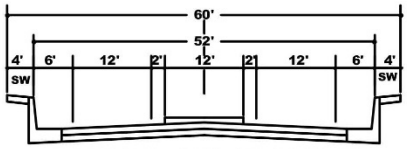
DIVIDED COLLECTOR
(2-LANE)
BIKES USE SHOULDER



COLLECTOR HIGHWAY
(4-LANE)



COLLECTOR HIGHWAY
(2-LANE)



NEW SPECIAL ROADWAY
(2-LANE)
SHOULDER/BIKE LANE
(PROPOSED FOR LAKESHORE DRIVE IN THE COUNTRY CLUB HEIGHT DISTRICT)

SOURCE: CITY OF LAKE ELSINORE GENERAL PLAN (ADOPTED 12-13-2011)

3.4 BICYCLE & PEDESTRIAN FACILITIES

In an effort to promote alternative modes of transportation, the County of Riverside also includes a trails and bikeway system. The trails and bikeway system, shown on Exhibit 3-6, shows the proposed trails connected with major features within the County. There is a proposed community trail along De Palma Road and a proposed historic trail along Temescal Canyon Road. Exhibit 3-7 shows the City of Lake Elsinore bikeway plan while Exhibit 3-8 shows the City of Lake Elsinore Area Trails System.

Field observations conducted in January 2020 indicates nominal pedestrian and bicycle activity within the study area. Exhibit 3-9 illustrates the existing pedestrian facilities, including sidewalks and crosswalks. As shown on Exhibit 3-9, there are limited existing pedestrian facilities located along portions of De Palma Road, Indian Truck Trail, Temescal Canyon Road, Horsethief Canyon Road, and Bolo Court.

3.5 TRANSIT SERVICE

The County of Riverside is currently served by the Riverside Transit Authority (RTA), a public transit agency serving the unincorporated Riverside County region. There are currently no existing bus routes that serve the roadways within the study area in close proximity to the proposed Project. RTA route 205/206 runs along the I-15 Freeway but does not stop within the study area. Existing transit routes in the vicinity of the study area are illustrated on Exhibit 3-10. 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. As such, it is recommended that the Project Applicant work in conjunction with RTA to potentially accommodate bus service to the site.

3.6 TRUCK ROUTES

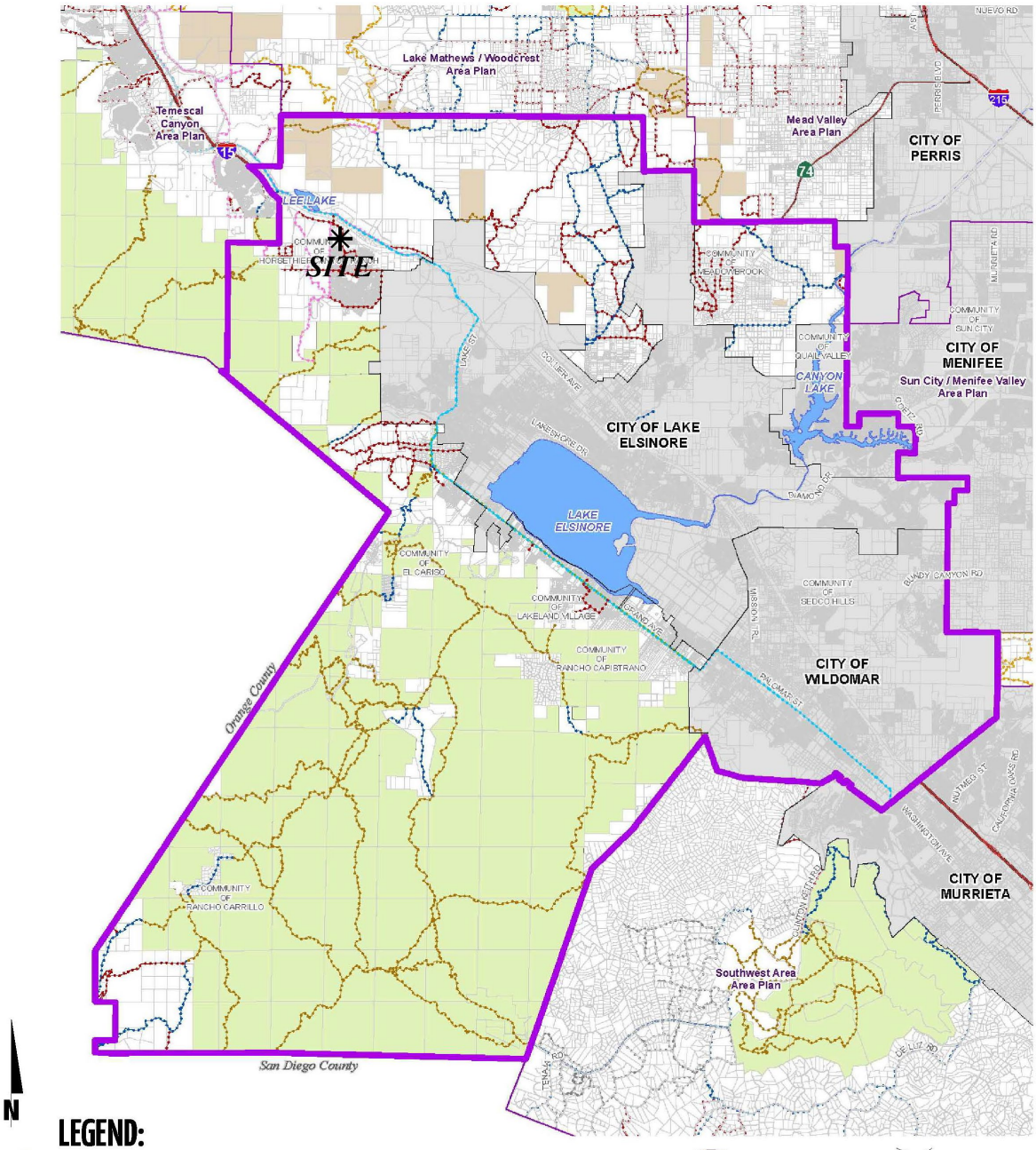
The County of Riverside's General Plan does not provide designated truck routes. Truck routes for the proposed Project have been determined based on discussions with County staff. These truck routes serve both the proposed Project and future cumulative development projects throughout the study area. Sensitive land uses have also been taken into consideration as part of determining the best routes for future trucks.

3.7 EXISTING TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in January 2020, while schools were in session (prior to the closures associated with the COVID-19 pandemic). The following peak hours were selected for analysis:

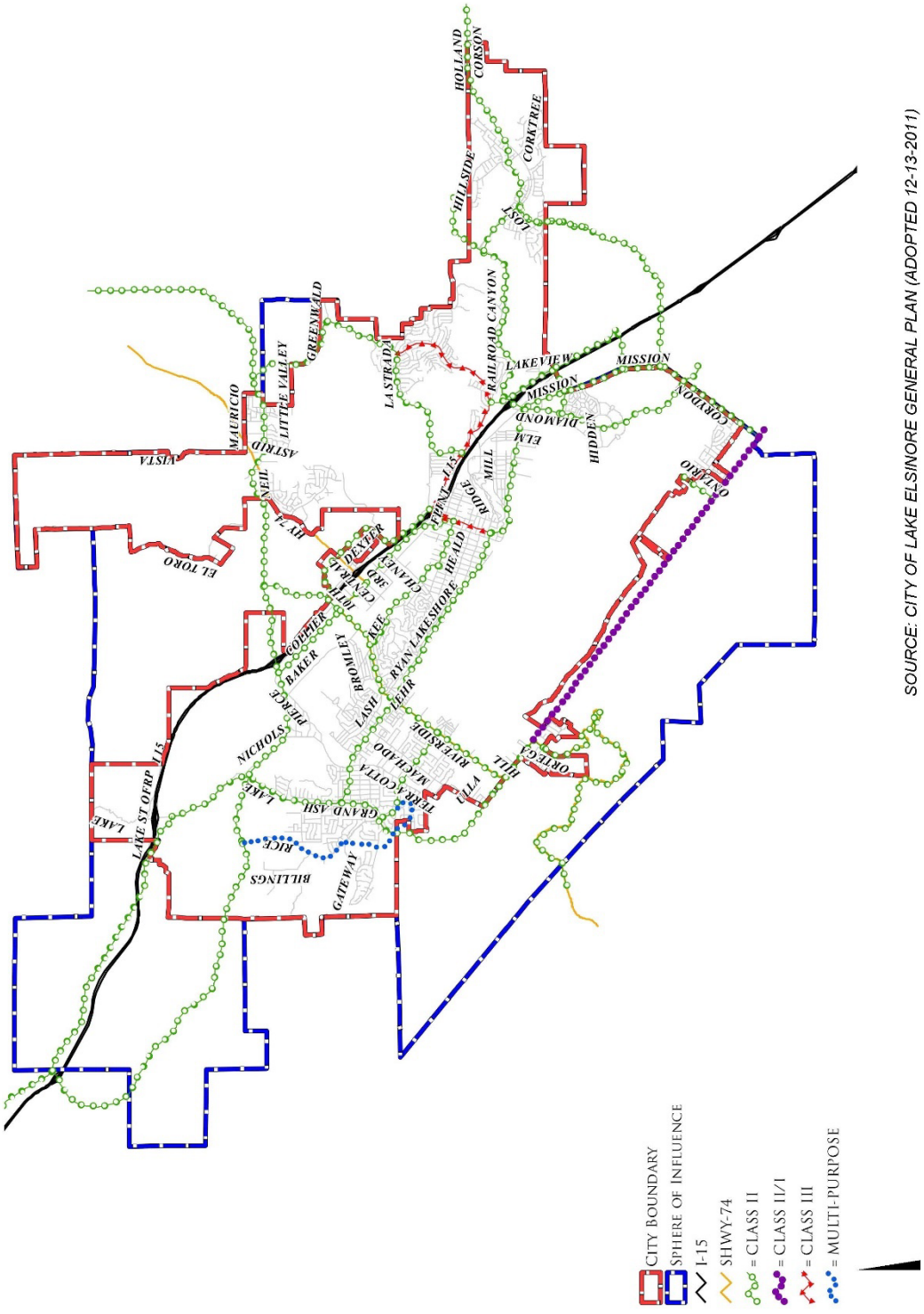
- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

EXHIBIT 3-6: COUNTY OF RIVERSIDE TRAILS AND BIKEWAY SYSTEM



Source: Riverside County EAP
April 11, 2017

EXHIBIT 3-7: CITY OF LAKE ELSINORE BIKEWAY PLAN



SOURCE: CITY OF LAKE ELSINORE GENERAL PLAN (ADOPTED 12-13-2011)

EXHIBIT 3-8: CITY OF LAKE ELSINORE AREA TRAILS SYSTEM

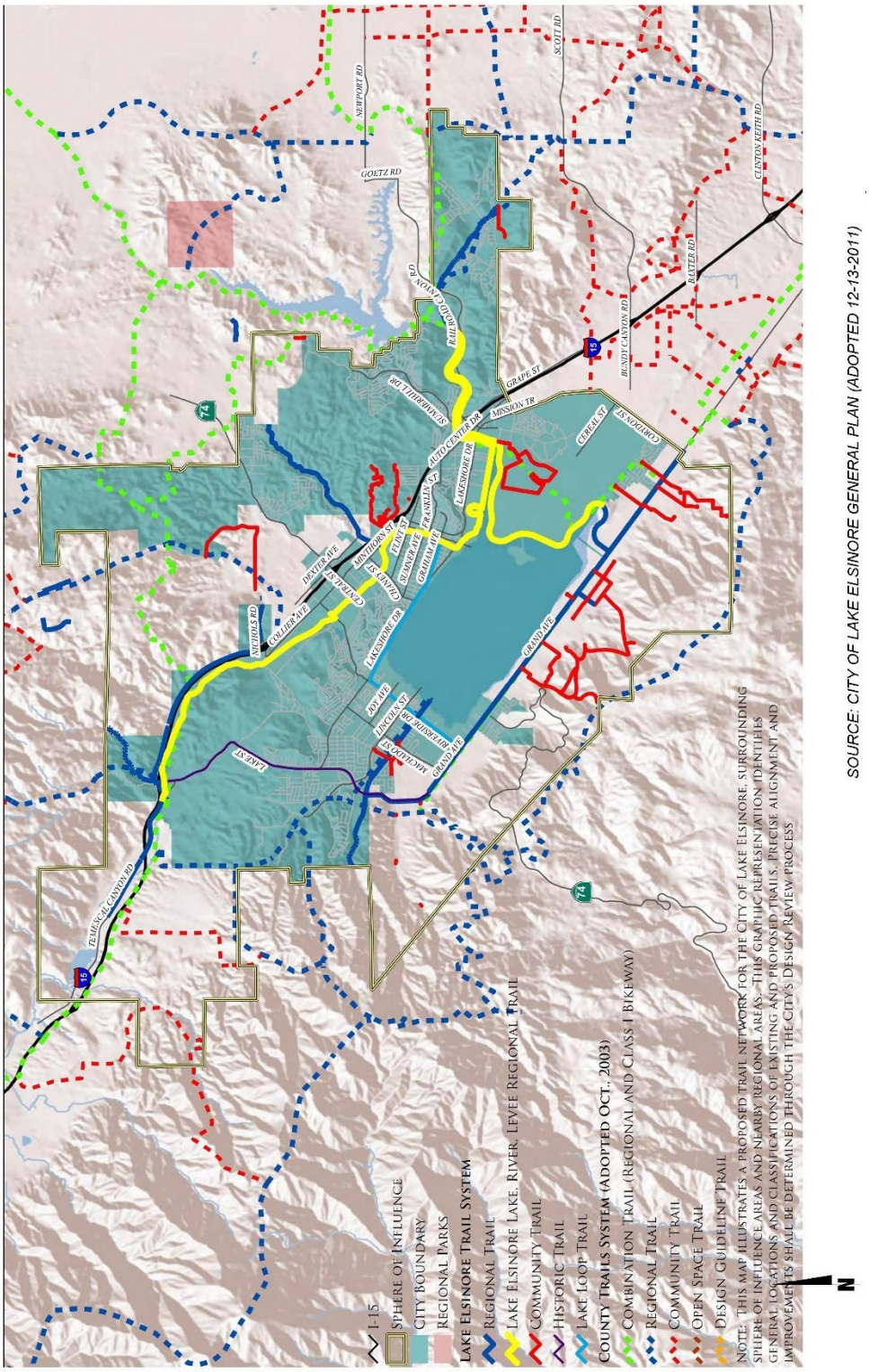


EXHIBIT 3-9: EXISTING PEDESTRIAN FACILITIES

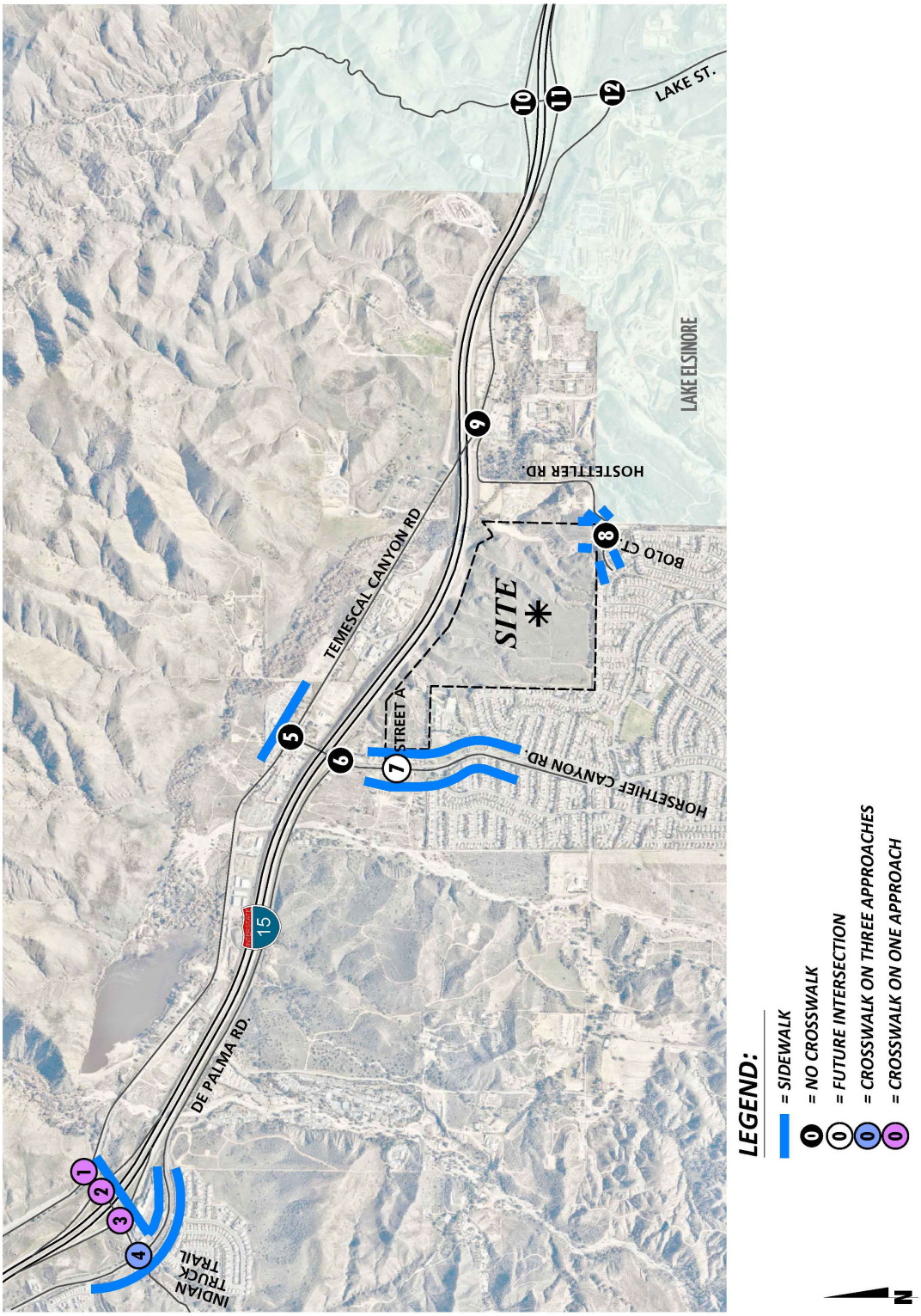
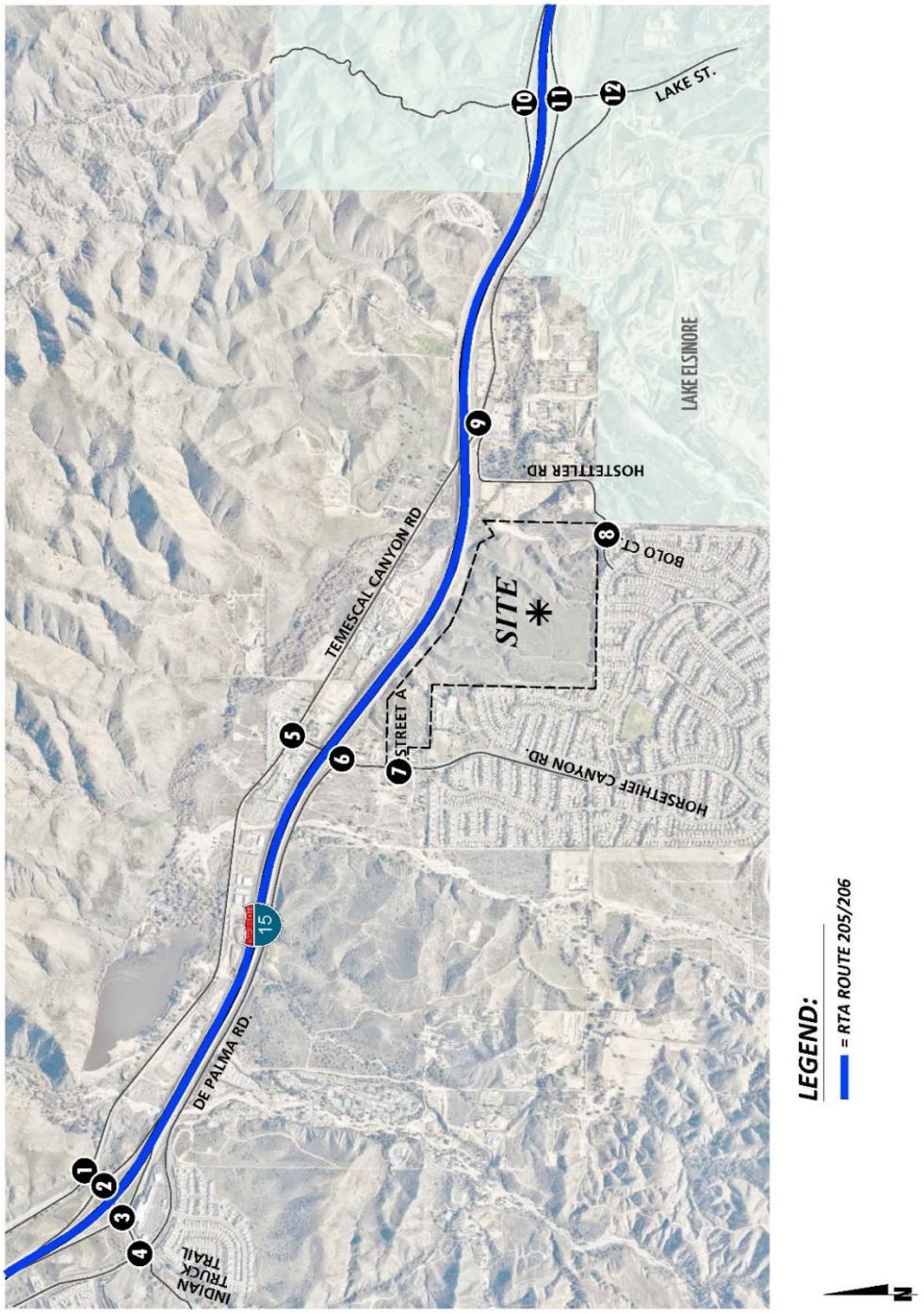


EXHIBIT 3-10: EXISTING TRANSIT ROUTES



The weekday AM and weekday PM peak hour count data are representative of typical weekday peak hour traffic conditions in the study area. At the time traffic counts were being collected, near-by schools were in session and operating on normal schedules and there were no roadway closures or detours.

The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1. These raw turning volumes have been flow conserved between intersections with limited access, no access, and where there are currently no uses generating traffic. The traffic counts collected in January 2020 include the vehicle classifications as shown below:

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

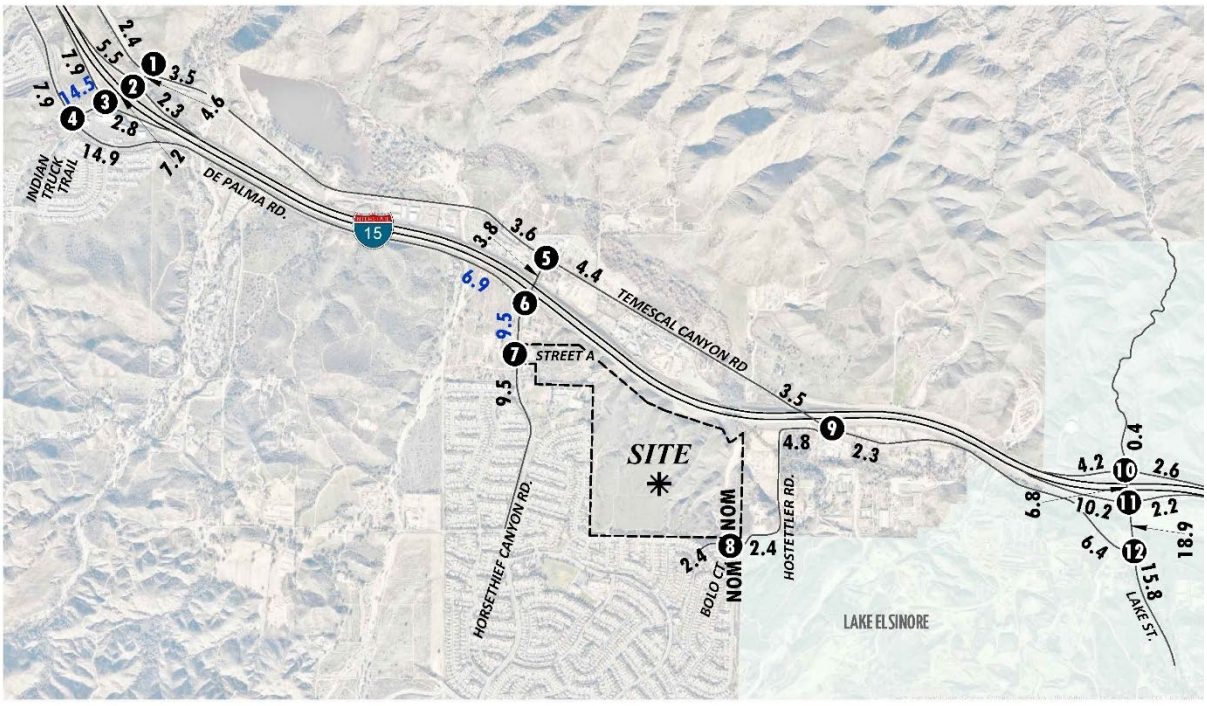
Traffic counts were also conducted on March 18, 2020, at Bolo Court at Hostettler and Temescal Canyon Road at Hostettler. The traffic counts collected in March were compared to those collected in January 2020 at both Horsethief Canyon Road at Temescal Canyon Road and Lake Street at Temescal Canyon Road to determine whether any adjustments needed to be made to account for potential reductions in traffic associated with the currently ongoing COVID-19 pandemic. Based on this comparison, it appeared no additional adjustments were necessary.

To represent the effect large trucks, buses, and recreational vehicles have on traffic flow, all trucks were converted into PCE. By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is also much longer than for passenger cars and varies depending on the type of vehicle and number of axles. For this analysis, the following PCE factors have been used to estimate each turning movement: 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks. These factors are consistent with the values recommended for use in the County's TA Guidelines.

Existing weekday ADT volumes on arterial highways throughout the study area are shown on Exhibit 3-11. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 13.06 = Leg Volume

EXHIBIT 3-11: EXISTING (2020) TRAFFIC VOLUMES (IN PCE)



1 Temescal Canyon Rd. & Indian Truck Tr.	2 I-15 NB Ramps & Indian Truck Tr.	3 I-15 SB Ramps & Indian Truck Tr.	4 De Palma Rd. & Indian Truck Tr.	5 Horsethief Canyon Rd. & Temescal Canyon Rd.	6 Horsethief Canyon Rd. & De Palma Rd.
68(54) 6(48) / 340(67) 76(64) / 118(138) 139(15)	121(156) 167(49) / 246(263) 122(106) / 169(134) 3(1) 369(45)	218(507) 7(8) 100(89) / 204(152) 133(31) / 267(280) 166(177)	0(0) 129(183) 144(148) / 150(128) 0(0) 242(519) / 0(0) 0(0) 0(0) / 0(0) 213(143) 271(297)	171(48) 82(93) / 43(113) 9(43) / 86(71) 95(85)	34(20) 57(116) / 14(22) 98(349) / 253(133) 167(134)
7 Horsethief Canyon Rd. & Street A	**8 Bolo Ct. & Hostettler Rd.**	**9 Temescal Canyon Rd. & Hostettler Rd.**	**10 Lake St. & I-15 NB Ramps**	**11 Lake St. & I-15 SB Ramps**	**12 Lake St. & Temescal Canyon Rd.**
Future Intersection	1(0) 0(0) 0(1) 2(1) 35(126) 0(1) / 0(0) 76(59) 0(0) / 0(0) 0(0) 0(1)	12(24) 141(125) / 21(11) 134(49) / 48(91) 154(106)	1(5) 2(9) 2(6) 12(3) 251(189) / 567(314) 2(10)	250(195) 3(3) / 1(2) 9(6) 277(775) / 568(321) 305(157)	206(190) 251(748) / 246(148) 60(80) / 190(74) 571(311)

LEGEND:

10.0 = *ACTUAL (COUNT-BASED) VEHICLES PER DAY (1000'S)*
10.0 = *ESTIMATED VEHICLES PER DAY (1000'S)*
10(10) = *AM(PM) PEAK HOUR INTERSECTION VOLUMES*
NOM = *NOMINAL, LESS THAN 50 VEHICLES PER DAY*

N

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 7.66 percent. As such, the above equation utilizing a factor of 13.06 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 7.66 percent (i.e., 1/0.0766 = 13.06) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes (in PCE) are also shown on Exhibit 3-11.

3.8 EXISTING (2020) INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1 which indicates that all of the study area intersections are currently operating at an acceptable LOS during the peak hours (i.e., LOS D or better). Consistent with Table 3-1, a summary of the peak hour intersection LOS for Existing conditions is shown on Exhibit 3-12. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

3.9 EXISTING (2020) 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 traffic signal warrant for Existing (2020) traffic conditions:

- Horsethief Canyon Road & De Palma Road (#6)

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

3.10 EXISTING (2020) OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the I-15 Freeway at Indian Truck Trail and Lake Street interchanges to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the I-15 Freeway mainline. Queuing analysis findings are presented in Table 3-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 3-2, there are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows. Worksheets for Existing (2020) traffic conditions off-ramp queuing analysis are provided in Appendix 3.4.

Table 3-1

Intersection Analysis for Existing (2020) Conditions

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Temescal Canyon Rd. & Indian Truck Tr.	TS	1	1	0	0	1	1	2	0	1	0	0	0	23.2	40.0	C	D
2	I-15 NB Ramps & Indian Truck Tr.	TS	1	1	1	0	0	0	2	2	0	0	2	1	33.8	33.9	C	C
3	I-15 SB Ramps & Indian Truck Tr.	TS	0	0	0	1	1	1	0	3	1	1	2	0	23.5	21.8	C	C
4	De Palma Rd. & Indian Truck Tr.	TS	1	2	1>	2	2	0	0	1	0	1	1	1	45.3	45.1	D	D
5	Horsethief Canyon Rd. & Temescal Canyon Rd.	CSS	1	0	d	0	0	0	0	1	0	0	1	0	12.5	12.2	B	B
6	Horsethief Canyon Rd. & De Palma Rd.	AWS	1	1	0	0	1	0	0	1	0	0	0	0	10.5	10.5	B	B
7	Horsethief Canyon Rd. & Street A		Future Intersection															
8	Bolo Ct. & Hostettler Rd.	CSS	0	1	0	0	1	0	0	1	0	0	1	0	8.5	9.8	A	A
9	Temescal Canyon Rd. & Hostettler Rd.	CSS	1	1	0	0	1	0	0	1	0	0	0	0	10.5	9.9	B	A
10	Lake St. & I-15 NB Ramps	TS	1	1	0	0	1	0	0	0	0	1	1	0	52.4	51.9	D	D
11	Lake St. & I-15 SB Ramps	TS	0	1	1	1	1	0	0	1	1	0	0	0	16.6	35.5	B	D
12	Lake St. & Temescal Canyon Rd.	TS	1	1	0	0	1	0	1	0	1	0	0	0	15.1	15.7	B	B

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

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; d = Defacto Right Turn Lane

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

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

Table 3-2

Peak Hour Freeway Off-Ramp Queuing Summary for Existing (2020) Conditions

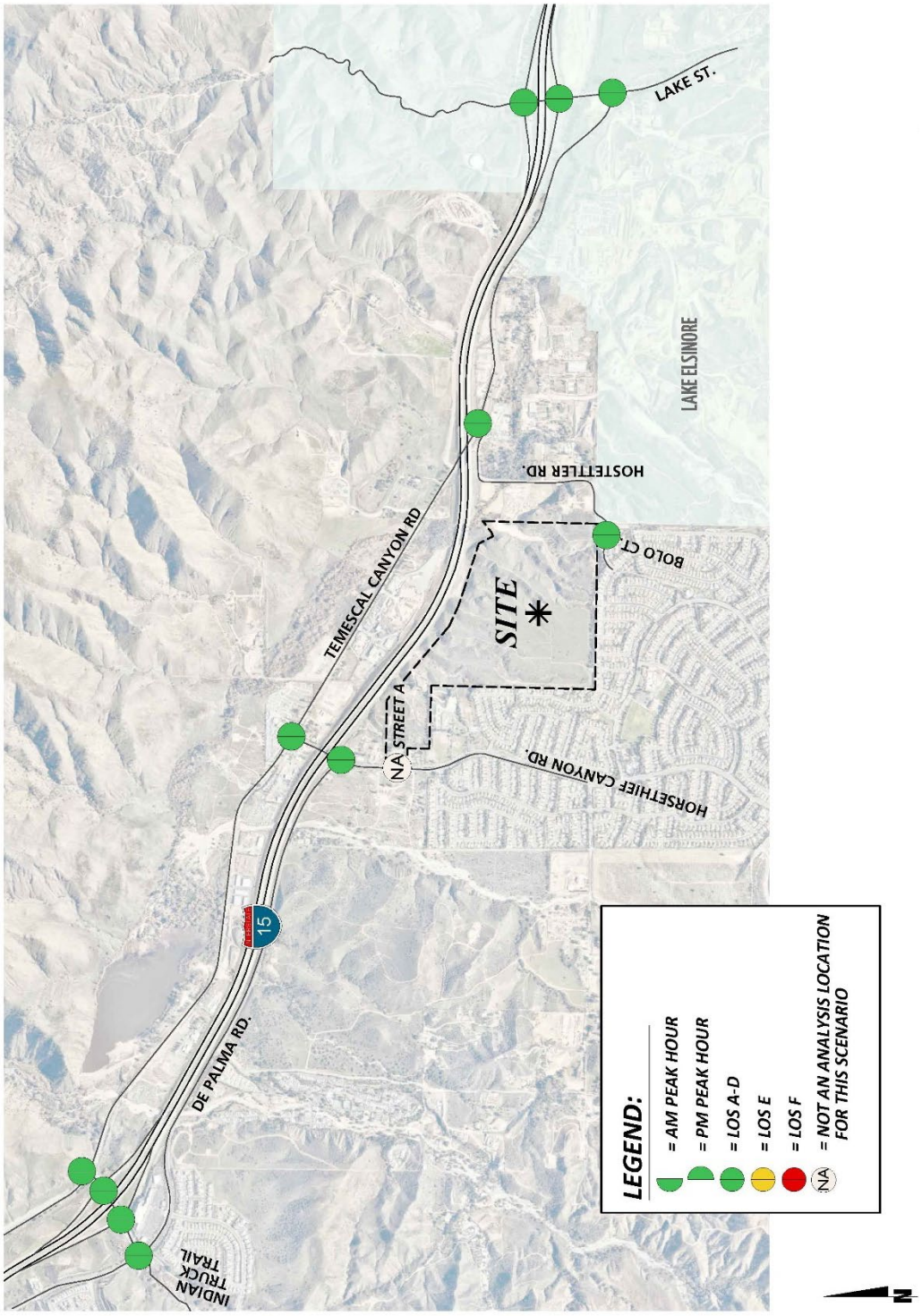
Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable? [1]	
			AM Peak Hour	PM Peak Hour	AM	PM
I-15 NB Ramps & Indian Truck Tr.	NBL	420	152	96	Yes	Yes
	NBL/T/R	1,350	70	100	Yes	Yes
	NBR	420	52	20	Yes	Yes
I-15 SB Ramps & Indian Truck Tr.	SBL	675	123	84	Yes	Yes
	SBT/R	1,740	56	60	Yes	Yes
	SBR	500	51	54	Yes	Yes
Lake St. & I-15 NB Ramps	WBL	800	271	216	Yes	Yes
	WBT/R	1,775	26	16	Yes	Yes
Lake St. & I-15 SB Ramps	EBL/T	1,815	24	11	Yes	Yes
	EBR	300	83	314 [3]	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 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 I-15 Freeway mainline.

EXHIBIT 3-12: EXISTING (2020) SUMMARY OF LOS



3.11 EXISTING (2020) FREEWAY FACILITY ANALYSIS

Existing (2020) mainline directional volumes for the AM and PM peak hours are provided on Exhibit 3-13. As shown in Table 3-3, the study area freeway segments and merge/diverge ramp junctions analyzed for this study are currently operating at an acceptable LOS (i.e., LOS D or better) during the peak hours for Existing (2020) traffic conditions. Existing (2020) freeway facility analysis worksheets are provided in Appendix 3.5.

3.12 RECOMMENDED IMPROVEMENTS

3.12.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

All existing study area intersections currently operate at an acceptable LOS; therefore, no improvements are recommended for Existing (2020) traffic conditions.

3.12.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously in Table 3-2, there are currently no peak hour queuing issues at the I-15 Freeway and Indian Truck Trail and Lake Street interchanges for Existing (2020) traffic conditions. As such, no improvements have been recommended.

3.12.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

As shown previously in Table 3-3, there are no study area freeway mainline segments and ramp junctions that currently operate at an unacceptable LOS for Existing (2020) traffic conditions. As such, no improvements have been recommended.

EXHIBIT 3-13: EXISTING (2020) FREEWAY MAINLINE VOLUMES

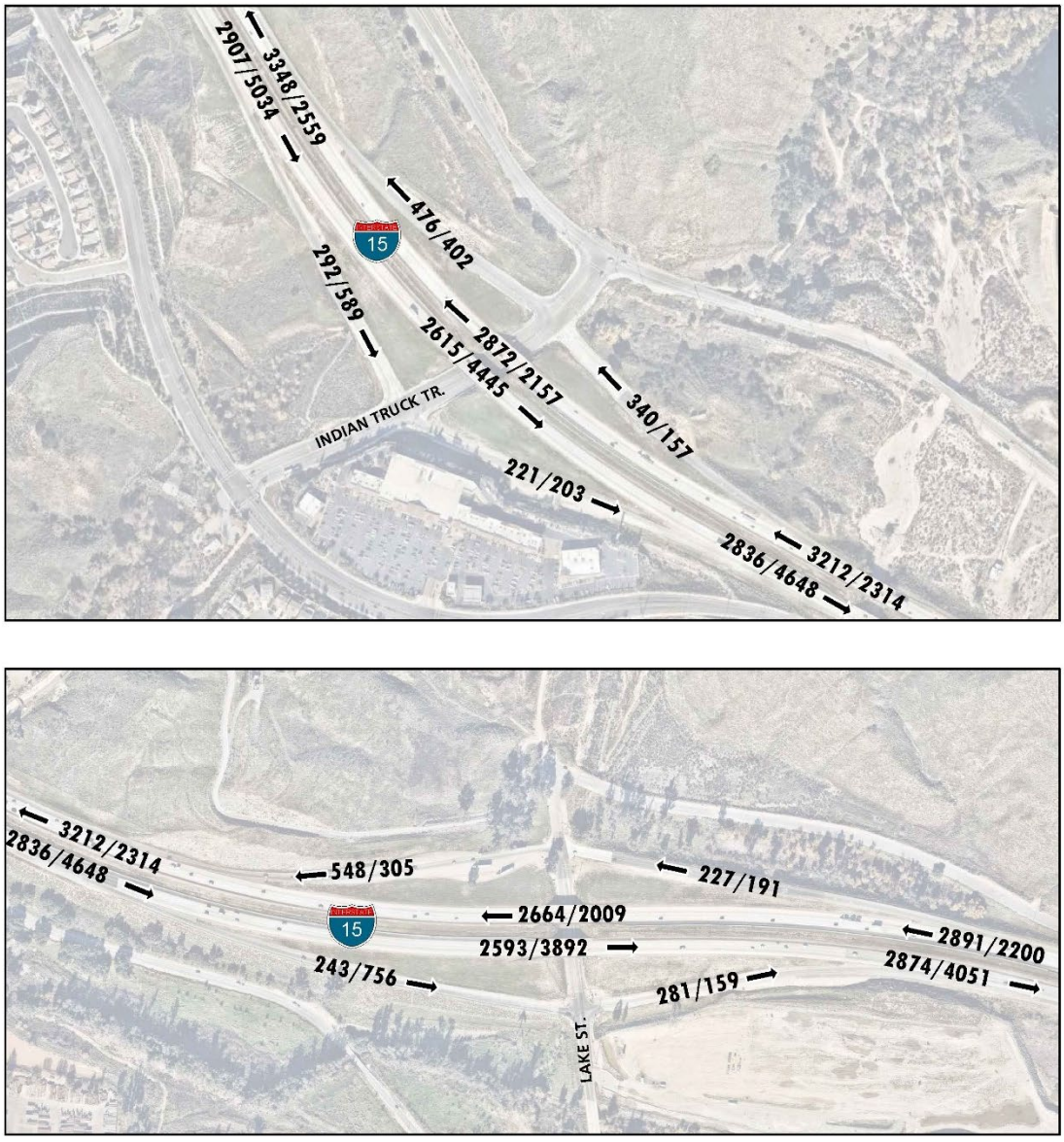


Table 3-3

Freeway Facility Analysis for Existing (2020) Conditions

Freeway	Direction[1]	Ramp or Segment	Lanes on Freeway[2]	AM Peak Hour		PM Peak Hour	
				Density[3]	LOS[4]	Density[3]	LOS[4]
I-15	SB	North of Indian Truck Tr.	3	16.2	B	30.4	D
		Off-Ramp at Indian Truck Tr.	3	17.2	B	29.0	D
		On-Ramp at Lake St.	3	14.0	B	19.0	B
		South of Lake St.	3	16.0	B	21.7	C
	NB	North of Indian Truck Tr.	3	18.7	C	14.3	B
		On-Ramp at Indian Truck Tr.	3	21.0	C	16.6	B
		Off-Ramp at Lake St.	3	17.3	B	13.2	B
		South of Lake St.	3	16.0	B	12.3	B

[1] SB = Southbound; NB = Northbound

[2] Number of lanes are in the specified direction and is based on existing conditions.

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

[4] LOS = Level of Service

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4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project's trip assignment onto the study area roadway network. The Project is anticipated to have an Opening Year of 2025. The Project is proposing to amend the Specific Plan with a mix of industrial and business park uses, as described below:

- 423,403 square feet of high-cube cold storage warehousing use within the Light Industrial area (20% of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 740,956 square feet of high-cube fulfillment center warehousing use within the Light Industrial area (35% of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 740,956 square feet of high-cube transload/short-term storage warehousing use within the Light Industrial area (35% of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 211,702 square feet of manufacturing use within the Light Industrial area (10% of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 156,816 square feet of warehousing use within the Business Park area (40% of the Business Park square footage, calculated assuming 0.5 floor-to-area ratio)
- 235,224 square feet of industrial park use within the Business Park area (60% of the Business Park square footage, calculated assuming 0.5 floor-to-area ratio)

Regional access to the Project site is available from the I-15 Freeway via Indian Truck Trail and Lake Street interchanges.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development and is based upon the specific land uses planned for a given project. Trip generation rates (in Actual Vehicles and PCE) for the Project are shown in Table 4-1. These estimates are based on the trip-generation statistics published in the ITE Trip Generation Manual, (10th Edition, 2017) was used to estimate the trip generation. (3)

For purposes of the TA, following ITE land use code and vehicle mix have been utilized:

- ITE land use code 140 (Manufacturing) has been used to derive site specific trip generation estimates for up to 211,702 square feet (10% of the light industrial area). A manufacturing facility is an area where the primary activity is the conversion of raw materials or parts into finished products. Size and type of activity may vary substantially from one facility to another. In addition to the actual production of goods, manufacturing facilities generally also have office, warehouse, research, and associated functions. The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement. (10) This study provides the following vehicle mix: AM Peak Hour: 92.0% passenger cars and 8.0% trucks; PM Peak Hour: 93.0% passenger cars and 7.0% trucks; Weekday Daily: 90.0% passenger cars and 10.0% trucks. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

Table 4-1

Project Trip Generation Rates

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicle Trip Generation Rates									
Manufacturing[3]	TSF	140	0.477	0.143	0.620	0.208	0.462	0.670	3.930
Passenger Cars (AM-92.0%; PM-93.0%; Daily-90.0%)			0.439	0.131	0.570	0.193	0.430	0.623	3.537
2-Axle Trucks (AM-1.34%; PM-1.17%; Daily-1.67%)			0.006	0.002	0.008	0.002	0.005	0.008	0.066
3-Axle Trucks (AM-1.66%; PM-1.45%; Daily-2.07%)			0.008	0.002	0.010	0.003	0.007	0.010	0.081
4-Axle+ Trucks (AM-5.01%; PM-4.38%; Daily-6.26%)			0.024	0.007	0.031	0.009	0.020	0.029	0.246
Warehousing[3]	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars (AM-87.0%; PM-85.0%; Daily-73.0%)			0.114	0.034	0.148	0.044	0.118	0.162	1.270
2-Axle Trucks (AM-2.17%; PM-2.51%; Daily-4.51%)			0.003	0.001	0.004	0.001	0.003	0.005	0.078
3-Axle Trucks (AM-2.69%; PM-3.11%; Daily-5.59%)			0.004	0.001	0.005	0.002	0.004	0.006	0.097
4-Axle+ Trucks (AM-8.14%; PM-9.39%; Daily-16.90%)			0.011	0.003	0.014	0.005	0.013	0.018	0.294
High-Cube Transload and Short-Term Storage Warehouse (Without Cold Storage)[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars (AM-80.0%; PM-84.0%; Daily-84.0%)			0.049	0.015	0.064	0.024	0.060	0.084	1.176
2-Axle Trucks (AM-3.34%; PM-2.67%; Daily-2.67%)			0.002	0.001	0.003	0.001	0.002	0.003	0.037
3-Axle Trucks (AM-4.14%; PM-3.31%; Daily-3.31%)			0.003	0.001	0.003	0.001	0.002	0.003	0.046
4-Axle+ Trucks (AM-12.52%; PM-10.02%; Daily-10.02%)			0.008	0.002	0.010	0.003	0.007	0.010	0.140
High-Cube Cold Storage Warehouse (With Cold Storage)[3]	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars (AM-73.0%; PM-77.0%; Daily-65.0%)			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (AM-9.37%; PM-7.98%; Daily-12.15%)			0.008	0.002	0.010	0.003	0.007	0.010	0.257
3-Axle Trucks (AM-2.97%; PM-2.53%; Daily-3.85%)			0.003	0.001	0.003	0.001	0.002	0.003	0.082
4-Axle+ Trucks (AM-14.66%; PM-12.49%; Daily-19.01%)			0.012	0.004	0.016	0.004	0.011	0.015	0.403
High-Cube Fulfillment Center Warehouse[4]	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+-Axle Trucks			0.008	0.003	0.011	0.003	0.007	0.010	0.217
Industrial Park[3]	TSF	130	0.324	0.076	0.400	0.084	0.316	0.400	3.370
Passenger Cars (AM-88.0%; PM-90.0%; Daily-85.0%)			0.285	0.067	0.348	0.076	0.284	0.348	2.865
2-Axle Trucks (AM-2.00%; PM-1.67%; Daily-2.51%)			0.006	0.002	0.009	0.001	0.005	0.009	0.084
3-Axle Trucks (AM-2.48%; PM-2.07%; Daily-3.11%)			0.008	0.002	0.011	0.002	0.007	0.011	0.105
4-Axle+ Trucks (AM-7.51%; PM-6.26%; Daily-9.39%)			0.024	0.006	0.032	0.005	0.020	0.033	0.316

Table 4-1

Project Trip Generation Rates

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Passenger Car Equivalent (PCE) Trip Generation Rates[5]									
Manufacturing[3]	TSF	140	0.477	0.143	0.620	0.208	0.462	0.670	3.930
Passenger Cars			0.380	0.113	0.493	0.165	0.368	0.533	3.127
2-Axle Trucks (PCE = 1.5)			0.010	0.003	0.012	0.004	0.008	0.012	0.098
3-Axle Trucks (PCE = 2.0)			0.016	0.005	0.021	0.006	0.013	0.019	0.163
4-Axle+ Trucks (PCE = 3.0)			0.072	0.021	0.093	0.027	0.061	0.088	0.738
Warehousing[3]	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars			0.114	0.034	0.148	0.044	0.118	0.162	1.270
2-Axle Trucks (PCE = 1.5)			0.004	0.001	0.006	0.002	0.005	0.007	0.118
3-Axle Trucks (PCE = 2.0)			0.007	0.002	0.009	0.003	0.009	0.012	0.194
4-Axle+ Trucks (PCE = 3.0)			0.032	0.010	0.042	0.014	0.039	0.054	0.882
High-Cube Transload and Short-Term Storage Warehouse (Without Cold Storage)[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars			0.049	0.015	0.064	0.024	0.060	0.084	1.176
2-Axle Trucks (PCE = 1.5)			0.003	0.001	0.004	0.001	0.003	0.004	0.056
3-Axle Trucks (PCE = 2.0)			0.005	0.002	0.007	0.002	0.005	0.007	0.093
4-Axle+ Trucks (PCE = 3.0)			0.023	0.007	0.030	0.008	0.022	0.030	0.421
High-Cube Cold Storage Warehouse (With Cold Storage)[3]	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (PCE = 1.5)			0.012	0.004	0.015	0.004	0.010	0.014	0.386
3-Axle Trucks (PCE = 2.0)			0.005	0.002	0.007	0.002	0.004	0.006	0.163
4-Axle+ Trucks (PCE = 3.0)			0.037	0.011	0.048	0.012	0.033	0.045	1.209
High-Cube Fulfillment Center Warehouse[4]	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (PCE = 2.0)			0.012	0.004	0.016	0.006	0.016	0.022	0.324
5+-Axle Trucks (PCE = 3.0)			0.025	0.008	0.033	0.008	0.022	0.030	0.651
Industrial Park[3]	TSF	130	0.324	0.076	0.400	0.084	0.316	0.400	3.370
Passenger Cars			0.285	0.067	0.352	0.076	0.284	0.360	2.865
2-Axle Trucks (PCE = 1.5)			0.010	0.002	0.012	0.002	0.008	0.010	0.127
3-Axle Trucks (PCE = 2.0)			0.016	0.004	0.020	0.003	0.013	0.017	0.209
4-Axle+ Trucks (PCE = 3.0)			0.073	0.017	0.090	0.016	0.059	0.075	0.949

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

[2] TSF = thousand square feet

[3] Vehicle Mix Source: ITE Trip Generation Handbook Supplement (2020), Appendix C.
Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.
Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.
Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

[4] Vehicle Mix Source: High Cube Warehouse Trip Generation Study, WSP, January 29, 2019.
Inbound and outbound split source: ITE Trip Generation Manual, Tenth Edition (2017) for ITE Land Use Code 154.

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

- ITE land use code 150 (Warehousing) has been used to derive site specific trip generation estimates for up to 161,172 square feet (40% of the business park area). The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement. (10) This study provides the following vehicle mix: AM Peak Hour: 87.0% passenger cars and 13.0% trucks; PM Peak Hour: 85.0% passenger cars and 15.0% trucks; Weekday Daily: 73.0% passenger cars and 27.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE land use code 154 (High-Cube Transload and Short-Term Storage Warehouse) has been used to derive site specific trip generation estimates for up to 740,956 square feet (35% of the light industrial area). High cube transload/short-term storage warehouse data regarding the truck percentage and vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement. (10) This study provides the following vehicle mix: AM Peak Hour: 80.0% passenger cars and 20.0% trucks; PM Peak Hour: 84.0% passenger cars and 16.0% trucks; Weekday Daily: 84.0% passenger cars and 16.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE land use code 157 (High-Cube Cold Storage Warehouse) has been used to derive site specific trip generation estimates for up to 423,403 square feet (20% of the light industrial area). High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's Trip Generation Manual Supplement. (10) This study provides the following vehicle mix: AM Peak Hour: 73.0% passenger cars and 27.0% trucks; PM Peak Hour: 77.0% passenger cars and 23.0% trucks; Weekday Daily: 65.0% passenger cars and 35.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.
- High-Cube Fulfillment Center Warehouse has been used to derive site specific trip generation estimates for up to 740,956 square feet (35% of the light industrial area). The ITE Trip Generation Manual Supplement has trip generation rates for high-cube fulfillment center use for both non-sort and sort facilities (ITE land use code 155). (10) While there is sufficient data to support use of the trip generation rates for non-sort facilities, the sort facility rate appears to be unreliable because they are based on limited data (i.e., one to two surveyed sites). The proposed Project is speculative and whether a non-sort or sort facility end-user would occupy the buildings is not known at this time. Lastly, the ITE Trip Generation Handbook recommends the use of local data sources where available. As such, the best available source for high-cube fulfilment center use would be the trip-generation statistics published in the High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019) which was commissioned by the Western Riverside Council of Governments (WRCOG) in support of the Transportation Uniform Mitigation Fee (TUMF) update in the County of Riverside. The WSP trip generation rates were published in January 2019 and are based on data collected at 11 local high-cube fulfillment center sites located throughout Southern California (specifically Riverside County and San Bernardino County). However, the WSP study does not include a split for inbound and outbound vehicles, as such, the inbound and outbound splits per the ITE Trip Generation Manual for Land Use Code 154 have been utilized.

- Based on the types of uses anticipated to be developed within the business park area, the trip generation rates for ITE land use code 130 (Industrial Park) have been used to derive site specific trip generation estimates for up to 241,758 square feet (60% of the business park area). The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement. This study provides the following vehicle mix: AM Peak Hour: 88.0% passenger cars and 12.0% trucks; PM Peak Hour: 90.0% passenger cars and 10.0% trucks; Weekday Daily: 85.0% passenger cars and 15.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

Finally, PCE factors were applied to the trip generation rates to convert trips made by heavy trucks (large 4+-axles trucks) to PCE values. PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix B of the San Bernardino County Congestion Management Program (2016 Update). (11)

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project in actual vehicles and PCE are shown in Tables 4-2 and 4-3, respectively. The proposed Project is anticipated to generate a total of 5,422 vehicle trip-ends per day with 449 AM peak hour trips and 514 PM peak hour trips. For purposes of the operational analyses, the PCE trip generation shown in Table 4-3 have been utilized.

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. Truck distribution patterns are based on truck routes, the site's proximity to the regional freeway system and likely distribution of traffic if a future tenant is known. Passenger car distribution patterns are based on existing and planned land uses in the area along with the planned circulation system. Exhibit 4-1 illustrates the truck trip distribution patterns for the Project and Exhibit 4-2 illustrates the passenger car trip distribution patterns. Each of these distribution patterns was reviewed by the County of Riverside as part of the TA scoping process (see Appendix 1.1).

Table 4-2

Project Trip Generation Summary (Actual Vehicles)

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Cold Storage (20% - LI)	423.403	TSF							
Passenger Cars:			26	8	34	11	29	40	584
Truck Trips:									
2-axle:			3	1	4	1	3	4	110
3-axle:			1	0	1	0	1	1	36
4+-axle:			5	2	7	2	5	7	172
- Truck Trips			9	3	12	3	9	12	318
SUBTOTAL TRIPS (Actual) [2]			**35**	**11**	**46**	**14**	**38**	**52**	**902**
High-Cube Fulfillment (35% - LI)	740.956	TSF							
Passenger Cars:			59	18	77	30	77	107	1,298
Truck Trips:									
2-4 axle:			5	1	6	2	6	8	120
5+-axle:			6	2	8	2	5	7	162
- Truck Trips			11	3	14	4	11	15	282
TOTAL TRIPS (Actual) [2]			**70**	**21**	**91**	**34**	**88**	**122**	**1,580**
High-Cube Warehouse (35% - LI)	740.956	TSF							
Passenger Cars:			37	11	48	17	45	62	872
Truck Trips:									
2-axle:			2	0	2	1	1	2	28
3-axle:			2	1	3	1	2	3	34
4+-axle:			6	2	8	2	5	7	104
- Truck Trips			10	3	13	4	8	12	166
SUBTOTAL TRIPS (Actual) [2]			**47**	**14**	**61**	**21**	**53**	**74**	**1,038**
Manufacturing (10% - LI)	211.702	TSF							
Passenger Cars:			93	28	121	41	91	132	750
Truck Trips:									
2-axle:			1	0	1	1	1	2	14
3-axle:			2	0	2	1	1	2	18
4+-axle:			5	2	7	2	4	6	52
- Truck Trips			8	2	10	4	6	10	84
SUBTOTAL TRIPS (Actual) [2]			**101**	**30**	**131**	**45**	**97**	**142**	**834**
Warehouse (40% - BP)	156.816	TSF							
Passenger Cars:			18	5	23	7	18	25	200
Truck Trips:									
2-axle:			0	0	0	0	1	1	12
3-axle:			1	0	1	0	1	1	16
4+-axle:			2	0	2	1	2	3	46
- Truck Trips			3	0	3	1	4	5	74
SUBTOTAL TRIPS (Actual) [2]			**21**	**5**	**26**	**8**	**22**	**30**	**274**
Industrial Park (60% - BP)	235.224	TSF							
Passenger Cars:			67	16	83	18	67	85	674
Truck Trips:									
2-axle:			2	0	2	0	1	1	20
3-axle:			2	0	2	0	2	2	26
4+-axle:			6	1	7	1	5	6	74
- Truck Trips			10	1	11	1	8	9	120
SUBTOTAL TRIPS (Actual) [2]			**77**	**17**	**94**	**19**	**75**	**94**	**794**
Passenger Cars (Industrial)			*300*	*86*	*386*	*124*	*327*	*451*	*4,378*
Trucks (Industrial)			*51*	*12*	*63*	*17*	*46*	*63*	*1,044*
TOTAL TRIPS (Actual) [2]			**351**	**98**	**449**	**141**	**373**	**514**	**5,422**

[1] TSF = thousand square feet

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

Table 4-3

Project Trip Generation Summary (Passenger Car Equivalent)

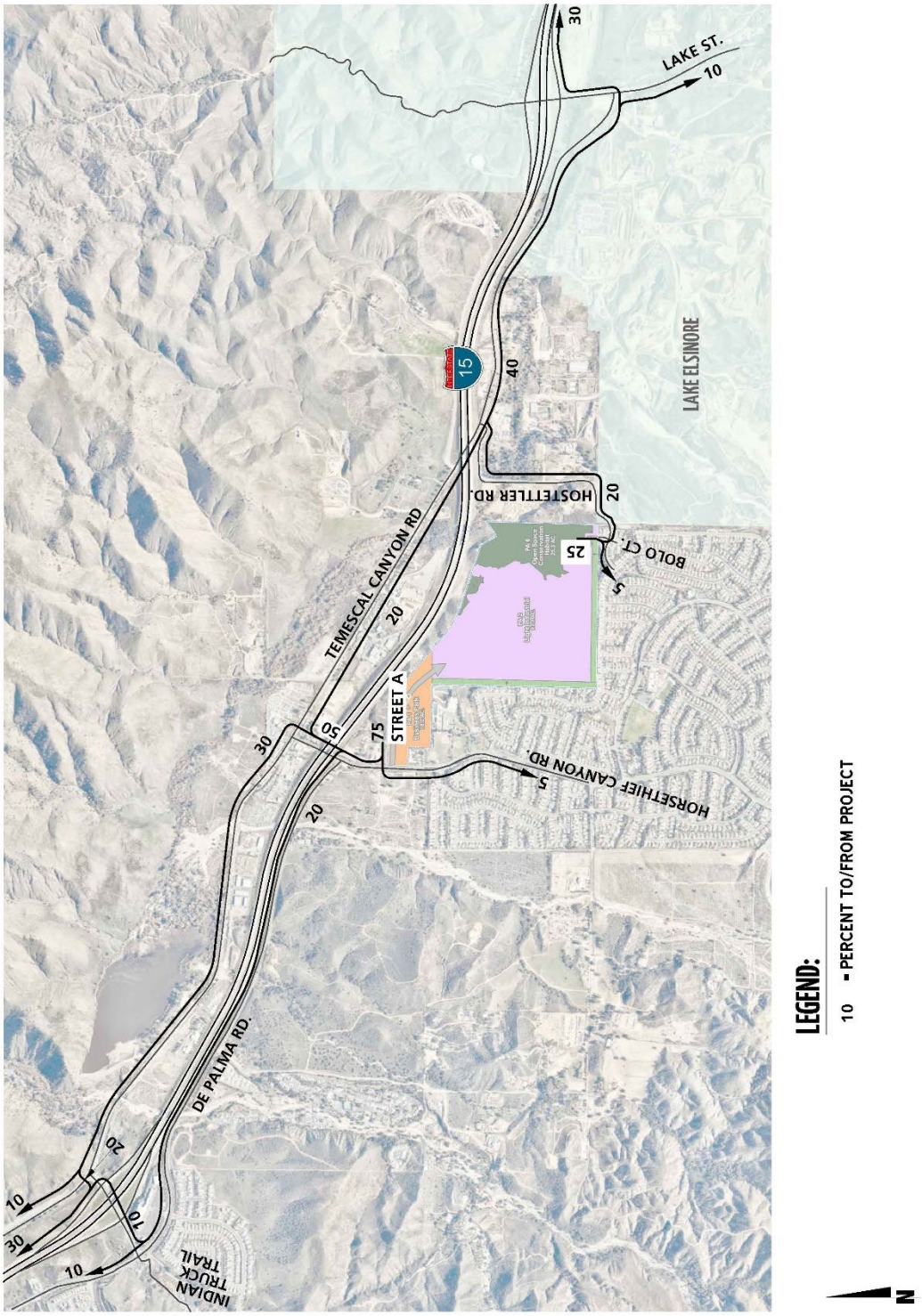
Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Cold Storage (20% - LI)	423.403	TSF							
Passenger Cars:			26	8	34	11	29	40	584
Truck Trips:									
2-axle:			5	2	7	2	4	6	164
3-axle:			2	1	3	1	2	3	70
4+-axle:			16	5	21	5	14	19	512
- Truck Trips			23	8	31	8	20	28	746
SUBTOTAL TRIPS (PCE) [2]			**49**	**16**	**65**	**19**	**49**	**68**	**1,330**
High-Cube Fulfillment (35% - LI)	740.956	TSF							
Passenger Cars:			59	18	77	30	77	107	1,298
Truck Trips:									
2-4 axle:			9	3	12	5	12	17	240
5+-axle:			19	6	25	6	16	22	482
- Truck Trips			28	9	37	11	28	39	722
SUBTOTAL TRIPS (PCE) [2]			**87**	**27**	**114**	**41**	**105**	**146**	**2,020**
High-Cube Warehouse (35% - LI)	740.956	TSF							
Passenger Cars:			37	11	48	17	45	62	872
Truck Trips:									
2-axle:			2	1	3	1	2	3	42
3-axle:			4	1	5	1	4	5	70
4+-axle:			17	5	22	6	16	22	312
- Truck Trips			23	7	30	8	22	30	424
SUBTOTAL TRIPS (PCE) [2]			**60**	**18**	**78**	**25**	**67**	**92**	**1,296**
Manufacturing (10% - LI)	211.702	TSF							
Passenger Cars:			93	28	121	41	91	132	750
Truck Trips:									
2-axle:			2	1	3	1	2	3	22
3-axle:			3	1	4	1	3	4	34
4+-axle:			15	5	20	6	13	19	156
- Truck Trips			20	7	27	8	18	26	212
SUBTOTAL TRIPS (PCE) [2]			**113**	**35**	**148**	**49**	**109**	**158**	**962**
Warehousing (40% - BP)	156.816	TSF							
Passenger Cars:			18	5	23	7	18	25	200
Truck Trips:									
2-axle:			1	0	1	0	1	1	18
3-axle:			1	0	1	0	1	1	32
4+-axle:			5	1	6	2	6	8	138
- Truck Trips			7	1	8	2	8	10	188
SUBTOTAL TRIPS (PCE) [2]			**25**	**6**	**31**	**9**	**26**	**35**	**388**
Industrial Park (60% - BP)	235.224	TSF							
Passenger Cars:			67	16	83	18	67	85	674
Truck Trips:									
2-axle:			2	1	3	0	2	2	30
3-axle:			4	1	5	1	3	4	50
4+-axle:			17	4	21	4	14	18	224
- Truck Trips			23	6	29	5	19	24	304
SUBTOTAL TRIPS (PCE) [2]			**90**	**22**	**112**	**23**	**86**	**109**	**978**
Passenger Cars (Industrial)			*300*	*86*	*386*	*124*	*327*	*451*	*4,378*
Trucks (Industrial) (PCE)			*124*	*38*	*162*	*42*	*115*	*157*	*2,596*
TOTAL TRIPS (PCE) [2]			**424**	**124**	**548**	**166**	**442**	**608**	**6,974**

[1] TSF = thousand square feet

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

EXHIBIT 4-1: PROJECT (TRUCK) TRIP DISTRIBUTION

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



4.3 MODAL SPLIT

The traffic reducing potential of public transit, walking, or bicycling have not been considered in this TA. Essentially, the traffic projections are "conservative" in that these alternative travel modes might be able to reduce the forecasted traffic volumes (employee trips only).

4.4 PROJECT TRIP ASSIGNMENT

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

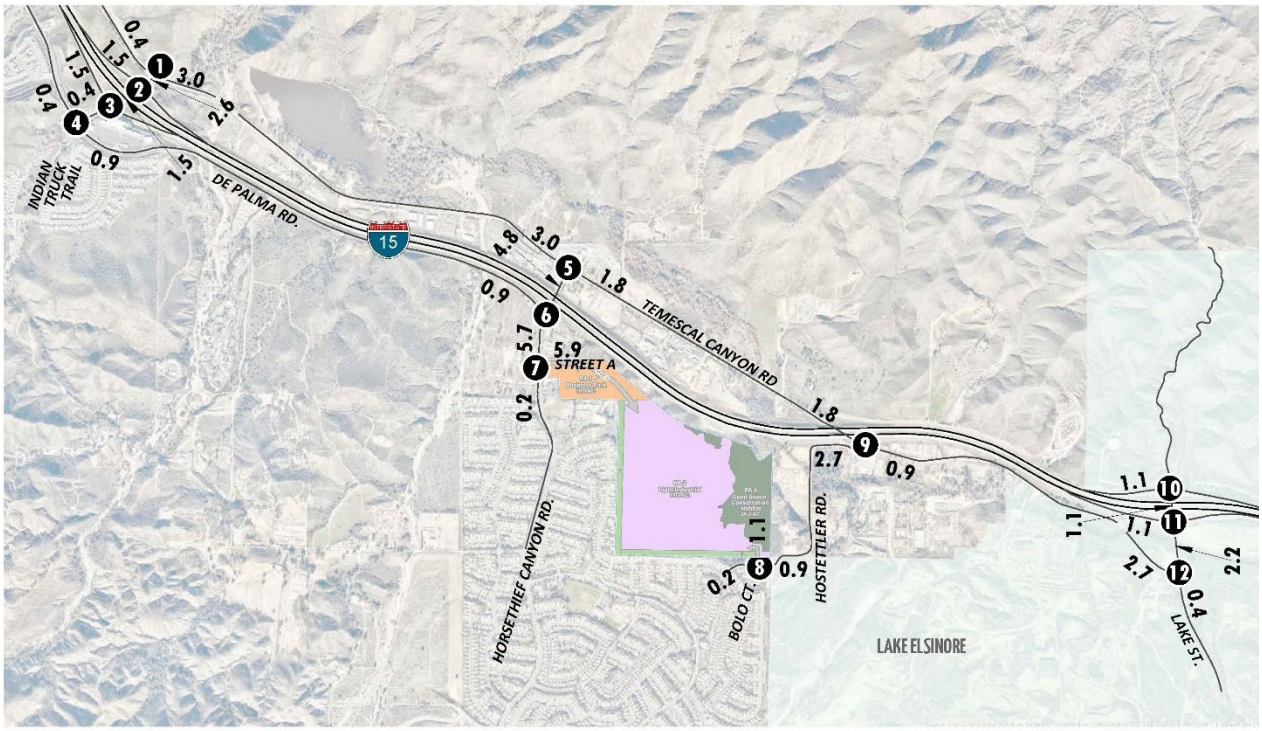
4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon a background (ambient) growth factor of 2% per year for 2025 traffic conditions. The ambient growth factor is intended to approximate traffic growth. The total ambient growth is 10.41% for 2025 traffic conditions (compounded growth of 2 percent per year over 5 years). This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects.

Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

The currently adopted Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (September 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. (12) 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. (12)

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



1 Temescal Canyon Rd. & Indian Truck Tr.	2 I-15 NB Ramps & Indian Truck Tr.	3 I-15 SB Ramps & Indian Truck Tr.	4 De Palma Rd. & Indian Truck Tr.	5 Horsethief Canyon Rd. & Temescal Canyon Rd.	6 Horsethief Canyon Rd. & De Palma Rd.
0(0) 30(12) 0(0) 141(52) 42(140) 9(33)	42(140) 0(0) 9(33) 141(52) 0(0) 0(0) 0(0)	30(12) 0(0) 141(52) 0(0) 0(0) 9(33) 0(0)	0(0) 30(12) 0(0) 0(0) 0(0) 30(12) 0(0) 0(0) 0(0) 0(0) 9(33) 9(33)	0(0) 103(40) 0(0) 171(65) 51(173) 31(106)	0(0) 274(104) 0(0) 60(25) 17(65) 81(279)
7 Horsethief Canyon Rd. & Street A	**8 Bolo Ct. & Hostettler Rd.**	**9 Temescal Canyon Rd. & Hostettler Rd.**	**10 Lake St. & I-15 NB Ramps**	**11 Lake St. & I-15 SB Ramps**	**12 Lake St. & Temescal Canyon Rd.**
0(0) 334(129) 98(344) 4(16) 0(0) 15(6)	4(16) 0(0) 17(65) 60(25) 0(0) 0(0) 15(6) 0(0) 0(0) 0(0) 0(0) 0(0)	0(0) 31(106) 0(0) 17(65) 60(25) 103(40)	0(0) 0(0) 0(0) 0(0) 133(52) 0(0) 0(0)	133(52) 0(0) 0(0) 0(0) 0(0) 39(138)	133(52) 0(0) 39(138) 9(33) 30(12) 0(0)

LEGEND:

10(10) *= AM(PM) PEAK HOUR INTERSECTION VOLUMES*
10.0 *= VEHICLES PER DAY (1000'S)*

N

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

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

Where applicable, cumulative projects anticipated to contribute measurable traffic (i.e., 50 or more peak hour trips) to study area intersections have been manually added to the study area network to generate EAPC forecasts. In other words, this list of cumulative development projects has been reviewed to determine which projects would likely contribute measurable traffic through the study area intersections (e.g., those cumulative projects in close proximity to the proposed Project). For the purposes of this analysis, the cumulative projects that were determined to affect one or more of the study area intersections are shown on Exhibit 4-4, listed in Table 4-4, and have been considered for inclusion.

Although it is unlikely that all of these cumulative projects would be fully built and occupied by Year 2025, they have been included in an effort to conduct a conservative analysis and overstate as opposed to understate potential traffic deficiencies.

Any other cumulative projects located beyond the cumulative study area that are not expected to contribute measurable traffic to study area intersections have not been included since the traffic would dissipate due to the distance from the Project site and study area intersections. Any additional traffic generated by other projects not on the cumulative projects list is accounted 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 Only ADT and peak hour intersection turning movement volumes for are shown Exhibit 4-5.

EXHIBIT 4-4: CUMULATIVE DEVELOPMENT LOCATION MAP

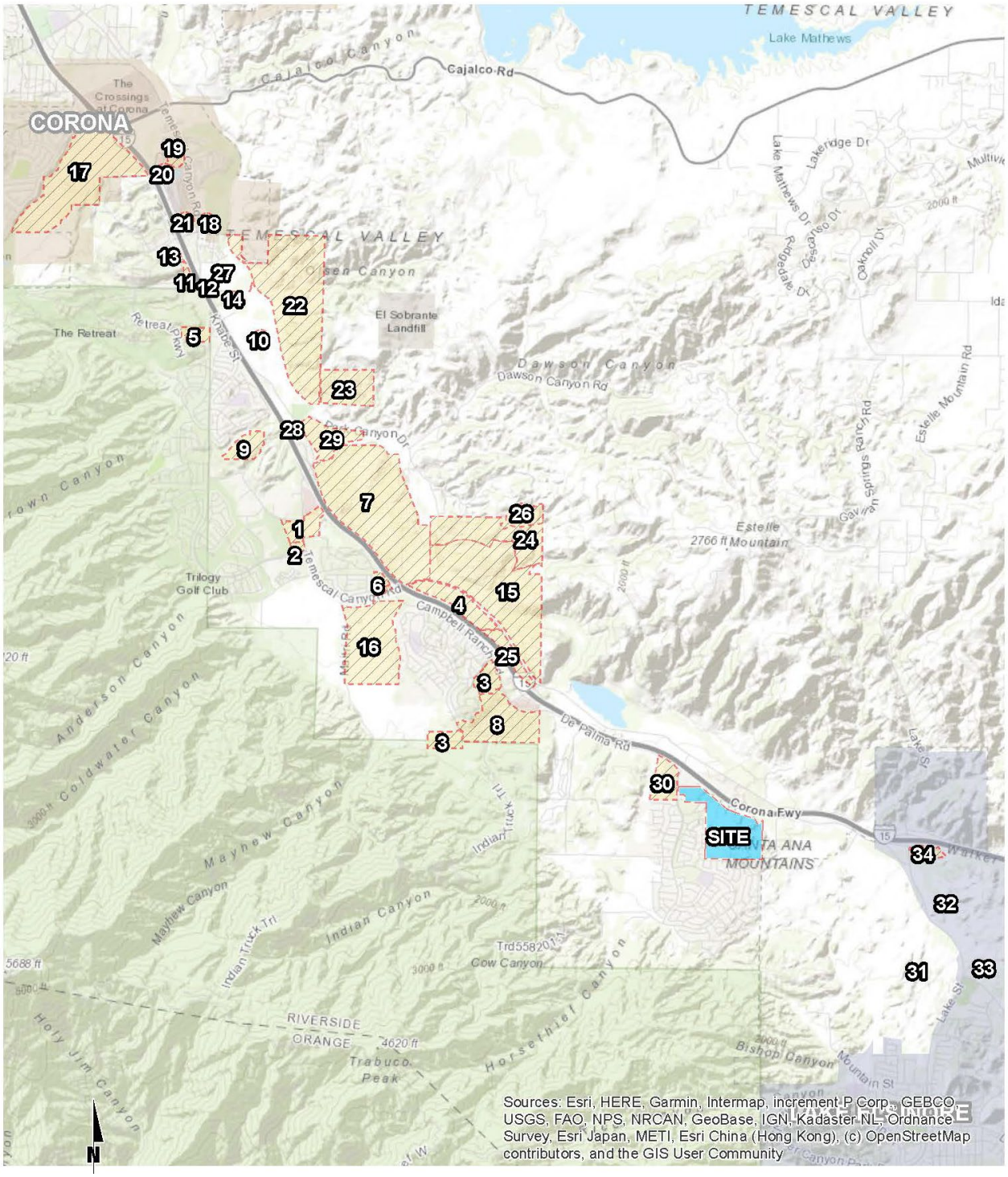
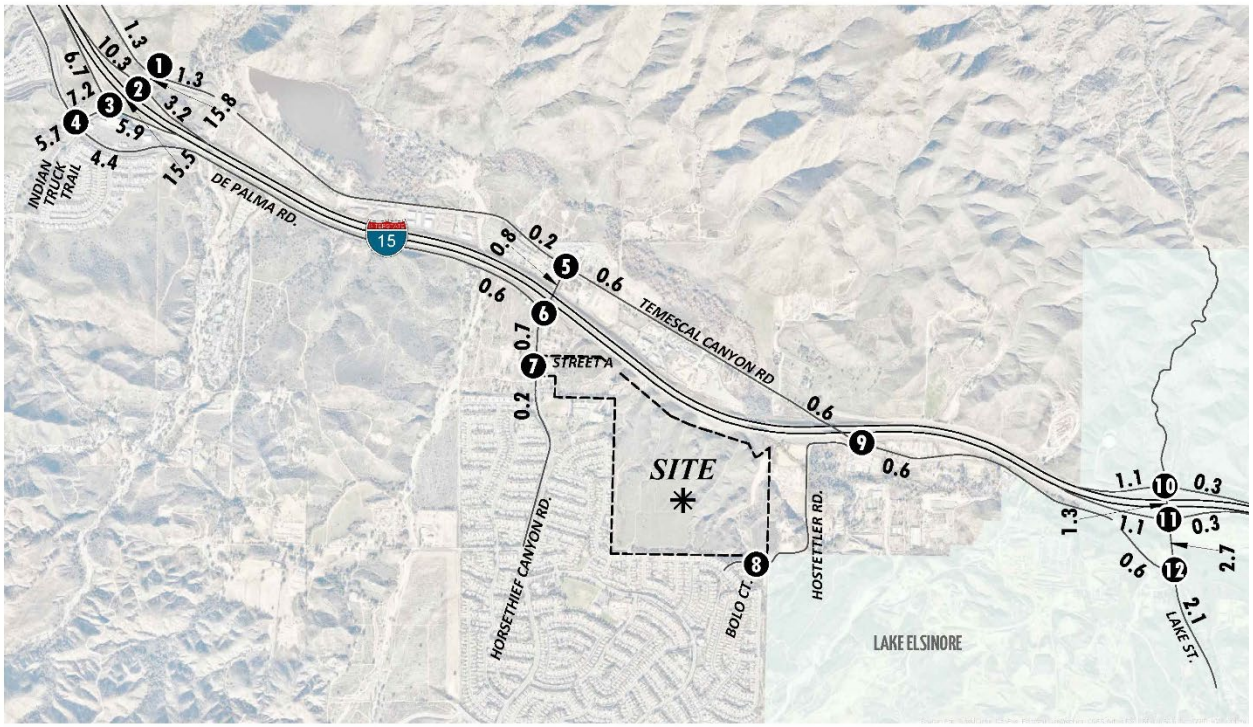
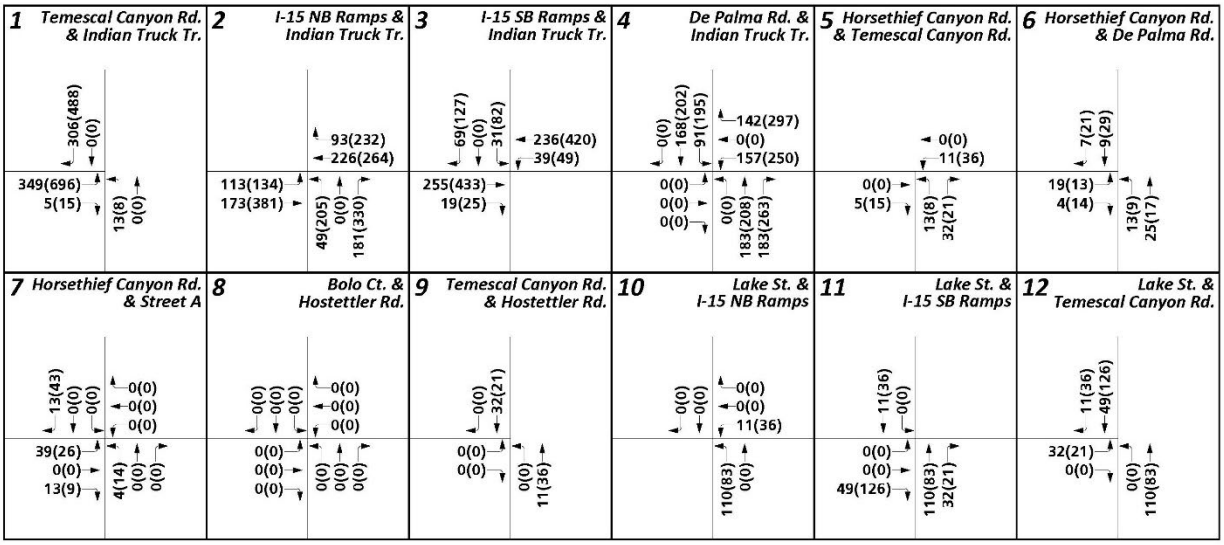


EXHIBIT 4-5: CUMULATIVE ONLY TRAFFIC VOLUMES (IN PCE)





LEGEND:

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

10.0 = *VEHICLES PER DAY (1000'S)*

N

Table 4-4

Cumulative Development Land Use Summary

#	Name	Land Use	Intensity	
County of Riverside				
1	CUP03481	Shopping Center	480.000	TSF
2	PP25776	Church	73.600	TSF
		Private School	216	STU
		Pre-School	96	STU
3	TTM No. 36316	Single Family Residential	87	DU
	TTM No. 36317	Single Family Residential	194	DU
		Passive Park	14.5	AC
		Passive Park	3.9	AC
4	Specific Plan No. 00374 (TTM No. 34476)[2]	Fast Food w/ Drive Thru	3.500	TSF
		Business Park	476.150	TSF
		High Turnover Restaurant	13.460	TSF
		Daycare Center	10.000	TSF
		Hotel	320	ROOMS
		Shopping Center	117.740	TSF
		General Office	103.300	TSF
		Mini-Warehouse	381	UNITS
5	TR 35249	SFDR	53	DU
6	Temescal Canyon	SFDR	93	DU
7	Specific Plan No. 00353 (Serrano Specific Plan)[3]	Light Industrial	6,600.994	TSF
		Shopping Center	172.150	TSF
8	TR30760	Single Family Residential	285	DU
	TR31818	Single Family Residential	311	DU
		Community Park	11.65	AC
	TR31908	Single Family Residential	261	DU
9	TR33688	Single Family Residential	49	DU
10	PP 25397	Manufacturing	60.300	TSF
11	PM 30626	Business Park	8.7	AC
12	PP22355	Fast Food w/ Drive Thru	2.500	TSF
		Retail	30.214	TSF
13	PP22762	General Office	93.924	TSF
14	PP25719	General Light Industrial	84.892	TSF
15	Specific Plan No. 00327 (Toscana Phase I and Phase III)	SFDR	917	DU
		Active Park	8.1	AC
16	SMP 139R1 (CUP 03679)	Surface Mining	2.0	MTPY
17	Arantine Hills Specific Plan	Single Family Residential	549	DU
		Multi-Family Residential	1,072	DU
		Passive Park	4.0	AC
		Active Park	11.0	AC
		General Office	59.000	TSF
		Business Park	230.900	TSF
		Specialty Retail	59.000	TSF
		Shopping Center	396.400	TSF
18	Dos Lagos Specific Plan	Apartments (PA 1)	450	DU
19	CUP 12-004	Hotel	120	RM

Table 4-4

Cumulative Development Land Use Summary

#	Name	Land Use	Intensity	
20	CUP 12-005	Apartments	125	DU
21	DPR 13-003	Apartments	354	DU
22	Olsen Canyon	Surface Mining	2.0	MTPY
23	PP24226 (Leinen Business Park)	Manufacturing	135.421	TSF
24	Toscana Phase 2	Single Family Residential	501	DU
		Active Park	5.0	AC
		Passive Park	0.9	AC
25	CUP 3712 (Phase 1 + Phase 2)	Gas Station w/ Market and Car Wash	12	DU
		Fast Food w/ Drive Thru	6.800	TSF
		High Turnover Restaurant	20.000	TSF
		General Office	56.000	TSF
		Shopping Center	46.900	TSF
		Supermarket	43.000	TSF
		Pharmacy w/ Drive Thru	14.000	TSF
		Bank w/ Drive Thru	3.500	TSF
26	TTM No. 37554 & 37556	Single Family Residential	143	DU
27	PPT180006	Warehousing	30.250	TSF
28	CUP190053	Marijuana Dispensary	8.582	TSF
29	Corona Clay	Industrial Park	1,025.766	TSF
		Fast-Food w/ Drive Thru	5.400	TSF
		Super Convenience Market/Gas Sta.	16	VFP
30	Horsethief Canyon Residential	Single Family Residential	230	DU
City of Lake Elsinore				
31	Alberhill Villages	Single Family Residential	9,536	DU
32	Alberhill Ridge (Tract 35001)	Single Family Residential	1,056	DU
		Apartments	345	DU
		Shopping Center	679.000	TSF
		General Office	679.000	TSF
33	Alberhill Ranch	Single Family Residential	362	DU
34	Lake Street/I-15 Property	Public RV Storage & Self Storage	13.3	AC
		Gas Station w/ Market	12	VFP

[1] DU = Dwelling Units; TSF = Thousand Square Feet; AC = Acres; MTPY = Million Tons Per Year; STU = Students; VFP = Vehicle Fueling Positions

[2] Land Use and Quantity Source: Specific Plan No. 00374 (TTM No. 34476) TIA, Urban Crossroads, Inc., August 18, 2008.

[3] Source: Serrano Commerce Center TIA, Kunzman Associates, November 20, 2008.

4.7 NEAR-TERM TRAFFIC CONDITIONS

The "buildup" approach combines existing traffic counts with a background ambient growth factor to forecast EAP (2025) and EAPC (2025) traffic conditions. An ambient growth factor of 10.41% accounts for background (area-wide) traffic increases that occur over time up to the year 2025 from the year 2020 (2.0 percent per year growth rate, compounded over a 5-year period). Traffic volumes generated by the Project are then added to assess the near-term traffic conditions. The 2025 roadway network is similar to the Existing conditions roadway network, with the exception of future driveways proposed to be developed by the Project.

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

- Existing Plus Ambient Growth Plus Project (2025)
  - Existing 2020 counts
  - Ambient growth traffic (10.41%)
  - Project traffic

- Existing Plus Ambient Growth Plus Project Plus Cumulative (2025)
  - Existing 2020 counts
  - Ambient growth traffic (10.41%)
  - Cumulative Development traffic
  - Project traffic

4.8 HORIZON YEAR (2040) CONDITIONS

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

The traffic forecasts reflect the area-wide growth anticipated between Existing (2020) conditions and Horizon Year (2040) traffic conditions. In most instances the traffic model zone structure is not designed to provide accurate turning movements along arterial roadways unless refinement and reasonableness checking is performed. Therefore, the Horizon Year peak hour forecasts were refined using the model derived long range forecasts, base (validation) year model forecasts, along with existing peak hour traffic count data collected at each analysis location in January of 2020. The RivTAM has a base (validation) year of 2012 and a horizon (future forecast) year of 2040. The RivTAM 2040 model utilized for the purposes of this analysis assumes buildout of the County of Riverside.

The refined future peak hour approach and departure volumes obtained from the model output data are then entered into a spreadsheet program consistent with the National Cooperative Highway Research Program (NCHRP Report 255), along with initial estimates of turning

movement proportions. A linear programming algorithm is used to calculate individual turning movements which match the known directional roadway segment forecast volumes computed in the previous step. This program computes a likely set of intersection turning movements from intersection approach counts and the initial turning proportions from each approach leg.

Typically, the model growth is prorated and is subsequently added to the existing (base validation) traffic volumes to represent Horizon Year traffic conditions. In an effort to conduct a conservative analysis, reductions to traffic forecasts from either Existing, EAP, and EAPC traffic conditions were not assumed as part of this analysis. As such, in conjunction with the addition of cumulative projects that are not consistent with the General Plan, additional growth has also been applied on a movement-by-movement basis, where applicable, to estimate reasonable Horizon Year forecasts. Horizon Year turning volumes were compared to EAPC (2025) volumes in order to ensure a minimum growth as a part of the refinement process. The minimum growth includes any additional growth between EAPC (2025) and Horizon Year (2040) traffic conditions that is not accounted for by the traffic generated by cumulative development projects and ambient growth rates assumed between Existing (2020) and EAPC (2025) conditions.

Future estimated peak hour traffic data was used for new intersections and intersections with an anticipated change in travel patterns to further refine the Horizon Year (2040) peak hour forecasts. The future Horizon Year (2040) Without Project peak hour turning movements were then reviewed by Urban Crossroads, Inc. for reasonableness, and in some cases, were adjusted to achieve flow conservation, reasonable growth, and reasonable diversion between parallel routes. Flow conservation checks ensure that traffic flow between two closely spaced intersections, such as two adjacent driveway locations, is verified in order to make certain that vehicles leaving one intersection are entering the adjacent intersection and that there is no unexplained loss of vehicles. The result of this traffic forecasting procedure is a series of traffic volumes which are suitable for traffic operations analysis.

RivTAM does not include a truck component or have data that is unusually low. As such, in an effort to conduct a conservative analysis, the presence of trucks has been accounted for based on the manual volume adjustments made to demonstrate growth above EAPC (2025) traffic forecasts, which are presented and evaluated in PCE (see Section 3.7 *Existing Traffic Counts* for discussion on PCE). As such, the Horizon Year (2040) forecasts are also assumed to be in PCE for the purposes of this analysis. Post-processing worksheets for Horizon Year (2040) Without Project traffic conditions are provided in Appendix 4.1.

5 EAP (2025) TRAFFIC CONDITIONS

This section discusses the methods used to develop EAP (2025) traffic forecasts, and the resulting intersection operations, traffic signal warrant, off-ramp queuing, and freeway facility operations analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAP (2025) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

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

5.2 EAP (2025) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2020) traffic volumes plus an ambient growth factor of 10.41% and the addition of Project traffic. The weekday ADT and peak hour volumes (in PCE) which can be expected for EAP (2025) traffic conditions are shown on Exhibits 5-1.

5.3 INTERSECTION OPERATIONS ANALYSIS

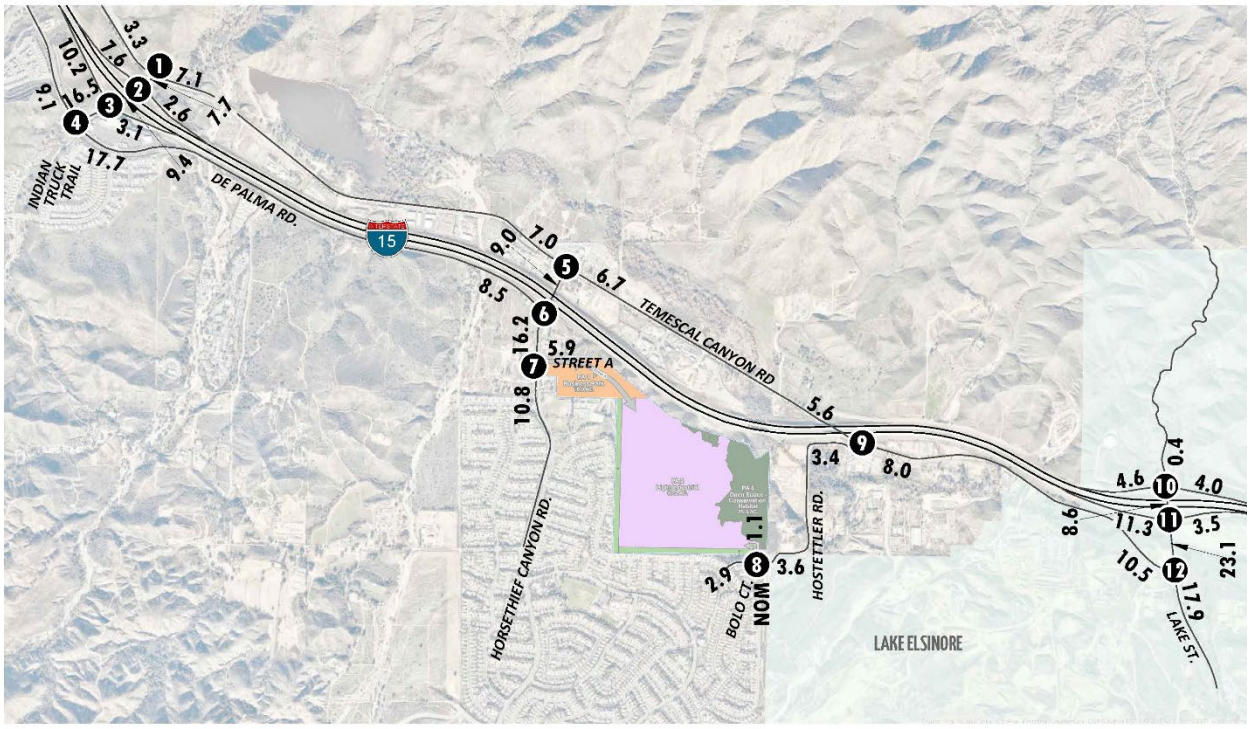
LOS calculations were conducted for the study intersections to evaluate their operations under EAP conditions with roadway and intersection geometrics consistent with Section 5.1 *Roadway Improvements*. As shown in Table 5-1, all study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours for EAP (2025) traffic conditions, consistent with Existing (2020) traffic conditions. A summary of the peak hour intersection LOS for EAP (2025) traffic conditions is shown on Exhibit 5-2. The intersection operations analysis worksheets for EAP (2025) traffic conditions are included in Appendix 5.1 of this TA.

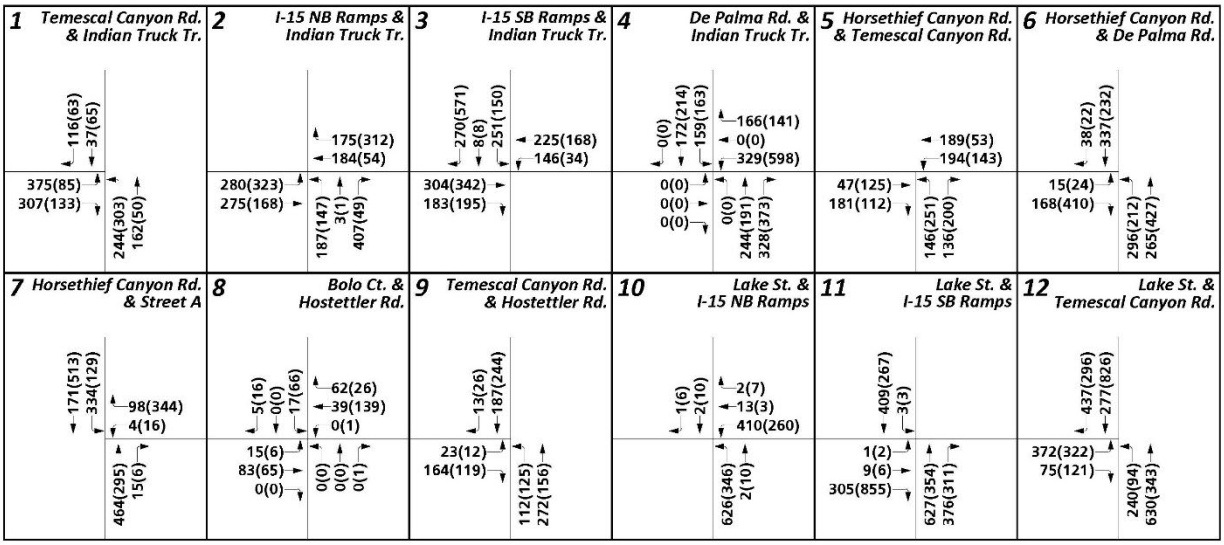
5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed (based on CA MUTCD) for EAP (2025) traffic conditions based on peak hour and daily volumes. The following study area intersections are anticipated to meet peak hour turning movement or planning-level ADT traffic signal warrants under EAP (2025) traffic conditions (see Appendix 5.2):

- Horsethief Canyon Road & Temescal Canyon Road (#5)
- Horsethief Canyon Road & Street A (#7)

EXHIBIT 5-1: EAP (2025) TRAFFIC VOLUMES (IN PCE)





LEGEND:

10(10) = *AM(PM) PEAK HOUR INTERSECTION VOLUMES*
10.0 = *VEHICLES PER DAY (1000'S)*
NOM = *NOMINAL, LESS THAN 50 VEHICLES PER DAY*

N

EXHIBIT 5-2: EAP (2025) SUMMARY OF LOS

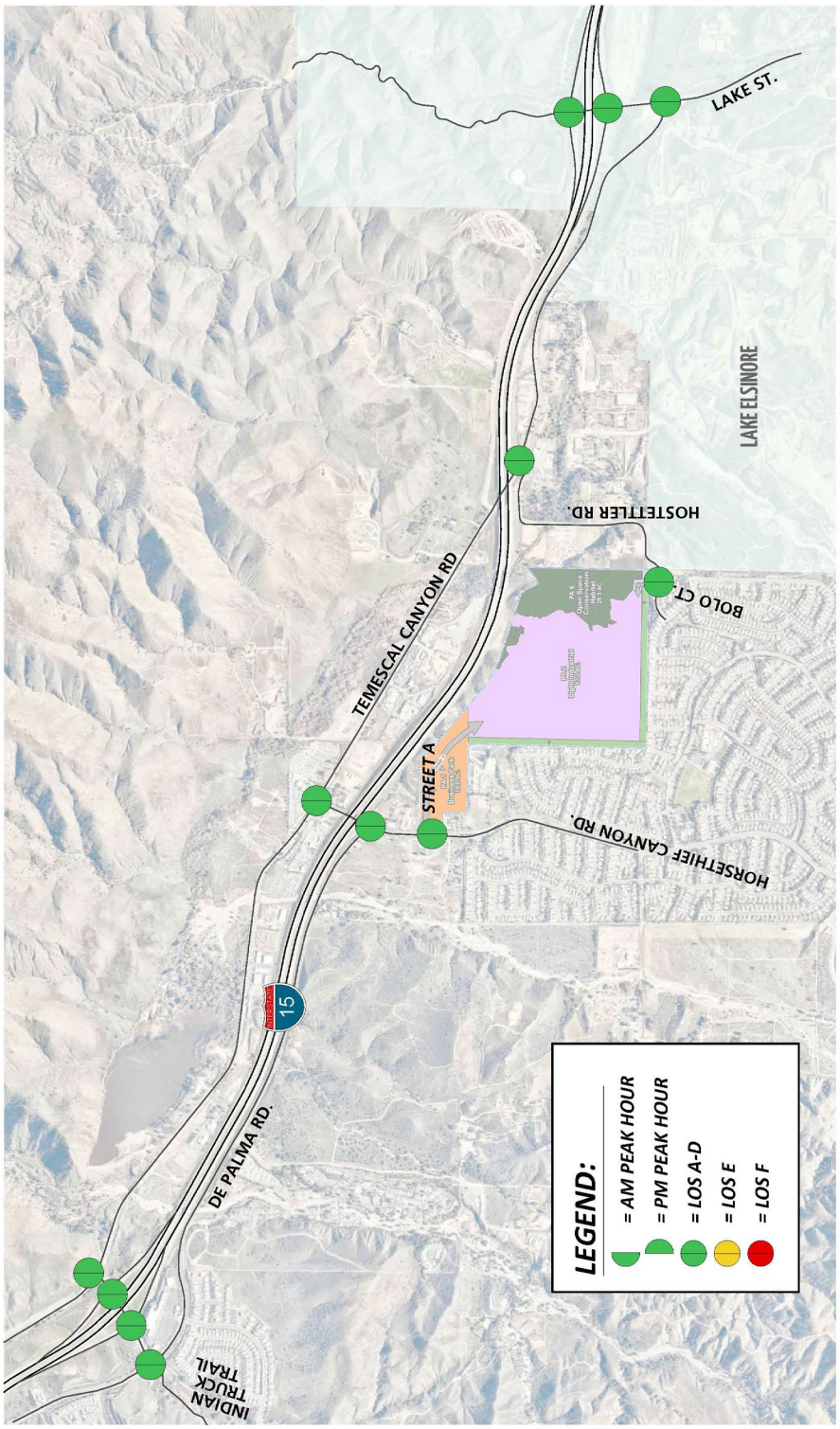


Table 5-1

Intersection Analysis for EAP (2025) Conditions

#	Intersection	Traffic Control[2]	Existing (2020)				EAP (2025)			
			Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Temescal Canyon Rd. & Indian Truck Tr.	TS	23.2	40.0	C	D	24.5	41.9	C	D
2	I-15 NB Ramps & Indian Truck Tr.	TS	33.8	33.9	C	C	34.0	34.2	C	C
3	I-15 SB Ramps & Indian Truck Tr.	TS	23.5	21.8	C	C	28.7	22.3	C	C
4	De Palma Rd. & Indian Truck Tr.	TS	45.3	45.1	D	D	45.9	45.9	D	D
5	Horsethief Canyon Rd. & Temescal Canyon Rd.	CSS	12.5	12.2	B	B	26.7	24.5	D	C
6	Horsethief Canyon Rd. & De Palma Rd.	AWS	10.5	10.5	B	B	16.7	19.8	C	C
7	Horsethief Canyon Rd. & Street A	**CSS**	Future Intersection				13.1	16.1	B	C
8	Bolo Ct. & Hostettler Rd.	CSS	8.5	9.8	A	A	9.9	10.8	A	B
9	Temescal Canyon Rd. & Hostettler Rd.	CSS	10.5	9.9	B	A	11.8	11.6	B	B
10	Lake St. & I-15 NB Ramps	TS	52.4	51.9	D	D	54.8	52.0	D	D
11	Lake St. & I-15 SB Ramps	TS	16.6	35.5	B	D	22.6	50.6	C	D
12	Lake St. & Temescal Canyon Rd.	TS	15.1	15.7	B	B	30.8	52.3	C	D

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

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

5.5 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the I-15 Freeway at Indian Truck Trail and Lake Street interchanges to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the I-15 Freeway mainline. Queuing analysis findings are presented in Table 5-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 5-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows, consistent with Existing (2020) traffic conditions. Worksheets for EAP (2025) traffic conditions off-ramp queuing analysis are provided in Appendix 5.3.

5.6 FREEWAY FACILITY ANALYSIS

EAP (2025) mainline directional volumes for the AM and PM peak hours are provided on Exhibit 5-3. As shown in Table 5-3, the following study area freeway segment is anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for EAP (2025) traffic conditions:

- I-15 Freeway Southbound, North of Indian Truck Trail (#1) – LOS E PM peak hour only

EAP (2025) freeway facility analysis worksheets are provided in Appendix 5.4.

5.7 DEFICIENCIES AND IMPROVEMENTS

5.7.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

All study area intersections are anticipated to continue to operate at an acceptable LOS under EAP (2025) traffic conditions. As such, no improvements have been identified.

5.7.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously in Table 5-2, there are no anticipated peak hour queuing issues at the I-15 Freeway and Indian Truck Trail and Lake Street interchanges for EAP (2025) traffic conditions. As such, no improvements have been identified.

5.7.3 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

As shown previously in Table 5-3, there is one study area freeway mainline segment that is anticipated to operate at an unacceptable LOS for EAP (2025) traffic conditions. At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the County of Riverside (or other neighboring jurisdictions) on the SHS roadway segments. As such, no improvements have been recommended to address the EAP (2025) deficiency on the SHS.

Table 5-2

Peak Hour Freeway Off-Ramp Queuing Summary for EAP (2025) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2020)				EAP (2025)			
			95th Percentile Queue (Feet)		Acceptable?[1]		95th Percentile Queue (Feet)		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-15 NB Ramps & Indian Truck Tr.	NBL	420	152	96	Yes	Yes	166	105	Yes	Yes
	NBL/T/R	1,350	70	100	Yes	Yes	75	108	Yes	Yes
	NBR	420	52	20	Yes	Yes	54	24	Yes	Yes
I-15 SB Ramps & Indian Truck Tr.	SBL	675	123	84	Yes	Yes	314[2]	134	Yes	Yes
	SBT/R	1,740	56	60	Yes	Yes	62	62	Yes	Yes
	SBR	500	51	54	Yes	Yes	55	57	Yes	Yes
Lake St. & I-15 NB Ramps	WBL	800	271	216	Yes	Yes	423	278	Yes	Yes
	WBT/R	1,775	26	16	Yes	Yes	24	16	Yes	Yes
Lake St. & I-15 SB Ramps	EBL/T	1,815	24	11	Yes	Yes	23	10	Yes	Yes
	EBR	300	83	314[3]	Yes	Yes	85	570[3]	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 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 I-15 Freeway mainline.

Table 5-3

Freeway Facility Analysis for EAP (2025) Conditions

Freeway	Direction[1]	Ramp or Segment	Lanes on Freeway[1]	Existing (2020)				EAP (2025)			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density[2]	LOS[3]	Density[2]	LOS[3]	Density[2]	LOS[3]	Density[2]	LOS[3]
I-15	SB	North of Indian Truck Tr.	3	16.2	B	30.4	D	18.8	C	**36.2**	**E**
		Off-Ramp at Indian Truck Tr.	3	17.2	B	29.0	D	20.2	C	31.7	D
		On-Ramp at Lake St.	3	14.0	B	19.0	B	16.0	B	22.3	C
		South of Lake St.	3	16.0	B	21.7	C	17.9	B	25.4	C
	NB	North of Indian Truck Tr.	3	18.7	C	14.3	B	20.9	C	16.6	B
		On-Ramp at Indian Truck Tr.	3	21.0	C	16.6	B	23.3	C	19.4	B
		Off-Ramp at Lake St.	3	17.3	B	13.2	B	19.8	B	15.0	B
		South of Lake St.	3	16.0	B	12.3	B	18.2	C	13.8	B

* **BOLD** = Unacceptable Level of Service

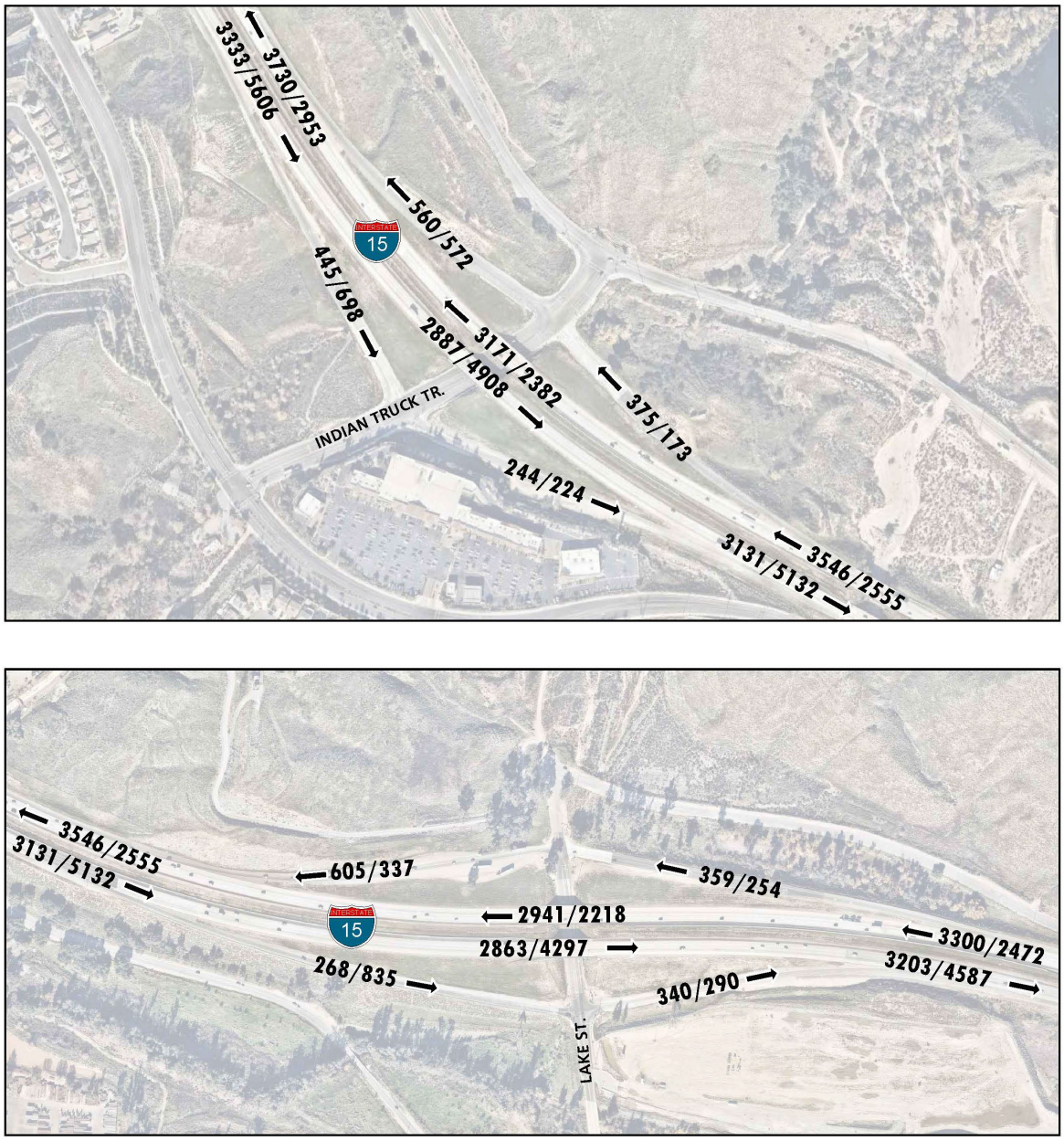
[1] SB = Southbound; NB = Northbound

[2] Number of lanes are in the specified direction and is based on existing conditions.

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

[4] LOS = Level of Service

EXHIBIT 5-3: EAP (2025) FREEWAY MAINLINE VOLUMES



6 EAPC (2025) TRAFFIC CONDITIONS

This section discusses the methods used to develop EAPC (2025) traffic forecasts, and the resulting intersection operations, traffic signal warrant, off-ramp queuing, and freeway facility operations analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAPC (2025) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAPC conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for EAPC (2025) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages).

6.2 EAPC (2025) TRAFFIC VOLUME FORECASTS

To account for background traffic, other known cumulative development projects in the study area were included in addition to 10.41% of ambient growth for EAPC (2025) traffic conditions in conjunction with traffic associated with the proposed Project. The weekday ADT and peak hour volumes (in PCE) for EAPC (2025) traffic conditions are shown on Exhibit 6-1.

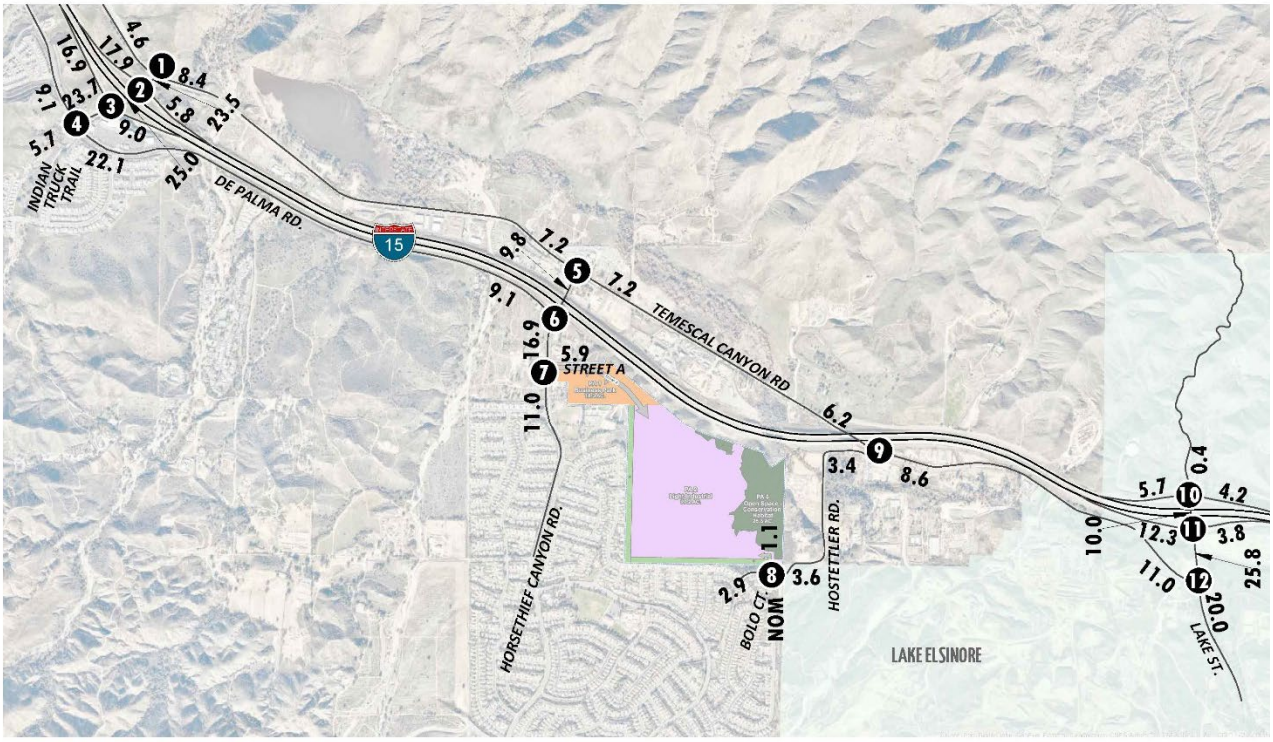
6.3 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under EAPC (2025) conditions with roadway and intersection geometrics consistent with Section 6.1 *Roadway Improvements*. As shown in Table 6-1, the following study area intersections are anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours under EAPC (2025) traffic conditions:

- Temescal Canyon Road & Indian Truck Trail (#1) – LOS E PM peak hour only
- De Palma Road & Indian Truck Trail (#4) – LOS E AM peak hour; LOS F PM peak hour
- Horsethief Canyon Road & Street A (#7) – LOS F AM and PM peak hours
- Lake Street & I-15 SB Ramps (#11) – LOS E PM peak hour only
- Lake Street & Temescal Canyon Road (#12) – LOS F PM peak hour only

A summary of the peak hour intersection LOS for EAPC (2025) traffic conditions is shown on Exhibit 6-2. The intersection operations analysis worksheets for EAPC (2025) traffic conditions are included in Appendix 6.1.

EXHIBIT 6-1: EAPC (2025) TRAFFIC VOLUMES (IN PCE)



1 Temescal Canyon Rd. & Indian Truck Tr.	2 I-15 NB Ramps & Indian Truck Tr.	3 I-15 SB Ramps & Indian Truck Tr.	4 De Palma Rd. & Indian Truck Tr.	5 Horsethief Canyon Rd. & Temescal Canyon Rd.	6 Horsethief Canyon Rd. & De Palma Rd.
422(551) 37(65)	268(544) 410(318)	339(698) 8(8) 282(232) 461(588) 185(83)	0(0) 340(416) 250(358) 308(438) 0(0) 486(848)	189(53) 205(179)	45(43) 346(261)
724(781) 312(148) 257(311) 162(50)	393(457) 448(549) 236(352) 3(1) 588(379)	559(775) 202(220)	0(0) 0(0) 0(0) 0(0) 427(399) 511(636)	47(125) 186(127) 159(259) 168(221)	34(37) 172(424) 309(221) 290(444)

7 Horsethief Canyon Rd. & Street A	8 Bolo Ct. & Hostettler Rd.	9 Temescal Canyon Rd. & Hostettler Rd.	10 Lake St. & I-15 NB Ramps	11 Lake St. & I-15 SB Ramps	12 Lake St. & Temescal Canyon Rd.
13(43) 171(513) 334(129) 98(344) 0(0) 4(16)	5(16) 0(0) 17(66) 62(26) 39(139) 0(1)	13(26) 219(265)	1(6) 2(10) 2(7) 13(3) 421(296)	420(303) 3(3)	448(332) 326(952)
39(26) 0(0) 13(9) 4(14) 464(295) 15(6)	15(6) 83(65) 0(0) 0(0) 0(0) 0(1)	23(12) 164(119) 112(125) 283(192)	736(429) 2(10)	1(2) 9(6) 354(981) 737(437) 408(332)	404(343) 75(121) 240(94) 740(426)

LEGEND:

10(10) = *AM(PM) PEAK HOUR INTERSECTION VOLUMES*
10.0 = *VEHICLES PER DAY (1000'S)*
NOM = *NOMINAL, LESS THAN 50 VEHICLES PER DAY*

N

EXHIBIT 6-2: EAPC (2025) SUMMARY OF LOS

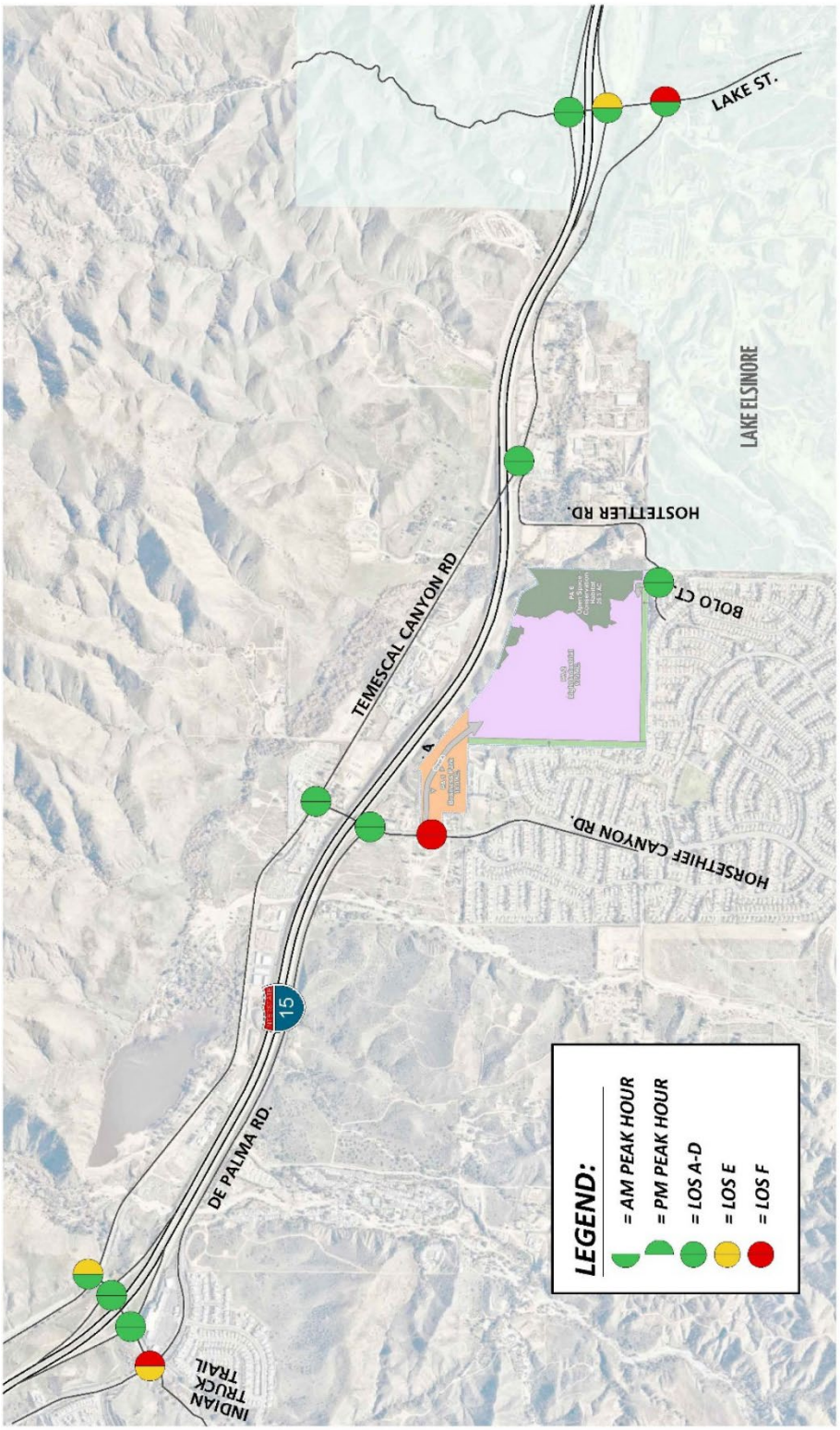


Table 6-1

Intersection Analysis for EAPC (2025) Conditions

#	Intersection	Traffic Control[2]	EAPC (2025) Delay[1] (secs.) AM	EAPC (2025) Delay[1] (secs.) PM	EAPC (2025) Level of Service AM	EAPC (2025) Level of Service PM
1	Temescal Canyon Rd. & Indian Truck Tr.	TS	39.2	**62.2**	D	**E**
2	I-15 NB Ramps & Indian Truck Tr.	TS	40.2	43.2	D	D
3	I-15 SB Ramps & Indian Truck Tr.	TS	28.9	22.2	C	C
4	De Palma Rd. & Indian Truck Tr.	TS	**63.6**	**117.8**	**E**	**F**
5	Horsethief Canyon Rd. & Temescal Canyon Rd.	CSS	31.0	34.7	D	D
6	Horsethief Canyon Rd. & De Palma Rd.	AWS	18.9	23.9	C	C
7	Horsethief Canyon Rd. & Street A	**CSS**	**99.6**	**92.5**	**F**	**F**
8	Bolo Ct. & Hostettler Rd.	CSS	9.9	10.8	A	B
9	Temescal Canyon Rd. & Hostettler Rd.	CSS	12.3	11.9	B	B
10	Lake St. & I-15 NB Ramps	TS	54.7	53.9	D	D
11	Lake St. & I-15 SB Ramps	TS	26.1	**77.8**	C	**E**
12	Lake St. & Temescal Canyon Rd.	TS	40.4	**84.2**	D	**F**

* **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.

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

6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed (based on CA MUTCD) for EAPC (2025) traffic conditions based on daily volumes. For EAPC (2025) traffic conditions, the following additional study area intersection is anticipated to meet peak hour intersection volume or planning-level ADT traffic signal warrants, in addition to the intersections previously warranted under Existing and EAP (2025) traffic conditions (see Appendix 6.2):

- Temescal Canyon Road & Hostettler Road (#9)

6.5 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the I-15 Freeway at Indian Truck Trail and Lake Street interchanges to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the I-15 Freeway mainline. Queuing analysis findings are presented in Table 6-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 6-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows, consistent with Existing (2020) traffic conditions. Worksheets for EAPC (2025) traffic conditions off-ramp queuing analysis are provided in Appendix 6.3.

6.6 FREEWAY FACILITY ANALYSIS

EAPC (2025) mainline directional volumes for the AM and PM peak hours are provided on Exhibit 6-3. As shown in Table 6-3, the following study area freeway segment is anticipated to operate at an unacceptable LOS (i.e., LOS E or worse) during the peak hours for EAPC (2025) traffic conditions:

- I-15 Freeway Southbound, North of Indian Truck Trail (#1) – LOS E PM peak hour only

EAPC (2025) freeway facility analysis worksheets are provided in Appendix 6.4.

Table 6-2

Peak Hour Freeway Off-Ramp Queuing Summary for EAPC (2025) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	EAPC (2025)			
			95th Percentile Queue (Feet)		Acceptable? [1]	
			AM Peak Hour	PM Peak Hour	AM	PM
I-15 NB Ramps & Indian Truck Tr.	NBL	420	211	340 [2]	Yes	Yes
	NBL/T/R	1,350	95	304 [2]	Yes	Yes
	NBR	420	65	76	Yes	Yes
I-15 SB Ramps & Indian Truck Tr.	SBL	675	377 [2]	207	Yes	Yes
	SBT/R	1,740	69	215	Yes	Yes
	SBR	500	62	205	Yes	Yes
Lake St. & I-15 NB Ramps	WBL	800	438	308	Yes	Yes
	WBT/R	1,775	24	15	Yes	Yes
Lake St. & I-15 SB Ramps	EBL/T	1,815	23	10	Yes	Yes
	EBR	300	90 [2,3]	942 [2,3]	Yes	Yes

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

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

[3] Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-15 Freeway mainline.

Table 6-3

Freeway Facility Analysis for EAPC (2025) Conditions

Freeway	Direction[1]	Ramp or Segment	Lanes on Freeway[1]	EAPC (2025)			
				AM Peak Hour		PM Peak Hour	
				Density[2]	LOS[3]	Density[2]	LOS[3]
I-15	SB	North of Indian Truck Tr.	3	19.6	C	**39.5**	**E**
		Off-Ramp at Indian Truck Tr.	3	21.0	C	33.2	D
		On-Ramp at Lake St.	3	16.6	B	22.8	C
		South of Lake St.	3	18.4	C	26.0	C
	NB	North of Indian Truck Tr.	3	22.6	C	19.0	C
		On-Ramp at Indian Truck Tr.	3	25.5	C	22.8	C
		Off-Ramp at Lake St.	3	21.2	C	18.2	B
		South of Lake St.	3	19.1	C	16.8	B

* **BOLD** = Unacceptable Level of Service

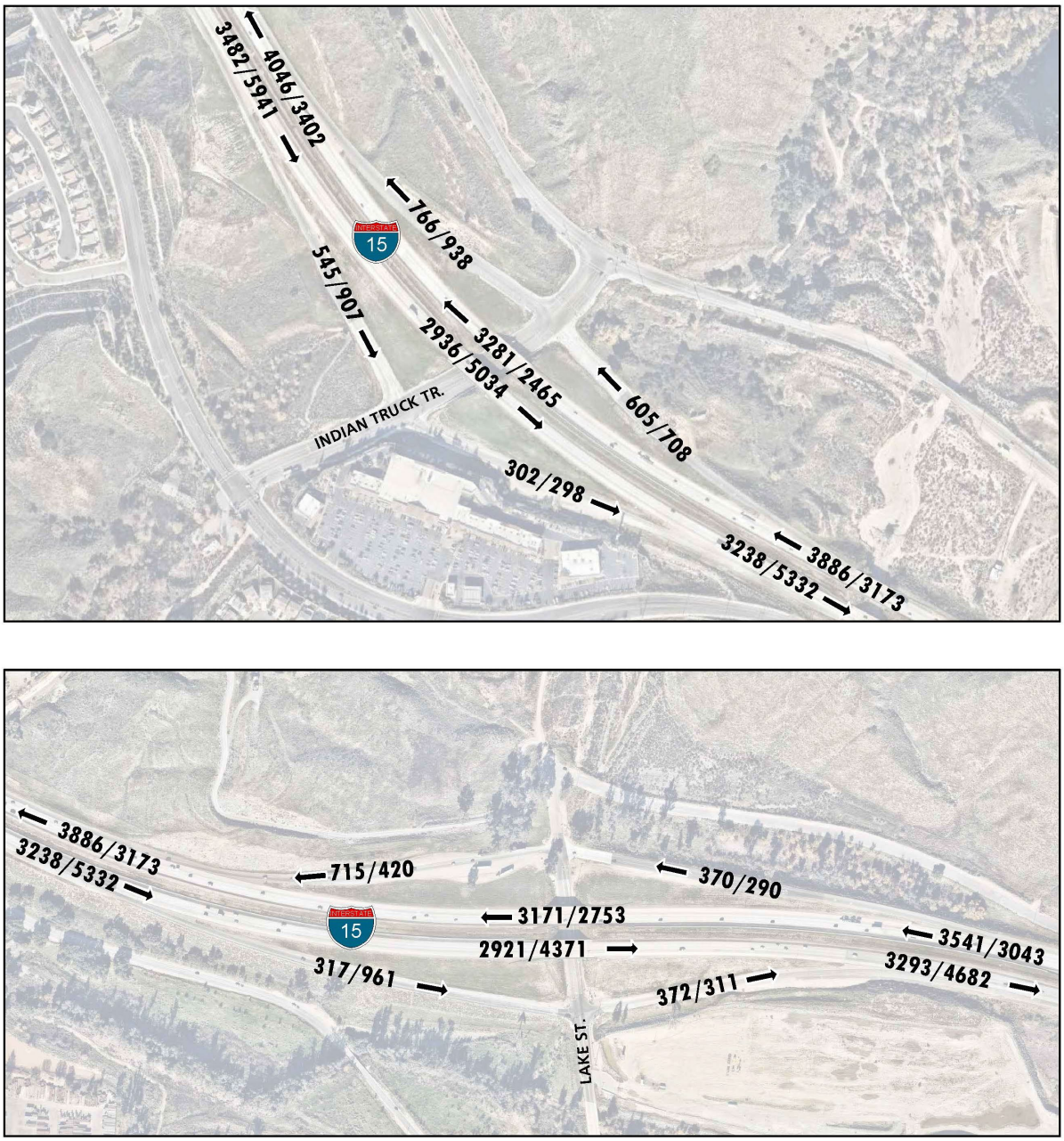
[1] SB = Southbound; NB = Northbound

[2] Number of lanes are in the specified direction and is based on existing conditions.

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

[4] LOS = Level of Service

EXHIBIT 6-3: EAPC (2025) FREEWAY MAINLINE VOLUMES



LEGEND:

⟵ 100/200 *= AM/PM PEAK HOUR VOLUMES*

NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)

N

6.7 DEFICIENCIES AND IMPROVEMENTS

This section provides a summary of deficiencies and recommended improvements for EAPC (2025) traffic conditions. Based on the deficiency criteria discussed in Section 2.8 *Deficiency Criteria*, the following intersections were found to be deficient. Improvements necessary to improve traffic deficiencies back to acceptable levels are also discussed below.

6.7.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been identified at intersections that have been identified as deficient in an effort to reduce each location's peak hour delay and improve the associated LOS grade to acceptable LOS. If not constructed by the Project, the Project Applicant shall contribute to these improvements through payment of County DIF fees or fair share contribution as identified on Table 1-3. The effectiveness of the identified improvement strategies to address EAPC (2025) traffic deficiencies are presented in Table 6-4. The intersection operations analysis worksheets for EAPC (2025) traffic conditions, with improvements, are included in Appendix 6.5.

6.7.2 IMPROVEMENTS TO ADDRESS OFF-RAMP QUEUES

As shown previously in Table 6-2, there are no anticipated peak hour queuing issues at the I-15 Freeway and Indian Truck Trail and Lake Street interchanges for EAPC (2025) traffic conditions. As such, no improvements have been identified.

6.7.3 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

As shown previously in Table 6-3, there are study area freeway mainline segments and merge/diverge ramp junctions that are anticipated to operate at an unacceptable LOS for EAPC (2025) traffic conditions. At this time, Caltrans has no fee programs or other improvement programs in place to address the deficiencies caused by development projects in the County of Riverside (or other neighboring jurisdictions) on the SHS roadway segments. As such, no improvements have been recommended to address the EAPC (2025) deficiency on the SHS.

Table 6-4

Intersection Analysis for EAPC (2025) Conditions With Improvements

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Temescal Canyon Rd. & Indian Truck Tr.																	
	- Without Improvements	TS	1	1	0	0	1	1	2	0	1	0	0	0	39.2	**62.2**	D	**E**
	- With Improvements	TS	1	1	0	0	1	**1>**	2	0	1	0	0	0	21.8	25.9	C	C
4	De Palma Rd. & Indian Truck Tr.																	
	- Without Improvements	TS	1	2	1>	2	2	0	0	1	0	1	1	1	**63.6**	**117.8**	**E**	**F**
	- With Improvements[4]	TS	1	2	1>	2	2	0	0	1	0	1	1	**2>**	15.7	42.6	B	D
7	Horsethief Canyon Rd. & Street A																	
	- Without Improvements							Future Intersection							**99.6**	**92.5**	**F**	**F**
	- With Improvements	**CSS**	**1**	**2**	0	**1**	**2**	0	0	**1**	0	0	**1**	0	24.2	17.4	C	C
11	Lake St. & I-15 SB Ramps																	
	- Without Improvements	TS	0	1	1	1	1	0	0	1	1	0	0	0	**26.1**	**77.8**	**C**	**E**
	- With Improvements	TS	0	**2**	1	1	**2**	0	0	1	1	0	0	0	21.1	15.9	C	B
12	Lake St. & Temescal Canyon Rd.																	
	- Without Improvements	TS	1	1	0	0	1	0	1	0	1	0	0	0	**40.4**	**84.2**	**D**	**F**
	- With Improvements	TS	**2**	**2**	0	0	**2**	0	**2**	0	1	0	0	0	12.2	12.8	B	B

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

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

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

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

[4] Improvement includes restriping the westbound approach to provide one left turn lane, one shared left-through lane, and dual right turn lanes.

7 HORIZON YEAR (2040) TRAFFIC CONDITIONS

This section discusses the methods used to develop Horizon Year (2040) Without and With Project traffic forecasts, and the resulting intersection operations, traffic signal warrant, off-ramp queuing, and freeway facility operations analyses.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Horizon Year (2040) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Horizon Year (2040) conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Horizon Year (2040) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages).

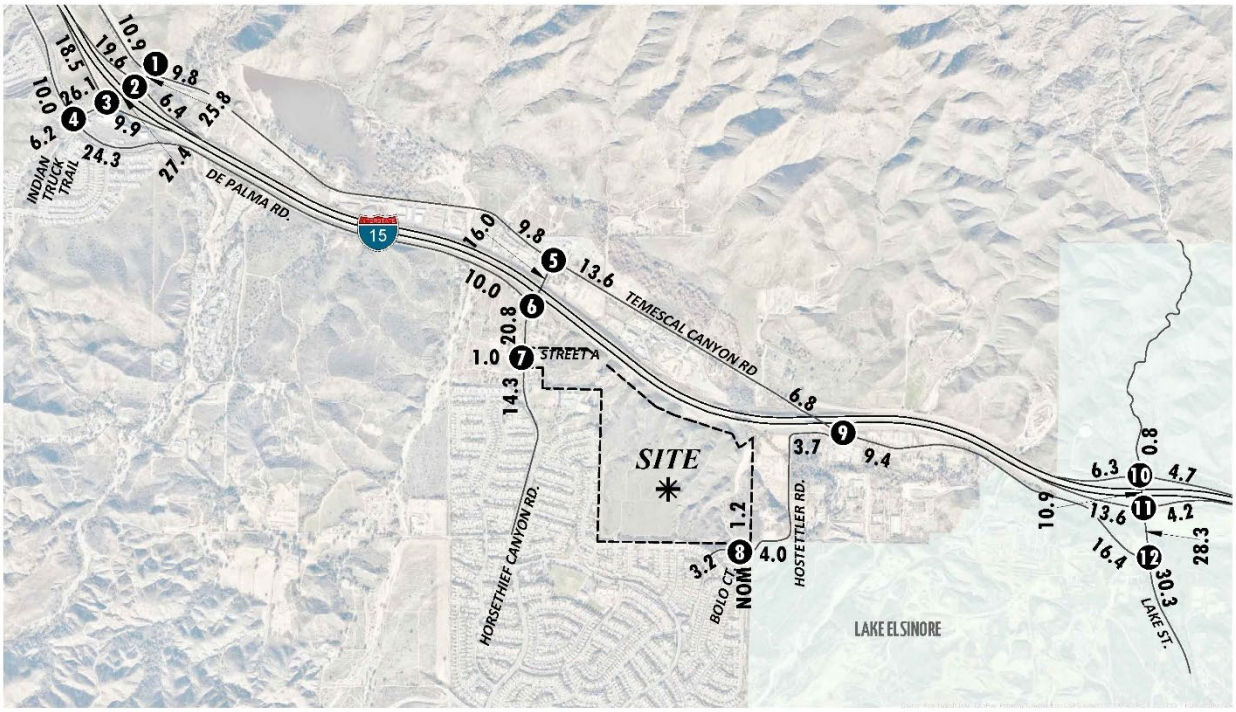
7.2 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

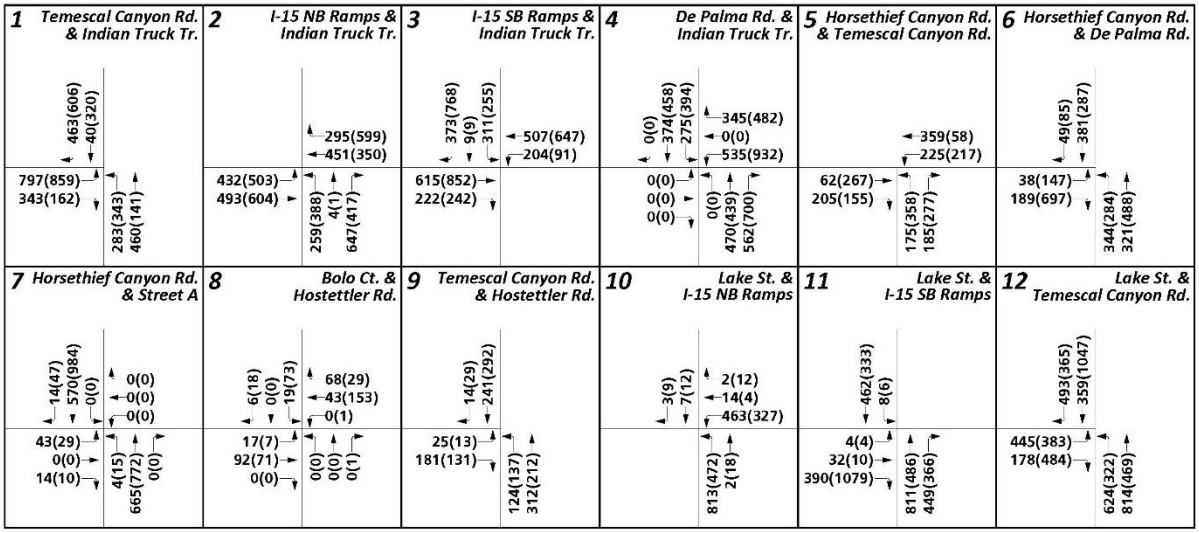
This scenario includes the refined post-processed volumes obtained from the RivTAM consistent with the currently adopted General Plan Circulation Element (see Section 4.8 *Horizon Year Volume Development* of this TA for a detailed discussion on the post-processing methodology). The Horizon Year (2040) Without Project traffic forecasts reflect the future roadway network contemplated by the County's General Plan. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) Without Project traffic conditions are shown on Exhibit 7-1.

7.3 HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-processed volumes obtained from the RivTAM consistent with the currently adopted General Plan Circulation Element, plus proposed Project volumes. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) With Project traffic conditions are shown on Exhibit 7-2.

EXHIBIT 7-1: HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUMES (IN PCE)



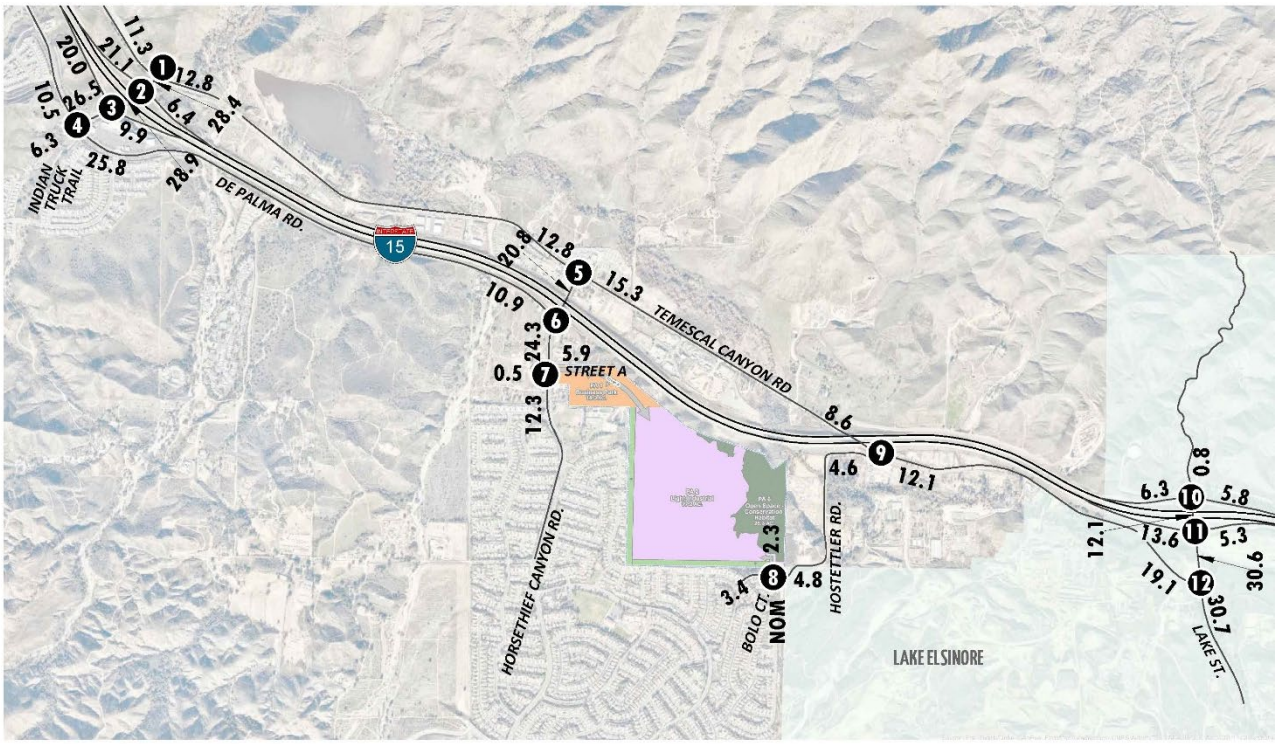


LEGEND:

10(10) = *AM(PM) PEAK HOUR INTERSECTION VOLUMES*
10.0 = *VEHICLES PER DAY (1000'S)*
NOM = *NOMINAL, LESS THAN 50 VEHICLES PER DAY*

N

EXHIBIT 7-2: HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUMES (IN PCE)



1 Temescal Canyon Rd. & Indian Truck Tr.	2 I-15 NB Ramps & Indian Truck Tr.	3 I-15 SB Ramps & Indian Truck Tr.	4 De Palma Rd. & Indian Truck Tr.	5 Horsethief Canyon Rd. & Temescal Canyon Rd.	6 Horsethief Canyon Rd. & De Palma Rd.
463(606) 70(332)	337(739) 451(350)	403(780) 9(9) 452(307) 507(647) 204(91)	0(0) 404(470) 275(394) 345(482) 0(0) 565(944)	359(58) 328(257)	49(85) 655(391)
797(859) 484(214) 325(483) 469(174)	441(536) 634(656) 259(388) 4(1) 647(417)	624(885) 222(242)	0(0) 0(0) 0(0) 0(0) 479(472) 571(733)	62(267) 376(220) 226(531) 216(383)	38(147) 249(722) 361(349) 402(767)

7 Horsethief Canyon Rd. & Street A	8 Bolo Ct. & Hostettler Rd.	9 Temescal Canyon Rd. & Hostettler Rd.	10 Lake St. & I-15 NB Ramps	11 Lake St. & I-15 SB Ramps	12 Lake St. & Temescal Canyon Rd.
14(47) 570(984) 334(129) 98(344) 0(0) 4(16)	10(34) 0(0) 36(138) 128(54) 43(153) 0(1)	14(29) 272(398)	3(9) 7(12) 2(12) 14(4) 596(379)	595(385) 8(6)	626(417) 359(1047)
43(29) 0(0) 14(10) 4(15) 665(772) 15(6)	32(13) 92(71) 0(0) 0(0) 0(0) 0(1)	25(13) 198(196) 184(162) 415(252)	813(472) 2(18)	4(4) 32(10) 390(1079) 811(486) 488(504)	484(521) 187(517) 654(334) 814(469)

LEGEND:

10(10) = AM(PM) PEAK HOUR INTERSECTION VOLUMES
10.0 = VEHICLES PER DAY (1000'S)
NOM = NOMINAL, LESS THAN 50 VEHICLES PER DAY

N

7.4 INTERSECTION OPERATIONS ANALYSIS

7.4.1 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC CONDITIONS

Level of service calculations were conducted for the study intersections to evaluate their operations under Horizon Year (2040) Without Project traffic conditions with existing roadway and intersection geometrics consistent with those described under Section 7.1 *Roadway Improvements*. As shown in Table 7-1 and illustrated on Exhibit 7-3, the following study area intersections are anticipated to operate at an unacceptable LOS under Horizon Year (2040) Without Project traffic conditions:

- Temescal Canyon Road & Indian Truck Trail (#1) – LOS E AM and PM peak hours
- De Palma Road & Indian Truck Trail (#4) – LOS E AM peak hour; LOS F PM peak hour
- Horsethief Canyon Road & Temescal Canyon Road (#5) – LOS F AM and PM peak hours
- Horsethief Canyon Road & De Palma Road (#6) – LOS F PM peak hour only
- Lake Street & I-15 NB Ramps (#10) – LOS E AM peak hour only
- Lake Street & I-15 SB Ramps (#11) – LOS F PM peak hour only
- Lake Street & Temescal Canyon Road (#12) – LOS F AM and PM peak hours

The intersection operations analysis worksheets for Horizon Year (2040) Without Project traffic conditions are included in Appendix 7.1 of this report.

7.4.2 HORIZON YEAR (2040) WITH PROJECT TRAFFIC CONDITIONS

As shown in Table 7-1 and illustrated on Exhibit 7-4, with the addition of Project traffic, the following additional study area intersection is anticipated to result in an unacceptable LOS, in addition to the intersections previously identified under Horizon Year (2040) Without Project traffic conditions.

- Horsethief Canyon Road & Street A (#7) – LOS F PM peak hour only

It should be noted, the deficiency at Horsethief Canyon Road & Street A (#7) is likely due to the heavy through traffic anticipated along Horsethief Canyon Road, as opposed to traffic associated with the proposed Project. As such, the deficiency is considered a cumulative traffic deficiency.

The intersection operations analysis worksheets for Horizon Year (2040) With Project traffic conditions are included in Appendix 7.2 of this report.

7.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed (based on CA MUTCD) for Horizon Year (2040) With Project traffic conditions based on daily volumes. For Horizon Year (2040) Without and With Project traffic conditions, no additional study area intersections are anticipated to meet planning-level ADT traffic signal warrants in addition to the intersections previously warranted under Existing and EAP (2025) traffic conditions (see Appendices 7.3 and 7.4, respectively).

Table 7-1

Intersection Analysis for Horizon Year (2040) Conditions

#	Intersection	Traffic Control[2]	2040 Without Project				2040 With Project			
			Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Temescal Canyon Rd. & Indian Truck Tr.	TS	**79.6**	**63.6**	**E**	**E**	**102.6**	**82.3**	**F**	**F**
2	I-15 NB Ramps & Indian Truck Tr.	TS	43.1	48.3	D	D	43.6	52.2	D	D
3	I-15 SB Ramps & Indian Truck Tr.	TS	30.8	23.1	C	C	47.0	23.6	D	C
4	De Palma Rd. & Indian Truck Tr.	TS	**69.3**	**141.1**	**E**	**F**	**36.7**	**141.3**	**E**	**F**
5	Horsethief Canyon Rd. & Temescal Canyon Rd.	CSS	**90.8**	**>100.0**	**F**	**F**	**>100.0**	**>100.0**	**F**	**F**
6	Horsethief Canyon Rd. & De Palma Rd.	AWS	18.8	**>100.0**	C	**F**	**80.5**	**>100.0**	**F**	**F**
7	Horsethief Canyon Rd. & Street A	**CSS**	Future Intersection				17.1	**93.8**	C	**F**
8	Bolo Ct. & Hostettler Rd.	CSS	10.1	11.1	B	B	11.0	12.7	B	B
9	Temescal Canyon Rd. & Hostettler Rd.	CSS	13.1	12.6	B	B	14.8	16.5	B	C
10	Lake St. & I-15 NB Ramps	TS	**57.0**	53.6	**E**	D	**73.0**	54.9	**E**	D
11	Lake St. & I-15 SB Ramps	TS	31.9	**102.2**	C	**F**	34.9	**106.1**	C	**F**
12	Lake St. & Temescal Canyon Rd.	TS	**154.9**	**>200.0**	**F**	**F**	**191.5**	**>200.0**	**F**	**F**

* **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.

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

EXHIBIT 7-3: HORIZON YEAR (2040) WITHOUT PROJECT SUMMARY OF LOS

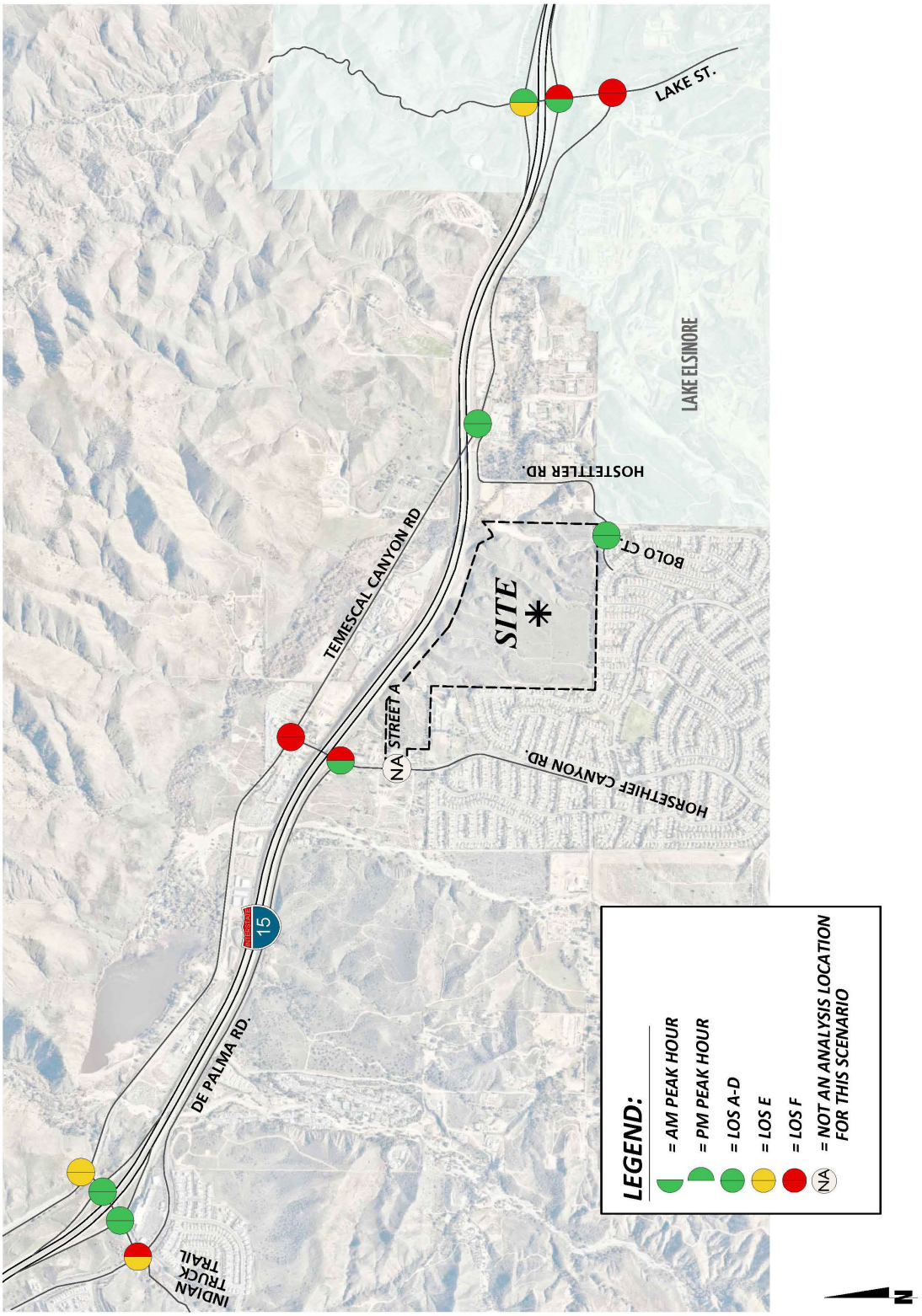
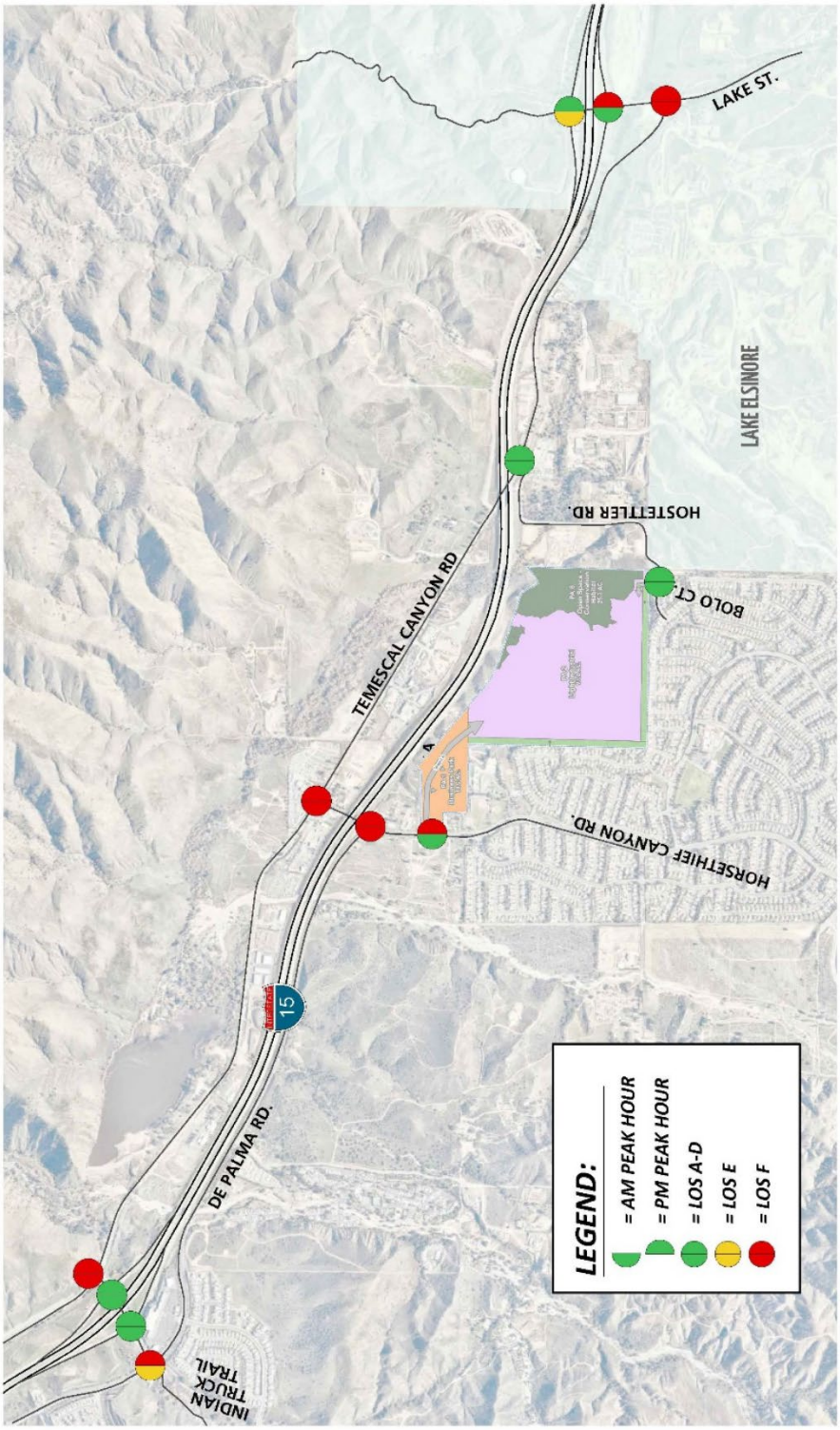


EXHIBIT 7-4: HORIZON YEAR (2040) WITH PROJECT SUMMARY OF LOS



7.6 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the I-15 Freeway at Indian Truck Trail and Lake Street interchanges to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the I-15 Freeway mainline. Queuing analysis findings are presented in Table 7-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 7-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows, consistent with Existing (2020) traffic conditions. Worksheets for Horizon Year (2040) Without Project and With Project traffic conditions off-ramp queuing analysis are provided in Appendices 7.5 and 7.6, respectively.

7.7 FREEWAY FACILITY ANALYSIS

Horizon Year (2040) Without Project mainline directional volumes for the AM and PM peak hours are provided on Exhibit 7-5. As shown in Table 7-3, the study area freeway segments and merge/diverge ramp junctions analyzed for this study are anticipated to operate at an acceptable LOS (i.e., LOS D or better) during the peak hours for Horizon Year (2040) Without Project traffic conditions, with the exception of the following freeway segments and marge/diverge ramp junctions:

- I-15 Freeway Southbound, North of Indian Truck Trail (#1) – LOS F PM peak hour only
- I-15 Freeway Southbound, Off-Ramp at Indian Truck Trail (#2) – LOS F PM peak hour only

Horizon Year (2040) With Project mainline directional volumes for the AM and PM peak hours are provided on Exhibit 7-6. With the addition of Project traffic, there are no additional study area freeway segments or merge/diverge ramp junctions anticipated to operate at an unacceptable LOS during the peak hours, in addition to the segments and ramp junctions identified under Horizon Year (2040) Without Project. Horizon Year (2040) Without Project and With Project freeway facility analysis worksheets are provided in Appendices 7.7 and 7.8, respectively.

Table 7-2

Peak Hour Freeway Off-Ramp Queuing Summary for Horizon Year (2040) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	2040 Without Project				2040 With Project			
			95th Percentile Queue (Feet)		Acceptable? [1]		95th Percentile Queue (Feet)		Acceptable? [1]	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-15 NB Ramps & Indian Truck Tr.	NBL	420	230	389 [2]	Yes	Yes	230	389 [2]	Yes	Yes
	NBL/T/R	1,350	134	354 [2]	Yes	Yes	220	354 [2]	Yes	Yes
	NBR	420	123	80	Yes	Yes	205	80	Yes	Yes
I-15 SB Ramps & Indian Truck Tr.	SBL	675	429 [2]	227	Yes	Yes	668 [2]	281	Yes	Yes
	SBT/R	1,740	72	267	Yes	Yes	72	276	Yes	Yes
	SBR	500	64	276	Yes	Yes	64	284	Yes	Yes
Lake St. & I-15 NB Ramps	WBL	800	530 [2]	330	Yes	Yes	774 [2]	390	Yes	Yes
	WBT/R	1,775	25	20	Yes	Yes	25	20	Yes	Yes
Lake St. & I-15 NB Ramps	EBL/T	1,815	52	16	Yes	Yes	53	16	Yes	Yes
	EBR	300	94	1,144 [2,3]	Yes	Yes	161	1,187 [2,3]	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 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 I-15 Freeway mainline.

Table 7-3

Freeway Facility Analysis for Horizon Year (2040) Conditions

Freeway	Direction	Ramp or Segment	Lanes on Freeway[1]	2040 Without Project				2040 With Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density[2]	LOS[3]	Density[2]	LOS[3]	Density[2]	LOS[3]	Density[2]	LOS[3]
I-15	SB	North of Indian Truck Tr.	3	22.8	C	**45.0**	**F**	23.9	C	**45.0**	**F**
		Off-Ramp at Indian Truck Tr.	3	23.6	C	**35.6**	**F**	24.7	C	**35.6**	**F**
		On-Ramp at Lake St.	3	20.4	C	23.6	C	20.7	C	24.3	C
		South of Lake St.	3	22.5	C	26.9	D	22.7	C	27.4	D
	NB	North of Indian Truck Tr.	3	27.1	D	19.8	C	27.4	D	20.8	C
		On-Ramp at Indian Truck Tr.	3	28.4	D	22.3	C	28.7	D	23.6	C
		Off-Ramp at Lake St.	3	23.5	C	18.4	B	24.3	C	18.7	B
		South of Lake St.	3	22.4	C	17.0	B	23.0	C	17.3	B

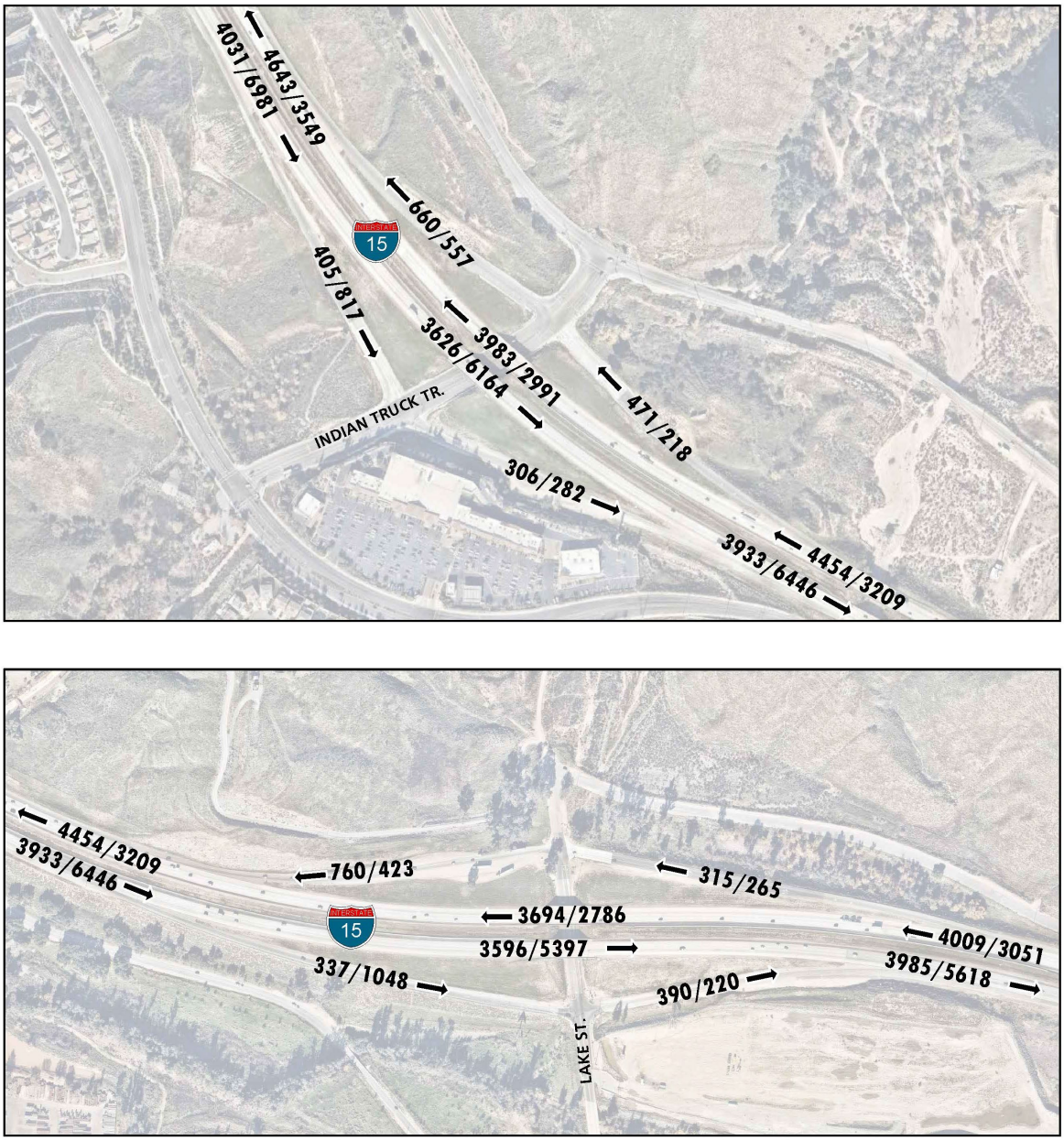
* **BOLD** = Unacceptable Level of Service

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

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

[3] LOS = Level of Service

EXHIBIT 7-5: HORIZON YEAR (2040) WITHOUT PROJECT FREEWAY MAINLINE VOLUMES



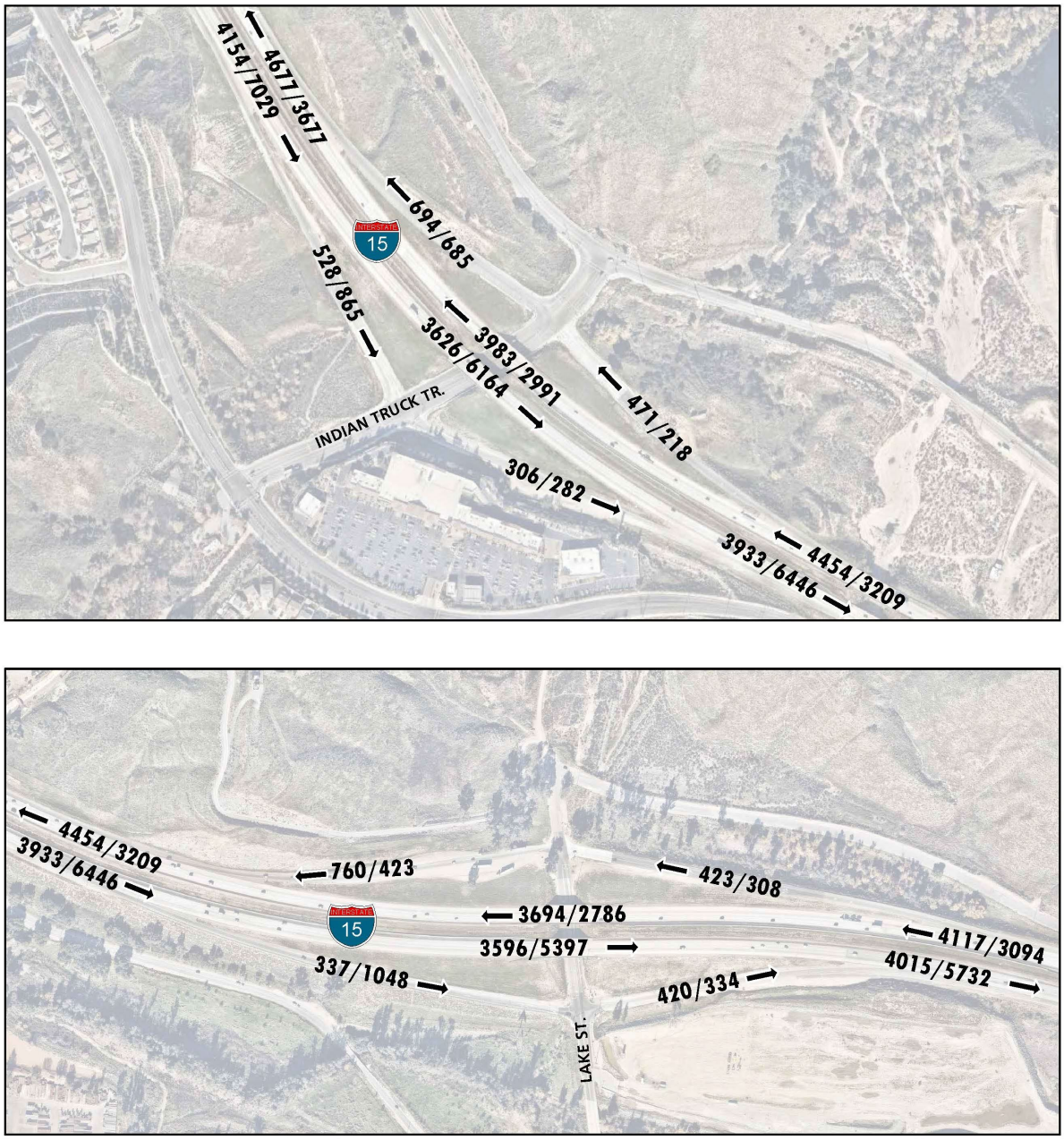
LEGEND:

⟵ 100/200 *= AM/PM PEAK HOUR VOLUMES*

NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)

N

EXHIBIT 7-6: HORIZON YEAR (2040) WITH PROJECT FREEWAY MAINLINE VOLUMES



LEGEND:

⟵ 100/200 *= AM/PM PEAK HOUR VOLUMES*

NOTE: VOLUMES IN ACTUAL VEHICLES (NOT PCE)

N

7.8 DEFICIENCIES AND IMPROVEMENTS

This section provides a summary of deficiencies and improvements for Horizon Year (2040) traffic conditions. Based on the deficiency criteria discussed in Section 2.8 *Deficiency Criteria*, the following intersections were found to be deficient. Improvements necessary to improve traffic deficiencies back to acceptable levels are also discussed below.

7.8.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been identified at intersections that have been identified as deficient in an effort to reduce each location's peak hour delay and improve the associated LOS grade to acceptable LOS. If not constructed by the Project, the Project Applicant shall contribute to these improvements through payment of County DIF fees or fair share contribution as identified on Table 1-3. The effectiveness of the identified improvement strategies to address Horizon Year (2040) traffic deficiencies are presented in Table 7-4. The intersection operations analysis worksheets for Horizon Year (2040) Without Project and With Project traffic conditions, with improvements, are included in Appendices 7.9 and 7.10, respectively.

7.8.2 RECOMMENDED IMPROVEMENTS TO ADDRESS OFF-RAMP QUEUES

As shown previously in Table 7-2, there are no anticipated peak hour queuing issues at the I-15 Freeway and Indian Truck Trail and Lake Street interchanges for Horizon Year (2040) traffic conditions. As such, no improvements have been identified.

7.8.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON FREEWAY FACILITIES

According to the Caltrans I-15 Transportation Concept Report (TCR), the I-15 Freeway is anticipated to be constructed to include the addition of two carpool or High Occupancy Vehicle (HOV) lanes and a general purpose mixed-flow lane. (13) For the purposes of this TA, these improvements have been analyzed for Horizon Year (2040) traffic conditions. Caltrans typically assumes a reduction of 14 percent per HOV lane to the freeway mainline through volumes in this region to account for vehicles utilizing the HOV lanes. The analysis has been performed assuming the same on and off-ramp configurations as existing baseline conditions at the I-15 Freeway and Indian Truck Trail and Lake Street interchanges. The reduction to the I-15 Freeway mainline volumes (28% total for two additional lanes) has been applied to account for the proposed express lanes. The analysis has also been performed assuming an additional mixed-flow lane.

As shown in Table 7-5, the I-15 Freeway facilities are anticipated to improve operations to acceptable LOS during the peak hours. Worksheets for Horizon Year (2040) With Project conditions freeway facility level of service analysis, with improvements, are provided in Appendix 7.11.

Table 7-4

Intersection Analysis for Horizon Year (2040) Conditions With Improvements

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Temescal Canyon Rd. & Indian Truck Tr.																	
	- Without Project	TS	1	1	0	0	1	**1>**	2	0	1	0	0	0	25.5	31.4	C	C
	- With Project	TS	1	1	0	0	1	**1>**	2	0	1	0	0	0	27.4	42.8	C	D
4	De Palma Rd. & Indian Truck Tr.																	
	- Without Project[4]	TS	1	2	1>	2	2	0	0	1	0	1	1	**2>**	16.3	49.9	B	D
	- With Project[4]	TS	1	2	1>	2	2	0	0	1	0	1	1	**2>**	16.4	50.7	B	D
5	Horsethief Canyon Rd. & Temescal Canyon Rd.																	
	- Without Project	**TS**	**2**	0	**1**	0	0	0	0	**2**	0	**2**	**2**	0	10.4	10.3	B	B
	- With Project	**TS**	**2**	0	**1**	0	0	0	0	**2**	0	**2**	**2**	0	12.4	11.1	B	B
6	Horsethief Canyon Rd. & De Palma Rd.																	
	- Without Project	**TS**	1	**2**	0	0	**2**	0	**1**	**0**	**1**	0	0	0	31.8	43.1	C	D
	- With Project	**TS**	1	**2**	0	0	**2**	0	**1**	**0**	**1**	0	0	0	33.3	45.7	C	D
7	Horsethief Canyon Rd. & Street A																	
	- Without Project		Future Intersection															
	- With Project	**CSS**	**1**	**2**	0	**1**	**2**	0	0	**1**	0	0	**1**	0	16.2	17.1	B	B
10	Lake St. & I-15 NB Ramps																	
	- Without Project	TS	**2**	1	0	0	1	0	0	0	0	1	1	0	51.3	50.2	D	D
	- With Project	TS	**2**	1	0	0	1	0	0	0	0	1	1	0	51.7	52.9	D	D
11	Lake St. & I-15 SB Ramps																	
	- Without Project	TS	0	**2**	1	1	**2**	0	0	1	1	0	0	0	22.9	18.6	C	B
	- With Project	TS	0	**2**	1	1	**2**	0	0	1	1	0	0	0	23.5	19.1	C	B
12	Lake St. & Temescal Canyon Rd.																	
	- Without Project	TS	**2**	**3**	0	0	**3**	0	**2**	0	1	0	0	0	15.1	15.4	B	B
	- With Project	TS	**2**	**3**	0	0	**3**	0	**2**	0	1	0	0	0	19.7	17.7	B	B

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

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

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

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

[4] Improvement includes restriping the westbound approach to provide one left turn lane, one shared left-through lane, and dual right turn lanes.

Table 7-5

Freeway Facility Analysis for Horizon Year (2040) Conditions With Improvements

Freeway	Direction	Ramp or Segment	Lanes on Freeway[1]	2040 With Project			
				AM Peak Hour		PM Peak Hour	
				Density[2]	LOS[3]	Density[2]	LOS[3]
I-15	SB	North of Indian Truck Tr.	3	17.2	B	31.5	D
		Off-Ramp at Indian Truck Tr.	3	18.4	B	30.3	D
		On-Ramp at Lake St.	3	14.4	B	18.1	B
		South of Lake St.	3	16.2	B	20.2	C
	NB	North of Indian Truck Tr.	3	19.0	C	15.2	B
		On-Ramp at Indian Truck Tr.	3	22.2	C	18.3	B
		Off-Ramp at Lake St.	3	17.6	B	12.8	B
		South of Lake St.	3	15.8	B	11.7	B

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

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

[3] LOS = Level of Service

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8 LOCAL AND REGIONAL FUNDING MECHANISMS

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

8.1 RIVERSIDE COUNTY TRANSPORTATION UNIFORM MITIGATION FEE (TUMF)

The TUMF program is administered by the WRCOG based upon a regional Nexus Study most recently updated in 2016 to address major changes in right of way acquisition and improvement cost factors. (14) This regional program was put into place to ensure that development pays its fair share, and that funding is in place for construction of facilities needed to maintain the requisite level of service and critical to mobility in the region. TUMF is a truly regional mitigation fee program and is imposed and implemented in every jurisdiction in Western Riverside County.

8.2 COUNTY OF RIVERSIDE DEVELOPMENT IMPACT FEE (DIF) PROGRAM

The Project is located within the County's Elsinore 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. (15) 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.

8.3 MEASURE A

Measure A, Riverside County's half-cent sales tax for transportation, was adopted by voters in 1988 and extended in 2002. It will continue to fund transportation improvements through 2039. 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.

8.4 FAIR SHARE CONTRIBUTION

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

Table 8-1

Project Fair Share Calculations for Intersection

#	Intersection		Existing	Project	2040 With Project Volume	Total New Traffic	Project % of New Traffic
1	Temescal Canyon Rd. & Indian Truck Tr.						
		AM:	923	222	2,608	1,685	**13.2%**
		PM:	418	237	2,668	2,250	10.5%
4	De Palma Rd. & Indian Truck Tr.						
		AM:	1,196	78	2,639	1,443	**5.4%**
		PM:	1,441	90	3,495	2,054	4.4%
5	Horsethief Canyon Rd. & Temescal Canyon Rd.						
		AM:	486	356	1,566	1,080	**33.0%**
		PM:	453	384	1,716	1,263	30.4%
6	Horsethief Canyon Rd. & De Palma Rd.						
		AM:	623	432	1,754	1,131	**38.2%**
		PM:	774	473	2,462	1,688	28.0%
7	Horsethief Canyon Rd. & Street A						
		AM:	575	451	1,762	1,187	**38.0%**
		PM:	732	495	2,353	1,621	30.5%

BOLD = Denotes highest fair share percentage.

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9 REFERENCES

1. **Riverside County Transportation Department.** *Traffic Impact Analysis Preparation Guide.* County of Riverside : s.n., April 2008.
2. **California Department of Transportation.** *Guide for the Preparation of Traffic Impact Studies.* December 2002.
3. **Institute of Transportation Engineers (ITE).** *Trip Generation Manual.* 10th Edition. 2017.
4. **Western Riverside Council of Governments.** *TUMF Nexus Study, 2016 Program Update.* July 2017.
5. **Riverside County Transportation Commission.** *2011 Riverside County Congestion Management Program.* County of Riverside : RCTC, December 14, 2011.
6. **Transportation Research Board.** *Highway Capacity Manual (HCM).* 6th Edition. s.l. : National Academy of Sciences, 2016.
7. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CAMUTCD).* 2017.
8. **Transportation, California Department of.** *Freeway Performance Measurement (PeMS).* [Online] http://pems.dot.ca.gov/.
9. **San Bernardino Associated Governments.** *Congestion Management Program for County of San Bernardino.* County of San Bernardino : s.n., Updated 2016.
10. **Institute of Transportation Engineers (ITE).** *Trip Generation Manual Supplement.* February 2020.
11. **San Bernardino Associated Governments.** *Congestion Management Program for County of San Bernardino.* County of San Bernardino : s.n., Updated June 2016.
12. **Southern California Association of Governments.** *2020 Regional Transportation Plan / Sustainable Communities Strategy.* September 2020.
13. **California Department of Transportation.** *Transportation Concept Report Interstate 15.* District 8 : s.n., September 2012.
14. **Western Riverside Council of Governments.** *TUMF Nexus Study, 2016 Program Update.* July 2017.
15. **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 April 2008.

Case No. SP00333A01
Related Cases-
SP No. Renaissance Ranch SP No. 333, Amendment 1
EIR No.
GPA No.
CZ No.
Project Name: Renaissance Ranch Specific Plan (Amendment 1)
Project Address: East of Horsethief Canyon Road and south of I-15 Freeway
Project Description: 230 single family residential dwelling units

	Consultant	Developer - Representative
Name:	Urban Crossroads Inc. - Charlene So	Richland Communities
Address:		3161 Michelson Drive, Suite 425
		Irvine, CA 92612
Telephone:	(949) 861-0177	(949) 261-7010
Fax:		

A. Trip Generation Source: ITE Trip Generation Manual, 10th Edition (2017), WSP

Current GP Land Use	SP 333		Proposed Land Use	SP (Amendment #1)	
Current Zoning	SP 333		Proposed Zoning	SP (Amendment #1)	

	Current Trip Generation			Proposed Trip Generation			
	In	Out	Total	In	Out	Total	
AM Trips				**353**	**99**	**452**	(Actual)
PM Trips				**141**	**376**	**517**	(Actual)

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

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

B. Trip Geographic Distribution:

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

C. Background Traffic

Project Build-out Year: 2025 Annual Ambient Growth Rate: 2 %
Phase Year(s) N/A

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

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

1. Indian Truck Trail & Temescal Canyon Rd.
2. Indian Truck Trail & I-15 NB Ramps
3. Indian Truck Trail & I-15 SB Ramps
4. Indian Truck Trail & De Palma Rd.
5. Horsethief Canyon Rd. & Temescal Canyon Rd.
6. Horsethief Canyon Rd. & De Palma Rd.
7. Horsethief Canyon Rd. & Street A - Future Intersection
8. Bolo Ct. & Hostettler Rd.
9. Hostettler Rd. & Temescal Canyon Rd.
10. Lake St. & I-15 NB Ramps
11. Lake St. & I-15 SB Ramps
12. Lake St. & Temescal Canyon Rd.
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: traffic counts will be conducted once scoping agreement has been approved

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

Recommended by:

Charlene So — 8/20/2020
Consultant's Representative — Date

Approved Scoping Agreement:

09/24/2020
Riverside County Transportation Department — Date

Scoping Agreement Revised on _____

August 20, 2020

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

SUBJECT: RENAISSANCE RANCH SPECIFIC PLAN TRAFFIC ANALYSIS SCOPING AGREEMENT

Dear Mr. Kevin Tsang:

The firm of Urban Crossroads, Inc. is pleased to submit this scoping letter regarding the traffic analysis for Renaissance Ranch Specific Plan (Specific Plan No. 333, Amendment No. 1) (**Project**), which is located on a 156.7 acre site east of Horsethief Canyon Road and south of the I-15 Freeway in the County of Riverside. This letter describes the proposed Project trip generation, trip distribution, and analysis methodology, which have been used to establish the draft proposed Project study area and analysis locations.

PROJECT DESCRIPTION

The Project is anticipated to have an Opening Year of 2025. The Project is proposing to amend the Specific Plan with a mix of industrial and business park uses, as described below:

- 423,403 square feet of high-cube cold storage warehousing use within the Light Industrial area (20% of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 740,956 square feet of high-cube fulfillment center warehousing use within the Light Industrial area (35% of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 740,956 square feet of high-cube transload/short-term storage warehousing use within the Light Industrial area (35% of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 211,702 square feet of manufacturing use within the Light Industrial area (10% of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 161,172 square feet of warehousing use within the Business Park area (40% of the Business Park square footage, calculated assuming 0.5 floor-to-area ratio)
- 241,758 square feet of industrial park use within the Business Park area (60% of the Business Park square footage, calculated assuming 0.5 floor-to-area ratio)

A preliminary land use plan for the proposed Project is shown on Exhibit 1. The maximum allowable square footage, as permitted by the Specific Plan will be evaluated for each of the land use designations

for the purposes of the Traffic Analysis. Details on the land use assumptions for the Specific Plan land use designations are discussed in further detail in the following section.

The Project's location in relation to the proposed study area is shown on Exhibit 2. Access to the Project site will be accommodated via future Street A to Horsethief Canyon Road to the west and to Bolo Court to the southeast to access Hostettler Road. Heavy trucks will only utilize Street A to Horsethief Canyon Road and passenger cars will utilize Street A to both Horsethief Canyon Road and Hostettler Road to access the site.

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 (10th Edition, 2017), ITE Trip Generation Manual Supplement (February 2020), and the High Cube Warehouse Trip Generation Study (WSP, January 2019) were used to estimate the trip generation.

For purposes of the traffic study, the following ITE land use codes and vehicle mixes will be utilized for the light industrial and business park areas:

- ITE land use code 140 (Manufacturing) has been used to derive site specific trip generation estimates for up to 211,702 square feet (10% of the light industrial area). A manufacturing facility is an area where the primary activity is the conversion of raw materials or parts into finished products. Size and type of activity may vary substantially from one facility to another. In addition to the actual production of goods, manufacturing facilities generally also have office, warehouse, research, and associated functions. The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement. This study provides the following vehicle mix: AM Peak Hour: 92.0% passenger cars and 8.0% trucks; PM Peak Hour: 93.0% passenger cars and 7.0% trucks; Weekday Daily: 90.0% passenger cars and 10.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE land use code 150 (Warehousing) has been used to derive site specific trip generation estimates for up to 161,172 square feet (40% of the business park area). The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement. This study provides the following vehicle mix: AM Peak Hour: 87.0% passenger cars and 13.0% trucks; PM Peak Hour: 85.0% passenger cars and 15.0% trucks; Weekday Daily: 73.0% passenger cars and 27.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

- ITE land use code 154 (High-Cube Transload and Short-Term Storage Warehouse) has been used to derive site specific trip generation estimates for up to 740,956 square feet (35% of the light industrial area). High-cube transload/short-term storage warehouse data regarding the truck percentage and vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement. This study provides the following vehicle mix: AM Peak Hour: 80.0% passenger cars and 20.0% trucks; PM Peak Hour: 84.0% passenger cars and 16.0% trucks; Weekday Daily: 84.0% passenger cars and 16.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE land use code 157 (High-Cube Cold Storage Warehouse) has been used to derive site specific trip generation estimates for up to 423,403 square feet (20% of the light industrial area). High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's Trip Generation Manual Supplement. This study provides the following vehicle mix: AM Peak Hour: 73.0% passenger cars and 27.0% trucks; PM Peak Hour: 77.0% passenger cars and 23.0% trucks; Weekday Daily: 65.0% passenger cars and 35.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.
- High-Cube Fulfillment Center Warehouse has been used to derive site specific trip generation estimates for up to 740,956 square feet (35% of the light industrial area). The ITE Trip Generation Manual Supplement has trip generation rates for high-cube fulfillment center use for both non-sort and sort facilities (ITE land use code 155). While there is sufficient data to support use of the trip generation rates for non-sort facilities, the sort facility rate appears to be unreliable because they are based on limited data (i.e., one to two surveyed sites). The proposed Project is speculative and whether a non-sort or sort facility end-user would occupy the buildings is not known at this time. Lastly, the ITE Trip Generation Handbook recommends the use of local data sources where available. As such, the best available source for high-cube fulfilment center use would be the trip-generation statistics published in the High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019) which was commissioned by the Western Riverside Council of Governments (WRCOG) in support of the Transportation Uniform Mitigation Fee (TUMF) update in the County of Riverside. The WSP trip generation rates were published in January 2019 and are based on data collected at 11 local high-cube fulfillment center sites located throughout Southern California (specifically Riverside County and San Bernardino County). However, the WSP study does not include a split for inbound and outbound vehicles, as such, the inbound and outbound splits per the ITE Trip Generation Manual for Land Use Code 154 have been utilized.

- Based on the types of uses anticipated to be developed within the business park area, the trip generation rates for ITE land use code 130 (Industrial Park) have been used to derive site specific trip generation estimates for up to 241,758 square feet (60% of the business park area). The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement. This study provides the following vehicle mix: AM Peak Hour: 88.0% passenger cars and 12.0% trucks; PM Peak Hour: 90.0% passenger cars and 10.0% trucks; Weekday Daily: 85.0% passenger cars and 15.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix B of the San Bernardino County Congestion Management Program (CMP) (2016 Update), as these factors are more conservative than Riverside County's PCE factor of 2.0 for all heavy trucks.

Trip generation rates are summarized on Table 1 for actual vehicles and passenger car equivalent (PCE). The operations analyses for the Traffic Analysis will utilize the PCE trip generation consistent with the County's guidelines and other traffic studies prepared in the County of Riverside. The trip generation summary illustrating daily and peak hour trip generation estimates for the proposed Project in actual vehicles and PCE are shown on Table 2. The proposed Project is anticipated to generate 5,456 vehicle trip-ends per day with 452 AM peak hour trips and 517 PM peak hour trips (of which 1,052 trip-ends per day are associated with trucks with 64 AM peak hour truck trips and 63 PM peak hour truck trips) (see Table 2). PCE based trip generation for the Project is summarized on Table 3.

TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. In addition, truck routes for neighboring agencies have been taken into consideration in the development of the trip distribution patterns for heavy trucks. Exhibits 3 and 4 show the Project truck and passenger car trip distribution patterns, respectively.

ANALYSIS SCENARIOS

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

- Existing (2020) Conditions
- Existing plus Ambient Growth plus Project (EAP) (2025) Conditions
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2025) Conditions
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Project

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

CUMULATIVE PROJECTS

A preliminary list of cumulative projects is provided in Table 4 and are shown on Exhibit 5. These cumulative projects are based on information collected from the County of Riverside, City of Corona, and City of Lake Elsinore. It is requested that the County of Riverside provide current cumulative projects within the study area for inclusion in the Traffic Impact Analysis. The Planning Department for the Cities of Corona and Lake Elsinore will also be contacted to obtain a current list of cumulative projects within their respective agencies.

TRAFFIC COUNTS

Traffic counts (classified by vehicle type) were conducted during a typical Tuesday, Wednesday, or Thursday when local schools are in session and operating on a typical bell schedule (prior to the currently ongoing COVID-19 pandemic). Traffic counts were collected in January 2020 for all study area intersections shown on Exhibit 2.

CONCLUSION

Urban Crossroads, Inc. is pleased to submit this letter documenting the Project trip generation, trip distribution, and the recommended intersection analysis locations for the Renaissance Ranch Specific Plan Traffic Impact Study. We will continue to move forward towards completing the traffic study after receiving jurisdiction approval or comments finalizing the study area.

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

Respectfully submitted,

URBAN CROSSROADS, INC.

Charlene So

Charlene So, PE
Associate Principal

EXHIBIT 1: PRELIMINARY LAND USE PLAN

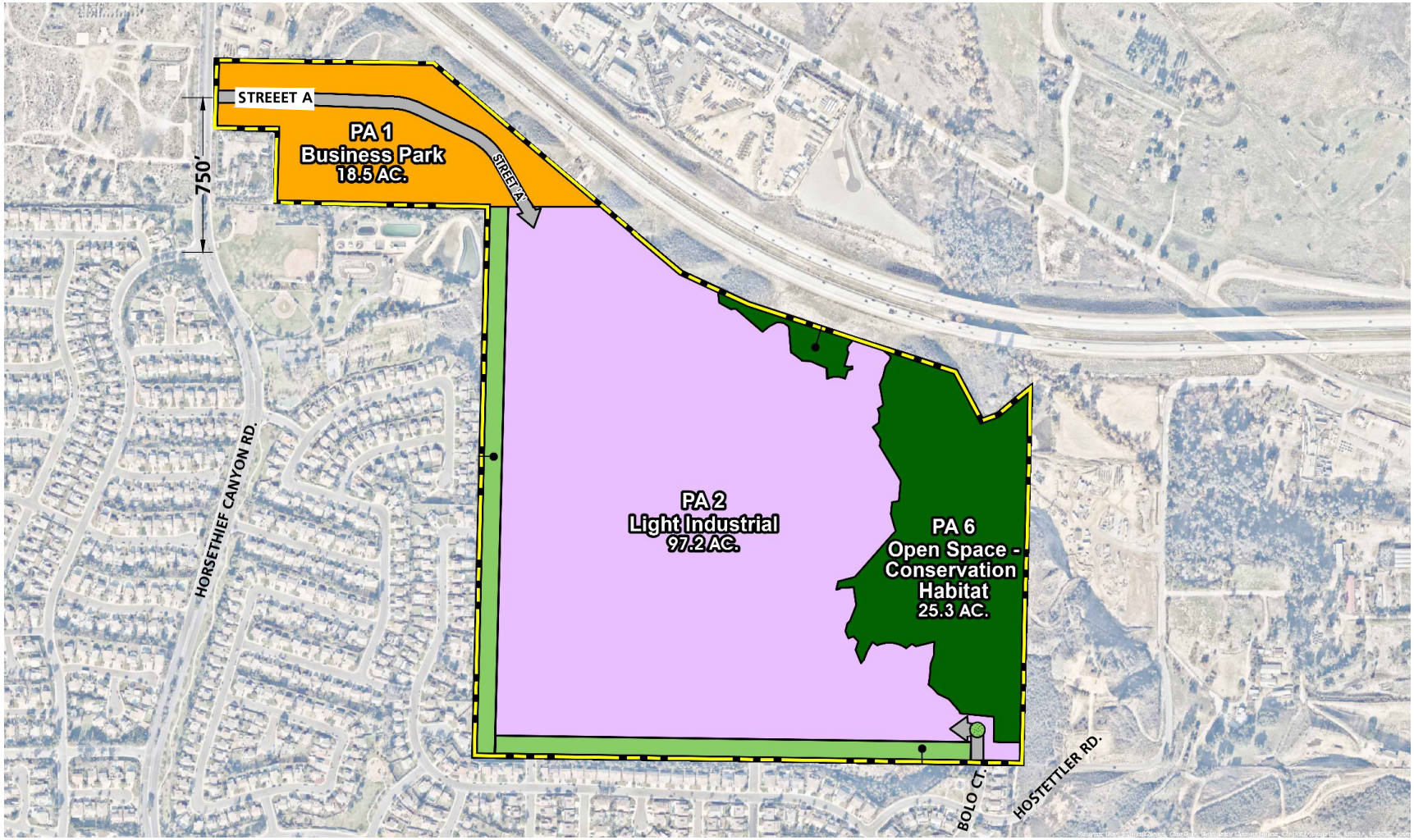
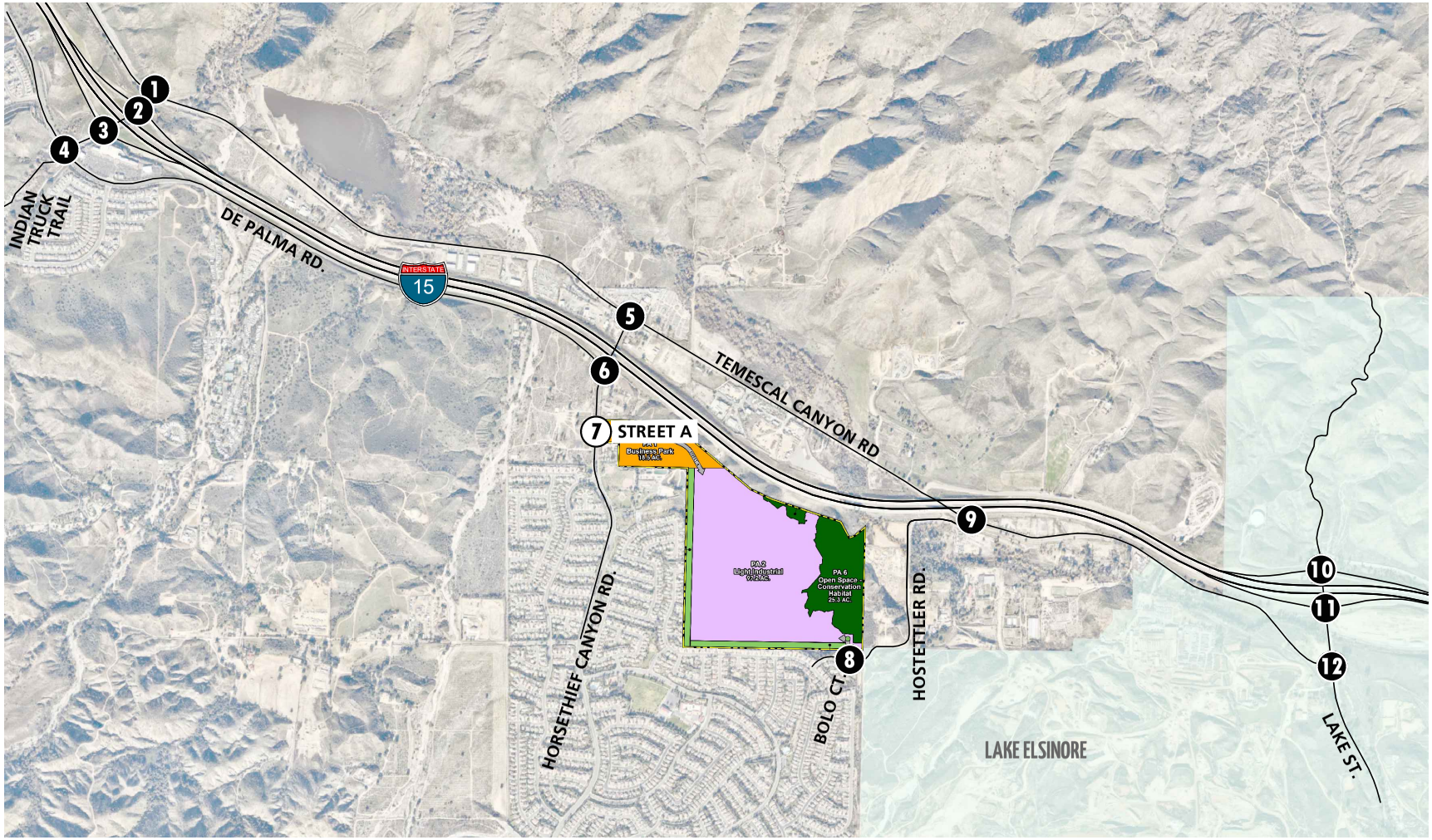


EXHIBIT 2: LOCATION MAP



LEGEND:

0 = EXISTING INTERSECTION ANALYSIS LOCATION

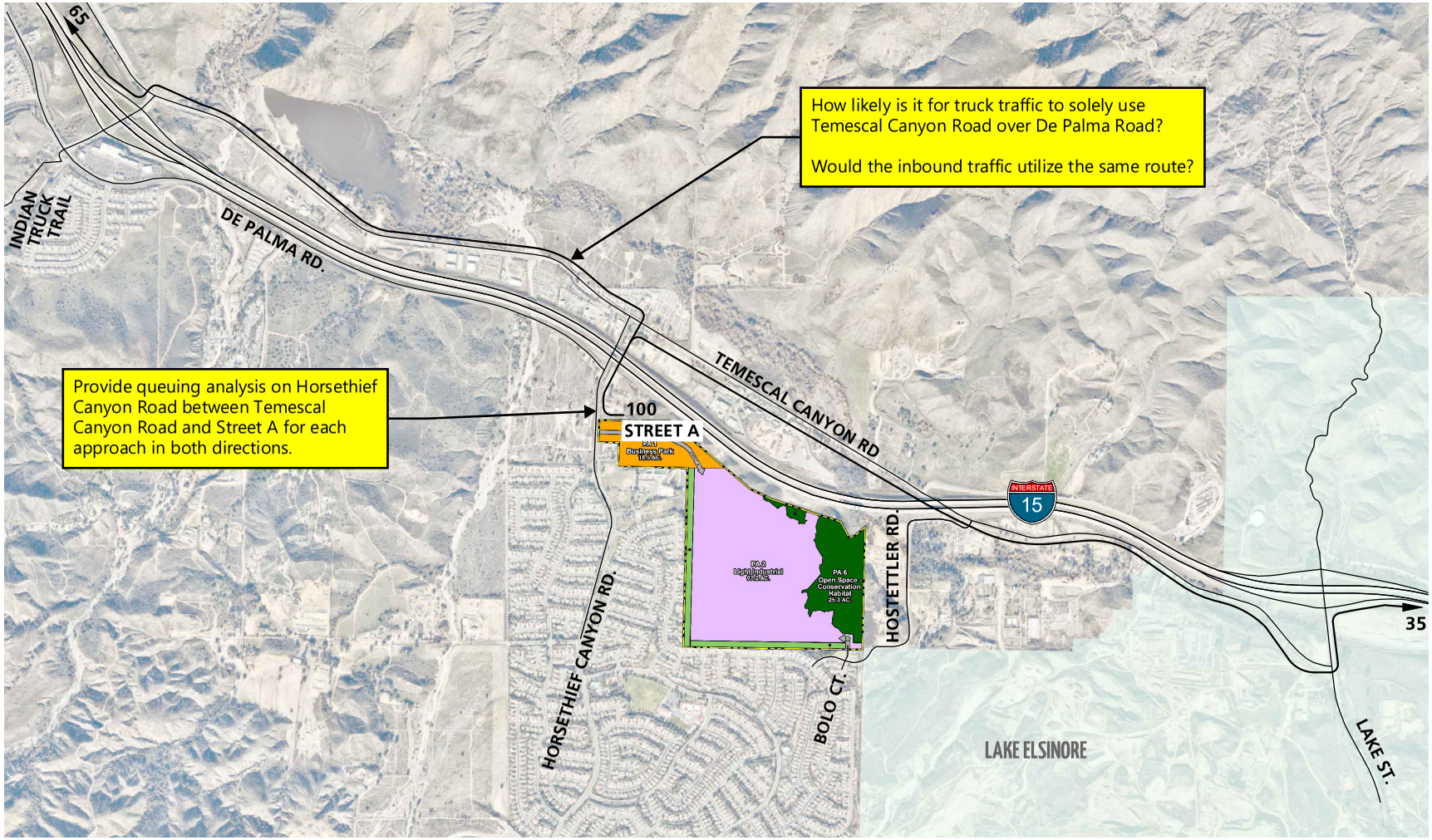
0 = FUTURE INTERSECTION ANALYSIS LOCATION

N

13266 - locmap.dwg

URBAN CROSSROADS

EXHIBIT 3: PROJECT (TRUCK) TRIP DISTRIBUTION



LEGEND:

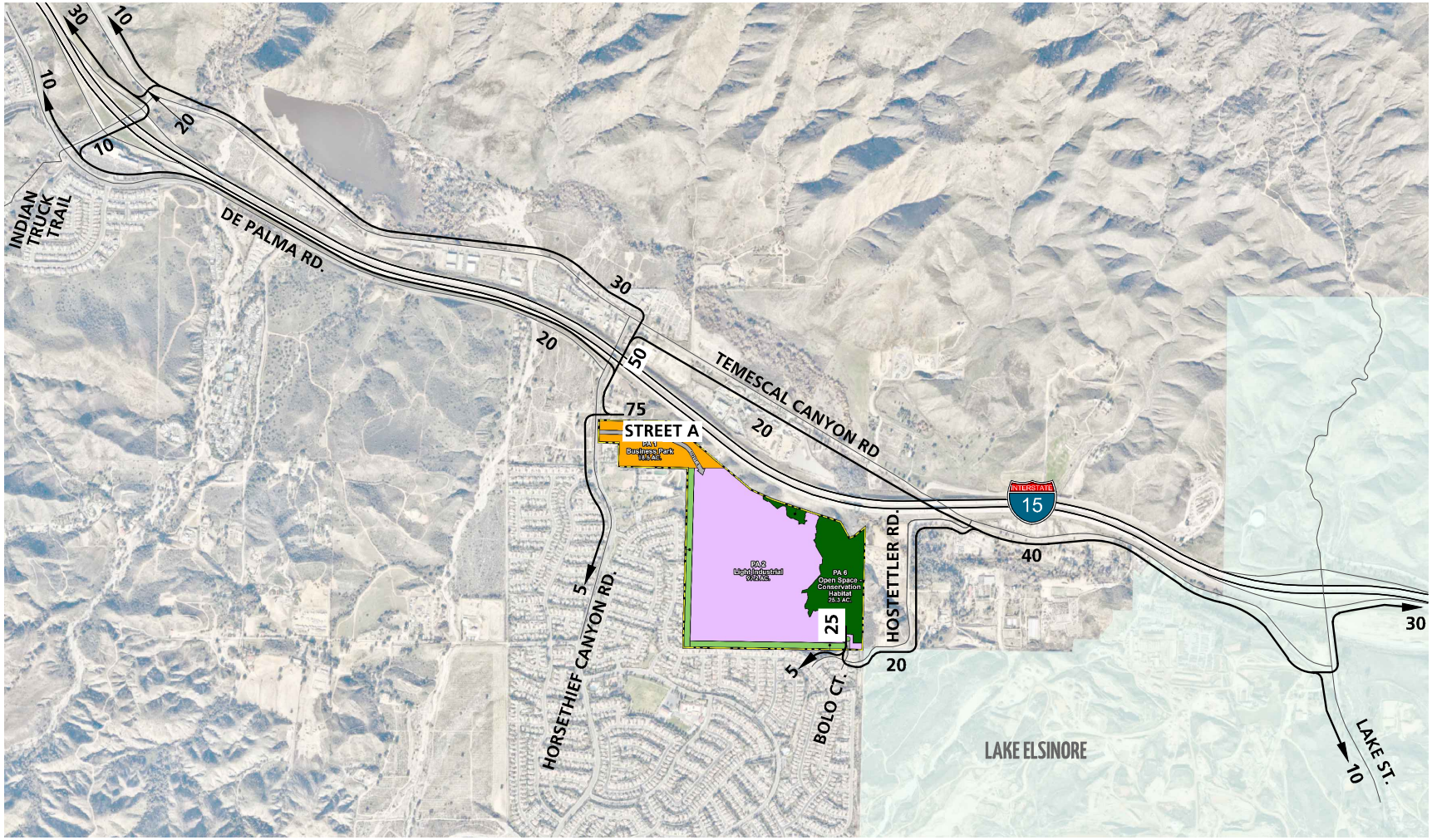
10 = PERCENT TO/FROM PROJECT

N

13266 - trip.dwg

URBAN CROSSROADS

EXHIBIT 4: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION



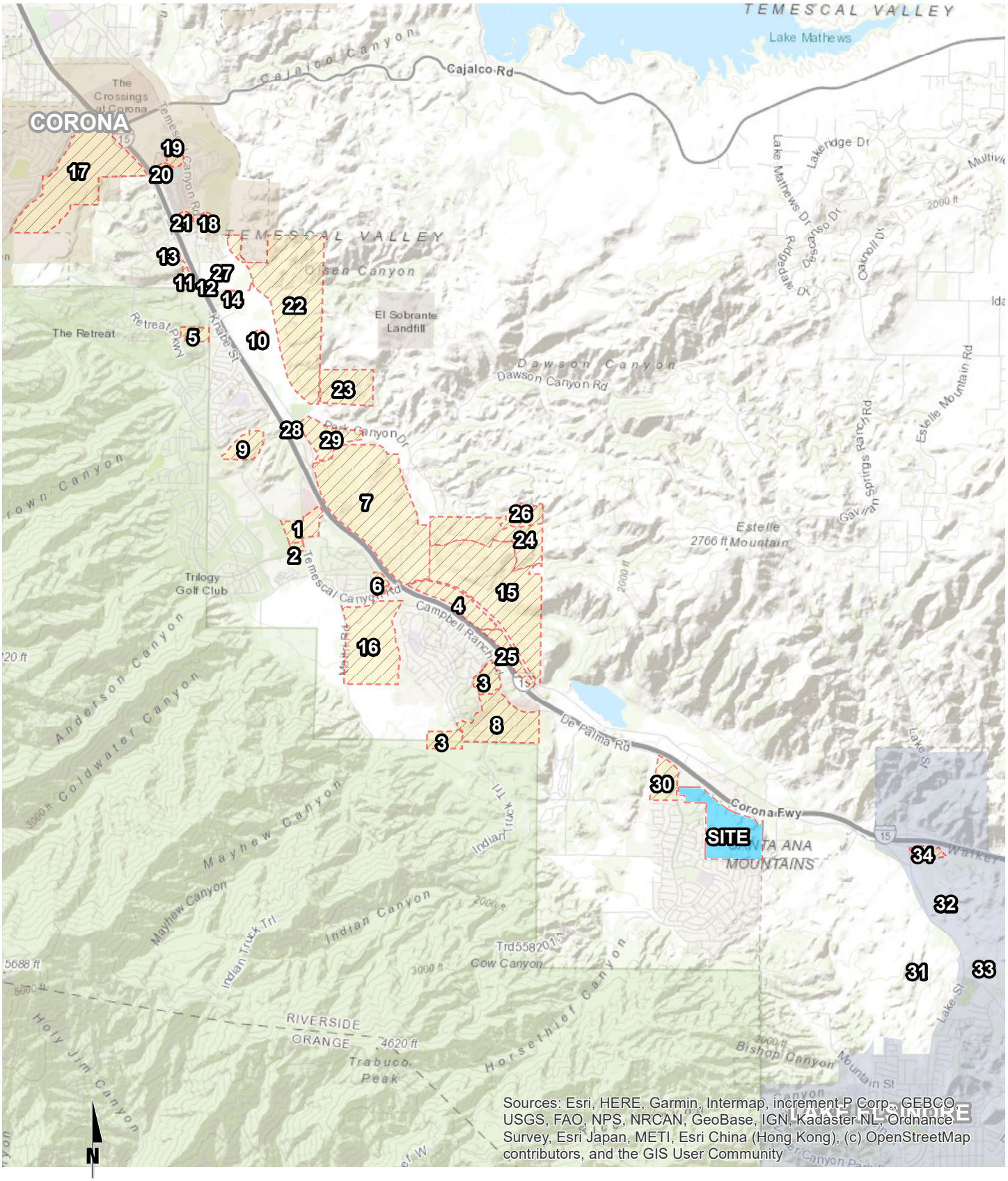
LEGEND:

10 = PERCENT TO/FROM PROJECT

N

13266 - trip.dwg

EXHIBIT 5: CUMULATIVE DEVELOPMENT PROJECTS LOCATION MAP



13266- cumulative.mxd

Table 1

Project Trip Generation Rates

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicle Trip Generation Rates									
Manufacturing[3]	TSF	140	0.477	0.143	0.620	0.208	0.462	0.670	3.930
Passenger Cars (AM-92.0%; PM-93.0%; Daily-90.0%)			0.439	0.131	0.570	0.193	0.430	0.623	3.537
2-Axle Trucks (AM-1.34%; PM-1.17%; Daily-1.67%)			0.006	0.002	0.008	0.002	0.005	0.008	0.066
3-Axle Trucks (AM-1.66%; PM-1.45%; Daily-2.07%)			0.008	0.002	0.010	0.003	0.007	0.010	0.081
4-Axle+ Trucks (AM-5.01%; PM-4.38%; Daily-6.26%)			0.024	0.007	0.031	0.009	0.020	0.029	0.246
Warehousing[3]	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars (AM-87.0%; PM-85.0%; Daily-73.0%)			0.114	0.034	0.148	0.044	0.118	0.162	1.270
2-Axle Trucks (AM-2.17%; PM-2.51%; Daily-4.51%)			0.003	0.001	0.004	0.001	0.003	0.005	0.078
3-Axle Trucks (AM-2.69%; PM-3.11%; Daily-5.59%)			0.004	0.001	0.005	0.002	0.004	0.006	0.097
4-Axle+ Trucks (AM-8.14%; PM-9.39%; Daily-16.90%)			0.011	0.003	0.014	0.005	0.013	0.018	0.294
High-Cube Transload and Short-Term Storage Warehouse (Without Cold Storage)[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars (AM-80.0%; PM-84.0%; Daily-84.0%)			0.049	0.015	0.064	0.024	0.060	0.084	1.176
2-Axle Trucks (AM-3.34%; PM-2.67%; Daily-2.67%)			0.002	0.001	0.003	0.001	0.002	0.003	0.037
3-Axle Trucks (AM-4.14%; PM-3.31%; Daily-3.31%)			0.003	0.001	0.003	0.001	0.002	0.003	0.046
4-Axle+ Trucks (AM-12.52%; PM-10.02%; Daily-10.02%)			0.008	0.002	0.010	0.003	0.007	0.010	0.140
High-Cube Cold Storage Warehouse (With Cold Storage)[3]	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars (AM-73.0%; PM-77.0%; Daily-65.0%)			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (AM-9.37%; PM-7.98%; Daily-12.15%)			0.008	0.002	0.010	0.003	0.007	0.010	0.257
3-Axle Trucks (AM-2.97%; PM-2.53%; Daily-3.85%)			0.003	0.001	0.003	0.001	0.002	0.003	0.082
4-Axle+ Trucks (AM-14.66%; PM-12.49%; Daily-19.01%)			0.012	0.004	0.016	0.004	0.011	0.015	0.403
High-Cube Fulfillment Center Warehouse[4]	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+-Axle Trucks			0.008	0.003	0.011	0.003	0.007	0.010	0.217
Industrial Park[3]	TSF	130	0.324	0.076	0.400	0.084	0.316	0.400	3.370
Passenger Cars (AM-88.0%; PM-90.0%; Daily-85.0%)			0.285	0.067	0.348	0.076	0.284	0.348	2.865
2-Axle Trucks (AM-2.00%; PM-1.67%; Daily-2.51%)			0.006	0.002	0.009	0.001	0.005	0.009	0.084
3-Axle Trucks (AM-2.48%; PM-2.07%; Daily-3.11%)			0.008	0.002	0.011	0.002	0.007	0.011	0.105
4-Axle+ Trucks (AM-7.51%; PM-6.26%; Daily-9.39%)			0.024	0.006	0.032	0.005	0.020	0.033	0.316

Table 1

Project Trip Generation Rates

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Passenger Car Equivalent (PCE) Trip Generation Rates[5]									
Manufacturing[3]	TSF	140	0.477	0.143	0.620	0.208	0.462	0.670	3.930
Passenger Cars			0.380	0.113	0.493	0.165	0.368	0.533	3.127
2-Axle Trucks (PCE = 1.5)			0.010	0.003	0.012	0.004	0.008	0.012	0.098
3-Axle Trucks (PCE = 2.0)			0.016	0.005	0.021	0.006	0.013	0.019	0.163
4-Axle+ Trucks (PCE = 3.0)			0.072	0.021	0.093	0.027	0.061	0.088	0.738
Warehousing[3]	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars			0.114	0.034	0.148	0.044	0.118	0.162	1.270
2-Axle Trucks (PCE = 1.5)			0.004	0.001	0.006	0.002	0.005	0.007	0.118
3-Axle Trucks (PCE = 2.0)			0.007	0.002	0.009	0.003	0.009	0.012	0.194
4-Axle+ Trucks (PCE = 3.0)			0.032	0.010	0.042	0.014	0.039	0.054	0.882
High-Cube Transload and Short-Term Storage Warehouse (Without Cold Storage)[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars			0.049	0.015	0.064	0.024	0.060	0.084	1.176
2-Axle Trucks (PCE = 1.5)			0.003	0.001	0.004	0.001	0.003	0.004	0.056
3-Axle Trucks (PCE = 2.0)			0.005	0.002	0.007	0.002	0.005	0.007	0.093
4-Axle+ Trucks (PCE = 3.0)			0.023	0.007	0.030	0.008	0.022	0.030	0.421
High-Cube Cold Storage Warehouse (With Cold Storage)[3]	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (PCE = 1.5)			0.012	0.004	0.015	0.004	0.010	0.014	0.386
3-Axle Trucks (PCE = 2.0)			0.005	0.002	0.007	0.002	0.004	0.006	0.163
4-Axle+ Trucks (PCE = 3.0)			0.037	0.011	0.048	0.012	0.033	0.045	1.209
High-Cube Fulfillment Center Warehouse[4]	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (PCE = 2.0)			0.012	0.004	0.016	0.006	0.016	0.022	0.324
5+-Axle Trucks (PCE = 3.0)			0.025	0.008	0.033	0.008	0.022	0.030	0.651
Industrial Park[3]	TSF	130	0.324	0.076	0.400	0.084	0.316	0.400	3.370
Passenger Cars			0.285	0.067	0.352	0.076	0.284	0.360	2.865
2-Axle Trucks (PCE = 1.5)			0.010	0.002	0.012	0.002	0.008	0.010	0.127
3-Axle Trucks (PCE = 2.0)			0.016	0.004	0.020	0.003	0.013	0.017	0.209
4-Axle+ Trucks (PCE = 3.0)			0.073	0.017	0.090	0.016	0.059	0.075	0.949

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

[2] TSF = thousand square feet

[3] Vehicle Mix Source: ITE Trip Generation Handbook Supplement (2020), Appendix C.
Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.
Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.
Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

[4] Vehicle Mix Source: High Cube Warehouse Trip Generation Study, WSP, January 29, 2019.
Inbound and outbound split source: ITE Trip Generation Manual, Tenth Edition (2017) for ITE Land Use Code 154.

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

Table 2

Project Trip Generation Summary (Actual Vehicles)

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Cold Storage (20% - LI)	423.403	TSF							
Passenger Cars:			26	8	34	11	29	40	584
Truck Trips:									
2-axle:			3	1	4	1	3	4	110
3-axle:			1	0	1	0	1	1	36
4+-axle:			5	2	7	2	5	7	172
- Truck Trips			9	3	12	3	9	12	318
SUBTOTAL TRIPS (Actual) [2]			**35**	**11**	**46**	**14**	**38**	**52**	**902**
High-Cube Fulfillment (35% - LI)	740.956	TSF							
Passenger Cars:			59	18	77	30	77	107	1,298
Truck Trips:									
2-4 axle:			5	1	6	2	6	8	120
5+-axle:			6	2	8	2	5	7	162
- Truck Trips			11	3	14	4	11	15	282
TOTAL TRIPS (Actual) [2]			**70**	**21**	**91**	**34**	**88**	**122**	**1,580**
High-Cube Warehouse (35% - LI)	740.956	TSF							
Passenger Cars:			37	11	48	17	45	62	872
Truck Trips:									
2-axle:			2	0	2	1	1	2	28
3-axle:			2	1	3	1	2	3	34
4+-axle:			6	2	8	2	5	7	104
- Truck Trips			10	3	13	4	8	12	166
SUBTOTAL TRIPS (Actual) [2]			**47**	**14**	**61**	**21**	**53**	**74**	**1,038**
Manufacturing (10% - LI)	211.702	TSF							
Passenger Cars:			93	28	121	41	91	132	750
Truck Trips:									
2-axle:			1	0	1	1	1	2	14
3-axle:			2	0	2	1	1	2	18
4+-axle:			5	2	7	2	4	6	52
- Truck Trips			8	2	10	4	6	10	84
SUBTOTAL TRIPS (Actual) [2]			**101**	**30**	**131**	**45**	**97**	**142**	**834**
Warehouse (40% - BP)	161.172	TSF							
Passenger Cars:			18	5	23	7	19	26	206
Truck Trips:									
2-axle:			0	0	0	0	1	1	14
3-axle:			1	0	1	0	1	1	16
4+-axle:			2	1	3	1	2	3	48
- Truck Trips			3	1	4	1	4	5	78
SUBTOTAL TRIPS (Actual) [2]			**21**	**6**	**27**	**8**	**23**	**31**	**284**
Industrial Park (60% - BP)	241.758	TSF							
Passenger Cars:			69	16	85	18	69	87	694
Truck Trips:									
2-axle:			2	0	2	0	1	1	20
3-axle:			2	0	2	0	2	2	26
4+-axle:			6	1	7	1	5	6	78
- Truck Trips			10	1	11	1	8	9	124
SUBTOTAL TRIPS (Actual) [2]			**79**	**17**	**96**	**19**	**77**	**96**	**818**
Passenger Cars (Industrial)			*302*	*86*	*388*	*124*	*330*	*454*	*4,404*
Trucks (Industrial)			*51*	*13*	*64*	*17*	*46*	*63*	*1,052*
TOTAL TRIPS (Actual) [2]			**353**	**99**	**452**	**141**	**376**	**517**	**5,456**

[1] TSF = thousand square feet

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

Table 3

Project Trip Generation Summary (Passenger Car Equivalent)

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
High-Cube Cold Storage (20% - LI)	423.403	TSF							
Passenger Cars:			26	8	34	11	29	40	584
Truck Trips:									
2-axle:			5	2	7	2	4	6	164
3-axle:			2	1	3	1	2	3	70
4+-axle:			16	5	21	5	14	19	512
- Truck Trips			23	8	31	8	20	28	746
SUBTOTAL TRIPS (PCE) [2]			**49**	**16**	**65**	**19**	**49**	**68**	**1,330**
High-Cube Fulfillment (35% - LI)	740.956	TSF							
Passenger Cars:			59	18	77	30	77	107	1,298
Truck Trips:									
2-4 axle:			9	3	12	5	12	17	240
5+-axle:			19	6	25	6	16	22	482
- Truck Trips			28	9	37	11	28	39	722
SUBTOTAL TRIPS (PCE) [2]			**87**	**27**	**114**	**41**	**105**	**146**	**2,020**
High-Cube Warehouse (35% - LI)	740.956	TSF							
Passenger Cars:			37	11	48	17	45	62	872
Truck Trips:									
2-axle:			2	1	3	1	2	3	42
3-axle:			4	1	5	1	4	5	70
4+-axle:			17	5	22	6	16	22	312
- Truck Trips			23	7	30	8	22	30	424
SUBTOTAL TRIPS (PCE) [2]			**60**	**18**	**78**	**25**	**67**	**92**	**1,296**
Manufacturing (10% - LI)	211.702	TSF							
Passenger Cars:			93	28	121	41	91	132	750
Truck Trips:									
2-axle:			2	1	3	1	2	3	22
3-axle:			3	1	4	1	3	4	34
4+-axle:			15	5	20	6	13	19	156
- Truck Trips			20	7	27	8	18	26	212
SUBTOTAL TRIPS (PCE) [2]			**113**	**35**	**148**	**49**	**109**	**158**	**962**
Warehousing (40% - BP)	161.172	TSF							
Passenger Cars:			18	5	23	7	19	26	206
Truck Trips:									
2-axle:			1	0	1	0	1	1	20
3-axle:			1	0	1	1	1	2	32
4+-axle:			5	2	7	2	6	8	142
- Truck Trips			7	2	9	3	8	11	194
SUBTOTAL TRIPS (PCE) [2]			**25**	**7**	**32**	**10**	**27**	**37**	**400**
Industrial Park (60% - BP)	241.758	TSF							
Passenger Cars:			69	16	85	18	69	87	694
Truck Trips:									
2-axle:			2	1	3	1	2	3	32
3-axle:			4	1	5	1	3	4	52
4+-axle:			18	4	22	4	14	18	230
- Truck Trips			24	6	30	6	19	25	314
SUBTOTAL TRIPS (PCE) [2]			**93**	**22**	**115**	**24**	**88**	**112**	**1,008**
Passenger Cars (Industrial)			*302*	*86*	*388*	*124*	*330*	*454*	*4,404*
Trucks (Industrial) (PCE)			*125*	*39*	*164*	*44*	*115*	*159*	*2,612*
TOTAL TRIPS (PCE) [2]			**427**	**125**	**552**	**168**	**445**	**613**	**7,016**

[1] TSF = thousand square feet

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

Table 4

Cumulative Development Land Use Summary

#	Name	Land Use	Intensity	
County of Riverside				
1	CUP03481	Shopping Center	480.000	TSF
2	PP25776	Church	73.600	TSF
		Private School	216	STU
		Pre-School	96	STU
3	TTM No. 36316	Single Family Residential	87	DU
	TTM No. 36317	Single Family Residential	194	DU
		Passive Park	14.5	AC
		Passive Park	3.9	AC
4	Specific Plan No. 00374 (TTM No. 34476)[2]	Fast Food w/ Drive Thru	3.500	TSF
		Business Park	476.150	TSF
		High Turnover Restaurant	13.460	TSF
		Daycare Center	10.000	TSF
		Hotel	320	ROOMS
		Shopping Center	117.740	TSF
		General Office	103.300	TSF
		Mini-Warehouse	381	UNITS
5	TR 35249	SFDR	53	DU
6	Temescal Canyon	SFDR	93	DU
7	Specific Plan No. 00353 (Serrano Specific Plan)[3]	Light Industrial	6,600.994	TSF
		Shopping Center	172.150	TSF
8	TR30760	Single Family Residential	285	DU
	TR31818	Single Family Residential	311	DU
		Community Park	11.65	AC
	TR31908	Single Family Residential	261	DU
9	TR33688	Single Family Residential	49	DU
10	PP 25397	Manufacturing	60.300	TSF
11	PM 30626	Business Park	8.7	AC
12	PP22355	Fast Food w/ Drive Thru	2.500	TSF
		Retail	30.214	TSF
13	PP22762	General Office	93.924	TSF
14	PP25719	General Light Industrial	84.892	TSF
15	Specific Plan No. 00327 (Toscana Phase I and Phase III)	SFDR	917	DU
		Active Park	8.1	AC
16	SMP 139R1 (CUP 03679)	Surface Mining	2.0	MTPY
17	Arantine Hills Specific Plan	Single Family Residential	549	DU
		Multi-Family Residential	1,072	DU
		Passive Park	4.0	AC
		Active Park	11.0	AC
		General Office	59.000	TSF
		Business Park	230.900	TSF
		Specialty Retail	59.000	TSF
		Shopping Center	396.400	TSF
18	Dos Lagos Specific Plan	Apartments (PA 1)	450	DU
19	CUP 12-004	Hotel	120	RM

Table 4

Cumulative Development Land Use Summary

#	Name	Land Use	Intensity	
20	CUP 12-005	Apartments	125	DU
21	DPR 13-003	Apartments	354	DU
22	Olsen Canyon	Surface Mining	2.0	MTPY
23	PP24226 (Leinen Business Park)	Manufacturing	135.421	TSF
24	Toscana Phase 2	Single Family Residential	501	DU
		Active Park	5.0	AC
		Passive Park	0.9	AC
25	CUP 3712 (Phase 1 + Phase 2)	Gas Station w/ Market and Car Wash	12	DU
		Fast Food w/ Drive Thru	6.800	TSF
		High Turnover Restaurant	20.000	TSF
		General Office	56.000	TSF
		Shopping Center	46.900	TSF
		Supermarket	43.000	TSF
		Pharmacy w/ Drive Thru	14.000	TSF
		Bank w/ Drive Thru	3.500	TSF
26	TTM No. 37554 & 37556	Single Family Residential	143	DU
27	PPT180006	Warehousing	30.250	TSF
28	CUP190053	Marijuana Dispensary	8.582	TSF
29	Corona Clay	Industrial Park	1,025.766	TSF
		Fast-Food w/ Drive Thru	5.400	TSF
		Super Convenience Market/Gas Sta.	16	VFP
30	Horsethief Canyon Residential	Single Family Residential	230	DU
City of Lake Elsinore				
31	Alberhill Villages	Single Family Residential	9,536	DU
32	Alberhill Ridge (Tract 35001)	Single Family Residential	1,056	DU
		Apartments	345	DU
		Shopping Center	679.000	TSF
		General Office	679.000	TSF
33	Alberhill Ranch	Single Family Residential	362	DU
34	Lake Street/I-15 Property	Public RV Storage & Self Storage	13.3	AC
		Gas Station w/ Market	12	VFP

[1] DU = Dwelling Units; TSF = Thousand Square Feet; AC = Acres; MTPY = Million Tons Per Year; STU = Students; VFP = Vehicle Fueling Positions

[2] Land Use and Quantity Source: Specific Plan No. 00374 (TTM No. 34476) TIA, Urban Crossroads, Inc., August 18, 2008.

[3] Source: Serrano Commerce Center TIA, Kunzman Associates, November 20, 2008.

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APPENDIX 1.2:

SITE ADJACENT QUEUES

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Intersection: 5: Horsethief Rd. & Temescal Canyon Rd.

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	23	97	134	97
Average Queue (ft)	1	36	50	37
95th Queue (ft)	11	77	94	70
Link Distance (ft)	1030	704	791	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				50
Storage Blk Time (%)			12	0
Queuing Penalty (veh)			16	0

Intersection: 6: Horsethief Rd. & De Palma Rd.

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (ft)	85	100	87	129
Average Queue (ft)	40	56	47	66
95th Queue (ft)	70	85	72	103
Link Distance (ft)	1152		688	791
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		150		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Horsethief Canyon Rd./Horsethief Rd. & Street A

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	100	4	92
Average Queue (ft)	41	0	51
95th Queue (ft)	71	3	82
Link Distance (ft)	471	813	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 8: Bolo Ct. & Hostettler Rd.

Movement	EB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	28	29
Average Queue (ft)	2	14
95th Queue (ft)	17	37
Link Distance (ft)	501	449
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 17

Intersection: 5: Horsethief Rd. & Temescal Canyon Rd.

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	4	58	125	98
Average Queue (ft)	0	24	57	44
95th Queue (ft)	3	56	100	83
Link Distance (ft)	1030	704	795	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				50
Storage Blk Time (%)			12	1
Queuing Penalty (veh)			24	2

Intersection: 6: Horsethief Rd. & De Palma Rd.

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (ft)	148	84	108	117
Average Queue (ft)	71	45	55	52
95th Queue (ft)	118	68	83	87
Link Distance (ft)	515		669	795
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		150		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Horsethief Canyon Rd./Horsethief Rd. & Street A

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	180	58
Average Queue (ft)	77	26
95th Queue (ft)	138	52
Link Distance (ft)	635	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Bolo Ct. & Hostettler Rd.

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	23	30	58
Average Queue (ft)	2	1	32
95th Queue (ft)	13	11	51
Link Distance (ft)	510	159	196
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 26

Intersection: 5: Horsethief Rd. & Temescal Canyon Rd.

Movement	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	302	321	189	206	111	95	182	292	100
Average Queue (ft)	171	180	85	114	41	33	95	126	90
95th Queue (ft)	270	284	155	180	88	76	157	234	116
Link Distance (ft)	1018	1018			694	694	763	763	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			200	200					50
Storage Blk Time (%)			0	1				40	18
Queuing Penalty (veh)			0	1				127	32

Intersection: 6: Horsethief Rd. & De Palma Rd.

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	100	131	209	416	352	268	262
Average Queue (ft)	33	63	185	161	96	117	112
95th Queue (ft)	74	106	234	397	273	227	215
Link Distance (ft)	1140			676	676	763	763
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		100	150				
Storage Blk Time (%)	0	1	28	0			
Queuing Penalty (veh)	1	0	87	0			

Intersection: 7: Horsethief Canyon Rd./Horsethief Rd. & Street A

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	88	9	186	50
Average Queue (ft)	40	0	91	2
95th Queue (ft)	71	6	157	35
Link Distance (ft)	459	814		676
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	
Storage Blk Time (%)			6	
Queuing Penalty (veh)			18	

Intersection: 8: Bolo Ct. & Hostettler Rd.

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	42	12	48
Average Queue (ft)	7	0	23
95th Queue (ft)	29	5	45
Link Distance (ft)	501	648	449
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 267

Intersection: 5: Horsethief Rd. & Temescal Canyon Rd.

Movement	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	1033	1033	250	300	709	659	789	795	100
Average Queue (ft)	920	952	246	298	617	256	774	776	97
95th Queue (ft)	1239	1210	267	317	879	689	791	788	117
Link Distance (ft)	1018	1018			694	694	767	767	
Upstream Blk Time (%)	28	47			32	2	25	31	
Queuing Penalty (veh)	0	0			0	0	149	187	
Storage Bay Dist (ft)			200	200					50
Storage Blk Time (%)			29	55				74	23
Queuing Penalty (veh)			40	76				325	88

Intersection: 6: Horsethief Rd. & De Palma Rd.

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	518	150	210	683	686	648	659
Average Queue (ft)	518	150	208	619	613	495	512
95th Queue (ft)	518	150	220	758	757	644	659
Link Distance (ft)	503			661	661	767	767
Upstream Blk Time (%)	72			13	11	0	0
Queuing Penalty (veh)	0			93	80	0	0
Storage Bay Dist (ft)		100	150				
Storage Blk Time (%)	7	71	56	46			
Queuing Penalty (veh)	49	104	294	162			

Intersection: 7: Horsethief Canyon Rd./Horsethief Rd. & Street A

Movement	WB	NB	NB	SB	SB
Directions Served	LR	T	TR	L	T
Maximum Queue (ft)	638	274	256	112	39
Average Queue (ft)	574	93	66	47	1
95th Queue (ft)	802	247	198	89	20
Link Distance (ft)	623	792	792		661
Upstream Blk Time (%)	74				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)				100	
Storage Blk Time (%)				1	0
Queuing Penalty (veh)				13	0

Intersection: 8: Bolo Ct. & Hostettler Rd.

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	23	12	90
Average Queue (ft)	2	1	45
95th Queue (ft)	15	10	72
Link Distance (ft)	510	159	196
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 1664

APPENDIX 3.1:

EXISTING TRAFFIC COUNTS – JANUARY 2020

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INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Thu, Jan 23, 20

LOCATION: Corona South
NORTH & SOUTH: Temescal Canyon
EAST & WEST: Indian Truck Trail

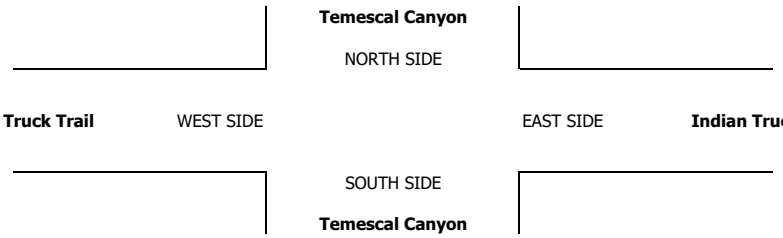
PROJECT #: SC2499
LOCATION #: 1
CONTROL: SIGNAL

NOTES:

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

Add U-Turns to Left Turns

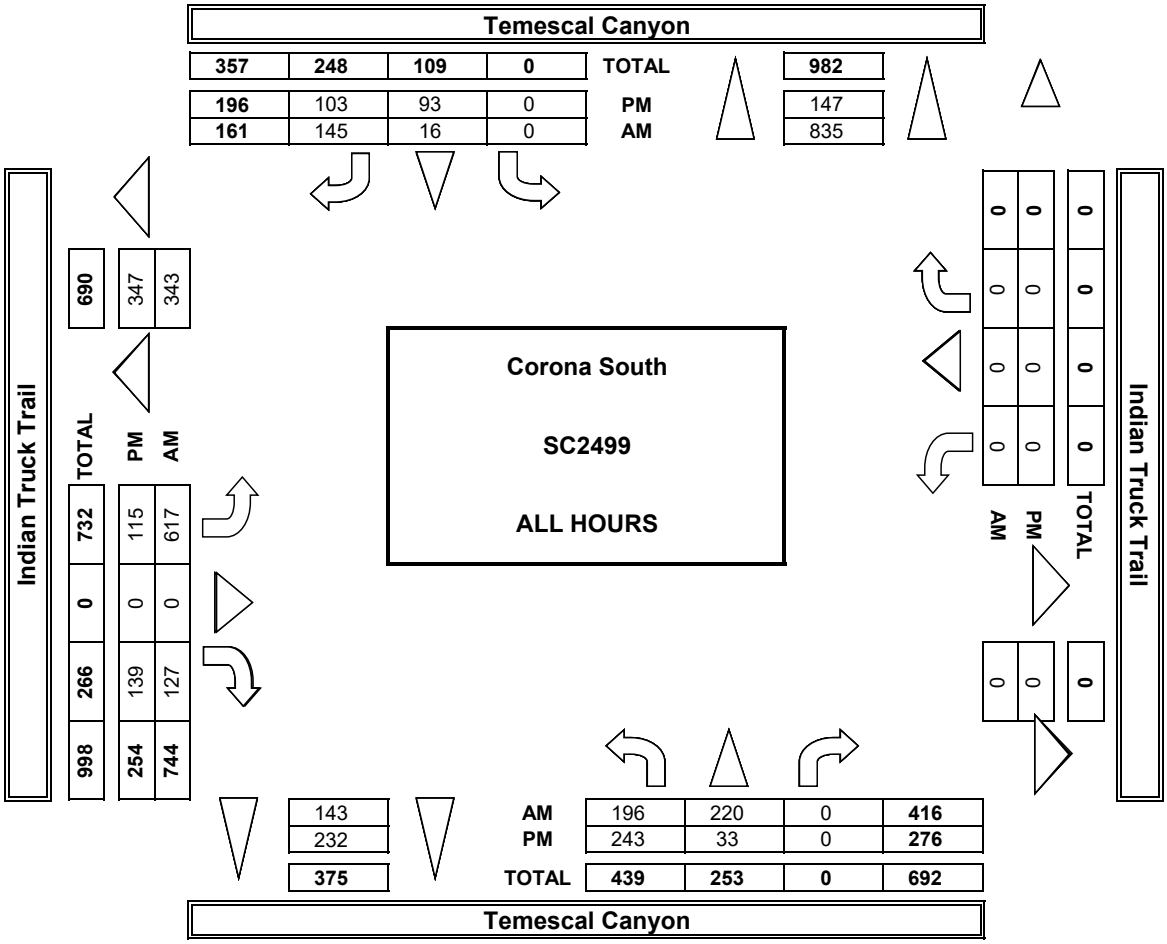
		NORTHBOUND Temescal Canyon			SOUTHBOUND Temescal Canyon			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail				U-TURNS				
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 1	EL 2	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	28	53	0	0	1	17	85	0	14	0	0	0	198	0	0	2	0	2
	7:15 AM	30	25	0	0	1	12	60	0	13	0	0	0	141	0	0	0	0	0
	7:30 AM	26	34	0	0	2	22	80	0	18	0	0	0	182	0	0	0	0	0
	7:45 AM	34	27	0	0	2	17	89	0	25	0	0	0	194	0	0	0	0	0
	8:00 AM	26	20	0	0	4	19	88	0	18	0	0	0	175	0	0	0	0	0
	8:15 AM	20	30	0	0	1	17	73	0	15	0	0	0	156	0	0	0	0	0
	8:30 AM	13	14	0	0	2	22	70	0	6	0	0	0	127	0	0	0	0	0
	8:45 AM	19	17	0	0	3	19	72	0	18	0	0	0	148	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	196	220	0	0	16	145	617	0	127	0	0	0	1,321	0	0	2	0	2
	APPROACH %	47%	53%	0%	0%	10%	90%	83%	0%	17%	0%	0%	0%						
	APP/DEPART	416	/	835	161	/	143	744	/	0	0	/	343	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	118	139	0	0	6	68	314	0	70	0	0	0	715					
	APPROACH %	46%	54%	0%	0%	8%	92%	82%	0%	18%	0%	0%	0%						
	PEAK HR FACTOR		0.793			0.771			0.842			0.000		0.903					
	APP/DEPART	257	/	451	74	/	76	384	/	0	0	/	188	0					
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	30	5	0	0	14	16	13	0	25	0	0	0	103	0	0	0	0	0
	4:15 PM	27	6	0	0	13	13	14	0	14	0	0	0	87	0	0	0	0	0
	4:30 PM	29	3	0	0	14	14	16	0	18	0	0	0	94	0	0	0	0	0
	4:45 PM	30	8	0	0	12	12	17	0	19	0	0	0	98	0	0	0	0	0
	5:00 PM	48	1	0	0	12	10	16	0	10	0	0	0	97	0	0	0	0	0
	5:15 PM	31	3	0	0	10	18	16	0	15	0	0	0	93	0	0	0	0	0
	5:30 PM	26	3	0	0	8	12	10	0	18	0	0	0	77	0	0	0	0	0
	5:45 PM	22	4	0	0	10	8	13	0	20	0	0	0	77	0	0	1	0	1
	VOLUMES	243	33	0	0	93	103	115	0	139	0	0	0	726	0	0	1	0	1
	APPROACH %	88%	12%	0%	0%	47%	53%	45%	0%	55%	0%	0%	0%						
	APP/DEPART	276	/	147	196	/	232	254	/	0	0	/	347	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	138	15	0	0	48	54	65	0	62	0	0	0	382					
	APPROACH %	90%	10%	0%	0%	47%	53%	51%	0%	49%	0%	0%	0%						
	PEAK HR FACTOR		0.781			0.850			0.836			0.000		0.927					
	APP/DEPART	153	/	80	102	/	110	127	/	0	0	/	192	0					

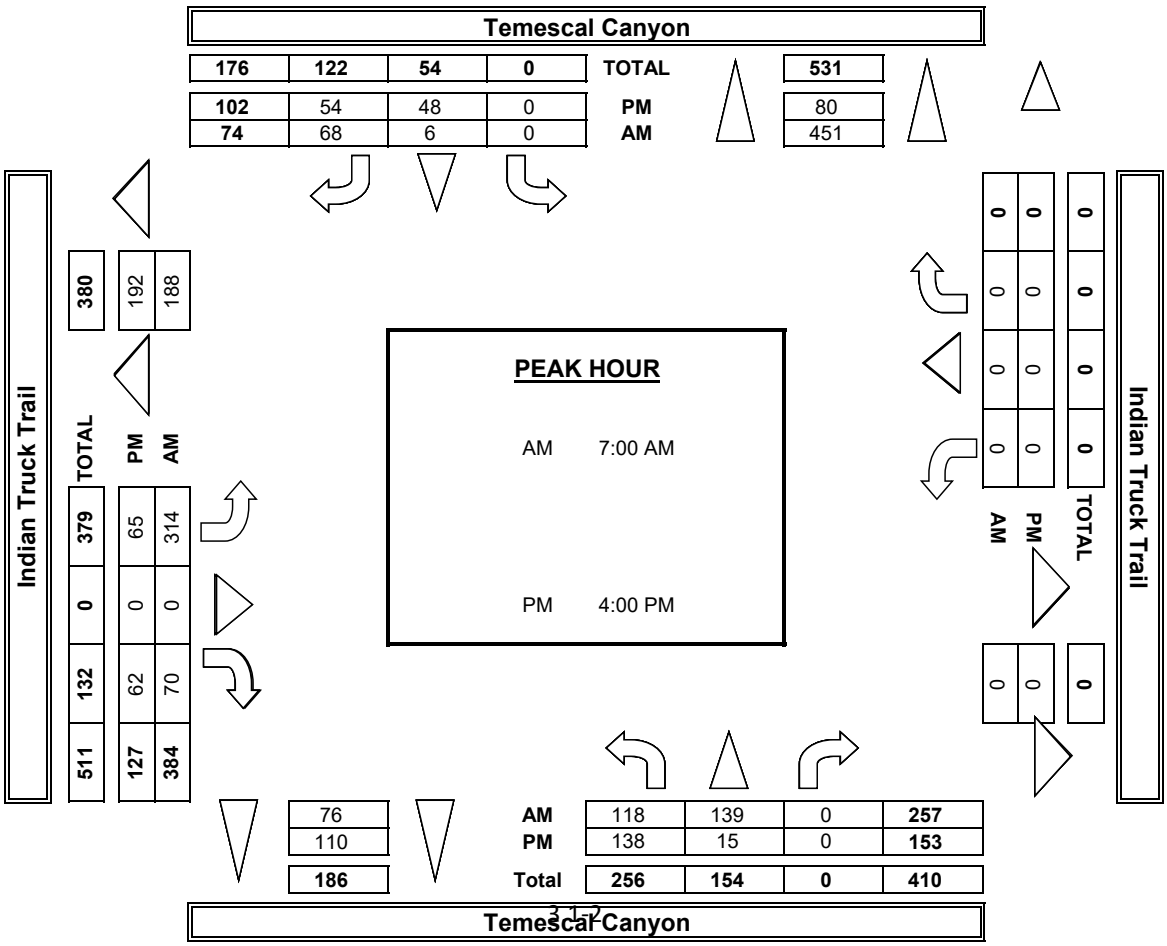


		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
	4:45 PM	0	0	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	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T1218

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

DATE: Thu, Jan 23, 20

LOCATION: Corona South
NORTH & SOUTH: I-15 NB Ramps
EAST & WEST: Indian Truck Trail

PROJECT #: SC2499
LOCATION #: 2
CONTROL: SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
◄ W
E ►
S ▼

☑ Add U-Turns to Left Turns

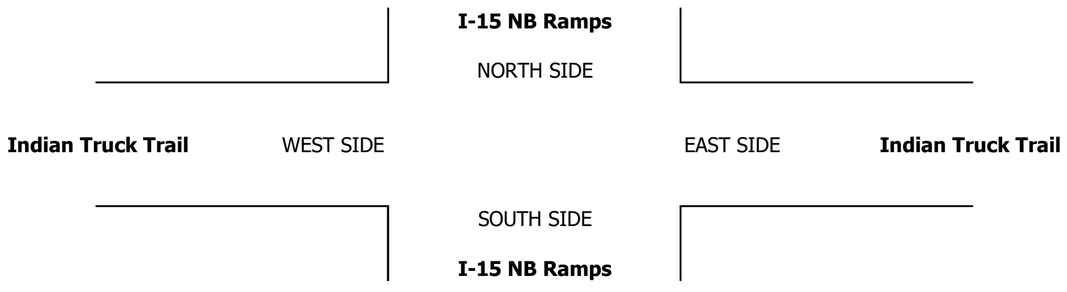
		NORTHBOUND I-15 NB Ramps			SOUTHBOUND I-15 NB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
	LANES:	NL 1.3	NT 0.3	NR 1.3	SL X	ST X	SR X	EL 2	ET 2	ER X	WL X	WT 2	WR 1	TOTAL
AM	7:00 AM	38	3	72	0	0	0	61	20	0	0	19	28	241
	7:15 AM	27	2	55	0	0	0	57	19	0	0	17	26	203
	7:30 AM	36	1	80	0	0	0	48	24	0	0	22	25	236
	7:45 AM	39	1	82	0	0	0	57	29	0	0	22	29	259
	8:00 AM	63	0	79	0	0	0	69	32	0	0	22	23	288
	8:15 AM	23	1	71	0	0	0	62	19	0	0	18	19	213
	8:30 AM	37	2	55	0	0	0	70	15	0	0	26	10	215
	8:45 AM	28	2	71	0	0	0	50	22	0	0	19	19	211
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	291	12	565	0	0	0	474	180	0	0	165	179	1,866
	APPROACH %	34%	1%	65%	0%	0%	0%	72%	28%	0%	0%	48%	52%	
	APP/DEPART	868	/	665	0	/	0	654	/	745	344	/	456	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	161	3	312	0	0	0	236	104	0	0	84	96	996
	APPROACH %	34%	1%	66%	0%	0%	0%	69%	31%	0%	0%	47%	53%	
	PEAK HR FACTOR		0.838			0.000			0.842			0.882		0.865
	APP/DEPART	476	/	335	0	/	0	340	/	416	180	/	245	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	31	1	6	0	0	0	55	31	0	0	10	33	167
	4:15 PM	25	1	7	0	0	0	50	22	0	0	12	31	148
	4:30 PM	32	0	10	0	0	0	72	26	0	0	8	32	180
	4:45 PM	28	1	7	0	0	0	55	25	0	0	9	34	159
	5:00 PM	30	0	7	0	0	0	68	20	0	0	10	52	187
	5:15 PM	37	0	5	0	0	0	48	27	0	0	16	30	163
	5:30 PM	31	0	4	0	0	0	56	24	0	0	8	30	153
	5:45 PM	25	1	5	0	0	0	59	26	0	0	7	24	147
	VOLUMES	239	4	51	0	0	0	463	201	0	0	80	266	1,304
	APPROACH %	81%	1%	17%	0%	0%	0%	70%	30%	0%	0%	23%	77%	
	APP/DEPART	294	/	733	0	/	0	664	/	252	346	/	319	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	127	1	29	0	0	0	243	98	0	0	43	148	689
	APPROACH %	81%	1%	18%	0%	0%	0%	71%	29%	0%	0%	23%	77%	
	PEAK HR FACTOR		0.935			0.000			0.870			0.770		0.921
	APP/DEPART	157	/	392	0	/	0	341	/	127	191	/	170	0

U-TURNS

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

RTOR

NRR	SRR	ERR	WRR
0	X	X	0
20	0	0	6
30	0	0	1
38	0	0	6
35	0	0	11
42	0	0	8
33	0	0	3
28	0	0	0
26	0	0	3
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
252	0	0	38
148	0	0	28
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
4	0	0	4
6	0	0	4
4	0	0	4
3	0	0	7
5	0	0	4
3	0	0	7
2	0	0	3
2	0	0	7
29	0	0	40
15	0	0	22



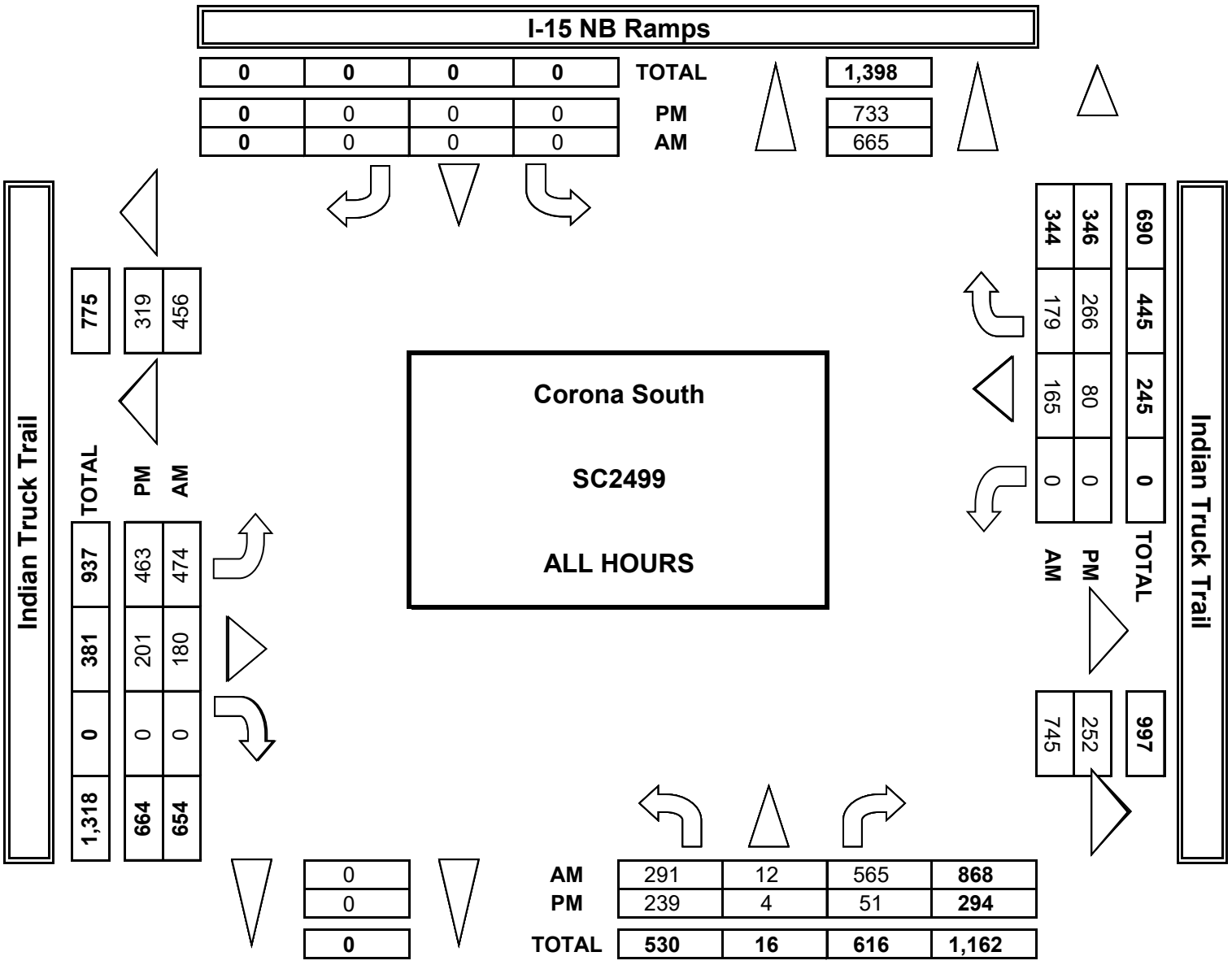
		ALL PED AND BIKE				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	9:00 AM	0	0	0	0	0
	9:15 AM	0	0	0	0	0
	9:30 AM	0	0	0	0	0
	9:45 AM	0	0	0	0	0
	TOTAL	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0
	3:15 PM	0	0	0	0	0
	3:30 PM	0	0	0	0	0
	3:45 PM	0	0	0	0	0
	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	0	0	0	0

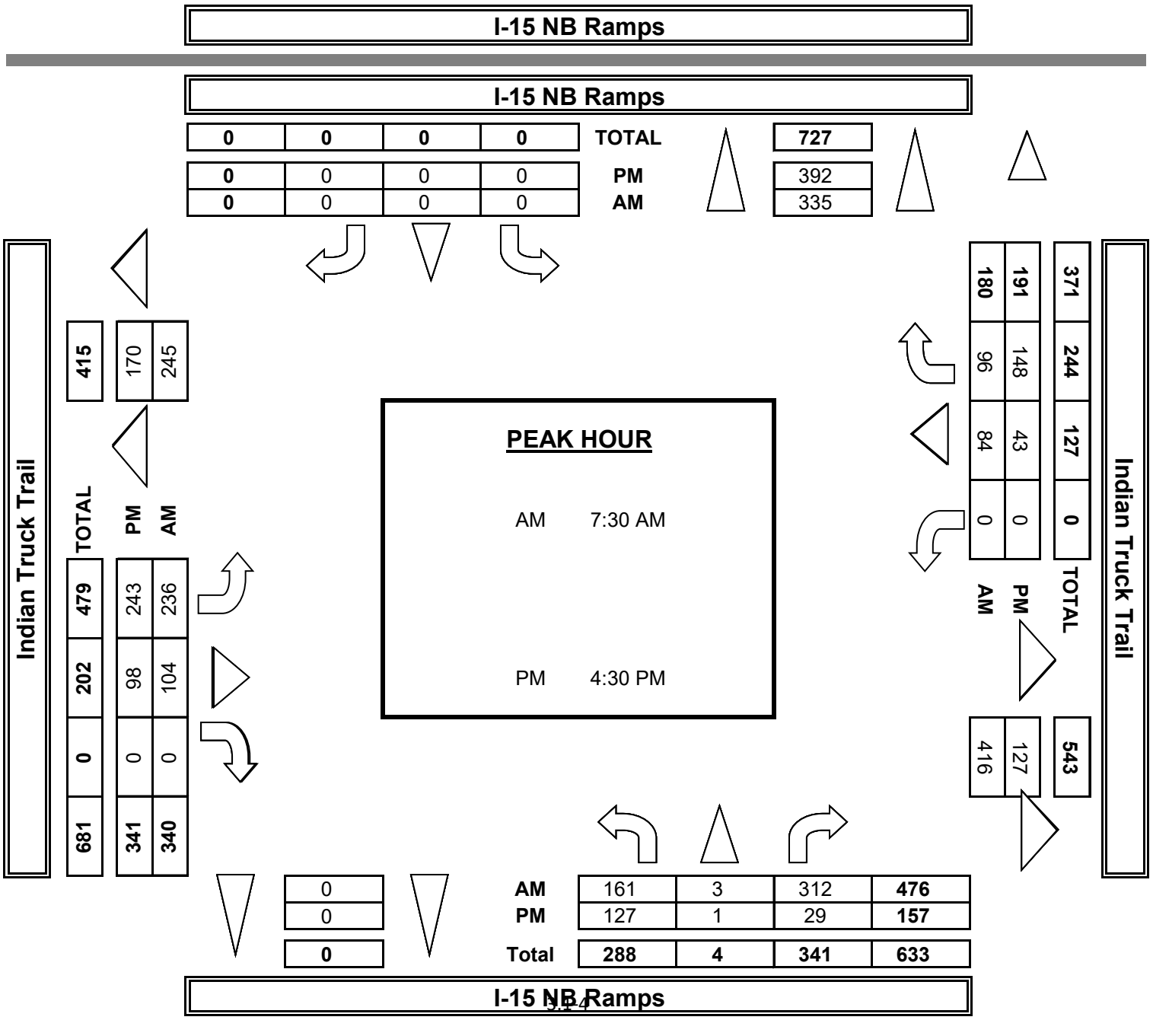
		PEDESTRIAN CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	9:00 AM	0	0	0	0	0
	9:15 AM	0	0	0	0	0
	9:30 AM	0	0	0	0	0
	9:45 AM	0	0	0	0	0
	TOTAL	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0
	3:15 PM	0	0	0	0	0
	3:30 PM	0	0	0	0	0
	3:45 PM	0	0	0	0	0
	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	0	0	0	0

		BICYCLE CROSSINGS				
		ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	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
	9:00 AM	0	0	0	0	0
	9:15 AM	0	0	0	0	0
	9:30 AM	0	0	0	0	0
	9:45 AM	0	0	0	0	0
	TOTAL	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0
	3:15 PM	0	0	0	0	0
	3:30 PM	0	0	0	0	0
	3:45 PM	0	0	0	0	0
	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	I-15 NB Ramps	LOCATION #:	2
	EAST & WEST:	Indian Truck Trail	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND I-15 NB Ramps			SOUTHBOUND I-15 NB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
LANES:	NL 1.3	NT 0.3	NR 1.3	SL X	ST X	SR X	EL 2	ET 2	ER X	WL X	WT 2	WR 1	TOTAL

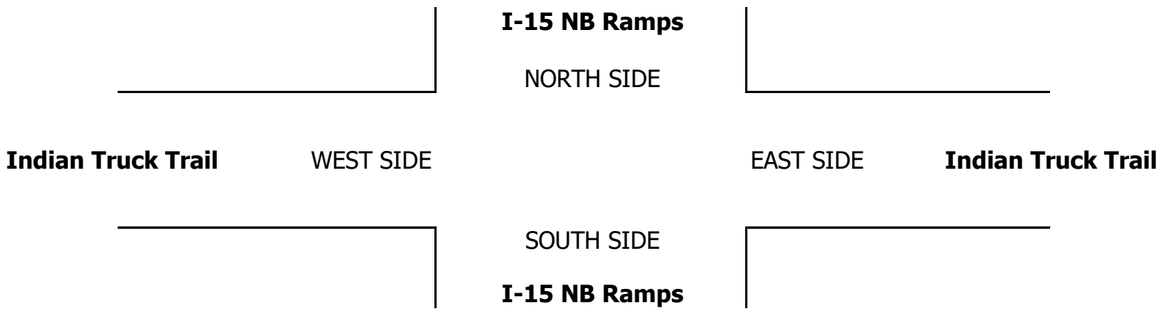
U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	

RTOR

NRR	SRR	ERR	WRR
0	X	X	0

		NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	33 1 62	0 0 0	56 17 0	0 11 27	207	0 0 0 0 0	16	0	0	6
	7:15 AM	24 0 46	0 0 0	56 16 0	0 9 24	175	0 0 0 0 0	24	0	0	1
	7:30 AM	34 1 70	0 0 0	45 20 0	0 6 21	197	0 0 0 0 0	37	0	0	4
	7:45 AM	37 1 69	0 0 0	52 25 0	0 10 23	217	0 0 0 0 0	27	0	0	9
	8:00 AM	58 0 65	0 0 0	64 27 0	0 10 21	245	0 0 0 0 0	33	0	0	8
	8:15 AM	21 1 59	0 0 0	59 15 0	0 6 13	174	0 0 0 0 0	26	0	0	2
	8:30 AM	30 1 44	0 0 0	66 11 0	0 6 9	167	0 0 0 0 0	25	0	0	0
	8:45 AM	24 1 59	0 0 0	48 17 0	0 7 17	173	0 0 0 0 0	23	0	0	2
	9:00 AM	0 0 0	0 0 0	0 0 0	0 0 0	0	0 0 0 0 0	0	0	0	0
	9:15 AM	0 0 0	0 0 0	0 0 0	0 0 0	0	0 0 0 0 0	0	0	0	0
	9:30 AM	0 0 0	0 0 0	0 0 0	0 0 0	0	0 0 0 0 0	0	0	0	0
	9:45 AM	0 0 0	0 0 0	0 0 0	0 0 0	0	0 0 0 0 0	0	0	0	0
	VOLUMES	261 6 474	0 0 0	446 148 0	0 65 155	1,555	0 0 0 0 0	211	0	0	32
	APPROACH %	35% 1% 64%	0% 0% 0%	75% 25% 0%	0% 30% 70%						
	APP/DEPART	741 / 607	0 / 0	594 / 622	220 / 326	0					
	BEGIN PEAK HR	7:15 AM									
	VOLUMES	153 2 250	0 0 0	217 88 0	0 35 89	834		121	0	0	22
	APPROACH %	38% 0% 62%	0% 0% 0%	71% 29% 0%	0% 28% 72%						
	PEAK HR FACTOR	0.823	0.000	0.838	0.939	0.851					
	APP/DEPART	405 / 308	0 / 0	305 / 338	124 / 188	0					
PM	03:00 PM	0 0 0	0 0 0	0 0 0	0 0 0	0	0 0 0 0 0	0	0	0	0
	3:15 PM	0 0 0	0 0 0	0 0 0	0 0 0	0	0 0 0 0 0	0	0	0	0
	3:30 PM	0 0 0	0 0 0	0 0 0	0 0 0	0	0 0 0 0 0	0	0	0	0
	3:45 PM	0 0 0	0 0 0	0 0 0	0 0 0	0	0 0 0 0 0	0	0	0	0
	4:00 PM	28 0 5	0 0 0	54 25 0	0 7 29	148	0 0 0 0 0	3	0	0	3
	4:15 PM	22 1 6	0 0 0	47 21 0	0 10 25	132	0 0 0 0 0	5	0	0	2
	4:30 PM	31 0 8	0 0 0	66 26 0	0 8 28	167	0 0 0 0 0	4	0	0	4
	4:45 PM	26 1 4	0 0 0	51 22 0	0 9 33	146	0 0 0 0 0	1	0	0	7
	5:00 PM	29 0 3	0 0 0	66 19 0	0 10 50	177	0 0 0 0 0	2	0	0	4
	5:15 PM	35 0 4	0 0 0	46 26 0	0 15 29	155	0 0 0 0 0	3	0	0	6
	5:30 PM	29 0 3	0 0 0	55 22 0	0 7 27	143	0 0 0 0 0	2	0	0	3
	5:45 PM	25 1 4	0 0 0	57 22 0	0 5 22	136	0 0 0 0 0	1	0	0	7
	VOLUMES	225 3 37	0 0 0	442 183 0	0 71 243	1,204	0 0 0 0 0	21	0	0	36
	APPROACH %	85% 1% 14%	0% 0% 0%	71% 29% 0%	0% 23% 77%						
	APP/DEPART	265 / 688	0 / 0	625 / 220	314 / 296	0					
	BEGIN PEAK HR	4:30 PM									
	VOLUMES	121 1 19	0 0 0	229 93 0	0 42 140	645		10	0	0	21
	APPROACH %	86% 1% 13%	0% 0% 0%	71% 29% 0%	0% 23% 77%						
	PEAK HR FACTOR	0.904	0.000	0.875	0.758	0.911					
	APP/DEPART	141 / 370	0 / 0	322 / 112	182 / 163	0					



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	I-15 NB Ramps	LOCATION #:	2
	EAST & WEST:	Indian Truck Trail	CONTROL:	SIGNAL

CLASS 2:	NOTES:
2-AXLE WORK VEHICLES/ TRUCKS	

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

	NORTHBOUND I-15 NB Ramps			SOUTHBOUND I-15 NB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.3	0.3	1.3	X	X	X	2	2	X	X	2	1	

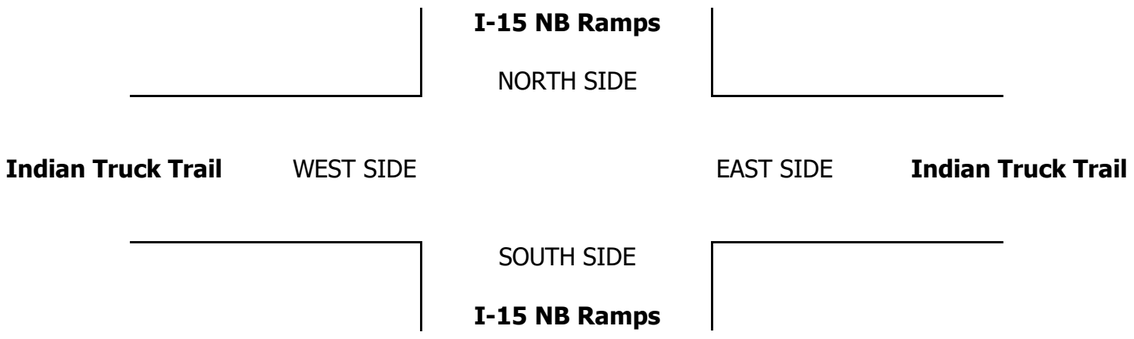
U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	

RTOR

NRR	SRR	ERR	WRR
0	X	X	0

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	5	1	2	0	0	0	3	2	0	0	1	1	15	0	0	0	0	0	1	0	0	0
	7:15 AM	1	0	2	0	0	0	1	2	0	0	0	1	7	0	0	0	0	0	1	0	0	0
	7:30 AM	2	0	4	0	0	0	2	3	0	0	2	2	15	0	0	0	0	0	0	0	0	1
	7:45 AM	1	0	7	0	0	0	2	2	0	0	5	1	18	0	0	0	0	0	4	0	0	1
	8:00 AM	3	0	3	0	0	0	4	3	0	0	3	0	16	0	0	0	0	0	2	0	0	0
	8:15 AM	2	0	5	0	0	0	3	1	0	0	0	4	15	0	0	0	0	0	5	0	0	1
	8:30 AM	5	1	6	0	0	0	3	3	0	0	2	1	21	0	0	0	0	0	2	0	0	0
	8:45 AM	2	0	5	0	0	0	0	5	0	0	2	1	15	0	0	0	0	0	3	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	21	2	34	0	0	0	18	21	0	0	15	11	122	0	0	0	0	0	18	0	0	3
	APPROACH %	37%	4%	60%	0%	0%	0%	46%	54%	0%	0%	58%	42%										
	APP/DEPART	57	/	31	0	/	0	39	/	55	26	/	36	0									
	BEGIN PEAK HR		7:45 AM																				
	VOLUMES	11	1	21	0	0	0	12	9	0	0	10	6	70						13	0	0	2
	APPROACH %	33%	3%	64%	0%	0%	0%	57%	43%	0%	0%	63%	38%										
	PEAK HR FACTOR		0.688			0.000			0.750			0.667		0.833									
	APP/DEPART	33	/	19	0	/	0	21	/	30	16	/	21	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	3	0	0	0	0	0	0	3	0	0	3	3	12	0	0	0	0	0	0	0	0	1
	4:15 PM	2	0	1	0	0	0	3	1	0	0	0	5	12	0	0	0	0	0	1	0	0	2
	4:30 PM	1	0	0	0	0	0	5	0	0	0	0	3	9	0	0	0	0	0	0	0	0	0
	4:45 PM	2	0	0	0	0	0	3	2	0	0	0	0	7	0	0	0	0	0	0	0	0	0
	5:00 PM	1	0	1	0	0	0	2	1	0	0	0	2	7	0	0	0	0	0	1	0	0	0
	5:15 PM	1	0	0	0	0	0	1	0	0	0	0	1	3	0	0	0	0	0	0	0	0	1
	5:30 PM	2	0	0	0	0	0	1	1	0	0	0	1	5	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	2	4	0	0	0	2	8	0	0	0	0	0	0	0	0	0
	VOLUMES	12	0	2	0	0	0	17	12	0	0	3	17	63	0	0	0	0	0	2	0	0	4
	APPROACH %	86%	0%	14%	0%	0%	0%	59%	41%	0%	0%	15%	85%										
	APP/DEPART	14	/	34	0	/	0	29	/	14	20	/	15	0									
	BEGIN PEAK HR		4:00 PM																				
	VOLUMES	8	0	1	0	0	0	11	6	0	0	3	11	40						1	0	0	3
	APPROACH %	89%	0%	11%	0%	0%	0%	65%	35%	0%	0%	21%	79%										
	PEAK HR FACTOR		0.750			0.000			0.850			0.583		0.833									
	APP/DEPART	9	/	22	0	/	0	17	/	7	14	/	11	0									



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	I-15 NB Ramps	LOCATION #:	2
	EAST & WEST:	Indian Truck Trail	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

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

	NORTHBOUND I-15 NB Ramps			SOUTHBOUND I-15 NB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.3	0.3	1.3	X	X	X	2	2	X	X	2	1	

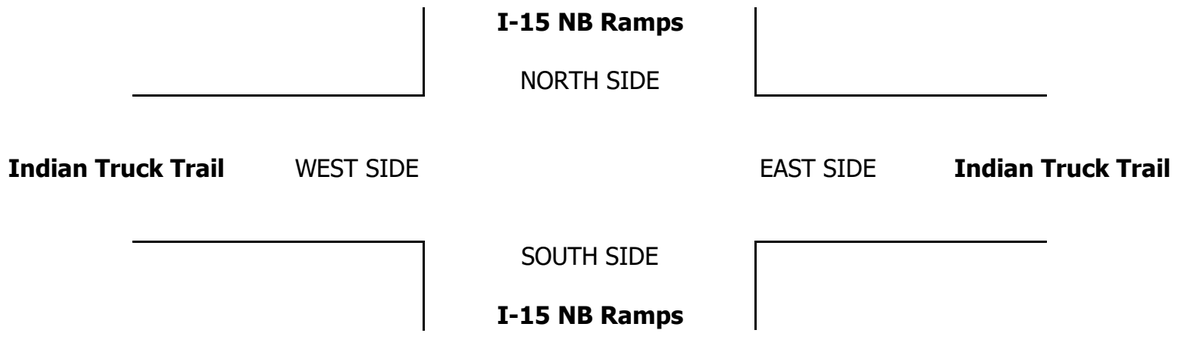
U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	

RTOR

NRR	SRR	ERR	WRR
0	X	X	0

		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	U-TURNS NB	U-TURNS SB	U-TURNS EB	U-TURNS WB	U-TURNS TTL	RTOR NRR	RTOR SRR	RTOR ERR	RTOR WRR
AM	7:00 AM	0	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0
	7:15 AM	1	0	3	0	0	0	0	0	0	0	1	1	6	0	0	0	0	0	2	0	0	0
	7:30 AM	0	0	5	0	0	0	0	1	0	0	4	0	10	0	0	0	0	0	1	0	0	0
	7:45 AM	1	0	0	0	0	0	0	0	0	0	2	4	7	0	0	0	0	0	0	0	0	1
	8:00 AM	1	0	4	0	0	0	0	0	0	0	1	0	6	0	0	0	0	0	3	0	0	0
	8:15 AM	0	0	4	0	0	0	0	2	0	0	2	0	8	0	0	0	0	0	1	0	0	0
	8:30 AM	0	0	1	0	0	0	0	1	0	0	4	0	6	0	0	0	0	0	1	0	0	0
	8:45 AM	0	0	3	0	0	0	1	0	0	0	3	0	7	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	3	0	21	0	0	0	1	4	0	0	18	5	52	0	0	0	0	0	8	0	0	1
	APPROACH %	13%	0%	88%	0%	0%	0%	20%	80%	0%	0%	78%	22%										
	APP/DEPART	24	/	6	0	/	0	5	/	25	23	/	21	0									
	BEGIN PEAK HR	7:30 AM																					
	VOLUMES	2	0	13	0	0	0	0	3	0	0	9	4	31						5	0	0	1
	APPROACH %	13%	0%	87%	0%	0%	0%	0%	100%	0%	0%	69%	31%										
	PEAK HR FACTOR	0.750			0.000			0.375			0.542			0.775									
	APP/DEPART	15	/	4	0	/	0	3	/	16	13	/	11	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	1	0	0	0	0	1	0	0	0	0	2	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	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	0	0	0	0	0	0	0	0	0
	VOLUMES	1	0	3	0	0	0	1	2	0	0	0	1	8	0	0	0	0	0	0	0	0	0
	APPROACH %	25%	0%	75%	0%	0%	0%	33%	67%	0%	0%	0%	100%										
	APP/DEPART	4	/	2	0	/	0	3	/	5	1	/	1	0									
	BEGIN PEAK HR	4:30 PM																					
	VOLUMES	0	0	3	0	0	0	1	2	0	0	0	0	6						0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	0%	33%	67%	0%	0%	0%	0%										
	PEAK HR FACTOR	0.375			0.000			0.750			0.000			0.500									
	APP/DEPART	3	/	1	0	/	0	3	/	5	0	/	0	0									



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	I-15 NB Ramps	LOCATION #:	2
	EAST & WEST:	Indian Truck Trail	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND I-15 NB Ramps			SOUTHBOUND I-15 NB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
LANES:	NL 1.3	NT 0.3	NR 1.3	SL X	ST X	SR X	EL 2	ET 2	ER X	WL X	WT 2	WR 1	TOTAL

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	

RTOR

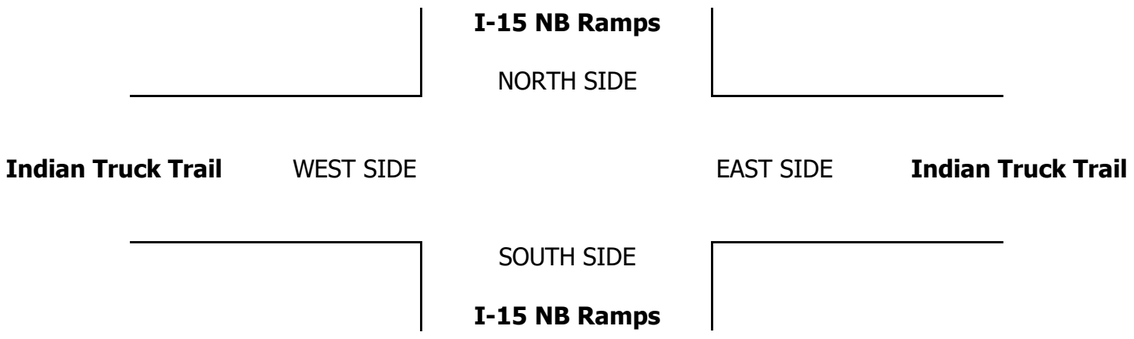
NRR	SRR	ERR	WRR
0	X	X	0

AM

7:00 AM	0	0	7	0	0	0	2	0	0	0	6	0	15	0 0 0 0 0	3 0 0 0
7:15 AM	1	2	4	0	0	0	0	1	0	0	7	0	15	0 0 0 0 0	3 0 0 0
7:30 AM	0	0	1	0	0	0	1	0	0	0	10	2	14	0 0 0 0 0	0 0 0 1
7:45 AM	0	0	6	0	0	0	0	2	0	0	5	1	14	0 0 0 0 0	4 0 0 0
8:00 AM	1	0	7	0	0	0	0	2	0	0	8	2	20	0 0 0 0 0	4 0 0 0
8:15 AM	0	0	3	0	0	0	0	1	0	0	10	2	16	0 0 0 0 0	1 0 0 0
8:30 AM	2	0	4	0	0	0	1	0	0	0	14	0	21	0 0 0 0 0	0 0 0 0
8:45 AM	2	1	4	0	0	0	1	0	0	0	7	1	16	0 0 0 0 0	0 0 0 1
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 0 0	0 0 0 0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 0 0	0 0 0 0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 0 0	0 0 0 0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 0 0	0 0 0 0
VOLUMES	6	3	36	0	0	0	5	6	0	0	67	8	131	0 0 0 0 0	15 0 0 2
APPROACH %	13%	7%	80%	0%	0%	0%	45%	55%	0%	0%	89%	11%			
APP/DEPART	45	/	16	0	/	0	11	/	42	75	/	73	0		
BEGIN PEAK HR		8:00 AM													
VOLUMES	5	1	18	0	0	0	2	3	0	0	39	5	73		5 0 0 1
APPROACH %	21%	4%	75%	0%	0%	0%	40%	60%	0%	0%	89%	11%			
PEAK HR FACTOR		0.750			0.000			0.625			0.786		0.869		
APP/DEPART	24	/	8	0	/	0	5	/	21	44	/	44	0		

PM

03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 0 0	0 0 0 0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 0 0	0 0 0 0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 0 0	0 0 0 0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0 0 0 0	0 0 0 0
4:00 PM	0	1	1	0	0	0	0	3	0	0	0	1	6	0 0 0 0 0	1 0 0 0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	1	3	0 0 0 0 0	0 0 0 0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0 0 0 0 0	0 0 0 0
4:45 PM	0	0	3	0	0	0	1	0	0	0	0	1	5	0 0 0 0 0	2 0 0 0
5:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	3	0 0 0 0 0	2 0 0 0
5:15 PM	1	0	0	0	0	0	1	0	0	0	1	0	3	0 0 0 0 0	0 0 0 0
5:30 PM	0	0	1	0	0	0	0	1	0	0	1	1	4	0 0 0 0 0	0 0 0 0
5:45 PM	0	0	1	0	0	0	0	0	0	0	2	0	3	0 0 0 0 0	1 0 0 0
VOLUMES	1	1	9	0	0	0	2	4	0	0	6	5	28	0 0 0 0 0	6 0 0 0
APPROACH %	9%	9%	82%	0%	0%	0%	33%	67%	0%	0%	55%	45%			
APP/DEPART	11	/	8	0	/	0	6	/	13	11	/	7	0		
BEGIN PEAK HR		4:00 PM													
VOLUMES	0	1	4	0	0	0	1	3	0	0	2	4	15		3 0 0 0
APPROACH %	0%	20%	80%	0%	0%	0%	25%	75%	0%	0%	33%	67%			
PEAK HR FACTOR		0.417			0.000			0.333			0.500		0.625		
APP/DEPART	5	/	6	0	/	0	4	/	7	6	/	2	0		



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	I-15 NB Ramps	LOCATION #:	2
	EAST & WEST:	Indian Truck Trail	CONTROL:	SIGNAL

CLASS 5:
RV

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND I-15 NB Ramps			SOUTHBOUND I-15 NB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.3	0.3	1.3	X	X	X	2	2	X	X	2	1	

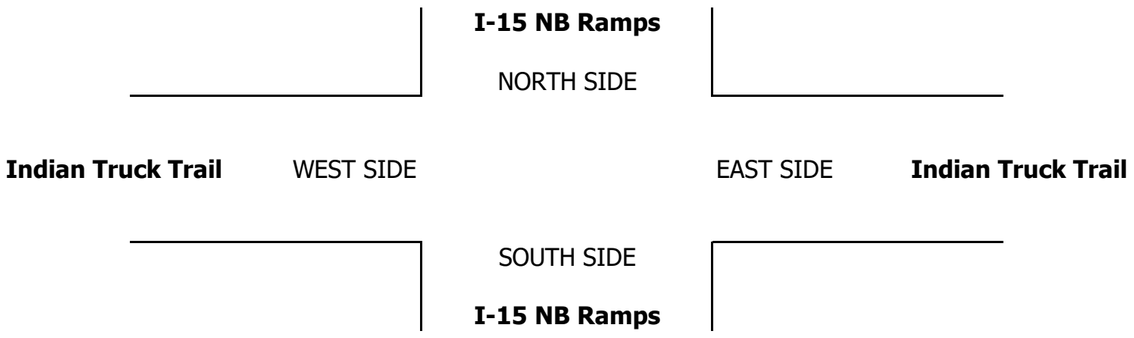
U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	

RTOR

NRR	SRR	ERR	WRR
0	X	X	0

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0									
	BEGIN PEAK HR	7:00 AM																					
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0						0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000									
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0									
	BEGIN PEAK HR	3:00 PM																					
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0						0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000									
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0									



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	I-15 NB Ramps	LOCATION #:	2
	EAST & WEST:	Indian Truck Trail	CONTROL:	SIGNAL

CLASS 6:	NOTES:
BUSES	

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

	NORTHBOUND I-15 NB Ramps			SOUTHBOUND I-15 NB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
LANES:	NL 1.3	NT 0.3	NR 1.3	SL X	ST X	SR X	EL 2	ET 2	ER X	WL X	WT 2	WR 1	TOTAL

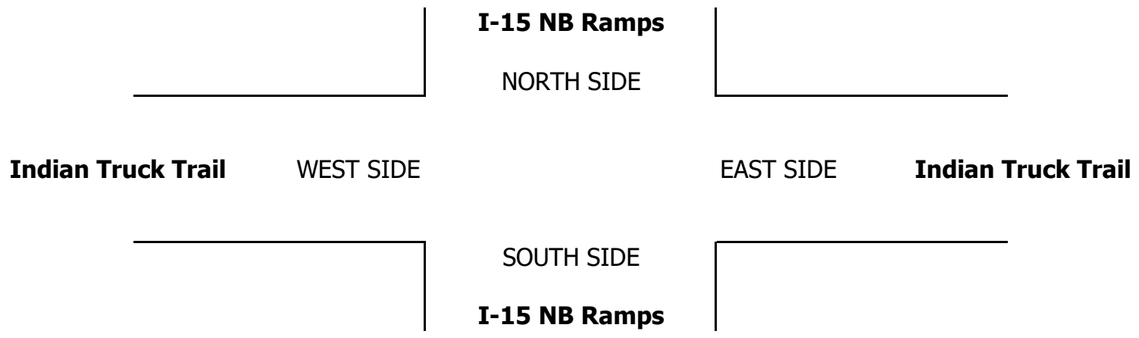
U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	

RTOR

NRR	SRR	ERR	WRR
0	X	X	0

		NB						SB						EB						WB						
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	U-TURNS	RTOR
AM	7:00 AM	0	1	0	0	0	0	0	1	0	0	0	0	2	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	3	0	0	0	0	0	3	0	0
	8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	1	0	0	0	0	4	1	0	0	0	0	6	0	0
	APPROACH %	0%	100%	0%	0%	0%	0%	80%	20%	0%	0%	0%	0%			
	APP/DEPART	1	/	5	0	/	0	5	/	1	0	/	0	0		
	BEGIN PEAK HR	7:00 AM														
	VOLUMES	0	1	0	0	0	0	3	1	0	0	0	0	5		0
	APPROACH %	0%	100%	0%	0%	0%	0%	75%	25%	0%	0%	0%	0%			
	PEAK HR FACTOR	0.250			0.000			0.333			0.000			0.417		
	APP/DEPART	1	/	4	0	/	0	4	/	1	0	/	0	0		
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	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	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%			
	APP/DEPART	0	/	1	0	/	0	1	/	0	0	/	0	0		
	BEGIN PEAK HR	4:00 PM														
	VOLUMES	0	0	0	0	0	0	1	0	0	0	0	0	1		0
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%			
	PEAK HR FACTOR	0.000			0.000			0.250			0.000			0.250		
	APP/DEPART	0	/	1	0	/	0	1	/	0	0	/	0	0		



INTERSECTION TURNING MOVEMENT COUNTS

T1218

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

DATE: Thu, Jan 23, 20

LOCATION: Corona South
NORTH & SOUTH: I-15 SB Ramps
EAST & WEST: Indian Truck Trail

PROJECT #: SC2499
LOCATION #: 3
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N
◄ W E ►
S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND I-15 SB Ramps			SOUTHBOUND I-15 SB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail				U-TURNS					RTOR			
	LANES:	NL X	NT X	NR X	SL 1	ST 0.5	SR 1.5	EL X	ET 3	ER 1	WL 1	WT 2	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL	NRR X	SRR 0	ERR 0	WRR X
AM	7:00 AM	0	0	0	14	1	41	0	67	42	12	44	0	221	0	0	0	0	0	0	20	16	0
	7:15 AM	0	0	0	19	1	44	0	58	30	12	32	0	196	0	0	0	0	0	0	15	9	0
	7:30 AM	0	0	0	25	0	71	0	47	40	17	41	0	241	0	0	0	0	0	0	34	14	0
	7:45 AM	0	0	0	23	3	47	0	64	33	13	48	0	231	0	0	0	0	0	0	25	8	0
	8:00 AM	0	0	0	20	1	41	0	81	48	14	70	0	275	0	0	0	0	0	0	24	22	0
	8:15 AM	0	0	0	14	1	46	0	67	34	16	25	0	203	0	0	0	0	0	0	27	11	0
	8:30 AM	0	0	0	14	1	34	0	71	41	19	44	0	224	0	0	0	0	0	0	17	20	0
	8:45 AM	0	0	0	13	0	49	0	59	24	17	30	0	192	0	0	0	0	0	0	22	8	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	142	8	373	0	514	292	120	334	0	1,783	0	0	0	0	0	0	184	108	0
	APPROACH %	0%	0%	0%	27%	2%	71%	0%	64%	36%	26%	74%	0%										
	APP/DEPART	0	/	0	523	/	420	806	/	656	454	/	707	0									
	BEGIN PEAK HR		7:30 AM																				
	VOLUMES	0	0	0	82	5	205	0	259	155	60	184	0	950						0	110	55	0
	APPROACH %	0%	0%	0%	28%	2%	70%	0%	63%	37%	25%	75%	0%										
	PEAK HR FACTOR		0.000			0.760			0.802			0.726		0.864									
	APP/DEPART	0	/	0	292	/	220	414	/	341	244	/	389	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	21	0	113	0	65	49	3	37	0	288	0	0	0	0	0	0	42	22	0
	4:15 PM	0	0	0	16	2	107	0	57	26	10	27	0	245	0	0	0	0	0	0	39	16	0
	4:30 PM	0	0	0	22	0	112	0	76	44	2	38	0	294	0	0	0	0	0	0	40	8	0
	4:45 PM	0	0	0	13	0	118	0	67	48	6	31	0	283	0	0	0	0	0	0	45	16	0
	5:00 PM	0	0	0	19	0	109	0	69	41	5	35	0	278	0	0	0	0	0	0	24	19	0
	5:15 PM	0	0	0	19	2	127	0	57	36	9	44	0	294	0	0	0	0	0	0	30	17	0
	5:30 PM	0	0	0	25	1	119	0	56	47	7	32	0	287	0	0	0	0	0	0	39	23	0
	5:45 PM	0	0	0	20	2	146	0	65	35	2	30	0	300	0	0	0	0	0	0	39	13	0
	VOLUMES	0	0	0	155	7	951	0	512	326	44	274	0	2,269	0	0	0	0	0	0	298	134	0
	APPROACH %	0%	0%	0%	14%	1%	85%	0%	61%	39%	14%	86%	0%										
	APP/DEPART	0	/	0	1,113	/	377	838	/	667	318	/	1,225	0									
	BEGIN PEAK HR		5:00 PM																				
	VOLUMES	0	0	0	83	5	501	0	247	159	23	141	0	1,159						0	132	72	0
	APPROACH %	0%	0%	0%	14%	1%	85%	0%	61%	39%	14%	86%	0%										
	PEAK HR FACTOR		0.000			0.876			0.923			0.774		0.966									
	APP/DEPART	0	/	0	589	/	187	406	/	330	164	/	642	0									

I-15 SB Ramps

NORTH SIDE

Indian Truck Trail WEST SIDE EAST SIDE **Indian Truck Trail**

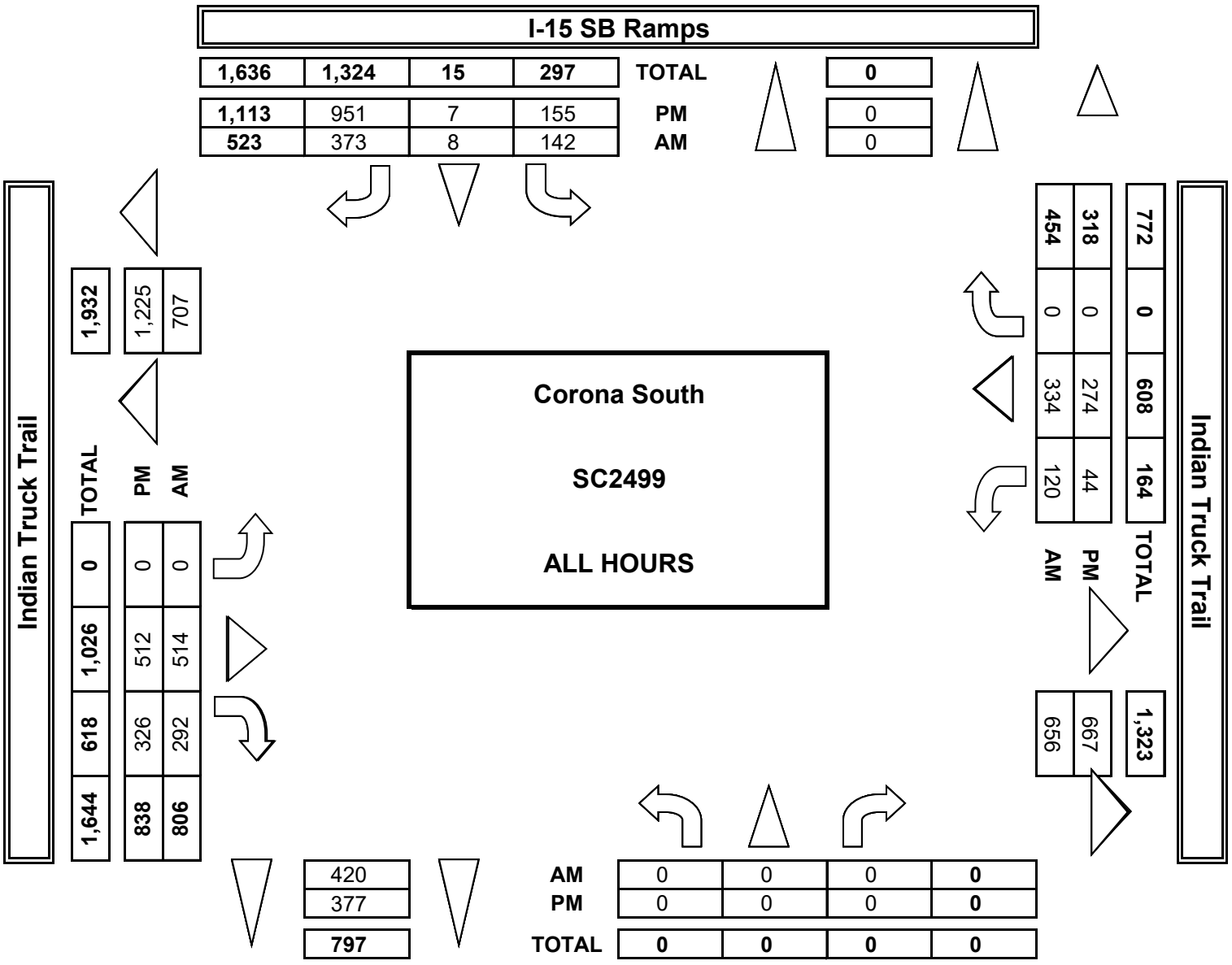
SOUTH SIDE

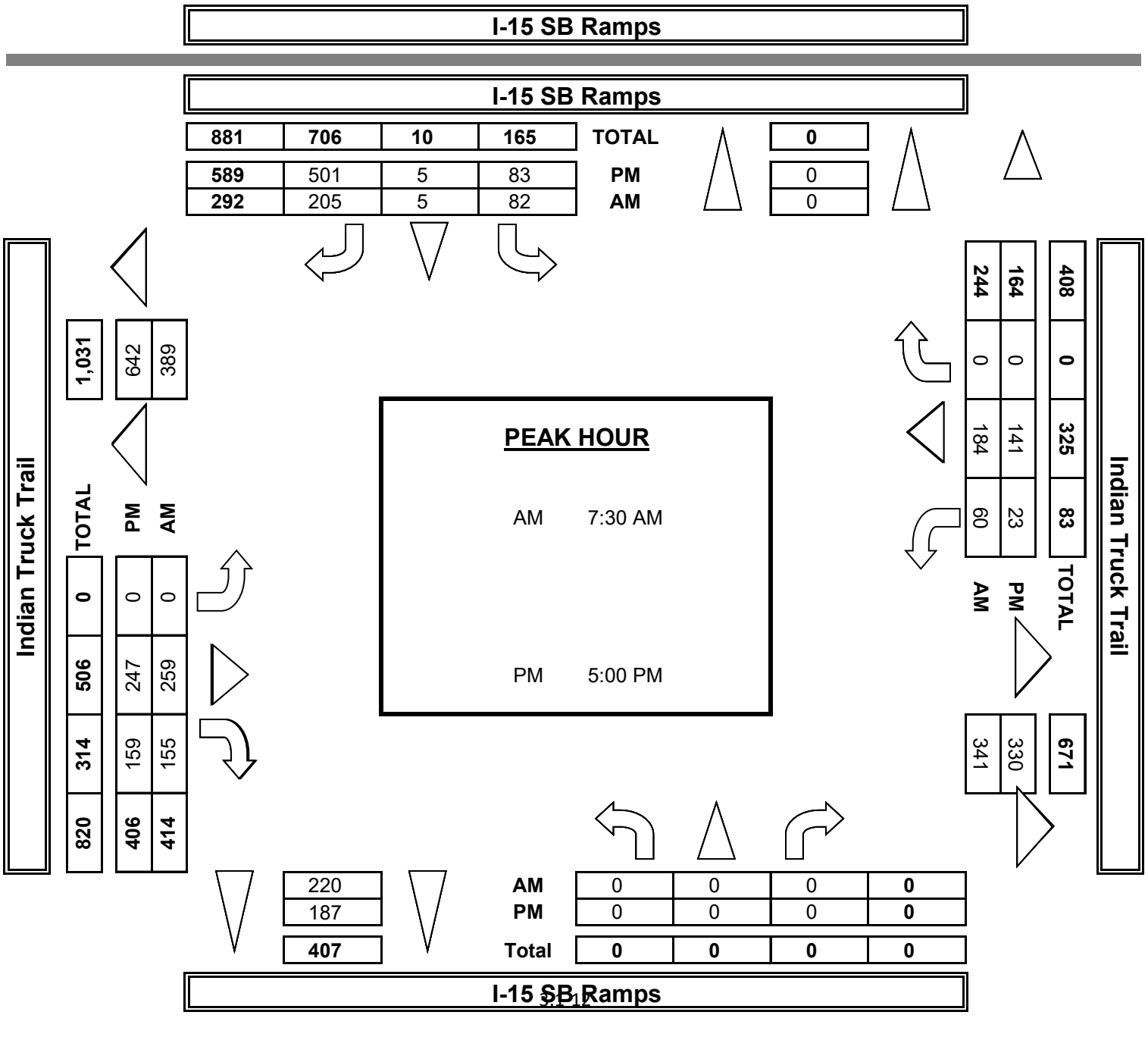
I-15 SB Ramps

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	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	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	I-15 SB Ramps	LOCATION #:	3
	EAST & WEST:	Indian Truck Trail	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND I-15 SB Ramps			SOUTHBOUND I-15 SB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
LANES:	NL X	NT X	NR X	SL 1	ST 0.5	SR 1.5	EL X	ET 3	ER 1	WL 1	WT 2	WR X	TOTAL

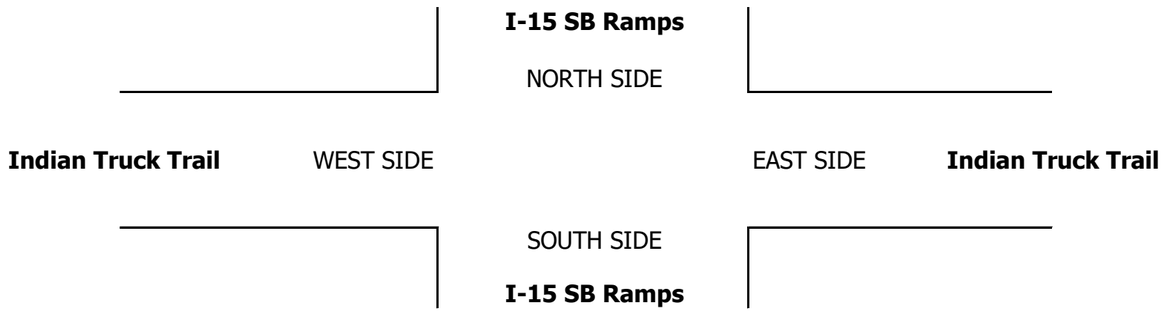
U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	

RTOR

NRR	SRR	ERR	WRR
X	0	0	X

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	0	0	0	13	1	39	0	60	40	4	39	0	196	0	0	0	0	0	0	19	14	0
	7:15 AM	0	0	0	15	0	40	0	58	27	3	30	0	173	0	0	0	0	0	0	14	8	0
	7:30 AM	0	0	0	21	0	63	0	44	40	6	34	0	208	0	0	0	0	0	0	29	14	0
	7:45 AM	0	0	0	18	1	42	0	60	29	5	42	0	197	0	0	0	0	0	0	21	8	0
	8:00 AM	0	0	0	15	0	38	0	76	44	3	64	0	240	0	0	0	0	0	0	21	20	0
	8:15 AM	0	0	0	10	0	45	0	64	34	6	21	0	180	0	0	0	0	0	0	27	11	0
	8:30 AM	0	0	0	10	0	30	0	67	38	3	33	0	181	0	0	0	0	0	0	15	19	0
	8:45 AM	0	0	0	10	0	43	0	55	22	6	25	0	161	0	0	0	0	0	0	21	8	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	112	2	340	0	484	274	36	288	0	1,536	0	0	0	0	0	0	167	102	0
	APPROACH %	0%	0%	0%	25%	0%	75%	0%	64%	36%	11%	89%	0%										
	APP/DEPART	0	/	0	454	/	312	758	/	596	324	/	628	0									
	BEGIN PEAK HR		7:30 AM																				
	VOLUMES	0	0	0	64	1	188	0	244	147	20	161	0	825						0	98	53	0
	APPROACH %	0%	0%	0%	25%	0%	74%	0%	62%	38%	11%	89%	0%										
	PEAK HR FACTOR		0.000			0.753			0.815			0.675		0.859									
	APP/DEPART	0	/	0	253	/	168	391	/	308	181	/	349	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	18	0	106	0	61	49	1	33	0	268	0	0	0	0	0	0	40	22	0
	4:15 PM	0	0	0	15	2	103	0	54	26	7	25	0	232	0	0	0	0	0	0	37	16	0
	4:30 PM	0	0	0	19	0	107	0	73	41	2	37	0	279	0	0	0	0	0	0	39	7	0
	4:45 PM	0	0	0	10	0	118	0	63	45	5	30	0	271	0	0	0	0	0	0	45	15	0
	5:00 PM	0	0	0	18	0	109	0	67	39	5	34	0	272	0	0	0	0	0	0	24	18	0
	5:15 PM	0	0	0	18	1	126	0	55	35	7	43	0	285	0	0	0	0	0	0	30	16	0
	5:30 PM	0	0	0	22	1	116	0	56	45	6	30	0	276	0	0	0	0	0	0	38	22	0
	5:45 PM	0	0	0	18	1	139	0	61	35	1	29	0	284	0	0	0	0	0	0	36	13	0
	VOLUMES	0	0	0	138	5	924	0	490	315	34	261	0	2,167	0	0	0	0	0	0	289	129	0
	APPROACH %	0%	0%	0%	13%	0%	87%	0%	61%	39%	12%	88%	0%										
	APP/DEPART	0	/	0	1,067	/	354	805	/	628	295	/	1,185	0									
	BEGIN PEAK HR		5:00 PM																				
	VOLUMES	0	0	0	76	3	490	0	239	154	19	136	0	1,117						0	128	69	0
	APPROACH %	0%	0%	0%	13%	1%	86%	0%	61%	39%	12%	88%	0%										
	PEAK HR FACTOR		0.000			0.900			0.927			0.775		0.980									
	APP/DEPART	0	/	0	569	/	176	393	/	315	155	/	626	0									



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	I-15 SB Ramps	LOCATION #:	3
	EAST & WEST:	Indian Truck Trail	CONTROL:	SIGNAL

CLASS 2:	NOTES:
2-AXLE WORK VEHICLES/ TRUCKS	

AM / PM / MD / OTHER / OTHER

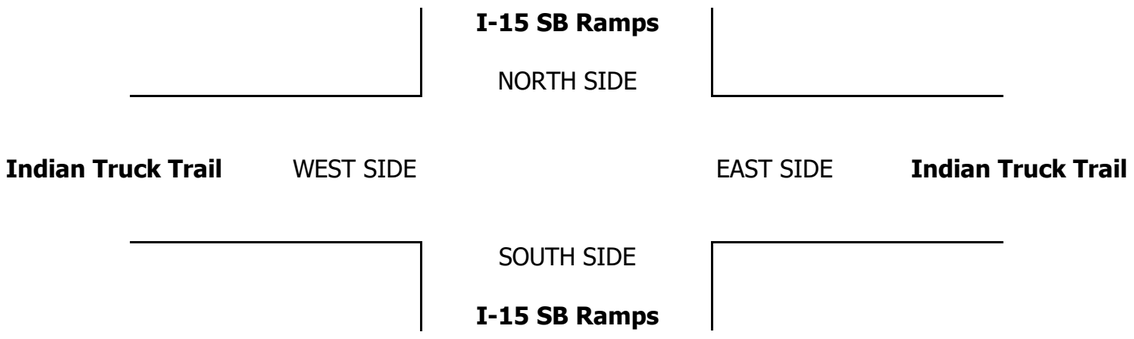
▲ N ◄ W E ► S ▼

	NORTHBOUND I-15 SB Ramps			SOUTHBOUND I-15 SB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	X	X	1	0.5	1.5	X	3	1	1	2	X	

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

RTOR			
NRR	SRR	ERR	WRR
X	0	0	X

		NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	0	0	0	0	0	0	1	1	0
	7:15 AM	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	3	0	0
	7:45 AM	0	0	0	0	0	0	2	0	0
	8:00 AM	0	0	0	0	0	0	2	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	2	0	0
	8:45 AM	0	0	0	0	0	0	1	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	11	1	0
	APPROACH %									
	APP/DEPART									
	BEGIN PEAK HR									
	VOLUMES						0	6	0	0
	APPROACH %									
	PEAK HR FACTOR									
	APP/DEPART									
PM	03:00 PM	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	2	0	0
	4:15 PM	0	0	0	0	0	0	2	0	0
	4:30 PM	0	0	0	0	0	0	1	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	1	0
	5:15 PM	0	0	0	0	0	0	0	1	0
	5:30 PM	0	0	0	0	0	0	1	1	0
	5:45 PM	0	0	0	0	0	0	3	0	0
	VOLUMES	0	0	0	0	0	0	9	3	0
	APPROACH %									
	APP/DEPART									
	BEGIN PEAK HR									
	VOLUMES						0	5	0	0
	APPROACH %									
	PEAK HR FACTOR									
	APP/DEPART									



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	I-15 SB Ramps	LOCATION #:	3
	EAST & WEST:	Indian Truck Trail	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

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

	NORTHBOUND I-15 SB Ramps			SOUTHBOUND I-15 SB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
LANES:	NL X	NT X	NR X	SL 1	ST 0.5	SR 1.5	EL X	ET 3	ER 1	WL 1	WT 2	WR X	TOTAL

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	

RTOR

NRR	SRR	ERR	WRR
X	0	0	X

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	1	1	0	0	0	1	1	0	4	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	1	0	1	0	0	0	1	3	0	6	0	0	0	0	0	0	1	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	1	0	2	0	3	0	0	0	0	0	0	0	1	0
	8:15 AM	0	0	0	2	0	0	0	0	0	0	2	0	4	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	1	0	0	0	0	0	1	3	0	5	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	1	0	1	2	0	4	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	4	1	2	0	1	1	4	17	0	30	0	0	0	0	0	0	1	1	0
	APPROACH %	0%	0%	0%	57%	14%	29%	0%	50%	50%	19%	81%	0%										
	APP/DEPART	0	/	0	7	/	6	2	/	5	21	/	19	0									
	BEGIN PEAK HR		7:30 AM																				
	VOLUMES	0	0	0	3	0	1	0	0	1	1	10	0	16						0	1	1	0
	APPROACH %	0%	0%	0%	75%	0%	25%	0%	0%	100%	9%	91%	0%										
	PEAK HR FACTOR		0.000			0.500			0.250			0.688		0.667									
	APP/DEPART	0	/	0	4	/	2	1	/	3	11	/	11	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	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	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	1	0	0	0	2	0	0	1	0	4	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	100%	0%										
	APP/DEPART	0	/	0	1	/	0	2	/	3	1	/	1	0									
	BEGIN PEAK HR		4:30 PM																				
	VOLUMES	0	0	0	1	0	0	0	2	0	0	0	0	3						0	0	0	0
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%										
	PEAK HR FACTOR		0.000			0.250			0.500			0.000		0.750									
	APP/DEPART	0	/	0	1	/	0	2	/	3	0	/	0	0									

I-15 SB Ramps

NORTH SIDE

Indian Truck Trail WEST SIDE EAST SIDE **Indian Truck Trail**

SOUTH SIDE

I-15 SB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	I-15 SB Ramps	LOCATION #:	3
	EAST & WEST:	Indian Truck Trail	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND I-15 SB Ramps			SOUTHBOUND I-15 SB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	X	X	1	0.5	1.5	X	3	1	1	2	X	
AM 7:00 AM	0	0	0	0	0	0	0	2	1	6	0	0	9
7:15 AM	0	0	0	1	0	1	0	0	2	8	0	0	12
7:30 AM	0	0	0	0	0	1	0	1	0	10	0	0	12
7:45 AM	0	0	0	2	0	1	0	0	2	5	0	0	10
8:00 AM	0	0	0	2	0	1	0	0	2	9	0	0	14
8:15 AM	0	0	0	1	0	0	0	0	0	10	0	0	11
8:30 AM	0	0	0	0	1	1	0	1	1	14	2	0	20
8:45 AM	0	0	0	0	0	2	0	1	0	8	1	0	12
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	6	1	7	0	5	8	70	3	0	100
APPROACH %	0%	0%	0%	43%	7%	50%	0%	38%	62%	96%	4%	0%	
APP/DEPART	0	/	0	14	/	79	13	/	11	73	/	10	0
BEGIN PEAK HR		8:00 AM											
VOLUMES	0	0	0	3	1	4	0	2	3	41	3	0	57
APPROACH %	0%	0%	0%	38%	13%	50%	0%	40%	60%	93%	7%	0%	
PEAK HR FACTOR		0.000			0.667			0.625			0.688		0.713
APP/DEPART	0	/	0	8	/	45	5	/	5	44	/	7	0
PM 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	3	0	2	0	0	0	0	0	0	5
4:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	2	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	1	0	0	1	0	1	1	0	4
5:30 PM	0	0	0	1	0	0	0	0	0	1	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	1	1	0	2
VOLUMES	0	0	0	4	1	2	0	2	3	5	2	0	19
APPROACH %	0%	0%	0%	57%	14%	29%	0%	40%	60%	71%	29%	0%	
APP/DEPART	0	/	0	7	/	9	5	/	6	7	/	4	0
BEGIN PEAK HR		4:00 PM											
VOLUMES	0	0	0	3	0	2	0	1	3	2	0	0	11
APPROACH %	0%	0%	0%	60%	0%	40%	0%	25%	75%	100%	0%	0%	
PEAK HR FACTOR		0.000			0.250			0.500			0.250		0.550
APP/DEPART	0	/	0	5	/	5	4	/	4	2	/	2	0

	U-TURNS					RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
LANES:	0	0	0	0		X	0	0	X
7:00 AM	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	1	0	0
7:45 AM	0	0	0	0	0	0	1	0	0
8:00 AM	0	0	0	0	0	0	1	1	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0
8:45 AM	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	3	4	0
PEAK HR VOLUMES						0	1	2	0
03:00 PM	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	1	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	2	0
PEAK HR VOLUMES						0	0	2	0

I-15 SB Ramps

NORTH SIDE

Indian Truck Trail WEST SIDE EAST SIDE **Indian Truck Trail**

SOUTH SIDE

I-15 SB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	I-15 SB Ramps	LOCATION #:	3
	EAST & WEST:	Indian Truck Trail	CONTROL:	SIGNAL

CLASS 5:	NOTES:
RV	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND I-15 SB Ramps			SOUTHBOUND I-15 SB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	X	X	1	0.5	1.5	X	3	1	1	2	X	

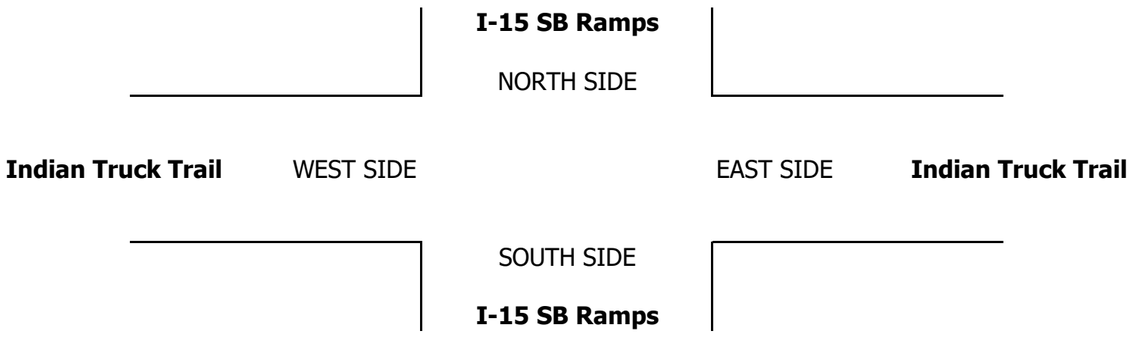
U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	

RTOR

NRR	SRR	ERR	WRR
X	0	0	X

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0									
	BEGIN PEAK HR	7:00 AM																					
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0						0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000									
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%										
	APP/DEPART	0	/	0	2	/	0	0	/	0	0	/	2	0									
	BEGIN PEAK HR	3:45 PM																					
	VOLUMES	0	0	0	0	0	2	0	0	0	0	0	0	2						0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR	0.000			0.250			0.000			0.000			0.250									
	APP/DEPART	0	/	0	2	/	0	0	/	0	0	/	2	0									



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	I-15 SB Ramps	LOCATION #:	3
	EAST & WEST:	Indian Truck Trail	CONTROL:	SIGNAL

CLASS 6:	NOTES:	AM / PM / MD / OTHER / OTHER	▲ N / ◄ W / E ► / S ▼
BUSES			

		NORTHBOUND I-15 SB Ramps			SOUTHBOUND I-15 SB Ramps			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	X	X	1	0.5	1.5	X	3	1	1	2	X	
AM	7:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
	7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
	7:45 AM	0	0	0	0	0	1	0	3	0	0	0	0	4
	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
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	1	0	3	0	4	0	0	0	0	8
	APPROACH %	0%	0%	0%	25%	0%	75%	0%	100%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	4	/	0	4	/	5	0	/	3	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	0	0	0	1	0	3	0	3	0	0	0	0	7
	APPROACH %	0%	0%	0%	25%	0%	75%	0%	100%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			1.000			0.250			0.000		0.438
	APP/DEPART	0	/	0	4	/	0	3	/	4	0	/	3	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	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
	VOLUMES	0	0	0	0	0	0	0	1	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	1	/	1	0	/	0	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	0	0	0	0	1	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.250			0.000		0.250
	APP/DEPART	0	/	0	0	/	0	1	/	1	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
	0	0	0	0	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
03:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
	X	0	0	X
7:00 AM	0	0	0	0
7:15 AM	0	1	0	0
7:30 AM	0	0	0	0
7:45 AM	0	1	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
9:00 AM	0	0	0	0
9:15 AM	0	0	0	0
9:30 AM	0	0	0	0
9:45 AM	0	0	0	0
VOLUMES	0	2	0	0
PEAK HR VOLUMES	0	2	0	0
03:00 PM	0	0	0	0
3:15 PM	0	0	0	0
3:30 PM	0	0	0	0
3:45 PM	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

I-15 SB Ramps

NORTH SIDE

Indian Truck Trail WEST SIDE

EAST SIDE **Indian Truck Trail**

SOUTH SIDE

I-15 SB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

T816

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

DATE: Thu, Jan 23, 20

LOCATION: Corona South
NORTH & SOUTH: De Palma
EAST & WEST: Indian Truck Trail

PROJECT #: SC2499
LOCATION #: 4
CONTROL: SIGNAL

NOTES:

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

☑ Add U-Turns to Left Turns

		NORTHBOUND De Palma			SOUTHBOUND De Palma			EASTBOUND Indian Truck Trail			WESTBOUND Indian Truck Trail			
	LANES:	NL 1	NT 2	NR 1	SL 2	ST 2	SR 0	EL 0	ET 1	ER 0	WL 1.3	WT 0.3	WR 1.3	TOTAL
AM	7:00 AM	0	49	82	22	10	0	0	0	0	57	0	24	244
	7:15 AM	0	43	65	22	9	0	0	0	0	47	0	29	215
	7:30 AM	0	53	54	40	18	0	0	0	0	65	0	35	265
	7:45 AM	0	64	66	24	30	0	0	0	0	56	0	40	280
	8:00 AM	0	55	81	51	50	0	0	0	0	65	0	55	357
	8:15 AM	0	41	70	29	31	0	0	0	0	54	0	19	244
	8:30 AM	0	31	97	23	23	0	0	0	0	49	0	26	249
	8:45 AM	0	26	62	20	28	0	0	0	0	58	0	25	219
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	362	577	231	199	0	0	0	0	451	0	253	2,073
	APPROACH %	0%	39%	61%	54%	46%	0%	0%	0%	0%	64%	0%	36%	
	APP/DEPART	939	/	615	430	/	650	0	/	808	704	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	213	271	144	129	0	0	0	0	240	0	149	1,146
	APPROACH %	0%	44%	56%	53%	47%	0%	0%	0%	0%	62%	0%	38%	
	PEAK HR FACTOR		0.890			0.676			0.000			0.810		0.803
	APP/DEPART	484	/	362	273	/	369	0	/	415	389	/	0	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	35	79	36	41	0	0	0	0	125	0	31	347
	4:15 PM	0	29	52	28	30	0	0	0	0	102	0	22	263
	4:30 PM	0	31	86	42	55	0	0	0	0	117	0	30	361
	4:45 PM	0	26	73	42	51	0	0	0	0	122	0	31	345
	5:00 PM	0	40	72	31	38	0	0	0	0	129	0	25	335
	5:15 PM	0	46	66	33	39	0	0	0	0	119	0	34	337
	5:30 PM	0	34	63	40	31	0	0	0	0	131	0	33	332
	5:45 PM	0	35	62	36	37	0	0	0	0	140	0	32	342
	VOLUMES	0	276	553	288	322	0	0	0	0	985	0	238	2,662
	APPROACH %	0%	33%	67%	47%	53%	0%	0%	0%	0%	81%	0%	19%	
	APP/DEPART	829	/	517	610	/	1,306	0	/	839	1,223	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	143	297	148	183	0	0	0	0	487	0	120	1,378
	APPROACH %	0%	33%	68%	45%	55%	0%	0%	0%	0%	80%	0%	20%	
	PEAK HR FACTOR		0.940			0.853			0.000			0.985		0.954
	APP/DEPART	440	/	264	331	/	670	0	/	444	607	/	0	0

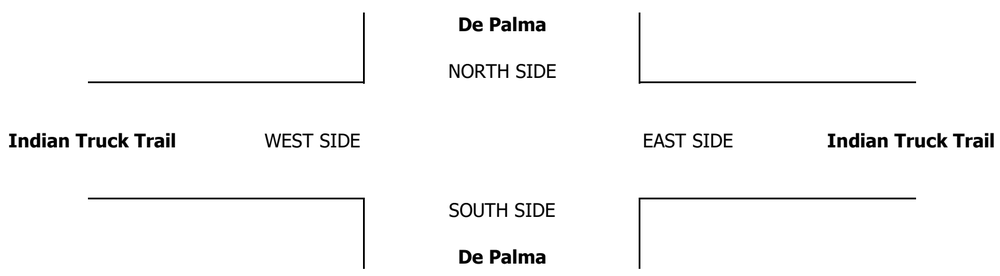
U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	1	2
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	3	0	1	4

RTOR

NRR	SRR	ERR	WRR
0	X	X	0
32	0	0	14
22	0	0	12
25	0	0	21
25	0	0	21
33	0	0	26
28	0	0	6
48	0	0	11
42	0	0	13
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
35	0	0	15
20	0	0	9
35	0	0	14
26	0	0	18
31	0	0	9
29	0	0	14
27	0	0	11
40	0	0	13
243	0	0	103

255	0	0	124
111	0	0	74
121	0	0	55



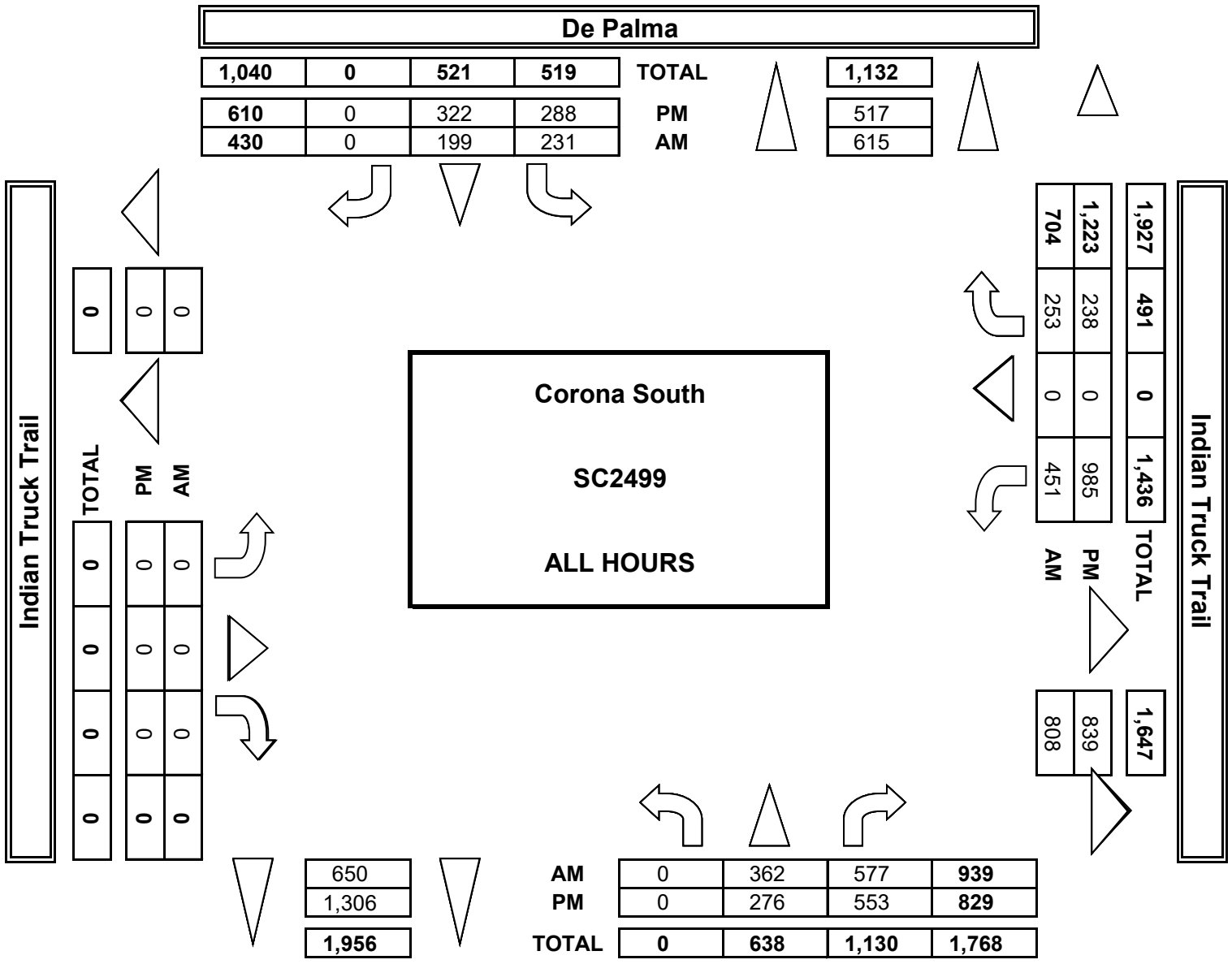
		ALL PED AND BIKE				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	1	1	0	2
	8:30 AM	0	0	0	0	0
	8:45 AM	1	1	1	0	3
	9:00 AM	0	0	0	0	0
	9:15 AM	0	0	0	0	0
	9:30 AM	0	0	0	0	0
	9:45 AM	0	0	0	0	0
	TOTAL	1	2	2	0	5
PM	3:00 PM	0	0	0	0	0
	3:15 PM	0	0	0	0	0
	3:30 PM	0	0	0	0	0
	3:45 PM	0	0	0	0	0
	4:00 PM	0	0	0	0	0
	4:15 PM	0	3	2	0	5
	4:30 PM	0	3	0	0	3
	4:45 PM	0	1	2	0	3
	5:00 PM	0	2	2	0	4
	5:15 PM	0	1	0	0	1
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	10	6	0	16

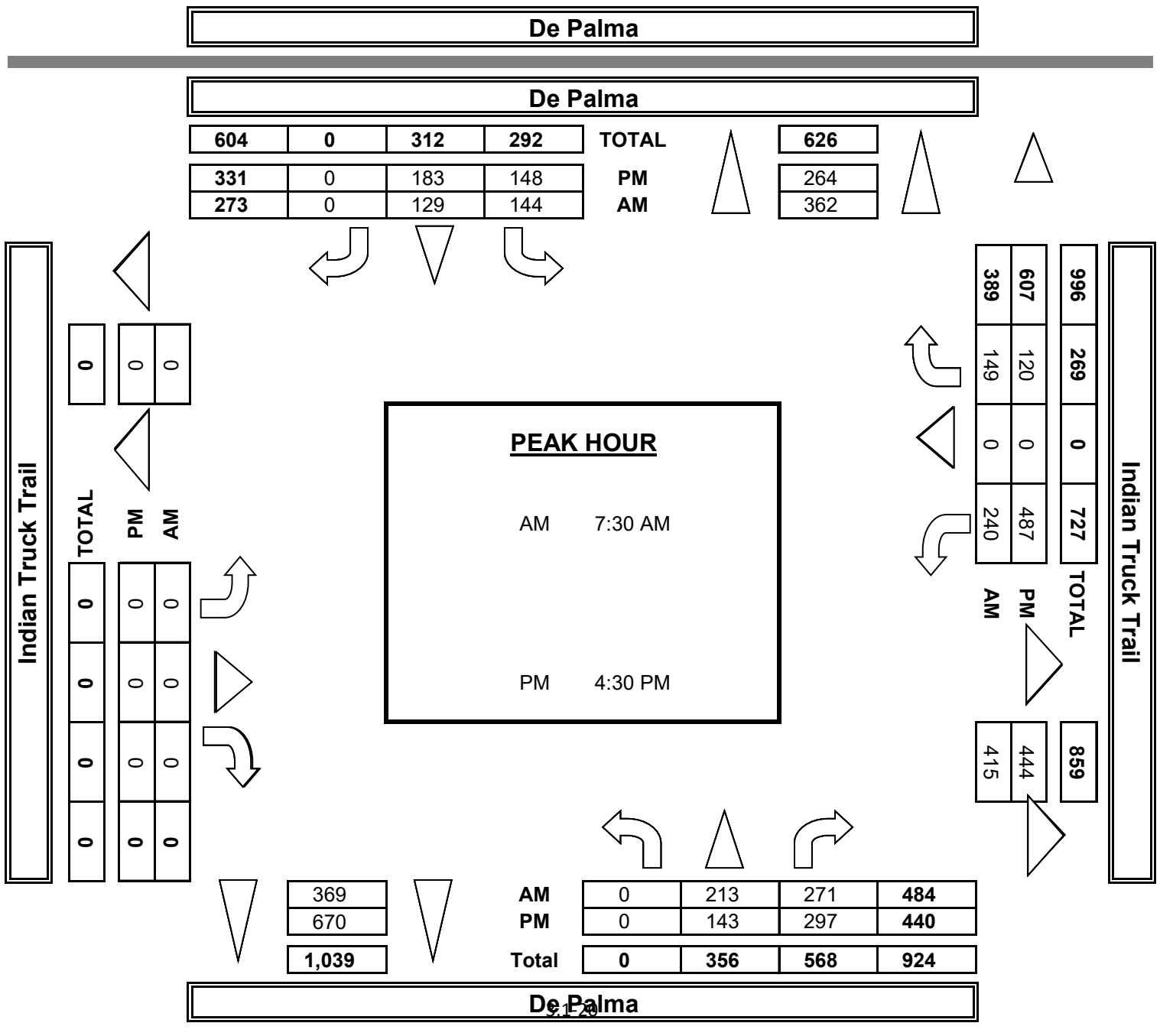
		PEDESTRIAN CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	1	1	0	2
	8:30 AM	0	0	0	0	0
	8:45 AM	0	1	1	0	2
	9:00 AM	0	0	0	0	0
	9:15 AM	0	0	0	0	0
	9:30 AM	0	0	0	0	0
	9:45 AM	0	0	0	0	0
	TOTAL	0	2	2	0	4
PM	3:00 PM	0	0	0	0	0
	3:15 PM	0	0	0	0	0
	3:30 PM	0	0	0	0	0
	3:45 PM	0	0	0	0	0
	4:00 PM	0	0	0	0	0
	4:15 PM	0	2	2	0	4
	4:30 PM	0	2	0	0	2
	4:45 PM	0	1	1	0	2
	5:00 PM	0	2	2	0	4
	5:15 PM	0	1	0	0	1
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	8	5	0	13

		BICYCLE CROSSINGS				
		ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	1	0	0	0	1
	9:00 AM	0	0	0	0	0
	9:15 AM	0	0	0	0	0
	9:30 AM	0	0	0	0	0
	9:45 AM	0	0	0	0	0
	TOTAL	1	0	0	0	1
PM	3:00 PM	0	0	0	0	0
	3:15 PM	0	0	0	0	0
	3:30 PM	0	0	0	0	0
	3:45 PM	0	0	0	0	0
	4:00 PM	0	0	0	0	0
	4:15 PM	0	1	0	0	1
	4:30 PM	0	1	0	0	1
	4:45 PM	0	0	1	0	1
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	2	1	0	3

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:	LOCATION:	Corona South	PROJECT #:	SC2499
Thu, Jan 23, 20	NORTH & SOUTH:	Horsethief	LOCATION #:	6
	EAST & WEST:	Temescal Canyon	CONTROL:	STOP N

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

	NORTHBOUND Horsethief			SOUTHBOUND Horsethief			EASTBOUND Temescal Canyon			WESTBOUND Temescal Canyon			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	X	0	X	X	X	X	1	0	0	1	X	
AM 7:00 AM	31	0	34	0	0	0	0	6	2	17	46	0	136
7:15 AM	18	0	24	0	0	0	0	8	2	20	36	0	108
7:30 AM	20	0	17	0	0	0	0	13	4	32	50	0	136
7:45 AM	17	0	20	0	0	0	0	16	1	13	39	0	106
8:00 AM	20	0	15	0	0	0	0	12	1	15	33	0	96
8:15 AM	20	0	20	0	0	0	0	8	1	12	32	0	93
8:30 AM	17	0	15	0	0	0	0	2	1	14	17	0	66
8:45 AM	14	0	21	0	0	0	0	10	2	8	17	0	72
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	157	0	166	0	0	0	0	75	14	131	270	0	813
APPROACH %	49%	0%	51%	0%	0%	0%	0%	84%	16%	33%	67%	0%	
APP/DEPART	323	/	0	0	/	145	89	/	241	401	/	427	0
BEGIN PEAK HR		7:00 AM											
VOLUMES	86	0	95	0	0	0	0	43	9	82	171	0	486
APPROACH %	48%	0%	52%	0%	0%	0%	0%	83%	17%	32%	68%	0%	
PEAK HR FACTOR		0.696			0.000			0.765			0.771		0.893
APP/DEPART	181	/	0	0	/	91	52	/	138	253	/	257	0
PM 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	22	0	15	0	0	0	0	33	12	20	11	0	113
4:15 PM	14	0	14	0	0	0	0	21	8	27	14	0	98
4:30 PM	13	0	27	0	0	0	0	27	8	18	15	0	108
4:45 PM	15	0	21	0	0	0	0	32	11	19	8	0	106
5:00 PM	18	0	17	0	0	0	0	24	8	18	20	0	105
5:15 PM	13	0	11	0	0	0	0	18	12	27	10	0	91
5:30 PM	15	0	22	0	0	0	0	18	10	24	14	0	103
5:45 PM	12	0	12	0	0	0	0	16	14	28	10	0	92
VOLUMES	122	0	139	0	0	0	0	189	83	181	102	0	816
APPROACH %	47%	0%	53%	0%	0%	0%	0%	69%	31%	64%	36%	0%	
APP/DEPART	261	/	0	0	/	264	272	/	328	283	/	224	0
BEGIN PEAK HR		4:00 PM											
VOLUMES	64	0	77	0	0	0	0	113	39	84	48	0	425
APPROACH %	45%	0%	55%	0%	0%	0%	0%	74%	26%	64%	36%	0%	
PEAK HR FACTOR		0.881			0.000			0.844			0.805		0.940
APP/DEPART	141	/	0	0	/	123	152	/	190	132	/	112	0

	U-TURNS					RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
LANES:	0	0	0	0		X	X	X	X
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
PEAK HR VOLUMES						0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
PEAK HR VOLUMES						0	0	0	0

Horsethief

NORTH SIDE

Temescal Canyon WEST SIDE EAST SIDE **Temescal Canyon**

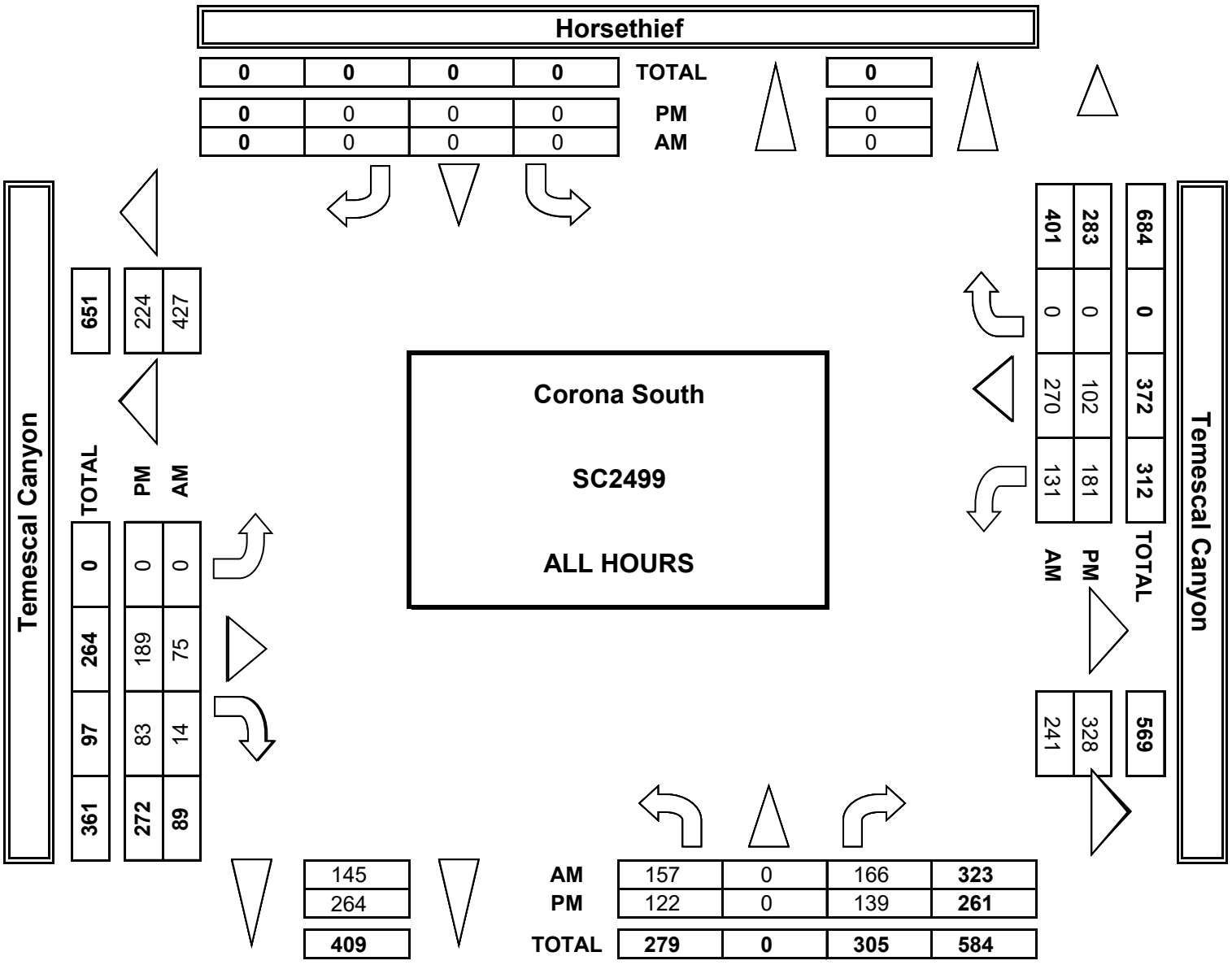
SOUTH SIDE

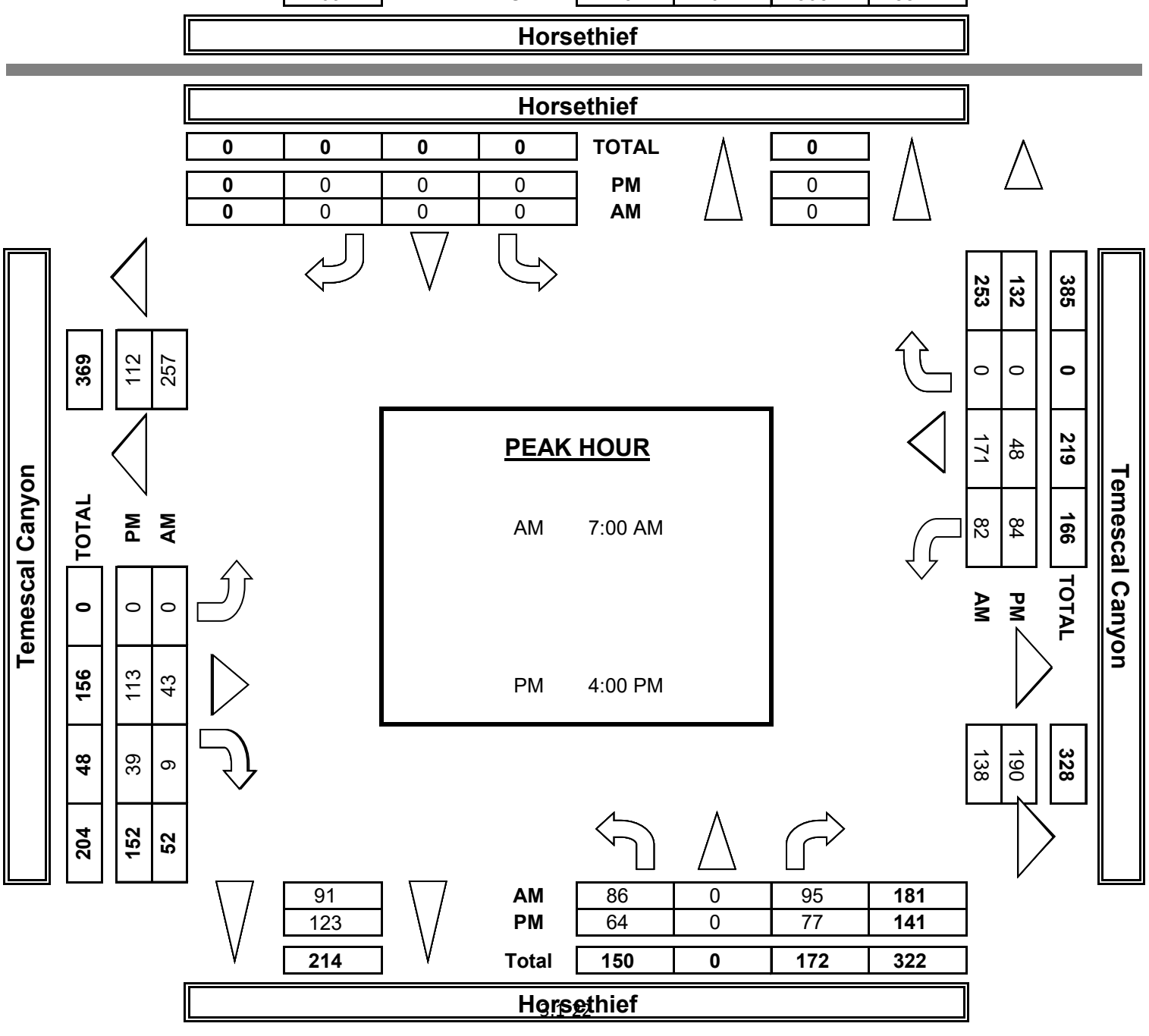
Horsethief

	ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	1	2	0	0	0	0	0	1	0	0	1	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	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	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	0	0	1	2	0	0	0	0	0	1	0	0	1	2

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Tue, Jan 28, 20

LOCATION: Corona South
NORTH & SOUTH: Horsethief Canyon
EAST & WEST: De Palma

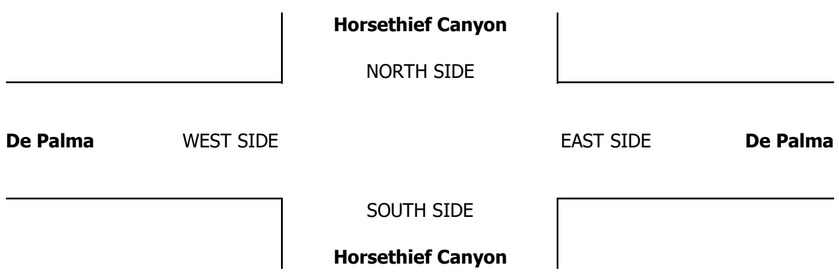
PROJECT #: SC2499
LOCATION #: 7
CONTROL: STOP ALL

NOTES:

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

☐ Add U-Turns to Left Turns

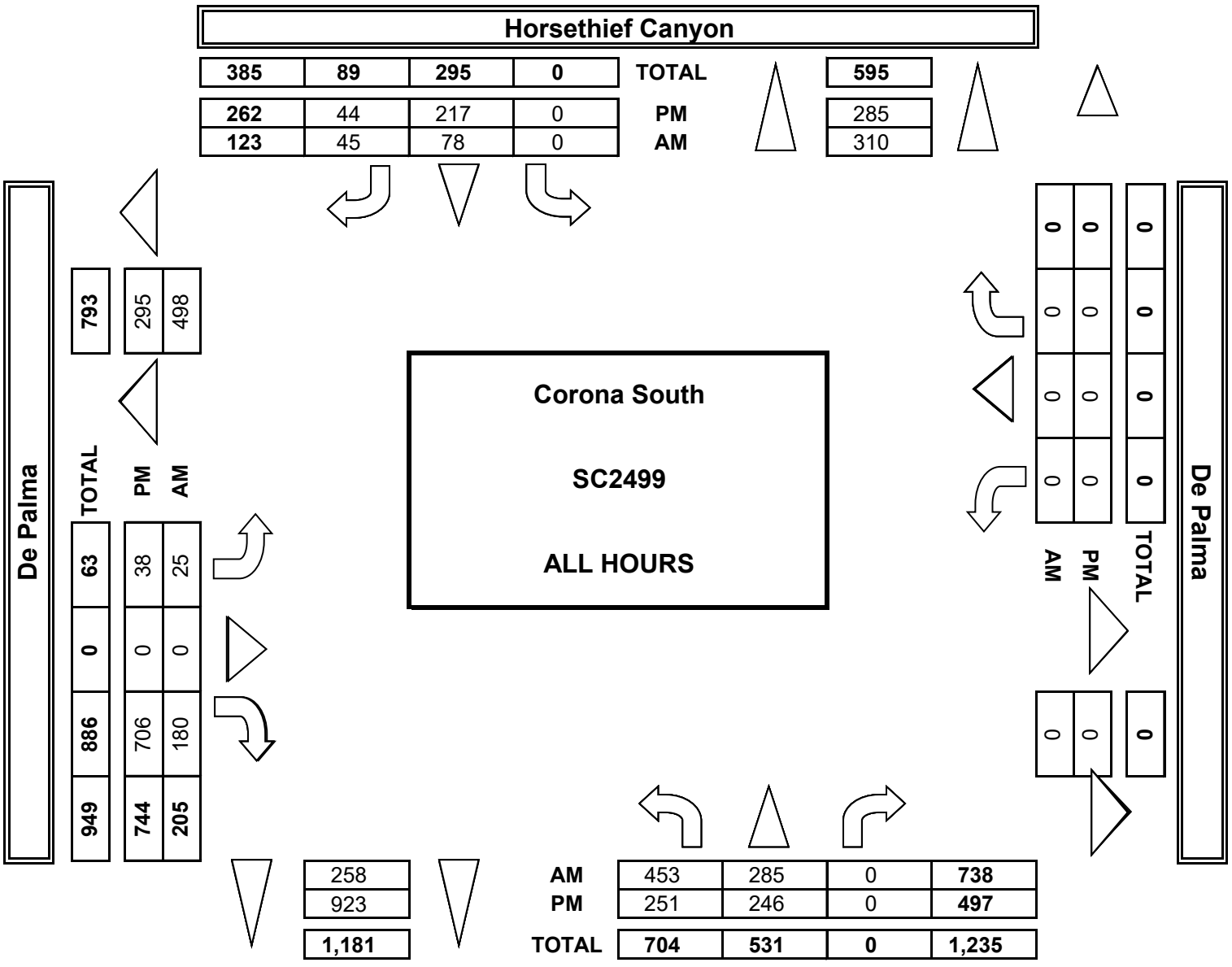
		NORTHBOUND Horsethief Canyon			SOUTHBOUND Horsethief Canyon			EASTBOUND De Palma			WESTBOUND De Palma				U-TURNS					RTOR			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL	NRR X	SRR X	ERR X	WRR X
AM	7:00 AM	64	41	0	0	8	4	1	0	12	0	0	0	130	0	0	0	0	0	0	0	0	0
	7:15 AM	57	29	0	0	12	5	2	0	19	0	0	0	124	0	0	0	0	0	0	0	0	0
	7:30 AM	57	39	0	0	15	7	1	0	23	0	0	0	142	0	0	0	0	0	0	0	0	0
	7:45 AM	87	41	0	0	9	11	6	0	26	0	0	0	180	0	0	0	0	0	0	0	0	0
	8:00 AM	52	47	0	0	12	5	4	0	30	0	0	0	150	0	0	0	0	0	0	0	0	0
	8:15 AM	48	28	0	0	5	2	4	0	20	0	0	0	107	0	0	0	0	0	0	0	0	0
	8:30 AM	44	38	0	0	9	8	4	0	21	0	0	0	124	0	0	0	0	0	0	0	0	0
	8:45 AM	44	22	0	0	8	3	3	0	29	0	0	0	109	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	453	285	0	0	78	45	25	0	180	0	0	0	1,066	0	0	0	0	0	0	0	0	0
	APPROACH %	61%	39%	0%	0%	63%	37%	12%	0%	88%	0%	0%	0%										
	APP/DEPART	738	/	310	123	/	258	205	/	0	0	/	498	0									
	BEGIN PEAK HR		7:15 AM																				
	VOLUMES	253	156	0	0	48	28	13	0	98	0	0	0	596						0	0	0	0
	APPROACH %	62%	38%	0%	0%	63%	37%	12%	0%	88%	0%	0%	0%										
	PEAK HR FACTOR		0.799			0.864			0.816			0.000		0.828									
	APP/DEPART	409	/	169	76	/	146	111	/	0	0	/	281	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	30	37	0	0	22	11	7	0	87	0	0	0	194	0	0	0	0	0	0	0	0	0
	4:15 PM	33	26	0	0	24	4	3	0	68	0	0	0	158	0	0	0	0	0	0	0	0	0
	4:30 PM	28	32	0	0	32	5	5	0	88	0	0	0	190	0	0	0	0	0	0	0	0	0
	4:45 PM	32	36	0	0	31	3	6	0	90	0	0	0	198	0	0	0	0	0	0	0	0	0
	5:00 PM	38	29	0	0	25	6	4	0	89	0	0	0	191	0	1	0	0	1	0	0	0	0
	5:15 PM	34	33	0	0	32	5	9	0	81	0	0	0	194	0	0	0	0	0	0	0	0	0
	5:30 PM	29	36	0	0	28	6	3	0	89	0	0	0	191	0	0	0	0	0	0	0	0	0
	5:45 PM	27	17	0	0	23	4	1	0	114	0	0	0	186	0	0	0	0	0	0	0	0	0
	VOLUMES	251	246	0	0	217	44	38	0	706	0	0	0	1,503	0	1	0	0	1	0	0	0	0
	APPROACH %	51%	49%	0%	0%	83%	17%	5%	0%	95%	0%	0%	0%										
	APP/DEPART	497	/	285	262	/	923	744	/	0	0	/	295	0									
	BEGIN PEAK HR		4:45 PM																				
	VOLUMES	133	134	0	0	116	20	22	0	349	0	0	0	775						0	0	0	0
	APPROACH %	50%	50%	0%	0%	85%	15%	6%	0%	94%	0%	0%	0%										
	PEAK HR FACTOR		0.982			0.926			0.966			0.000		0.979									
	APP/DEPART	267	/	157	137	/	465	371	/	0	0	/	153	0									

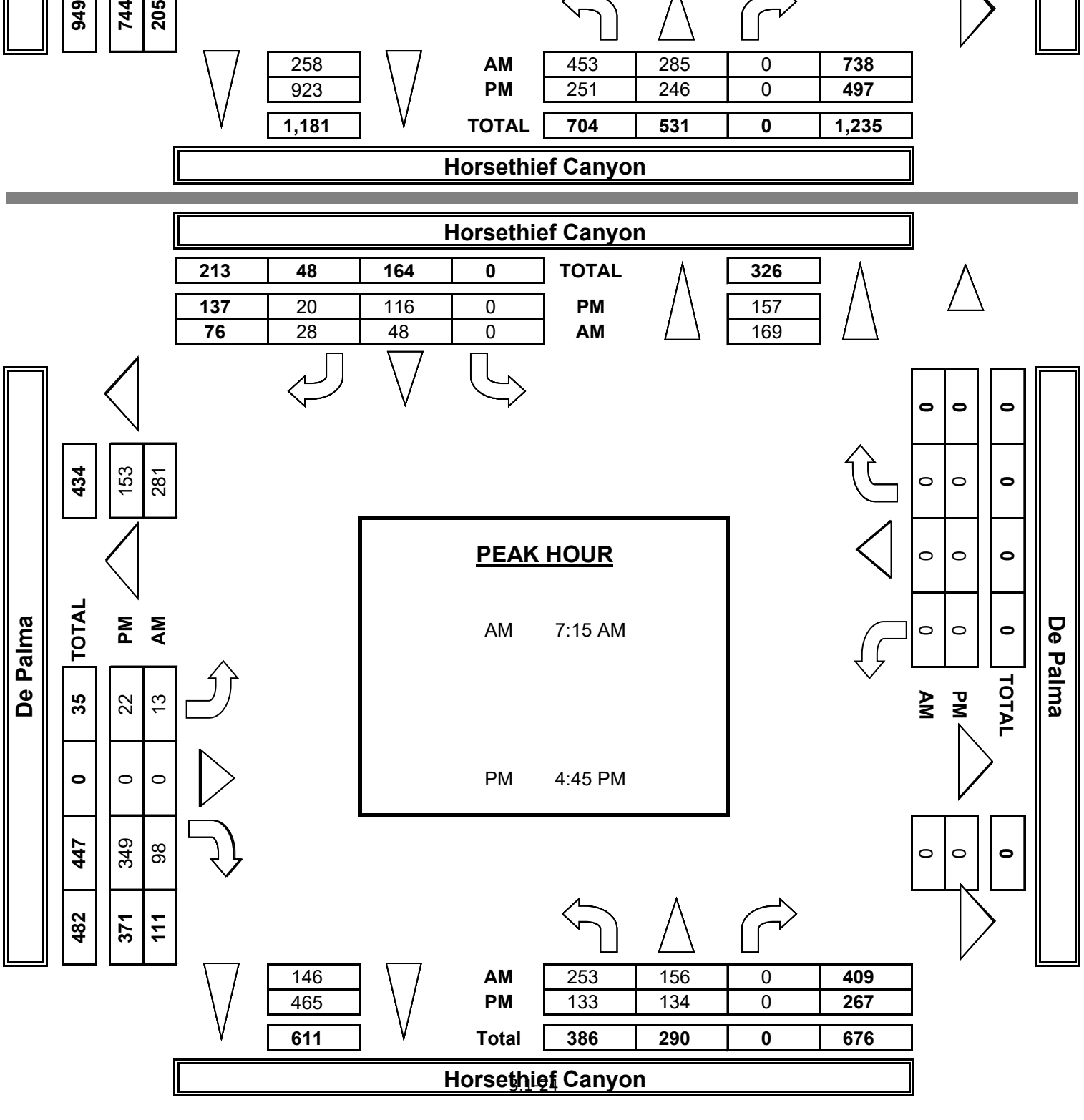


		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	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	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:	LOCATION:	S Corona	PROJECT #:	SC2560
Wed, Mar 18, 20	NORTH & SOUTH:	Bolo	LOCATION #:	8
	EAST & WEST:	Hostettler	CONTROL:	STOP N/S

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Bolo			SOUTHBOUND Bolo			EASTBOUND Hostettler			WESTBOUND Hostettler			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
AM	7:00 AM	0	0	0	0	0	0	0	17	0	0	0	0	17
	7:15 AM	0	0	0	0	0	0	0	15	0	0	7	0	22
	7:30 AM	0	0	0	0	0	0	0	26	0	0	3	0	29
	7:45 AM	0	0	0	0	0	0	0	18	0	1	7	0	26
	8:00 AM	0	0	0	0	0	0	0	14	0	0	1	0	15
	8:15 AM	0	0	0	0	0	0	0	22	0	0	7	0	29
	8:30 AM	0	0	0	0	0	1	0	15	0	0	9	0	25
	8:45 AM	0	0	0	0	0	0	0	20	0	0	11	1	32
	VOLUMES	0	0	0	0	0	1	0	147	0	1	45	1	195
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	2%	96%	2%	
	APP/DEPART	0	/	1	1	/	1	147	/	147	47	/	46	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	0	0	0	0	0	1	0	71	0	0	28	1	101
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	97%	3%	
	PEAK HR FACTOR		0.000			0.250			0.807			0.604		0.789
	APP/DEPART	0	/	1	1	/	0	71	/	71	29	/	29	0
PM	4:00 PM	0	0	1	0	0	0	0	10	0	0	14	0	25
	4:15 PM	0	0	1	0	0	0	0	11	0	0	13	0	25
	4:30 PM	1	0	0	0	0	1	1	15	0	2	24	0	44
	4:45 PM	0	0	0	0	0	0	1	12	0	1	20	1	35
	5:00 PM	0	0	0	0	0	0	0	11	0	0	30	0	41
	5:15 PM	0	0	1	0	0	0	0	21	0	1	30	0	53
	5:30 PM	0	0	0	0	0	0	0	13	0	0	35	0	48
	5:45 PM	0	0	0	1	0	0	0	12	0	0	30	1	44
	VOLUMES	1	0	3	1	0	1	2	105	0	4	196	2	315
	APPROACH %	25%	0%	75%	50%	0%	50%	2%	98%	0%	2%	97%	1%	
	APP/DEPART	4	/	4	2	/	4	107	/	109	202	/	198	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	1	1	0	0	0	57	0	1	125	1	186
	APPROACH %	0%	0%	100%	100%	0%	0%	0%	100%	0%	1%	98%	1%	
	PEAK HR FACTOR		0.250			0.250			0.679			0.907		0.877
	APP/DEPART	1	/	1	1	/	1	57	/	59	127	/	125	0

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

Bolo

NORTH SIDE

Hostettler WEST SIDE EAST SIDE **Hostettler**

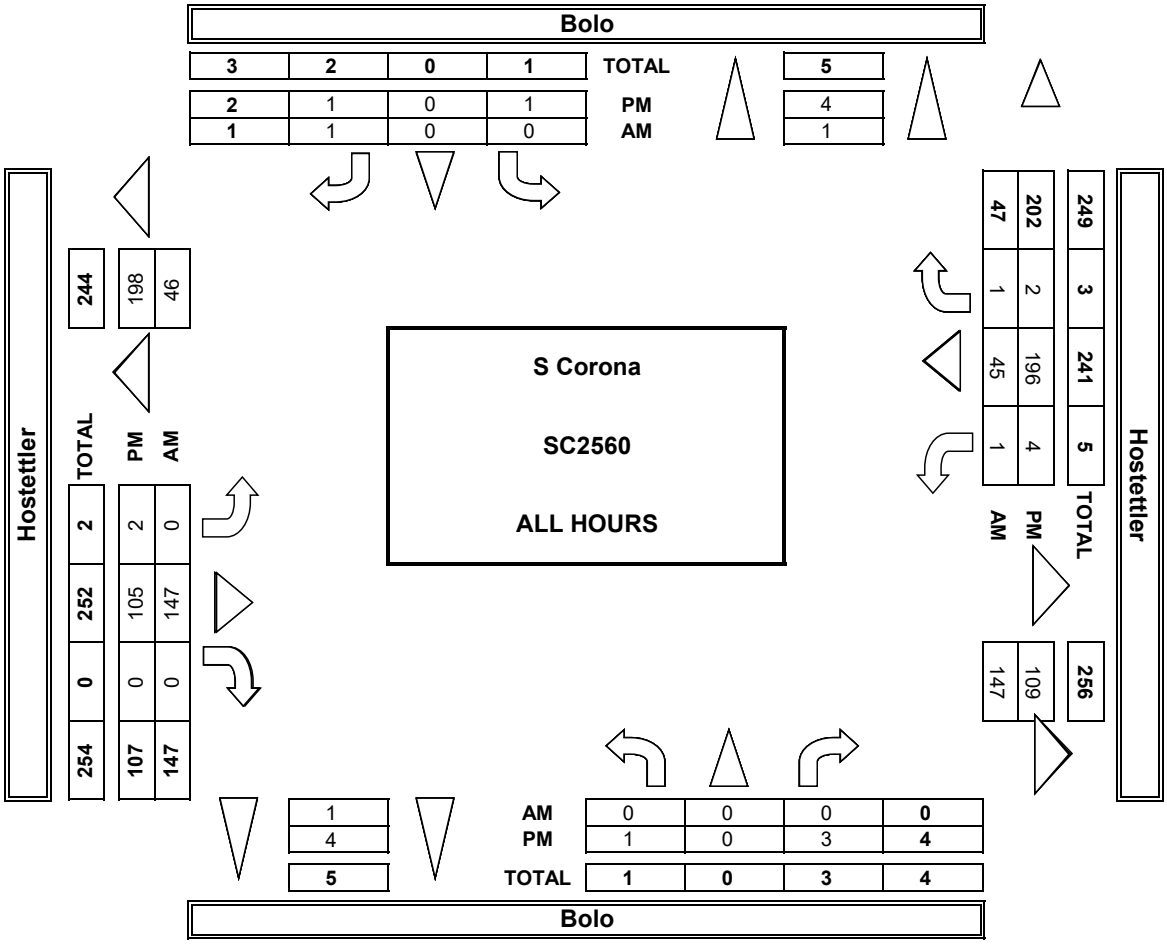
SOUTH SIDE

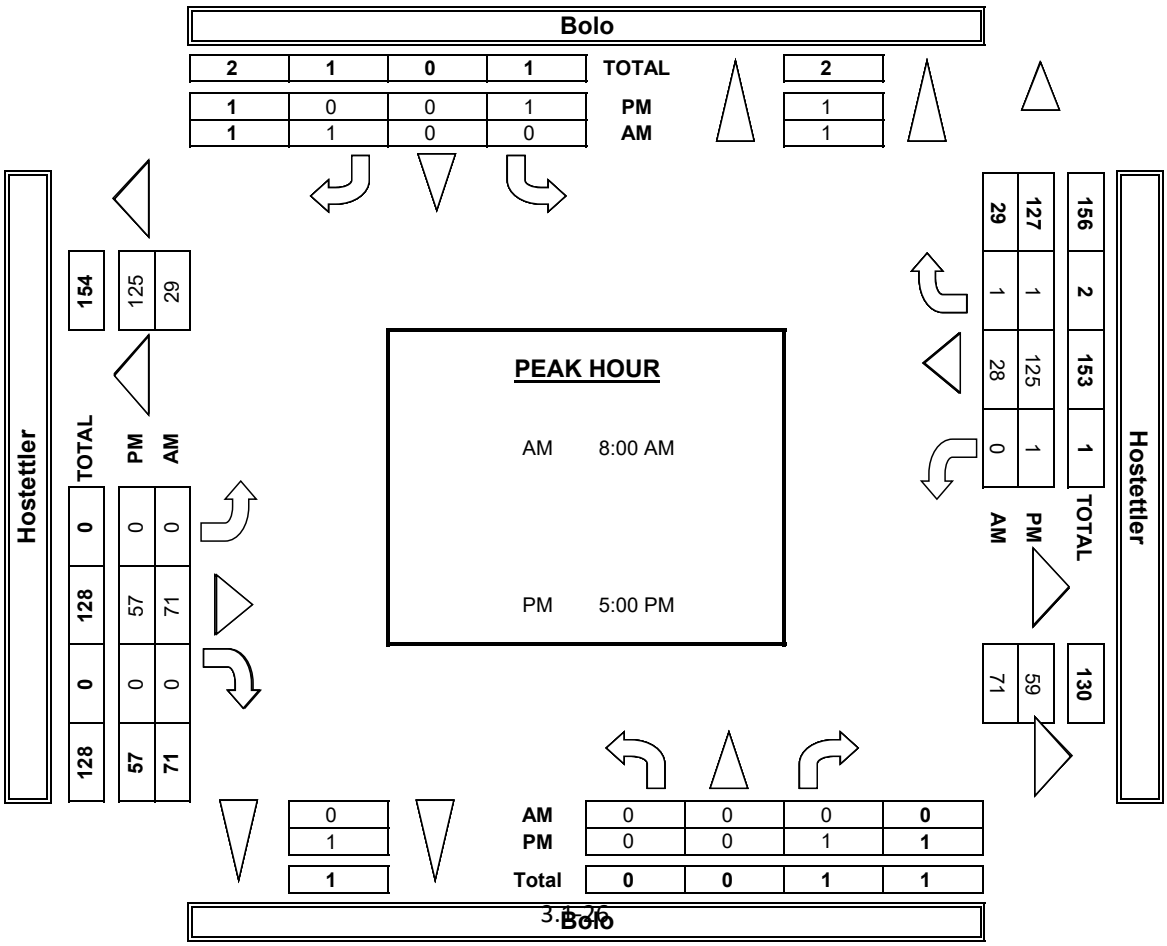
Bolo

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

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
3/18/20	LOCATION:	S Corona	PROJECT #:	SC2560
WEDNESDAY	NORTH & SOUTH:	Bolo	LOCATION #:	8
	EAST & WEST:	Hostettler	CONTROL:	STOP N/S

CLASS 1:	NOTES:
PASSENGER VEHICLES	

AM / PM / MD / OTHER / OTHER

▲ N

◄ W E ►

S ▼

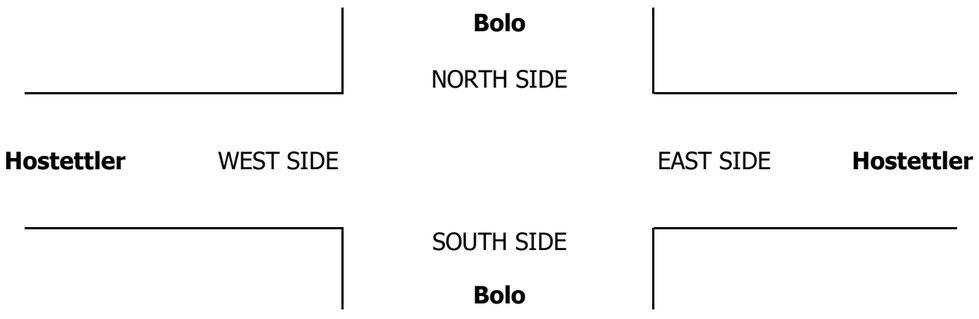
		NORTHBOUND Bolo			SOUTHBOUND Bolo			EASTBOUND Hostettler			WESTBOUND Hostettler			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	15	0	0	0	0	15
	7:15 AM	0	0	0	0	0	0	0	15	0	0	6	0	21
	7:30 AM	0	0	0	0	0	0	0	25	0	0	3	0	28
	7:45 AM	0	0	0	0	0	0	0	16	0	1	6	0	23
	8:00 AM	0	0	0	0	0	0	0	12	0	0	1	0	13
	8:15 AM	0	0	0	0	0	0	0	22	0	0	5	0	27
	8:30 AM	0	0	0	0	0	1	0	14	0	0	6	0	21
	8:45 AM	0	0	0	0	0	0	0	19	0	0	10	0	29
	VOLUMES	0	0	0	0	0	1	0	138	0	1	37	0	177
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	100%	0%	3%	97%	0%	
	APP/DEPART	0	/	0	1	/	1	138	/	138	38	/	38	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	75	0	1	15	0	91
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	6%	94%	0%	
	PEAK HR FACTOR		0.000			0.000			0.750			0.571		0.813
	APP/DEPART	0	/	0	0	/	1	75	/	75	16	/	15	0
PM	4:00 PM	0	0	1	0	0	0	0	9	0	0	14	0	24
	4:15 PM	0	0	1	0	0	0	0	10	0	0	12	0	23
	4:30 PM	1	0	0	0	0	0	0	15	0	2	23	0	41
	4:45 PM	0	0	0	0	0	0	1	12	0	1	19	1	34
	5:00 PM	0	0	0	0	0	0	0	10	0	0	30	0	40
	5:15 PM	0	0	1	0	0	0	0	19	0	1	29	0	50
	5:30 PM	0	0	0	0	0	0	0	13	0	0	34	0	47
	5:45 PM	0	0	0	1	0	0	0	12	0	0	30	1	44
	VOLUMES	1	0	3	1	0	0	1	100	0	4	191	2	303
	APPROACH %	25%	0%	75%	100%	0%	0%	1%	99%	0%	2%	97%	1%	
	APP/DEPART	4	/	3	1	/	4	101	/	104	197	/	192	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	1	1	0	0	0	54	0	1	123	1	181
	APPROACH %	0%	0%	100%	100%	0%	0%	0%	100%	0%	1%	98%	1%	
	PEAK HR FACTOR		0.250			0.250			0.711			0.919		0.905
	APP/DEPART	1	/	1	1	/	1	54	/	56	125	/	123	0

U-TURNS

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

RTOR

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



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
3/18/20	LOCATION:	S Corona	PROJECT #:	SC2560
WEDNESDAY	NORTH & SOUTH:	Bolo	LOCATION #:	8
	EAST & WEST:	Hostettler	CONTROL:	STOP N/S

CLASS 2:	NOTES:
2-AXLE WORK VEHICLES/ TRUCKS	

AM
PM
MD
OTHER
OTHER

▲ N
◄ W E ►
S ▼

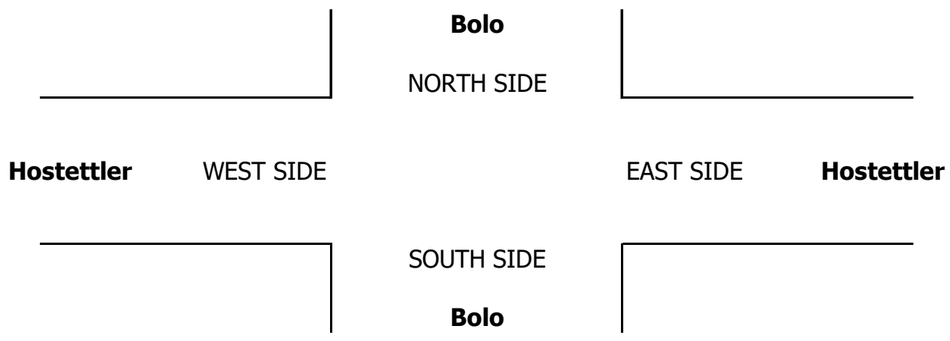
	NORTHBOUND Bolo			SOUTHBOUND Bolo			EASTBOUND Hostettler			WESTBOUND Hostettler			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	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	1	0	1
8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	2
VOLUMES	0	0	0	0	0	0	0	6	0	0	3	1	10
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	75%	25%	
APP/DEPART	0	/	1	0	/	0	6	/	6	4	/	3	0
BEGIN PEAK HR		8:00 AM											
VOLUMES	0	0	0	0	0	0	0	3	0	0	2	1	6
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	67%	33%	
PEAK HR FACTOR		0.000			0.000			0.750			0.750		0.750
APP/DEPART	0	/	1	0	/	0	3	/	3	3	/	2	0
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:30 PM	0	0	0	0	0	1	1	0	0	0	1	0	3
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	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	1	1	5	0	0	5	0	12
APPROACH %	0%	0%	0%	0%	0%	100%	17%	83%	0%	0%	100%	0%	
APP/DEPART	0	/	1	1	/	0	6	/	5	5	/	6	0
BEGIN PEAK HR		4:30 PM											
VOLUMES	0	0	0	0	0	1	1	3	0	0	3	0	8
APPROACH %	0%	0%	0%	0%	0%	100%	25%	75%	0%	0%	100%	0%	
PEAK HR FACTOR		0.000			0.250			0.500			0.750		0.667
APP/DEPART	0	/	1	1	/	0	4	/	3	3	/	4	0

U-TURNS

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

RTOR

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



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
3/18/20	LOCATION:	S Corona	PROJECT #:	SC2560
WEDNESDAY	NORTH & SOUTH:	Bolo	LOCATION #:	8
	EAST & WEST:	Hostettler	CONTROL:	STOP N/S

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Bolo			SOUTHBOUND Bolo			EASTBOUND Hostettler			WESTBOUND Hostettler			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	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	1	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	VOLUMES	0	0	0	0	0	0	0	2	0	0	3	0	5
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	0	/	0	2	/	2	3	/	3	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	0	0	0	0	0	0	0	1	0	0	2	0	3
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.000			0.250			0.500		0.750
	APP/DEPART	0	/	0	0	/	0	1	/	1	2	/	2	0
PM	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
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		3:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

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

RTOR

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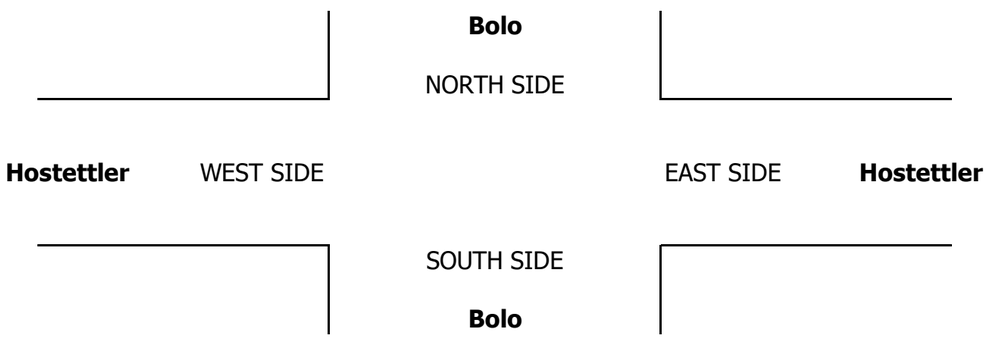
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
3/18/20	LOCATION:	S Corona	PROJECT #:	SC2560
WEDNESDAY	NORTH & SOUTH:	Bolo	LOCATION #:	8
	EAST & WEST:	Hostettler	CONTROL:	STOP N/S

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Bolo			SOUTHBOUND Bolo			EASTBOUND Hostettler			WESTBOUND Hostettler			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM 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	1	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	1	0	0	2	0	3
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
APP/DEPART	0	/	0	0	/	0	1	/	1	2	/	2	0
BEGIN PEAK HR		7:45 AM											
VOLUMES	0	0	0	0	0	0	0	1	0	0	2	0	3
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
PEAK HR FACTOR		0.000			0.000			0.250			0.500		0.750
APP/DEPART	0	/	0	0	/	0	1	/	1	2	/	2	0
PM 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
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR		3:00 PM											
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

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

RTOR

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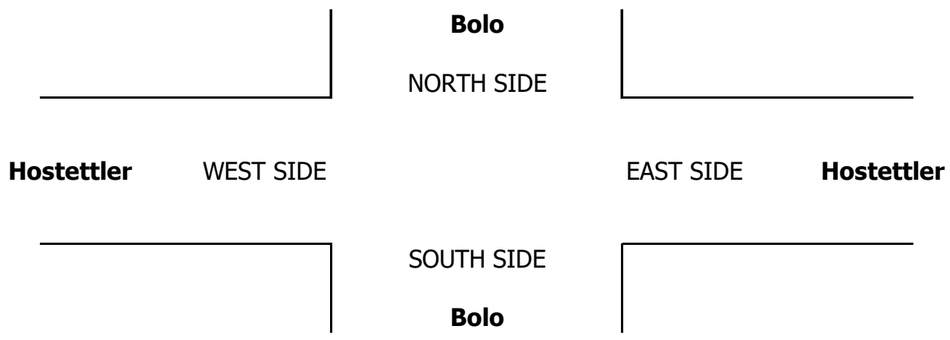
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
3/18/20	LOCATION:	S Corona	PROJECT #:	SC2560
WEDNESDAY	NORTH & SOUTH:	Bolo	LOCATION #:	8
	EAST & WEST:	Hostettler	CONTROL:	STOP N/S

CLASS 5:	NOTES:
RV	

AM
PM
MD
OTHER
OTHER

▲ N
◄ W E ►
S ▼

	NORTHBOUND Bolo			SOUTHBOUND Bolo			EASTBOUND Hostettler			WESTBOUND Hostettler			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
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
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR		7:00 AM											
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
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
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
BEGIN PEAK HR		3:00 PM											
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

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

RTOR

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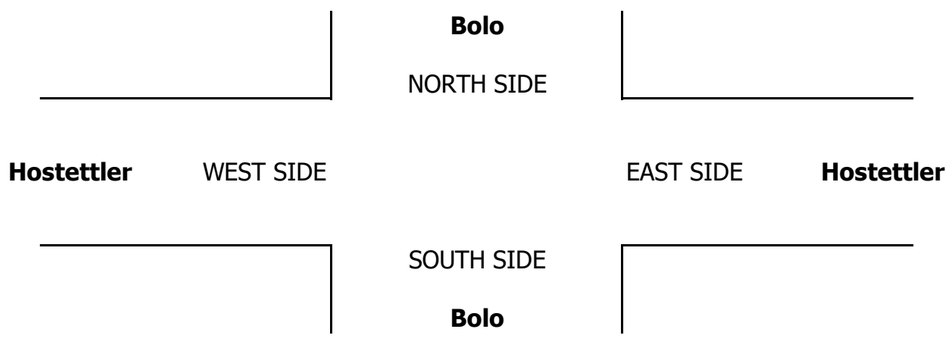
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
3/18/20	LOCATION:	S Corona	PROJECT #:	SC2560
WEDNESDAY	NORTH & SOUTH:	Bolo	LOCATION #:	8
	EAST & WEST:	Hostettler	CONTROL:	STOP N/S

CLASS 6:	NOTES:
BUSES	

AM / PM / MD / OTHER / OTHER

▲ N

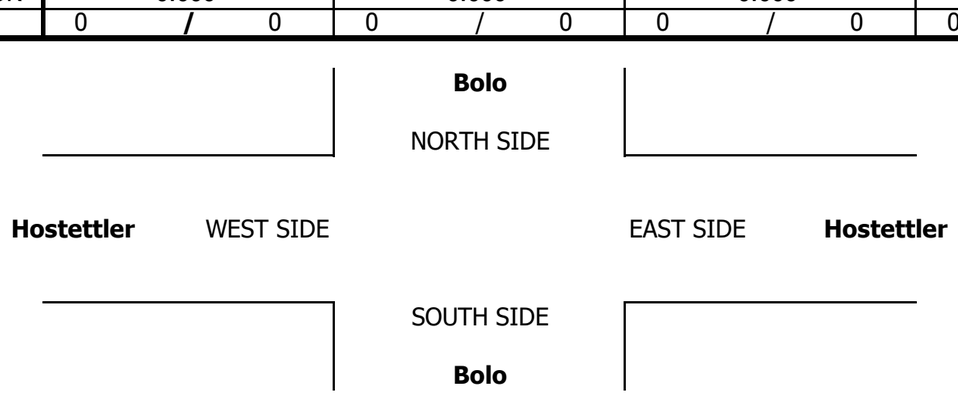
◄ W E ►

S ▼

		NORTHBOUND Bolo			SOUTHBOUND Bolo			EASTBOUND Hostettler			WESTBOUND Hostettler			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	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
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	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
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		3:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

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

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



INTERSECTION TURNING MOVEMENT COUNTS

T1218

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

DATE: Wed, Mar 18, 20

LOCATION: S Corona
NORTH & SOUTH: Temescal Canyon
EAST & WEST: Hostettler

PROJECT #: SC2560
LOCATION #: 9
CONTROL: STOP E

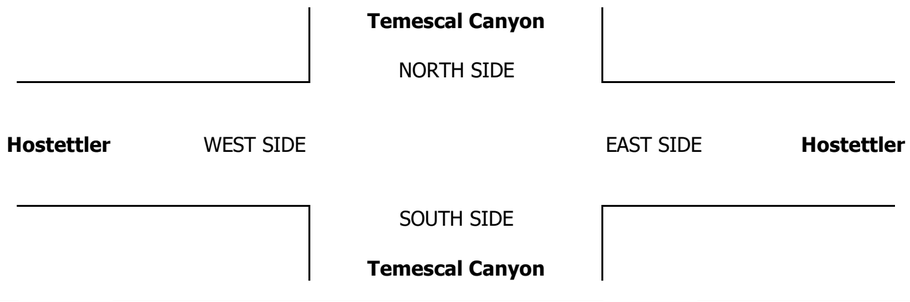
NOTES:

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

☐ Add U-Turns to Left Turns

		NORTHBOUND Temescal Canyon			SOUTHBOUND Temescal Canyon			EASTBOUND Hostettler			WESTBOUND Hostettler			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL
AM	7:00 AM	1	18	0	0	10	1	2	0	14	0	0	0	46
	7:15 AM	5	18	0	0	21	2	3	0	14	0	0	0	63
	7:30 AM	2	19	0	0	13	2	3	0	24	0	0	0	63
	7:45 AM	6	24	0	0	17	1	1	0	15	0	0	0	64
	8:00 AM	2	14	0	0	15	0	1	0	12	0	0	0	44
	8:15 AM	8	18	0	0	16	1	5	0	21	0	0	0	69
	8:30 AM	7	14	0	0	16	1	5	0	8	0	0	0	51
	8:45 AM	10	13	0	0	18	3	0	0	20	0	0	0	64
	VOLUMES	41	138	0	0	126	11	20	0	128	0	0	0	464
	APPROACH %	23%	77%	0%	0%	92%	8%	14%	0%	86%	0%	0%	0%	
	APP/DEPART	179	/	158	137	/	254	148	/	0	0	/	52	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	18	75	0	0	61	4	10	0	72	0	0	0	240
	APPROACH %	19%	81%	0%	0%	94%	6%	12%	0%	88%	0%	0%	0%	
	PEAK HR FACTOR		0.775			0.903			0.759			0.000		0.870
	APP/DEPART	93	/	85	65	/	133	82	/	0	0	/	22	0
PM	4:00 PM	12	21	0	0	32	3	4	0	10	0	0	0	82
	4:15 PM	12	21	0	0	37	0	4	0	11	0	0	0	85
	4:30 PM	19	22	0	0	33	9	2	0	11	0	0	0	96
	4:45 PM	18	26	0	0	29	4	2	0	11	0	0	0	90
	5:00 PM	28	25	0	0	19	5	3	0	10	0	0	0	90
	5:15 PM	24	27	0	0	38	6	4	0	16	0	0	0	115
	5:30 PM	29	11	0	0	31	6	5	0	12	0	0	0	94
	5:45 PM	25	12	0	0	22	5	2	0	8	0	0	0	74
	VOLUMES	167	165	0	0	241	38	26	0	89	0	0	0	727
	APPROACH %	50%	50%	0%	0%	86%	14%	23%	0%	77%	0%	0%	0%	
	APP/DEPART	332	/	192	280	/	330	115	/	0	0	/	205	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	89	100	0	0	119	24	11	0	48	0	0	0	392
	APPROACH %	47%	53%	0%	0%	83%	17%	19%	0%	81%	0%	0%	0%	
	PEAK HR FACTOR		0.892			0.818			0.738			0.000		0.852
	APP/DEPART	189	/	112	144	/	167	59	/	0	0	/	113	0

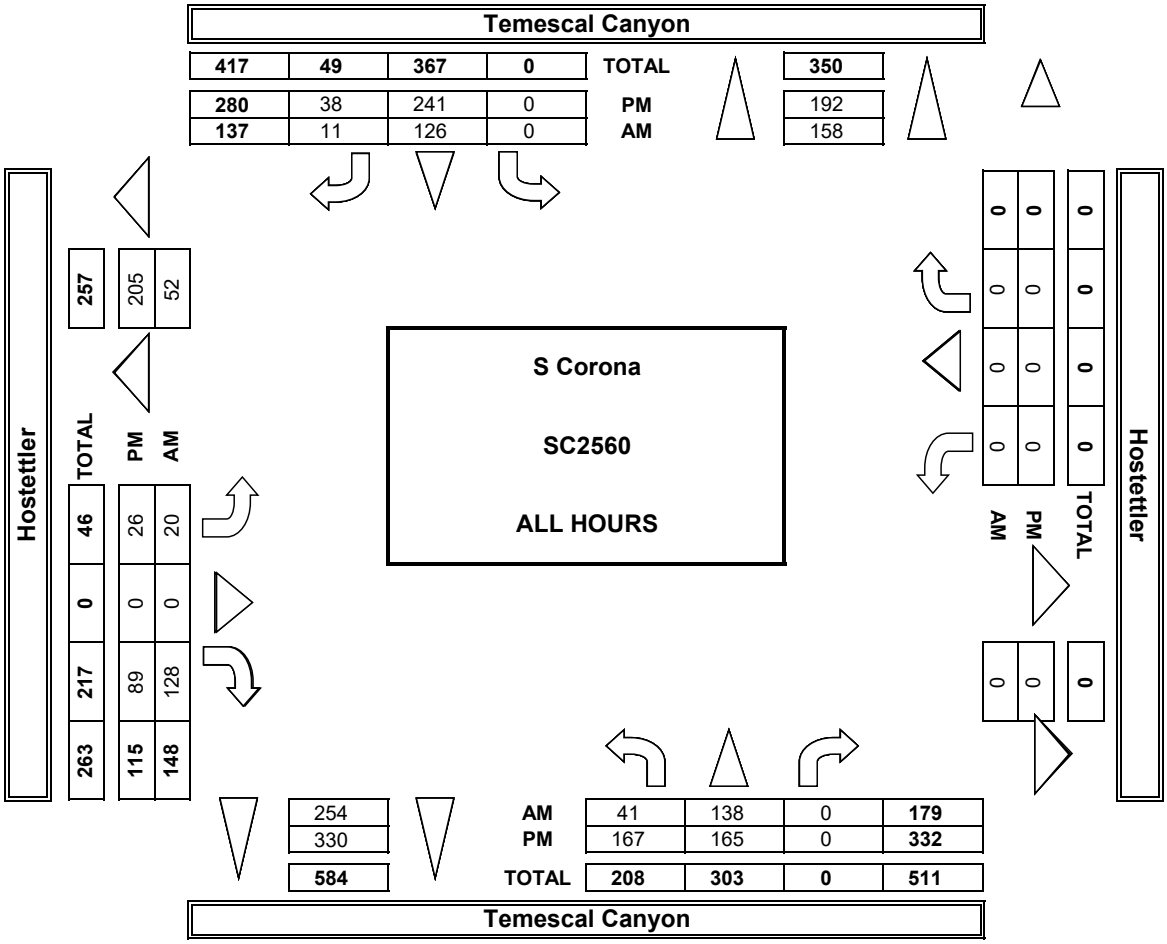
U-TURNS					RTOR			
NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
0	0	0	0		X	X	X	X
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
					0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	1	0	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	1	0	0	1	0	0	0	0
					0	0	0	0

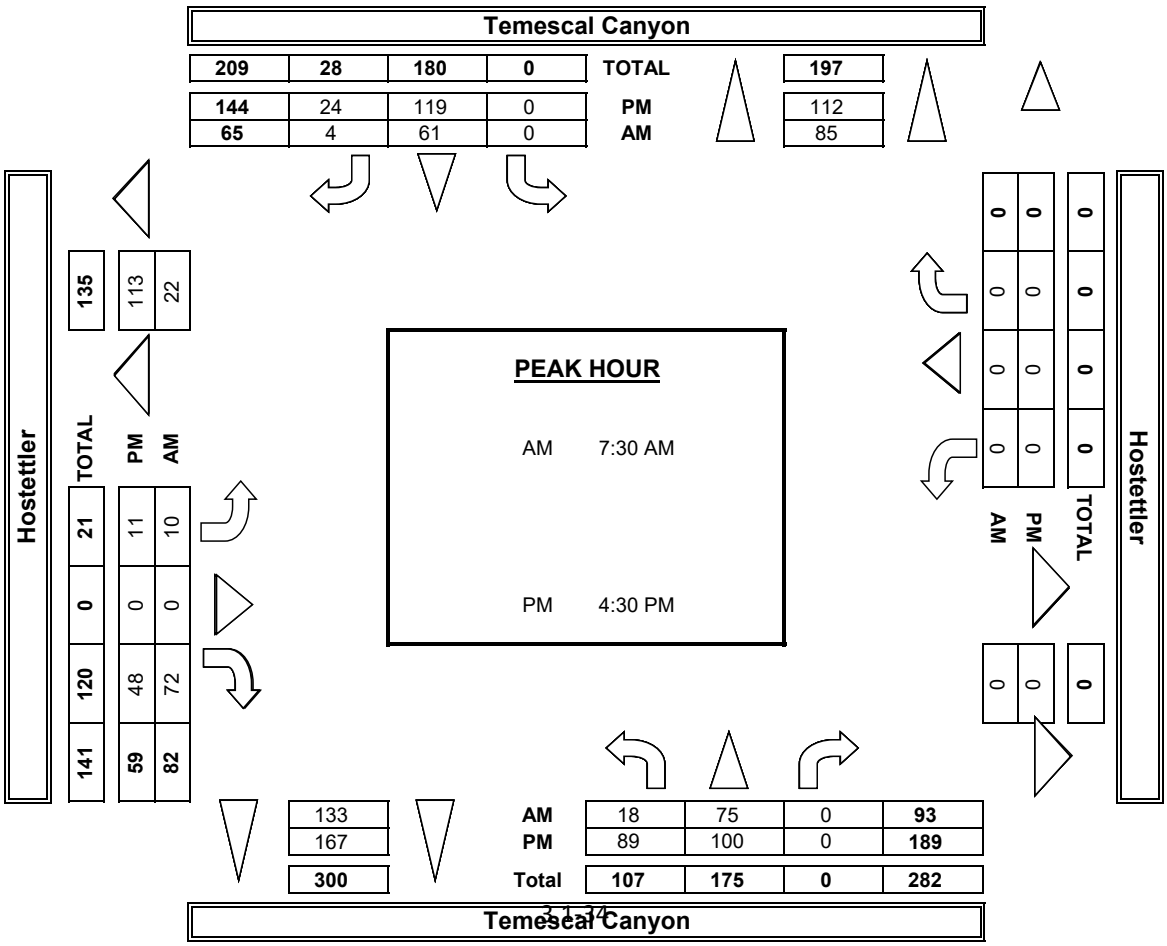


		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0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

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
3/18/20	LOCATION:	S Corona	PROJECT #:	SC2560
WEDNESDAY	NORTH & SOUTH:	Temescal Canyon	LOCATION #:	9
	EAST & WEST:	Hostettler	CONTROL:	STOP E

CLASS 1:	NOTES:
PASSENGER VEHICLES	

AM / PM / MD / OTHER / OTHER

▲ N

◄ W E ►

S ▼

		NORTHBOUND Temescal Canyon			SOUTHBOUND Temescal Canyon			EASTBOUND Hostettler			WESTBOUND Hostettler			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL
AM	7:00 AM	1	17	0	0	9	1	2	0	13	0	0	0	43
	7:15 AM	5	16	0	0	16	2	3	0	13	0	0	0	55
	7:30 AM	1	15	0	0	12	2	3	0	24	0	0	0	57
	7:45 AM	6	21	0	0	16	1	1	0	13	0	0	0	58
	8:00 AM	2	10	0	0	12	0	1	0	11	0	0	0	36
	8:15 AM	6	14	0	0	14	0	4	0	20	0	0	0	58
	8:30 AM	4	10	0	0	13	1	5	0	7	0	0	0	40
	8:45 AM	8	13	0	0	16	3	0	0	19	0	0	0	59
	VOLUMES	33	116	0	0	108	10	19	0	120	0	0	0	406
	APPROACH %	22%	78%	0%	0%	92%	8%	14%	0%	86%	0%	0%	0%	
	APP/DEPART	149	/	135	118	/	228	139	/	0	0	/	43	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	13	69	0	0	53	6	9	0	63	0	0	0	213
	APPROACH %	16%	84%	0%	0%	90%	10%	13%	0%	88%	0%	0%	0%	
	PEAK HR FACTOR		0.759			0.819			0.667			0.000		0.918
	APP/DEPART	82	/	78	59	/	116	72	/	0	0	/	19	0
PM	4:00 PM	12	16	0	0	28	3	4	0	9	0	0	0	72
	4:15 PM	11	20	0	0	34	0	4	0	10	0	0	0	79
	4:30 PM	18	20	0	0	31	9	2	0	11	0	0	0	91
	4:45 PM	17	26	0	0	26	4	2	0	11	0	0	0	86
	5:00 PM	28	25	0	0	19	5	2	0	10	0	0	0	89
	5:15 PM	23	26	0	0	37	6	4	0	15	0	0	0	111
	5:30 PM	28	10	0	0	31	6	4	0	12	0	0	0	91
	5:45 PM	25	12	0	0	22	5	2	0	8	0	0	0	74
	VOLUMES	162	155	0	0	228	38	24	0	86	0	0	0	694
	APPROACH %	51%	49%	0%	0%	85%	14%	22%	0%	78%	0%	0%	0%	
	APP/DEPART	317	/	180	267	/	314	110	/	0	0	/	200	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	86	97	0	0	113	24	10	0	47	0	0	0	378
	APPROACH %	47%	53%	0%	0%	82%	17%	18%	0%	82%	0%	0%	0%	
	PEAK HR FACTOR		0.863			0.802			0.750			0.000		0.851
	APP/DEPART	183	/	108	138	/	160	57	/	0	0	/	110	0

U-TURNS

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

RTOR

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

Temescal Canyon

NORTH SIDE

Hostettler WEST SIDE EAST SIDE **Hostettler**

SOUTH SIDE

Temescal Canyon

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
3/18/20	LOCATION:	S Corona	PROJECT #:	SC2560
WEDNESDAY	NORTH & SOUTH:	Temescal Canyon	LOCATION #:	9
	EAST & WEST:	Hostettler	CONTROL:	STOP E

CLASS 2:	NOTES:
2-AXLE WORK VEHICLES/ TRUCKS	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

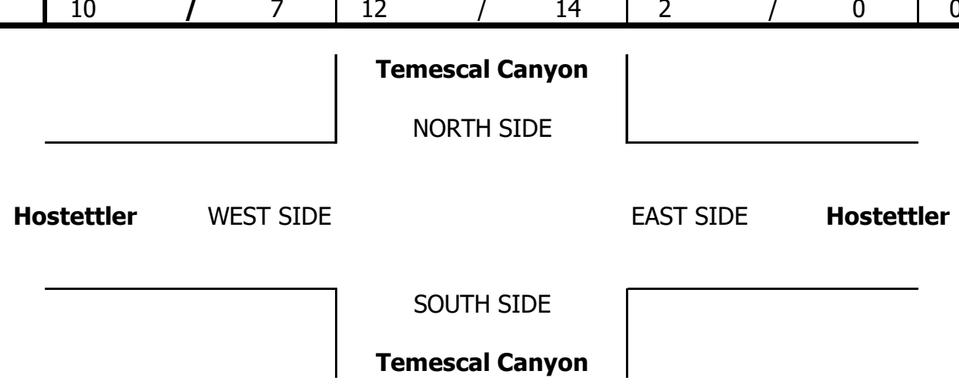
	NORTHBOUND Temescal Canyon			SOUTHBOUND Temescal Canyon			EASTBOUND Hostettler			WESTBOUND Hostettler			
LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	3	0	0	0	1	0	0	0	5
7:30 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
7:45 AM	0	2	0	0	0	0	0	0	1	0	0	0	3
8:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	4
8:15 AM	1	3	0	0	1	1	1	0	1	0	0	0	8
8:30 AM	1	2	0	0	1	0	0	0	1	0	0	0	5
8:45 AM	1	0	0	0	2	0	0	0	1	0	0	0	4
AM VOLUMES	3	13	0	0	10	1	1	0	5	0	0	0	33
AM APPROACH %	19%	81%	0%	0%	91%	9%	17%	0%	83%	0%	0%	0%	
AM APP/DEPART	16	/	14	11	/	15	6	/	0	0	/	4	0
AM BEGIN PEAK HR		8:00 AM											
AM VOLUMES	3	7	0	0	6	1	1	0	3	0	0	0	21
AM APPROACH %	30%	70%	0%	0%	86%	14%	25%	0%	75%	0%	0%	0%	
AM PEAK HR FACTOR		0.625			0.875			0.500			0.000		0.656
AM APP/DEPART	10	/	8	7	/	9	4	/	0	0	/	4	0
4:00 PM	0	4	0	0	4	0	0	0	1	0	0	0	9
4:15 PM	1	1	0	0	3	0	0	0	1	0	0	0	6
4:30 PM	1	2	0	0	2	0	0	0	0	0	0	0	5
4:45 PM	1	0	0	0	3	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
5:15 PM	1	1	0	0	1	0	0	0	1	0	0	0	4
5:30 PM	1	1	0	0	0	0	1	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM VOLUMES	5	9	0	0	13	0	2	0	3	0	0	0	32
PM APPROACH %	36%	64%	0%	0%	100%	0%	40%	0%	60%	0%	0%	0%	
PM APP/DEPART	14	/	11	13	/	16	5	/	0	0	/	5	0
PM BEGIN PEAK HR		4:00 PM											
PM VOLUMES	3	7	0	0	12	0	0	0	2	0	0	0	24
PM APPROACH %	30%	70%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
PM PEAK HR FACTOR		0.625			0.750			0.500			0.000		0.667
PM APP/DEPART	10	/	7	12	/	14	2	/	0	0	/	3	0

U-TURNS

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

RTOR

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



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
3/18/20	LOCATION:	S Corona	PROJECT #:	SC2560
WEDNESDAY	NORTH & SOUTH:	Temescal Canyon	LOCATION #:	9
	EAST & WEST:	Hostettler	CONTROL:	STOP E

CLASS 3:	NOTES:
3-AXLE TRUCKS	

AM / PM / MD / OTHER / OTHER

▲ N
◄ W E ►
S ▼

		NORTHBOUND Temescal Canyon			SOUTHBOUND Temescal Canyon			EASTBOUND Hostettler			WESTBOUND Hostettler			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	0	0	0	1	0	0	0	1	0	0	0	2
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
	7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
	8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
	8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
	8:30 AM	2	0	0	0	0	0	0	0	0	0	0	0	2
	8:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
	VOLUMES	4	2	0	0	1	0	0	0	2	0	0	0	9
	APPROACH %	67%	33%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
	APP/DEPART	6	/	2	1	/	3	2	/	0	0	/	4	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	3	1	0	0	0	0	0	0	1	0	0	0	5
	APPROACH %	75%	25%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	
	PEAK HR FACTOR		0.500			0.000			0.250			0.000		0.625
	APP/DEPART	4	/	1	0	/	1	1	/	0	0	/	3	0
PM	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
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		3:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

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

RTOR

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

Temescal Canyon

NORTH SIDE

Hostettler WEST SIDE EAST SIDE **Hostettler**

SOUTH SIDE

Temescal Canyon

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
3/18/20	LOCATION:	S Corona	PROJECT #:	SC2560
WEDNESDAY	NORTH & SOUTH:	Temescal Canyon	LOCATION #:	9
	EAST & WEST:	Hostettler	CONTROL:	STOP E

CLASS 4:	NOTES:
4 OR MORE AXLE TRUCKS	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Temescal Canyon			SOUTHBOUND Temescal Canyon			EASTBOUND Hostettler			WESTBOUND Hostettler			
LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	1	0	0	0	1	0	0	0	2
8:00 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
8:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	2
8:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM VOLUMES	1	7	0	0	7	0	0	0	1	0	0	0	16
AM APPROACH %	13%	88%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
AM APP/DEPART	8	/	7	7	/	8	1	/	0	0	/	1	0
AM BEGIN PEAK HR		7:45 AM											
AM VOLUMES	1	4	0	0	5	0	0	0	1	0	0	0	11
AM APPROACH %	20%	80%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
AM PEAK HR FACTOR		0.625			0.625			0.250			0.000		0.688
AM APP/DEPART	5	/	4	5	/	6	1	/	0	0	/	1	0
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	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
PM VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
PM APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0
PM BEGIN PEAK HR		3:15 PM											
PM VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
PM APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250
PM APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0

U-TURNS

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

RTOR

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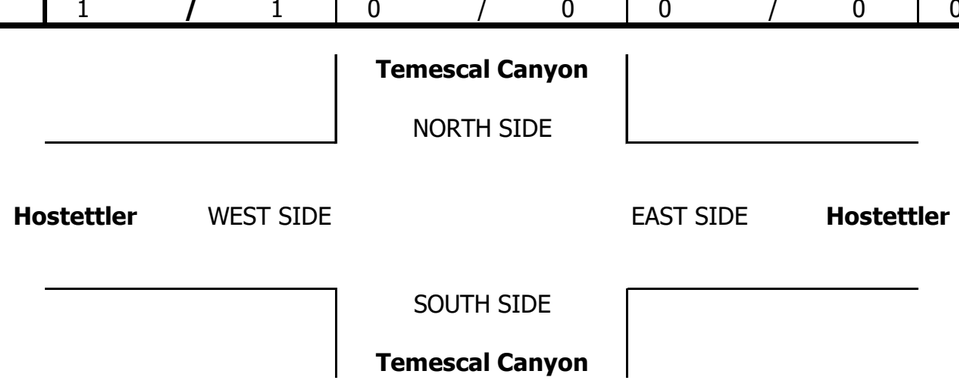
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
3/18/20	LOCATION:	S Corona	PROJECT #:	SC2560
WEDNESDAY	NORTH & SOUTH:	Temescal Canyon	LOCATION #:	9
	EAST & WEST:	Hostettler	CONTROL:	STOP E

CLASS 5:	NOTES:
RV	

AM / PM / MD / OTHER / OTHER

◄ W E ► ▲ N S ▼

		NORTHBOUND Temescal Canyon			SOUTHBOUND Temescal Canyon			EASTBOUND Hostettler			WESTBOUND Hostettler			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL
AM	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
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	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
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		3:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

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

RTOR

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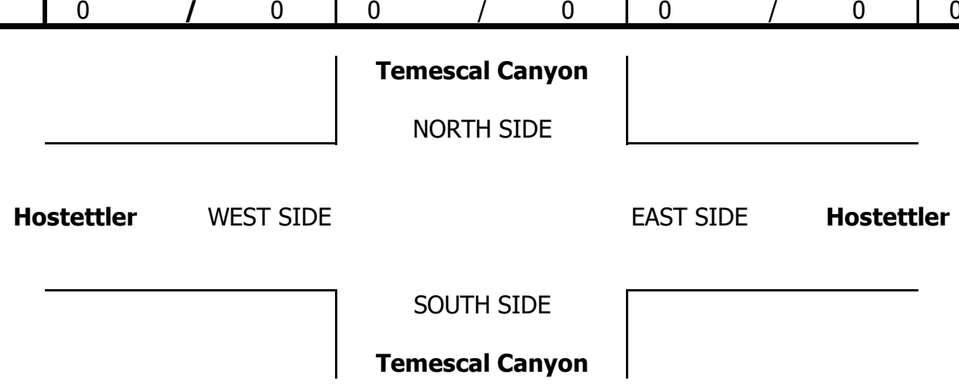
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
3/18/20	LOCATION:	S Corona	PROJECT #:	SC2560
WEDNESDAY	NORTH & SOUTH:	Temescal Canyon	LOCATION #:	9
	EAST & WEST:	Hostettler	CONTROL:	STOP E

CLASS 6:	NOTES:
BUSES	

AM / PM / MD / OTHER / OTHER

▲ N ▼ S ◄ W E ►

		NORTHBOUND Temescal Canyon			SOUTHBOUND Temescal Canyon			EASTBOUND Hostettler			WESTBOUND Hostettler			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL
AM	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
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	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
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		3:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

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

RTOR

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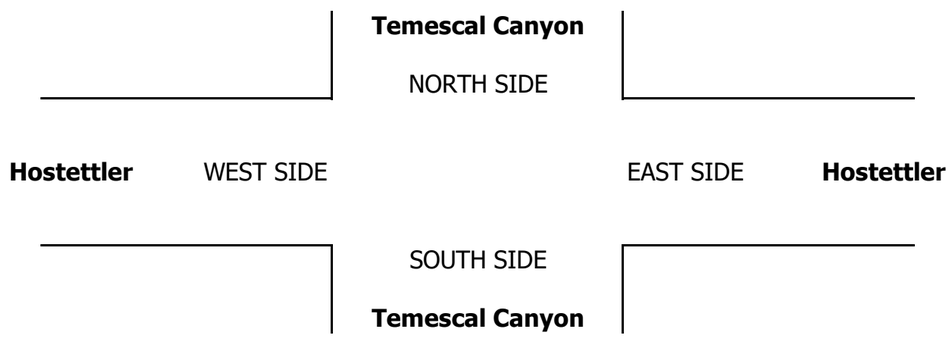
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



T1218

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:	LOCATION:	Corona South	PROJECT #:	SC2499
Thu, Jan 23, 20	NORTH & SOUTH:	Lake	LOCATION #:	10
	EAST & WEST:	I-15 WB Ramps	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N / ◄ W / E ► / S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Lake)			SOUTHBOUND (Lake)			EASTBOUND (I-15 WB Ramps)			WESTBOUND (I-15 WB Ramps)			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	X	X	1	0	X	X	X	1	0.5	0.5	
AM	7:00 AM	134	1	0	0	0	1	0	0	0	47	2	1	186
AM	7:15 AM	151	0	0	0	0	0	0	0	0	71	0	1	223
AM	7:30 AM	119	0	0	0	2	0	0	0	0	64	1	0	186
AM	7:45 AM	138	1	0	0	0	0	0	0	0	26	2	0	167
AM	8:00 AM	122	1	0	0	1	1	0	0	0	27	1	0	153
AM	8:15 AM	126	1	0	0	1	0	0	0	0	24	0	1	153
AM	8:30 AM	115	0	0	0	0	1	0	0	0	24	1	2	143
AM	8:45 AM	94	1	0	0	2	1	0	0	0	26	0	1	125
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	999	5	0	0	6	4	0	0	0	309	7	6	1,336
AM	APPROACH %	100%	0%	0%	0%	60%	40%	0%	0%	0%	96%	2%	2%	
AM	APP/DEPART	1,004	/	11	10	/	315	0	/	0	322	/	1,010	0
AM	BEGIN PEAK HR		7:00 AM											
AM	VOLUMES	542	2	0	0	2	1	0	0	0	208	5	2	762
AM	APPROACH %	100%	0%	0%	0%	67%	33%	0%	0%	0%	97%	2%	1%	
AM	PEAK HR FACTOR		0.901			0.375			0.000			0.747		0.854
AM	APP/DEPART	544	/	4	3	/	210	0	/	0	215	/	548	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	95	1	0	0	0	1	0	0	0	28	0	0	125
PM	4:15 PM	88	2	0	0	1	0	0	0	0	40	3	1	135
PM	4:30 PM	86	2	0	0	0	1	0	0	0	31	1	0	121
PM	4:45 PM	79	1	0	0	1	0	0	0	0	38	0	0	119
PM	5:00 PM	89	0	0	0	2	0	0	0	0	35	2	1	129
PM	5:15 PM	55	2	0	0	2	0	0	0	0	51	0	2	112
PM	5:30 PM	84	5	0	0	5	2	0	0	0	51	0	1	148
PM	5:45 PM	70	2	0	0	0	3	0	0	0	46	0	2	123
PM	VOLUMES	646	15	0	0	11	7	0	0	0	320	6	7	1,012
PM	APPROACH %	98%	2%	0%	0%	61%	39%	0%	0%	0%	96%	2%	2%	
PM	APP/DEPART	661	/	22	18	/	331	0	/	0	333	/	659	0
PM	BEGIN PEAK HR		5:00 PM											
PM	VOLUMES	298	9	0	0	9	5	0	0	0	183	2	6	512
PM	APPROACH %	97%	3%	0%	0%	64%	36%	0%	0%	0%	96%	1%	3%	
PM	PEAK HR FACTOR		0.862			0.500			0.000			0.901		0.865
PM	APP/DEPART	307	/	15	14	/	192	0	/	0	191	/	305	0

	U-TURNS					RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
LANES	0	0	0	0		X	0	X	0
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	2
8:45 AM	0	0	0	0	0	0	1	0	1
9:00 AM	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	3	0	3
PEAK HR VOLUMES						0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	1	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	1	0	1
VOLUMES	0	0	0	0	0	0	2	0	5
PEAK HR VOLUMES						0	1	0	4

Lake

NORTH SIDE

I-15 WB Ramps WEST SIDE

EAST SIDE **I-15 WB Ramps**

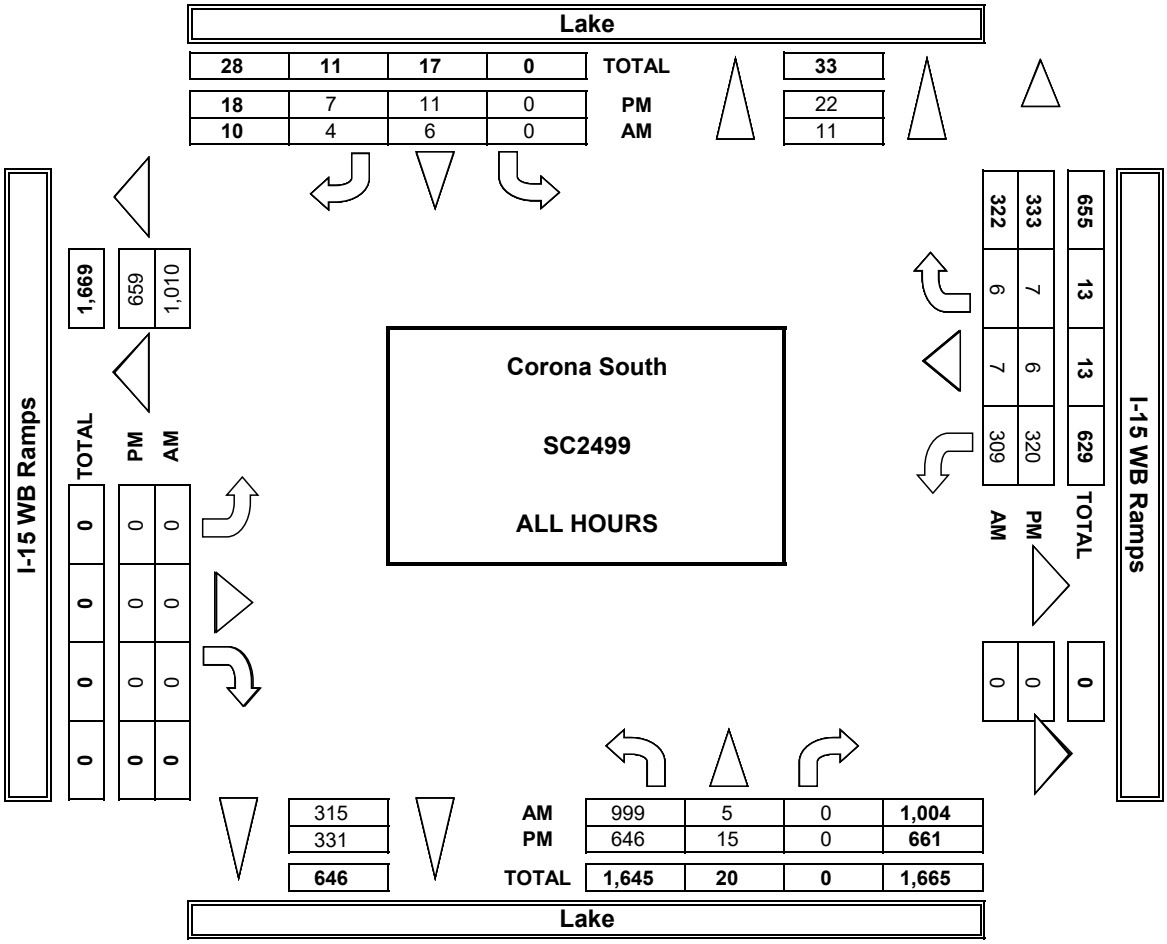
SOUTH SIDE

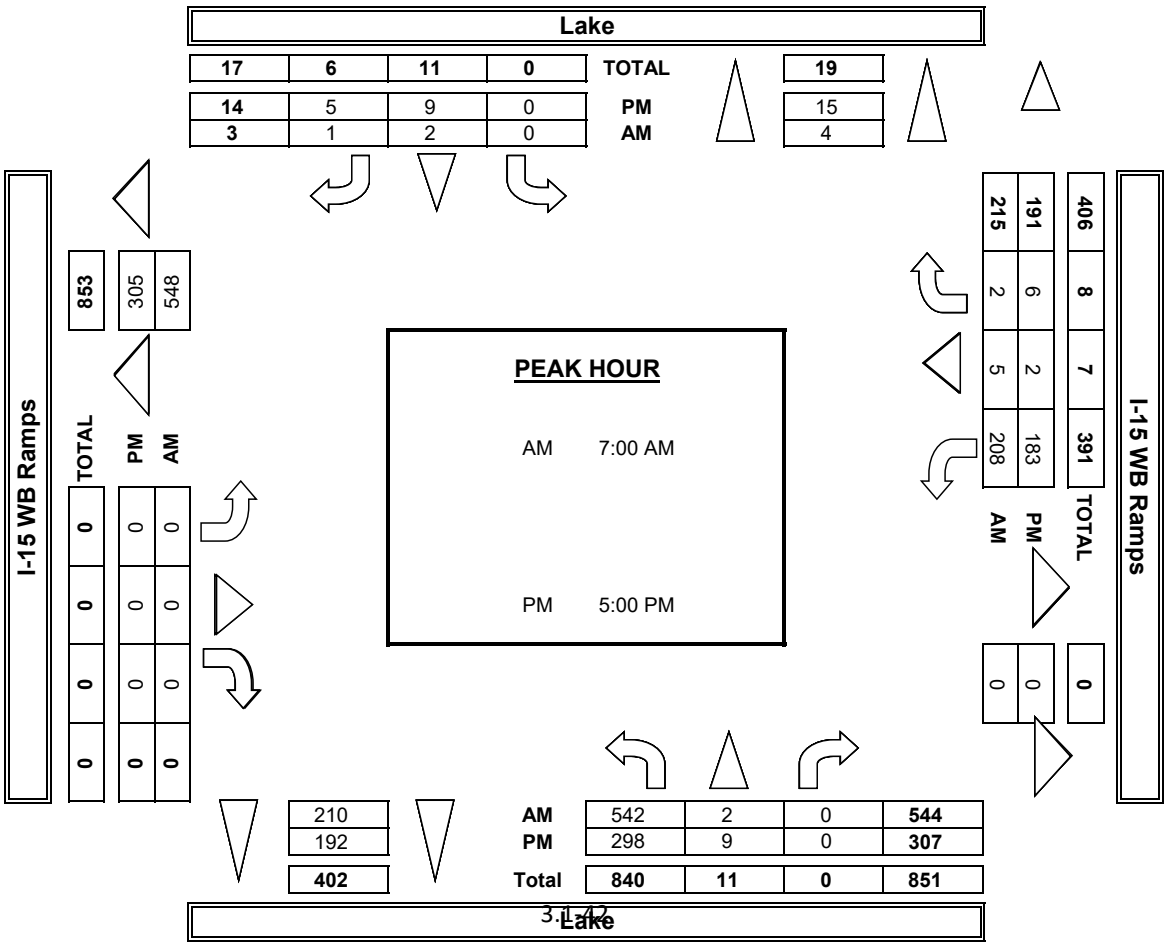
Lake

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:	LOCATION:	Corona South	PROJECT #:	SC2499
1/23/20	NORTH & SOUTH:	Lake	LOCATION #:	10
THURSDAY	EAST & WEST:	I-15 WB Ramps	CONTROL:	SIGNAL

CLASS 1:	NOTES:
PASSENGER VEHICLES	

AM / PM / MD / OTHER / OTHER

▲ N / ◄ W / E ► / S ▼

		NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 WB Ramps			WESTBOUND I-15 WB Ramps			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	X	X	1	0	X	X	X	1	0.5	0.5	
AM	7:00 AM	123	1	0	0	0	1	0	0	0	41	1	1	168
	7:15 AM	147	0	0	0	0	0	0	0	0	62	0	1	210
	7:30 AM	112	0	0	0	2	0	0	0	0	61	0	0	175
	7:45 AM	131	1	0	0	0	0	0	0	0	22	0	0	154
	8:00 AM	112	1	0	0	1	1	0	0	0	20	1	0	136
	8:15 AM	118	0	0	0	0	0	0	0	0	18	0	0	136
	8:30 AM	105	0	0	0	0	1	0	0	0	21	1	2	130
	8:45 AM	82	1	0	0	2	1	0	0	0	18	0	1	105
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	930	4	0	0	5	4	0	0	0	263	3	5	1,214
	APPROACH %	100%	0%	0%	0%	56%	44%	0%	0%	0%	97%	1%	2%	
	APP/DEPART	934	/	9	9	/	268	0	/	0	271	/	937	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	513	2	0	0	2	1	0	0	0	186	1	2	707
	APPROACH %	100%	0%	0%	0%	67%	33%	0%	0%	0%	98%	1%	1%	
	PEAK HR FACTOR		0.876			0.375			0.000			0.750		0.842
	APP/DEPART	515	/	4	3	/	188	0	/	0	189	/	515	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	82	1	0	0	0	1	0	0	0	25	0	0	109
	4:15 PM	81	2	0	0	1	0	0	0	0	40	1	1	126
	4:30 PM	82	2	0	0	0	1	0	0	0	29	0	0	114
	4:45 PM	77	1	0	0	1	0	0	0	0	36	0	0	115
	5:00 PM	84	0	0	0	2	0	0	0	0	34	0	1	121
	5:15 PM	51	1	0	0	2	0	0	0	0	49	0	2	105
	5:30 PM	78	5	0	0	5	2	0	0	0	51	0	1	142
	5:45 PM	64	2	0	0	0	3	0	0	0	43	0	2	114
	VOLUMES	599	14	0	0	11	7	0	0	0	307	1	7	946
	APPROACH %	98%	2%	0%	0%	61%	39%	0%	0%	0%	97%	0%	2%	
	APP/DEPART	613	/	21	18	/	318	0	/	0	315	/	607	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	290	7	0	0	10	2	0	0	0	170	0	4	483
	APPROACH %	98%	2%	0%	0%	83%	17%	0%	0%	0%	98%	0%	2%	
	PEAK HR FACTOR		0.884			0.429			0.000			0.837		0.850
	APP/DEPART	297	/	11	12	/	180	0	/	0	174	/	292	0

	U-TURNS					RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
						X	0	X	0
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	2
8:45 AM	0	0	0	0	0	0	1	0	1
9:00 AM	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	3	0	3
PEAK HR VOLUMES						0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	1	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	1	0	1
VOLUMES	0	0	0	0	0	0	2	0	5
PEAK HR VOLUMES						0	0	0	3

Lake

NORTH SIDE

I-15 WB Ramps WEST SIDE

EAST SIDE **I-15 WB Ramps**

SOUTH SIDE

Lake

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	Lake	LOCATION #:	10
	EAST & WEST:	I-15 WB Ramps	CONTROL:	SIGNAL

CLASS 2:	NOTES:
2-AXLE WORK VEHICLES/ TRUCKS	

AM / PM / MD / OTHER / OTHER

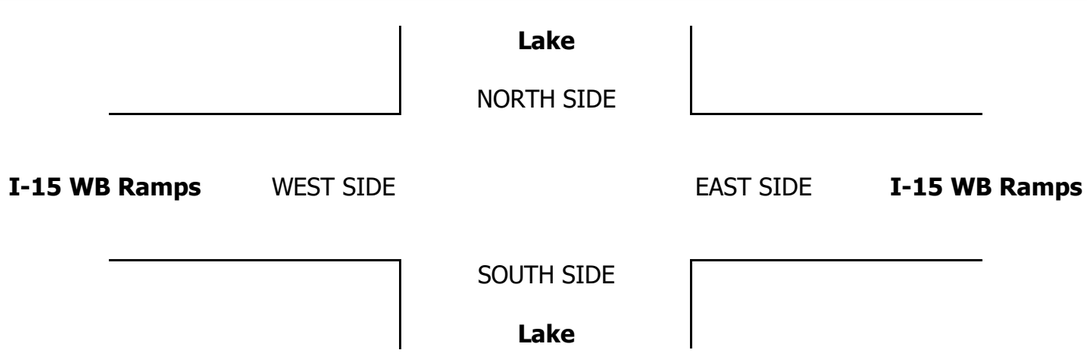
▲ N ◄ W E ► S ▼

	NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 WB Ramps			WESTBOUND I-15 WB Ramps			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	X	X	1	0	X	X	X	1	0.5	0.5	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR
X	0	X	0

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	7	0	0	0	0	0	0	0	0	1	1	0	9	0	0	0	0	0	0	0	0	0
	7:15 AM	2	0	0	0	0	0	0	0	0	3	0	0	5	0	0	0	0	0	0	0	0	0
	7:30 AM	5	0	0	0	0	0	0	0	0	2	0	0	7	0	0	0	0	0	0	0	0	0
	7:45 AM	4	0	0	0	0	0	0	0	0	2	0	0	6	0	0	0	0	0	0	0	0	0
	8:00 AM	6	0	0	0	0	0	0	0	0	3	0	0	9	0	0	0	0	0	0	0	0	0
	8:15 AM	3	0	0	0	0	0	0	0	0	2	0	1	6	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
	8:45 AM	8	0	0	0	0	0	0	0	0	2	0	0	10	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	35	0	0	0	0	0	0	0	0	16	1	1	53	0	0	0	0	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	89%	6%	6%										
	APP/DEPART	35	/	1	0	/	16	0	/	0	18	/	36	0									
	BEGIN PEAK HR	7:30 AM																					
	VOLUMES	18	0	0	0	0	0	0	0	0	9	0	1	28						0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	90%	0%	10%										
	PEAK HR FACTOR	0.750			0.000			0.000			0.833			0.778									
	APP/DEPART	18	/	1	0	/	9	0	/	0	10	/	18	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	8	0	0	0	0	0	0	0	0	3	0	0	11	0	0	0	0	0	0	0	0	0
	4:15 PM	4	0	0	0	0	0	0	0	0	0	1	0	5	0	0	0	0	0	0	0	0	0
	4:30 PM	2	0	0	0	0	0	0	0	0	2	1	0	5	0	0	0	0	0	0	0	0	0
	4:45 PM	1	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0
	5:00 PM	3	0	0	0	0	0	0	0	0	1	2	0	6	0	0	0	0	0	0	0	0	0
	5:15 PM	4	1	0	0	0	0	0	0	0	1	0	0	6	0	0	0	0	0	0	0	0	0
	5:30 PM	5	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
	5:45 PM	5	0	0	0	0	0	0	0	0	1	0	0	6	0	0	0	0	0	0	0	0	0
	VOLUMES	32	1	0	0	0	0	0	0	0	9	4	0	46	0	0	0	0	0	0	0	0	0
	APPROACH %	97%	3%	0%	0%	0%	0%	0%	0%	0%	69%	31%	0%										
	APP/DEPART	33	/	1	0	/	9	0	/	0	13	/	36	0									
	BEGIN PEAK HR	5:00 PM																					
	VOLUMES	17	1	0	0	0	0	0	0	0	3	2	0	23						0	0	0	0
	APPROACH %	94%	6%	0%	0%	0%	0%	0%	0%	0%	60%	40%	0%										
	PEAK HR FACTOR	0.900			0.000			0.000			0.417			0.958									
	APP/DEPART	18	/	1	0	/	3	0	/	0	5	/	19	0									



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	Lake	LOCATION #:	10
	EAST & WEST:	I-15 WB Ramps	CONTROL:	SIGNAL

CLASS 3:	NOTES:	AM PM MD OTHER OTHER	▲ N ◄ W E ► S ▼
3-AXLE TRUCKS			

		NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 WB Ramps			WESTBOUND I-15 WB Ramps			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	X	X	1	0	X	X	X	1	0.5	0.5	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	2	0	0	0	0	0	0	0	0	1	0	0	3
AM	7:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
AM	7:45 AM	3	0	0	0	0	0	0	0	0	0	0	0	3
AM	8:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
AM	8:15 AM	5	1	0	0	1	0	0	0	0	3	0	0	10
AM	8:30 AM	5	0	0	0	0	0	0	0	0	1	0	0	6
AM	8:45 AM	1	0	0	0	0	0	0	0	0	1	0	0	2
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	18	1	0	0	1	0	0	0	0	6	0	0	26
AM	APPROACH %	95%	5%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	
AM	APP/DEPART	19	/	1	1	/	7	0	/	0	6	/	18	0
AM	BEGIN PEAK HR		7:45 AM											
AM	VOLUMES	14	1	0	0	1	0	0	0	0	4	0	0	20
AM	APPROACH %	93%	7%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	
AM	PEAK HR FACTOR		0.625			0.250			0.000			0.333		0.500
AM	APP/DEPART	15	/	1	1	/	5	0	/	0	4	/	14	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
PM	4:15 PM	2	0	0	0	0	0	0	0	0	0	0	0	2
PM	4:30 PM	2	0	0	0	0	0	0	0	0	0	0	0	2
PM	4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
PM	5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
PM	5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
PM	VOLUMES	6	0	0	0	0	0	0	0	0	3	0	0	9
PM	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	
PM	APP/DEPART	6	/	0	0	/	3	0	/	0	3	/	6	0
PM	BEGIN PEAK HR		4:00 PM											
PM	VOLUMES	5	0	0	0	0	0	0	0	0	1	0	0	6
PM	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	
PM	PEAK HR FACTOR		0.625			0.000			0.000			0.250		0.750
PM	APP/DEPART	5	/	0	0	/	1	0	/	0	1	/	5	0

		U-TURNS					RTOR			
		NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:						X	0	X	0
AM	7:00 AM	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0
AM	9:00 AM	0	0	0	0	0	0	0	0	0
AM	9:15 AM	0	0	0	0	0	0	0	0	0
AM	9:30 AM	0	0	0	0	0	0	0	0	0
AM	9:45 AM	0	0	0	0	0	0	0	0	0
AM	VOLUMES	0	0	0	0	0	0	0	0	0
AM	PEAK HR VOLUMES						0	0	0	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0
PM	3:15 PM	0	0	0	0	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0	0	0	0	0
PM	3:45 PM	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	0	0	0	0	0	0	0	0
PM	PEAK HR VOLUMES						0	0	0	0

Lake

NORTH SIDE

I-15 WB Ramps WEST SIDE

EAST SIDE **I-15 WB Ramps**

SOUTH SIDE

Lake

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	Lake	LOCATION #:	10
	EAST & WEST:	I-15 WB Ramps	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 WB Ramps			WESTBOUND I-15 WB Ramps			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	X	X	1	0	X	X	X	1	0.5	0.5	

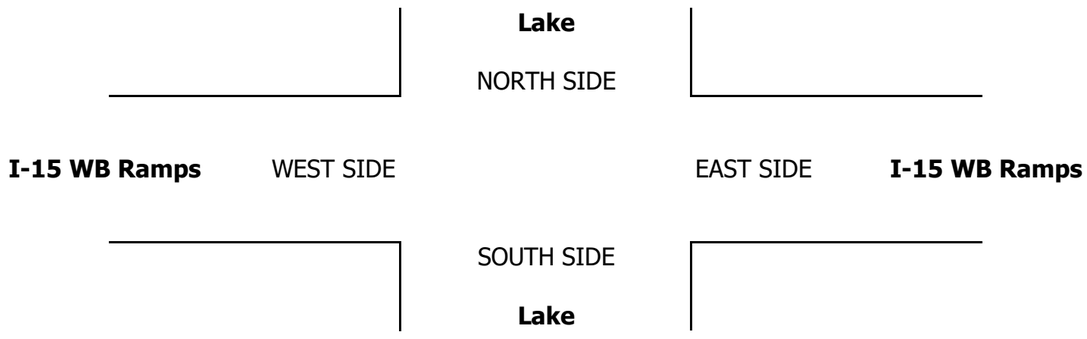
U-TURNS

NB	SB	EB	WB	TTL

RTOR

NRR	SRR	ERR	WRR
X	0	X	0

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	4	0	0	0	0	0	0	0	0	5	0	0	9	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0
	7:30 AM	1	0	0	0	0	0	0	0	0	1	1	0	3	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	0	0	0
	8:00 AM	2	0	0	0	0	0	0	0	0	4	0	0	6	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
	8:30 AM	4	0	0	0	0	0	0	0	0	1	0	0	5	0	0	0	0	0	0	0	0	0
	8:45 AM	3	0	0	0	0	0	0	0	0	5	0	0	8	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	14	0	0	0	0	0	0	0	0	24	3	0	41	0	0	0	0	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	89%	11%	0%										
	APP/DEPART	14	/	0	0	/	24	0	/	0	27	/	17	0									
	BEGIN PEAK HR	7:00 AM																					
	VOLUMES	5	0	0	0	0	0	0	0	0	13	3	0	21						0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	81%	19%	0%										
	PEAK HR FACTOR	0.313			0.000			0.000			0.800			0.583									
	APP/DEPART	5	/	0	0	/	13	0	/	0	16	/	8	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	4	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
	4:15 PM	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0
	5:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	5:45 PM	1	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0
	VOLUMES	9	0	0	0	0	0	0	0	0	1	1	0	11	0	0	0	0	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	50%	50%	0%										
	APP/DEPART	9	/	0	0	/	1	0	/	0	2	/	10	0									
	BEGIN PEAK HR	4:00 PM																					
	VOLUMES	6	0	0	0	0	0	0	0	0	0	1	0	7						0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%										
	PEAK HR FACTOR	0.375			0.000			0.000			0.250			0.438									
	APP/DEPART	6	/	0	0	/	0	0	/	0	1	/	7	0									



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:	LOCATION:	Corona South	PROJECT #:	SC2499
1/23/20	NORTH & SOUTH:	Lake	LOCATION #:	10
THURSDAY	EAST & WEST:	I-15 WB Ramps	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 WB Ramps			WESTBOUND I-15 WB Ramps			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	X	X	1	0	X	X	X	1	0.5	0.5	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
AM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
AM	BEGIN PEAK HR		7:00 AM											
AM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
AM	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
AM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	BEGIN PEAK HR		3:00 PM											
PM	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PM	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
PM	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
9:00 AM	0	0	0	0	0
9:15 AM	0	0	0	0	0
9:30 AM	0	0	0	0	0
9:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
03:00 PM	0	0	0	0	0
3:15 PM	0	0	0	0	0
3:30 PM	0	0	0	0	0
3:45 PM	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0

RTOR

	NRR	SRR	ERR	WRR
	X	0	X	0
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
9:00 AM	0	0	0	0
9:15 AM	0	0	0	0
9:30 AM	0	0	0	0
9:45 AM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0
03:00 PM	0	0	0	0
3:15 PM	0	0	0	0
3:30 PM	0	0	0	0
3:45 PM	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
VOLUMES	0	0	0	0
PEAK HR VOLUMES	0	0	0	0

Lake

NORTH SIDE

I-15 WB Ramps WEST SIDE EAST SIDE **I-15 WB Ramps**

SOUTH SIDE

Lake

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:	LOCATION:	Corona South	PROJECT #:	SC2499
1/23/20	NORTH & SOUTH:	Lake	LOCATION #:	10
THURSDAY	EAST & WEST:	I-15 WB Ramps	CONTROL:	SIGNAL

CLASS 6:	NOTES:	AM PM MD OTHER OTHER	▲ N ◄ W E ► S ▼
BUSES			

		NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 WB Ramps			WESTBOUND I-15 WB Ramps			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	X	X	1	0	X	X	X	1	0.5	0.5	
AM	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	1	0	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	1	0	0	0	0	0	0	0	0	0	0	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	2	0	0	0	0	0	0	0	0	0	0	0	2
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	2	/	0	0	/	0	0	/	0	0	/	2	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	2	0	0	0	0	0	0	0	0	0	0	0	2
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.500			0.000			0.000			0.000		0.500
	APP/DEPART	2	/	0	0	/	0	0	/	0	0	/	2	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	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
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		3:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

	U-TURNS					RTOR			
	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
						X	0	X	0
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
VOLUMES (PEAK HR)						0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0
VOLUMES (PEAK HR)						0	0	0	0

Lake

NORTH SIDE

I-15 WB Ramps WEST SIDE EAST SIDE **I-15 WB Ramps**

SOUTH SIDE

Lake

INTERSECTION TURNING MOVEMENT COUNTS

T1218

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

DATE: Thu, Jan 23, 20

LOCATION: Corona South
NORTH & SOUTH: Lake
EAST & WEST: I-15 EB Ramps

PROJECT #: SC2499
LOCATION #: 11
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N
◄ W E ►
S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 EB Ramps			WESTBOUND I-15 EB Ramps				U-TURNS					RTOR			
	LANES:	NL X	NT 1	NR 1	SL 1	ST 1	SR X	EL 0.5	ET 0.5	ER 1	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL	NRR 0	SRR X	ERR 0	WRR X
AM	7:00 AM	0	135	108	0	50	0	0	1	61	0	0	0	355	0	0	0	0	0	36	0	40	0
	7:15 AM	0	151	60	0	71	0	0	1	58	0	0	0	341	0	0	0	0	0	25	0	26	0
	7:30 AM	0	119	51	1	65	0	0	1	57	0	0	0	294	0	0	0	0	0	8	0	25	0
	7:45 AM	0	138	55	2	24	0	1	1	54	0	0	0	275	0	0	0	0	0	8	0	34	0
	8:00 AM	0	123	35	2	26	0	0	0	48	0	0	0	234	0	0	0	0	0	4	0	22	0
	8:15 AM	0	126	47	2	23	0	1	0	46	0	0	0	245	0	0	0	0	0	10	0	23	0
	8:30 AM	0	114	35	1	23	0	1	1	51	0	0	0	226	0	0	0	0	0	2	0	19	0
	8:45 AM	0	95	32	2	26	0	1	1	48	0	0	0	205	0	0	0	0	0	12	0	26	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	1,001	423	10	308	0	4	6	423	0	0	0	2,175	0	0	0	0	0	105	0	215	0
	APPROACH %	0%	70%	30%	3%	97%	0%	1%	1%	98%	0%	0%	0%										
	APP/DEPART	1,424	/	1,005	318	/	731	433	/	439	0	/	0	0									
	BEGIN PEAK HR		7:00 AM																				
	VOLUMES	0	543	274	3	210	0	1	4	230	0	0	0	1,265						77	0	125	0
	APPROACH %	0%	66%	34%	1%	99%	0%	0%	2%	98%	0%	0%	0%										
	PEAK HR FACTOR		0.841			0.750			0.948			0.000		0.891									
	APP/DEPART	817	/	544	213	/	440	235	/	281	0	/	0	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	96	34	0	28	0	0	2	161	0	0	0	321	0	0	0	0	0	7	0	53	0
	4:15 PM	0	86	35	1	40	0	4	0	177	0	0	0	343	0	0	0	0	0	15	0	63	0
	4:30 PM	0	87	40	2	29	0	1	1	164	0	0	0	324	0	0	0	0	0	15	0	44	0
	4:45 PM	0	80	38	0	39	0	0	0	179	0	0	0	336	0	0	0	0	0	13	0	45	0
	5:00 PM	0	86	38	1	36	0	1	0	178	0	0	0	340	0	0	0	0	0	21	0	60	0
	5:15 PM	0	57	51	2	51	0	0	1	157	0	0	0	319	0	0	0	0	0	7	0	65	0
	5:30 PM	0	88	30	0	56	0	1	2	210	0	0	0	387	0	0	0	0	0	9	0	67	0
	5:45 PM	0	72	35	0	46	0	0	2	204	0	0	0	359	0	0	0	0	0	10	0	29	0
	VOLUMES	0	652	301	6	325	0	7	8	1,430	0	0	0	2,729	0	0	0	0	0	97	0	426	0
	APPROACH %	0%	68%	32%	2%	98%	0%	0%	1%	99%	0%	0%	0%										
	APP/DEPART	953	/	659	331	/	1,755	1,445	/	315	0	/	0	0									
	BEGIN PEAK HR		5:00 PM																				
	VOLUMES	0	303	154	3	189	0	2	5	749	0	0	0	1,405						47	0	221	0
	APPROACH %	0%	66%	34%	2%	98%	0%	0%	1%	99%	0%	0%	0%										
	PEAK HR FACTOR		0.921			0.857			0.887			0.000		0.908									
	APP/DEPART	457	/	305	192	/	938	756	/	162	0	/	0	0									

Lake

NORTH SIDE

I-15 EB Ramps — WEST SIDE — EAST SIDE — I-15 EB Ramps

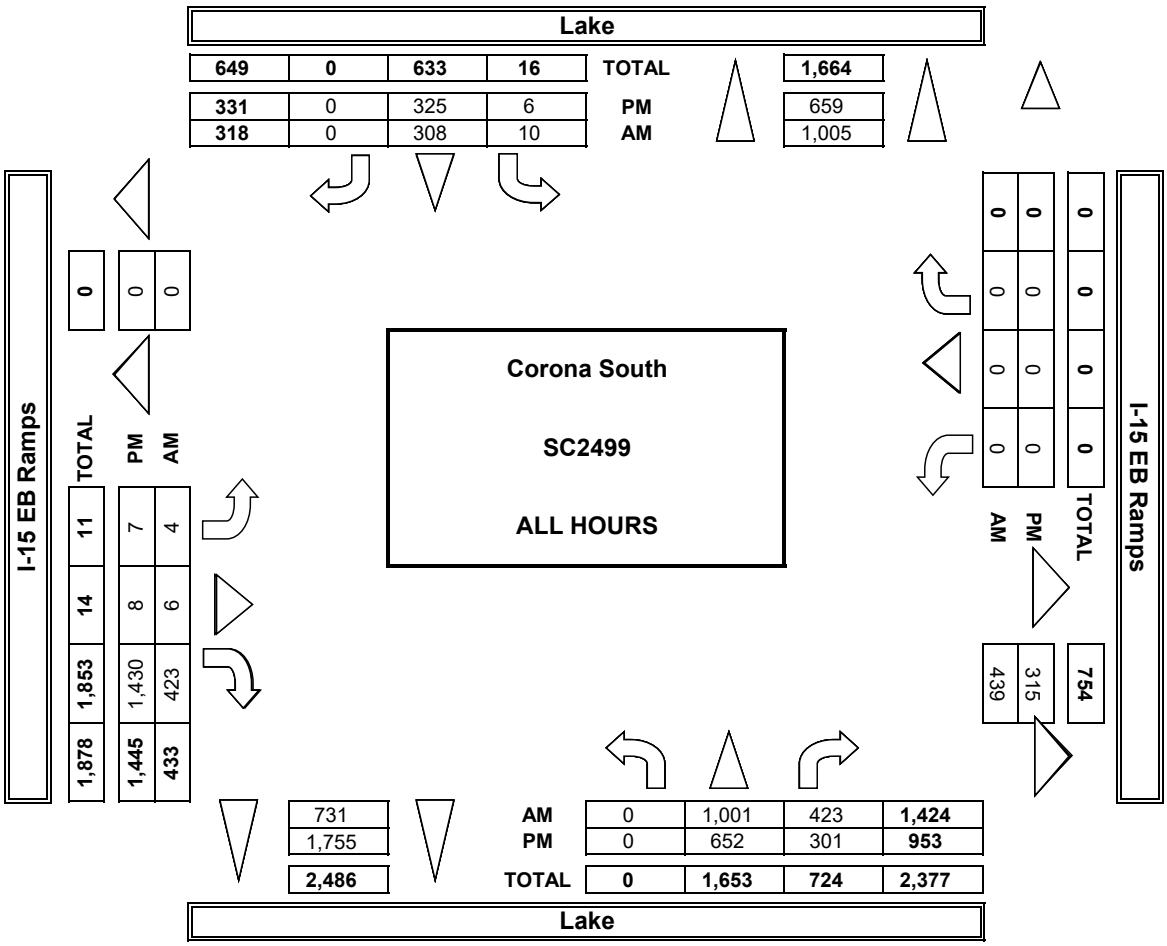
SOUTH SIDE

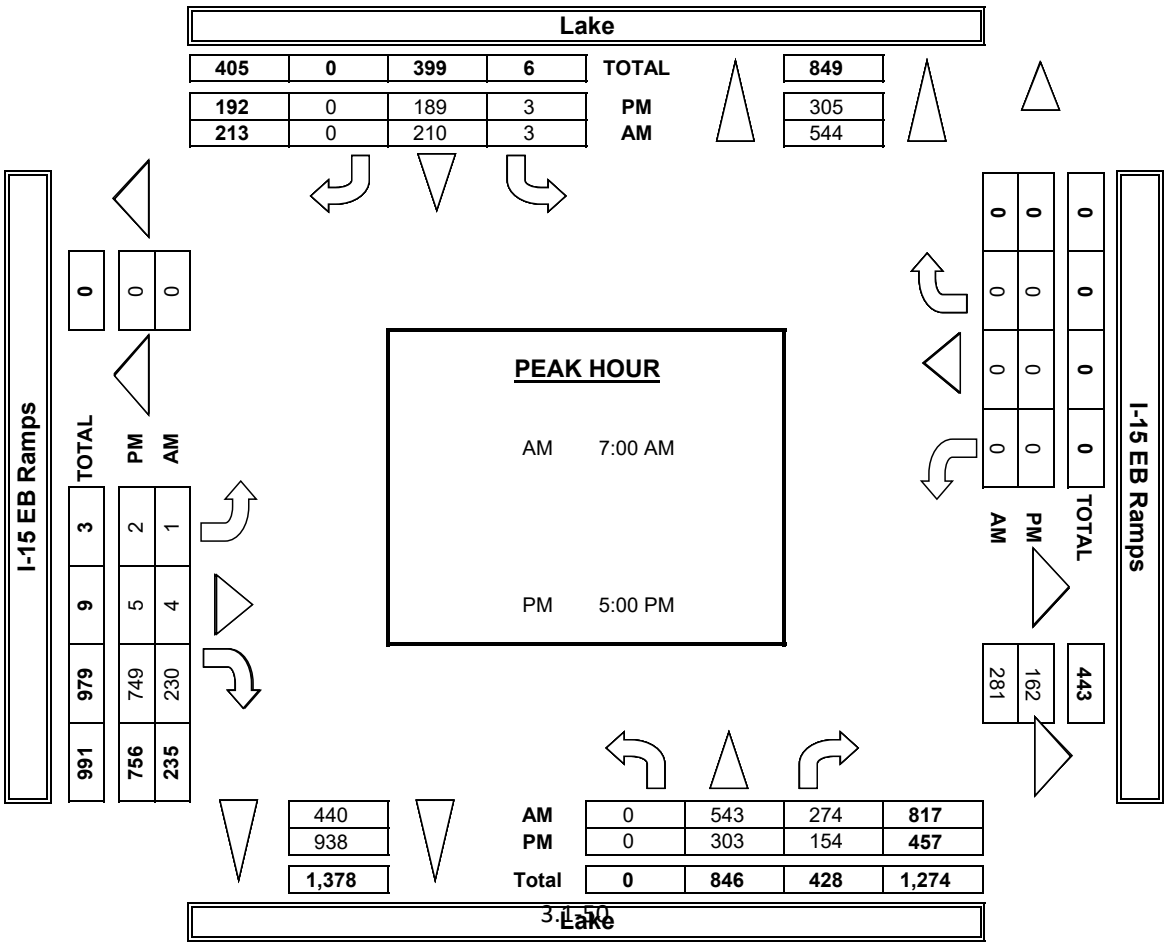
Lake

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	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	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	Lake	LOCATION #:	11
	EAST & WEST:	I-15 EB Ramps	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 EB Ramps			WESTBOUND I-15 EB Ramps			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	1	1	1	1	X	0.5	0.5	1	X	X	X	

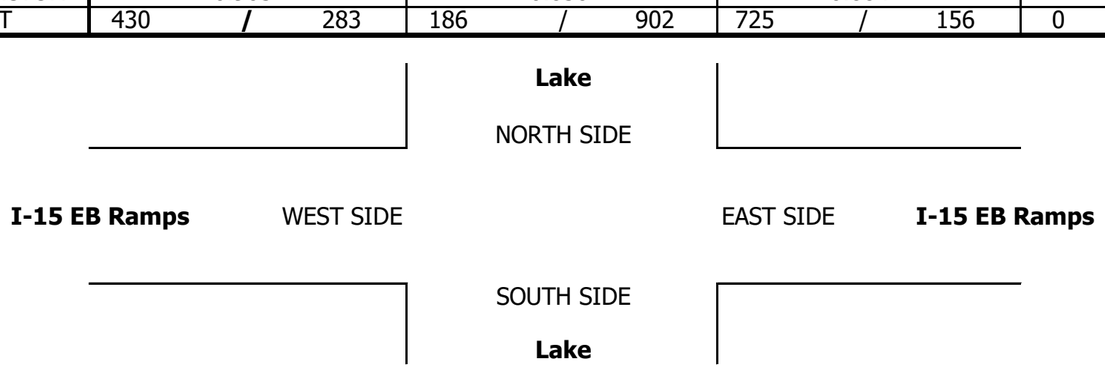
U-TURNS

NB	SB	EB	WB	TTL

RTOR

NRR	SRR	ERR	WRR
0	X	0	X

		NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 EB Ramps			WESTBOUND I-15 EB Ramps				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	0	124	107	0	44	0	0	0	47	0	0	0	322	0	0	0	0	0	36	0	29	0
	7:15 AM	0	147	55	0	62	0	0	0	47	0	0	0	311	0	0	0	0	0	24	0	20	0
	7:30 AM	0	112	43	1	62	0	0	0	49	0	0	0	267	0	0	0	0	0	6	0	21	0
	7:45 AM	0	131	46	2	20	0	1	1	49	0	0	0	250	0	0	0	0	0	8	0	31	0
	8:00 AM	0	113	30	2	19	0	0	0	42	0	0	0	206	0	0	0	0	0	4	0	20	0
	8:15 AM	0	117	43	1	17	0	1	0	35	0	0	0	214	0	0	0	0	0	10	0	18	0
	8:30 AM	0	104	31	1	20	0	1	0	42	0	0	0	199	0	0	0	0	0	2	0	19	0
	8:45 AM	0	84	29	2	18	0	0	1	42	0	0	0	176	0	0	0	0	0	11	0	24	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	932	384	9	262	0	3	2	353	0	0	0	1,945	0	0	0	0	0	101	0	182	0
	APPROACH %	0%	71%	29%	3%	97%	0%	1%	1%	99%	0%	0%	0%										
	APP/DEPART	1,316	/	935	271	/	615	358	/	395	0	/	0	0									
	BEGIN PEAK HR		7:00 AM																				
	VOLUMES	0	514	251	3	188	0	1	1	192	0	0	0	1,150						74	0	101	0
	APPROACH %	0%	67%	33%	2%	98%	0%	1%	1%	99%	0%	0%	0%										
	PEAK HR FACTOR		0.828			0.758			0.951			0.000		0.893									
	APP/DEPART	765	/	515	191	/	380	194	/	255	0	/	0	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	83	30	0	25	0	0	1	154	0	0	0	293	0	0	0	0	0	6	0	50	0
	4:15 PM	0	80	34	1	40	0	3	0	172	0	0	0	330	0	0	0	0	0	15	0	61	0
	4:30 PM	0	83	40	2	27	0	1	1	154	0	0	0	308	0	0	0	0	0	15	0	41	0
	4:45 PM	0	78	37	0	37	0	0	0	175	0	0	0	327	0	0	0	0	0	13	0	44	0
	5:00 PM	0	81	38	1	35	0	1	0	174	0	0	0	330	0	0	0	0	0	21	0	58	0
	5:15 PM	0	52	50	2	49	0	0	1	146	0	0	0	300	0	0	0	0	0	7	0	61	0
	5:30 PM	0	82	29	0	56	0	1	1	203	0	0	0	372	0	0	0	0	0	9	0	64	0
	5:45 PM	0	66	32	0	43	0	0	2	196	0	0	0	339	0	0	0	0	0	9	0	28	0
	VOLUMES	0	605	290	6	312	0	6	6	1,374	0	0	0	2,599	0	0	0	0	0	95	0	407	0
	APPROACH %	0%	68%	32%	2%	98%	0%	0%	0%	99%	0%	0%	0%										
	APP/DEPART	895	/	611	318	/	1,686	1,386	/	302	0	/	0	0									
	BEGIN PEAK HR		5:00 PM																				
	VOLUMES	0	281	149	3	183	0	2	4	719	0	0	0	1,341						46	0	211	0
	APPROACH %	0%	65%	35%	2%	98%	0%	0%	1%	99%	0%	0%	0%										
	PEAK HR FACTOR		0.903			0.830			0.884			0.000		0.901									
	APP/DEPART	430	/	283	186	/	902	725	/	156	0	/	0	0									



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	Lake	LOCATION #:	11
	EAST & WEST:	I-15 EB Ramps	CONTROL:	SIGNAL

CLASS 2:	NOTES:
2-AXLE WORK VEHICLES/ TRUCKS	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 EB Ramps			WESTBOUND I-15 EB Ramps			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	1	1	1	1	X	0.5	0.5	1	X	X	X	

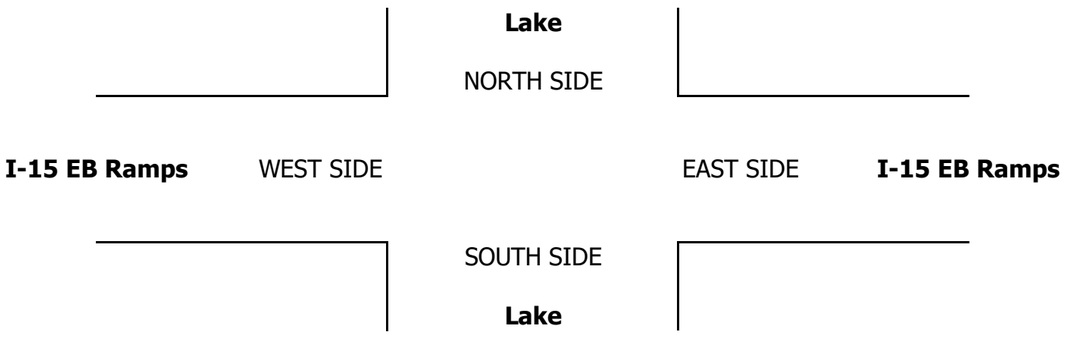
U-TURNS

NB	SB	EB	WB	TTL

RTOR

NRR	SRR	ERR	WRR
0	X	0	X

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	0	7	0	0	1	0	0	0	6	0	0	0	14	0	0	0	0	0	0	0	4	0
	7:15 AM	0	2	2	0	3	0	0	0	5	0	0	0	12	0	0	0	0	0	0	0	3	0
	7:30 AM	0	5	3	0	2	0	0	1	2	0	0	0	13	0	0	0	0	0	0	0	2	0
	7:45 AM	0	4	1	0	2	0	0	0	4	0	0	0	11	0	0	0	0	0	0	0	3	0
	8:00 AM	0	6	2	0	3	0	0	0	5	0	0	0	16	0	0	0	0	0	0	0	2	0
	8:15 AM	0	3	1	1	1	0	0	0	4	0	0	0	10	0	0	0	0	0	0	0	2	0
	8:30 AM	0	0	1	0	1	0	0	0	5	0	0	0	7	0	0	0	0	0	0	0	0	0
	8:45 AM	0	8	0	0	2	0	0	0	4	0	0	0	14	0	0	0	0	0	0	0	1	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	35	10	1	15	0	0	1	35	0	0	0	97	0	0	0	0	0	0	0	17	0
	APPROACH %	0%	78%	22%	6%	94%	0%	0%	3%	97%	0%	0%	0%										
	APP/DEPART	45	/	35	16	/	50	36	/	12	0	/	0	0									
	BEGIN PEAK HR		7:15 AM																				
	VOLUMES	0	17	8	0	10	0	0	1	16	0	0	0	52						0	0	10	0
	APPROACH %	0%	68%	32%	0%	100%	0%	0%	6%	94%	0%	0%	0%										
	PEAK HR FACTOR		0.781			0.833			0.850			0.000		0.813									
	APP/DEPART	25	/	17	10	/	26	17	/	9	0	/	0	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	8	2	0	3	0	0	0	5	0	0	0	18	0	0	0	0	0	1	0	2	0
	4:15 PM	0	3	0	0	0	0	1	0	4	0	0	0	8	0	0	0	0	0	0	0	1	0
	4:30 PM	0	2	0	0	2	0	0	0	5	0	0	0	9	0	0	0	0	0	0	0	2	0
	4:45 PM	0	1	0	0	1	0	0	0	4	0	0	0	6	0	0	0	0	0	0	0	1	0
	5:00 PM	0	3	0	0	1	0	0	0	3	0	0	0	7	0	0	0	0	0	0	0	1	0
	5:15 PM	0	5	1	0	1	0	0	0	7	0	0	0	14	0	0	0	0	0	0	0	2	0
	5:30 PM	0	5	1	0	0	0	0	1	7	0	0	0	14	0	0	0	0	0	0	0	3	0
	5:45 PM	0	5	2	0	1	0	0	0	4	0	0	0	12	0	0	0	0	0	1	0	1	0
	VOLUMES	0	32	6	0	9	0	1	1	39	0	0	0	88	0	0	0	0	0	2	0	13	0
	APPROACH %	0%	84%	16%	0%	100%	0%	2%	2%	95%	0%	0%	0%										
	APP/DEPART	38	/	33	9	/	48	41	/	7	0	/	0	0									
	BEGIN PEAK HR		5:00 PM																				
	VOLUMES	0	18	4	0	3	0	0	1	21	0	0	0	47						1	0	7	0
	APPROACH %	0%	82%	18%	0%	100%	0%	0%	5%	95%	0%	0%	0%										
	PEAK HR FACTOR		0.786			0.750			0.688			0.000		0.839									
	APP/DEPART	22	/	18	3	/	24	22	/	5	0	/	0	0									



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	Lake	LOCATION #:	11
	EAST & WEST:	I-15 EB Ramps	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

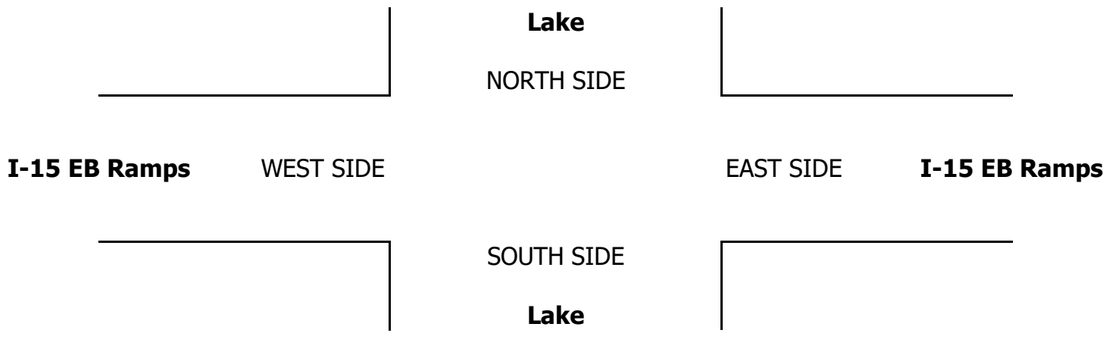
	NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 EB Ramps			WESTBOUND I-15 EB Ramps			
LANES:	NL X	NT 1	NR 1	SL 1	ST 1	SR X	EL 0.5	ET 0.5	ER 1	WL X	WT X	WR X	TOTAL
7:00 AM	0	0	1	0	0	0	0	0	3	0	0	0	4
7:15 AM	0	2	3	0	1	0	0	0	5	0	0	0	11
7:30 AM	0	1	1	0	0	0	0	0	3	0	0	0	5
7:45 AM	0	3	1	0	0	0	0	0	1	0	0	0	5
8:00 AM	0	1	2	0	0	0	0	0	0	0	0	0	3
8:15 AM	0	6	2	0	4	0	0	0	2	0	0	0	14
8:30 AM	0	5	1	0	1	0	0	0	4	0	0	0	11
8:45 AM	0	0	1	0	1	0	1	0	1	0	0	0	4
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	18	12	0	7	0	1	0	19	0	0	0	57
APPROACH %	0%	60%	40%	0%	100%	0%	5%	0%	95%	0%	0%	0%	
APP/DEPART	30	/	19	7	/	26	20	/	12	0	/	0	0
BEGIN PEAK HR		7:45 AM											
VOLUMES	0	15	6	0	5	0	0	0	7	0	0	0	33
APPROACH %	0%	71%	29%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
PEAK HR FACTOR		0.656			0.313			0.438			0.000		0.589
APP/DEPART	21	/	15	5	/	12	7	/	6	0	/	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	1	1	0	0	0	0	1	0	0	0	0	3
4:15 PM	0	2	0	0	0	0	0	0	1	0	0	0	3
4:30 PM	0	2	0	0	0	0	0	0	4	0	0	0	6
4:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	2
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	1	0	0	0	1	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	0	1	0	0	0	2	0	0	0	4
VOLUMES	0	6	3	0	3	0	0	1	8	0	0	0	21
APPROACH %	0%	67%	33%	0%	100%	0%	0%	11%	89%	0%	0%	0%	
APP/DEPART	9	/	6	3	/	11	9	/	4	0	/	0	0
BEGIN PEAK HR		4:00 PM											
VOLUMES	0	5	2	0	1	0	0	1	5	0	0	0	14
APPROACH %	0%	71%	29%	0%	100%	0%	0%	17%	83%	0%	0%	0%	
PEAK HR FACTOR		0.875			0.250			0.375			0.000		0.583
APP/DEPART	7	/	5	1	/	6	6	/	3	0	/	0	0

U-TURNS

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

RTOR

NRR	SRR	ERR	WRR
0	X	0	X
0	0	3	0
1	0	3	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
2	0	8	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	3	0
0	0	2	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	Lake	LOCATION #:	11
	EAST & WEST:	I-15 EB Ramps	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 EB Ramps			WESTBOUND I-15 EB Ramps			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	1	1	1	1	X	0.5	0.5	1	X	X	X	
AM	7:00 AM	0	4	0	0	5	0	0	1	5	0	0	0	15
AM	7:15 AM	0	0	0	0	5	0	0	1	1	0	0	0	7
AM	7:30 AM	0	1	4	0	1	0	0	0	3	0	0	0	9
AM	7:45 AM	0	0	7	0	2	0	0	0	0	0	0	0	9
AM	8:00 AM	0	2	1	0	4	0	0	0	1	0	0	0	8
AM	8:15 AM	0	0	1	0	1	0	0	0	5	0	0	0	7
AM	8:30 AM	0	4	2	0	1	0	0	1	0	0	0	0	8
AM	8:45 AM	0	3	2	0	5	0	0	0	1	0	0	0	11
AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	VOLUMES	0	14	17	0	24	0	0	3	16	0	0	0	74
AM	APPROACH %	0%	45%	55%	0%	100%	0%	0%	16%	84%	0%	0%	0%	
AM	APP/DEPART	31	/	14	24	/	40	19	/	20	0	/	0	0
AM	BEGIN PEAK HR		7:00 AM											
AM	VOLUMES	0	5	11	0	13	0	0	2	9	0	0	0	40
AM	APPROACH %	0%	31%	69%	0%	100%	0%	0%	18%	82%	0%	0%	0%	
AM	PEAK HR FACTOR		0.571			0.650			0.458			0.000		0.667
AM	APP/DEPART	16	/	5	13	/	22	11	/	13	0	/	0	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	4	1	0	0	0	0	0	1	0	0	0	6
PM	4:15 PM	0	1	1	0	0	0	0	0	0	0	0	0	2
PM	4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
PM	4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
PM	5:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	2
PM	5:15 PM	0	0	0	0	0	0	0	0	3	0	0	0	3
PM	5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
PM	5:45 PM	0	1	0	0	1	0	0	0	2	0	0	0	4
PM	VOLUMES	0	9	2	0	1	0	0	0	8	0	0	0	20
PM	APPROACH %	0%	82%	18%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
PM	APP/DEPART	11	/	9	1	/	9	8	/	2	0	/	0	0
PM	BEGIN PEAK HR		4:00 PM											
PM	VOLUMES	0	6	2	0	0	0	0	0	2	0	0	0	10
PM	APPROACH %	0%	75%	25%	0%	0%	0%	0%	0%	100%	0%	0%	0%	
PM	PEAK HR FACTOR		0.400			0.000			0.500			0.000		0.417
PM	APP/DEPART	8	/	6	0	/	2	2	/	2	0	/	0	0

U-TURNS

		NB	SB	EB	WB	TTL
AM	7:00 AM	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0
AM	8:30 AM	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0
AM	9:00 AM	0	0	0	0	0
AM	9:15 AM	0	0	0	0	0
AM	9:30 AM	0	0	0	0	0
AM	9:45 AM	0	0	0	0	0
AM	VOLUMES	0	0	0	0	0
PM	03:00 PM	0	0	0	0	0
PM	3:15 PM	0	0	0	0	0
PM	3:30 PM	0	0	0	0	0
PM	3:45 PM	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0
PM	4:30 PM	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0
PM	5:00 PM	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0
PM	5:30 PM	0	0	0	0	0
PM	5:45 PM	0	0	0	0	0
PM	VOLUMES	0	0	0	0	0

RTOR

		NRR	SRR	ERR	WRR
	LANES	0	X	0	X
AM	7:00 AM	0	0	4	0
AM	7:15 AM	0	0	0	0
AM	7:30 AM	2	0	1	0
AM	7:45 AM	0	0	0	0
AM	8:00 AM	0	0	0	0
AM	8:15 AM	0	0	3	0
AM	8:30 AM	0	0	0	0
AM	8:45 AM	0	0	0	0
AM	9:00 AM	0	0	0	0
AM	9:15 AM	0	0	0	0
AM	9:30 AM	0	0	0	0
AM	9:45 AM	0	0	0	0
AM	VOLUMES	2	0	8	0
AM	PEAK HR VOLUMES	2	0	5	0
PM	03:00 PM	0	0	0	0
PM	3:15 PM	0	0	0	0
PM	3:30 PM	0	0	0	0
PM	3:45 PM	0	0	0	0
PM	4:00 PM	0	0	1	0
PM	4:15 PM	0	0	0	0
PM	4:30 PM	0	0	0	0
PM	4:45 PM	0	0	0	0
PM	5:00 PM	0	0	1	0
PM	5:15 PM	0	0	1	0
PM	5:30 PM	0	0	0	0
PM	5:45 PM	0	0	0	0
PM	VOLUMES	0	0	3	0
PM	PEAK HR VOLUMES	0	0	1	0

Lake

NORTH SIDE

I-15 EB Ramps WEST SIDE EAST SIDE **I-15 EB Ramps**

SOUTH SIDE

Lake

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	Lake	LOCATION #:	11
	EAST & WEST:	I-15 EB Ramps	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 EB Ramps			WESTBOUND I-15 EB Ramps			
LANES:	NL: X	NT: 1	NR: 1	SL: 1	ST: 1	SR: X	EL: 0.5	ET: 0.5	ER: 1	WL: X	WT: X	WR: X	TOTAL

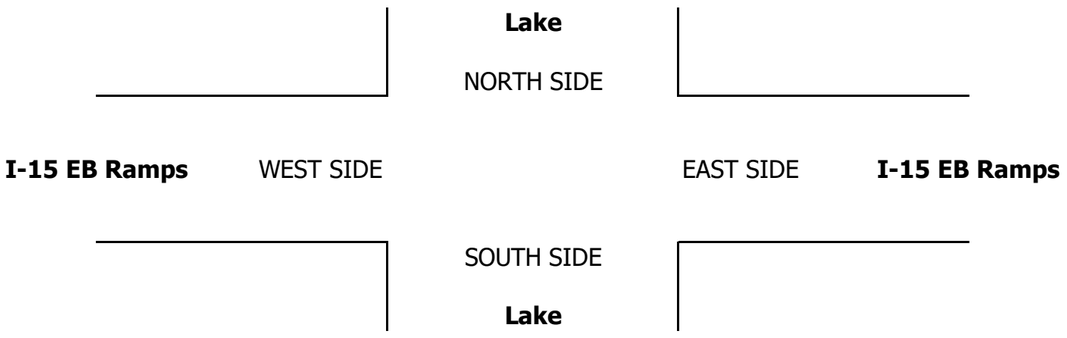
U-TURNS

NB	SB	EB	WB	TTL

RTOR

NRR	SRR	ERR	WRR
0	X	0	X

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0									
	BEGIN PEAK HR	7:00 AM																					
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0						0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000									
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0									
	BEGIN PEAK HR	3:00 PM																					
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0						0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000									
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0									



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:				
1/23/20	LOCATION:	Corona South	PROJECT #:	SC2499
THURSDAY	NORTH & SOUTH:	Lake	LOCATION #:	11
	EAST & WEST:	I-15 EB Ramps	CONTROL:	SIGNAL

CLASS 6:	NOTES:
BUSES	

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

	NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND I-15 EB Ramps			WESTBOUND I-15 EB Ramps			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	1	1	1	1	X	0.5	0.5	1	X	X	X	

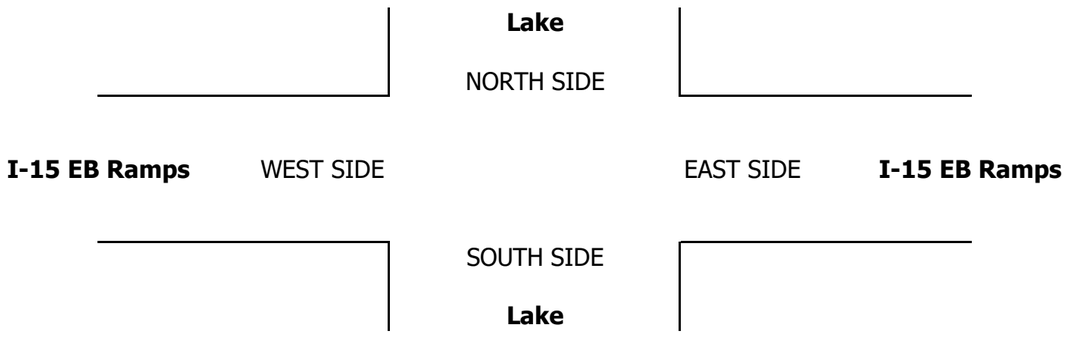
U-TURNS

NB	SB	EB	WB	TTL

RTOR

NRR	SRR	ERR	WRR
0	X	0	X

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS					RTOR			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	APP/DEPART	2	/	2	0	/	0	0	/	0	0	/	0	0									
	BEGIN PEAK HR		7:45 AM																				
	VOLUMES	0	2	0	0	0	0	0	0	0	0	0	0	2						0	0	0	0
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR		0.500			0.000			0.000			0.000		0.500									
	APP/DEPART	2	/	2	0	/	0	0	/	0	0	/	0	0									
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%										
	APP/DEPART	0	/	0	0	/	1	1	/	0	0	/	0	0									
	BEGIN PEAK HR		4:00 PM																				
	VOLUMES	0	0	0	0	0	0	0	0	1	0	0	0	1						0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%										
	PEAK HR FACTOR		0.000			0.000			0.250			0.000		0.250									
	APP/DEPART	0	/	0	0	/	1	1	/	0	0	/	0	0									



INTERSECTION TURNING MOVEMENT COUNTS

T816

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

DATE: Thu, Jan 23, 20

LOCATION: Corona South
NORTH & SOUTH: Lake
EAST & WEST: Temescal Canyon

PROJECT #: SC2499
LOCATION #: 12
CONTROL: SIGNAL

NOTES:

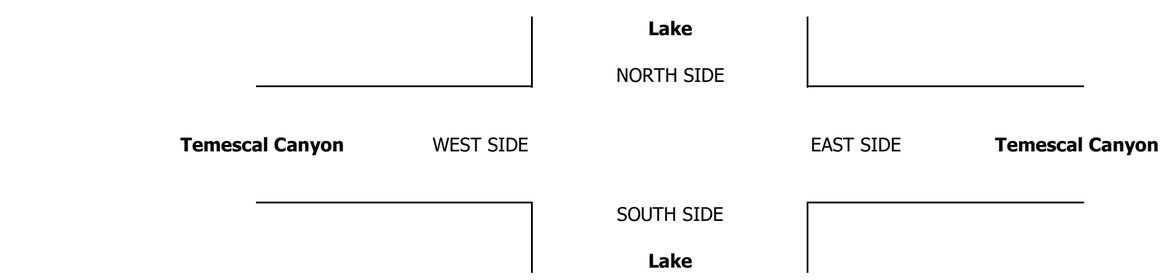
AM
PM
MD
OTHER
OTHER

◄ W
▲ N
S ▼
E ►

☑ Add U-Turns to Left Turns

		NORTHBOUND Lake			SOUTHBOUND Lake			EASTBOUND Temescal Canyon			WESTBOUND Temescal Canyon			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM	7:00 AM	39	144	0	0	69	45	101	0	7	0	0	0	405
	7:15 AM	37	151	0	0	62	75	55	0	9	0	0	0	389
	7:30 AM	69	140	0	0	60	60	40	0	7	0	0	0	376
	7:45 AM	45	129	0	0	60	26	47	0	37	0	0	0	344
	8:00 AM	31	124	0	0	48	25	33	0	15	0	0	0	276
	8:15 AM	32	126	0	0	50	17	45	0	11	0	0	0	281
	8:30 AM	21	114	0	0	52	25	29	0	10	0	0	0	251
	8:45 AM	15	97	0	0	54	19	34	0	10	0	0	0	229
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	289	1,025	0	0	455	292	384	0	106	0	0	0	2,551
	APPROACH %	22%	78%	0%	0%	61%	39%	78%	0%	22%	0%	0%	0%	
	APP/DEPART	1,314	/	1,409	747	/	561	490	/	0	0	/	581	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	190	564	0	0	251	206	243	0	60	0	0	0	1,514
	APPROACH %	25%	75%	0%	0%	55%	45%	80%	0%	20%	0%	0%	0%	
	PEAK HR FACTOR		0.902			0.834			0.701			0.000		0.935
	APP/DEPART	754	/	807	457	/	311	303	/	0	0	/	396	0
PM	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	18	89	0	0	161	36	34	0	27	0	0	0	365
	4:15 PM	16	87	0	0	180	40	31	0	25	0	0	0	379
	4:30 PM	5	81	0	0	173	30	36	0	30	0	0	0	355
	4:45 PM	15	80	0	0	184	40	43	0	31	0	0	0	393
	5:00 PM	18	87	0	0	177	38	34	0	19	0	0	0	373
	5:15 PM	23	69	0	0	159	50	45	0	19	0	0	0	365
	5:30 PM	16	82	0	0	206	55	29	0	19	0	0	0	407
	5:45 PM	17	69	0	0	198	46	40	0	23	0	0	0	393
	VOLUMES	128	644	0	0	1,438	335	292	0	193	0	0	0	3,030
	APPROACH %	17%	83%	0%	0%	81%	19%	60%	0%	40%	0%	0%	0%	
	APP/DEPART	772	/	936	1,773	/	1,631	485	/	0	0	/	463	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	74	307	0	0	740	189	148	0	80	0	0	0	1,538
	APPROACH %	19%	81%	0%	0%	80%	20%	65%	0%	35%	0%	0%	0%	
	PEAK HR FACTOR		0.907			0.890			0.770			0.000		0.945
	APP/DEPART	381	/	455	929	/	820	228	/	0	0	/	263	0

U-TURNS					RTOR			
NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
0	0	0	0		X	0	0	X
0	0	0	0	0	0	21	4	0
0	0	0	0	0	0	14	5	0
0	0	0	0	0	0	6	5	0
0	0	0	0	0	0	4	26	0
0	0	0	0	0	0	5	10	0
0	0	0	0	0	0	4	8	0
0	0	0	0	0	0	6	5	0
0	0	0	0	0	0	2	7	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	62	70	0
					0	45	40	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	6	7	0
0	0	0	0	0	0	9	18	0
0	0	0	0	0	0	3	9	0
0	0	0	0	0	0	9	13	0
0	0	0	0	0	0	8	15	0
0	0	0	0	0	0	9	12	0
0	0	0	0	0	0	3	9	0
0	0	0	0	0	0	4	5	0
0	0	0	0	0	0	51	88	0
					0	24	41	0



		ALL PED AND BIKE				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	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
	9:00 AM	0	0	0	0	0
	9:15 AM	0	0	0	0	0
	9:30 AM	0	0	0	0	0
	9:45 AM	0	0	0	0	0
	TOTAL	0	0	0	0	0
PM	3:00 PM	0	0	0	0	0
	3:15 PM	0	0	0	0	0
	3:30 PM	0	0	0	0	0
	3:45 PM	0	0	0	0	0
	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	0	0	0	0

PEDESTRIAN CROSSINGS				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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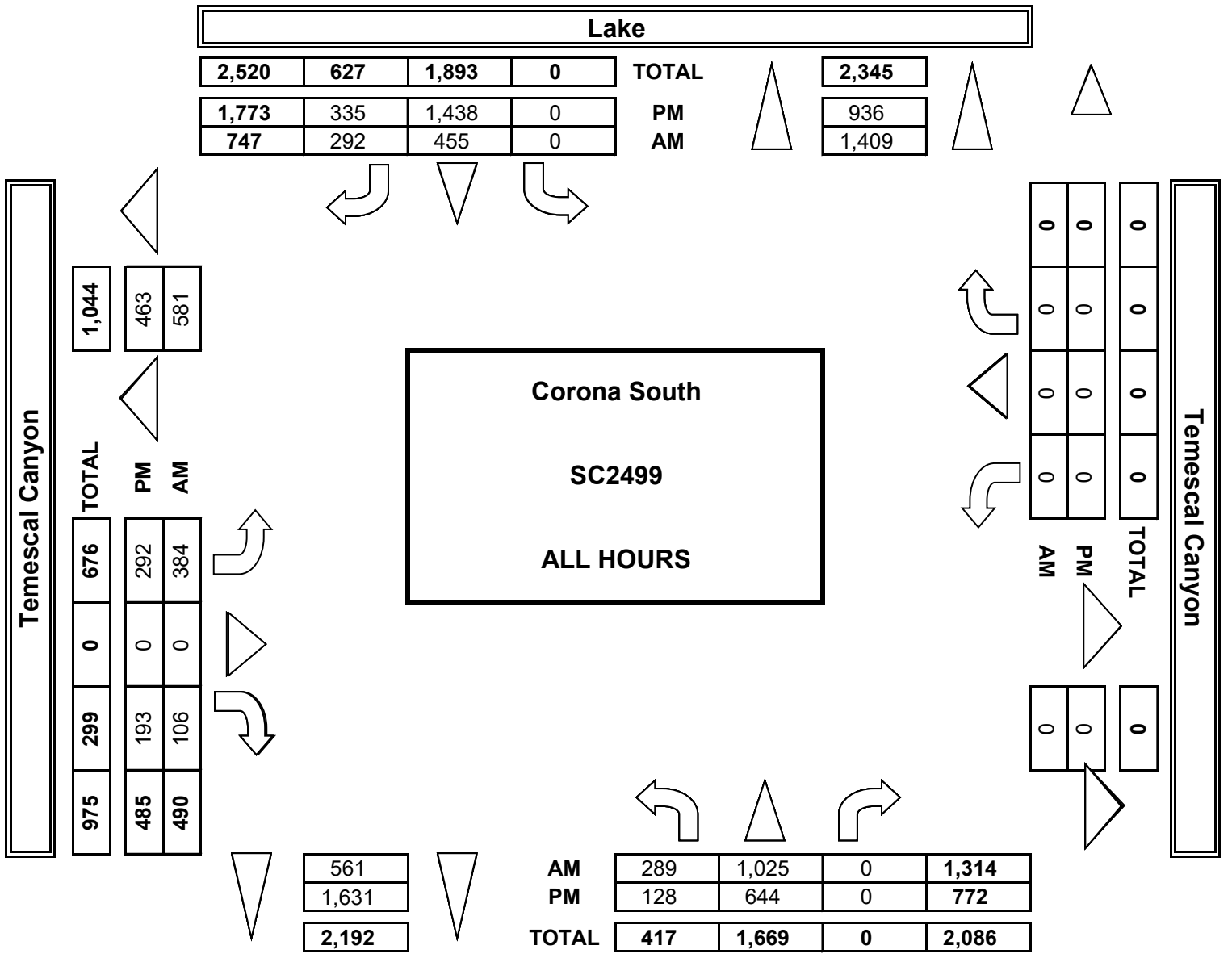
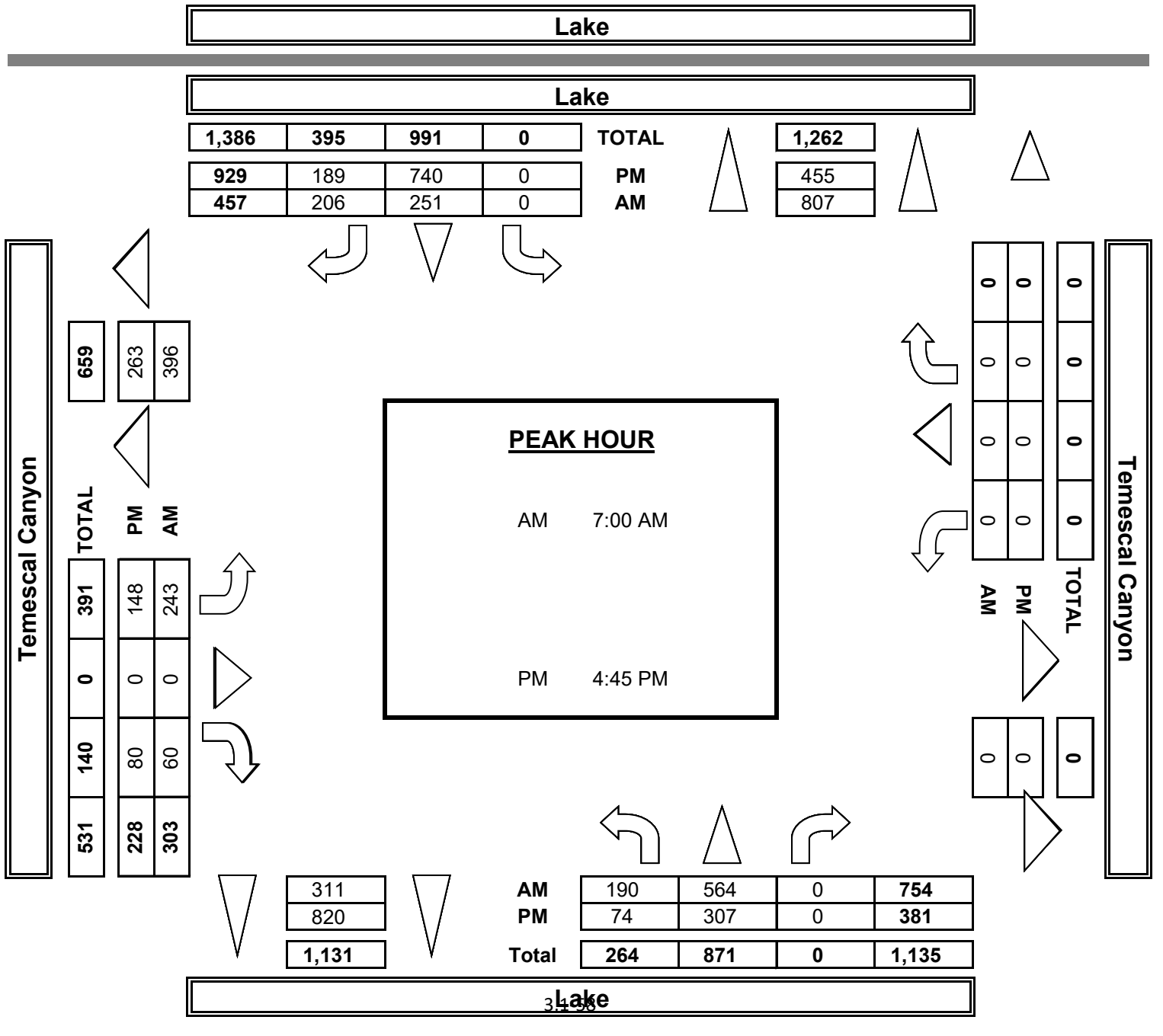
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





APPENDIX 3.2:

EXISTING (2020) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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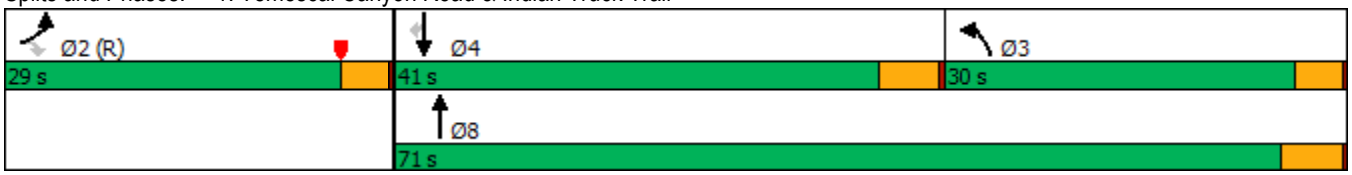
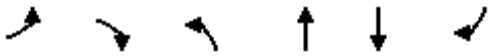
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	340	150	183	139	6	105
Future Volume (vph)	340	150	183	139	6	105
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	40.0
Total Split (s)	29.0	29.0	30.0	71.0	41.0	41.0
Total Split (%)	29.0%	29.0%	30.0%	71.0%	41.0%	41.0%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	58.6	58.6	16.9	32.4	11.5	11.5
Actuated g/C Ratio	0.59	0.59	0.17	0.32	0.12	0.12
v/c Ratio	0.19	0.17	0.69	0.26	0.03	0.42
Control Delay	13.5	3.9	50.5	23.7	31.7	10.1
Queue Delay	0.5	0.5	0.0	0.0	0.0	0.0
Total Delay	13.9	4.5	50.5	23.7	31.7	10.1
LOS	B	A	D	C	C	B
Approach Delay	11.0			38.9	11.2	
Approach LOS	B			D	B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBL and 6:, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 34.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	340	150	183	139	6	105
Future Volume (veh/h)	340	150	183	139	6	105
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	391	152	210	160	7	73
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2277	1044	248	497	141	118
Arrive On Green	0.65	0.65	0.14	0.26	0.07	0.07
Sat Flow, veh/h	3510	1610	1810	1900	1900	1588
Grp Volume(v), veh/h	391	152	210	160	7	73
Grp Sat Flow(s),veh/h/ln	1755	1610	1810	1900	1900	1588
Q Serve(g_s), s	4.4	3.7	11.3	6.8	0.3	4.5
Cycle Q Clear(g_c), s	4.4	3.7	11.3	6.8	0.3	4.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	2277	1044	248	497	141	118
V/C Ratio(X)	0.17	0.15	0.85	0.32	0.05	0.62
Avail Cap(c_a), veh/h	2277	1044	470	1254	684	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.9	6.8	42.1	29.8	43.0	44.9
Incr Delay (d2), s/veh	0.2	0.3	7.7	0.3	0.1	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.2	5.4	3.0	0.2	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.1	7.1	49.8	30.1	43.1	48.8
LnGrp LOS	A	A	D	C	D	D
Approach Vol, veh/h	543			370	80	
Approach Delay, s/veh	7.1			41.3	48.3	
Approach LOS	A			D	D	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	68.9	18.7	12.4	31.1
Change Period (Y+Rc), s	4.0	5.0	* 5	5.0
Max Green Setting (Gmax), s	25.0	26.0	* 36	66.0
Max Q Clear Time (g_c+I1), s	6.4	13.3	6.5	8.8
Green Ext Time (p_c), s	1.7	0.4	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	23.2
HCM 6th LOS	C

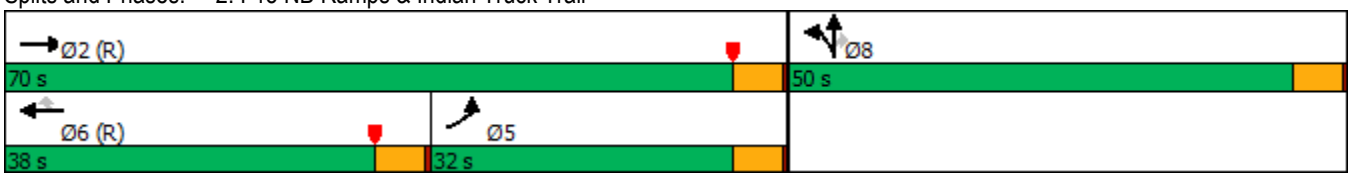
Notes

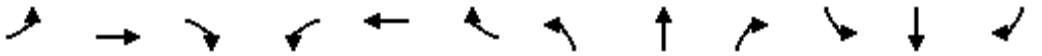
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	246	122	167	121	169	3	369
Future Volume (vph)	246	122	167	121	169	3	369
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	30.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	32.0	70.0	38.0	38.0	50.0	50.0	50.0
Total Split (%)	26.7%	58.3%	31.7%	31.7%	41.7%	41.7%	41.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max
Act Effct Green (s)	27.0	65.0	33.0	33.0	45.0	45.0	45.0
Actuated g/C Ratio	0.22	0.54	0.28	0.28	0.38	0.38	0.38
v/c Ratio	0.35	0.08	0.30	0.26	0.27	0.35	0.33
Control Delay	49.6	17.0	36.0	6.9	27.6	6.6	4.9
Queue Delay	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Total Delay	49.6	17.0	36.0	7.6	27.6	6.6	4.9
LOS	D	B	D	A	C	A	A
Approach Delay		38.8	24.1			11.9	
Approach LOS		D	C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.35	
Intersection Signal Delay: 23.1	Intersection LOS: C
Intersection Capacity Utilization 35.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: I-15 NB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	122	0	0	167	121	169	3	369	0	0	0
Future Volume (veh/h)	246	122	0	0	167	121	169	3	369	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1678	0	0	981	1811	1841	1900	1678			
Adj Flow Rate, veh/h	270	134	0	0	184	102	271	0	153			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	3	15	0	0	62	6	4	0	15			
Cap, veh/h	771	1727	0	0	513	422	1315	0	533			
Arrive On Green	0.07	0.18	0.00	0.00	0.28	0.28	0.38	0.00	0.38			
Sat Flow, veh/h	3428	3272	0	0	1913	1535	3506	0	1422			
Grp Volume(v), veh/h	270	134	0	0	184	102	271	0	153			
Grp Sat Flow(s),veh/h/ln	1714	1594	0	0	932	1535	1753	0	1422			
Q Serve(g_s), s	9.0	4.2	0.0	0.0	9.5	6.2	6.3	0.0	9.0			
Cycle Q Clear(g_c), s	9.0	4.2	0.0	0.0	9.5	6.2	6.3	0.0	9.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	771	1727	0	0	513	422	1315	0	533			
V/C Ratio(X)	0.35	0.08	0.00	0.00	0.36	0.24	0.21	0.00	0.29			
Avail Cap(c_a), veh/h	771	1727	0	0	513	422	1315	0	533			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.99	0.99	0.00	0.00	0.90	0.90	1.00	0.00	1.00			
Uniform Delay (d), s/veh	47.2	24.3	0.0	0.0	35.0	33.8	25.4	0.0	26.3			
Incr Delay (d2), s/veh	0.3	0.1	0.0	0.0	1.8	1.2	0.4	0.0	1.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.0	1.5	0.0	0.0	2.2	2.4	2.6	0.0	3.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	24.4	0.0	0.0	36.7	35.0	25.8	0.0	27.6			
LnGrp LOS	D	C	A	A	D	D	C	A	C			
Approach Vol, veh/h		404			286			424				
Approach Delay, s/veh		39.8			36.1			26.4				
Approach LOS		D			D			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		70.0			32.0	38.0		50.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		65.0			27.0	33.0		45.0				
Max Q Clear Time (g_c+I1), s		6.2			11.0	11.5		11.0				
Green Ext Time (p_c), s		0.5			0.8	0.8		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

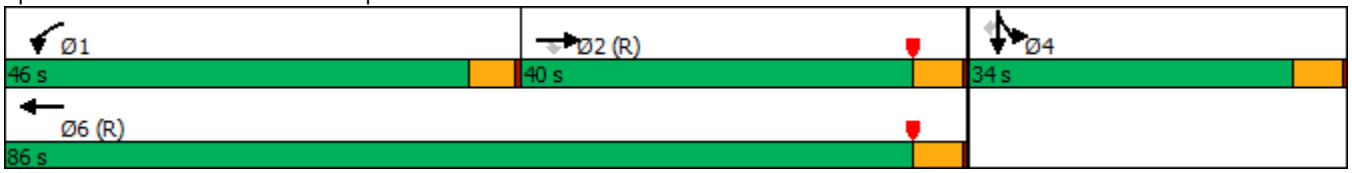
Notes

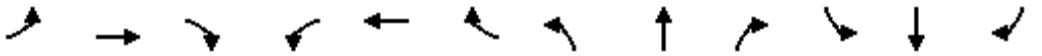
User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	267	166	133	204	100	7	218
Future Volume (vph)	267	166	133	204	100	7	218
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	9.5	25.0	10.0	10.0	10.0
Total Split (s)	40.0	40.0	46.0	86.0	34.0	34.0	34.0
Total Split (%)	33.3%	33.3%	38.3%	71.7%	28.3%	28.3%	28.3%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	4.5	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	57.2	57.2	19.3	81.0	29.0	29.0	29.0
Actuated g/C Ratio	0.48	0.48	0.16	0.68	0.24	0.24	0.24
v/c Ratio	0.12	0.21	0.72	0.09	0.29	0.29	0.28
Control Delay	15.5	4.1	83.3	8.3	39.7	9.4	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	4.1	83.3	8.3	39.7	9.4	8.2
LOS	B	A	F	A	D	A	A
Approach Delay	11.1			37.9		18.3	
Approach LOS	B			D		B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 21.5	Intersection LOS: C
Intersection Capacity Utilization 35.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: I-15 SB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	267	166	133	204	0	0	0	0	100	7	218
Future Volume (veh/h)	0	267	166	133	204	0	0	0	0	100	7	218
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1870	1278	1870	0				1663	1900	1781
Adj Flow Rate, veh/h	0	293	122	146	224	0				110	0	124
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	4	2	42	2	0				16	0	8
Cap, veh/h	0	2528	798	163	2399	0				383	0	730
Arrive On Green	0.00	0.50	0.50	0.27	1.00	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	5191	1585	1217	3647	0				1584	0	3019
Grp Volume(v), veh/h	0	293	122	146	224	0				110	0	124
Grp Sat Flow(s),veh/h/ln	0	1675	1585	1217	1777	0				1584	0	1510
Q Serve(g_s), s	0.0	3.7	5.0	13.9	0.0	0.0				6.8	0.0	3.9
Cycle Q Clear(g_c), s	0.0	3.7	5.0	13.9	0.0	0.0				6.8	0.0	3.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2528	798	163	2399	0				383	0	730
V/C Ratio(X)	0.00	0.12	0.15	0.89	0.09	0.00				0.29	0.00	0.17
Avail Cap(c_a), veh/h	0	2528	798	421	2399	0				383	0	730
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.92	0.92	0.97	0.97	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.7	16.0	43.1	0.0	0.0				37.1	0.0	36.0
Incr Delay (d2), s/veh	0.0	0.1	0.4	14.8	0.1	0.0				1.9	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.4	1.8	4.1	0.0	0.0				2.8	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.8	16.4	57.8	0.1	0.0				39.0	0.0	36.5
LnGrp LOS	A	B	B	E	A	A				D	A	D
Approach Vol, veh/h		415			370						234	
Approach Delay, s/veh		16.0			22.9						37.7	
Approach LOS		B			C						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	20.6	65.4		34.0		86.0						
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0						
Max Green Setting (Gmax), s	41.5	35.0		29.0		81.0						
Max Q Clear Time (g_c+I1), s	15.9	7.0		8.8		2.0						
Green Ext Time (p_c), s	0.4	1.3		0.5		0.9						

Intersection Summary			
HCM 6th Ctrl Delay		23.5	
HCM 6th LOS		C	

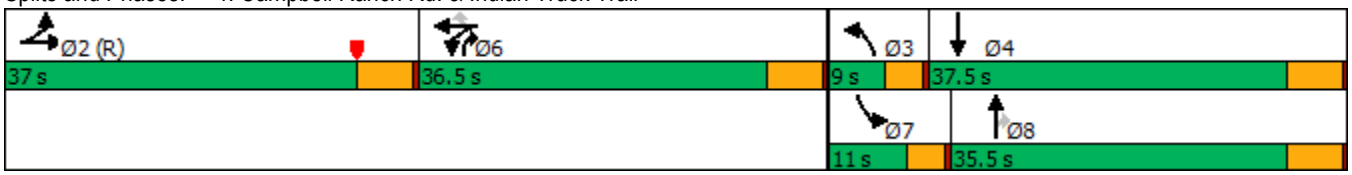
Notes

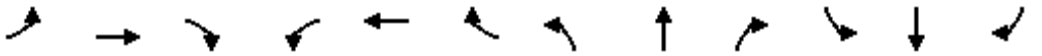
User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	271	0	150	213	289	144	129		
Future Volume (vph)	271	0	150	213	289	144	129		
Turn Type	Split	NA	Perm	NA	pm+ov	Prot	NA		
Protected Phases	6	6		8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	6	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	36.5	35.5	36.5	9.0	10.5	36.5	9.0
Total Split (s)	36.5	36.5	36.5	35.5	36.5	11.0	37.5	37.0	9.0
Total Split (%)	30.4%	30.4%	30.4%	29.6%	30.4%	9.2%	31.3%	31%	8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5		
Lead/Lag				Lag		Lead	Lag		Lead
Lead-Lag Optimize?				Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Max	None	None	Max	C-Max	None
Act Effct Green (s)	19.3	19.3	19.3	39.0	58.3	9.7	52.7		
Actuated g/C Ratio	0.16	0.16	0.16	0.32	0.49	0.08	0.44		
v/c Ratio	0.59	0.45	0.40	0.20	0.34	0.56	0.09		
Control Delay	54.9	21.1	12.4	31.6	2.0	61.2	21.8		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	54.9	21.1	12.4	31.6	2.0	61.2	21.8		
LOS	D	C	B	C	A	E	C		
Approach Delay		30.1		14.6			42.6		
Approach LOS		C		B			D		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 116 (97%), Referenced to phase 2:EBTL, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 26.4	Intersection LOS: C
Intersection Capacity Utilization 31.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	271	0	150	0	213	289	144	129	0
Future Volume (veh/h)	0	0	0	271	0	150	0	213	289	144	129	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	324	0	56	0	234	196	158	142	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	774	0	411	0	180	2	902	586	205	1233	0
Arrive On Green	0.00	0.00	0.00	0.11	0.00	0.11	0.00	0.25	0.25	0.06	0.34	0.00
Sat Flow, veh/h	0	1900	0	3619	0	1585	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	324	0	56	0	234	196	158	142	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1585	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	10.5	0.0	3.9	0.0	6.2	10.6	5.3	3.2	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	10.5	0.0	3.9	0.0	6.2	10.6	5.3	3.2	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	774	0	411	0	180	2	903	586	205	1233	0
V/C Ratio(X)	0.00	0.00	0.00	0.79	0.00	0.31	0.00	0.26	0.33	0.77	0.12	0.00
Avail Cap(c_a), veh/h	0	774	0	935	0	409	75	903	586	205	1233	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.99	0.00	0.99	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	51.8	0.0	48.9	0.0	36.1	27.7	55.7	27.1	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.4	0.0	1.0	0.0	0.7	1.5	16.4	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	4.8	0.0	1.6	0.0	2.8	5.0	2.8	1.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	55.1	0.0	49.8	0.0	36.8	29.2	72.1	27.3	0.0
LnGrp LOS	A	A	A	E	A	D	A	D	C	E	C	A
Approach Vol, veh/h		0			380			430			300	
Approach Delay, s/veh		0.0			54.3			33.3			50.9	
Approach LOS					D			C			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		54.4	0.0	46.5		19.1	11.0	35.5				
Change Period (Y+Rc), s		5.5	4.0	5.5		5.5	4.0	5.5				
Max Green Setting (Gmax), s		31.5	5.0	32.0		31.0	7.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	5.2		12.5	7.3	12.6				
Green Ext Time (p_c), s		0.0	0.0	0.7		1.2	0.0	1.8				

Intersection Summary												
HCM 6th Ctrl Delay			45.3									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	43	9	82	171	86	95
Future Vol, veh/h	43	9	82	171	86	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	45	9	86	180	91	100

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	54	0	402	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	352	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1564	-	608	1024
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1564	-	571	1024
Mov Cap-2 Maneuver	-	-	-	-	571	-
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	672	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	571	1024	-	-	1564	-
HCM Lane V/C Ratio	0.159	0.098	-	-	0.055	-
HCM Control Delay (s)	12.5	8.9	-	-	7.4	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.6	0.3	-	-	0.2	-

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	98	253	167	57	34
Future Vol, veh/h	14	98	253	167	57	34
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	118	305	201	69	41
Number of Lanes	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	8.8	11.4	8.4
HCM LOS	A	B	A

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	100%	0%	12%	0%
Vol Thru, %	0%	100%	0%	63%
Vol Right, %	0%	0%	88%	37%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	253	167	112	91
LT Vol	253	0	14	0
Through Vol	0	167	0	57
RT Vol	0	0	98	34
Lane Flow Rate	305	201	135	110
Geometry Grp	7	7	2	5
Degree of Util (X)	0.458	0.274	0.178	0.141
Departure Headway (Hd)	5.411	4.909	4.752	4.628
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	665	730	754	772
Service Time	3.15	2.647	2.783	2.673
HCM Lane V/C Ratio	0.459	0.275	0.179	0.142
HCM Control Delay	12.7	9.5	8.8	8.4
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.4	1.1	0.6	0.5

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	76	0	0	35	2	0	0	0	0	0	1
Future Vol, veh/h	0	76	0	0	35	2	0	0	0	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	96	0	0	44	3	0	0	0	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	47	0	0	96	0	0	142	143	96	142	142	46
Stage 1	-	-	-	-	-	-	96	96	-	46	46	-
Stage 2	-	-	-	-	-	-	46	47	-	96	96	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1573	-	-	1510	-	-	832	752	966	832	753	1029
Stage 1	-	-	-	-	-	-	916	819	-	973	861	-
Stage 2	-	-	-	-	-	-	973	860	-	916	819	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1573	-	-	1510	-	-	831	752	966	832	753	1029
Mov Cap-2 Maneuver	-	-	-	-	-	-	831	752	-	832	753	-
Stage 1	-	-	-	-	-	-	916	819	-	973	861	-
Stage 2	-	-	-	-	-	-	972	860	-	916	819	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	8.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1573	-	-	1510	-	-	1029
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.001
HCM Control Delay (s)	0	0	-	-	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	134	48	154	141	12
Future Vol, veh/h	21	134	48	154	141	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	154	55	177	162	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	456	169	176	0	-	0
Stage 1	169	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	566	880	1412	-	-	-
Stage 1	866	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	544	880	1412	-	-	-
Mov Cap-2 Maneuver	611	-	-	-	-	-
Stage 1	832	-	-	-	-	-
Stage 2	766	-	-	-	-	-

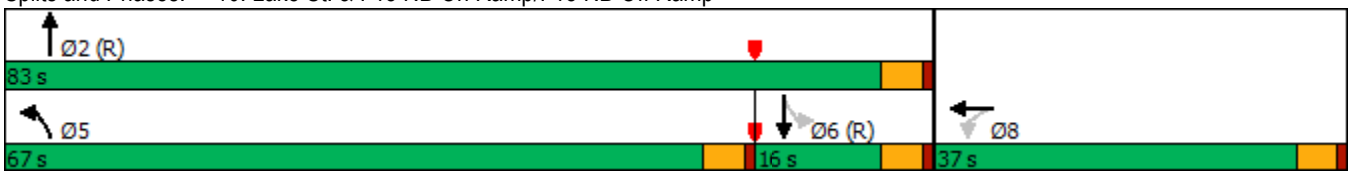
Approach	EB	NB	SB
HCM Control Delay, s	10.5	1.8	0
HCM LOS	B		

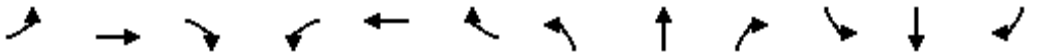
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1412	-	830	-	-
HCM Lane V/C Ratio	0.039	-	0.215	-	-
HCM Control Delay (s)	7.7	-	10.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	251	12	567	2	2
Future Volume (vph)	251	12	567	2	2
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	37.0	37.0	67.0	83.0	16.0
Total Split (%)	30.8%	30.8%	55.8%	69.2%	13.3%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	22.8	22.8	47.6	87.8	35.6
Actuated g/C Ratio	0.19	0.19	0.40	0.73	0.30
v/c Ratio	0.77	0.04	0.83	0.00	0.01
Control Delay	60.8	33.2	49.4	10.0	36.0
Queue Delay	0.0	0.0	1.1	0.0	0.0
Total Delay	60.8	33.2	50.5	10.0	36.0
LOS	E	C	D	A	D
Approach Delay		59.3		50.3	36.0
Approach LOS		E		D	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 53.1	Intersection LOS: D
Intersection Capacity Utilization 65.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	251	12	2	567	2	0	0	2	1
Future Volume (veh/h)	0	0	0	251	12	2	567	2	0	0	2	1
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				264	13	2	597	2	0	0	2	1
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				299	265	41	627	1438	0	0	444	222
Arrive On Green				0.17	0.17	0.17	0.35	0.76	0.00	0.00	0.37	0.37
Sat Flow, veh/h				1810	1608	247	1810	1900	0	0	1195	597
Grp Volume(v), veh/h				264	0	15	597	2	0	0	0	3
Grp Sat Flow(s),veh/h/ln				1810	0	1855	1810	1900	0	0	0	1792
Q Serve(g_s), s				17.1	0.0	0.8	38.6	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s				17.1	0.0	0.8	38.6	0.0	0.0	0.0	0.0	0.1
Prop In Lane				1.00		0.13	1.00		0.00	0.00		0.33
Lane Grp Cap(c), veh/h				299	0	306	627	1438	0	0	0	667
V/C Ratio(X)				0.88	0.00	0.05	0.95	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h				487	0	499	941	1438	0	0	0	667
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.93	0.93	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				49.0	0.0	42.2	38.3	3.6	0.0	0.0	0.0	23.7
Incr Delay (d2), s/veh				10.7	0.0	0.1	11.4	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.6	0.0	0.4	18.8	0.0	0.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				59.7	0.0	42.2	49.7	3.6	0.0	0.0	0.0	23.7
LnGrp LOS				E	A	D	D	A	A	A	A	C
Approach Vol, veh/h					279			599			3	
Approach Delay, s/veh					58.8			49.5			23.7	
Approach LOS					E			D			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		95.5			46.2	49.3		24.5				
Change Period (Y+Rc), s		* 4.7			4.6	* 4.7		4.7				
Max Green Setting (Gmax), s		* 78			62.4	* 11		32.3				
Max Q Clear Time (g_c+I1), s		2.0			40.6	2.1		19.1				
Green Ext Time (p_c), s		0.0			0.9	0.0		0.7				

Intersection Summary		
HCM 6th Ctrl Delay		52.4
HCM 6th LOS		D

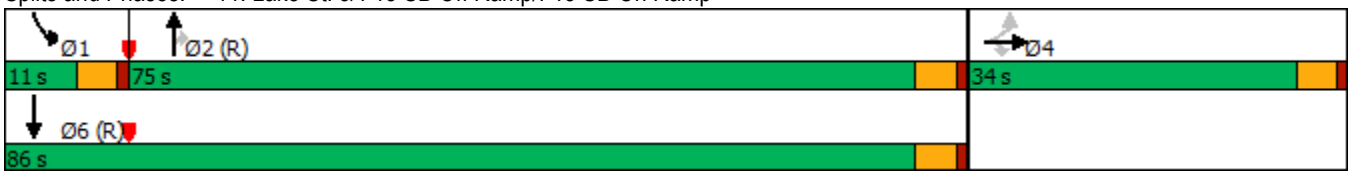
Notes

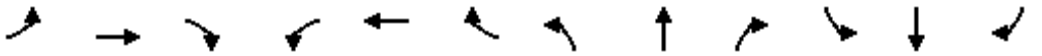
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	277	568	305	3	250
Future Volume (vph)	9	277	568	305	3	250
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	34.0	34.0	75.0	75.0	11.0	86.0
Total Split (%)	28.3%	28.3%	62.5%	62.5%	9.2%	71.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	11.2	11.2	97.4	97.4	5.1	99.4
Actuated g/C Ratio	0.09	0.09	0.81	0.81	0.04	0.83
v/c Ratio	0.06	0.70	0.39	0.24	0.04	0.17
Control Delay	48.7	15.4	4.7	1.2	58.7	0.2
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	48.7	15.4	4.7	1.2	58.7	0.2
LOS	D	B	A	A	E	A
Approach Delay	16.5		3.5			0.9
Approach LOS	B		A			A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 5.7	Intersection LOS: A
Intersection Capacity Utilization 65.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	9	277	0	0	0	0	568	305	3	250	0
Future Volume (veh/h)	1	9	277	0	0	0	0	568	305	3	250	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	1	9	239				0	598	237	3	263	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	32	284	268				0	1354	1147	7	1434	0
Arrive On Green	0.17	0.17	0.17				0.00	0.71	0.71	0.01	1.00	0.00
Sat Flow, veh/h	189	1701	1610				0	1900	1610	1810	1900	0
Grp Volume(v), veh/h	10	0	239				0	598	237	3	263	0
Grp Sat Flow(s),veh/h/ln	1891	0	1610				0	1900	1610	1810	1900	0
Q Serve(g_s), s	0.5	0.0	17.4				0.0	15.8	6.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.0	17.4				0.0	15.8	6.0	0.2	0.0	0.0
Prop In Lane	0.10		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	315	0	268				0	1354	1147	7	1434	0
V/C Ratio(X)	0.03	0.00	0.89				0.00	0.44	0.21	0.42	0.18	0.00
Avail Cap(c_a), veh/h	462	0	393				0	1354	1147	97	1434	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.79	0.79	0.56	0.56	0.00
Uniform Delay (d), s/veh	41.9	0.0	48.9				0.0	7.2	5.8	59.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	15.9				0.0	0.8	0.3	7.9	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	0.3	0.0	8.2				0.0	6.1	2.0	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.9	0.0	64.8				0.0	8.1	6.1	67.4	0.2	0.0
LnGrp LOS	D	A	E				A	A	A	E	A	A
Approach Vol, veh/h		249						835			266	
Approach Delay, s/veh		63.9						7.5			0.9	
Approach LOS		E						A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.1	90.2		24.7		95.3
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	6.4	* 70		* 29		* 81
Max Q Clear Time (g_c+I1), s	2.2	17.8		19.4		2.0
Green Ext Time (p_c), s	0.0	5.7		0.6		1.7

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

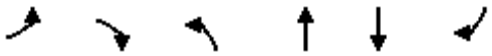
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	302	60	190	571	251
Future Volume (vph)	302	60	190	571	251
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	35.0	35.0	29.0	85.0	56.0
Total Split (%)	29.2%	29.2%	24.2%	70.8%	46.7%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	20.5	20.5	14.6	50.8	31.2
Actuated g/C Ratio	0.25	0.25	0.18	0.62	0.38
v/c Ratio	0.70	0.14	0.62	0.51	0.78
Control Delay	40.3	9.3	44.0	10.3	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	9.3	44.0	10.3	29.5
LOS	D	A	D	B	C
Approach Delay	35.2			18.7	29.5
Approach LOS	D			B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 81.6	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 25.8	Intersection LOS: C
Intersection Capacity Utilization 69.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	302	60	190	571	251	276
Future Volume (veh/h)	302	60	190	571	251	276
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	318	21	200	601	264	244
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	400	356	256	1139	337	311
Arrive On Green	0.22	0.22	0.14	0.60	0.37	0.37
Sat Flow, veh/h	1810	1610	1810	1900	909	840
Grp Volume(v), veh/h	318	21	200	601	0	508
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1900	0	1749
Q Serve(g_s), s	8.7	0.5	5.6	9.7	0.0	13.5
Cycle Q Clear(g_c), s	8.7	0.5	5.6	9.7	0.0	13.5
Prop In Lane	1.00	1.00	1.00			0.48
Lane Grp Cap(c), veh/h	400	356	256	1139	0	648
V/C Ratio(X)	0.79	0.06	0.78	0.53	0.00	0.78
Avail Cap(c_a), veh/h	1045	930	842	2909	0	1710
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	0.00	1.00
Uniform Delay (d), s/veh	19.3	16.1	21.7	6.1	0.0	14.6
Incr Delay (d2), s/veh	3.6	0.1	2.0	0.4	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.6	2.3	2.7	0.0	4.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.9	16.2	23.7	6.5	0.0	16.8
LnGrp LOS	C	B	C	A	A	B
Approach Vol, veh/h	339			801	508	
Approach Delay, s/veh	22.5			10.8	16.8	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		36.2		16.3	12.0	24.1
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 80		* 30	24.4	* 51
Max Q Clear Time (g_c+I1), s		11.7		10.7	7.6	15.5
Green Ext Time (p_c), s		4.8		1.0	0.2	3.9

Intersection Summary		
HCM 6th Ctrl Delay		15.1
HCM 6th LOS		B

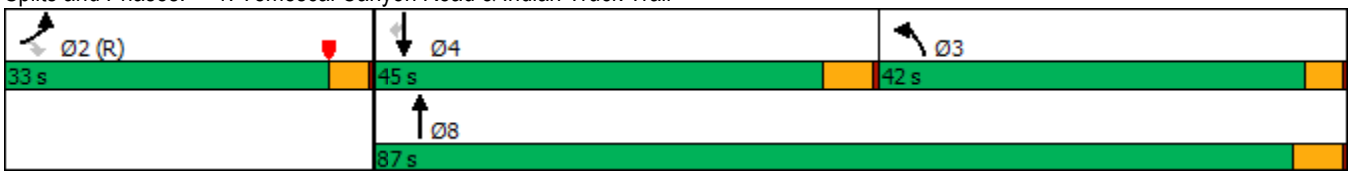
Notes

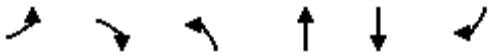
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	77	73	148	15	48	57
Future Volume (vph)	77	73	148	15	48	57
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	40.0
Total Split (s)	33.0	33.0	42.0	87.0	45.0	45.0
Total Split (%)	27.5%	27.5%	35.0%	72.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	79.2	79.2	16.7	31.8	13.1	13.1
Actuated g/C Ratio	0.66	0.66	0.14	0.26	0.11	0.11
v/c Ratio	0.04	0.08	0.68	0.03	0.27	0.28
Control Delay	21.5	15.6	62.0	24.5	48.1	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	15.6	62.0	24.5	48.1	12.1
LOS	C	B	E	C	D	B
Approach Delay	18.6			58.6	28.4	
Approach LOS	B			E	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 68 (57%), Referenced to phase 2:EBL and 6:, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 36.6	Intersection LOS: D
Intersection Capacity Utilization 26.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	77	73	148	15	48	57
Future Volume (veh/h)	77	73	148	15	48	57
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	89	55	170	17	55	28
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2520	1156	203	394	102	85
Arrive On Green	0.72	0.72	0.11	0.21	0.05	0.05
Sat Flow, veh/h	3510	1610	1810	1900	1900	1580
Grp Volume(v), veh/h	89	55	170	17	55	28
Grp Sat Flow(s),veh/h/ln	1755	1610	1810	1900	1900	1580
Q Serve(g_s), s	0.9	1.2	11.0	0.9	3.4	2.0
Cycle Q Clear(g_c), s	0.9	1.2	11.0	0.9	3.4	2.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	2520	1156	203	394	102	85
V/C Ratio(X)	0.04	0.05	0.84	0.04	0.54	0.33
Avail Cap(c_a), veh/h	2520	1156	573	1298	633	527
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	4.9	4.9	52.2	38.0	55.3	54.7
Incr Delay (d2), s/veh	0.0	0.1	8.9	0.0	3.3	1.7
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	0.4	5.4	0.4	1.7	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.9	5.0	61.1	38.1	58.6	56.4
LnGrp LOS	A	A	E	D	E	E
Approach Vol, veh/h	144			187	83	
Approach Delay, s/veh	5.0			59.0	57.9	
Approach LOS	A			E	E	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	90.1	18.4	11.4	29.9
Change Period (Y+Rc), s	4.0	5.0	* 5	5.0
Max Green Setting (Gmax), s	29.0	38.0	* 40	82.0
Max Q Clear Time (g_c+I1), s	3.2	13.0	5.4	2.9
Green Ext Time (p_c), s	0.4	0.4	0.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

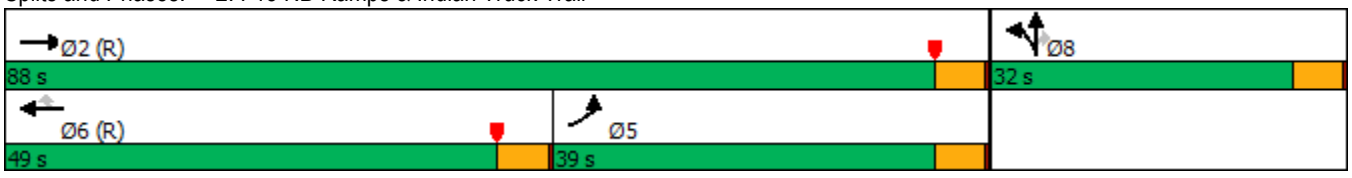
Notes

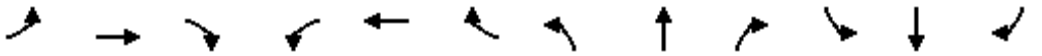
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	263	106	49	156	134	1	45
Future Volume (vph)	263	106	49	156	134	1	45
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	30.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	39.0	88.0	49.0	49.0	32.0	32.0	32.0
Total Split (%)	32.5%	73.3%	40.8%	40.8%	26.7%	26.7%	26.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max
Act Effct Green (s)	34.0	83.0	44.0	44.0	27.0	27.0	27.0
Actuated g/C Ratio	0.28	0.69	0.37	0.37	0.22	0.22	0.22
v/c Ratio	0.30	0.05	0.07	0.26	0.20	0.22	0.13
Control Delay	48.4	6.9	21.0	9.3	39.6	38.4	5.2
Queue Delay	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Total Delay	48.4	6.9	21.0	10.3	39.6	38.4	5.2
LOS	D	A	C	B	D	D	A
Approach Delay		36.5	12.8			31.4	
Approach LOS		D	B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.30	
Intersection Signal Delay: 28.9	Intersection LOS: C
Intersection Capacity Utilization 38.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: I-15 NB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	106	0	0	49	156	134	1	45	0	0	0
Future Volume (veh/h)	263	106	0	0	49	156	134	1	45	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1678	0	0	981	1811	1841	1900	1678			
Adj Flow Rate, veh/h	289	116	0	0	54	127	153	0	12			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	3	15	0	0	62	6	4	0	15			
Cap, veh/h	971	2205	0	0	684	563	789	0	320			
Arrive On Green	0.09	0.23	0.00	0.00	0.37	0.37	0.22	0.00	0.22			
Sat Flow, veh/h	3428	3272	0	0	1913	1535	3506	0	1422			
Grp Volume(v), veh/h	289	116	0	0	54	127	153	0	12			
Grp Sat Flow(s),veh/h/ln	1714	1594	0	0	932	1535	1753	0	1422			
Q Serve(g_s), s	9.4	3.4	0.0	0.0	2.3	6.9	4.2	0.0	0.8			
Cycle Q Clear(g_c), s	9.4	3.4	0.0	0.0	2.3	6.9	4.2	0.0	0.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	971	2205	0	0	684	563	789	0	320			
V/C Ratio(X)	0.30	0.05	0.00	0.00	0.08	0.23	0.19	0.00	0.04			
Avail Cap(c_a), veh/h	971	2205	0	0	684	563	789	0	320			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.99	0.99	0.00	0.00	0.80	0.80	1.00	0.00	1.00			
Uniform Delay (d), s/veh	43.3	15.6	0.0	0.0	24.8	26.2	37.7	0.0	36.3			
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.2	0.7	0.5	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.2	1.1	0.0	0.0	0.5	2.5	1.8	0.0	0.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	15.6	0.0	0.0	25.0	27.0	38.2	0.0	36.6			
LnGrp LOS	D	B	A	A	C	C	D	A	D			
Approach Vol, veh/h		405			181			165				
Approach Delay, s/veh		35.5			26.4			38.1				
Approach LOS		D			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		88.0			39.0	49.0		32.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		83.0			34.0	44.0		27.0				
Max Q Clear Time (g_c+I1), s		5.4			11.4	8.9		6.2				
Green Ext Time (p_c), s		0.4			0.9	0.4		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	33.9
HCM 6th LOS	C

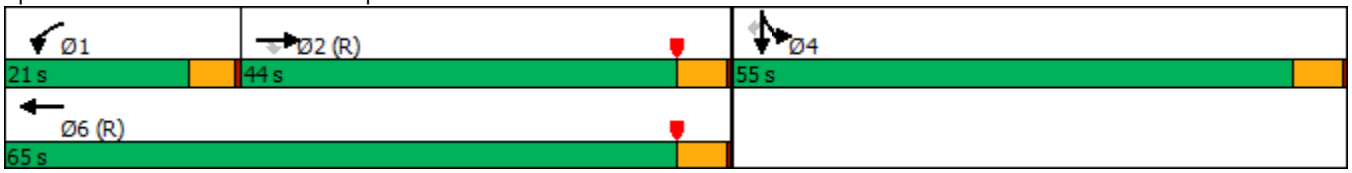
Notes

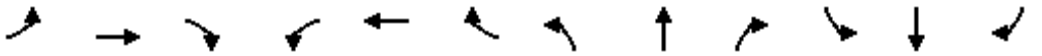
User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	280	177	31	152	89	8	507
Future Volume (vph)	280	177	31	152	89	8	507
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	9.5	25.0	10.0	10.0	10.0
Total Split (s)	44.0	44.0	21.0	65.0	55.0	55.0	55.0
Total Split (%)	36.7%	36.7%	17.5%	54.2%	45.8%	45.8%	45.8%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	4.5	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	51.1	51.1	8.7	60.0	50.0	50.0	50.0
Actuated g/C Ratio	0.43	0.43	0.07	0.50	0.42	0.42	0.42
v/c Ratio	0.15	0.25	0.37	0.09	0.15	0.37	0.38
Control Delay	18.4	4.4	103.9	6.5	22.6	4.5	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	4.4	103.9	6.5	22.6	4.5	4.0
LOS	B	A	F	A	C	A	A
Approach Delay	13.0			23.0		7.0	
Approach LOS	B			C		A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay: 11.5	Intersection LOS: B
Intersection Capacity Utilization 38.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: I-15 SB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	280	177	31	152	0	0	0	0	89	8	507
Future Volume (veh/h)	0	280	177	31	152	0	0	0	0	89	8	507
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1870	1278	1870	0				1663	1900	1781
Adj Flow Rate, veh/h	0	308	116	34	167	0				98	0	418
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	4	2	42	2	0				16	0	8
Cap, veh/h	0	2172	685	37	1777	0				660	0	1258
Arrive On Green	0.00	0.43	0.43	0.06	1.00	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	5191	1585	1217	3647	0				1584	0	3019
Grp Volume(v), veh/h	0	308	116	34	167	0				98	0	418
Grp Sat Flow(s),veh/h/ln	0	1675	1585	1217	1777	0				1584	0	1510
Q Serve(g_s), s	0.0	4.4	5.4	3.3	0.0	0.0				4.6	0.0	11.2
Cycle Q Clear(g_c), s	0.0	4.4	5.4	3.3	0.0	0.0				4.6	0.0	11.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2172	685	37	1777	0				660	0	1258
V/C Ratio(X)	0.00	0.14	0.17	0.92	0.09	0.00				0.15	0.00	0.33
Avail Cap(c_a), veh/h	0	2172	685	167	1777	0				660	0	1258
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.89	0.89	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.6	20.9	56.2	0.0	0.0				21.8	0.0	23.7
Incr Delay (d2), s/veh	0.0	0.1	0.5	50.4	0.1	0.0				0.5	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.7	2.0	1.5	0.0	0.0				1.7	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.7	21.3	106.7	0.1	0.0				22.2	0.0	24.4
LnGrp LOS	A	C	C	F	A	A				C	A	C
Approach Vol, veh/h		424			201						516	
Approach Delay, s/veh		20.9			18.1						24.0	
Approach LOS		C			B						C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	8.1	56.9		55.0		65.0						
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0						
Max Green Setting (Gmax), s	16.5	39.0		50.0		60.0						
Max Q Clear Time (g_c+I1), s	5.3	7.4		13.2		2.0						
Green Ext Time (p_c), s	0.0	1.4		1.5		0.6						

Intersection Summary												
HCM 6th Ctrl Delay			21.8									
HCM 6th LOS			C									

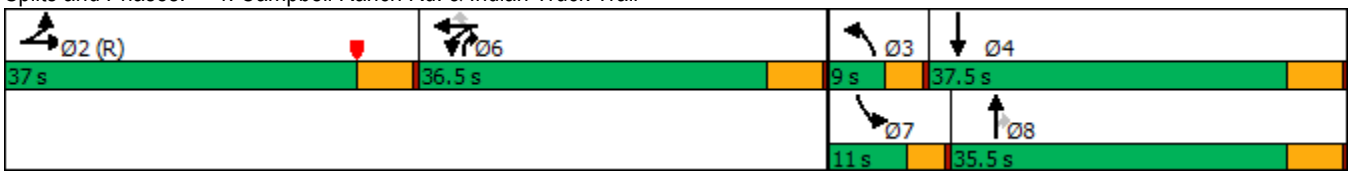
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	531	0	128	143	308	148	183		
Future Volume (vph)	531	0	128	143	308	148	183		
Turn Type	Split	NA	Perm	NA	pm+ov	Prot	NA		
Protected Phases	6	6		8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	6	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	36.5	35.5	36.5	9.0	10.5	36.5	9.0
Total Split (s)	36.5	36.5	36.5	35.5	36.5	11.0	37.5	37.0	9.0
Total Split (%)	30.4%	30.4%	30.4%	29.6%	30.4%	9.2%	31.3%	31%	8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5		
Lead/Lag				Lag		Lead	Lag		Lead
Lead-Lag Optimize?				Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Max	None	None	Max	C-Max	None
Act Effct Green (s)	26.7	26.7	26.7	32.9	59.6	8.4	45.3		
Actuated g/C Ratio	0.22	0.22	0.22	0.27	0.50	0.07	0.38		
v/c Ratio	0.78	0.67	0.29	0.16	0.35	0.66	0.15		
Control Delay	59.8	35.3	9.6	34.7	2.0	68.2	26.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	59.8	35.3	9.6	34.7	2.0	68.2	26.1		
LOS	E	D	A	C	A	E	C		
Approach Delay		40.8		12.4			45.0		
Approach LOS		D		B			D		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 116 (97%), Referenced to phase 2:EBTL, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 32.9	Intersection LOS: C
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	531	0	128	0	143	308	148	183	0
Future Volume (veh/h)	0	0	0	531	0	128	0	143	308	148	183	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	609	0	54	0	157	205	163	201	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	620	0	703	0	308	2	902	715	205	1233	0
Arrive On Green	0.00	0.00	0.00	0.19	0.00	0.19	0.00	0.25	0.25	0.06	0.34	0.00
Sat Flow, veh/h	0	1900	0	3619	0	1587	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	609	0	54	0	157	205	163	201	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1587	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	19.6	0.0	3.4	0.0	4.1	9.7	5.5	4.7	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	19.6	0.0	3.4	0.0	4.1	9.7	5.5	4.7	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	620	0	703	0	308	2	903	715	205	1233	0
V/C Ratio(X)	0.00	0.00	0.00	0.87	0.00	0.18	0.00	0.17	0.29	0.80	0.16	0.00
Avail Cap(c_a), veh/h	0	620	0	935	0	410	75	903	715	205	1233	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.97	0.00	0.97	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	46.8	0.0	40.3	0.0	35.3	21.2	55.8	27.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	6.6	0.0	0.3	0.0	0.4	1.0	19.3	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	9.2	0.0	1.3	0.0	1.8	5.2	2.9	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	53.4	0.0	40.6	0.0	35.7	22.2	75.1	27.8	0.0
LnGrp LOS	A	A	A	D	A	D	A	D	C	E	C	A
Approach Vol, veh/h		0			663			362			364	
Approach Delay, s/veh		0.0			52.3			28.1			49.0	
Approach LOS					D			C			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	44.7	0.0	46.5	28.8	11.0	35.5
Change Period (Y+Rc), s	5.5	4.0	5.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	31.5	5.0	32.0	31.0	7.0	30.0
Max Q Clear Time (g_c+I1), s	0.0	0.0	6.7	21.6	7.5	11.7
Green Ext Time (p_c), s	0.0	0.0	1.1	1.8	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	45.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	113	43	93	48	71	85
Future Vol, veh/h	113	43	93	48	71	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	119	45	98	51	75	89

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	164	0	389	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	247	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1427	-	619	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1427	-	575	911
Mov Cap-2 Maneuver	-	-	-	-	575	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	742	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.1	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	575	911	-	-	1427	-
HCM Lane V/C Ratio	0.13	0.098	-	-	0.069	-
HCM Control Delay (s)	12.2	9.4	-	-	7.7	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	0.3	-	-	0.2	-

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	349	133	134	116	20
Future Vol, veh/h	22	349	133	134	116	20
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	22	356	136	137	118	20
Number of Lanes	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	11.1	10.2	9.5
HCM LOS	B	B	A

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	100%	0%	6%	0%
Vol Thru, %	0%	100%	0%	85%
Vol Right, %	0%	0%	94%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	134	371	136
LT Vol	133	0	22	0
Through Vol	0	134	0	116
RT Vol	0	0	349	20
Lane Flow Rate	136	137	379	139
Geometry Grp	7	7	2	5
Degree of Util (X)	0.226	0.209	0.46	0.198
Departure Headway (Hd)	5.996	5.491	4.377	5.124
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	593	647	818	691
Service Time	3.791	3.285	2.424	3.223
HCM Lane V/C Ratio	0.229	0.212	0.463	0.201
HCM Control Delay	10.6	9.8	11.1	9.5
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	0.9	0.8	2.4	0.7

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	59	0	1	126	1	0	0	1	1	0	0
Future Vol, veh/h	0	59	0	1	126	1	0	0	1	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	67	0	1	143	1	0	0	1	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	144	0	0	67	0	0	213	213	67	214	213	144
Stage 1	-	-	-	-	-	-	67	67	-	146	146	-
Stage 2	-	-	-	-	-	-	146	146	-	68	67	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1451	-	-	1547	-	-	748	688	1002	747	688	909
Stage 1	-	-	-	-	-	-	948	843	-	861	780	-
Stage 2	-	-	-	-	-	-	861	780	-	947	843	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1451	-	-	1547	-	-	747	687	1002	746	687	909
Mov Cap-2 Maneuver	-	-	-	-	-	-	747	687	-	746	687	-
Stage 1	-	-	-	-	-	-	948	843	-	861	779	-
Stage 2	-	-	-	-	-	-	860	779	-	946	843	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	8.6	9.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1002	1451	-	-	1547	-	-	746
HCM Lane V/C Ratio	0.001	-	-	-	0.001	-	-	0.002
HCM Control Delay (s)	8.6	0	-	-	7.3	0	-	9.8
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	49	91	106	125	24
Future Vol, veh/h	11	49	91	106	125	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	58	107	125	147	28

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	500	161	175	0	-	0
Stage 1	161	-	-	-	-	-
Stage 2	339	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	534	889	1414	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	493	889	1414	-	-	-
Mov Cap-2 Maneuver	572	-	-	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	726	-	-	-	-	-

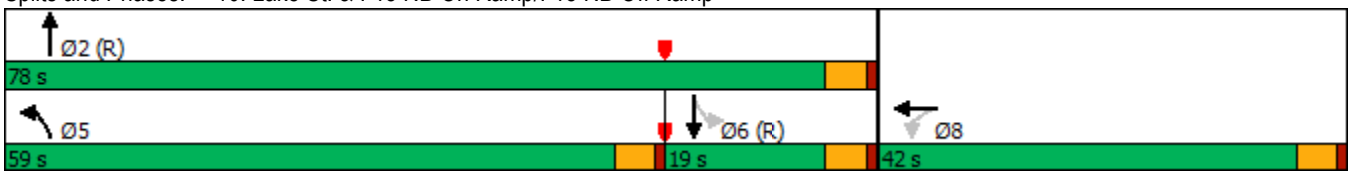
Approach	EB	NB	SB
HCM Control Delay, s	9.9	3.6	0
HCM LOS	A		

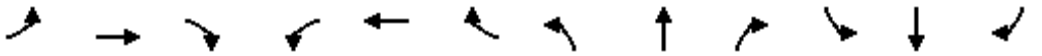
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1414	-	807	-	-
HCM Lane V/C Ratio	0.076	-	0.087	-	-
HCM Control Delay (s)	7.8	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	189	3	314	10	9
Future Volume (vph)	189	3	314	10	9
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	42.0	42.0	59.0	78.0	19.0
Total Split (%)	35.0%	35.0%	49.2%	65.0%	15.8%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	18.6	18.6	27.5	92.0	59.8
Actuated g/C Ratio	0.16	0.16	0.23	0.77	0.50
v/c Ratio	0.71	0.03	0.80	0.01	0.02
Control Delay	61.6	27.0	61.0	12.5	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	27.0	61.0	12.5	16.8
LOS	E	C	E	B	B
Approach Delay		60.1		59.5	16.8
Approach LOS		E		E	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 58.6	Intersection LOS: E
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	189	3	6	314	10	0	0	9	5
Future Volume (veh/h)	0	0	0	189	3	6	314	10	0	0	9	5
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				199	3	6	331	11	0	0	9	5
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				233	73	146	362	1506	0	0	636	354
Arrive On Green				0.13	0.13	0.13	0.20	0.79	0.00	0.00	0.55	0.55
Sat Flow, veh/h				1810	565	1131	1810	1900	0	0	1148	638
Grp Volume(v), veh/h				199	0	9	331	11	0	0	0	14
Grp Sat Flow(s),veh/h/ln				1810	0	1696	1810	1900	0	0	0	1785
Q Serve(g_s), s				12.9	0.0	0.6	21.5	0.1	0.0	0.0	0.0	0.4
Cycle Q Clear(g_c), s				12.9	0.0	0.6	21.5	0.1	0.0	0.0	0.0	0.4
Prop In Lane				1.00		0.67	1.00		0.00	0.00		0.36
Lane Grp Cap(c), veh/h				233	0	219	362	1506	0	0	0	990
V/C Ratio(X)				0.85	0.00	0.04	0.92	0.01	0.00	0.00	0.00	0.01
Avail Cap(c_a), veh/h				562	0	527	820	1506	0	0	0	990
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.96	0.96	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				51.1	0.0	45.8	47.0	2.6	0.0	0.0	0.0	12.0
Incr Delay (d2), s/veh				8.5	0.0	0.1	3.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.4	0.0	0.2	10.0	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				59.7	0.0	45.8	50.8	2.6	0.0	0.0	0.0	12.0
LnGrp LOS				E	A	D	D	A	A	A	A	B
Approach Vol, veh/h					208			342			14	
Approach Delay, s/veh					59.1			49.3			12.0	
Approach LOS					E			D			B	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		99.8			28.6	71.2		20.2				
Change Period (Y+Rc), s		* 4.7			4.6	* 4.7		4.7				
Max Green Setting (Gmax), s		* 73			54.4	* 14		37.3				
Max Q Clear Time (g_c+I1), s		2.1			23.5	2.4		14.9				
Green Ext Time (p_c), s		0.0			0.5	0.0		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		51.9
HCM 6th LOS		D

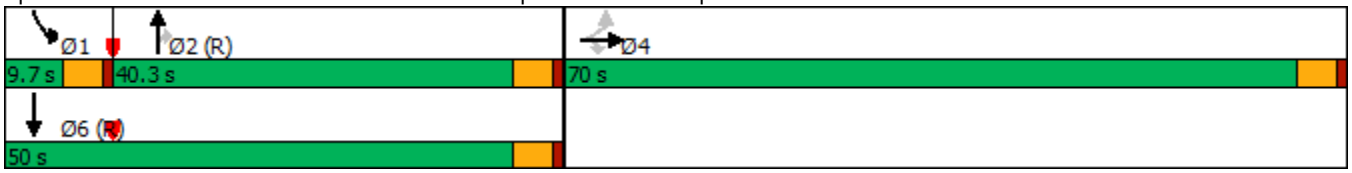
Notes

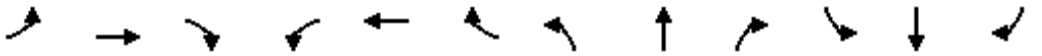
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	775	321	157	3	195
Future Volume (vph)	6	775	321	157	3	195
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	70.0	70.0	40.3	40.3	9.7	50.0
Total Split (%)	58.3%	58.3%	33.6%	33.6%	8.1%	41.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	39.9	39.9	68.7	68.7	5.1	70.7
Actuated g/C Ratio	0.33	0.33	0.57	0.57	0.04	0.59
v/c Ratio	0.01	0.91	0.31	0.17	0.04	0.18
Control Delay	17.5	25.0	19.8	5.8	64.7	44.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	25.0	19.8	5.8	64.7	44.0
LOS	B	C	B	A	E	D
Approach Delay	24.9		15.2			44.3
Approach LOS	C		B			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 24.4	Intersection LOS: C
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	6	775	0	0	0	0	321	157	3	195	0
Future Volume (veh/h)	2	6	775	0	0	0	0	321	157	3	195	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	2	6	605				0	338	125	3	205	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	187	561	642				0	914	774	7	994	0
Arrive On Green	0.40	0.40	0.40				0.00	0.48	0.48	0.00	0.17	0.00
Sat Flow, veh/h	469	1407	1610				0	1900	1610	1810	1900	0
Grp Volume(v), veh/h	8	0	605				0	338	125	3	205	0
Grp Sat Flow(s),veh/h/ln	1877	0	1610				0	1900	1610	1810	1900	0
Q Serve(g_s), s	0.3	0.0	43.4				0.0	13.5	5.2	0.2	11.1	0.0
Cycle Q Clear(g_c), s	0.3	0.0	43.4				0.0	13.5	5.2	0.2	11.1	0.0
Prop In Lane	0.25		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	748	0	642				0	914	774	7	994	0
V/C Ratio(X)	0.01	0.00	0.94				0.00	0.37	0.16	0.42	0.21	0.00
Avail Cap(c_a), veh/h	1021	0	876				0	914	774	77	994	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	0.94	0.94	0.70	0.70	0.00
Uniform Delay (d), s/veh	21.8	0.0	34.8				0.0	19.7	17.5	59.8	28.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	15.0				0.0	1.1	0.4	9.8	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	0.1	0.0	19.3				0.0	6.2	2.0	0.1	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	49.8				0.0	20.8	18.0	69.5	28.6	0.0
LnGrp LOS	C	A	D				A	C	B	E	C	A
Approach Vol, veh/h		613						463			208	
Approach Delay, s/veh		49.4						20.0			29.2	
Approach LOS		D						B			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.1	62.4		52.5		67.5
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	5.1	* 36		* 65		* 45
Max Q Clear Time (g_c+I1), s	2.2	15.5		45.4		13.1
Green Ext Time (p_c), s	0.0	2.4		2.4		1.2

Intersection Summary	
HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

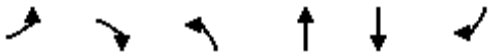
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	167	80	74	311	748
Future Volume (vph)	167	80	74	311	748
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	21.0	21.0	15.0	99.0	84.0
Total Split (%)	17.5%	17.5%	12.5%	82.5%	70.0%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	14.6	14.6	8.4	69.4	59.4
Actuated g/C Ratio	0.15	0.15	0.09	0.74	0.63
v/c Ratio	0.63	0.26	0.49	0.23	0.87
Control Delay	54.7	12.6	59.1	4.0	24.4
Queue Delay	0.0	0.0	0.0	0.0	0.1
Total Delay	54.7	12.6	59.1	4.0	24.5
LOS	D	B	E	A	C
Approach Delay	41.1			14.6	24.5
Approach LOS	D			B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 94.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 24.7	Intersection LOS: C
Intersection Capacity Utilization 77.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	167	80	74	311	748	221
Future Volume (veh/h)	167	80	74	311	748	221
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	176	41	78	327	787	208
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	239	213	101	1410	905	239
Arrive On Green	0.13	0.13	0.06	0.74	0.62	0.62
Sat Flow, veh/h	1810	1610	1810	1900	1448	383
Grp Volume(v), veh/h	176	41	78	327	0	995
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1900	0	1831
Q Serve(g_s), s	7.0	1.7	3.2	4.0	0.0	33.4
Cycle Q Clear(g_c), s	7.0	1.7	3.2	4.0	0.0	33.4
Prop In Lane	1.00	1.00	1.00			0.21
Lane Grp Cap(c), veh/h	239	213	101	1410	0	1144
V/C Ratio(X)	0.74	0.19	0.77	0.23	0.00	0.87
Avail Cap(c_a), veh/h	394	351	251	2394	0	1940
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	0.00	1.00
Uniform Delay (d), s/veh	31.2	28.9	34.9	3.0	0.0	11.5
Incr Delay (d2), s/veh	4.4	0.4	4.6	0.1	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	1.5	1.0	0.0	11.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.6	29.4	39.5	3.1	0.0	13.9
LnGrp LOS	D	C	D	A	A	B
Approach Vol, veh/h	217			405	995	
Approach Delay, s/veh	34.4			10.1	13.9	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.3		14.6	8.8	51.5
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 94		* 16	10.4	* 79
Max Q Clear Time (g_c+I1), s		6.0		9.0	5.2	35.4
Green Ext Time (p_c), s		2.2		0.4	0.0	11.4

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

Notes

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

APPENDIX 3.3:

EXISTING (2020) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

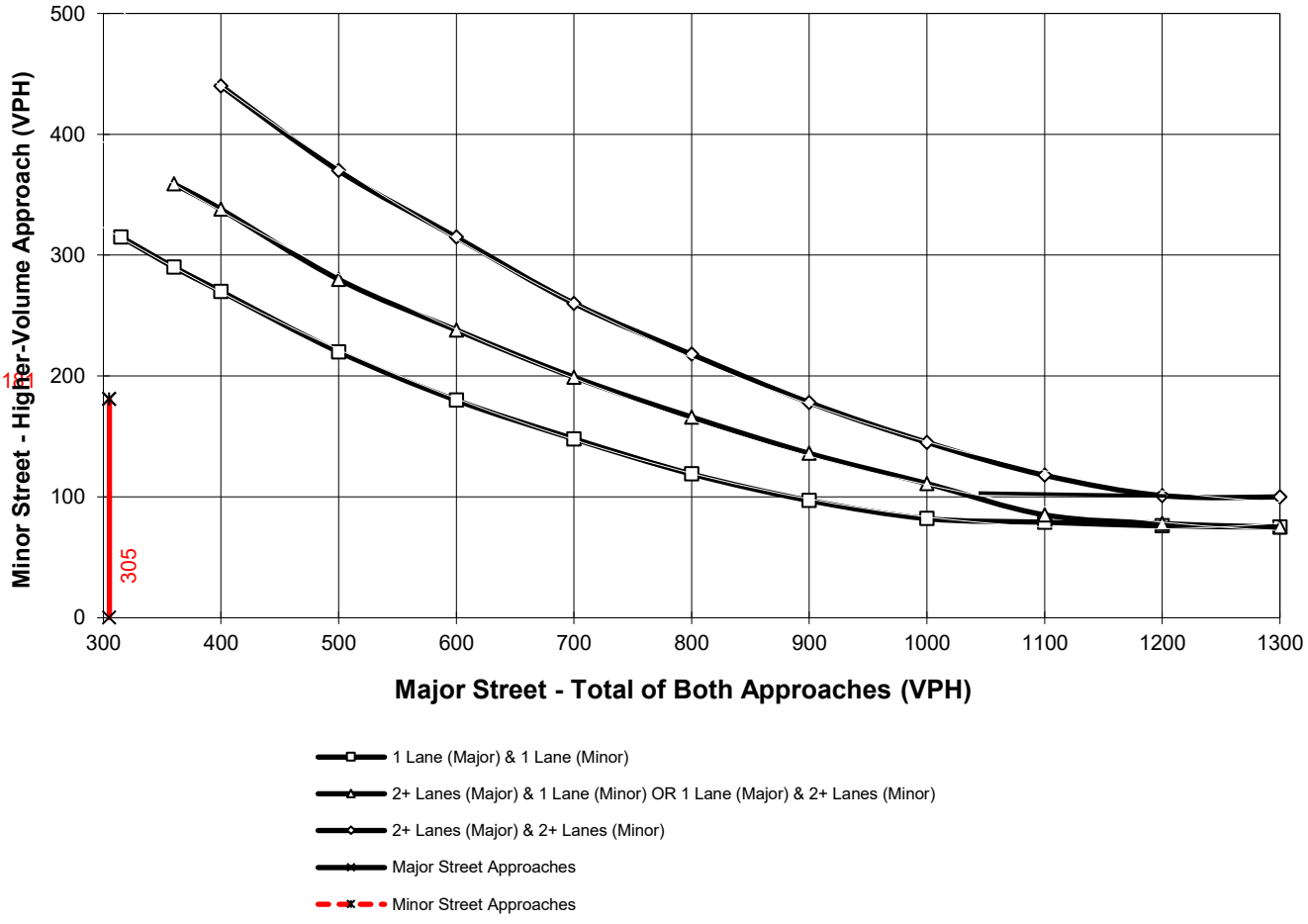
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2020) Conditions - Weekday AM Peak Hour**

Major Street Name = **Temescal Canyon** Total of Both Approaches (VPH) = **305**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Horsethief Canyon Rd.** High Volume Approach (VPH) = **181**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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

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

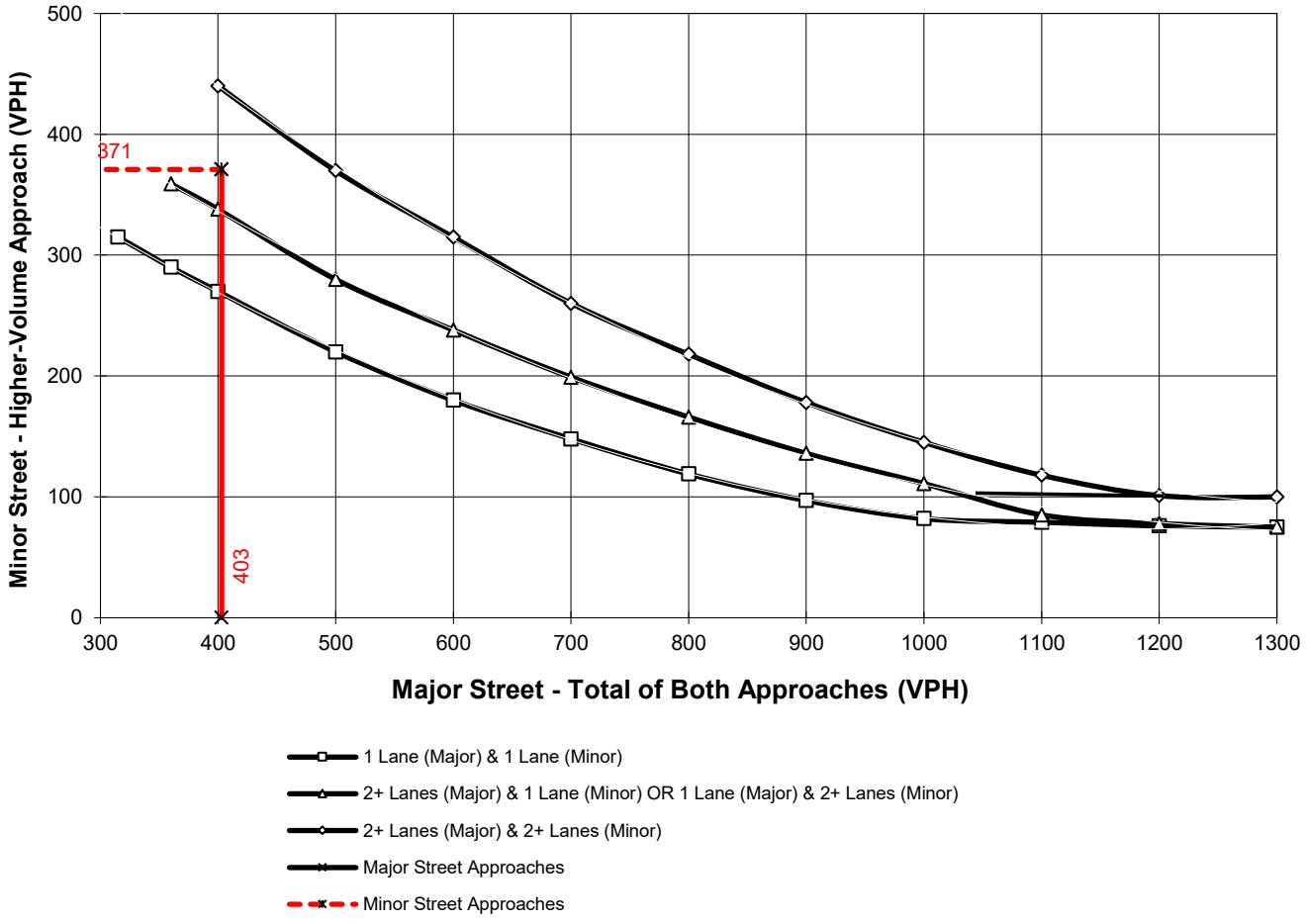
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2020) Conditions - Weekday PM Peak Hour**

Major Street Name = **Horsethief Canyon Rd.** Total of Both Approaches (VPH) = **403**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **De Palma Rd.** High Volume Approach (VPH) = **371**
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)

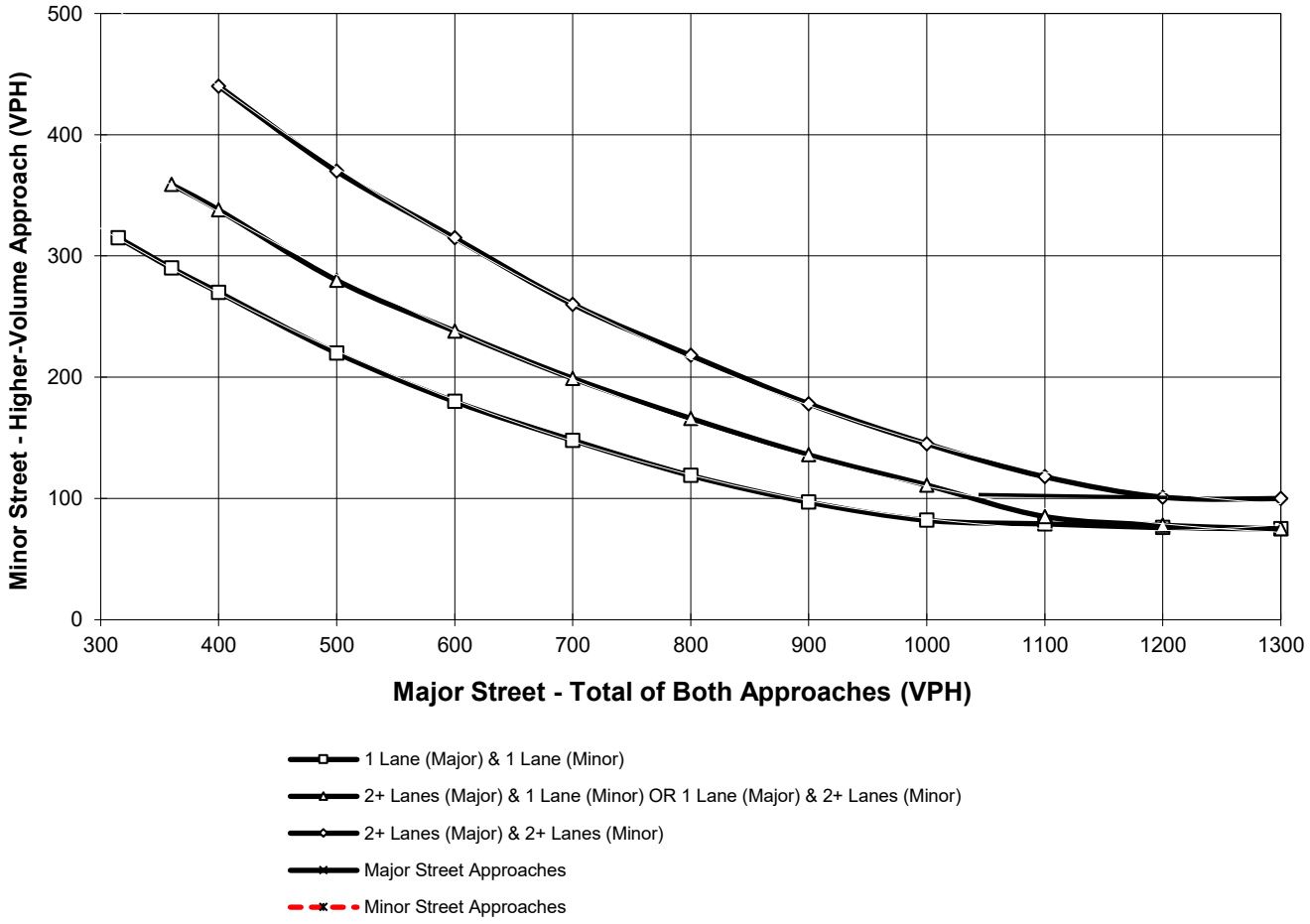
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2020) Conditions - Weekday PM Peak Hour**

Major Street Name = **Hostettler Rd.**
Total of Both Approaches (VPH) = **187**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bolo Ct.**
High Volume Approach (VPH) = **2**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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

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

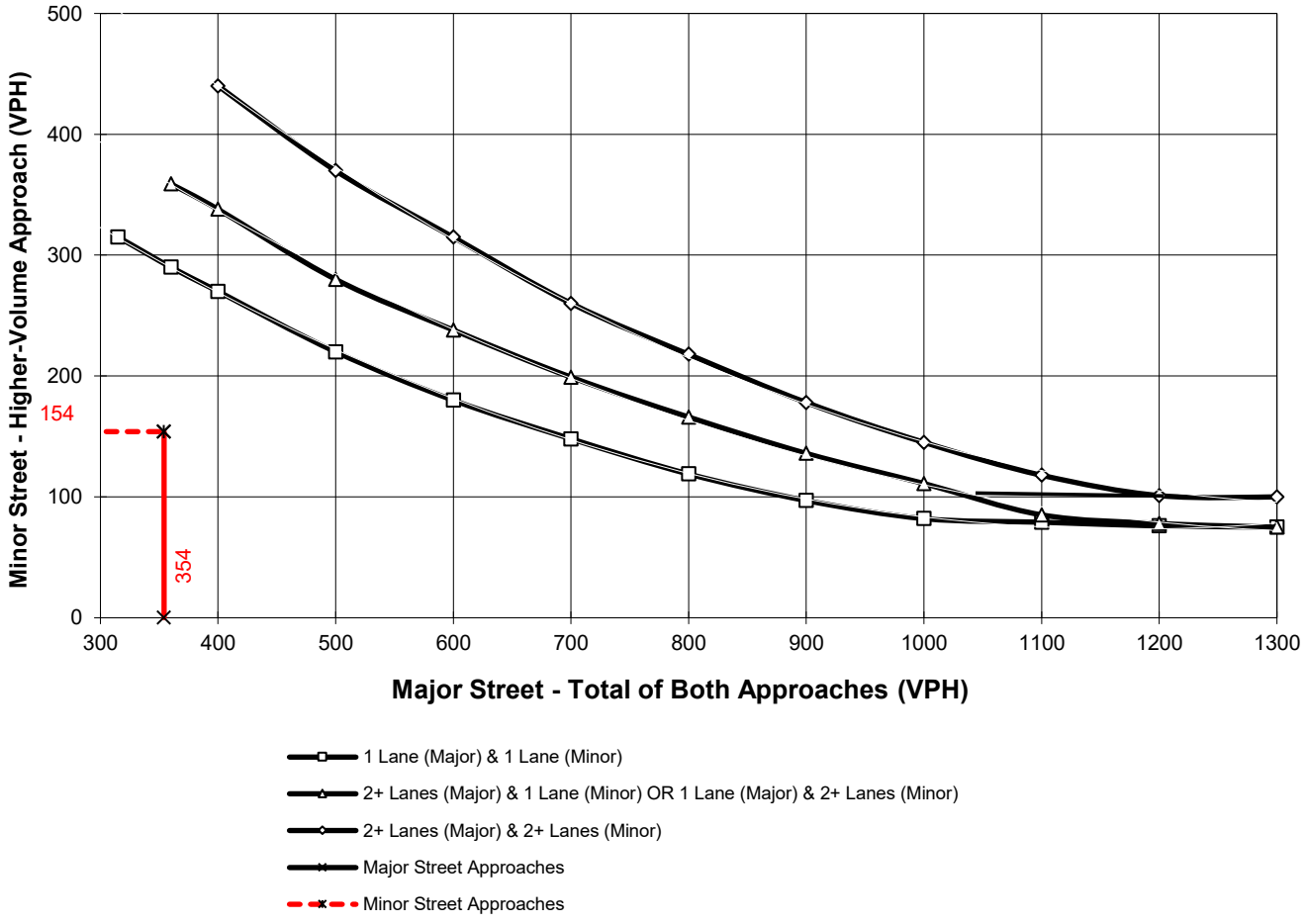
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2020) Conditions - Weekday AM Peak Hour**

Major Street Name = **Temescal Canyon Rd.** Total of Both Approaches (VPH) = **354**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Hostettler Rd.** High Volume Approach (VPH) = **154**
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 (2020) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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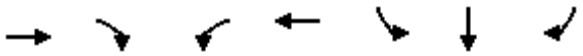
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	270	134	184	133	167	216	211
v/c Ratio	0.35	0.08	0.30	0.26	0.27	0.35	0.33
Control Delay	49.6	17.0	36.0	6.9	27.6	6.6	4.9
Queue Delay	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Total Delay	49.6	17.0	36.0	7.6	27.6	6.6	4.9
Queue Length 50th (ft)	111	36	59	0	93	12	0
Queue Length 95th (ft)	156	60	93	48	152	70	52
Internal Link Dist (ft)		562	178			1295	
Turn Bay Length (ft)					415		415
Base Capacity (vph)	765	1700	612	515	618	612	632
Starvation Cap Reductn	0	0	0	187	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	0.35	0.08	0.30	0.41	0.27	0.35	0.33

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	293	182	146	224	110	126	122
v/c Ratio	0.12	0.21	0.72	0.09	0.29	0.29	0.28
Control Delay	15.5	4.1	83.3	8.3	39.7	9.4	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	4.1	83.3	8.3	39.7	9.4	8.2
Queue Length 50th (ft)	59	46	122	24	70	5	0
Queue Length 95th (ft)	84	90	182	46	123	56	51
Internal Link Dist (ft)	559			562		1381	
Turn Bay Length (ft)		210	270		670		500
Base Capacity (vph)	2377	849	439	2388	376	438	435
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	0.12	0.21	0.33	0.09	0.29	0.29	0.28

Intersection Summary

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	264	15	597	2	3
v/c Ratio	0.77	0.04	0.83	0.00	0.01
Control Delay	60.8	33.2	49.4	10.0	36.0
Queue Delay	0.0	0.0	1.1	0.0	0.0
Total Delay	60.8	33.2	50.5	10.0	36.0
Queue Length 50th (ft)	196	8	455	0	1
Queue Length 95th (ft)	271	26	613	m2	11
Internal Link Dist (ft)		766		542	382
Turn Bay Length (ft)	790		300		
Base Capacity (vph)	485	502	938	1390	538
Starvation Cap Reductn	0	0	147	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.03	0.75	0.00	0.01

Intersection Summary

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

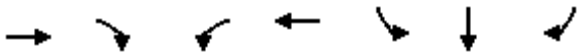
Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	10	292	598	321	3	263
v/c Ratio	0.06	0.70	0.39	0.24	0.04	0.17
Control Delay	48.7	15.4	4.7	1.2	58.7	0.2
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	48.7	15.4	4.7	1.2	58.7	0.2
Queue Length 50th (ft)	7	0	82	5	2	0
Queue Length 95th (ft)	24	83	247	37	m4	1
Internal Link Dist (ft)	813		838			542
Turn Bay Length (ft)		160		150	95	
Base Capacity (vph)	461	615	1541	1361	96	1572
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	114	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.47	0.42	0.24	0.03	0.17

Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	289	116	54	171	76	77	44
v/c Ratio	0.30	0.05	0.07	0.26	0.20	0.22	0.13
Control Delay	48.4	6.9	21.0	9.3	39.6	38.4	5.2
Queue Delay	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Total Delay	48.4	6.9	21.0	10.3	39.6	38.4	5.2
Queue Length 50th (ft)	117	31	3	0	50	51	0
Queue Length 95th (ft)	161	22	30	104	96	100	20
Internal Link Dist (ft)		562	178			1295	
Turn Bay Length (ft)					415		415
Base Capacity (vph)	963	2171	816	667	371	354	349
Starvation Cap Reductn	0	0	0	299	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	0.30	0.05	0.07	0.46	0.20	0.22	0.13

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	308	195	34	167	98	282	284
v/c Ratio	0.15	0.25	0.37	0.09	0.15	0.37	0.38
Control Delay	18.4	4.4	103.9	6.5	22.6	4.5	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	4.4	103.9	6.5	22.6	4.5	4.0
Queue Length 50th (ft)	68	49	28	12	47	4	0
Queue Length 95th (ft)	101	92	62	7	84	60	54
Internal Link Dist (ft)	559			562		1381	
Turn Bay Length (ft)		210	270		670		500
Base Capacity (vph)	2122	785	174	1769	648	755	757
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	0.15	0.25	0.20	0.09	0.15	0.37	0.38

Intersection Summary

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	199	9	331	11	14
v/c Ratio	0.71	0.03	0.80	0.01	0.02
Control Delay	61.6	27.0	61.0	12.5	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	27.0	61.0	12.5	16.8
Queue Length 50th (ft)	148	2	276	2	3
Queue Length 95th (ft)	216	16	371	m26	19
Internal Link Dist (ft)		766		542	382
Turn Bay Length (ft)	790		300		
Base Capacity (vph)	561	535	818	1456	904
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.02	0.40	0.01	0.02

Intersection Summary

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

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	8	816	338	165	3	205
v/c Ratio	0.01	0.91	0.31	0.17	0.04	0.18
Control Delay	17.5	25.0	19.8	5.8	64.7	44.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	25.0	19.8	5.8	64.7	44.0
Queue Length 50th (ft)	4	234	126	6	2	136
Queue Length 95th (ft)	11	314	318	61	m7	219
Internal Link Dist (ft)	813		838			542
Turn Bay Length (ft)		160		150	95	
Base Capacity (vph)	1021	1126	1088	987	77	1119
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	0.01	0.72	0.31	0.17	0.04	0.18

Intersection Summary

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

APPENDIX 3.5:

EXISTING (2020) CONDITIONS FREEWAY FACILITY ANALYSIS WORKSHEETS

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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Exisitng (2020) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 SB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	North of Indian Truck	5280	3
2	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
3	Basic	Basic	Between	2250	3
4	Merge	Merge	On-Ramp at Indian Truck	1500	3
5	Basic	Basic	Indian Truck to Lake	5280	3
6	Diverge	Diverge	Off-Ramp at Lake	1500	3
7	Basic	Basic	Between	2330	3
8	Merge	Merge	On-Ramp at Lake	1500	3
9	Basic	Basic	South of Lake	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3319	7146	0.46	68.2	16.2	B

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.885	3319	359	7200	2100	0.46	0.17	64.9	60.8	17.0	17.2	B

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2955	7131	0.41	67.7	14.5	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.806	3253	298	7200	2000	0.45	0.15	67.6	64.8	16.0	18.3	B

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	3269	7131	0.46	67.7	16.1	B

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.943	0.855	3269	309	7200	2100	0.45	0.15	65.0	60.9	16.8	17.2	B

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	2961	7131	0.42	67.7	14.6	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.917	3294	333	7200	2000	0.46	0.17	64.3	62.6	17.1	14.0	B

Segment 9: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3281	7146	0.46	68.2	16.0	B

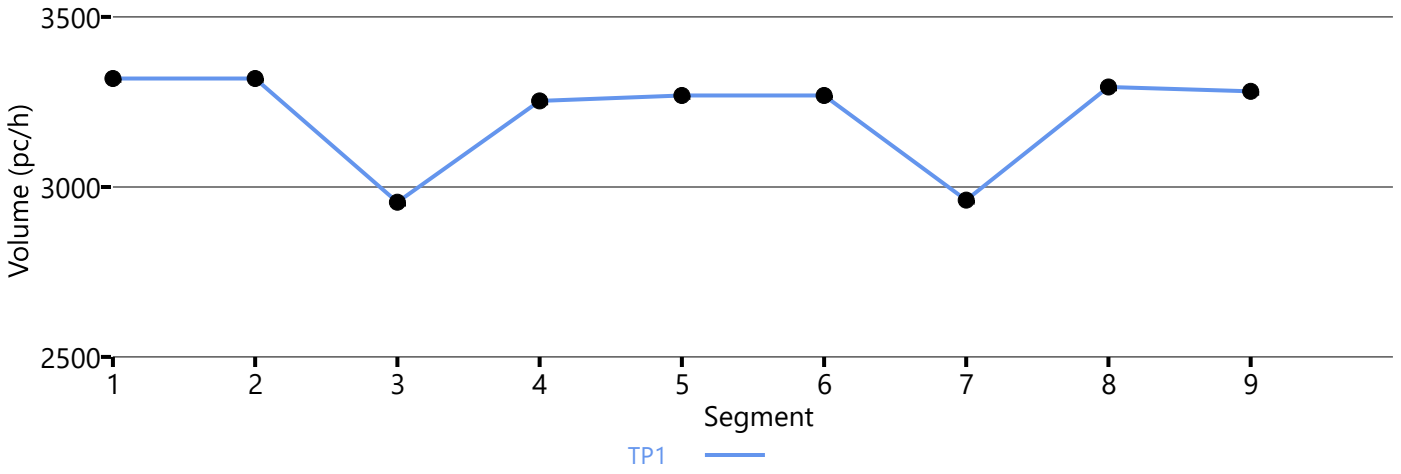
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.4	16.0	15.2	4.5	B

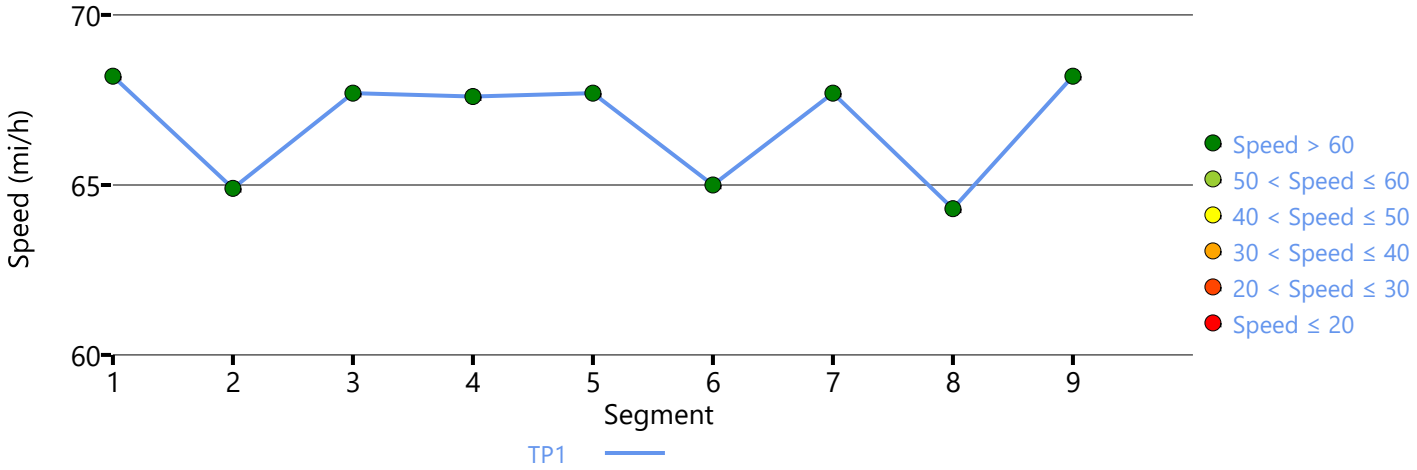
Facility Overall Results

Space Mean Speed, mi/h	67.4	Density, veh/mi/ln	15.2
Average Travel Time, min	4.5	Density, pc/mi/ln	16.0

Volume Distribution



Speed Distribution



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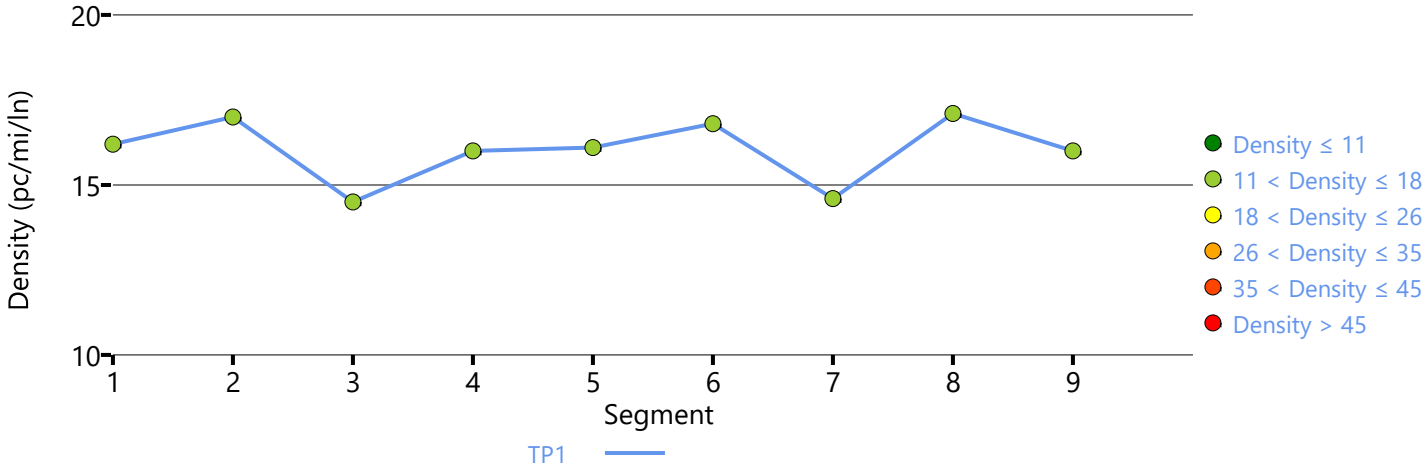

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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2020) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 NB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South of Lake	5280	3
2	Diverge	Diverge	Off-Ramp at Lake	1500	3
3	Basic	Basic	Between	2370	3
4	Merge	Merge	On-Ramp at Lake	1500	3
5	Basic	Basic	Lake to Indian Truck	5280	3
6	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
7	Basic	Basic	Between	2175	3
8	Merge	Merge	On-Ramp at Indian Truck	1500	3
9	Basic	Basic	North of Indian Truck	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3267	7146	0.46	68.2	16.0	B

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.901	3267	274	7200	2100	0.45	0.13	65.1	61.0	16.7	17.3	B

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	2982	7131	0.42	67.7	14.7	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.943	3614	632	7200	2100	0.50	0.30	63.8	62.1	18.9	18.3	B

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3629	7131	0.51	67.7	17.9	B

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.917	3629	403	7200	2100	0.50	0.19	64.7	60.6	18.7	21.3	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	3215	7131	0.45	67.7	15.8	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.885	3800	585	7200	2100	0.53	0.28	63.1	61.2	20.1	21.0	C

Segment 9: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3823	7146	0.53	68.2	18.7	C

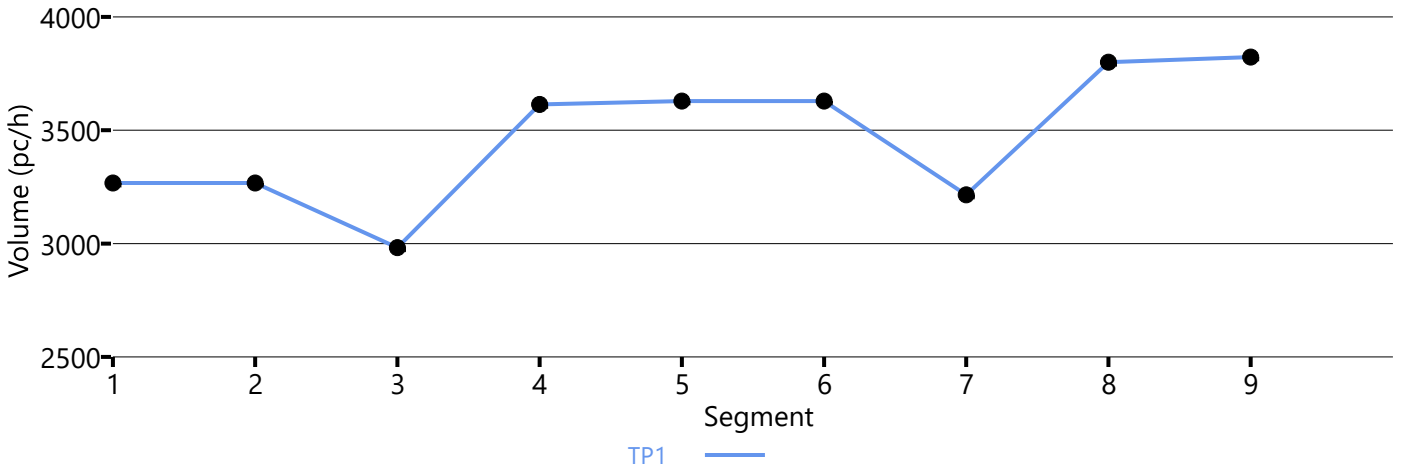
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.0	17.4	16.7	4.5	B

Facility Overall Results

Space Mean Speed, mi/h	67.0	Density, veh/mi/ln	16.7
Average Travel Time, min	4.5	Density, pc/mi/ln	17.4

Volume Distribution



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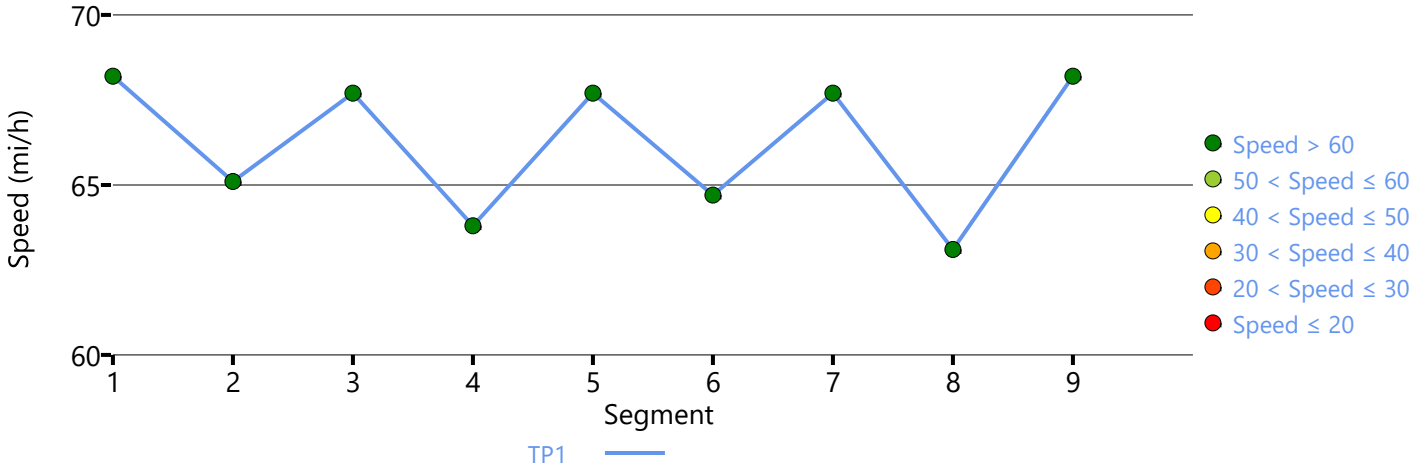

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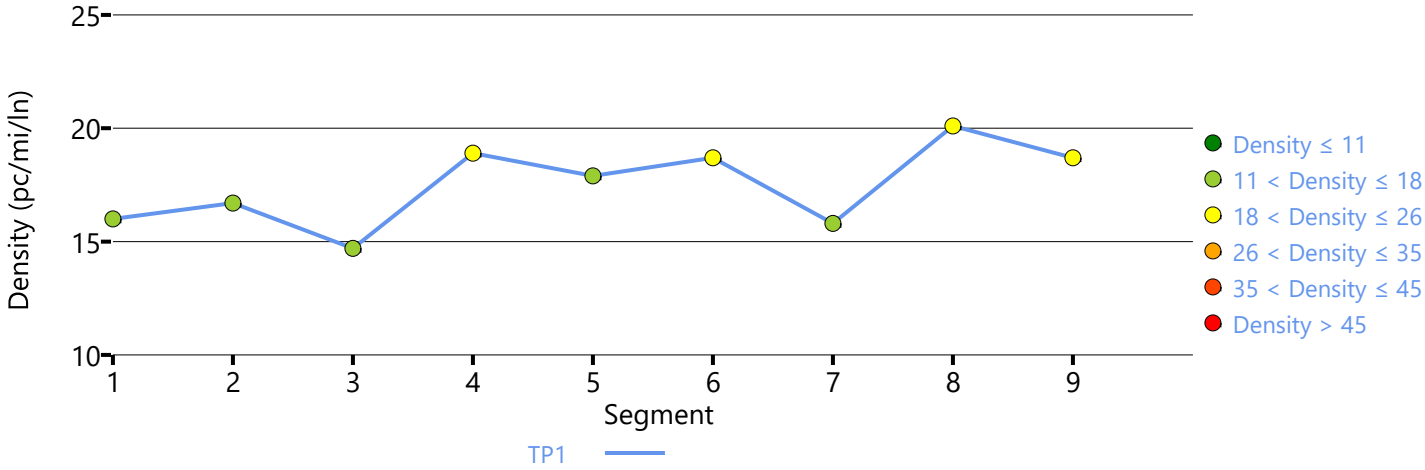

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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Exisitng (2020) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 SB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	North of Indian Truck	5280	3
2	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
3	Basic	Basic	Between	2250	3
4	Merge	Merge	On-Ramp at Indian Truck	1500	3
5	Basic	Basic	Indian Truck to Lake	5280	3
6	Diverge	Diverge	Off-Ramp at Lake	1500	3
7	Basic	Basic	Between	2330	3
8	Merge	Merge	On-Ramp at Lake	1500	3
9	Basic	Basic	South of Lake	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	5748	7146	0.80	63.1	30.4	D

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.741	5748	864	7200	2100	0.80	0.41	63.6	59.5	30.1	29.0	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	4832	7131	0.68	66.4	24.3	C

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.952	5064	232	7200	2000	0.70	0.12	65.5	62.9	25.8	26.5	C

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	5103	7131	0.72	65.6	25.9	C

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.990	0.962	5103	854	7200	2100	0.71	0.41	63.7	59.5	26.7	26.7	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	4230	7131	0.59	67.5	20.9	C

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.962	4410	180	7200	2000	0.61	0.09	63.3	61.8	23.2	19.0	B

Segment 9: Basic

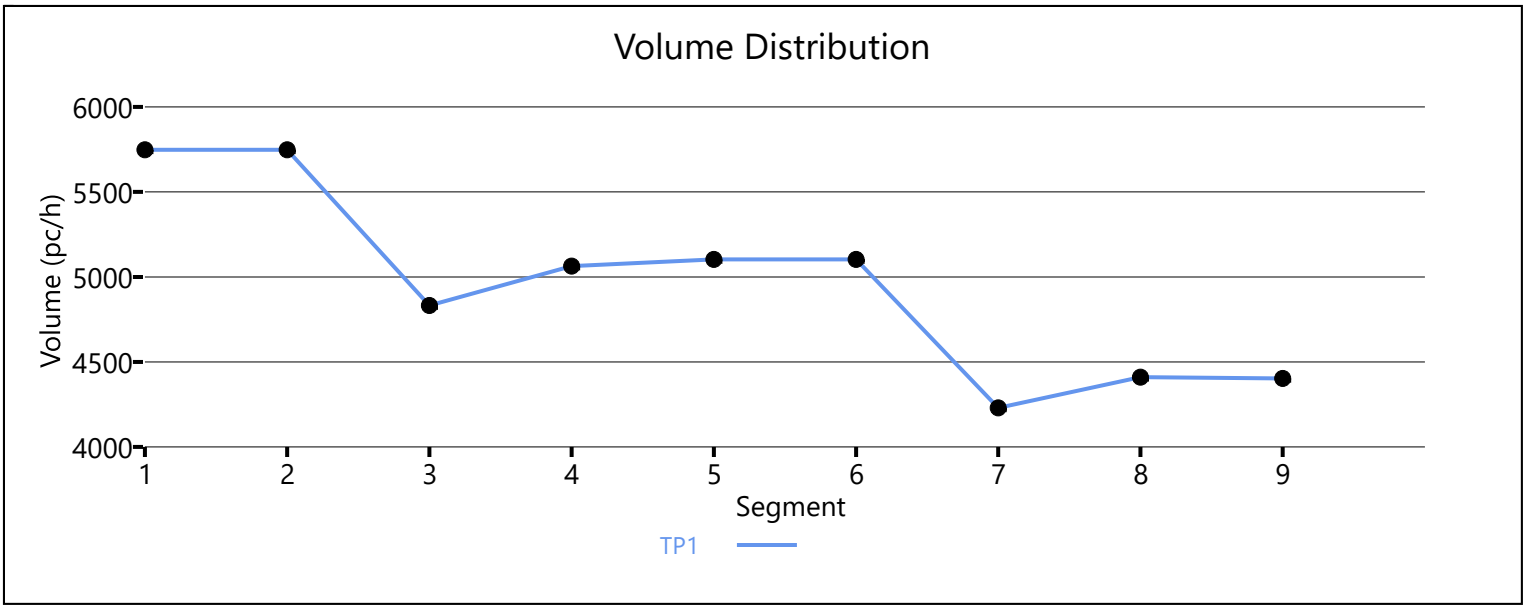
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	4403	7146	0.62	67.7	21.7	C

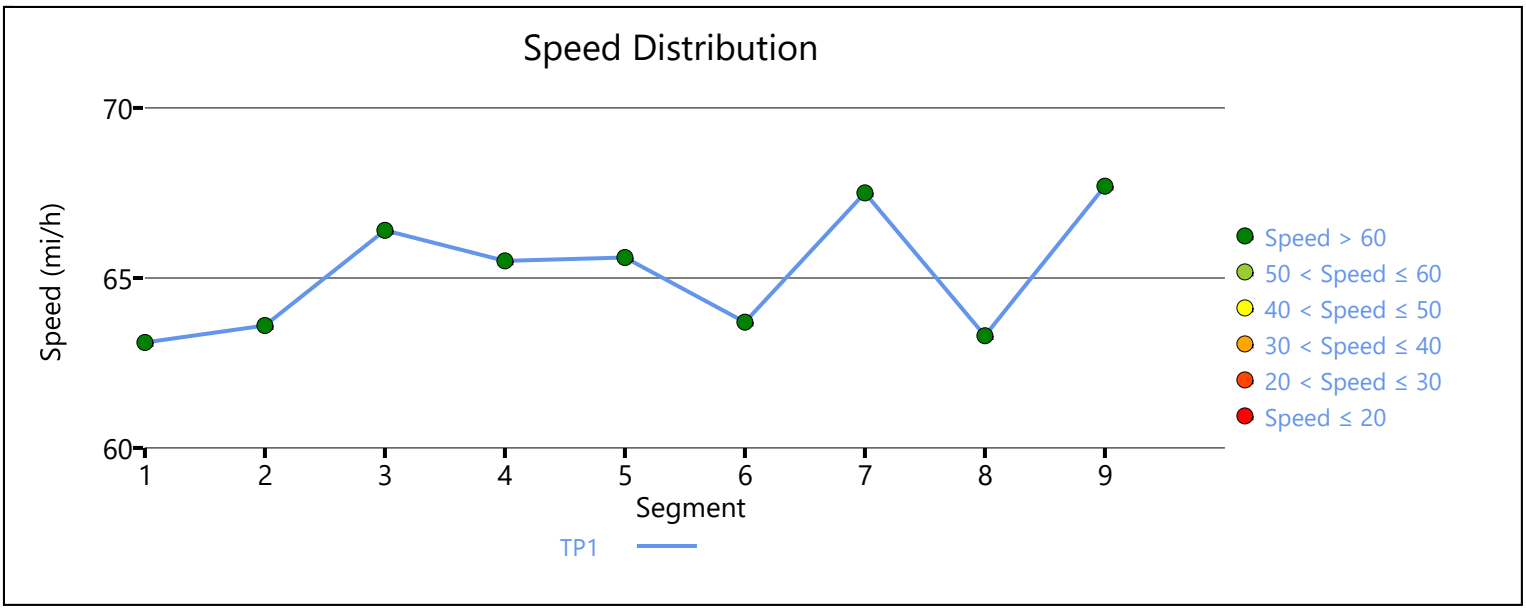
Facility Time Period Results

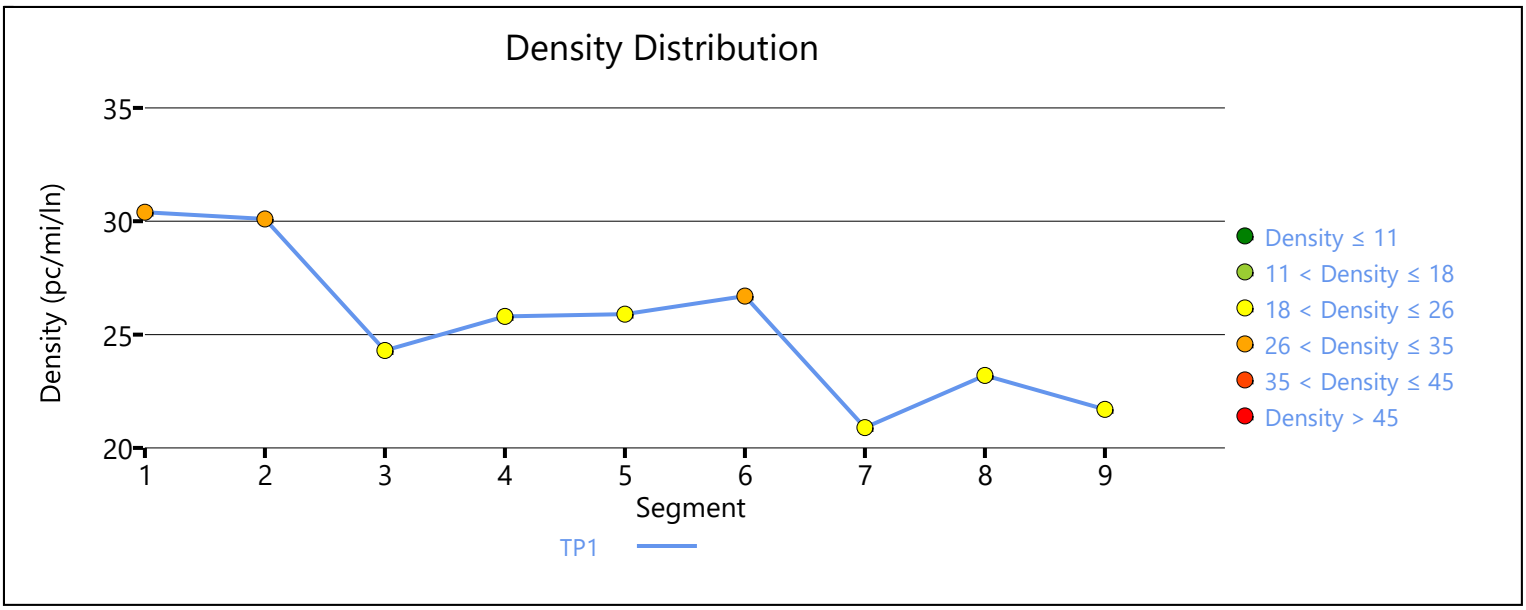
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	65.2	25.5	25.1	4.6	C

Facility Overall Results

Space Mean Speed, mi/h	65.2	Density, veh/mi/ln	25.1
Average Travel Time, min	4.6	Density, pc/mi/ln	25.5







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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	Existing (2020) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 NB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South of Lake	5280	3
2	Diverge	Diverge	Off-Ramp at Lake	1500	3
3	Basic	Basic	Between	2370	3
4	Merge	Merge	On-Ramp at Lake	1500	3
5	Basic	Basic	Lake to Indian Truck	5280	3
6	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
7	Basic	Basic	Between	2175	3
8	Merge	Merge	On-Ramp at Indian Truck	1500	3
9	Basic	Basic	North of Indian Truck	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	2512	7146	0.35	68.2	12.3	B

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.962	2512	216	7200	2100	0.35	0.10	64.9	61.1	12.9	13.2	B

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	2294	7131	0.32	67.7	11.3	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.926	2652	358	7200	2100	0.37	0.17	64.6	62.7	13.7	13.1	B

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	2642	7131	0.37	67.7	13.0	B

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.901	2642	189	7200	2100	0.37	0.09	65.1	61.2	13.5	15.8	B

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	2463	7131	0.35	67.7	12.1	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.952	2922	459	7200	2100	0.41	0.22	63.9	61.8	15.2	16.6	B

Segment 9: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	2922	7146	0.41	68.2	14.3	B

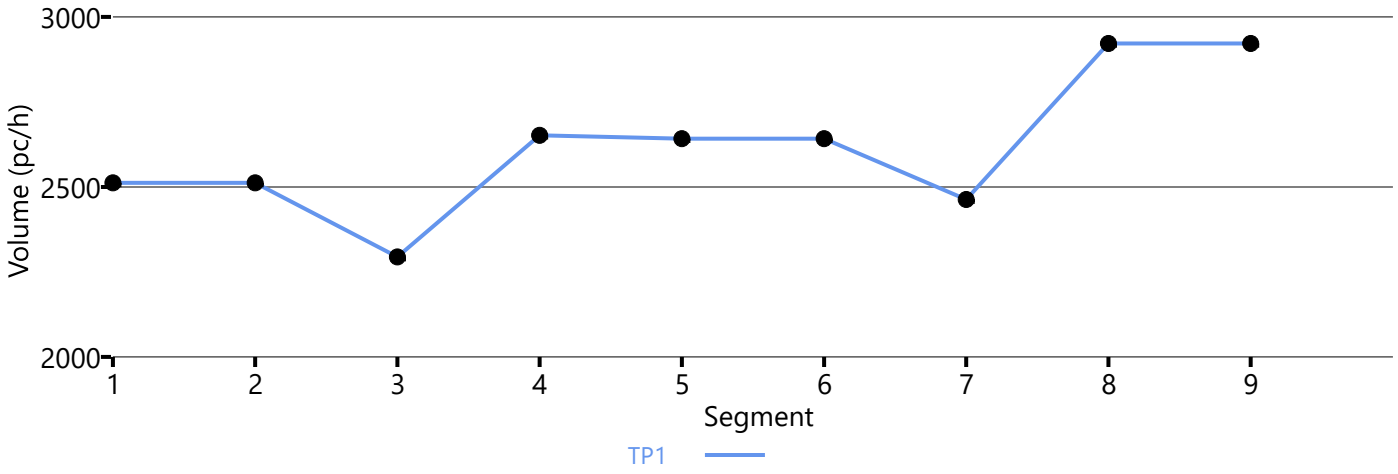
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.2	13.1	12.5	4.5	B

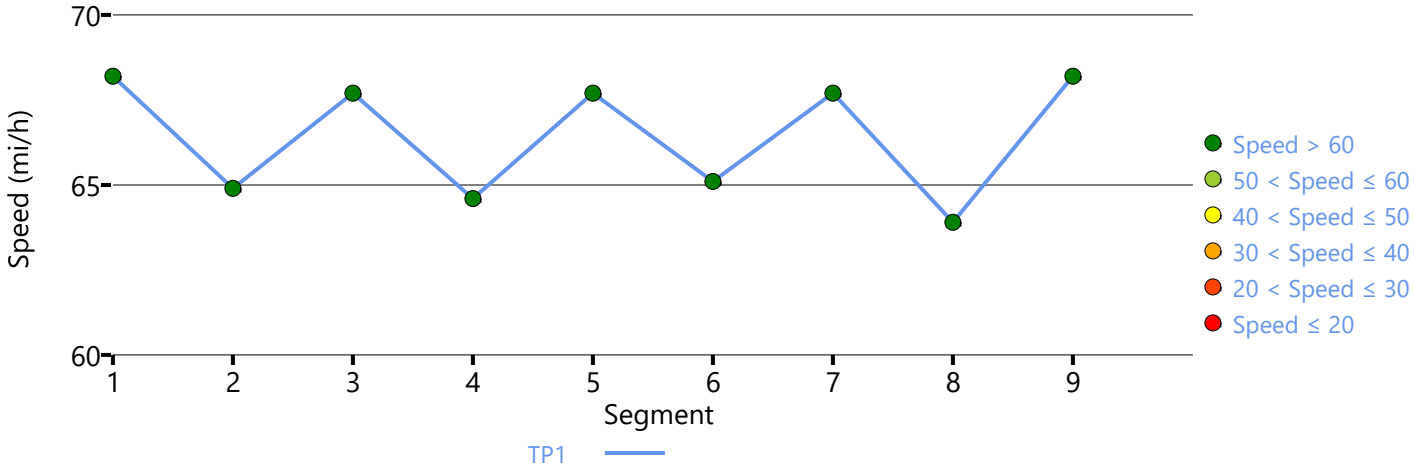
Facility Overall Results

Space Mean Speed, mi/h	67.2	Density, veh/mi/ln	12.5
Average Travel Time, min	4.5	Density, pc/mi/ln	13.1

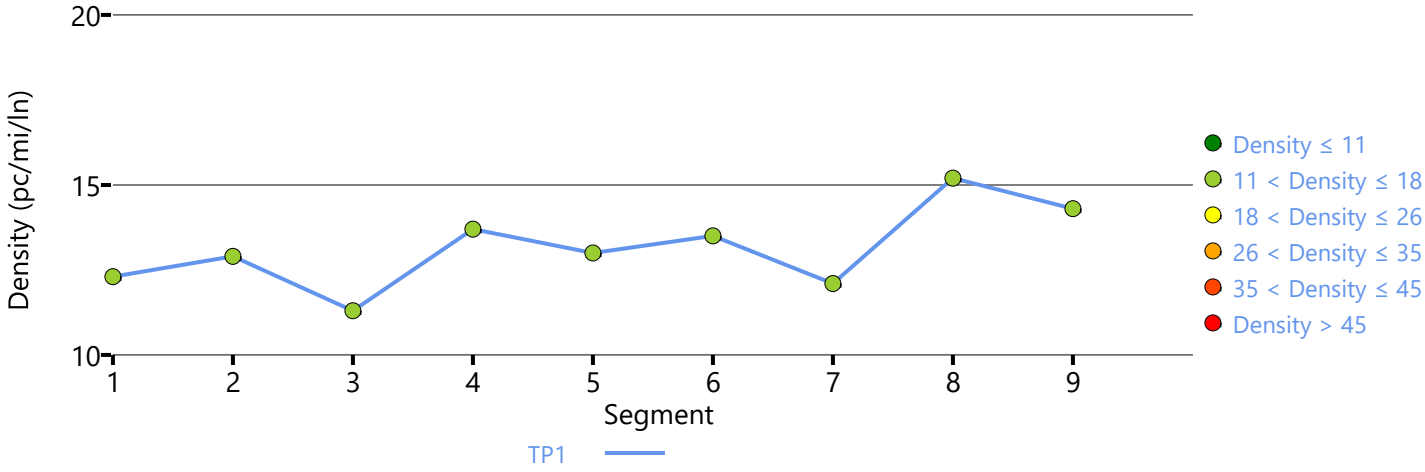
Volume Distribution



Speed Distribution



Density Distribution



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APPENDIX 4.1:

POST-PROCESSING WORKSHEETS

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Project:	Renaissance Ranch	Job #:	13266
Scenario:	Horizon Year (2040)	Analyst:	CP
		Date:	10/9/20

LOCATION: Temescal Canyon Rd. & Indian Truck Tr.
FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	118	61	-57	-48%	138	24	-114	-83%
	Through	139	460	321	231%	15	141	126	840%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	257	521	264	103%	153	165	12	8%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	6	33	27	450%	48	320	272	567%
	Right	68	129	61	90%	54	205	151	280%
	SB Total	74	162	88	119%	102	525	423	415%
EAST BOUND	Left	340	670	330	97%	67	185	118	176%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	76	67	-9	-12%	64	6	-58	-91%
	EB Total	416	737	321	77%	131	191	60	46%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
TOTAL ENTERING VOLUME		747	1,420	673	90%	386	881	495	128%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	162	525			
North Leg	Outbound	1,130	326			
North Leg	**TOTAL**	**1,292**	**851**	**12%**	**8%**	**10,887**
South Leg	Inbound	521	165			
South Leg	Outbound	100	326			
South Leg	**TOTAL**	**621**	**491**	**6%**	**5%**	**9,836**
East Leg	Inbound	0	0			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
West Leg	Inbound	737	191			
West Leg	Outbound	190	229			
West Leg	**TOTAL**	**927**	**420**	**20%**	**9%**	**4,590**
OVERALL TOTAL		***2,840***	***1,762***	**11%**	***7%***	***25,313***

Z:\Shared\UcJobs_13100-13500_13200\13266\Post Processing\[01_Temescal Canyon & Indian Truck.xls]Output (3)

Project:	Renaissance Ranch	Job #:	13266
Scenario:	Horizon Year (2040)	Analyst:	CP
		Date:	10/9/20

LOCATION: I-15 NB Ramps & Indian Truck Tr.
FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	169	172	3	2%	134	242	109	81%
	Through	3	3	0	0%	1	1	0	0%
	Right	369	505	137	37%	45	57	13	28%
	NB Total	541	680	140	26%	179	300	121	68%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	246	236	-10	-4%	263	280	18	7%
	Through	122	145	24	19%	106	143	38	36%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	367	381	14	4%	368	423	55	15%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	167	168	1	1%	49	78	29	59%
	Right	121	131	11	9%	156	139	-17	-11%
	WB Total	288	299	12	4%	205	217	12	6%
TOTAL ENTERING VOLUME		1,195	1,360	165	14%	752	940	188	25%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	0	0			
North Leg	Outbound	370	420			
North Leg	**TOTAL**	**370**	**420**	**22%**	**25%**	**1,650**
South Leg	Inbound	680	300			
South Leg	Outbound	0	0			
South Leg	**TOTAL**	**680**	**300**	**22%**	**10%**	**3,033**
East Leg	Inbound	299	217			
East Leg	Outbound	650	200			
East Leg	**TOTAL**	**949**	**417**	**21%**	**9%**	**4,590**
West Leg	Inbound	381	423			
West Leg	Outbound	340	320			
West Leg	**TOTAL**	**721**	**743**	**17%**	**17%**	**4,312**
OVERALL TOTAL		***2,720***	***1,880***	**20%**	***14%***	***13,585***

Z:\Shared\UcJobs_13100-13500_13200\13266\Post Processing\[02_I-15 NB Ramps & Indian Truck.xls]Output (3)

Project:	Renaissance Ranch	Job #:	13266
Scenario:	Horizon Year (2040)	Analyst:	CP
		Date:	10/9/20

LOCATION: I-15 SB Ramps & Indian Truck Tr.
FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	100	98	-2	-2%	89	133	45	50%
	Through	7	8	1	14%	8	9	2	20%
	Right	218	220	3	1%	507	458	-49	-10%
	SB Total	325	326	2	0%	603	600	-3	0%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	267	272	5	2%	280	309	30	11%
	Right	166	196	31	18%	177	152	-25	-14%
	EB Total	433	468	36	8%	456	461	5	1%
WEST BOUND	Left	133	146	14	10%	31	66	36	116%
	Through	204	200	-4	-2%	152	254	102	67%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	336	346	10	3%	183	320	138	75%
TOTAL ENTERING VOLUME		1,093	1,140	47	4%	1,241	1,381	140	11%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	326	600			
North Leg	Outbound	0	0			
North Leg	**TOTAL**	**326**	**600**	**17%**	**31%**	**1,911**
South Leg	Inbound	0	0			
South Leg	Outbound	350	227			
South Leg	**TOTAL**	**350**	**227**	**19%**	**12%**	**1,844**
East Leg	Inbound	346	320			
East Leg	Outbound	370	442			
East Leg	**TOTAL**	**716**	**762**	**17%**	**18%**	**4,312**
West Leg	Inbound	468	461			
West Leg	Outbound	420	712			
West Leg	**TOTAL**	**888**	**1,173**	**17%**	**22%**	**5,371**
OVERALL TOTAL		***2,280***	***2,762***	**17%**	***21%***	***13,438***

Z:\Shared\UcJobs_13100-13500_13200\13266\Post Processing\[03_I-15 SB Ramps & Indian Truck.xls]Output (3)

Project: Renaissance Ranch
Scenario: Horizon Year (2040)

Job #: 13266
Analyst: CP
Date: 10/9/20

LOCATION: De Palma Rd. & Indian Truck Tr.
FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	213	341	128	60%	143	216	73	51%
	Right	271	329	58	21%	297	293	-4	-1%
	NB Total	484	670	186	38%	440	509	69	16%
SOUTH BOUND	Left	144	149	5	3%	148	170	22	15%
	Through	129	161	32	25%	183	420	237	130%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	273	310	37	14%	331	590	259	78%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
WEST BOUND	Left	242	232	-10	-4%	519	547	28	5%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	150	158	8	5%	128	103	-25	-20%
	WB Total	392	390	-2	-1%	647	650	3	0%
TOTAL ENTERING VOLUME		1,149	1,370	221	19%	1,418	1,749	331	23%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	310	590			
North Leg	Outbound	499	319			
North Leg	**TOTAL**	**809**	**909**	**11%**	**12%**	**7,533**
South Leg	Inbound	670	509			
South Leg	Outbound	393	967			
South Leg	**TOTAL**	**1,063**	**1,476**	**15%**	**21%**	**7,027**
East Leg	Inbound	390	650			
East Leg	Outbound	478	463			
East Leg	**TOTAL**	**868**	**1,113**	**16%**	**21%**	**5,371**
West Leg	Inbound	0	0			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
OVERALL TOTAL		***2,740***	***3,498***	**14%**	***18%***	***19,931***

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Project:	Renaissance Ranch	Job #:	13266
Scenario:	Horizon Year (2040)	Analyst:	CP
		Date:	10/9/20

LOCATION: Horsethief Canyon Rd. & Temescal Canyon Rd.
FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	86	89	3	3%	71	72	1	1%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	95	91	-4	-4%	85	138	53	62%
	NB Total	181	180	-1	-1%	156	210	54	35%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	43	62	19	44%	113	267	154	136%
	Right	9	8	-1	-11%	43	113	70	163%
	EB Total	52	70	18	35%	156	380	224	144%
WEST BOUND	Left	82	101	19	23%	93	171	78	84%
	Through	171	359	188	110%	48	49	1	2%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	253	460	207	82%	141	220	79	56%
TOTAL ENTERING VOLUME		486	710	224	46%	453	810	357	79%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	0	0			
North Leg	Outbound	0	0			
North Leg	**TOTAL**	**0**	**0**	**0%**	**0%**	**2,958**
South Leg	Inbound	180	210			
South Leg	Outbound	109	284			
South Leg	**TOTAL**	**289**	**494**	**3%**	**5%**	**9,418**
East Leg	Inbound	460	220			
East Leg	Outbound	153	405			
East Leg	**TOTAL**	**613**	**625**	**5%**	**5%**	**13,555**
West Leg	Inbound	70	380			
West Leg	Outbound	448	121			
West Leg	**TOTAL**	**518**	**501**	**5%**	**5%**	**9,836**
OVERALL TOTAL		***1,420***	***1,620***	**4%**	***5%***	***35,767***

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Project:	Renaissance Ranch	Job #:	13266
Scenario:	Horizon Year (2040)	Analyst:	CP
		Date:	10/9/20

LOCATION: Horsethief Canyon Rd. & De Palma Rd.
FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	253	344	91	36%	133	284	151	114%
	Through	167	260	93	56%	134	110	-24	-18%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	420	604	184	44%	267	394	127	48%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	57	133	76	133%	116	57	-59	-51%
	Right	34	46	12	35%	20	85	65	325%
	SB Total	91	179	88	97%	136	142	6	4%
EAST BOUND	Left	14	10	-4	-29%	22	147	125	568%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	98	107	9	9%	349	697	348	100%
	EB Total	112	117	5	4%	371	844	473	127%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
TOTAL ENTERING VOLUME		623	900	277	44%	774	1,380	606	78%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	179	142			
North Leg	Outbound	270	257			
North Leg	**TOTAL**	**449**	**399**	**3%**	**2%**	**15,965**
South Leg	Inbound	604	394			
South Leg	Outbound	240	754			
South Leg	**TOTAL**	**844**	**1,148**	**6%**	**8%**	**14,235**
East Leg	Inbound	0	0			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
West Leg	Inbound	117	844			
West Leg	Outbound	390	369			
West Leg	**TOTAL**	**507**	**1,213**	**11%**	**25%**	**4,794**
OVERALL TOTAL		***1,800***	***2,760***	**5%**	***8%***	***34,994***

Z:\Shared\UcJobs_13100-13500_13200\13266\Post Processing\[06_Horsethief & De Palma.xls]Output (3)

Project:	Renaissance Ranch	Job #:	13266
Scenario:	Horizon Year (2040)	Analyst:	CP
		Date:	10/9/20

LOCATION: Lake St. & I-15 NB Ramps
FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	567	608	41	7%	314	378	65	21%
	Through	2	0	-2	-100%	10	18	9	89%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	569	608	39	7%	323	396	73	23%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	2	7	5	250%	9	12	3	33%
	Right	1	3	2	200%	5	9	4	80%
	SB Total	3	10	7	233%	14	21	7	50%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
WEST BOUND	Left	251	252	1	0%	189	188	-1	0%
	Through	12	10	-2	-13%	3	4	1	33%
	Right	2	0	-2	-100%	6	12	6	100%
	WB Total	265	262	-3	-1%	198	204	7	3%
TOTAL ENTERING VOLUME		837	880	43.5	5%	535	621	87	16%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	10	21			
North Leg	Outbound	0	30			
North Leg	**TOTAL**	**10**	**51**	**1%**	**6%**	**789**
South Leg	Inbound	608	396			
South Leg	Outbound	259	200			
South Leg	**TOTAL**	**867**	**596**	**9%**	**6%**	**10,053**
East Leg	Inbound	262	204			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**262**	**204**	**16%**	**13%**	**1,613**
West Leg	Inbound	0	0			
West Leg	Outbound	621	391			
West Leg	**TOTAL**	**621**	**391**	**13%**	**8%**	**4,794**
OVERALL TOTAL		***1,760***	***1,242***	**10%**	***7%***	***17,249***

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Project:	Renaissance Ranch	Job #:	13266
Scenario:	Horizon Year (2040)	Analyst:	CP
		Date:	10/9/20

LOCATION: Lake St. & I-15 SB Ramps
FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	568	627	59	10%	321	376	55	17%
	Right	305	291	-14	-5%	157	154	-3	-2%
	NB Total	873	918	45	5%	478	530	52	11%
SOUTH BOUND	Left	3	8	5	167%	3	6	3	100%
	Through	250	222	-28	-11%	195	197	3	1%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	253	230	-23	-9%	198	203	6	3%
EAST BOUND	Left	1	4	3	300%	2	4	2	100%
	Through	9	32	24	276%	6	10	5	82%
	Right	277	326	50	18%	775	773	-2	0%
	EB Total	286	362	76	27%	782	787	5	1%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
TOTAL ENTERING VOLUME		1,412	1,510	98	7%	1,458	1,520	63	4%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	230	203			
North Leg	Outbound	631	380			
North Leg	**TOTAL**	**861**	**583**	**9%**	**6%**	**10,053**
South Leg	Inbound	918	530			
South Leg	Outbound	548	970			
South Leg	**TOTAL**	**1,466**	**1,500**	**8%**	**8%**	**18,695**
East Leg	Inbound	0	0			
East Leg	Outbound	331	170			
East Leg	**TOTAL**	**331**	**170**	**34%**	**18%**	**971**
West Leg	Inbound	362	787			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**362**	**787**	**4%**	**10%**	**8,243**
OVERALL TOTAL		***3,020***	***3,040***	***8%***	***8%***	***37,962***

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Project: Renaissance Ranch
Scenario: Horizon Year (2040)

Job #: 13266
Analyst: CP
Date: 10/9/20

LOCATION: Lake St. & De Palma
FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	190	624	434	228%	74	322	248	335%
	Through	571	693	122	21%	311	386	75	24%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	761	1,317	556	73%	385	708	323	84%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	251	322	71	28%	748	1,066	318	43%
	Right	206	141	-65	-32%	190	78	-112	-59%
	SB Total	457	463	6	1%	938	1,144	206	22%
EAST BOUND	Left	246	143	-103	-42%	148	74	-74	-50%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	60	178	118	197%	80	484	404	505%
	EB Total	306	321	15	5%	228	558	330	145%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
TOTAL ENTERING VOLUME		1,524	2,101	577	38%	1,551	2,410	859	55%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	463	1,144			
North Leg	Outbound	836	460			
North Leg	**TOTAL**	**1,299**	**1,604**	**7%**	**9%**	**17,695**
South Leg	Inbound	1,317	708			
South Leg	Outbound	500	1,550			
South Leg	**TOTAL**	**1,817**	**2,258**	**6%**	**7%**	**30,266**
East Leg	Inbound	0	0			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
West Leg	Inbound	321	558			
West Leg	Outbound	765	400			
West Leg	**TOTAL**	**1,086**	**958**	**7%**	**6%**	**16,409**
OVERALL TOTAL		***4,202***	***4,820***	***7%***	***7%***	***64,370***

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APPENDIX 5.1:

EAP (2025) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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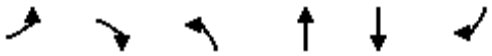
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	375	307	244	162	37	116
Future Volume (vph)	375	307	244	162	37	116
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	40.0
Total Split (s)	30.0	30.0	30.0	70.0	40.0	40.0
Total Split (%)	30.0%	30.0%	30.0%	70.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	54.3	54.3	20.3	36.7	12.3	12.3
Actuated g/C Ratio	0.54	0.54	0.20	0.37	0.12	0.12
v/c Ratio	0.23	0.35	0.76	0.27	0.18	0.42
Control Delay	15.9	3.8	50.9	21.1	36.5	9.5
Queue Delay	0.5	0.8	0.0	0.0	0.0	0.0
Total Delay	16.4	4.6	50.9	21.1	36.5	9.5
LOS	B	A	D	C	D	A
Approach Delay	11.1			39.0	16.1	
Approach LOS	B			D	B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBL and 6:, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 20.9	Intersection LOS: C
Intersection Capacity Utilization 38.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	375	307	244	162	37	116
Future Volume (veh/h)	375	307	244	162	37	116
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	431	333	280	186	43	85
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2110	968	319	587	157	132
Arrive On Green	0.60	0.60	0.18	0.31	0.08	0.08
Sat Flow, veh/h	3510	1610	1810	1900	1900	1591
Grp Volume(v), veh/h	431	333	280	186	43	85
Grp Sat Flow(s),veh/h/ln	1755	1610	1810	1900	1900	1591
Q Serve(g_s), s	5.6	10.4	15.1	7.5	2.1	5.2
Cycle Q Clear(g_c), s	5.6	10.4	15.1	7.5	2.1	5.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	2110	968	319	587	157	132
V/C Ratio(X)	0.20	0.34	0.88	0.32	0.27	0.65
Avail Cap(c_a), veh/h	2110	968	470	1235	665	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.1	10.0	40.2	26.5	43.0	44.4
Incr Delay (d2), s/veh	0.2	1.0	12.2	0.2	0.7	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.5	7.5	3.3	1.0	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.3	11.0	52.4	26.7	43.7	48.3
LnGrp LOS	A	B	D	C	D	D
Approach Vol, veh/h	764			466	128	
Approach Delay, s/veh	10.0			42.1	46.8	
Approach LOS	B			D	D	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		64.1	22.6	13.3		35.9
Change Period (Y+Rc), s		4.0	5.0	* 5		5.0
Max Green Setting (Gmax), s		26.0	26.0	* 35		65.0
Max Q Clear Time (g_c+I1), s		12.4	17.1	7.2		9.5
Green Ext Time (p_c), s		2.3	0.5	0.3		0.8

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

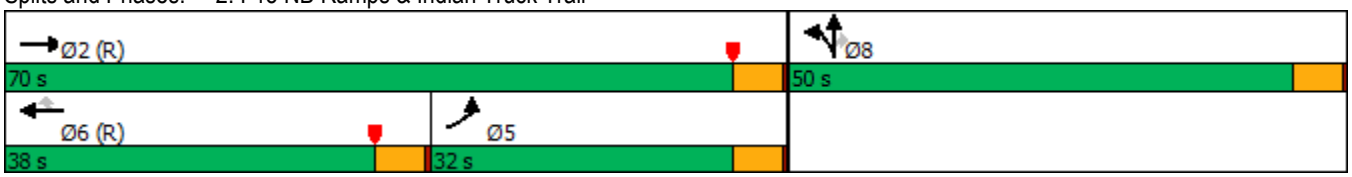
Notes

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

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	280	275	184	175	187	3	407
Future Volume (vph)	280	275	184	175	187	3	407
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	30.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	32.0	70.0	38.0	38.0	50.0	50.0	50.0
Total Split (%)	26.7%	58.3%	31.7%	31.7%	41.7%	41.7%	41.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max
Act Effct Green (s)	27.0	65.0	33.0	33.0	45.0	45.0	45.0
Actuated g/C Ratio	0.22	0.54	0.28	0.28	0.38	0.38	0.38
v/c Ratio	0.40	0.18	0.33	0.34	0.30	0.38	0.36
Control Delay	37.4	13.1	36.5	6.5	28.1	6.6	4.9
Queue Delay	0.0	0.0	0.0	0.9	0.0	0.0	0.0
Total Delay	37.4	13.1	36.5	7.4	28.1	6.6	4.9
LOS	D	B	D	A	C	A	A
Approach Delay		25.4	22.3			12.0	
Approach LOS		C	C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay: 19.4	Intersection LOS: B
Intersection Capacity Utilization 45.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: I-15 NB Ramps & Indian Truck Trail



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	275	0	0	184	175	187	3	407	0	0	0
Future Volume (veh/h)	280	275	0	0	184	175	187	3	407	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1678	0	0	981	1811	1841	1900	1678			
Adj Flow Rate, veh/h	308	302	0	0	202	161	307	0	177			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	3	15	0	0	62	6	4	0	15			
Cap, veh/h	771	1727	0	0	513	422	1315	0	533			
Arrive On Green	0.07	0.18	0.00	0.00	0.28	0.28	0.38	0.00	0.38			
Sat Flow, veh/h	3428	3272	0	0	1913	1535	3506	0	1422			
Grp Volume(v), veh/h	308	302	0	0	202	161	307	0	177			
Grp Sat Flow(s),veh/h/ln	1714	1594	0	0	932	1535	1753	0	1422			
Q Serve(g_s), s	10.3	9.6	0.0	0.0	10.6	10.2	7.2	0.0	10.7			
Cycle Q Clear(g_c), s	10.3	9.6	0.0	0.0	10.6	10.2	7.2	0.0	10.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	771	1727	0	0	513	422	1315	0	533			
V/C Ratio(X)	0.40	0.17	0.00	0.00	0.39	0.38	0.23	0.00	0.33			
Avail Cap(c_a), veh/h	771	1727	0	0	513	422	1315	0	533			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.92	0.92	0.00	0.00	0.89	0.89	1.00	0.00	1.00			
Uniform Delay (d), s/veh	47.8	26.5	0.0	0.0	35.4	35.2	25.7	0.0	26.8			
Incr Delay (d2), s/veh	0.3	0.2	0.0	0.0	2.0	2.3	0.4	0.0	1.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.6	3.9	0.0	0.0	2.5	4.0	3.0	0.0	3.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	26.7	0.0	0.0	37.4	37.6	26.1	0.0	28.4			
LnGrp LOS	D	C	A	A	D	D	C	A	C			
Approach Vol, veh/h		610			363			484				
Approach Delay, s/veh		37.5			37.5			27.0				
Approach LOS		D			D			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		70.0			32.0	38.0		50.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		65.0			27.0	33.0		45.0				
Max Q Clear Time (g_c+I1), s		11.6			12.3	12.6		12.7				
Green Ext Time (p_c), s		1.2			0.9	1.0		1.2				

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

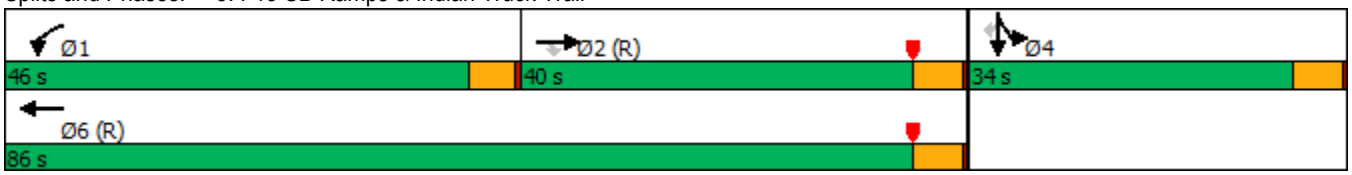
Notes

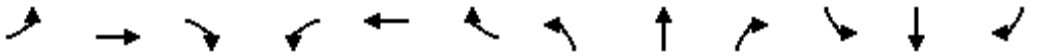
User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	304	183	146	225	251	8	270
Future Volume (vph)	304	183	146	225	251	8	270
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	9.5	25.0	10.0	10.0	10.0
Total Split (s)	40.0	40.0	46.0	86.0	34.0	34.0	34.0
Total Split (%)	33.3%	33.3%	38.3%	71.7%	28.3%	28.3%	28.3%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	4.5	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	55.9	55.9	20.6	81.0	29.0	29.0	29.0
Actuated g/C Ratio	0.47	0.47	0.17	0.68	0.24	0.24	0.24
v/c Ratio	0.14	0.24	0.73	0.10	0.73	0.34	0.33
Control Delay	16.2	4.1	82.4	8.9	54.9	9.1	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.2	4.1	82.4	8.9	54.9	9.1	7.8
LOS	B	A	F	A	D	A	A
Approach Delay	11.7			37.8		30.5	
Approach LOS	B			D		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 25.8	Intersection LOS: C
Intersection Capacity Utilization 45.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: I-15 SB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	304	183	146	225	0	0	0	0	251	8	270
Future Volume (veh/h)	0	304	183	146	225	0	0	0	0	251	8	270
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1870	1278	1870	0				1663	1900	1781
Adj Flow Rate, veh/h	0	334	141	160	247	0				276	0	182
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	4	2	42	2	0				16	0	8
Cap, veh/h	0	2470	779	178	2399	0				383	0	730
Arrive On Green	0.00	0.49	0.49	0.29	1.00	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	5191	1585	1217	3647	0				1584	0	3019
Grp Volume(v), veh/h	0	334	141	160	247	0				276	0	182
Grp Sat Flow(s),veh/h/ln	0	1675	1585	1217	1777	0				1584	0	1510
Q Serve(g_s), s	0.0	4.3	6.0	15.2	0.0	0.0				19.2	0.0	5.8
Cycle Q Clear(g_c), s	0.0	4.3	6.0	15.2	0.0	0.0				19.2	0.0	5.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2470	779	178	2399	0				383	0	730
V/C Ratio(X)	0.00	0.14	0.18	0.90	0.10	0.00				0.72	0.00	0.25
Avail Cap(c_a), veh/h	0	2470	779	421	2399	0				383	0	730
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.90	0.90	0.96	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.6	17.0	41.7	0.0	0.0				41.8	0.0	36.7
Incr Delay (d2), s/veh	0.0	0.1	0.5	14.5	0.1	0.0				11.2	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.6	2.2	4.4	0.0	0.0				8.4	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.7	17.5	56.2	0.1	0.0				53.0	0.0	37.5
LnGrp LOS	A	B	B	E	A	A				D	A	D
Approach Vol, veh/h		475			407						458	
Approach Delay, s/veh		16.9			22.1						46.8	
Approach LOS		B			C						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	22.0	64.0		34.0		86.0						
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0						
Max Green Setting (Gmax), s	41.5	35.0		29.0		81.0						
Max Q Clear Time (g_c+I1), s	17.2	8.0		21.2		2.0						
Green Ext Time (p_c), s	0.4	1.5		0.8		1.0						

Intersection Summary												
HCM 6th Ctrl Delay			28.7									
HCM 6th LOS			C									

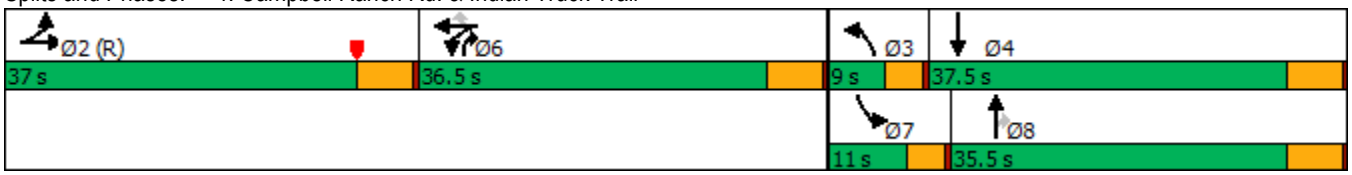
Notes

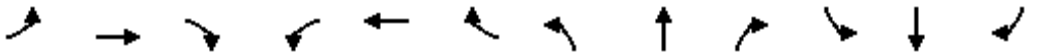
User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	329	0	166	244	328	159	172		
Future Volume (vph)	329	0	166	244	328	159	172		
Turn Type	Split	NA	Perm	NA	pm+ov	Prot	NA		
Protected Phases	6	6		8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	6	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	36.5	35.5	36.5	9.0	10.5	36.5	9.0
Total Split (s)	36.5	36.5	36.5	35.5	36.5	11.0	37.5	37.0	9.0
Total Split (%)	30.4%	30.4%	30.4%	29.6%	30.4%	9.2%	31.3%	31%	8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5		
Lead/Lag				Lag		Lead	Lag		Lead
Lead-Lag Optimize?				Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Max	None	None	Max	C-Max	None
Act Effct Green (s)	21.1	21.1	21.1	36.5	57.6	10.4	50.9		
Actuated g/C Ratio	0.18	0.18	0.18	0.30	0.48	0.09	0.42		
v/c Ratio	0.64	0.50	0.41	0.24	0.37	0.58	0.12		
Control Delay	56.7	25.4	12.1	33.7	2.1	60.8	22.9		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	56.7	25.4	12.1	33.7	2.1	60.8	22.9		
LOS	E	C	B	C	A	E	C		
Approach Delay		32.5		15.6			41.2		
Approach LOS		C		B			D		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 116 (97%), Referenced to phase 2:EBTL, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 27.6	Intersection LOS: C
Intersection Capacity Utilization 34.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	329	0	166	0	244	328	159	172	0
Future Volume (veh/h)	0	0	0	329	0	166	0	244	328	159	172	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	393	0	67	0	268	238	175	189	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	735	0	485	0	212	2	902	618	205	1233	0
Arrive On Green	0.00	0.00	0.00	0.13	0.00	0.13	0.00	0.25	0.25	0.06	0.34	0.00
Sat Flow, veh/h	0	1900	0	3619	0	1586	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	393	0	67	0	268	238	175	189	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1586	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	12.7	0.0	4.6	0.0	7.2	12.8	5.9	4.4	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	12.7	0.0	4.6	0.0	7.2	12.8	5.9	4.4	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	735	0	485	0	212	2	903	618	205	1233	0
V/C Ratio(X)	0.00	0.00	0.00	0.81	0.00	0.32	0.00	0.30	0.38	0.85	0.15	0.00
Avail Cap(c_a), veh/h	0	735	0	935	0	410	75	903	618	205	1233	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.99	0.00	0.99	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	50.5	0.0	47.0	0.0	36.5	26.7	56.0	27.4	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.3	0.0	0.8	0.0	0.8	1.8	27.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	5.8	0.0	1.8	0.0	3.2	6.3	3.4	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	53.8	0.0	47.8	0.0	37.3	28.5	83.9	27.7	0.0
LnGrp LOS	A	A	A	D	A	D	A	D	C	F	C	A
Approach Vol, veh/h		0			460			506			364	
Approach Delay, s/veh		0.0			52.9			33.2			54.7	
Approach LOS					D			C			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	51.9	0.0	46.5	21.6	11.0	35.5
Change Period (Y+Rc), s	5.5	4.0	5.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	31.5	5.0	32.0	31.0	7.0	30.0
Max Q Clear Time (g_c+I1), s	0.0	0.0	6.4	14.7	7.9	14.8
Green Ext Time (p_c), s	0.0	0.0	1.0	1.4	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	7.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	47	181	194	189	146	136
Future Vol, veh/h	47	181	194	189	146	136
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	49	191	204	199	154	143

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	240	0	752	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	607	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1339	-	381	908
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	548	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1339	-	316	908
Mov Cap-2 Maneuver	-	-	-	-	316	-
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	454	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.1	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	316	908	-	-	1339	-
HCM Lane V/C Ratio	0.486	0.158	-	-	0.153	-
HCM Control Delay (s)	26.7	9.7	-	-	8.2	0
HCM Lane LOS	D	A	-	-	A	A
HCM 95th %tile Q(veh)	2.5	0.6	-	-	0.5	-

Intersection	
Intersection Delay, s/veh	16.7
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	168	296	265	337	38
Future Vol, veh/h	15	168	296	265	337	38
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	202	357	319	406	46
Number of Lanes	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	12.1	16.5	19.2
HCM LOS	B	C	C

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	100%	0%	8%	0%
Vol Thru, %	0%	100%	0%	90%
Vol Right, %	0%	0%	92%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	296	265	183	375
LT Vol	296	0	15	0
Through Vol	0	265	0	337
RT Vol	0	0	168	38
Lane Flow Rate	357	319	220	452
Geometry Grp	7	7	2	5
Degree of Util (X)	0.617	0.507	0.357	0.679
Departure Headway (Hd)	6.224	5.717	5.835	5.411
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	581	632	615	669
Service Time	3.957	3.45	3.88	3.443
HCM Lane V/C Ratio	0.614	0.505	0.358	0.676
HCM Control Delay	18.5	14.2	12.1	19.2
HCM Lane LOS	C	B	B	C
HCM 95th-tile Q	4.2	2.9	1.6	5.3

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	98	464	15	334	171
Future Vol, veh/h	4	98	464	15	334	171
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	103	488	16	352	180

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1380	496	0	0	504	0
Stage 1	496	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	161	578	-	-	1071	-
Stage 1	616	-	-	-	-	-
Stage 2	407	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	108	578	-	-	1071	-
Mov Cap-2 Maneuver	248	-	-	-	-	-
Stage 1	616	-	-	-	-	-
Stage 2	273	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	6.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	549	1071	-
HCM Lane V/C Ratio	-	-	0.196	0.328	-
HCM Control Delay (s)	-	-	13.1	10	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	1.4	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	83	0	0	39	62	0	0	0	17	0	5
Future Vol, veh/h	15	83	0	0	39	62	0	0	0	17	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	105	0	0	49	78	0	0	0	22	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	127	0	0	105	0	0	234	270	105	231	231	88
Stage 1	-	-	-	-	-	-	143	143	-	88	88	-
Stage 2	-	-	-	-	-	-	91	127	-	143	143	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1472	-	-	1499	-	-	725	640	955	728	672	976
Stage 1	-	-	-	-	-	-	865	782	-	925	826	-
Stage 2	-	-	-	-	-	-	921	795	-	865	782	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1472	-	-	1499	-	-	713	631	955	720	663	976
Mov Cap-2 Maneuver	-	-	-	-	-	-	713	631	-	720	663	-
Stage 1	-	-	-	-	-	-	853	771	-	912	826	-
Stage 2	-	-	-	-	-	-	915	795	-	853	771	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0	0	9.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1472	-	-	1499	-	-	766
HCM Lane V/C Ratio	-	0.013	-	-	-	-	-	0.036
HCM Control Delay (s)	0	7.5	0	-	0	-	-	9.9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	164	112	272	187	13
Future Vol, veh/h	23	164	112	272	187	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	26	189	129	313	215	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	794	223	230	0	-	0
Stage 1	223	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	360	822	1350	-	-	-
Stage 1	819	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	325	822	1350	-	-	-
Mov Cap-2 Maneuver	437	-	-	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	569	-	-	-	-	-

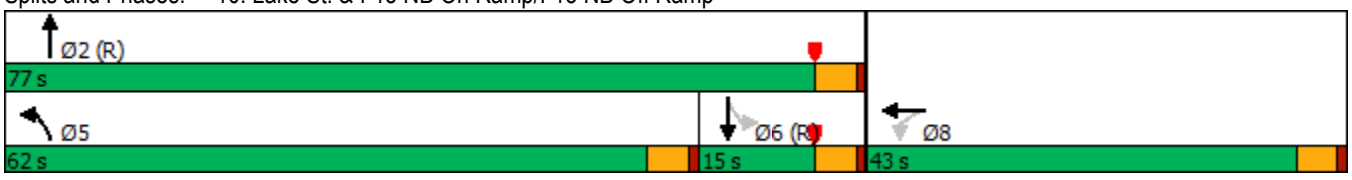
Approach	EB	NB	SB
HCM Control Delay, s	11.8	2.3	0
HCM LOS	B		

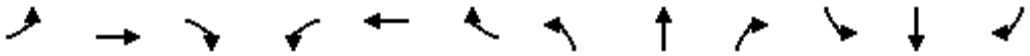
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1350	-	742	-	-
HCM Lane V/C Ratio	0.095	-	0.29	-	-
HCM Control Delay (s)	7.9	-	11.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.2	-	-

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	410	13	626	2	2
Future Volume (vph)	410	13	626	2	2
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	43.0	43.0	62.0	77.0	15.0
Total Split (%)	35.8%	35.8%	51.7%	64.2%	12.5%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	33.0	33.0	49.5	77.6	23.4
Actuated g/C Ratio	0.28	0.28	0.41	0.65	0.20
v/c Ratio	0.87	0.03	0.89	0.00	0.01
Control Delay	59.5	26.5	56.5	15.0	43.3
Queue Delay	0.0	0.0	6.8	0.0	0.0
Total Delay	59.5	26.5	63.3	15.0	43.3
LOS	E	C	E	B	D
Approach Delay		58.3		63.2	43.3
Approach LOS		E		E	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 10.3 (9%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 61.2	Intersection LOS: E
Intersection Capacity Utilization 75.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	410	13	2	626	2	0	0	2	1
Future Volume (veh/h)	0	0	0	410	13	2	626	2	0	0	2	1
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				432	14	2	659	2	0	0	2	1
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				464	417	60	688	1264	0	0	295	148
Arrive On Green				0.32	0.32	0.26	0.38	0.67	0.00	0.00	0.25	0.25
Sat Flow, veh/h				1810	1626	232	1810	1900	0	0	1195	597
Grp Volume(v), veh/h				432	0	16	659	2	0	0	0	3
Grp Sat Flow(s),veh/h/ln				1810	0	1858	1810	1900	0	0	0	1792
Q Serve(g_s), s				27.7	0.0	0.7	42.6	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear(g_c), s				27.7	0.0	0.7	42.6	0.0	0.0	0.0	0.0	0.2
Prop In Lane				1.00		0.13	1.00		0.00	0.00		0.33
Lane Grp Cap(c), veh/h				464	0	476	688	1264	0	0	0	443
V/C Ratio(X)				0.93	0.00	0.03	0.96	0.00	0.00	0.00	0.00	0.01
Avail Cap(c_a), veh/h				578	0	593	866	1264	0	0	0	443
HCM Platoon Ratio				1.25	1.25	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.91	0.91	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				39.7	0.0	30.9	36.3	6.7	0.0	0.0	0.0	34.1
Incr Delay (d2), s/veh				19.5	0.0	0.0	16.4	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				14.2	0.0	0.3	21.5	0.0	0.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				59.2	0.0	31.0	52.7	6.7	0.0	0.0	0.0	34.1
LnGrp LOS				E	A	C	D	A	A	A	A	C
Approach Vol, veh/h					448			661			3	
Approach Delay, s/veh					58.2			52.5			34.1	
Approach LOS					E			D			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	84.5		50.2	34.3		35.5						
Change Period (Y+Rc), s	* 4.7		4.6	* 4.7		4.7						
Max Green Setting (Gmax), s	* 72		57.4	* 10		38.3						
Max Q Clear Time (g_c+I1), s	2.0		44.6	2.2		29.7						
Green Ext Time (p_c), s	0.0		1.0	0.0		1.0						

Intersection Summary		
HCM 6th Ctrl Delay	54.8	
HCM 6th LOS	D	

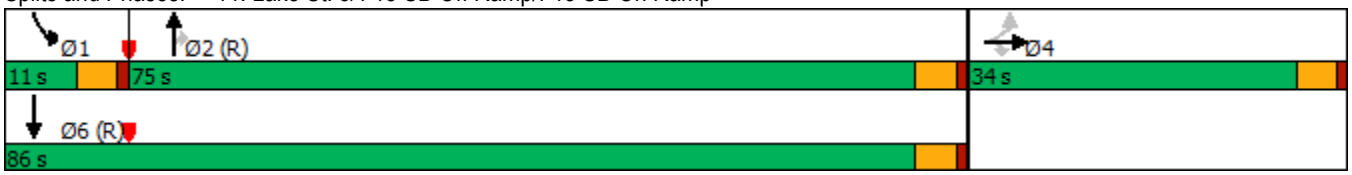
Notes

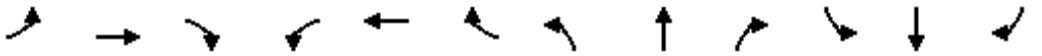
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	305	627	376	3	409
Future Volume (vph)	9	305	627	376	3	409
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	34.0	34.0	75.0	75.0	11.0	86.0
Total Split (%)	28.3%	28.3%	62.5%	62.5%	9.2%	71.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	11.6	11.6	97.0	97.0	5.1	99.0
Actuated g/C Ratio	0.10	0.10	0.81	0.81	0.04	0.82
v/c Ratio	0.05	0.72	0.43	0.29	0.04	0.28
Control Delay	47.9	15.1	5.3	1.6	52.3	0.3
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	47.9	15.1	5.4	1.6	52.3	0.3
LOS	D	B	A	A	D	A
Approach Delay	16.1		4.0			0.7
Approach LOS	B		A			A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 5.4	Intersection LOS: A
Intersection Capacity Utilization 75.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	9	305	0	0	0	0	627	376	3	409	0
Future Volume (veh/h)	1	9	305	0	0	0	0	627	376	3	409	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	1	9	321				0	660	396	3	431	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	41	367	347				0	1261	1069	7	1341	0
Arrive On Green	0.22	0.22	0.22				0.00	0.66	0.66	0.00	0.47	0.00
Sat Flow, veh/h	189	1701	1610				0	1900	1610	1810	1900	0
Grp Volume(v), veh/h	10	0	321				0	660	396	3	431	0
Grp Sat Flow(s),veh/h/ln	1891	0	1610				0	1900	1610	1810	1900	0
Q Serve(g_s), s	0.5	0.0	23.4				0.0	21.5	13.2	0.2	16.9	0.0
Cycle Q Clear(g_c), s	0.5	0.0	23.4				0.0	21.5	13.2	0.2	16.9	0.0
Prop In Lane	0.10		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	408	0	347				0	1261	1069	7	1341	0
V/C Ratio(X)	0.02	0.00	0.92				0.00	0.52	0.37	0.42	0.32	0.00
Avail Cap(c_a), veh/h	462	0	393				0	1261	1069	97	1341	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	0.71	0.71	0.39	0.39	0.00
Uniform Delay (d), s/veh	37.1	0.0	46.1				0.0	10.4	9.0	59.7	13.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	25.7				0.0	1.1	0.7	5.5	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	0.2	0.0	11.8				0.0	8.8	4.6	0.1	8.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	0.0	71.8				0.0	11.5	9.7	65.2	14.0	0.0
LnGrp LOS	D	A	E				A	B	A	E	B	A
Approach Vol, veh/h		331						1056			434	
Approach Delay, s/veh		70.8						10.8			14.4	
Approach LOS		E						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.1	84.3		30.6		89.4
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	6.4	* 70		* 29		* 81
Max Q Clear Time (g_c+I1), s	2.2	23.5		25.4		18.9
Green Ext Time (p_c), s	0.0	7.3		0.4		3.1

Intersection Summary	
HCM 6th Ctrl Delay	22.6
HCM 6th LOS	C

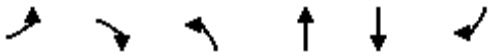
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	372	75	240	630	277
Future Volume (vph)	372	75	240	630	277
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	33.0	33.0	27.0	87.0	60.0
Total Split (%)	27.5%	27.5%	22.5%	72.5%	50.0%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	26.8	26.8	18.7	71.3	47.8
Actuated g/C Ratio	0.25	0.25	0.17	0.66	0.44
v/c Ratio	0.88	0.17	0.81	0.53	0.91
Control Delay	62.4	9.3	65.1	11.1	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	62.4	9.3	65.1	11.1	42.2
LOS	E	A	E	B	D
Approach Delay	53.5			26.0	42.2
Approach LOS	D			C	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 107.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 37.7	Intersection LOS: D
Intersection Capacity Utilization 87.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	372	75	240	630	277	437
Future Volume (veh/h)	372	75	240	630	277	437
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	392	37	253	663	292	413
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	433	386	289	1257	323	457
Arrive On Green	0.24	0.24	0.16	0.66	0.45	0.45
Sat Flow, veh/h	1810	1610	1810	1900	712	1007
Grp Volume(v), veh/h	392	37	253	663	0	705
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1900	0	1719
Q Serve(g_s), s	20.0	1.7	13.0	17.3	0.0	36.2
Cycle Q Clear(g_c), s	20.0	1.7	13.0	17.3	0.0	36.2
Prop In Lane	1.00	1.00	1.00			0.59
Lane Grp Cap(c), veh/h	433	386	289	1257	0	780
V/C Ratio(X)	0.90	0.10	0.88	0.53	0.00	0.90
Avail Cap(c_a), veh/h	538	479	426	1643	0	999
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	0.00	1.00
Uniform Delay (d), s/veh	35.1	28.2	39.1	8.4	0.0	24.1
Incr Delay (d2), s/veh	16.3	0.1	9.5	0.3	0.0	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	1.7	6.4	6.3	0.0	15.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.5	28.3	48.5	8.7	0.0	33.7
LnGrp LOS	D	C	D	A	A	C
Approach Vol, veh/h	429			916	705	
Approach Delay, s/veh	49.5			19.7	33.7	
Approach LOS	D			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		67.7		27.5	19.8	47.9
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 82		* 28	22.4	* 55
Max Q Clear Time (g_c+I1), s		19.3		22.0	15.0	38.2
Green Ext Time (p_c), s		5.5		0.8	0.2	5.0

Intersection Summary		
HCM 6th Ctrl Delay		30.8
HCM 6th LOS		C

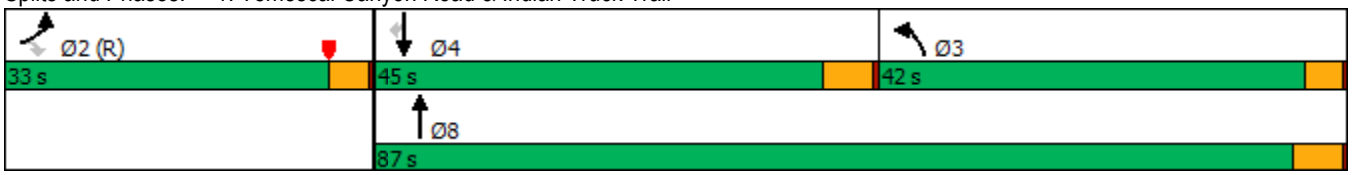
Notes

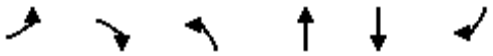
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	85	133	303	50	65	63
Future Volume (vph)	85	133	303	50	65	63
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	40.0
Total Split (s)	33.0	33.0	42.0	87.0	45.0	45.0
Total Split (%)	27.5%	27.5%	35.0%	72.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	64.6	64.6	28.4	46.4	13.9	13.9
Actuated g/C Ratio	0.54	0.54	0.24	0.39	0.12	0.12
v/c Ratio	0.05	0.17	0.81	0.08	0.34	0.29
Control Delay	30.4	19.2	58.1	19.2	49.5	11.5
Queue Delay	0.0	0.5	0.1	0.0	0.0	0.0
Total Delay	30.4	19.7	58.2	19.2	49.5	11.5
LOS	C	B	E	B	D	B
Approach Delay	23.9			52.7	30.9	
Approach LOS	C			D	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 68 (57%), Referenced to phase 2:EBL and 6:, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 39.7	Intersection LOS: D
Intersection Capacity Utilization 35.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	133	303	50	65	63
Future Volume (veh/h)	85	133	303	50	65	63
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	98	124	348	57	75	34
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2128	976	383	606	125	104
Arrive On Green	0.61	0.61	0.21	0.32	0.07	0.07
Sat Flow, veh/h	3510	1610	1810	1900	1900	1586
Grp Volume(v), veh/h	98	124	348	57	75	34
Grp Sat Flow(s),veh/h/ln	1755	1610	1810	1900	1900	1586
Q Serve(g_s), s	1.4	3.9	22.5	2.5	4.6	2.5
Cycle Q Clear(g_c), s	1.4	3.9	22.5	2.5	4.6	2.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	2128	976	383	606	125	104
V/C Ratio(X)	0.05	0.13	0.91	0.09	0.60	0.33
Avail Cap(c_a), veh/h	2128	976	573	1298	633	529
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	9.6	10.1	46.2	28.7	54.5	53.5
Incr Delay (d2), s/veh	0.0	0.3	13.6	0.0	3.4	1.3
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	1.4	11.3	1.1	2.3	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.6	10.4	59.7	28.7	58.0	54.9
LnGrp LOS	A	B	E	C	E	D
Approach Vol, veh/h	222			405	109	
Approach Delay, s/veh	10.0			55.4	57.0	
Approach LOS	B			E	E	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	76.7	30.4	12.9	43.3
Change Period (Y+Rc), s	4.0	5.0	* 5	5.0
Max Green Setting (Gmax), s	29.0	38.0	* 40	82.0
Max Q Clear Time (g_c+I1), s	5.9	24.5	6.6	4.5
Green Ext Time (p_c), s	0.7	0.9	0.4	0.2

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

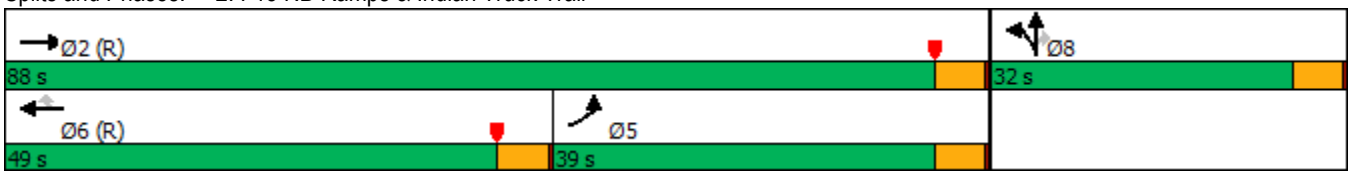
Notes

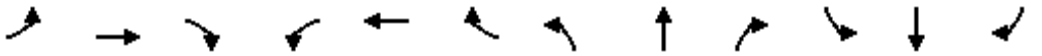
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	323	168	54	312	147	1	49
Future Volume (vph)	323	168	54	312	147	1	49
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	30.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	39.0	88.0	49.0	49.0	32.0	32.0	32.0
Total Split (%)	32.5%	73.3%	40.8%	40.8%	26.7%	26.7%	26.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max
Act Effct Green (s)	34.0	83.0	44.0	44.0	27.0	27.0	27.0
Actuated g/C Ratio	0.28	0.69	0.37	0.37	0.22	0.22	0.22
v/c Ratio	0.37	0.09	0.07	0.44	0.23	0.24	0.14
Control Delay	45.9	6.7	22.0	10.5	39.9	39.3	6.7
Queue Delay	0.0	0.0	0.0	1.5	0.0	0.0	0.0
Total Delay	45.9	6.7	22.0	12.0	39.9	39.3	6.7
LOS	D	A	C	B	D	D	A
Approach Delay		32.5	13.5			32.2	
Approach LOS		C	B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 25.8	Intersection LOS: C
Intersection Capacity Utilization 45.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: I-15 NB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	323	168	0	0	54	312	147	1	49	0	0	0
Future Volume (veh/h)	323	168	0	0	54	312	147	1	49	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1678	0	0	981	1811	1841	1900	1678			
Adj Flow Rate, veh/h	355	185	0	0	59	299	169	0	15			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	3	15	0	0	62	6	4	0	15			
Cap, veh/h	971	2205	0	0	684	563	789	0	320			
Arrive On Green	0.09	0.23	0.00	0.00	0.37	0.37	0.22	0.00	0.22			
Sat Flow, veh/h	3428	3272	0	0	1913	1535	3506	0	1422			
Grp Volume(v), veh/h	355	185	0	0	59	299	169	0	15			
Grp Sat Flow(s),veh/h/ln	1714	1594	0	0	932	1535	1753	0	1422			
Q Serve(g_s), s	11.7	5.5	0.0	0.0	2.5	18.4	4.7	0.0	1.0			
Cycle Q Clear(g_c), s	11.7	5.5	0.0	0.0	2.5	18.4	4.7	0.0	1.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	971	2205	0	0	684	563	789	0	320			
V/C Ratio(X)	0.37	0.08	0.00	0.00	0.09	0.53	0.21	0.00	0.05			
Avail Cap(c_a), veh/h	971	2205	0	0	684	563	789	0	320			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.99	0.99	0.00	0.00	0.62	0.62	1.00	0.00	1.00			
Uniform Delay (d), s/veh	44.3	16.4	0.0	0.0	24.9	29.9	37.9	0.0	36.4			
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.0	0.2	2.2	0.6	0.0	0.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.3	1.8	0.0	0.0	0.5	6.9	2.0	0.0	0.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	16.5	0.0	0.0	25.0	32.1	38.5	0.0	36.7			
LnGrp LOS	D	B	A	A	C	C	D	A	D			
Approach Vol, veh/h		540			358			184				
Approach Delay, s/veh		34.9			30.9			38.3				
Approach LOS		C			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		88.0			39.0	49.0		32.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		83.0			34.0	44.0		27.0				
Max Q Clear Time (g_c+I1), s		7.5			13.7	20.4		6.7				
Green Ext Time (p_c), s		0.7			1.1	0.7		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			34.2									
HCM 6th LOS			C									

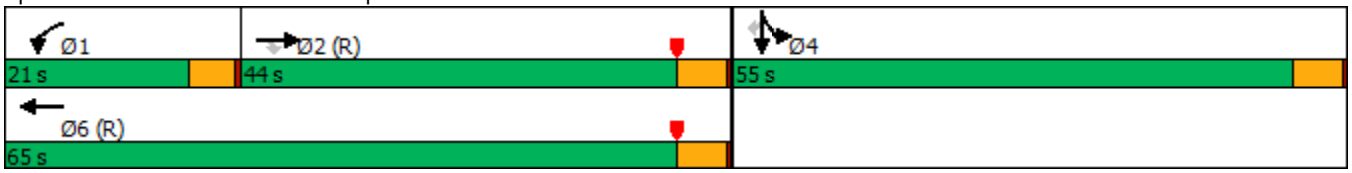
Notes

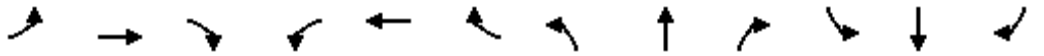
User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	342	195	34	168	150	8	571
Future Volume (vph)	342	195	34	168	150	8	571
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	9.5	25.0	10.0	10.0	10.0
Total Split (s)	44.0	44.0	21.0	65.0	55.0	55.0	55.0
Total Split (%)	36.7%	36.7%	17.5%	54.2%	45.8%	45.8%	45.8%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	4.5	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	50.9	50.9	9.0	60.0	50.0	50.0	50.0
Actuated g/C Ratio	0.42	0.42	0.08	0.50	0.42	0.42	0.42
v/c Ratio	0.18	0.27	0.39	0.10	0.25	0.41	0.41
Control Delay	18.8	4.1	103.0	8.1	24.2	4.5	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	4.1	103.0	8.1	24.2	4.5	4.1
LOS	B	A	F	A	C	A	A
Approach Delay	13.5			23.9		8.4	
Approach LOS	B			C		A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay: 12.4	Intersection LOS: B
Intersection Capacity Utilization 45.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: I-15 SB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	342	195	34	168	0	0	0	0	150	8	571
Future Volume (veh/h)	0	342	195	34	168	0	0	0	0	150	8	571
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1870	1278	1870	0				1663	1900	1781
Adj Flow Rate, veh/h	0	376	135	37	185	0				165	0	488
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	4	2	42	2	0				16	0	8
Cap, veh/h	0	2156	680	41	1777	0				660	0	1258
Arrive On Green	0.00	0.43	0.43	0.07	1.00	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	5191	1585	1217	3647	0				1584	0	3019
Grp Volume(v), veh/h	0	376	135	37	185	0				165	0	488
Grp Sat Flow(s),veh/h/ln	0	1675	1585	1217	1777	0				1584	0	1510
Q Serve(g_s), s	0.0	5.5	6.4	3.6	0.0	0.0				8.1	0.0	13.5
Cycle Q Clear(g_c), s	0.0	5.5	6.4	3.6	0.0	0.0				8.1	0.0	13.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2156	680	41	1777	0				660	0	1258
V/C Ratio(X)	0.00	0.17	0.20	0.91	0.10	0.00				0.25	0.00	0.39
Avail Cap(c_a), veh/h	0	2156	680	167	1777	0				660	0	1258
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.85	0.85	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.1	21.4	55.8	0.0	0.0				22.8	0.0	24.4
Incr Delay (d2), s/veh	0.0	0.1	0.6	45.2	0.1	0.0				0.9	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	2.4	1.6	0.0	0.0				3.1	0.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.3	21.9	101.0	0.1	0.0				23.7	0.0	25.3
LnGrp LOS	A	C	C	F	A	A				C	A	C
Approach Vol, veh/h		511			222						653	
Approach Delay, s/veh		21.5			16.9						24.9	
Approach LOS		C			B						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.5	56.5		55.0		65.0
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0
Max Green Setting (Gmax), s	16.5	39.0		50.0		60.0
Max Q Clear Time (g_c+I1), s	5.6	8.4		15.5		2.0
Green Ext Time (p_c), s	0.0	1.7		1.9		0.7

Intersection Summary			
HCM 6th Ctrl Delay		22.3	
HCM 6th LOS		C	

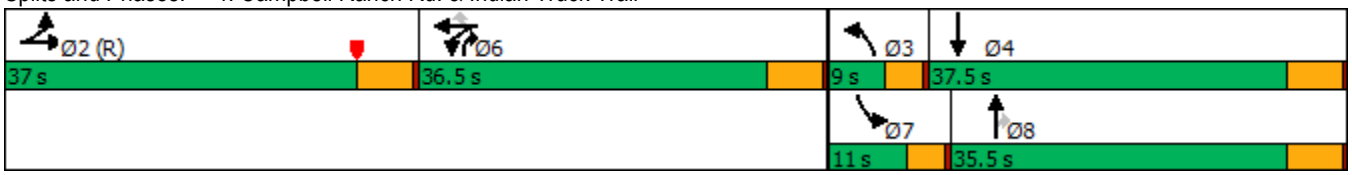
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	598	0	141	191	373	163	214		
Future Volume (vph)	598	0	141	191	373	163	214		
Turn Type	Split	NA	Perm	NA	pm+ov	Prot	NA		
Protected Phases	6	6		8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	6	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	36.5	35.5	36.5	9.0	10.5	36.5	9.0
Total Split (s)	36.5	36.5	36.5	35.5	36.5	11.0	37.5	37.0	9.0
Total Split (%)	30.4%	30.4%	30.4%	29.6%	30.4%	9.2%	31.3%	31%	8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5		
Lead/Lag				Lag		Lead	Lag		Lead
Lead-Lag Optimize?				Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Max	None	None	Max	C-Max	None
Act Effct Green (s)	28.3	28.3	28.3	31.6	59.9	8.1	43.7		
Actuated g/C Ratio	0.24	0.24	0.24	0.26	0.50	0.07	0.36		
v/c Ratio	0.83	0.72	0.30	0.22	0.41	0.76	0.18		
Control Delay	63.1	39.3	9.7	36.0	2.1	75.6	27.2		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	63.1	39.3	9.7	36.0	2.1	75.6	27.2		
LOS	E	D	A	D	A	E	C		
Approach Delay		44.1		13.6			48.2		
Approach LOS		D		B			D		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 116 (97%), Referenced to phase 2:EBTL, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 34.8	Intersection LOS: C
Intersection Capacity Utilization 40.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	598	0	141	0	191	373	163	214	0
Future Volume (veh/h)	0	0	0	598	0	141	0	191	373	163	214	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	686	0	63	0	210	277	179	235	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	582	0	777	0	341	2	902	748	205	1233	0
Arrive On Green	0.00	0.00	0.00	0.21	0.00	0.21	0.00	0.25	0.25	0.06	0.34	0.00
Sat Flow, veh/h	0	1900	0	3619	0	1588	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	686	0	63	0	210	277	179	235	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1588	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	22.0	0.0	3.9	0.0	5.6	13.3	6.1	5.5	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	22.0	0.0	3.9	0.0	5.6	13.3	6.1	5.5	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	582	0	777	0	341	2	903	748	205	1233	0
V/C Ratio(X)	0.00	0.00	0.00	0.88	0.00	0.18	0.00	0.23	0.37	0.87	0.19	0.00
Avail Cap(c_a), veh/h	0	582	0	935	0	410	75	903	748	205	1233	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.96	0.00	0.96	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	45.7	0.0	38.5	0.0	35.8	20.8	56.1	27.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	8.5	0.0	0.2	0.0	0.6	1.4	31.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	10.5	0.0	1.5	0.0	2.5	7.5	3.5	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	54.1	0.0	38.8	0.0	36.4	22.2	87.6	28.2	0.0
LnGrp LOS	A	A	A	D	A	D	A	D	C	F	C	A
Approach Vol, veh/h		0			749			487			414	
Approach Delay, s/veh		0.0			52.8			28.3			53.8	
Approach LOS					D			C			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	42.3	0.0	46.5	31.2	11.0	35.5
Change Period (Y+Rc), s	5.5	4.0	5.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	31.5	5.0	32.0	31.0	7.0	30.0
Max Q Clear Time (g_c+I1), s	0.0	0.0	7.5	24.0	8.1	15.3
Green Ext Time (p_c), s	0.0	0.0	1.3	1.7	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	10.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	125	112	143	53	251	200
Future Vol, veh/h	125	112	143	53	251	200
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	132	118	151	56	264	211

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	250	0	549	191
Stage 1	-	-	-	-	191	-
Stage 2	-	-	-	-	358	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1327	-	500	856
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	712	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1327	-	442	856
Mov Cap-2 Maneuver	-	-	-	-	442	-
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	629	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.9	18.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	442	856	-	-	1327	-
HCM Lane V/C Ratio	0.598	0.246	-	-	0.113	-
HCM Control Delay (s)	24.5	10.6	-	-	8.1	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	3.8	1	-	-	0.4	-

Intersection	
Intersection Delay, s/veh	19.8
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	410	212	427	232	22
Future Vol, veh/h	24	410	212	427	232	22
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	418	216	436	237	22
Number of Lanes	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	19.8	22.1	14.2
HCM LOS	C	C	B

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	100%	0%	6%	0%
Vol Thru, %	0%	100%	0%	91%
Vol Right, %	0%	0%	94%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	212	427	434	254
LT Vol	212	0	24	0
Through Vol	0	427	0	232
RT Vol	0	0	410	22
Lane Flow Rate	216	436	443	259
Geometry Grp	7	7	2	5
Degree of Util (X)	0.406	0.757	0.682	0.446
Departure Headway (Hd)	6.76	6.251	5.541	6.196
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	530	575	651	578
Service Time	4.524	4.014	3.603	4.266
HCM Lane V/C Ratio	0.408	0.758	0.68	0.448
HCM Control Delay	14.1	26	19.8	14.2
HCM Lane LOS	B	D	C	B
HCM 95th-tile Q	2	6.7	5.3	2.3

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	344	295	6	129	513
Future Vol, veh/h	16	344	295	6	129	513
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	362	311	6	136	540

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1126	314	0	0	317	0
Stage 1	314	-	-	-	-	-
Stage 2	812	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	229	731	-	-	1255	-
Stage 1	745	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	204	731	-	-	1255	-
Mov Cap-2 Maneuver	357	-	-	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	392	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.1	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	698	1255	-
HCM Lane V/C Ratio	-	-	0.543	0.108	-
HCM Control Delay (s)	-	-	16.1	8.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	3.3	0.4	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	65	0	1	139	26	0	0	1	66	0	16
Future Vol, veh/h	6	65	0	1	139	26	0	0	1	66	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	74	0	1	158	30	0	0	1	75	0	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	188	0	0	74	0	0	272	278	74	264	263	173
Stage 1	-	-	-	-	-	-	88	88	-	175	175	-
Stage 2	-	-	-	-	-	-	184	190	-	89	88	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1398	-	-	1538	-	-	685	633	993	693	646	876
Stage 1	-	-	-	-	-	-	925	826	-	832	758	-
Stage 2	-	-	-	-	-	-	822	747	-	923	826	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1398	-	-	1538	-	-	668	629	993	689	642	876
Mov Cap-2 Maneuver	-	-	-	-	-	-	668	629	-	689	642	-
Stage 1	-	-	-	-	-	-	920	822	-	828	757	-
Stage 2	-	-	-	-	-	-	804	746	-	917	822	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	8.6	10.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	993	1398	-	-	1538	-	-	719
HCM Lane V/C Ratio	0.001	0.005	-	-	0.001	-	-	0.13
HCM Control Delay (s)	8.6	7.6	0	-	7.3	0	-	10.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	119	125	156	244	26
Future Vol, veh/h	12	119	125	156	244	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	140	147	184	287	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	779	301	314	0	-	0
Stage 1	301	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	367	743	1258	-	-	-
Stage 1	755	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	324	743	1258	-	-	-
Mov Cap-2 Maneuver	443	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	628	-	-	-	-	-

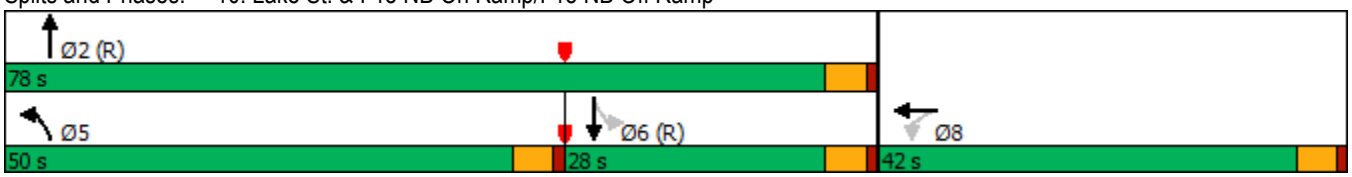
Approach	EB	NB	SB
HCM Control Delay, s	11.6	3.7	0
HCM LOS	B		

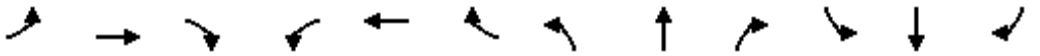
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1258	-	700	-	-
HCM Lane V/C Ratio	0.117	-	0.22	-	-
HCM Control Delay (s)	8.2	-	11.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.8	-	-

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	260	3	346	10	10
Future Volume (vph)	260	3	346	10	10
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	42.0	42.0	50.0	78.0	28.0
Total Split (%)	35.0%	35.0%	41.7%	65.0%	23.3%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	23.6	23.6	29.2	87.0	53.1
Actuated g/C Ratio	0.20	0.20	0.24	0.72	0.44
v/c Ratio	0.77	0.03	0.83	0.01	0.02
Control Delay	59.8	22.5	68.4	14.8	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	22.5	68.4	14.8	19.9
LOS	E	C	E	B	B
Approach Delay		58.5		66.8	19.9
Approach LOS		E		E	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 62.1	Intersection LOS: E
Intersection Capacity Utilization 74.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	260	3	7	346	10	0	0	10	6
Future Volume (veh/h)	0	0	0	260	3	7	346	10	0	0	10	6
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				274	3	7	364	11	0	0	11	6
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				310	87	202	394	1426	0	0	571	312
Arrive On Green				0.17	0.17	0.17	0.22	0.75	0.00	0.00	0.49	0.49
Sat Flow, veh/h				1810	506	1181	1810	1900	0	0	1156	631
Grp Volume(v), veh/h				274	0	10	364	11	0	0	0	17
Grp Sat Flow(s),veh/h/ln				1810	0	1687	1810	1900	0	0	0	1787
Q Serve(g_s), s				17.7	0.0	0.6	23.6	0.2	0.0	0.0	0.0	0.6
Cycle Q Clear(g_c), s				17.7	0.0	0.6	23.6	0.2	0.0	0.0	0.0	0.6
Prop In Lane				1.00		0.70	1.00		0.00	0.00		0.35
Lane Grp Cap(c), veh/h				310	0	289	394	1426	0	0	0	883
V/C Ratio(X)				0.88	0.00	0.03	0.92	0.01	0.00	0.00	0.00	0.02
Avail Cap(c_a), veh/h				562	0	524	685	1426	0	0	0	883
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.89	0.89	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				48.6	0.0	41.5	45.9	3.8	0.0	0.0	0.0	15.5
Incr Delay (d2), s/veh				8.3	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.7	0.0	0.3	11.2	0.1	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				56.9	0.0	41.5	51.7	3.8	0.0	0.0	0.0	15.5
LnGrp LOS				E	A	D	D	A	A	A	A	B
Approach Vol, veh/h					284			375			17	
Approach Delay, s/veh					56.4			50.3			15.5	
Approach LOS					E			D			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	94.8		30.7	64.0		25.2						
Change Period (Y+Rc), s	* 4.7		4.6	* 4.7		4.7						
Max Green Setting (Gmax), s	* 73		45.4	* 23		37.3						
Max Q Clear Time (g_c+I1), s	2.2		25.6	2.6		19.7						
Green Ext Time (p_c), s	0.0		0.5	0.0		0.8						

Intersection Summary		
HCM 6th Ctrl Delay	52.0	
HCM 6th LOS	D	

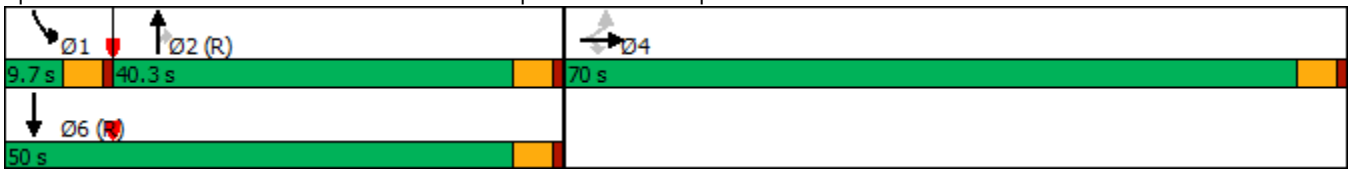
Notes

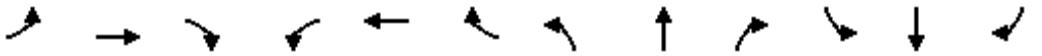
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	855	354	311	3	267
Future Volume (vph)	6	855	354	311	3	267
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	70.0	70.0	40.3	40.3	9.7	50.0
Total Split (%)	58.3%	58.3%	33.6%	33.6%	8.1%	41.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	56.0	56.0	52.7	52.7	5.0	54.6
Actuated g/C Ratio	0.47	0.47	0.44	0.44	0.04	0.46
v/c Ratio	0.01	0.92	0.45	0.38	0.04	0.32
Control Delay	13.0	30.3	29.2	8.1	62.0	60.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	30.3	29.2	8.1	62.0	60.2
LOS	B	C	C	A	E	E
Approach Delay	30.2		19.4			60.2
Approach LOS	C		B			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 30.7	Intersection LOS: C
Intersection Capacity Utilization 74.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	6	855	0	0	0	0	354	311	3	267	0
Future Volume (veh/h)	2	6	855	0	0	0	0	354	311	3	267	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	2	6	900				0	373	327	3	281	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	255	766	876				0	637	540	7	717	0
Arrive On Green	0.54	0.54	0.54				0.00	0.34	0.34	0.00	0.12	0.00
Sat Flow, veh/h	469	1407	1610				0	1900	1610	1810	1900	0
Grp Volume(v), veh/h	8	0	900				0	373	327	3	281	0
Grp Sat Flow(s),veh/h/ln	1877	0	1610				0	1900	1610	1810	1900	0
Q Serve(g_s), s	0.2	0.0	65.3				0.0	19.5	20.3	0.2	16.3	0.0
Cycle Q Clear(g_c), s	0.2	0.0	65.3				0.0	19.5	20.3	0.2	16.3	0.0
Prop In Lane	0.25		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1021	0	876				0	637	540	7	717	0
V/C Ratio(X)	0.01	0.00	1.03				0.00	0.59	0.61	0.42	0.39	0.00
Avail Cap(c_a), veh/h	1021	0	876				0	637	540	77	717	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	0.76	0.76	0.61	0.61	0.00
Uniform Delay (d), s/veh	12.5	0.0	27.3				0.0	33.0	33.3	59.8	39.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	37.5				0.0	3.0	3.8	8.5	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	32.8				0.0	9.5	8.5	0.1	8.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	0.0	64.9				0.0	36.0	37.1	68.3	40.8	0.0
LnGrp LOS	B	A	F				A	D	D	E	D	A
Approach Vol, veh/h		908						700			284	
Approach Delay, s/veh		64.4						36.5			41.1	
Approach LOS		E						D			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.1	44.9		70.0		50.0
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	5.1	* 36		* 65		* 45
Max Q Clear Time (g_c+I1), s	2.2	22.3		67.3		18.3
Green Ext Time (p_c), s	0.0	2.9		0.0		1.7

Intersection Summary	
HCM 6th Ctrl Delay	50.6
HCM 6th LOS	D

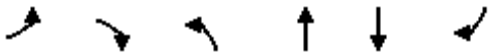
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	322	121	94	343	826
Future Volume (vph)	322	121	94	343	826
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	27.6	27.6	12.6	92.4	79.8
Total Split (%)	23.0%	23.0%	10.5%	77.0%	66.5%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	22.9	22.9	7.9	87.6	75.1
Actuated g/C Ratio	0.19	0.19	0.07	0.73	0.63
v/c Ratio	0.99	0.31	0.83	0.26	1.02
Control Delay	93.7	9.1	102.6	5.9	54.4
Queue Delay	0.0	0.0	0.0	0.0	16.0
Total Delay	93.7	9.1	102.6	5.9	70.3
LOS	F	A	F	A	E
Approach Delay	70.6			26.7	70.3
Approach LOS	E			C	E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.9	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 60.9	Intersection LOS: E
Intersection Capacity Utilization 96.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	322	121	94	343	826	296
Future Volume (veh/h)	322	121	94	343	826	296
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	339	84	99	361	869	287
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	345	307	121	1389	856	283
Arrive On Green	0.19	0.19	0.07	0.73	0.63	0.63
Sat Flow, veh/h	1810	1610	1810	1900	1367	452
Grp Volume(v), veh/h	339	84	99	361	0	1156
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1900	0	1819
Q Serve(g_s), s	22.4	5.3	6.5	7.6	0.0	75.1
Cycle Q Clear(g_c), s	22.4	5.3	6.5	7.6	0.0	75.1
Prop In Lane	1.00	1.00	1.00			0.25
Lane Grp Cap(c), veh/h	345	307	121	1389	0	1138
V/C Ratio(X)	0.98	0.27	0.82	0.26	0.00	1.02
Avail Cap(c_a), veh/h	345	307	121	1389	0	1138
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	0.00	1.00
Uniform Delay (d), s/veh	48.3	41.4	55.3	5.4	0.0	22.5
Incr Delay (d2), s/veh	43.4	0.5	32.6	0.1	0.0	30.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	5.1	4.0	2.7	0.0	38.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	91.7	41.9	87.9	5.5	0.0	53.1
LnGrp LOS	F	D	F	A	A	F
Approach Vol, veh/h	423			460	1156	
Approach Delay, s/veh	81.8			23.2	53.1	
Approach LOS	F			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		92.4		27.6	12.6	79.8
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 88		* 23	8.0	* 75
Max Q Clear Time (g_c+I1), s		9.6		24.4	8.5	77.1
Green Ext Time (p_c), s		2.5		0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	52.3
HCM 6th LOS	D

Notes

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

APPENDIX 5.2:

EAP (2025) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

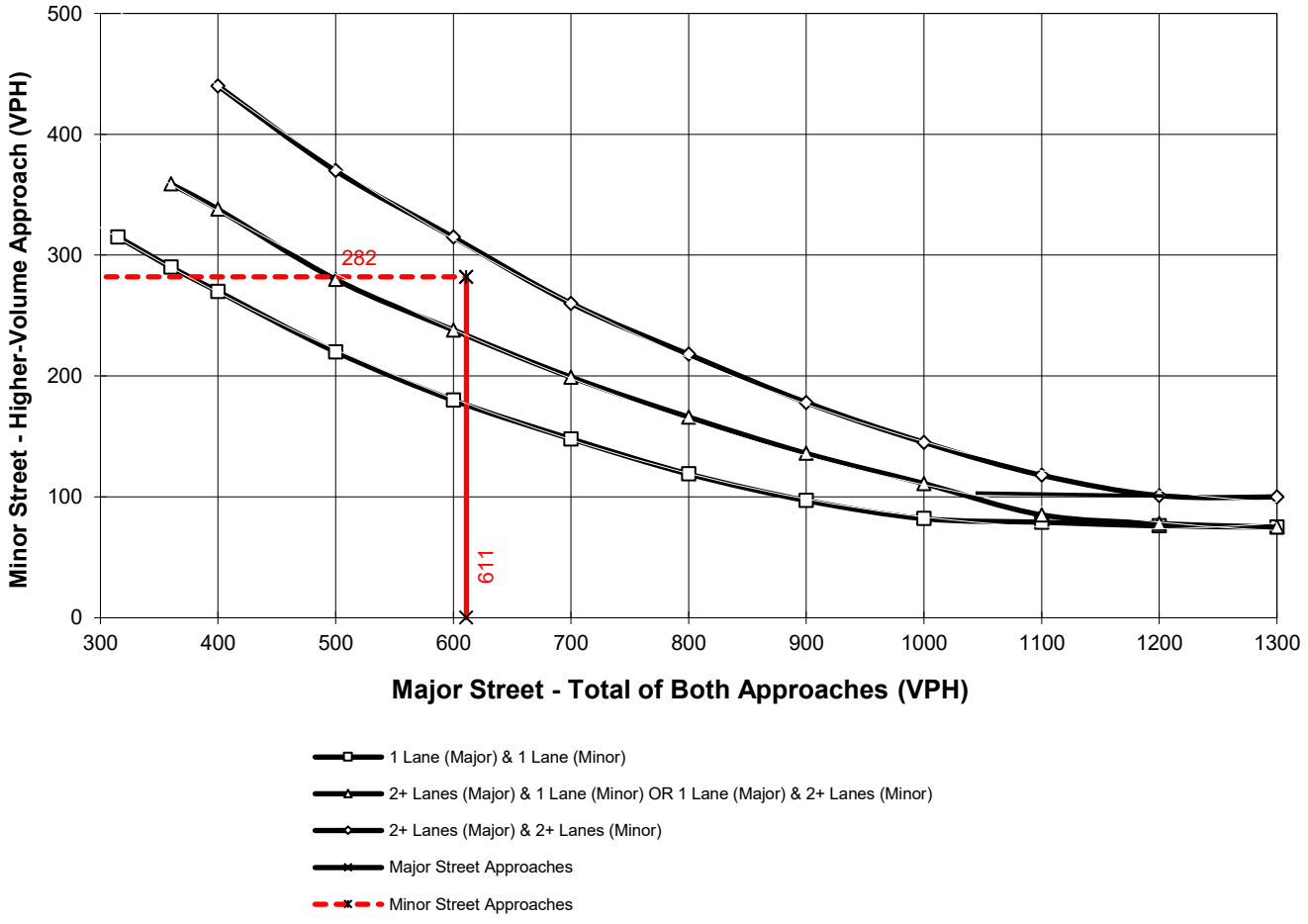
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2025) Conditions - Weekday AM Peak Hour**

Major Street Name = **Temescal Canyon** Total of Both Approaches (VPH) = **611**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Horsethief Canyon Rd.** High Volume Approach (VPH) = **282**
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	EAP (2025)
				CALC CH	DATE 10/08/20
Jurisdiction: **County of Riverside**				CHK CH	DATE 10/08/20
Major Street: **Horsethief Rd.**				Critical Approach Speed (Major)	45 mph
Minor Street: **Street A**				Critical Approach Speed (Minor)	25 mph

Major Street Approach Lanes = **2** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **13,492** vpd Minor Street Future ADT = **2,940** 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	*1*	8,000	5,600	2,400	1,680
2 + **13,492**	*1* **2,940**	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	*1*	12,000	8,400	1,200	850
2 + **13,492**	*1* **2,940**	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.

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

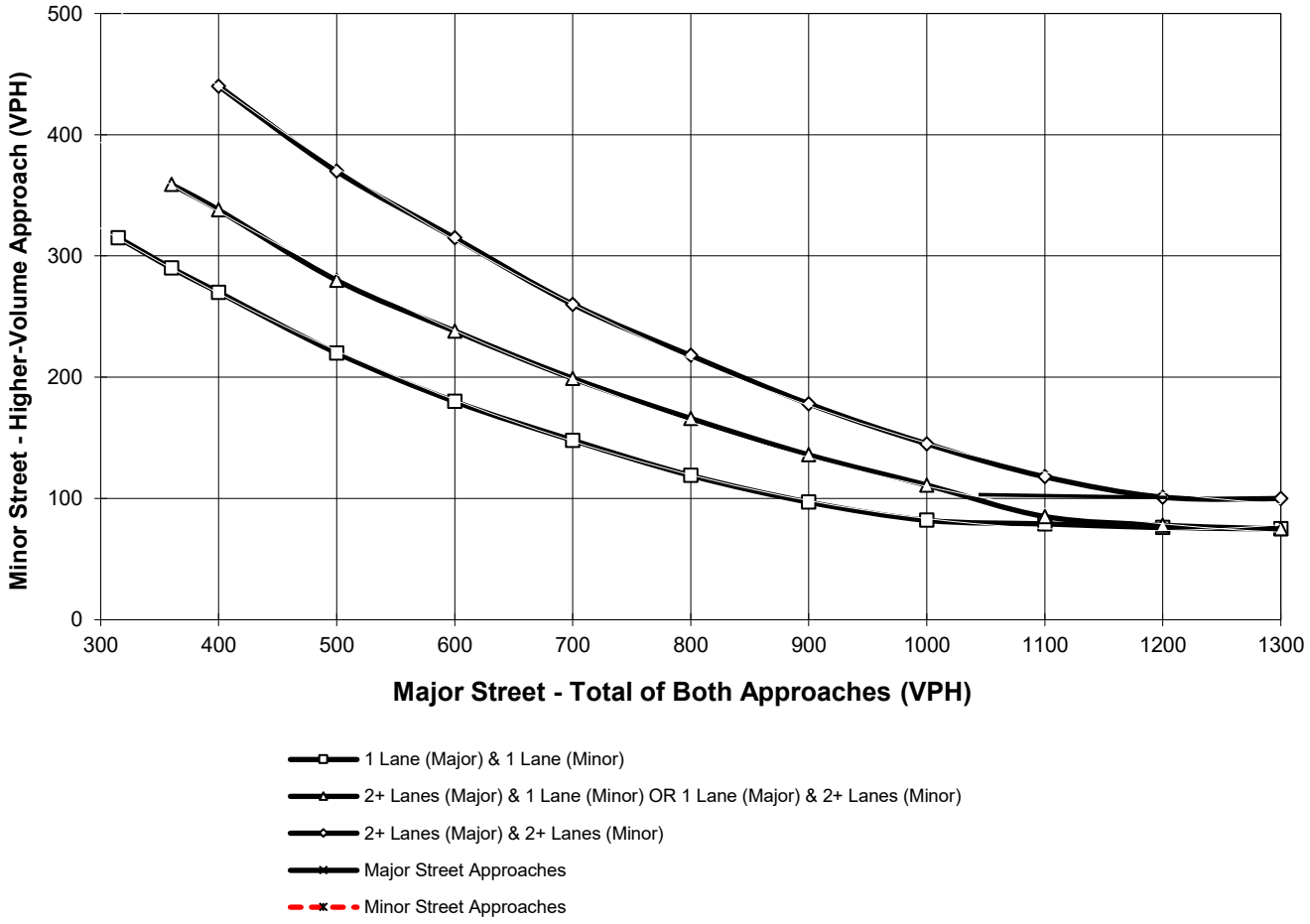
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2025) Conditions - Weekday PM Peak Hour**

Major Street Name = **Hostettler Rd.** Total of Both Approaches (VPH) = **237**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bolo Ct.** High Volume Approach (VPH) = **82**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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

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

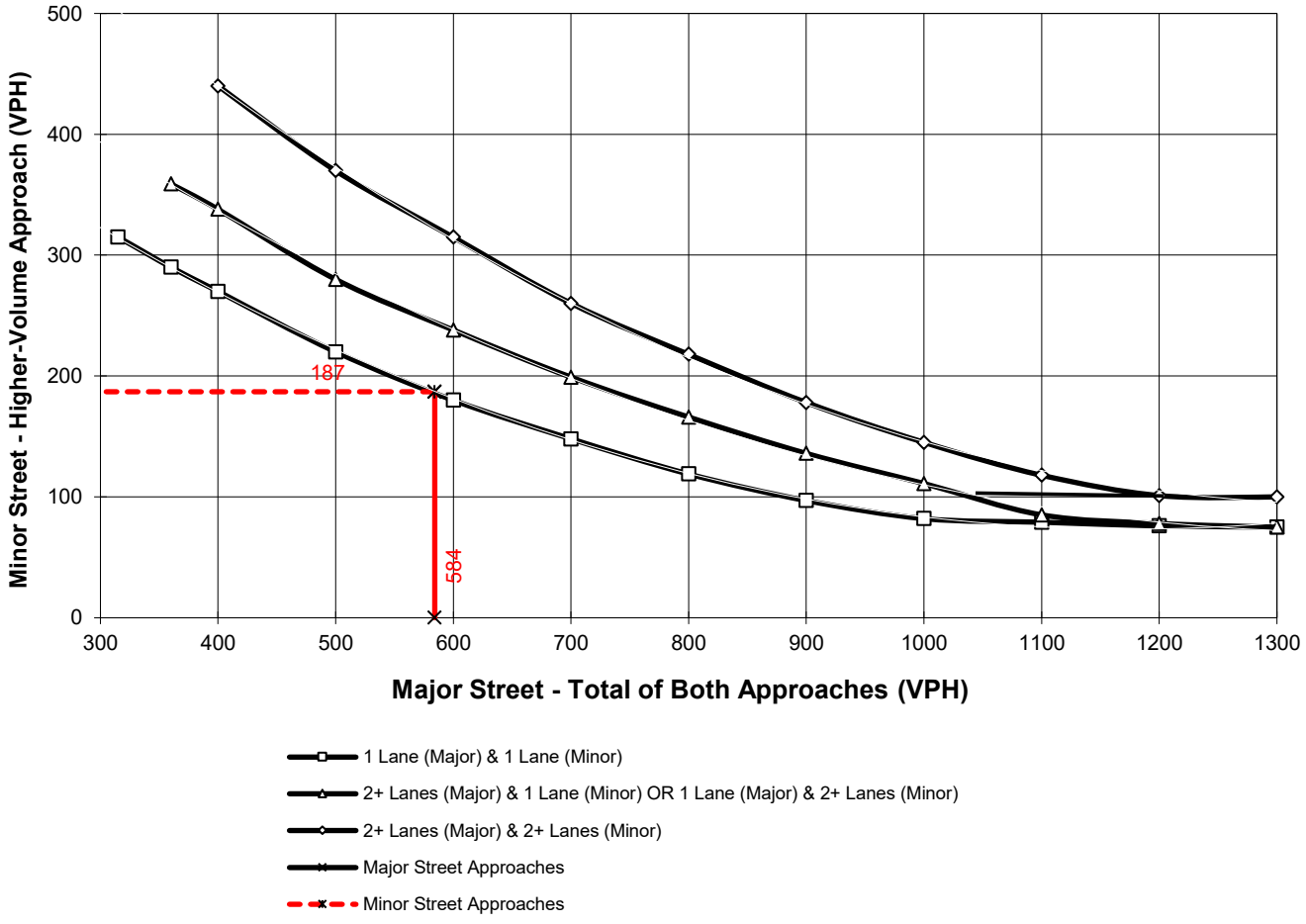
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP (2025) Conditions - Weekday AM Peak Hour**

Major Street Name = **Temescal Canyon Rd.** Total of Both Approaches (VPH) = **584**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Hostettler Rd.** High Volume Approach (VPH) = **187**
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 5.3:

EAP (2025) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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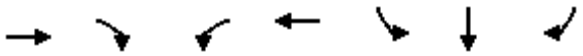
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	308	302	202	192	184	239	232
v/c Ratio	0.40	0.18	0.33	0.34	0.30	0.38	0.36
Control Delay	37.4	13.1	36.5	6.5	28.1	6.6	4.9
Queue Delay	0.0	0.0	0.0	0.9	0.0	0.0	0.0
Total Delay	37.4	13.1	36.5	7.4	28.1	6.6	4.9
Queue Length 50th (ft)	103	62	65	0	104	13	0
Queue Length 95th (ft)	137	m88	101	56	166	75	54
Internal Link Dist (ft)		562	178			1295	
Turn Bay Length (ft)					415		415
Base Capacity (vph)	765	1700	612	558	618	624	645
Starvation Cap Reductn	0	0	0	178	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	0.40	0.18	0.33	0.51	0.30	0.38	0.36

Intersection Summary

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



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	334	201	160	247	276	155	151
v/c Ratio	0.14	0.24	0.73	0.10	0.73	0.34	0.33
Control Delay	16.2	4.1	82.4	8.9	54.9	9.1	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.2	4.1	82.4	8.9	54.9	9.1	7.8
Queue Length 50th (ft)	68	50	133	28	198	5	0
Queue Length 95th (ft)	102	94	189	52	#314	62	55
Internal Link Dist (ft)	559			562		1381	
Turn Bay Length (ft)		210	270		670		500
Base Capacity (vph)	2321	844	439	2388	376	459	457
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	0.14	0.24	0.36	0.10	0.73	0.34	0.33

Intersection Summary

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

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	432	16	659	2	3
v/c Ratio	0.87	0.03	0.89	0.00	0.01
Control Delay	59.5	26.5	56.5	15.0	43.3
Queue Delay	0.0	0.0	6.8	0.0	0.0
Total Delay	59.5	26.5	63.3	15.0	43.3
Queue Length 50th (ft)	315	8	541	1	1
Queue Length 95th (ft)	423	24	668	m2	12
Internal Link Dist (ft)		766		542	382
Turn Bay Length (ft)	790		300		
Base Capacity (vph)	576	596	863	1228	355
Starvation Cap Reductn	0	0	160	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.03	0.94	0.00	0.01

Intersection Summary

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

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	10	321	660	396	3	431
v/c Ratio	0.05	0.72	0.43	0.29	0.04	0.28
Control Delay	47.9	15.1	5.3	1.6	52.3	0.3
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	47.9	15.1	5.4	1.6	52.3	0.3
Queue Length 50th (ft)	7	0	94	9	3	0
Queue Length 95th (ft)	23	85	302	54	m3	1
Internal Link Dist (ft)	813		838			542
Turn Bay Length (ft)		160		150	95	
Base Capacity (vph)	461	636	1535	1363	96	1566
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	194	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.50	0.49	0.29	0.03	0.28

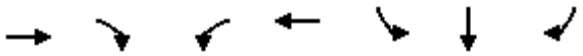
Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	355	185	59	343	84	84	49
v/c Ratio	0.37	0.09	0.07	0.44	0.23	0.24	0.14
Control Delay	45.9	6.7	22.0	10.5	39.9	39.3	6.7
Queue Delay	0.0	0.0	0.0	1.5	0.0	0.0	0.0
Total Delay	45.9	6.7	22.0	12.0	39.9	39.3	6.7
Queue Length 50th (ft)	141	45	2	1	55	57	0
Queue Length 95th (ft)	190	23	m34	213	105	108	24
Internal Link Dist (ft)		562	178			1295	
Turn Bay Length (ft)					415		415
Base Capacity (vph)	963	2171	816	776	371	353	349
Starvation Cap Reductn	0	0	0	260	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.09	0.07	0.66	0.23	0.24	0.14

Intersection Summary

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



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	376	214	37	185	165	316	320
v/c Ratio	0.18	0.27	0.39	0.10	0.25	0.41	0.41
Control Delay	18.8	4.1	103.0	8.1	24.2	4.5	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	4.1	103.0	8.1	24.2	4.5	4.1
Queue Length 50th (ft)	84	40	31	18	82	4	0
Queue Length 95th (ft)	120	m90	63	5	134	62	57
Internal Link Dist (ft)	559			562		1381	
Turn Bay Length (ft)		210	270		670		500
Base Capacity (vph)	2115	794	174	1769	648	774	778
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	0.18	0.27	0.21	0.10	0.25	0.41	0.41

Intersection Summary

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

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	274	10	364	11	17
v/c Ratio	0.77	0.03	0.83	0.01	0.02
Control Delay	59.8	22.5	68.4	14.8	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	22.5	68.4	14.8	19.9
Queue Length 50th (ft)	203	2	304	2	5
Queue Length 95th (ft)	278	16	402	m14	24
Internal Link Dist (ft)		766		542	382
Turn Bay Length (ft)	790		300		
Base Capacity (vph)	561	533	682	1376	804
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.49	0.02	0.53	0.01	0.02

Intersection Summary

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

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	8	900	373	327	3	281
v/c Ratio	0.01	0.92	0.45	0.38	0.04	0.32
Control Delay	13.0	30.3	29.2	8.1	62.0	60.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	30.3	29.2	8.1	62.0	60.2
Queue Length 50th (ft)	3	368	206	30	2	232
Queue Length 95th (ft)	10	570	361	119	m6	321
Internal Link Dist (ft)	813		838			542
Turn Bay Length (ft)		160		150	95	
Base Capacity (vph)	1021	1068	834	856	76	865
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	0.01	0.84	0.45	0.38	0.04	0.32

Intersection Summary

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

APPENDIX 5.4:

EAP (2025) CONDITIONS FREEWAY FACILITY ANALYSIS WORKSHEETS

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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 SB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	North of Indian Truck	5280	3
2	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
3	Basic	Basic	Between	2250	3
4	Merge	Merge	On-Ramp at Indian Truck	1500	3
5	Basic	Basic	Indian Truck to Lake	5280	3
6	Diverge	Diverge	Off-Ramp at Lake	1500	3
7	Basic	Basic	Between	2330	3
8	Merge	Merge	On-Ramp at Lake	1500	3
9	Basic	Basic	South of Lake	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	3842	7146	0.54	68.2	18.8	C

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.943	0.855	3842	566	7200	2100	0.53	0.27	64.4	60.2	19.9	20.2	C

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3263	7131	0.46	67.7	16.1	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.806	3592	329	7200	2000	0.50	0.16	67.3	64.6	17.8	20.0	B

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	3610	7131	0.51	67.7	17.8	B

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.943	0.855	3610	341	7200	2100	0.50	0.16	64.9	60.8	18.5	19.0	B

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3270	7131	0.46	67.7	16.1	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.909	3677	407	7200	2000	0.51	0.20	63.9	62.3	19.2	16.0	B

Segment 9: Basic

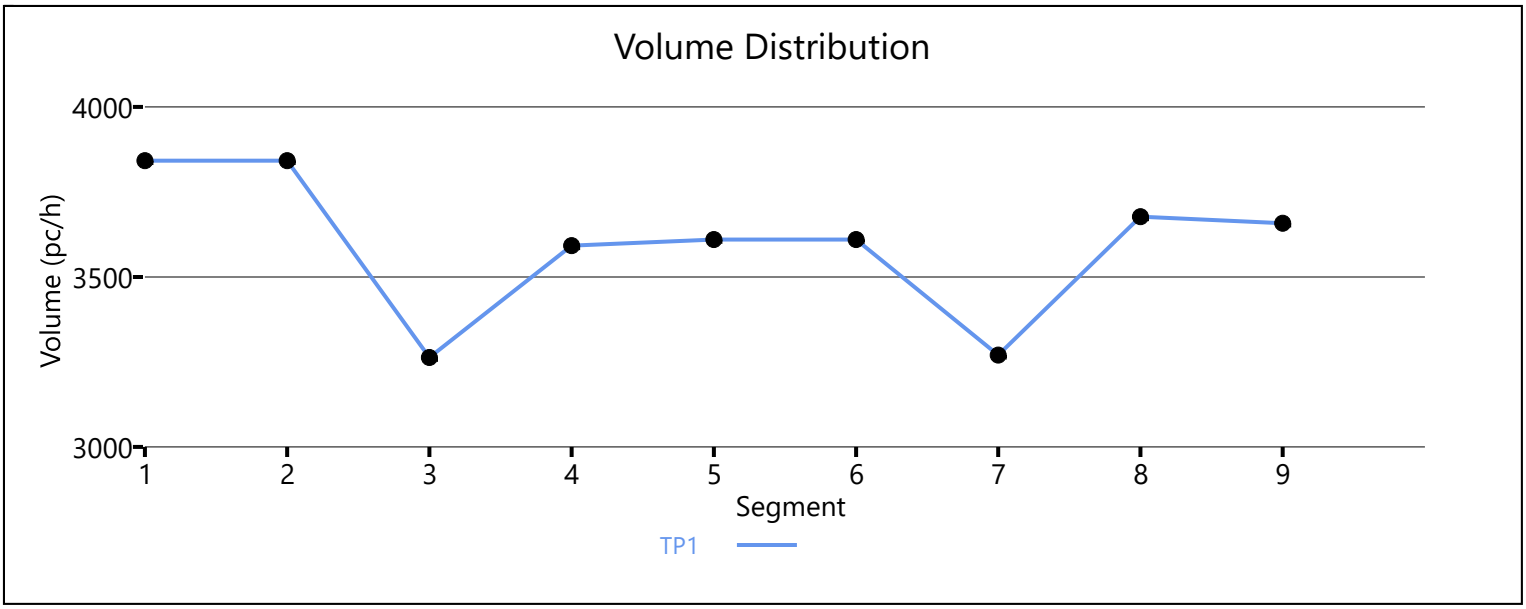
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3658	7146	0.51	68.2	17.9	B

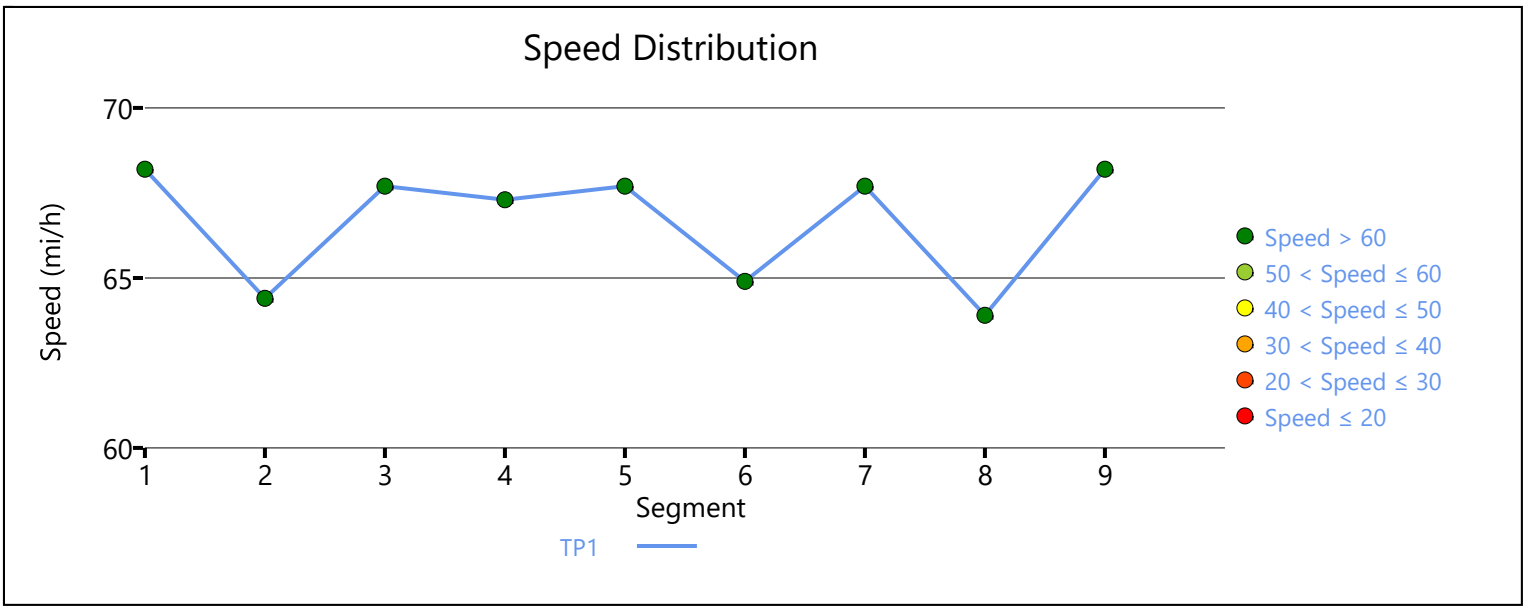
Facility Time Period Results

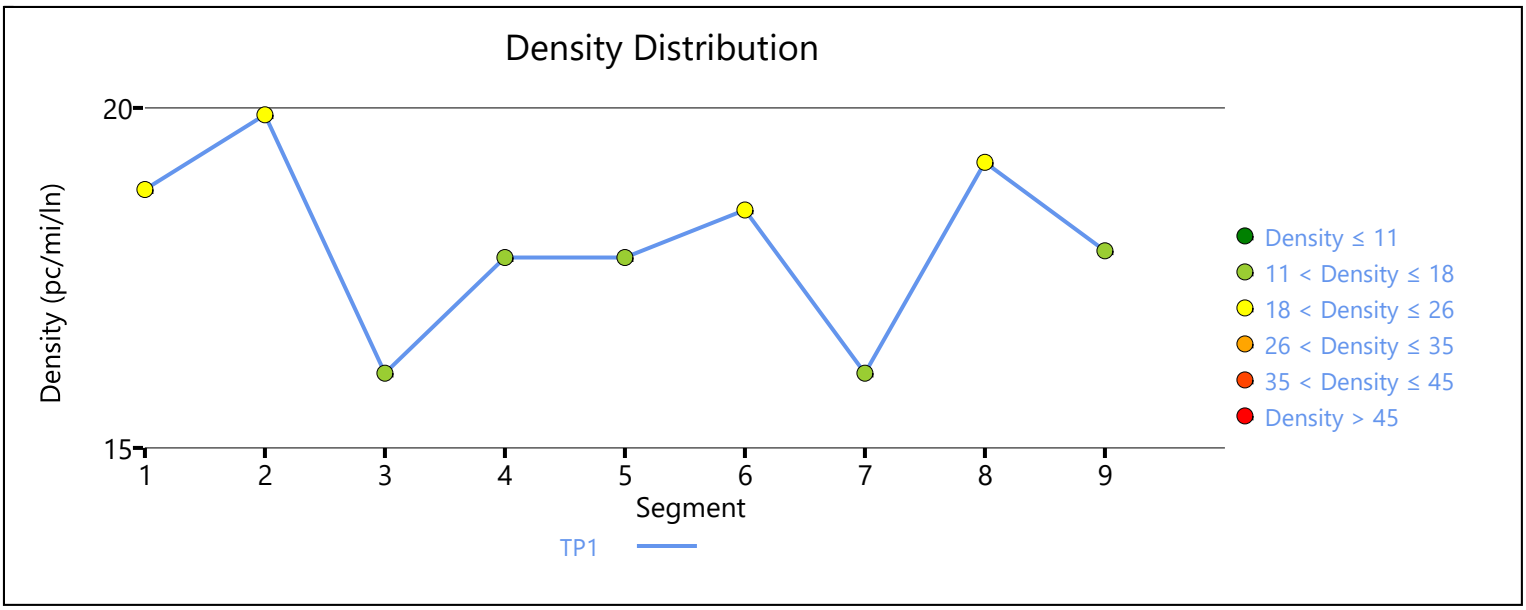
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.3	18.0	17.0	4.5	B

Facility Overall Results

Space Mean Speed, mi/h	67.3	Density, veh/mi/ln	17.0
Average Travel Time, min	4.5	Density, pc/mi/ln	18.0







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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 NB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South of Lake	5280	3
2	Diverge	Diverge	Off-Ramp at Lake	1500	3
3	Basic	Basic	Between	2370	3
4	Merge	Merge	On-Ramp at Lake	1500	3
5	Basic	Basic	Lake to Indian Truck	5280	3
6	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
7	Basic	Basic	Between	2175	3
8	Merge	Merge	On-Ramp at Indian Truck	1500	3
9	Basic	Basic	North of Indian Truck	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3729	7146	0.52	68.2	18.2	C

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.885	3729	441	7200	2100	0.52	0.21	64.7	60.5	19.2	19.8	B

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	3292	7131	0.46	67.7	16.2	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.943	3989	697	7200	2100	0.55	0.33	63.4	61.8	21.0	20.3	C

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4007	7131	0.56	67.7	19.7	C

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.917	4007	445	7200	2100	0.56	0.21	64.7	60.5	20.6	23.2	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	3550	7131	0.50	67.7	17.5	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.885	4238	688	7200	2100	0.59	0.33	62.6	60.7	22.6	23.3	C

Segment 9: Basic

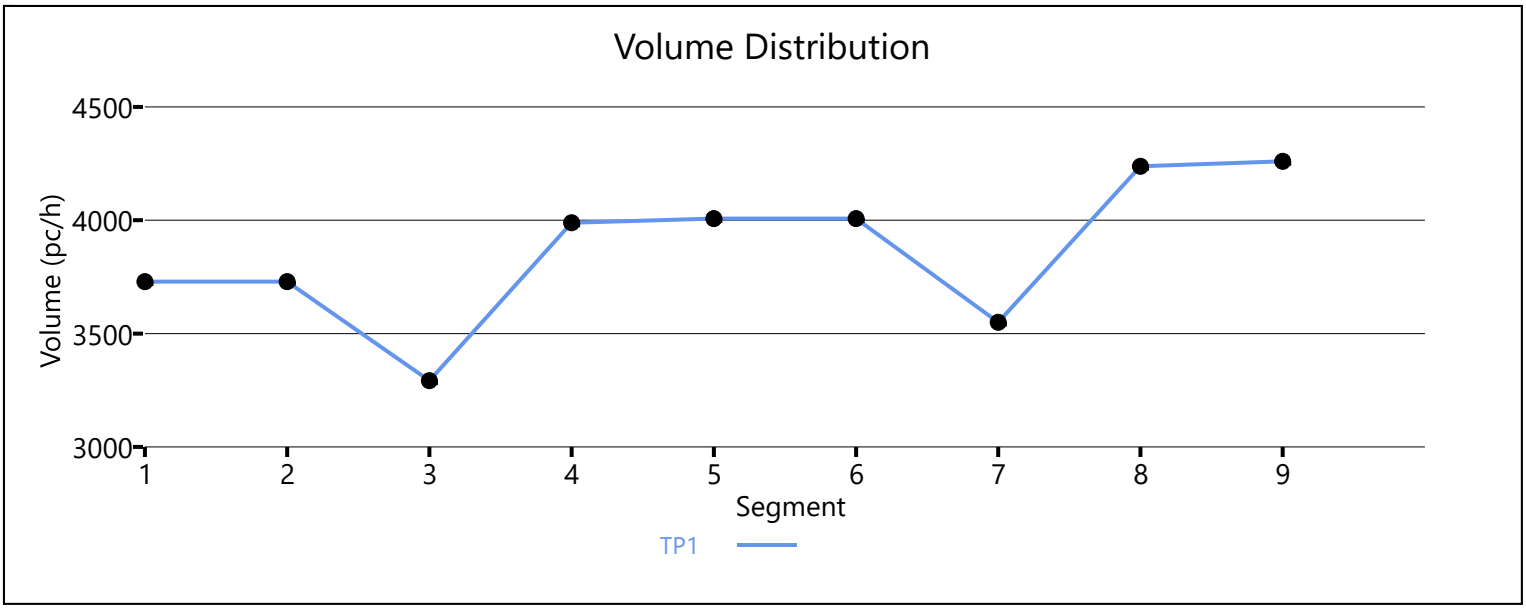
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	4260	7146	0.60	67.9	20.9	C

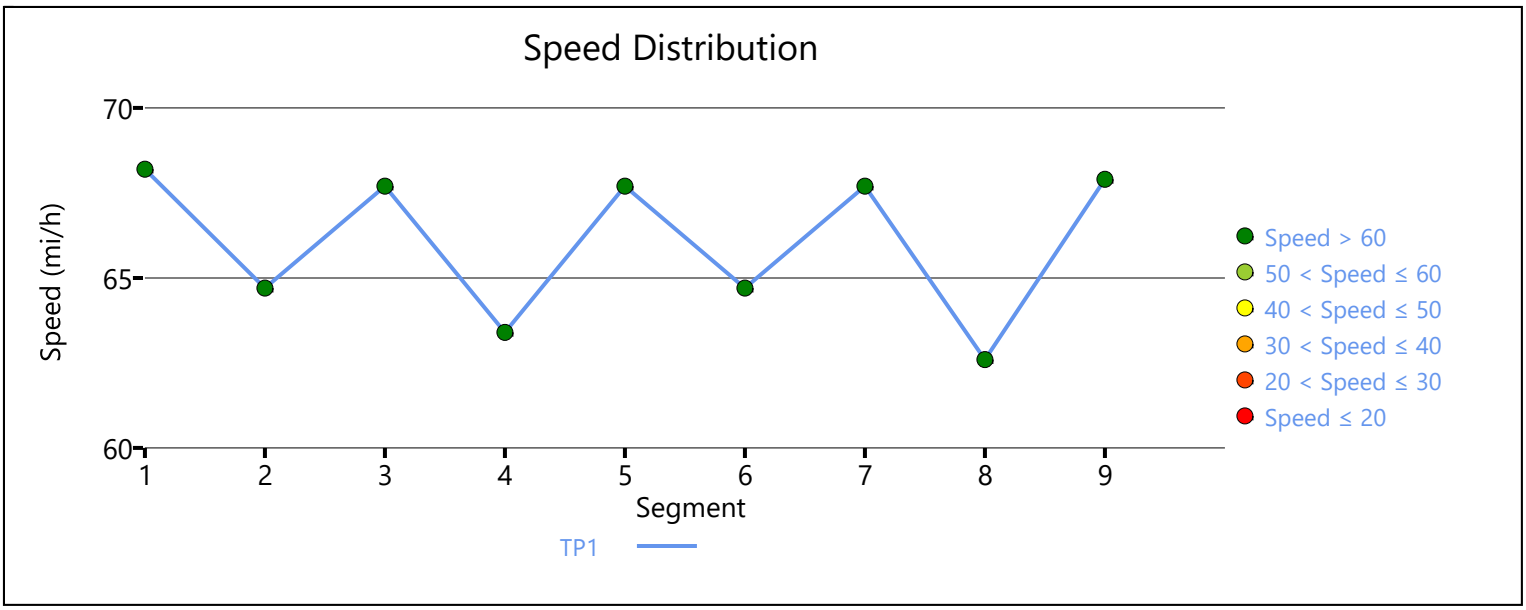
Facility Time Period Results

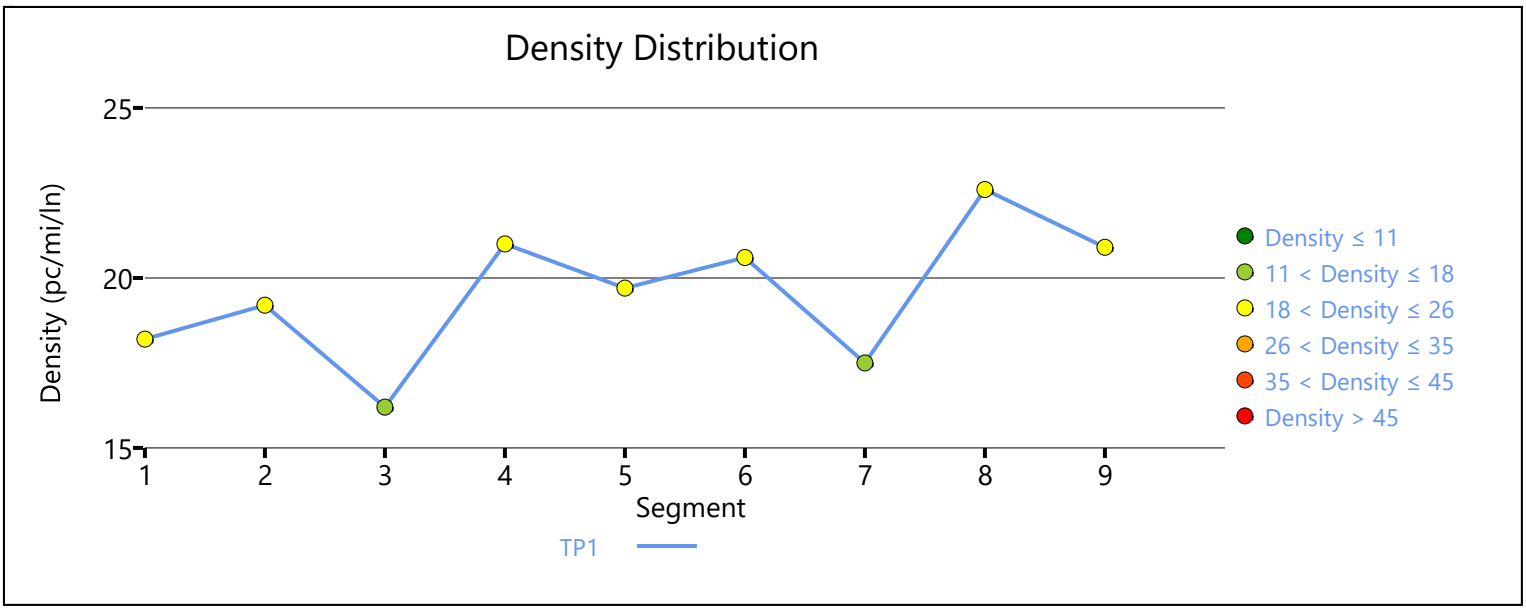
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.9	19.4	18.7	4.5	C

Facility Overall Results

Space Mean Speed, mi/h	66.9	Density, veh/mi/ln	18.7
Average Travel Time, min	4.5	Density, pc/mi/ln	19.4







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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 SB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	North of Indian Truck	5280	3
2	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
3	Basic	Basic	Between	2250	3
4	Merge	Merge	On-Ramp at Indian Truck	1500	3
5	Basic	Basic	Indian Truck to Lake	5280	3
6	Diverge	Diverge	Off-Ramp at Lake	1500	3
7	Basic	Basic	Between	2330	3
8	Merge	Merge	On-Ramp at Lake	1500	3
9	Basic	Basic	South of Lake	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	6401	7146	0.90	59.0	36.2	E

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.741	6401	1024	7200	2100	0.89	0.49	63.2	59.1	33.8	31.7	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	5335	7131	0.75	64.7	27.5	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.952	5591	256	7200	2000	0.78	0.13	64.6	61.9	28.8	29.0	D

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	5635	7131	0.79	63.4	29.6	D

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.990	0.962	5635	943	7200	2100	0.78	0.45	63.5	59.3	29.6	29.0	D

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	4671	7131	0.66	66.8	23.3	C

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.926	5011	340	7200	2000	0.70	0.17	62.4	60.9	26.8	22.3	C

Segment 9: Basic

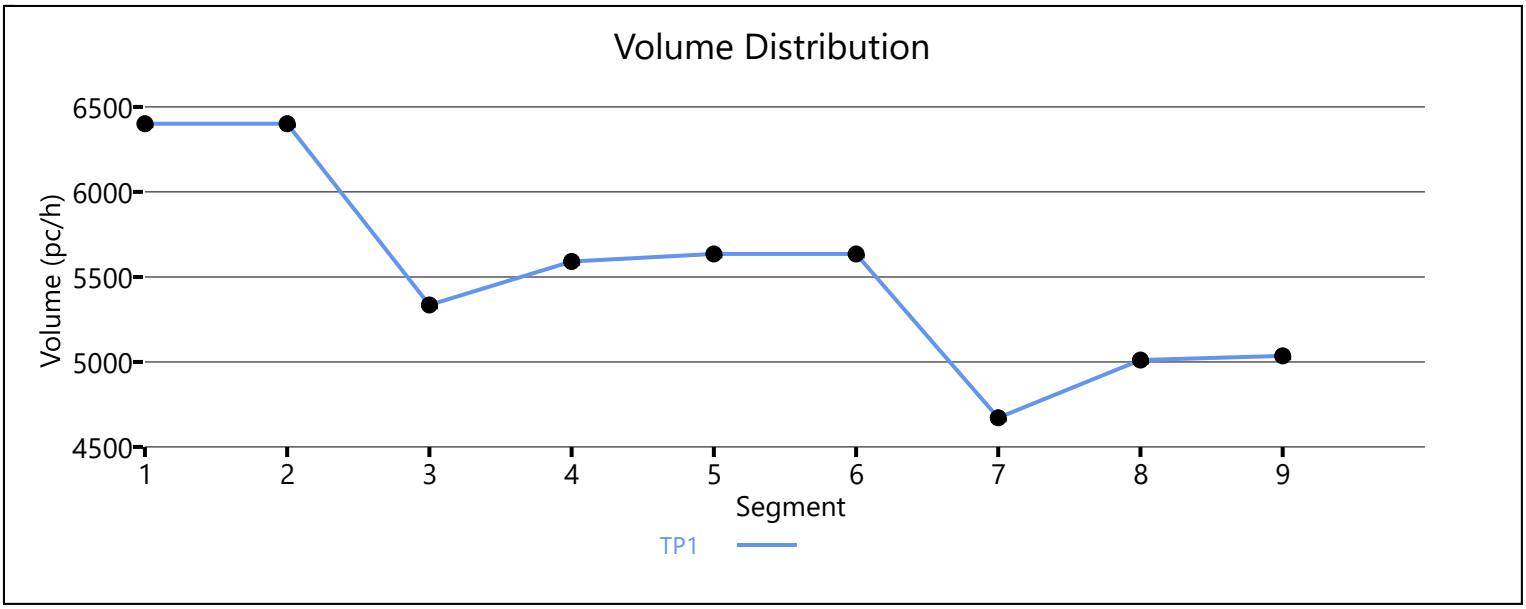
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	5036	7146	0.70	66.1	25.4	C

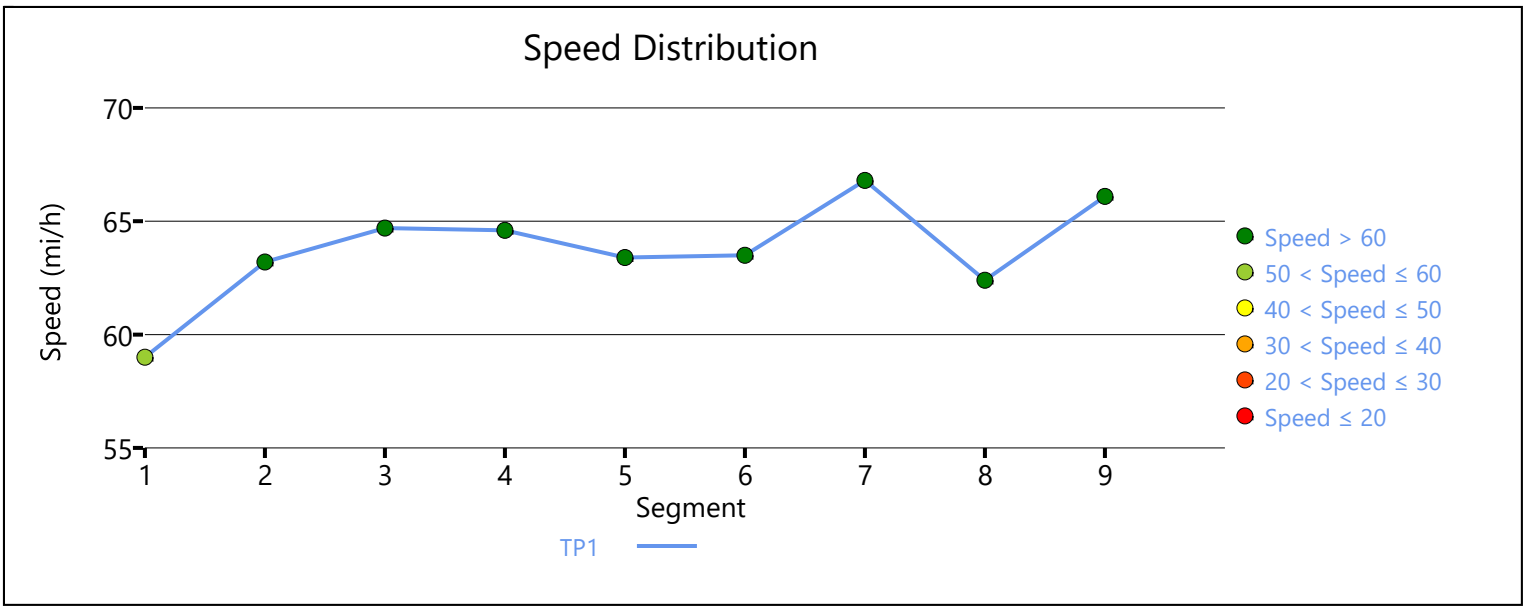
Facility Time Period Results

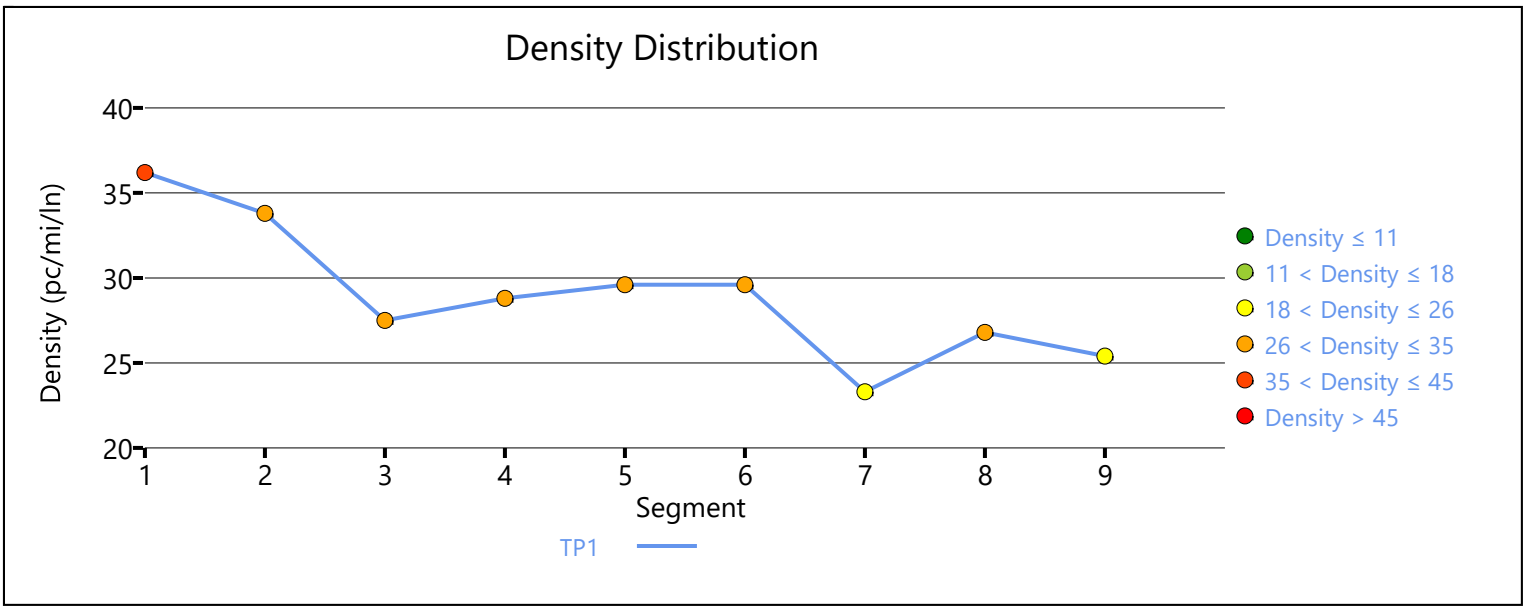
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	63.2	29.4	28.8	4.8	D

Facility Overall Results

Space Mean Speed, mi/h	63.2	Density, veh/mi/ln	28.8
Average Travel Time, min	4.8	Density, pc/mi/ln	29.4







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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	EAP (2025) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 NB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South of Lake	5280	3
2	Diverge	Diverge	Off-Ramp at Lake	1500	3
3	Basic	Basic	Between	2370	3
4	Merge	Merge	On-Ramp at Lake	1500	3
5	Basic	Basic	Lake to Indian Truck	5280	3
6	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
7	Basic	Basic	Between	2175	3
8	Merge	Merge	On-Ramp at Indian Truck	1500	3
9	Basic	Basic	North of Indian Truck	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	2822	7146	0.39	68.2	13.8	B

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.943	2822	293	7200	2100	0.39	0.14	64.8	60.9	14.5	15.0	B

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	2532	7131	0.36	67.7	12.5	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.926	2928	396	7200	2100	0.41	0.19	64.4	62.6	15.2	14.5	B

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	2917	7131	0.41	67.7	14.4	B

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.901	2917	209	7200	2100	0.41	0.10	65.1	61.1	14.9	17.3	B

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	2720	7131	0.38	67.7	13.4	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.917	3398	678	7200	2100	0.47	0.32	63.3	61.4	17.9	19.4	B

Segment 9: Basic

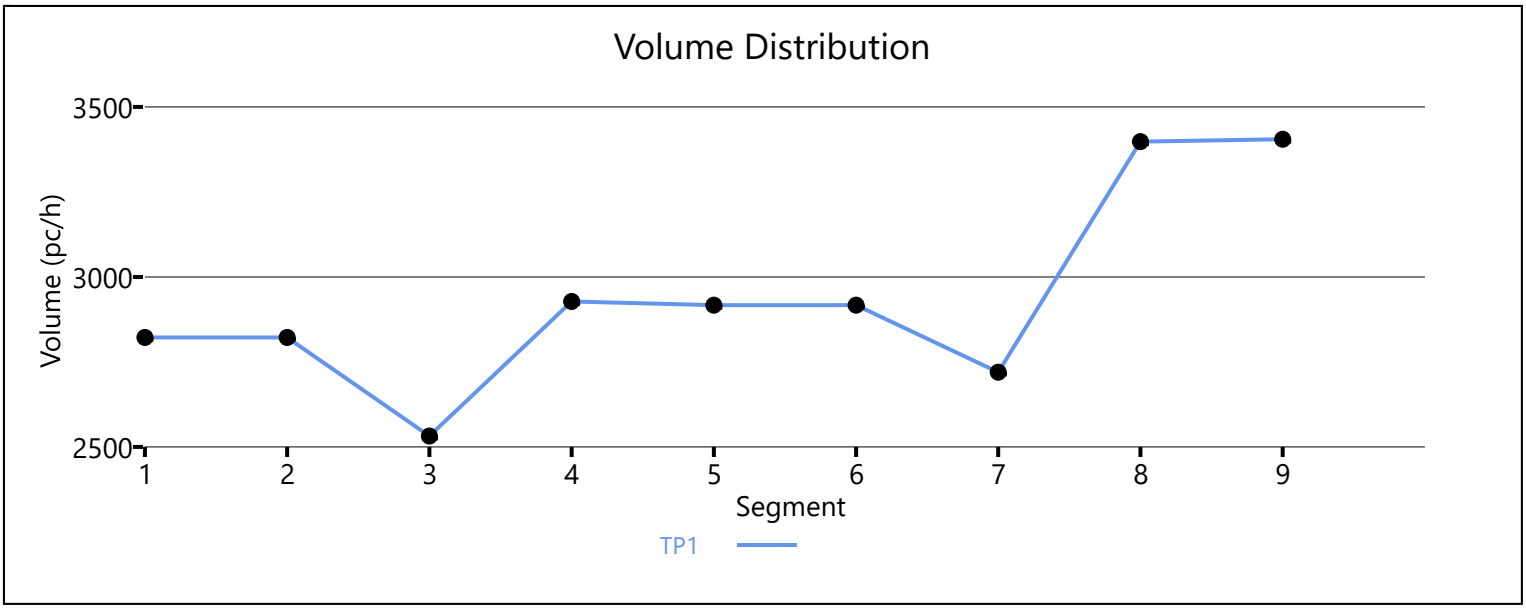
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	3405	7146	0.48	68.2	16.6	B

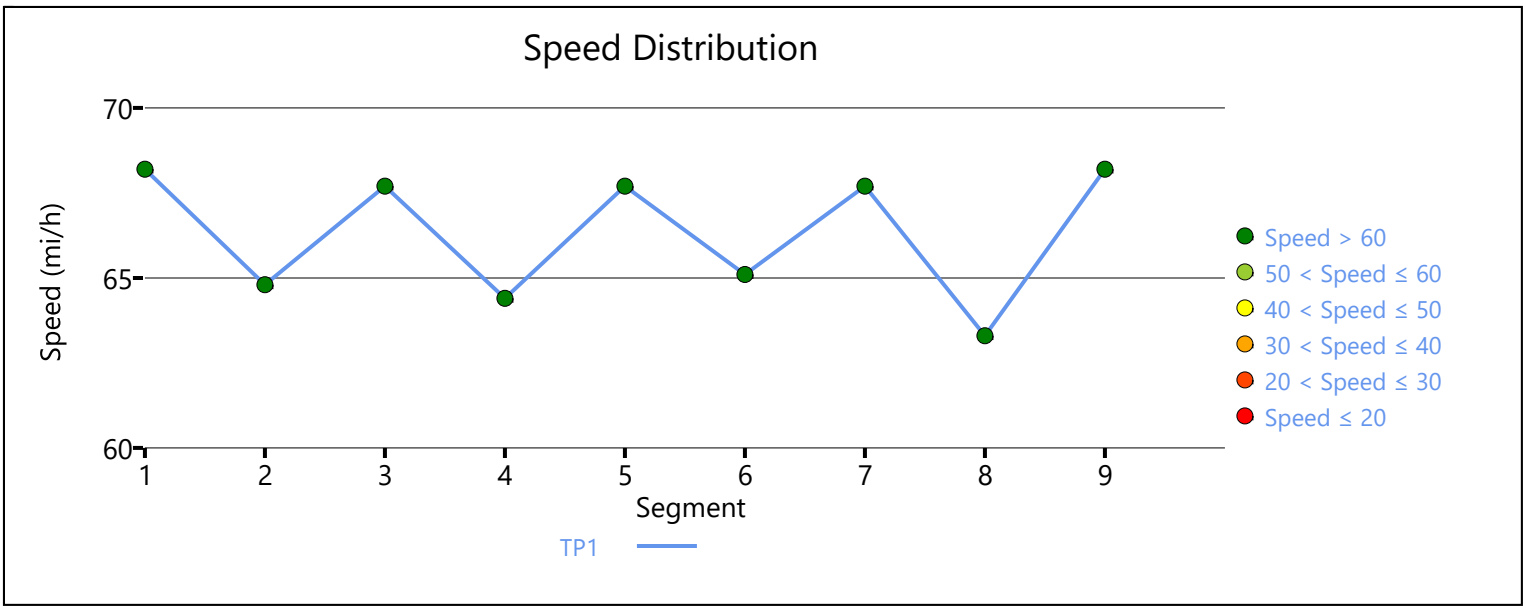
Facility Time Period Results

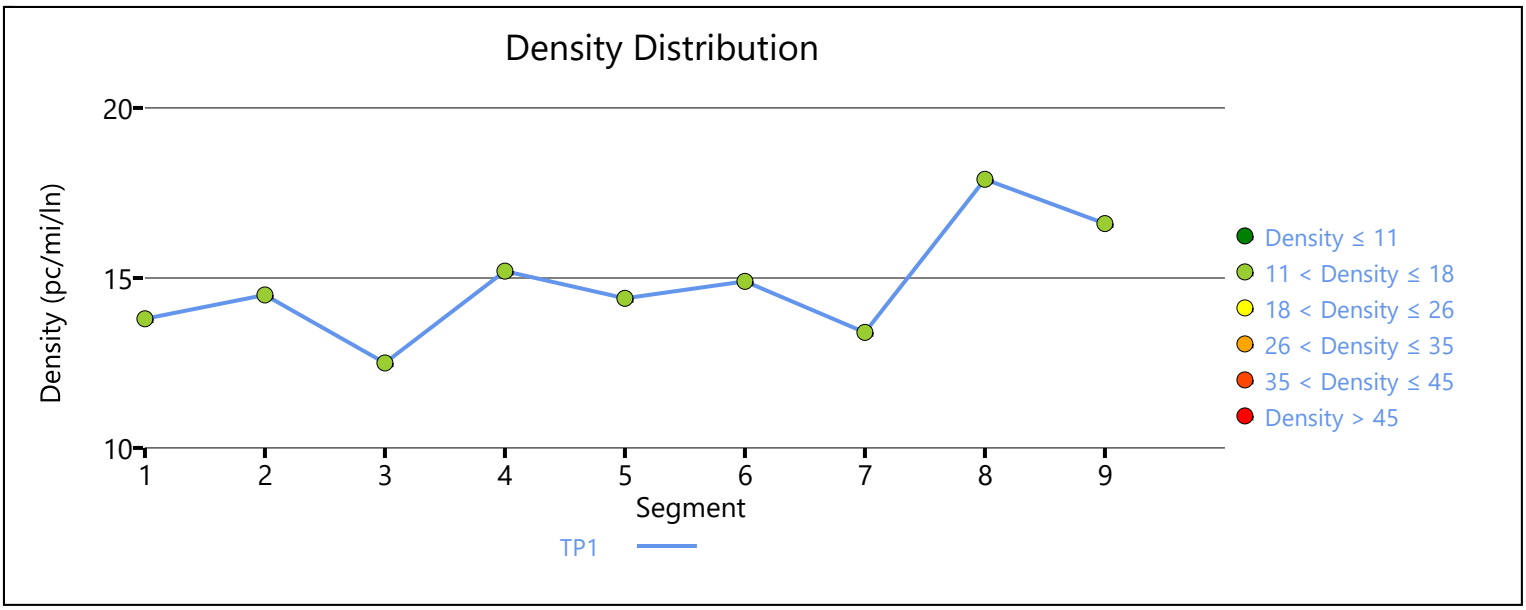
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.1	14.8	14.0	4.5	B

Facility Overall Results

Space Mean Speed, mi/h	67.1	Density, veh/mi/ln	14.0
Average Travel Time, min	4.5	Density, pc/mi/ln	14.8







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APPENDIX 6.1:

EAPC (2025) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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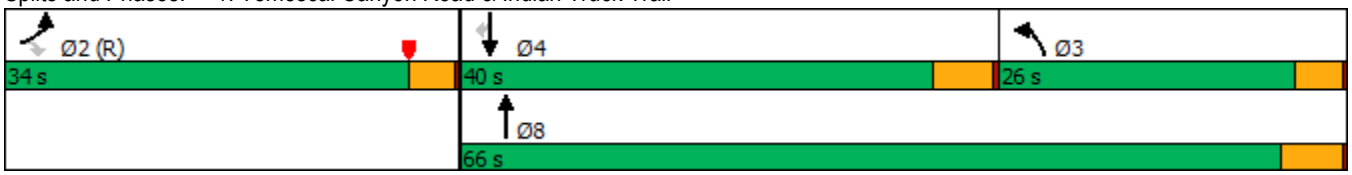
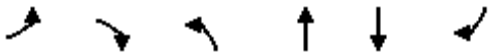
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	724	312	257	162	37	422
Future Volume (vph)	724	312	257	162	37	422
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	40.0
Total Split (s)	34.0	34.0	26.0	66.0	40.0	40.0
Total Split (%)	34.0%	34.0%	26.0%	66.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBL and 6:, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	724	312	257	162	37	422
Future Volume (veh/h)	724	312	257	162	37	422
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	832	359	295	186	43	485
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1218	542	330	1059	625	512
Arrive On Green	0.35	0.35	0.18	0.56	0.33	0.33
Sat Flow, veh/h	3510	1562	1791	1900	1900	1557
Grp Volume(v), veh/h	832	359	295	186	43	485
Grp Sat Flow(s),veh/h/ln	1755	1562	1791	1881	1900	1557
Q Serve(g_s), s	20.3	19.5	16.1	4.8	1.6	30.4
Cycle Q Clear(g_c), s	20.3	19.5	16.1	4.8	1.6	30.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1218	542	330	1059	625	512
V/C Ratio(X)	0.68	0.66	0.89	0.18	0.07	0.95
Avail Cap(c_a), veh/h	1218	542	394	1147	665	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	27.7	39.9	10.6	23.0	32.7
Incr Delay (d2), s/veh	2.9	5.9	19.8	0.1	0.0	25.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	7.8	8.6	1.8	0.7	14.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.9	33.6	59.7	10.7	23.1	57.7
LnGrp LOS	C	C	E	B	C	E
Approach Vol, veh/h	1191			481	528	
Approach Delay, s/veh	31.7			40.7	54.9	
Approach LOS	C			D	D	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		38.7	23.4	37.9		61.3
Change Period (Y+Rc), s		4.0	5.0	* 5		5.0
Max Green Setting (Gmax), s		30.0	22.0	* 35		61.0
Max Q Clear Time (g_c+I1), s		22.3	18.1	32.4		6.8
Green Ext Time (p_c), s		2.9	0.3	0.5		0.8

Intersection Summary	
HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Notes

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

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	393	448	410	268	236	3	588
Future Volume (vph)	393	448	410	268	236	3	588
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	30.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	32.0	70.0	38.0	38.0	50.0	50.0	50.0
Total Split (%)	26.7%	58.3%	31.7%	31.7%	41.7%	41.7%	41.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-15 NB Ramps & Indian Truck Trail

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	448	0	0	410	268	236	3	588	0	0	0
Future Volume (veh/h)	393	448	0	0	410	268	236	3	588	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1678	0	0	981	1811	1841	1900	1678			
Adj Flow Rate, veh/h	432	492	0	0	451	264	174	0	577			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	3	15	0	0	62	6	4	0	15			
Cap, veh/h	771	1727	0	0	513	422	657	0	1066			
Arrive On Green	0.07	0.18	0.00	0.00	0.28	0.28	0.38	0.00	0.38			
Sat Flow, veh/h	3428	3272	0	0	1913	1535	1753	0	2844			
Grp Volume(v), veh/h	432	492	0	0	451	264	174	0	577			
Grp Sat Flow(s),veh/h/ln	1714	1594	0	0	932	1535	1753	0	1422			
Q Serve(g_s), s	14.6	16.0	0.0	0.0	27.8	18.1	8.3	0.0	19.1			
Cycle Q Clear(g_c), s	14.6	16.0	0.0	0.0	27.8	18.1	8.3	0.0	19.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	771	1727	0	0	513	422	657	0	1066			
V/C Ratio(X)	0.56	0.28	0.00	0.00	0.88	0.63	0.26	0.00	0.54			
Avail Cap(c_a), veh/h	771	1727	0	0	513	422	657	0	1066			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.89	0.89	0.00	0.00	0.73	0.73	1.00	0.00	1.00			
Uniform Delay (d), s/veh	49.8	29.2	0.0	0.0	41.6	38.1	26.0	0.0	29.4			
Incr Delay (d2), s/veh	0.8	0.4	0.0	0.0	14.7	5.0	1.0	0.0	2.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	6.8	6.9	0.0	0.0	7.2	7.2	3.5	0.0	6.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	29.5	0.0	0.0	56.3	43.1	27.0	0.0	31.4			
LnGrp LOS	D	C	A	A	E	D	C	A	C			
Approach Vol, veh/h		924			715			751				
Approach Delay, s/veh		39.4			51.5			30.4				
Approach LOS		D			D			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		70.0			32.0	38.0		50.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		65.0			27.0	33.0		45.0				
Max Q Clear Time (g_c+I1), s		18.0			16.6	29.8		21.1				
Green Ext Time (p_c), s		2.0			1.1	0.9		2.2				

Intersection Summary	
HCM 6th Ctrl Delay	40.2
HCM 6th LOS	D

Notes

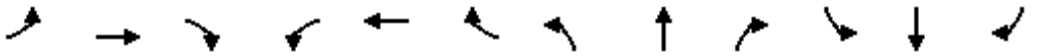
User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	559	202	185	461	282	8	339
Future Volume (vph)	559	202	185	461	282	8	339
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	9.5	25.0	10.0	10.0	10.0
Total Split (s)	54.0	54.0	32.0	86.0	34.0	34.0	34.0
Total Split (%)	45.0%	45.0%	26.7%	71.7%	28.3%	28.3%	28.3%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	4.5	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 3: I-15 SB Ramps & Indian Truck Trail



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	559	202	185	461	0	0	0	0	282	8	339
Future Volume (veh/h)	0	559	202	185	461	0	0	0	0	282	8	339
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1870	1278	1870	0				1663	1900	1781
Adj Flow Rate, veh/h	0	614	217	203	507	0				310	0	374
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	4	2	42	2	0				16	0	8
Cap, veh/h	0	2302	726	218	2399	0				383	0	730
Arrive On Green	0.00	0.46	0.46	0.36	1.00	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	5191	1585	1217	3647	0				1584	0	3019
Grp Volume(v), veh/h	0	614	217	203	507	0				310	0	374
Grp Sat Flow(s),veh/h/ln	0	1675	1585	1217	1777	0				1584	0	1510
Q Serve(g_s), s	0.0	9.1	10.3	19.3	0.0	0.0				22.1	0.0	12.9
Cycle Q Clear(g_c), s	0.0	9.1	10.3	19.3	0.0	0.0				22.1	0.0	12.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2302	726	218	2399	0				383	0	730
V/C Ratio(X)	0.00	0.27	0.30	0.93	0.21	0.00				0.81	0.00	0.51
Avail Cap(c_a), veh/h	0	2302	726	279	2399	0				383	0	730
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.70	0.70	0.75	0.75	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.1	20.4	37.7	0.0	0.0				42.9	0.0	39.4
Incr Delay (d2), s/veh	0.0	0.2	0.7	25.9	0.2	0.0				16.8	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.4	3.8	5.9	0.1	0.0				10.1	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.3	21.2	63.6	0.2	0.0				59.7	0.0	41.9
LnGrp LOS	A	C	C	E	A	A				E	A	D
Approach Vol, veh/h		831			710						684	
Approach Delay, s/veh		20.5			18.3						50.0	
Approach LOS		C			B						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	26.0	60.0		34.0		86.0
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0
Max Green Setting (Gmax), s	27.5	49.0		29.0		81.0
Max Q Clear Time (g_c+I1), s	21.3	12.3		24.1		2.0
Green Ext Time (p_c), s	0.3	3.0		1.0		2.1

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

Notes

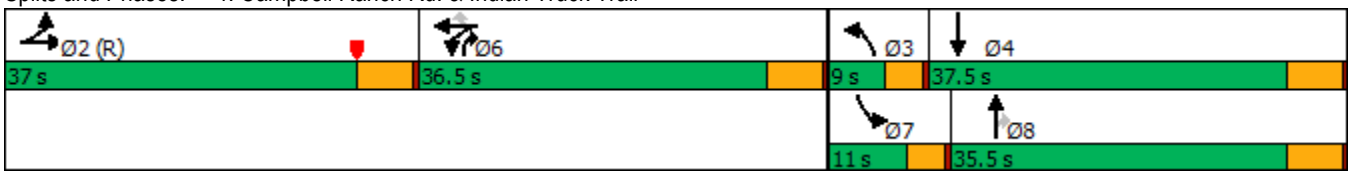
User approved volume balancing among the lanes for turning movement.

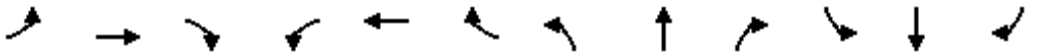
Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	486	0	308	427	511	250	340		
Future Volume (vph)	486	0	308	427	511	250	340		
Turn Type	Split	NA	Perm	NA	pm+ov	Prot	NA		
Protected Phases	6	6		8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	6	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	36.5	35.5	36.5	9.0	10.5	36.5	9.0
Total Split (s)	36.5	36.5	36.5	35.5	36.5	11.0	37.5	37.0	9.0
Total Split (%)	30.4%	30.4%	30.4%	29.6%	30.4%	9.2%	31.3%	31%	8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5		
Lead/Lag				Lag		Lead	Lag		Lead
Lead-Lag Optimize?				Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Max	None	None	Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	486	0	308	0	427	511	250	340	0
Future Volume (veh/h)	0	0	0	486	0	308	0	427	511	250	340	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	614	0	171	0	469	440	275	374	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	614	0	716	0	314	2	902	721	205	1233	0
Arrive On Green	0.00	0.00	0.00	0.20	0.00	0.20	0.00	0.25	0.25	0.06	0.34	0.00
Sat Flow, veh/h	0	1900	0	3619	0	1587	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	614	0	171	0	469	440	275	374	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1587	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	19.7	0.0	11.6	0.0	13.4	24.9	7.0	9.1	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	19.7	0.0	11.6	0.0	13.4	24.9	7.0	9.1	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	614	0	716	0	314	2	903	721	205	1233	0
V/C Ratio(X)	0.00	0.00	0.00	0.86	0.00	0.54	0.00	0.52	0.61	1.34	0.30	0.00
Avail Cap(c_a), veh/h	0	614	0	935	0	410	75	903	721	205	1233	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.98	0.00	0.98	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	46.5	0.0	43.3	0.0	38.8	25.2	56.5	29.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	6.2	0.0	1.4	0.0	2.1	3.8	183.3	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	9.2	0.0	4.6	0.0	6.0	13.7	8.2	3.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	52.7	0.0	44.7	0.0	40.9	29.0	239.8	29.6	0.0
LnGrp LOS	A	A	A	D	A	D	A	D	C	F	C	A
Approach Vol, veh/h		0			785			909			649	
Approach Delay, s/veh		0.0			51.0			35.1			118.7	
Approach LOS					D			D			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.3	0.0	46.5		29.2	11.0	35.5				
Change Period (Y+Rc), s		5.5	4.0	5.5		5.5	4.0	5.5				
Max Green Setting (Gmax), s		31.5	5.0	32.0		31.0	7.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	11.1		21.7	9.0	26.9				
Green Ext Time (p_c), s		0.0	0.0	2.1		2.1	0.0	1.4				

Intersection Summary		
HCM 6th Ctrl Delay		63.6
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	8.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	47	186	205	189	159	168
Future Vol, veh/h	47	186	205	189	159	168
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	49	196	216	199	167	177

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	245	0	778	147
Stage 1	-	-	-	-	147	-
Stage 2	-	-	-	-	631	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1333	-	368	905
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	534	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1333	-	301	905
Mov Cap-2 Maneuver	-	-	-	-	301	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	437	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.3	20.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	301	905	-	-	1333	-
HCM Lane V/C Ratio	0.556	0.195	-	-	0.162	-
HCM Control Delay (s)	31	9.9	-	-	8.2	0
HCM Lane LOS	D	A	-	-	A	A
HCM 95th %tile Q(veh)	3.2	0.7	-	-	0.6	-

Intersection	
Intersection Delay, s/veh	18.9
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	34	172	309	290	346	45
Future Vol, veh/h	34	172	309	290	346	45
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	41	207	372	349	417	54
Number of Lanes	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	13.3	18.7	22.3
HCM LOS	B	C	C

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	100%	0%	17%	0%
Vol Thru, %	0%	100%	0%	88%
Vol Right, %	0%	0%	83%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	309	290	206	391
LT Vol	309	0	34	0
Through Vol	0	290	0	346
RT Vol	0	0	172	45
Lane Flow Rate	372	349	248	471
Geometry Grp	7	7	2	5
Degree of Util (X)	0.662	0.572	0.416	0.73
Departure Headway (Hd)	6.402	5.894	6.033	5.577
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	562	611	596	650
Service Time	4.147	3.639	4.084	3.617
HCM Lane V/C Ratio	0.662	0.571	0.416	0.725
HCM Control Delay	20.9	16.3	13.3	22.3
HCM Lane LOS	C	C	B	C
HCM 95th-tile Q	4.9	3.6	2	6.3

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱		↰	↱	
Traffic Vol, veh/h	39	0	13	4	0	98	4	464	15	334	171	13
Future Vol, veh/h	39	0	13	4	0	98	4	464	15	334	171	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	41	0	14	4	0	103	4	488	16	352	180	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1447	1403	187	1402	1402	496	194	0	0	504	0	0
Stage 1	891	891	-	504	504	-	-	-	-	-	-	-
Stage 2	556	512	-	898	898	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	110	141	860	119	141	578	1391	-	-	1071	-	-
Stage 1	340	363	-	554	544	-	-	-	-	-	-	-
Stage 2	519	540	-	337	361	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	67	94	860	87	94	578	1391	-	-	1071	-	-
Mov Cap-2 Maneuver	67	94	-	200	216	-	-	-	-	-	-	-
Stage 1	339	244	-	552	542	-	-	-	-	-	-	-
Stage 2	425	538	-	223	242	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	99.6	13.4	0.1	6.4
HCM LOS	F	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1391	-	-	87	538	1071	-	-
HCM Lane V/C Ratio	0.003	-	-	0.629	0.2	0.328	-	-
HCM Control Delay (s)	7.6	-	-	99.6	13.4	10	-	-
HCM Lane LOS	A	-	-	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.9	0.7	1.4	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	83	0	0	39	62	0	0	0	17	0	5
Future Vol, veh/h	15	83	0	0	39	62	0	0	0	17	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	105	0	0	49	78	0	0	0	22	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	127	0	0	105	0	0	234	270	105	231	231	88
Stage 1	-	-	-	-	-	-	143	143	-	88	88	-
Stage 2	-	-	-	-	-	-	91	127	-	143	143	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1472	-	-	1499	-	-	725	640	955	728	672	976
Stage 1	-	-	-	-	-	-	865	782	-	925	826	-
Stage 2	-	-	-	-	-	-	921	795	-	865	782	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1472	-	-	1499	-	-	713	631	955	720	663	976
Mov Cap-2 Maneuver	-	-	-	-	-	-	713	631	-	720	663	-
Stage 1	-	-	-	-	-	-	853	771	-	912	826	-
Stage 2	-	-	-	-	-	-	915	795	-	853	771	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0	0	9.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1472	-	-	1499	-	-	766
HCM Lane V/C Ratio	-	0.013	-	-	-	-	-	0.036
HCM Control Delay (s)	0	7.5	0	-	0	-	-	9.9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	164	112	283	219	13
Future Vol, veh/h	23	164	112	283	219	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	26	189	129	325	252	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	843	260	267	0	-	0
Stage 1	260	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	337	784	1308	-	-	-
Stage 1	788	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	304	784	1308	-	-	-
Mov Cap-2 Maneuver	421	-	-	-	-	-
Stage 1	710	-	-	-	-	-
Stage 2	562	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	2.3	0
HCM LOS	B		

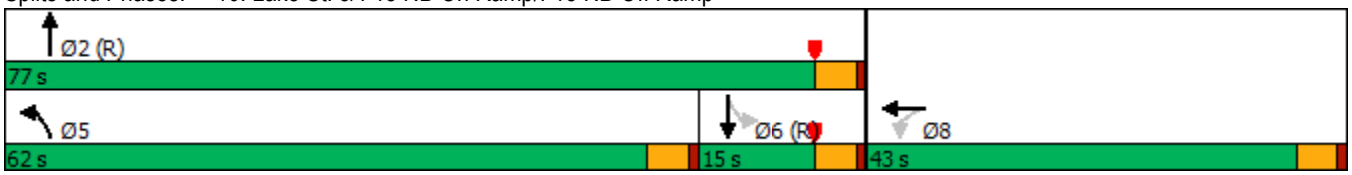
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1308	-	709	-	-
HCM Lane V/C Ratio	0.098	-	0.303	-	-
HCM Control Delay (s)	8.1	-	12.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.3	-	-

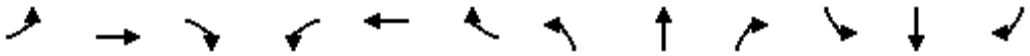
Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	421	13	736	2	2
Future Volume (vph)	421	13	736	2	2
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	43.0	43.0	62.0	77.0	15.0
Total Split (%)	35.8%	35.8%	51.7%	64.2%	12.5%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10.3 (9%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	421	13	2	736	2	0	0	2	1
Future Volume (veh/h)	0	0	0	421	13	2	736	2	0	0	2	1
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				443	14	2	775	2	0	0	2	1
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				474	426	61	800	1253	0	0	214	107
Arrive On Green				0.33	0.33	0.26	0.44	0.66	0.00	0.00	0.18	0.18
Sat Flow, veh/h				1810	1626	232	1810	1900	0	0	1195	597
Grp Volume(v), veh/h				443	0	16	775	2	0	0	0	3
Grp Sat Flow(s),veh/h/ln				1810	0	1858	1810	1900	0	0	0	1792
Q Serve(g_s), s				28.5	0.0	0.7	50.2	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear(g_c), s				28.5	0.0	0.7	50.2	0.0	0.0	0.0	0.0	0.2
Prop In Lane				1.00		0.13	1.00		0.00	0.00		0.33
Lane Grp Cap(c), veh/h				474	0	487	800	1253	0	0	0	321
V/C Ratio(X)				0.93	0.00	0.03	0.97	0.00	0.00	0.00	0.00	0.01
Avail Cap(c_a), veh/h				578	0	593	866	1253	0	0	0	321
HCM Platoon Ratio				1.25	1.25	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.85	0.85	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				39.3	0.0	30.4	32.7	7.0	0.0	0.0	0.0	40.5
Incr Delay (d2), s/veh				20.2	0.0	0.0	19.9	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				14.7	0.0	0.3	25.7	0.0	0.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				59.6	0.0	30.4	52.6	7.0	0.0	0.0	0.0	40.5
LnGrp LOS				E	A	C	D	A	A	A	A	D
Approach Vol, veh/h					459			777			3	
Approach Delay, s/veh					58.5			52.5			40.5	
Approach LOS					E			D			D	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		83.8			57.6	26.2		36.2				
Change Period (Y+Rc), s		* 4.7			4.6	* 4.7		4.7				
Max Green Setting (Gmax), s		* 72			57.4	* 10		38.3				
Max Q Clear Time (g_c+I1), s		2.0			52.2	2.2		30.5				
Green Ext Time (p_c), s		0.0			0.9	0.0		1.0				

Intersection Summary		
HCM 6th Ctrl Delay	54.7	
HCM 6th LOS	D	

Notes

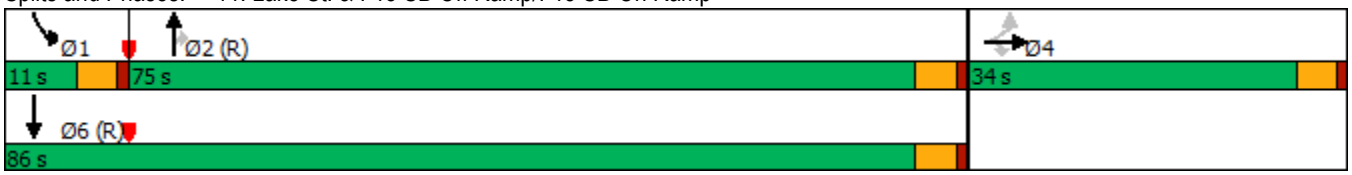
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

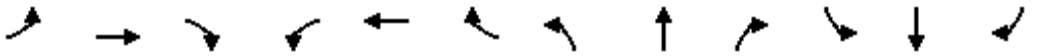
Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	354	737	408	3	420
Future Volume (vph)	9	354	737	408	3	420
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	34.0	34.0	75.0	75.0	11.0	86.0
Total Split (%)	28.3%	28.3%	62.5%	62.5%	9.2%	71.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	9	354	0	0	0	0	737	408	3	420	0
Future Volume (veh/h)	1	9	354	0	0	0	0	737	408	3	420	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	1	9	373				0	776	429	3	442	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	46	415	393				0	1207	1023	7	1287	0
Arrive On Green	0.24	0.24	0.24				0.00	0.64	0.64	0.00	0.45	0.00
Sat Flow, veh/h	189	1701	1610				0	1900	1610	1810	1900	0
Grp Volume(v), veh/h	10	0	373				0	776	429	3	442	0
Grp Sat Flow(s),veh/h/ln	1891	0	1610				0	1900	1610	1810	1900	0
Q Serve(g_s), s	0.5	0.0	27.3				0.0	30.2	15.9	0.2	18.1	0.0
Cycle Q Clear(g_c), s	0.5	0.0	27.3				0.0	30.2	15.9	0.2	18.1	0.0
Prop In Lane	0.10		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	462	0	393				0	1207	1023	7	1287	0
V/C Ratio(X)	0.02	0.00	0.95				0.00	0.64	0.42	0.42	0.34	0.00
Avail Cap(c_a), veh/h	462	0	393				0	1207	1023	97	1287	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	0.61	0.61	0.37	0.37	0.00
Uniform Delay (d), s/veh	34.5	0.0	44.6				0.0	13.5	10.9	59.7	15.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	32.4				0.0	1.6	0.8	5.2	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	0.2	0.0	14.4				0.0	12.7	5.6	0.1	8.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	0.0	77.0				0.0	15.1	11.7	64.9	15.8	0.0
LnGrp LOS	C	A	E				A	B	B	E	B	A
Approach Vol, veh/h		383						1205			445	
Approach Delay, s/veh		75.9						13.9			16.1	
Approach LOS		E						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.1	80.9		34.0		86.0
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	6.4	* 70		* 29		* 81
Max Q Clear Time (g_c+I1), s	2.2	32.2		29.3		20.1
Green Ext Time (p_c), s	0.0	9.0		0.0		3.2

Intersection Summary	
HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

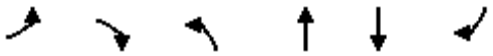
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	404	75	240	740	326
Future Volume (vph)	404	75	240	740	326
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	33.0	33.0	27.0	87.0	60.0
Total Split (%)	27.5%	27.5%	22.5%	72.5%	50.0%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 114.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	404	75	240	740	326	448
Future Volume (veh/h)	404	75	240	740	326	448
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	425	37	253	779	343	425
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	451	402	283	1266	361	448
Arrive On Green	0.25	0.25	0.16	0.67	0.47	0.47
Sat Flow, veh/h	1810	1610	1810	1900	772	956
Grp Volume(v), veh/h	425	37	253	779	0	768
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1900	0	1728
Q Serve(g_s), s	25.7	2.0	15.3	25.8	0.0	47.4
Cycle Q Clear(g_c), s	25.7	2.0	15.3	25.8	0.0	47.4
Prop In Lane	1.00	1.00	1.00			0.55
Lane Grp Cap(c), veh/h	451	402	283	1266	0	809
V/C Ratio(X)	0.94	0.09	0.89	0.62	0.00	0.95
Avail Cap(c_a), veh/h	460	409	364	1403	0	858
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	0.00	1.00
Uniform Delay (d), s/veh	41.0	32.1	46.1	10.5	0.0	28.3
Incr Delay (d2), s/veh	27.6	0.1	17.2	0.7	0.0	19.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	0.0	8.2	10.1	0.0	23.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	68.6	32.2	63.2	11.2	0.0	47.3
LnGrp LOS	E	C	E	B	A	D
Approach Vol, veh/h	462			1032	768	
Approach Delay, s/veh	65.7			24.0	47.3	
Approach LOS	E			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		78.9		32.5	22.0	56.9
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 82		* 28	22.4	* 55
Max Q Clear Time (g_c+I1), s		27.8		27.7	17.3	49.4
Green Ext Time (p_c), s		7.1		0.1	0.2	2.8

Intersection Summary		
HCM 6th Ctrl Delay	40.4	
HCM 6th LOS	D	

Notes

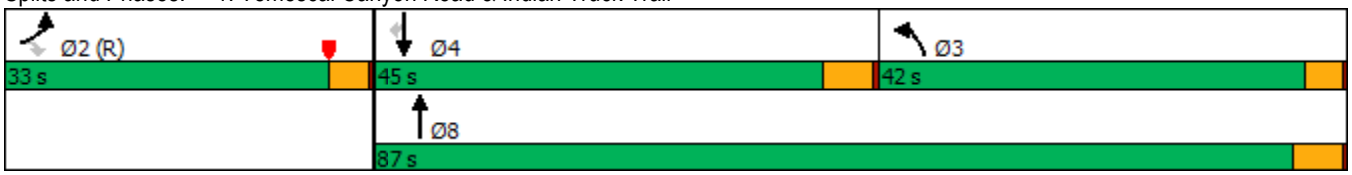
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

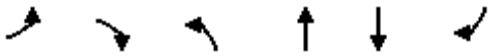
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	781	148	311	50	65	551
Future Volume (vph)	781	148	311	50	65	551
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	40.0
Total Split (s)	33.0	33.0	42.0	87.0	45.0	45.0
Total Split (%)	27.5%	27.5%	35.0%	72.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 68 (57%), Referenced to phase 2:EBL and 6:, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	781	148	311	50	65	551
Future Volume (veh/h)	781	148	311	50	65	551
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	898	141	357	57	75	595
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1171	537	392	1124	633	535
Arrive On Green	0.33	0.33	0.22	0.59	0.33	0.33
Sat Flow, veh/h	3510	1610	1810	1900	1900	1605
Grp Volume(v), veh/h	898	141	357	57	75	595
Grp Sat Flow(s),veh/h/ln	1755	1610	1810	1900	1900	1605
Q Serve(g_s), s	27.5	7.7	23.1	1.5	3.3	40.0
Cycle Q Clear(g_c), s	27.5	7.7	23.1	1.5	3.3	40.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1171	537	392	1124	633	535
V/C Ratio(X)	0.77	0.26	0.91	0.05	0.12	1.11
Avail Cap(c_a), veh/h	1171	537	573	1298	633	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	29.2	45.9	10.3	27.8	40.0
Incr Delay (d2), s/veh	4.6	1.1	14.2	0.0	0.1	73.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	3.1	11.7	0.6	1.5	26.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.4	30.3	60.1	10.3	27.8	113.3
LnGrp LOS	D	C	E	B	C	F
Approach Vol, veh/h	1039			414	670	
Approach Delay, s/veh	39.1			53.3	103.7	
Approach LOS	D			D	F	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		44.0	31.0	45.0		76.0
Change Period (Y+Rc), s		4.0	5.0	* 5		5.0
Max Green Setting (Gmax), s		29.0	38.0	* 40		82.0
Max Q Clear Time (g_c+I1), s		29.5	25.1	42.0		3.5
Green Ext Time (p_c), s		0.0	0.9	0.0		0.2

Intersection Summary	
HCM 6th Ctrl Delay	62.2
HCM 6th LOS	E

Notes

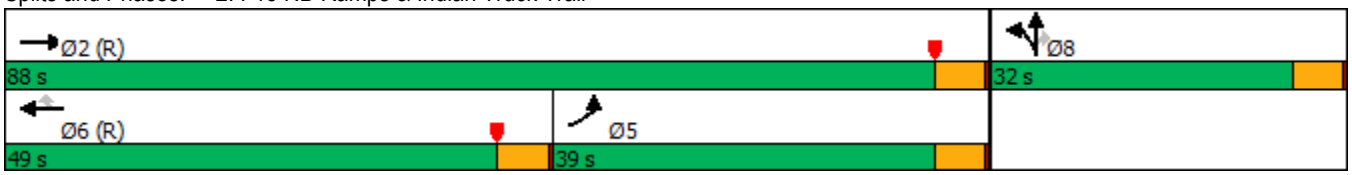
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

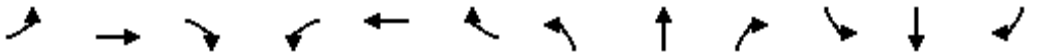
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	457	549	318	544	352	1	379
Future Volume (vph)	457	549	318	544	352	1	379
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	30.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	39.0	88.0	49.0	49.0	32.0	32.0	32.0
Total Split (%)	32.5%	73.3%	40.8%	40.8%	26.7%	26.7%	26.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 50
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-15 NB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	457	549	0	0	318	544	352	1	379	0	0	0
Future Volume (veh/h)	457	549	0	0	318	544	352	1	379	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1678	0	0	981	1811	1841	1900	1678			
Adj Flow Rate, veh/h	502	603	0	0	349	554	507	0	256			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	3	15	0	0	62	6	4	0	15			
Cap, veh/h	971	2205	0	0	684	563	789	0	320			
Arrive On Green	0.09	0.23	0.00	0.00	0.37	0.37	0.22	0.00	0.22			
Sat Flow, veh/h	3428	3272	0	0	1913	1535	3506	0	1422			
Grp Volume(v), veh/h	502	603	0	0	349	554	507	0	256			
Grp Sat Flow(s),veh/h/ln	1714	1594	0	0	932	1535	1753	0	1422			
Q Serve(g_s), s	16.7	18.7	0.0	0.0	17.5	42.9	15.7	0.0	20.4			
Cycle Q Clear(g_c), s	16.7	18.7	0.0	0.0	17.5	42.9	15.7	0.0	20.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	971	2205	0	0	684	563	789	0	320			
V/C Ratio(X)	0.52	0.27	0.00	0.00	0.51	0.98	0.64	0.00	0.80			
Avail Cap(c_a), veh/h	971	2205	0	0	684	563	789	0	320			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.88	0.88	0.00	0.00	0.43	0.43	1.00	0.00	1.00			
Uniform Delay (d), s/veh	46.6	21.5	0.0	0.0	29.6	37.7	42.1	0.0	44.0			
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.0	1.2	21.4	4.0	0.0	18.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.7	8.0	0.0	0.0	3.9	18.5	7.0	0.0	8.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.0	21.8	0.0	0.0	30.8	59.1	46.1	0.0	62.6			
LnGrp LOS	D	C	A	A	C	E	D	A	E			
Approach Vol, veh/h		1105			903			763				
Approach Delay, s/veh		33.2			48.1			51.7				
Approach LOS		C			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		88.0			39.0	49.0		32.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		83.0			34.0	44.0		27.0				
Max Q Clear Time (g_c+I1), s		20.7			18.7	44.9		22.4				
Green Ext Time (p_c), s		2.6			1.6	0.0		1.0				

Intersection Summary	
HCM 6th Ctrl Delay	43.2
HCM 6th LOS	D

Notes

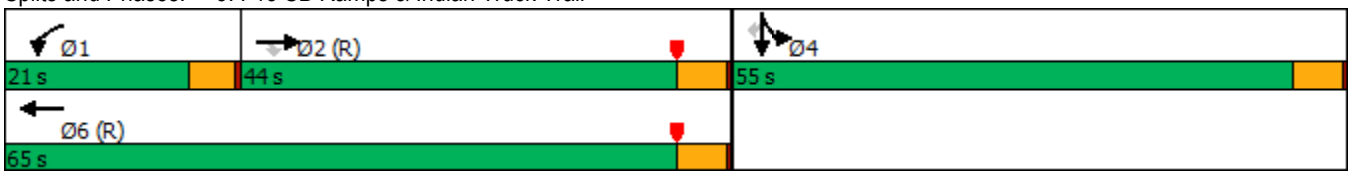
User approved volume balancing among the lanes for turning movement.

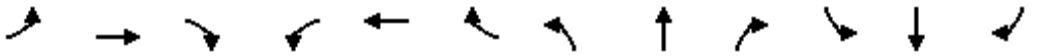
Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	775	220	83	588	232	8	698
Future Volume (vph)	775	220	83	588	232	8	698
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	9.5	25.0	10.0	10.0	10.0
Total Split (s)	44.0	44.0	21.0	65.0	55.0	55.0	55.0
Total Split (%)	36.7%	36.7%	17.5%	54.2%	45.8%	45.8%	45.8%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	4.5	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 3: I-15 SB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	775	220	83	588	0	0	0	0	232	8	698
Future Volume (veh/h)	0	775	220	83	588	0	0	0	0	232	8	698
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1870	1278	1870	0				1663	1900	1781
Adj Flow Rate, veh/h	0	852	163	91	646	0				255	0	628
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	4	2	42	2	0				16	0	8
Cap, veh/h	0	1893	597	104	1777	0				660	0	1258
Arrive On Green	0.00	0.38	0.38	0.17	1.00	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	5191	1585	1217	3647	0				1584	0	3019
Grp Volume(v), veh/h	0	852	163	91	646	0				255	0	628
Grp Sat Flow(s),veh/h/ln	0	1675	1585	1217	1777	0				1584	0	1510
Q Serve(g_s), s	0.0	15.3	8.6	8.7	0.0	0.0				13.4	0.0	18.4
Cycle Q Clear(g_c), s	0.0	15.3	8.6	8.7	0.0	0.0				13.4	0.0	18.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1893	597	104	1777	0				660	0	1258
V/C Ratio(X)	0.00	0.45	0.27	0.87	0.36	0.00				0.39	0.00	0.50
Avail Cap(c_a), veh/h	0	1893	597	167	1777	0				660	0	1258
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.80	0.80	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.1	26.0	49.0	0.0	0.0				24.3	0.0	25.8
Incr Delay (d2), s/veh	0.0	0.1	0.1	19.8	0.5	0.0				1.7	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.9	3.1	3.0	0.1	0.0				5.1	0.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	28.1	26.1	68.8	0.5	0.0				26.0	0.0	27.2
LnGrp LOS	A	C	C	E	A	A				C	A	C
Approach Vol, veh/h		1015			737						883	
Approach Delay, s/veh		27.8			8.9						26.9	
Approach LOS		C			A						C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	14.8	50.2		55.0		65.0						
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0						
Max Green Setting (Gmax), s	16.5	39.0		50.0		60.0						
Max Q Clear Time (g_c+I1), s	10.7	17.3		20.4		2.0						
Green Ext Time (p_c), s	0.1	3.9		2.6		2.7						

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

Notes

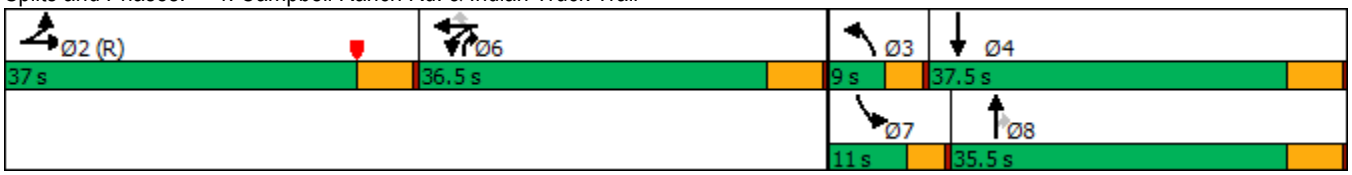
User approved volume balancing among the lanes for turning movement.

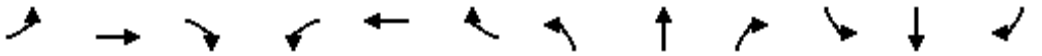
Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	848	0	438	399	636	358	416		
Future Volume (vph)	848	0	438	399	636	358	416		
Turn Type	Split	NA	Perm	NA	pm+ov	Prot	NA		
Protected Phases	6	6		8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	6	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	36.5	35.5	36.5	9.0	10.5	36.5	9.0
Total Split (s)	36.5	36.5	36.5	35.5	36.5	11.0	37.5	37.0	9.0
Total Split (%)	30.4%	30.4%	30.4%	29.6%	30.4%	9.2%	31.3%	31%	8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5		
Lead/Lag				Lag		Lead	Lag		Lead
Lead-Lag Optimize?				Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Max	None	None	Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	848	0	438	0	399	636	358	416	0
Future Volume (veh/h)	0	0	0	848	0	438	0	399	636	358	416	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	1063	0	280	0	438	566	393	457	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	499	0	935	0	410	2	902	819	205	1233	0
Arrive On Green	0.00	0.00	0.00	0.26	0.00	0.26	0.00	0.25	0.25	0.06	0.34	0.00
Sat Flow, veh/h	0	1900	0	3619	0	1588	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	1063	0	280	0	438	566	393	457	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1588	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	31.0	0.0	19.1	0.0	12.4	30.0	7.0	11.5	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	31.0	0.0	19.1	0.0	12.4	30.0	7.0	11.5	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	499	0	935	0	410	2	903	819	205	1233	0
V/C Ratio(X)	0.00	0.00	0.00	1.14	0.00	0.68	0.00	0.49	0.69	1.92	0.37	0.00
Avail Cap(c_a), veh/h	0	499	0	935	0	410	75	903	819	205	1233	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.91	0.00	0.91	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	44.5	0.0	40.1	0.0	38.4	21.9	56.5	29.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	73.8	0.0	4.2	0.0	1.9	4.8	431.2	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	22.9	0.0	7.7	0.0	5.6	17.9	15.3	4.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	118.3	0.0	44.3	0.0	40.3	26.6	487.7	30.6	0.0
LnGrp LOS	A	A	A	F	A	D	A	D	C	F	C	A
Approach Vol, veh/h		0			1343			1004			850	
Approach Delay, s/veh		0.0			102.9			32.6			242.0	
Approach LOS					F			C			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		37.0	0.0	46.5		36.5	11.0	35.5				
Change Period (Y+Rc), s		5.5	4.0	5.5		5.5	4.0	5.5				
Max Green Setting (Gmax), s		31.5	5.0	32.0		31.0	7.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	13.5		33.0	9.0	32.0				
Green Ext Time (p_c), s		0.0	0.0	2.5		0.0	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		117.8
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	13.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	125	127	179	53	259	221
Future Vol, veh/h	125	127	179	53	259	221
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	132	134	188	56	273	233

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	266	0	631	199
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	432	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1310	-	448	847
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	659	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1310	-	382	847
Mov Cap-2 Maneuver	-	-	-	-	382	-
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	561	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.3	23.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	382	847	-	-	1310	-
HCM Lane V/C Ratio	0.714	0.275	-	-	0.144	-
HCM Control Delay (s)	34.7	10.9	-	-	8.2	0
HCM Lane LOS	D	B	-	-	A	A
HCM 95th %tile Q(veh)	5.4	1.1	-	-	0.5	-

Intersection	
Intersection Delay, s/veh	23.9
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	424	221	444	261	43
Future Vol, veh/h	37	424	221	444	261	43
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	38	433	226	453	266	44
Number of Lanes	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	24.3	26.7	17
HCM LOS	C	D	C

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	100%	0%	8%	0%
Vol Thru, %	0%	100%	0%	86%
Vol Right, %	0%	0%	92%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	221	444	461	304
LT Vol	221	0	37	0
Through Vol	0	444	0	261
RT Vol	0	0	424	43
Lane Flow Rate	226	453	470	310
Geometry Grp	7	7	2	5
Degree of Util (X)	0.439	0.818	0.752	0.548
Departure Headway (Hd)	7.01	6.5	5.755	6.358
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	510	553	626	565
Service Time	4.798	4.287	3.83	4.447
HCM Lane V/C Ratio	0.443	0.819	0.751	0.549
HCM Control Delay	15.2	32.4	24.3	17
HCM Lane LOS	C	D	C	C
HCM 95th-tile Q	2.2	8.1	6.7	3.3

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↱		↰	↱	
Traffic Vol, veh/h	26	0	9	16	0	344	14	295	6	129	513	43
Future Vol, veh/h	26	0	9	16	0	344	14	295	6	129	513	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	27	0	9	17	0	362	15	311	6	136	540	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1360	1182	563	1183	1201	314	585	0	0	317	0	0
Stage 1	835	835	-	344	344	-	-	-	-	-	-	-
Stage 2	525	347	-	839	857	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	127	191	530	168	186	731	1000	-	-	1255	-	-
Stage 1	365	386	-	676	640	-	-	-	-	-	-	-
Stage 2	540	638	-	363	377	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	58	168	530	150	163	731	1000	-	-	1255	-	-
Mov Cap-2 Maneuver	58	168	-	278	293	-	-	-	-	-	-	-
Stage 1	360	344	-	666	630	-	-	-	-	-	-	-
Stage 2	268	628	-	318	336	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	92.5	16.7	0.4	1.5
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1000	-	-	75	682	1255	-	-
HCM Lane V/C Ratio	0.015	-	-	0.491	0.556	0.108	-	-
HCM Control Delay (s)	8.7	-	-	92.5	16.7	8.2	-	-
HCM Lane LOS	A	-	-	F	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2	3.4	0.4	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	65	0	1	139	26	0	0	1	66	0	16
Future Vol, veh/h	6	65	0	1	139	26	0	0	1	66	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	74	0	1	158	30	0	0	1	75	0	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	188	0	0	74	0	0	272	278	74	264	263	173
Stage 1	-	-	-	-	-	-	88	88	-	175	175	-
Stage 2	-	-	-	-	-	-	184	190	-	89	88	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1398	-	-	1538	-	-	685	633	993	693	646	876
Stage 1	-	-	-	-	-	-	925	826	-	832	758	-
Stage 2	-	-	-	-	-	-	822	747	-	923	826	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1398	-	-	1538	-	-	668	629	993	689	642	876
Mov Cap-2 Maneuver	-	-	-	-	-	-	668	629	-	689	642	-
Stage 1	-	-	-	-	-	-	920	822	-	828	757	-
Stage 2	-	-	-	-	-	-	804	746	-	917	822	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	8.6	10.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	993	1398	-	-	1538	-	-	719
HCM Lane V/C Ratio	0.001	0.005	-	-	0.001	-	-	0.13
HCM Control Delay (s)	8.6	7.6	0	-	7.3	0	-	10.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	119	125	192	265	26
Future Vol, veh/h	12	119	125	192	265	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	140	147	226	312	31

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	848	328	343	0	-	0
Stage 1	328	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	334	718	1227	-	-	-
Stage 1	734	-	-	-	-	-
Stage 2	601	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	294	718	1227	-	-	-
Mov Cap-2 Maneuver	418	-	-	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	601	-	-	-	-	-

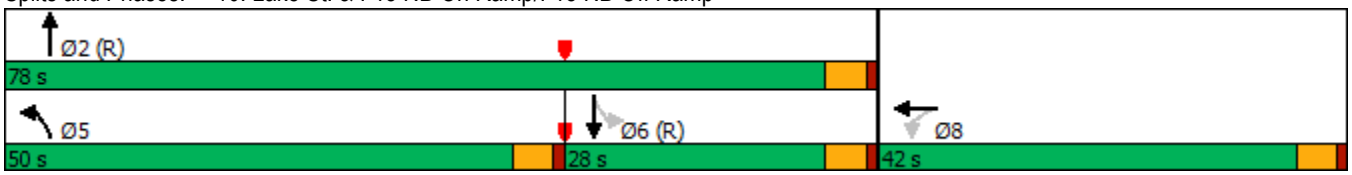
Approach	EB	NB	SB
HCM Control Delay, s	11.9	3.3	0
HCM LOS	B		

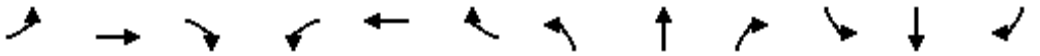
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1227	-	674	-	-
HCM Lane V/C Ratio	0.12	-	0.229	-	-
HCM Control Delay (s)	8.3	-	11.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.9	-	-

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	296	3	429	10	10
Future Volume (vph)	296	3	429	10	10
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	42.0	42.0	50.0	78.0	28.0
Total Split (%)	35.0%	35.0%	41.7%	65.0%	23.3%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	296	3	7	429	10	0	0	10	6
Future Volume (veh/h)	0	0	0	296	3	7	429	10	0	0	10	6
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				312	3	7	452	11	0	0	11	6
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				348	97	227	482	1386	0	0	491	268
Arrive On Green				0.19	0.19	0.19	0.27	0.73	0.00	0.00	0.42	0.42
Sat Flow, veh/h				1810	506	1181	1810	1900	0	0	1156	631
Grp Volume(v), veh/h				312	0	10	452	11	0	0	0	17
Grp Sat Flow(s),veh/h/ln				1810	0	1687	1810	1900	0	0	0	1787
Q Serve(g_s), s				20.2	0.0	0.6	29.3	0.2	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s				20.2	0.0	0.6	29.3	0.2	0.0	0.0	0.0	0.7
Prop In Lane				1.00		0.70	1.00		0.00	0.00		0.35
Lane Grp Cap(c), veh/h				348	0	324	482	1386	0	0	0	759
V/C Ratio(X)				0.90	0.00	0.03	0.94	0.01	0.00	0.00	0.00	0.02
Avail Cap(c_a), veh/h				562	0	524	685	1386	0	0	0	759
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.69	0.69	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				47.3	0.0	39.4	43.1	4.4	0.0	0.0	0.0	20.0
Incr Delay (d2), s/veh				11.0	0.0	0.0	10.6	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				10.1	0.0	0.2	14.4	0.1	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				58.3	0.0	39.4	53.7	4.4	0.0	0.0	0.0	20.1
LnGrp LOS				E	A	D	D	A	A	A	A	C
Approach Vol, veh/h					322			463			17	
Approach Delay, s/veh					57.7			52.5			20.1	
Approach LOS					E			D			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	92.2		36.5	55.7		27.8						
Change Period (Y+Rc), s	* 4.7		4.6	* 4.7		4.7						
Max Green Setting (Gmax), s	* 73		45.4	* 23		37.3						
Max Q Clear Time (g_c+I1), s	2.2		31.3	2.7		22.2						
Green Ext Time (p_c), s	0.0		0.6	0.0		0.9						

Intersection Summary		
HCM 6th Ctrl Delay	53.9	
HCM 6th LOS	D	

Notes

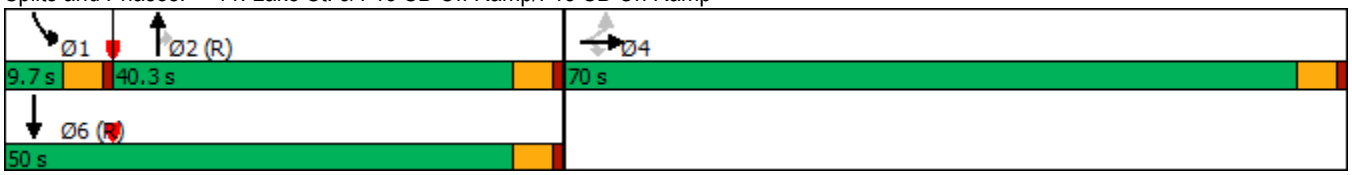
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

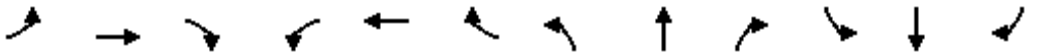
Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	981	437	332	3	303
Future Volume (vph)	6	981	437	332	3	303
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	70.0	70.0	40.3	40.3	9.7	50.0
Total Split (%)	58.3%	58.3%	33.6%	33.6%	8.1%	41.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	6	981	0	0	0	0	437	332	3	303	0
Future Volume (veh/h)	2	6	981	0	0	0	0	437	332	3	303	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	2	6	1033				0	460	349	3	319	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	255	766	876				0	637	540	7	717	0
Arrive On Green	0.54	0.54	0.54				0.00	0.34	0.34	0.00	0.12	0.00
Sat Flow, veh/h	469	1407	1610				0	1900	1610	1810	1900	0
Grp Volume(v), veh/h	8	0	1033				0	460	349	3	319	0
Grp Sat Flow(s),veh/h/ln	1877	0	1610				0	1900	1610	1810	1900	0
Q Serve(g_s), s	0.2	0.0	65.3				0.0	25.5	22.1	0.2	18.7	0.0
Cycle Q Clear(g_c), s	0.2	0.0	65.3				0.0	25.5	22.1	0.2	18.7	0.0
Prop In Lane	0.25		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1021	0	876				0	637	540	7	717	0
V/C Ratio(X)	0.01	0.00	1.18				0.00	0.72	0.65	0.42	0.44	0.00
Avail Cap(c_a), veh/h	1021	0	876				0	637	540	77	717	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	0.72	0.72	0.57	0.57	0.00
Uniform Delay (d), s/veh	12.5	0.0	27.3				0.0	35.0	33.9	59.8	40.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	92.3				0.0	5.1	4.3	8.0	1.1	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	0.1	0.0	46.1				0.0	12.6	9.2	0.1	9.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	0.0	119.7				0.0	40.1	38.1	67.8	42.0	0.0
LnGrp LOS	B	A	F				A	D	D	E	D	A
Approach Vol, veh/h		1041						809			322	
Approach Delay, s/veh		118.9						39.2			42.3	
Approach LOS		F						D			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.1	44.9		70.0		50.0
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	5.1	* 36		* 65		* 45
Max Q Clear Time (g_c+I1), s	2.2	27.5		67.3		20.7
Green Ext Time (p_c), s	0.0	2.7		0.0		1.9

Intersection Summary	
HCM 6th Ctrl Delay	77.8
HCM 6th LOS	E

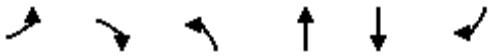
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	343	121	94	426	952
Future Volume (vph)	343	121	94	426	952
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	27.6	27.6	12.6	92.4	79.8
Total Split (%)	23.0%	23.0%	10.5%	77.0%	66.5%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 119.9
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	343	121	94	426	952	332
Future Volume (veh/h)	343	121	94	426	952	332
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	361	84	99	448	1002	324
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	345	307	121	1389	861	278
Arrive On Green	0.19	0.19	0.07	0.73	0.63	0.63
Sat Flow, veh/h	1810	1610	1810	1900	1375	445
Grp Volume(v), veh/h	361	84	99	448	0	1326
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1900	0	1820
Q Serve(g_s), s	22.9	5.3	6.5	10.0	0.0	75.1
Cycle Q Clear(g_c), s	22.9	5.3	6.5	10.0	0.0	75.1
Prop In Lane	1.00	1.00	1.00			0.24
Lane Grp Cap(c), veh/h	345	307	121	1389	0	1139
V/C Ratio(X)	1.05	0.27	0.82	0.32	0.00	1.16
Avail Cap(c_a), veh/h	345	307	121	1389	0	1139
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	0.00	1.00
Uniform Delay (d), s/veh	48.5	41.4	55.3	5.7	0.0	22.5
Incr Delay (d2), s/veh	60.8	0.5	32.6	0.1	0.0	83.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.1	5.1	4.0	3.6	0.0	55.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	109.3	41.9	87.9	5.8	0.0	106.2
LnGrp LOS	F	D	F	A	A	F
Approach Vol, veh/h	445			547	1326	
Approach Delay, s/veh	96.6			20.7	106.2	
Approach LOS	F			C	F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		92.4		27.6	12.6	79.8
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 88		* 23	8.0	* 75
Max Q Clear Time (g_c+I1), s		12.0		24.9	8.5	77.1
Green Ext Time (p_c), s		3.2		0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	84.2
HCM 6th LOS	F

Notes

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

APPENDIX 6.2:

EAPC (2025) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

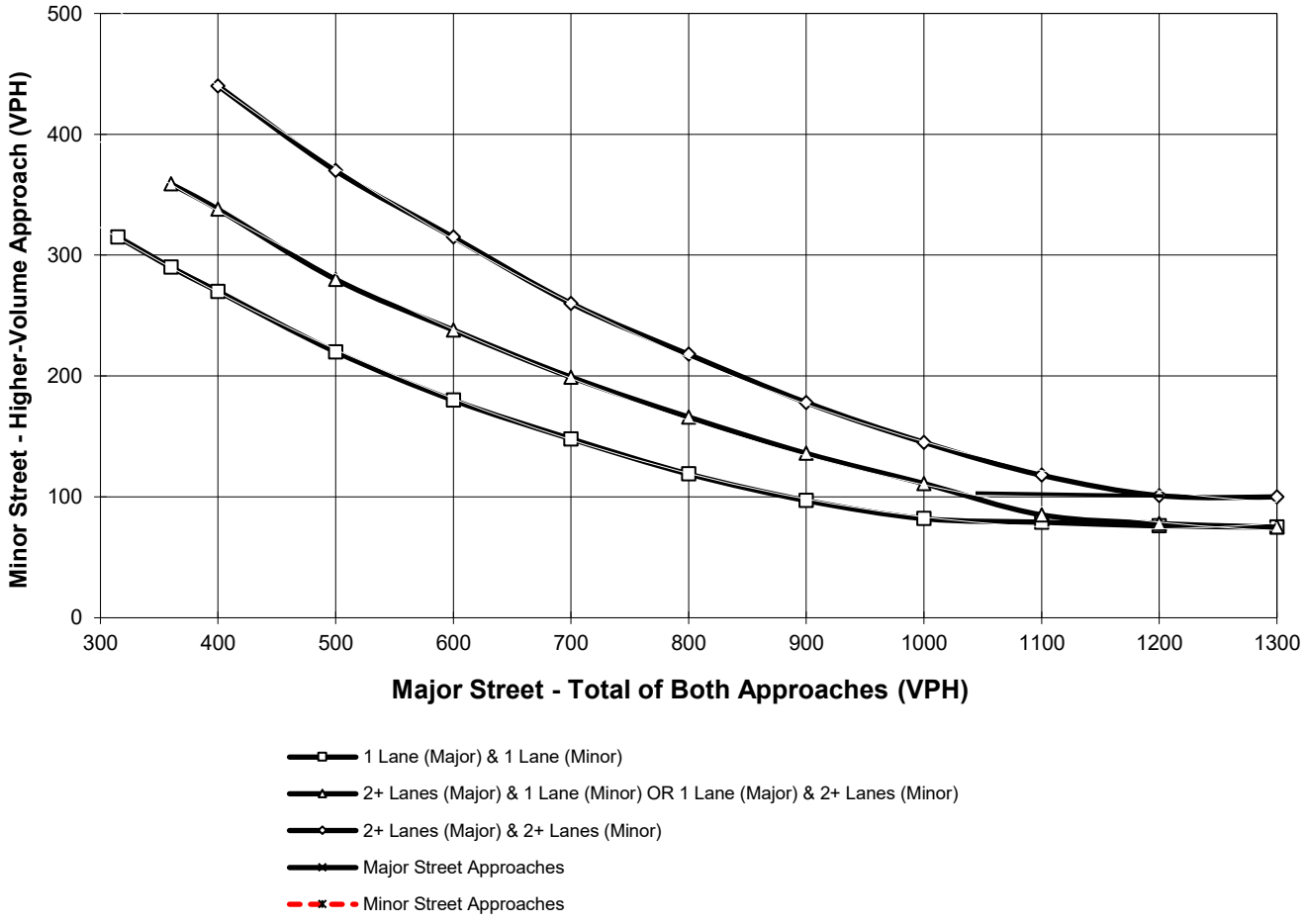
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAPC (2025) Conditions - Weekday PM Peak Hour**

Major Street Name = **Hostettler Rd.** Total of Both Approaches (VPH) = **237**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bolo Ct.** High Volume Approach (VPH) = **82**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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

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

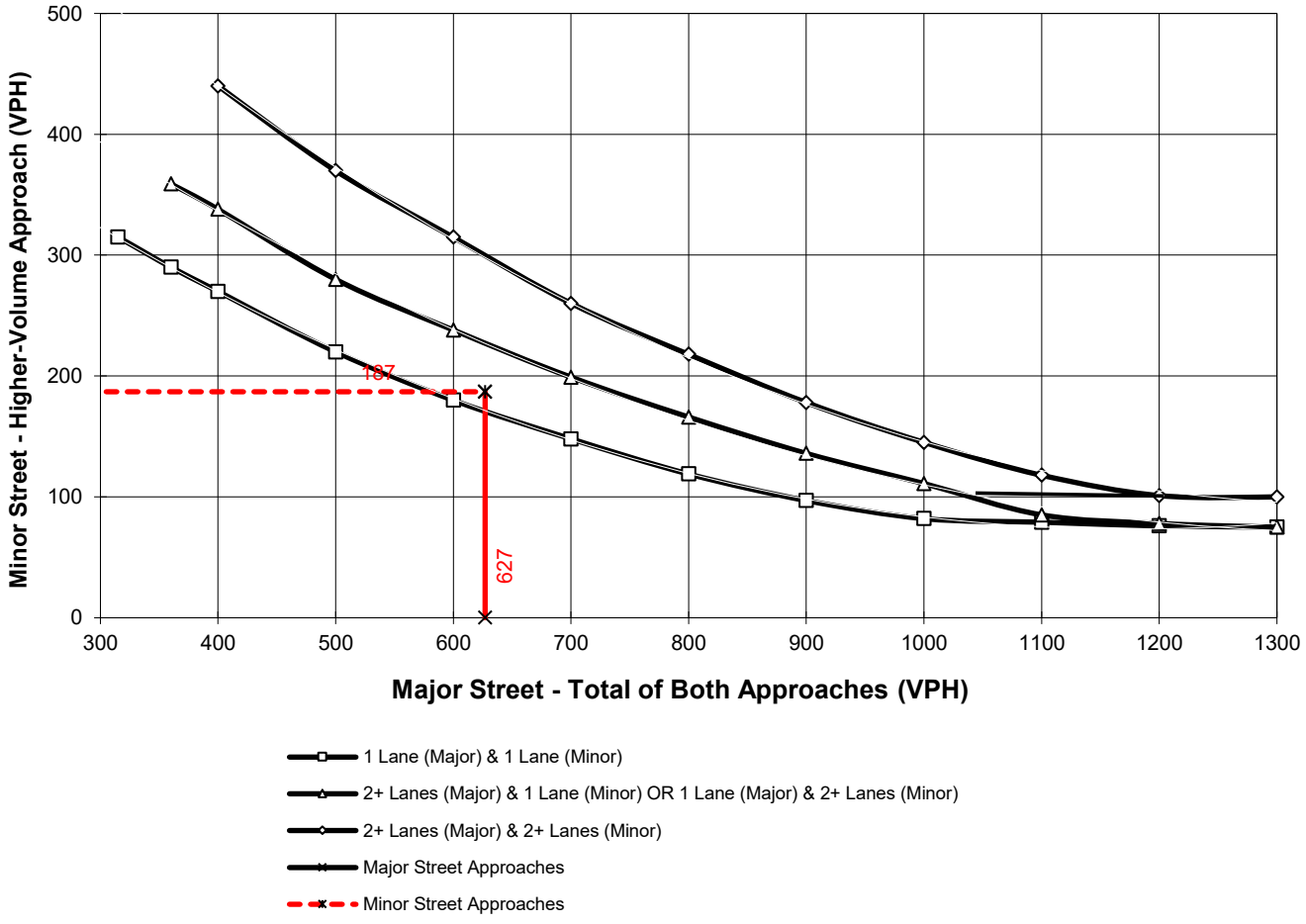
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAPC (2025) Conditions - Weekday AM Peak Hour**

Major Street Name = **Temescal Canyon Rd.** Total of Both Approaches (VPH) = **627**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Hostettler Rd.** High Volume Approach (VPH) = **187**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



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

APPENDIX 6.3:

EAPC (2025) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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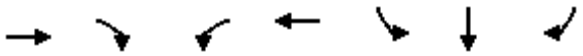
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	432	492	451	295	233	339	336
v/c Ratio	0.56	0.29	0.74	0.47	0.38	0.50	0.47
Control Delay	45.2	15.6	47.9	6.4	29.6	6.8	5.1
Queue Delay	0.0	0.0	15.1	1.2	0.0	0.0	0.0
Total Delay	45.2	15.6	63.0	7.6	29.6	6.8	5.1
Queue Length 50th (ft)	164	127	167	0	136	15	0
Queue Length 95th (ft)	m208	m165	231	67	211	95	65
Internal Link Dist (ft)		562	178			1295	
Turn Bay Length (ft)					415		415
Base Capacity (vph)	765	1700	612	632	618	682	710
Starvation Cap Reductn	0	0	149	163	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.29	0.97	0.63	0.38	0.50	0.47

Intersection Summary

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



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	614	222	203	507	310	192	190
v/c Ratio	0.28	0.27	0.83	0.21	0.82	0.40	0.39
Control Delay	17.5	2.6	79.0	16.7	62.2	8.7	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	2.6	79.0	16.7	62.2	8.7	7.7
Queue Length 50th (ft)	138	0	169	113	229	5	0
Queue Length 95th (ft)	m171	m85	m230	151	#377	69	62
Internal Link Dist (ft)	559			562		1381	
Turn Bay Length (ft)		210	270		670		500
Base Capacity (vph)	2218	827	291	2388	376	486	487
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	0.28	0.27	0.70	0.21	0.82	0.40	0.39

Intersection Summary

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

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	443	16	775	2	3
v/c Ratio	0.88	0.03	0.94	0.00	0.01
Control Delay	60.1	26.4	59.4	15.5	44.3
Queue Delay	0.0	0.0	43.3	0.0	0.0
Total Delay	60.1	26.4	102.7	15.5	44.3
Queue Length 50th (ft)	323	8	544	1	1
Queue Length 95th (ft)	438	24	#820	m2	12
Internal Link Dist (ft)		766		542	382
Turn Bay Length (ft)	790		300		
Base Capacity (vph)	576	596	863	1220	268
Starvation Cap Reductn	0	0	152	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.77	0.03	1.09	0.00	0.01

Intersection Summary

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

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	10	373	776	429	3	442
v/c Ratio	0.05	0.75	0.51	0.32	0.04	0.28
Control Delay	47.1	15.0	6.4	2.1	53.3	0.3
Queue Delay	0.0	0.0	0.4	0.0	0.0	0.0
Total Delay	47.1	15.0	6.8	2.1	53.3	0.3
Queue Length 50th (ft)	7	0	122	15	2	0
Queue Length 95th (ft)	23	90	409	77	m3	1
Internal Link Dist (ft)	813		838			542
Turn Bay Length (ft)		160		150	95	
Base Capacity (vph)	461	676	1529	1354	96	1560
Starvation Cap Reductn	0	0	286	0	0	0
Spillback Cap Reductn	0	0	257	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.55	0.62	0.32	0.03	0.28

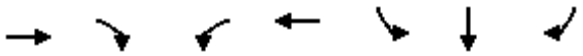
Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	502	603	349	598	279	267	258
v/c Ratio	0.52	0.28	0.43	0.66	0.75	0.75	0.52
Control Delay	44.8	4.3	24.8	7.5	57.4	48.2	8.6
Queue Delay	0.0	0.2	1.2	1.4	0.0	1.0	0.7
Total Delay	44.8	4.5	25.9	8.9	57.4	49.2	9.4
Queue Length 50th (ft)	206	33	64	0	213	170	0
Queue Length 95th (ft)	262	4	155	181	#340	#304	76
Internal Link Dist (ft)		562	178			1295	
Turn Bay Length (ft)					415		415
Base Capacity (vph)	963	2171	816	900	371	357	500
Starvation Cap Reductn	0	0	262	142	0	0	0
Spillback Cap Reductn	0	852	0	0	0	15	72
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.46	0.63	0.79	0.75	0.78	0.60

Intersection Summary

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



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	852	242	91	646	255	393	383
v/c Ratio	0.48	0.34	0.65	0.37	0.39	0.55	0.54
Control Delay	27.0	5.2	94.0	11.3	26.7	15.5	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	5.2	94.0	11.3	26.7	15.5	15.0
Queue Length 50th (ft)	217	69	72	71	136	111	104
Queue Length 95th (ft)	m212	m76	m105	64	207	215	205
Internal Link Dist (ft)	559			562		1381	
Turn Bay Length (ft)		210	270		670		500
Base Capacity (vph)	1760	715	174	1769	648	712	709
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	0.48	0.34	0.52	0.37	0.39	0.55	0.54

Intersection Summary

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

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	312	10	452	11	17
v/c Ratio	0.80	0.03	0.86	0.01	0.03
Control Delay	59.0	21.1	65.5	18.0	24.6
Queue Delay	0.0	0.0	0.1	0.0	0.0
Total Delay	59.0	21.1	65.6	18.0	24.6
Queue Length 50th (ft)	230	2	377	3	5
Queue Length 95th (ft)	308	15	484	m10	26
Internal Link Dist (ft)		766		542	382
Turn Bay Length (ft)	790		300		
Base Capacity (vph)	561	533	682	1338	680
Starvation Cap Reductn	0	0	11	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.02	0.67	0.01	0.03

Intersection Summary

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

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	8	1033	460	349	3	319
v/c Ratio	0.01	0.99	0.67	0.48	0.04	0.44
Control Delay	12.6	43.5	38.9	12.9	62.0	67.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	43.5	38.9	12.9	62.0	67.6
Queue Length 50th (ft)	3	584	290	63	2	264
Queue Length 95th (ft)	10	#942	#494	169	m5	356
Internal Link Dist (ft)	813		838			542
Turn Bay Length (ft)		160		150	95	
Base Capacity (vph)	1021	1045	686	728	76	717
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	0.01	0.99	0.67	0.48	0.04	0.44

Intersection Summary

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

APPENDIX 6.4:

EAPC (2025) CONDITIONS FREEWAY FACILITY ANALYSIS WORKSHEETS

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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 SB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	North of Indian Truck	5280	3
2	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
3	Basic	Basic	Between	2250	3
4	Merge	Merge	On-Ramp at Indian Truck	1500	3
5	Basic	Basic	Indian Truck to Lake	5280	3
6	Diverge	Diverge	Off-Ramp at Lake	1500	3
7	Basic	Basic	Between	2330	3
8	Merge	Merge	On-Ramp at Lake	1500	3
9	Basic	Basic	South of Lake	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	4014	7146	0.56	68.1	19.6	C

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.877	3976	675	7200	2100	0.55	0.32	64.0	59.9	20.7	21.0	C

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3318	7131	0.47	67.7	16.3	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.840	3709	391	7200	2000	0.52	0.20	67.1	64.4	18.4	20.7	C

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	3733	7131	0.52	67.7	18.4	C

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.943	0.877	3733	393	7200	2100	0.52	0.19	64.8	60.7	19.2	19.7	B

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3336	7131	0.47	67.7	16.4	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.917	3777	441	7200	2000	0.52	0.22	63.8	62.2	19.7	16.6	B

Segment 9: Basic

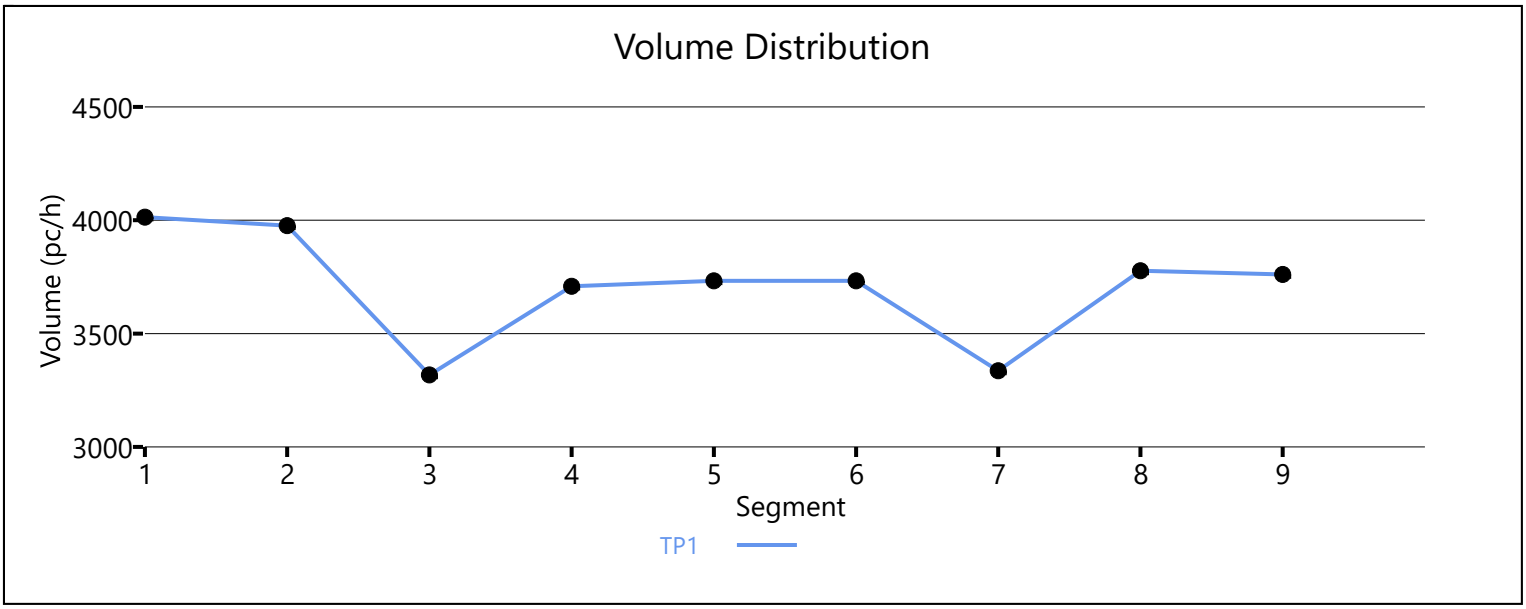
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3761	7146	0.53	68.2	18.4	C

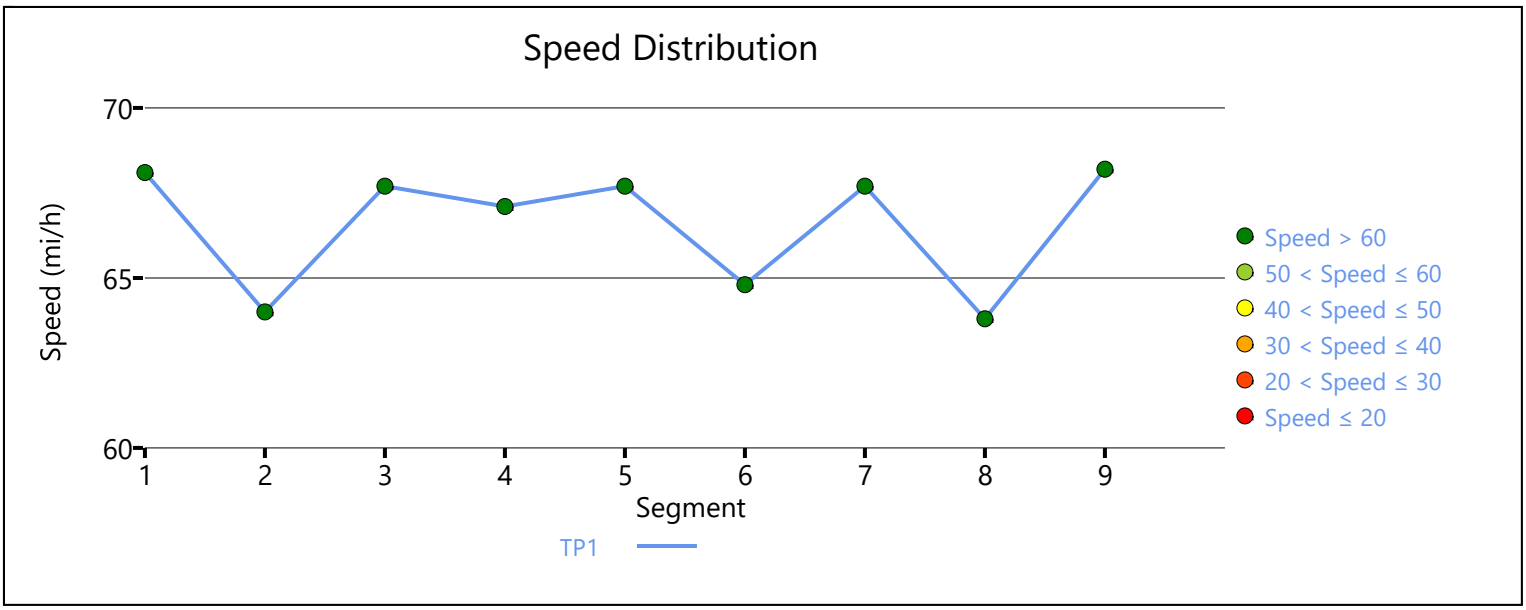
Facility Time Period Results

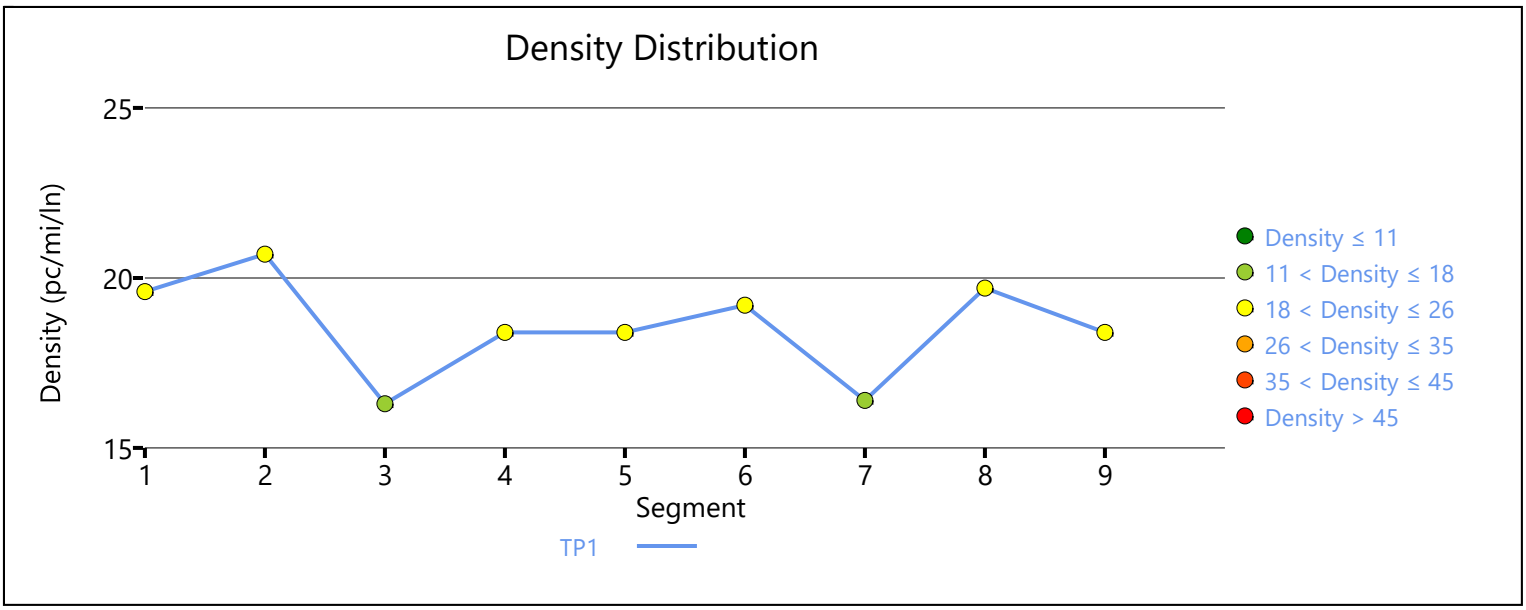
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.2	18.5	17.6	4.5	C

Facility Overall Results

Space Mean Speed, mi/h	67.2	Density, veh/mi/ln	17.6
Average Travel Time, min	4.5	Density, pc/mi/ln	18.5







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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 NB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South of Lake	5280	3
2	Diverge	Diverge	Off-Ramp at Lake	1500	3
3	Basic	Basic	Between	2370	3
4	Merge	Merge	On-Ramp at Lake	1500	3
5	Basic	Basic	Lake to Indian Truck	5280	3
6	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
7	Basic	Basic	Between	2175	3
8	Merge	Merge	On-Ramp at Indian Truck	1500	3
9	Basic	Basic	North of Indian Truck	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4001	7200	0.56	69.8	19.1	C

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.885	4001	454	7200	2100	0.56	0.22	64.7	60.5	20.6	21.2	C

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	3550	7131	0.50	67.7	17.5	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.952	4366	816	7200	2100	0.61	0.39	62.9	61.3	23.1	22.4	C

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4350	7131	0.61	67.4	21.5	C

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.952	4350	691	7200	2100	0.60	0.33	64.1	59.9	22.6	25.2	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	3673	7131	0.52	67.7	18.1	C

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.909	4589	916	7200	2100	0.64	0.44	62.0	60.1	24.7	25.5	C

Segment 9: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4573	7146	0.64	67.4	22.6	C

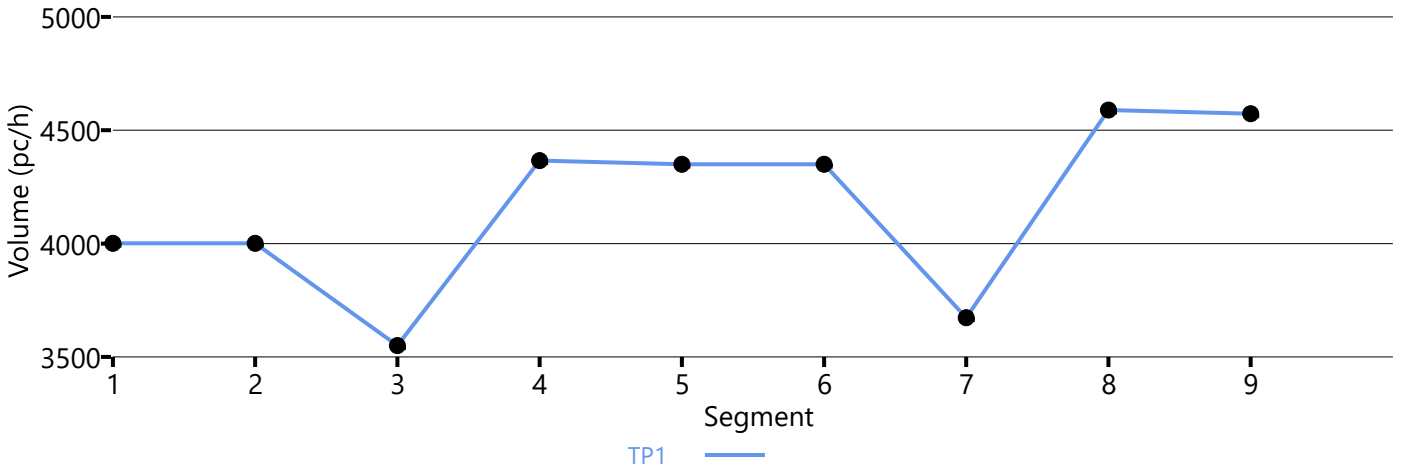
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.9	20.9	20.2	4.5	C

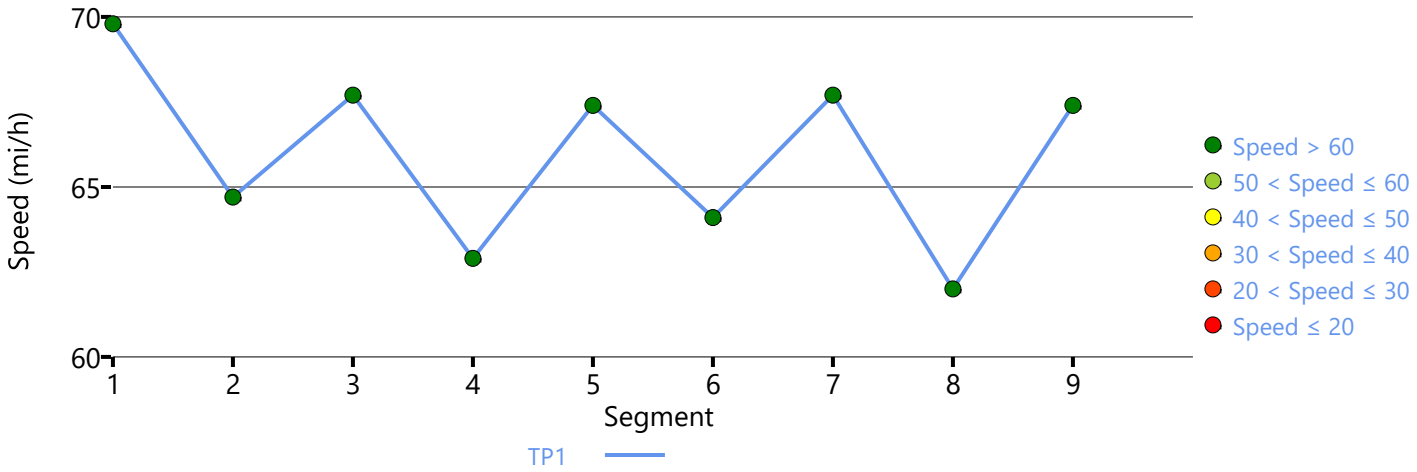
Facility Overall Results

Space Mean Speed, mi/h	66.9	Density, veh/mi/ln	20.2
Average Travel Time, min	4.5	Density, pc/mi/ln	20.9

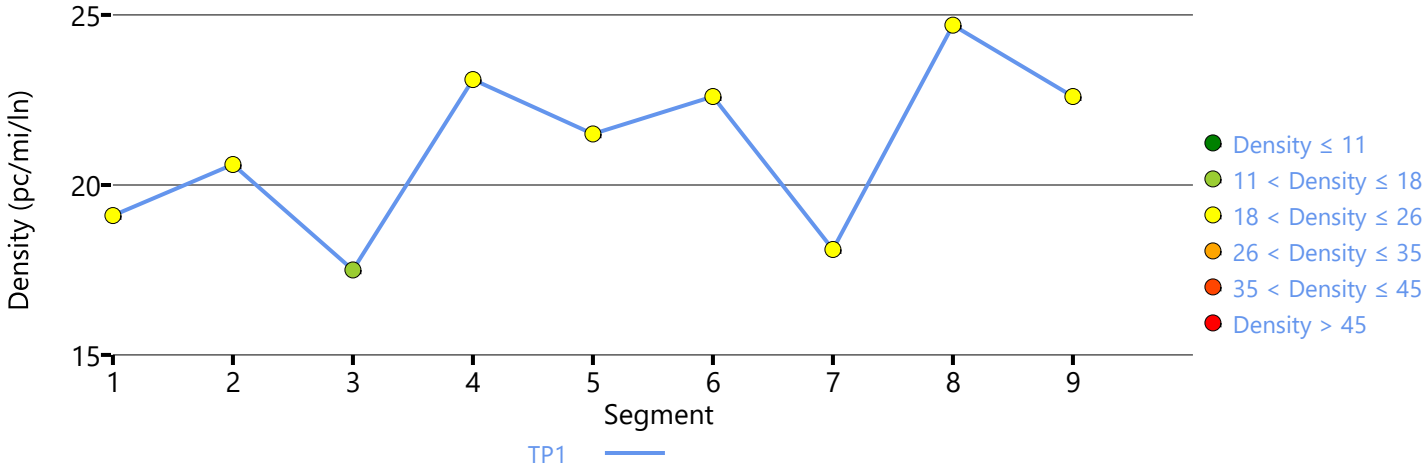
Volume Distribution



Speed Distribution



Density Distribution



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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 SB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	North of Indian Truck	5280	3
2	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
3	Basic	Basic	Between	2250	3
4	Merge	Merge	On-Ramp at Indian Truck	1500	3
5	Basic	Basic	Indian Truck to Lake	5280	3
6	Diverge	Diverge	Off-Ramp at Lake	1500	3
7	Basic	Basic	Between	2330	3
8	Merge	Merge	On-Ramp at Lake	1500	3
9	Basic	Basic	South of Lake	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	6713	7146	0.94	56.6	39.5	E

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.787	6713	1253	7200	2100	0.93	0.60	62.6	58.5	35.7	33.2	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	5472	7131	0.77	64.1	28.5	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.962	5809	337	7200	2000	0.81	0.17	64.0	61.2	30.3	30.2	D

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	5854	7131	0.82	62.2	31.4	D

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.990	0.962	5854	1086	7200	2100	0.81	0.52	63.1	58.9	30.9	30.1	D

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	4751	7131	0.67	66.6	23.8	C

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.935	5113	362	7200	2000	0.71	0.18	62.2	60.6	27.4	22.8	C

Segment 9: Basic

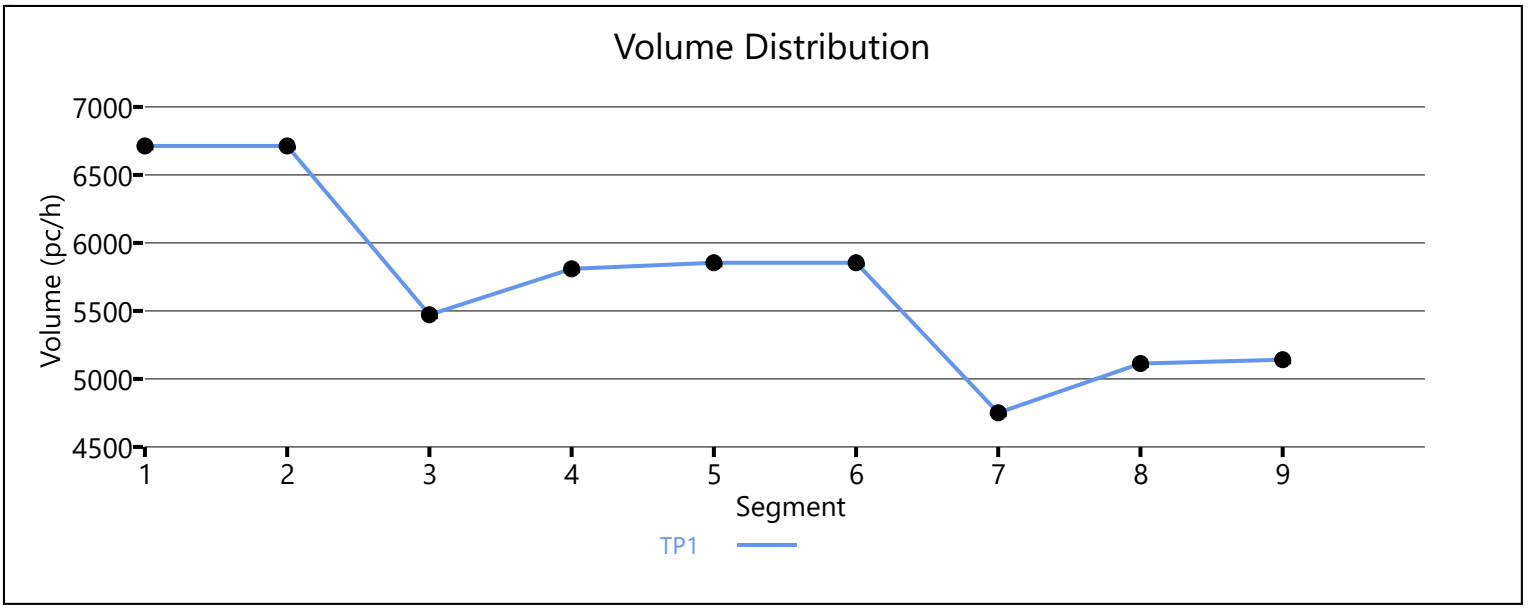
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	5141	7146	0.72	65.8	26.0	C

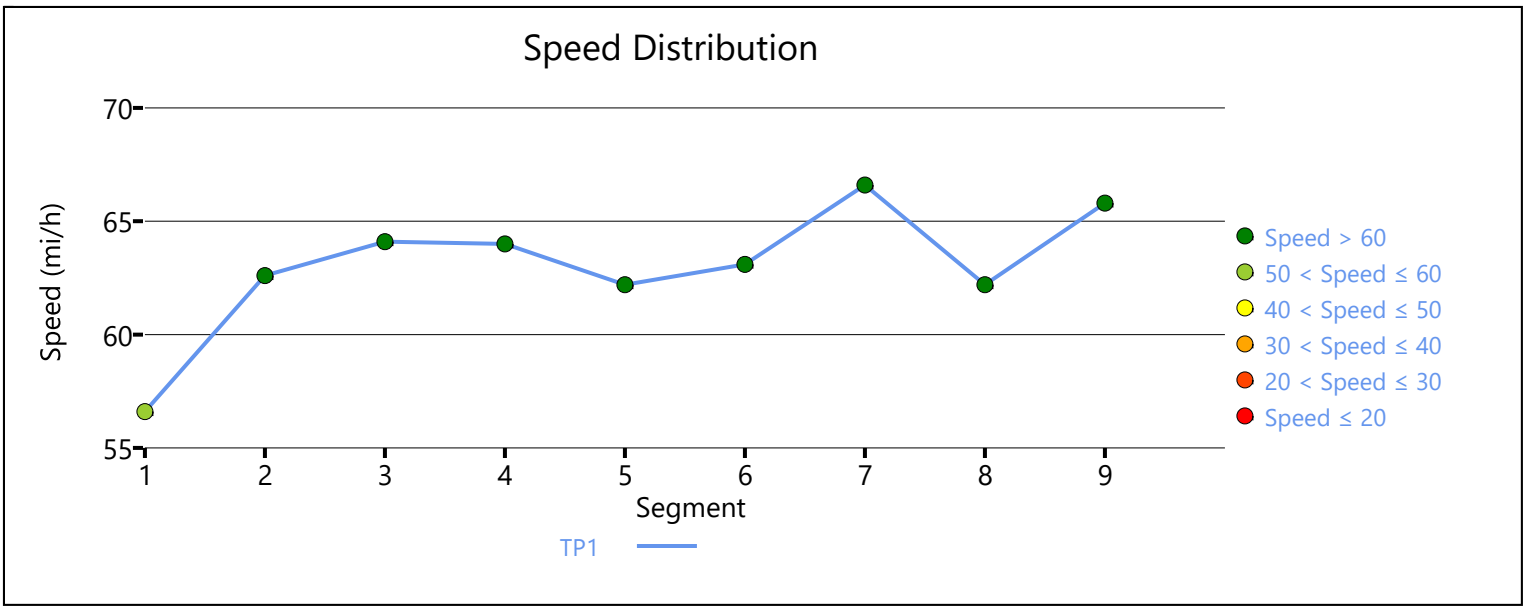
Facility Time Period Results

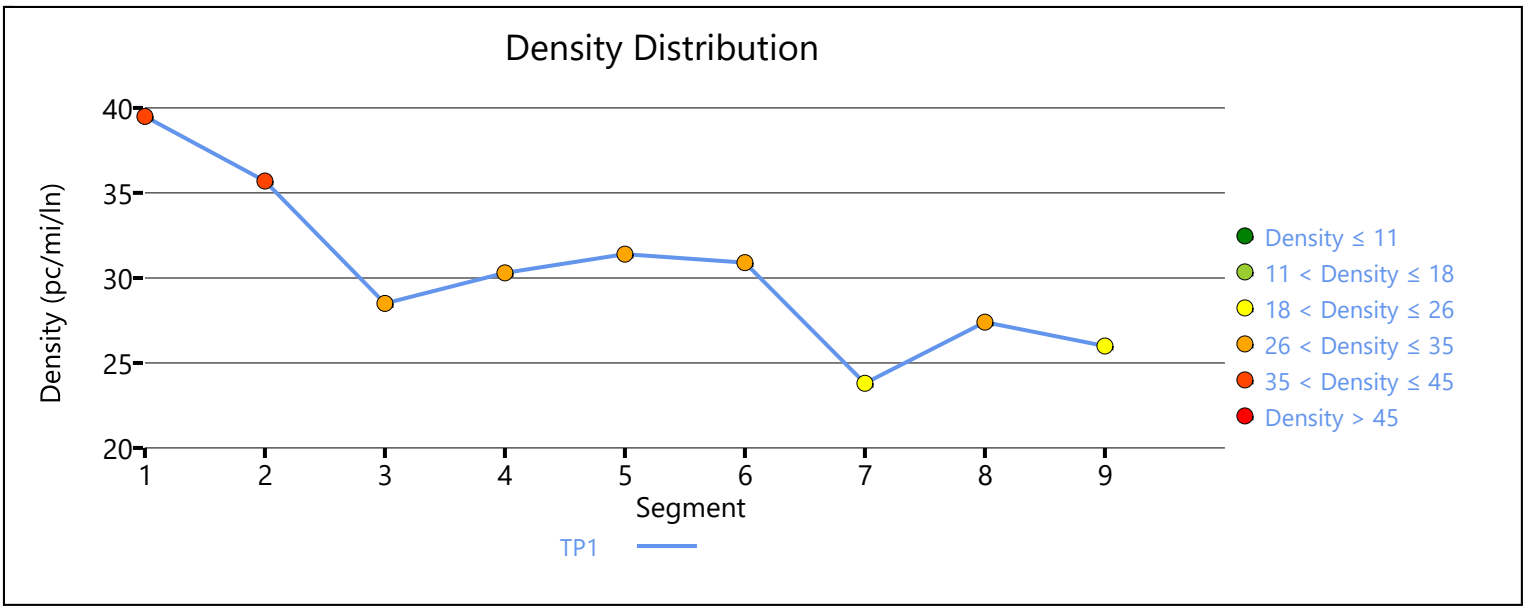
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	62.0	31.0	30.4	4.8	D

Facility Overall Results

Space Mean Speed, mi/h	62.0	Density, veh/mi/ln	30.4
Average Travel Time, min	4.8	Density, pc/mi/ln	31.0







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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	EAPC (2025) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 NB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South of Lake	5280	3
2	Diverge	Diverge	Off-Ramp at Lake	1500	3
3	Basic	Basic	Between	2370	3
4	Merge	Merge	On-Ramp at Lake	1500	3
5	Basic	Basic	Lake to Indian Truck	5280	3
6	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
7	Basic	Basic	Between	2175	3
8	Merge	Merge	On-Ramp at Indian Truck	1500	3
9	Basic	Basic	North of Indian Truck	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3438	7146	0.48	68.2	16.8	B

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.952	3438	331	7200	2100	0.48	0.16	64.9	60.8	17.7	18.2	B

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3111	7131	0.44	67.7	15.3	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.943	3595	484	7200	2100	0.50	0.23	63.9	62.2	18.8	17.9	B

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3623	7131	0.51	67.7	17.8	B

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.971	3585	793	7200	2100	0.50	0.38	63.7	59.7	18.8	21.8	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	2814	7131	0.39	67.7	13.9	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.943	3895	1081	7200	2100	0.54	0.51	62.7	60.8	20.7	22.8	C

Segment 9: Basic

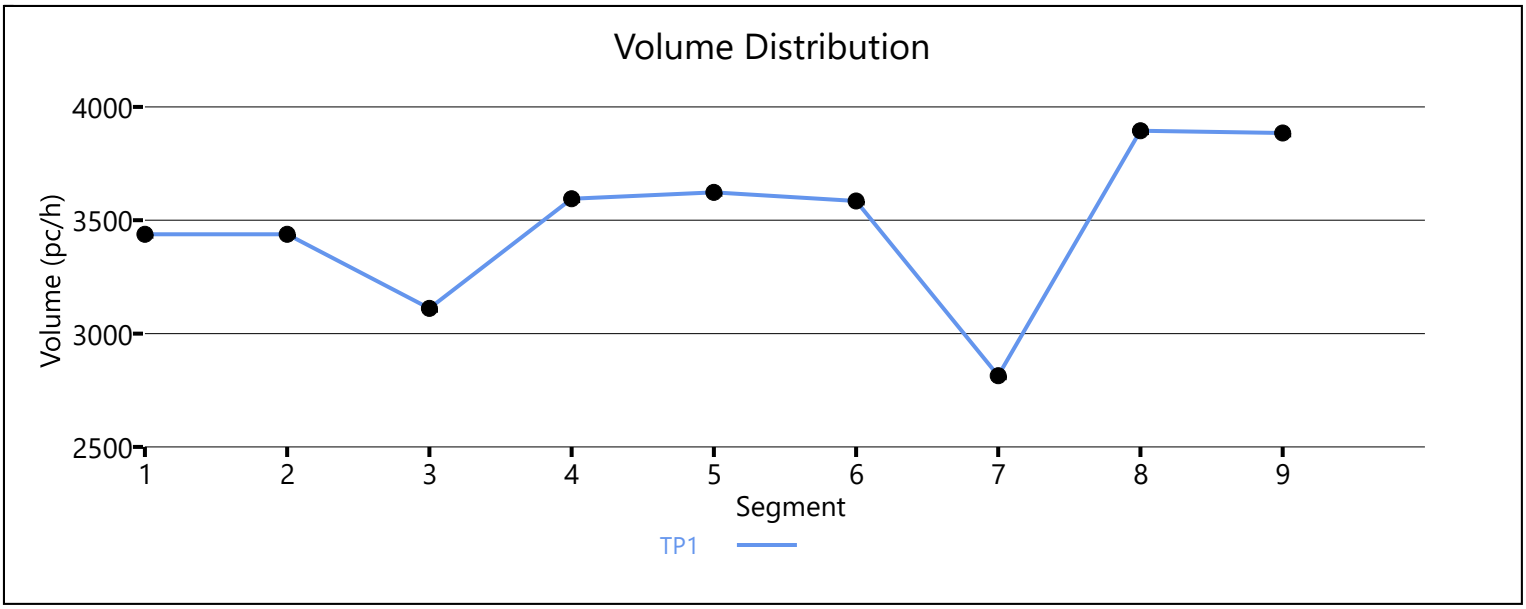
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3885	7146	0.54	68.2	19.0	C

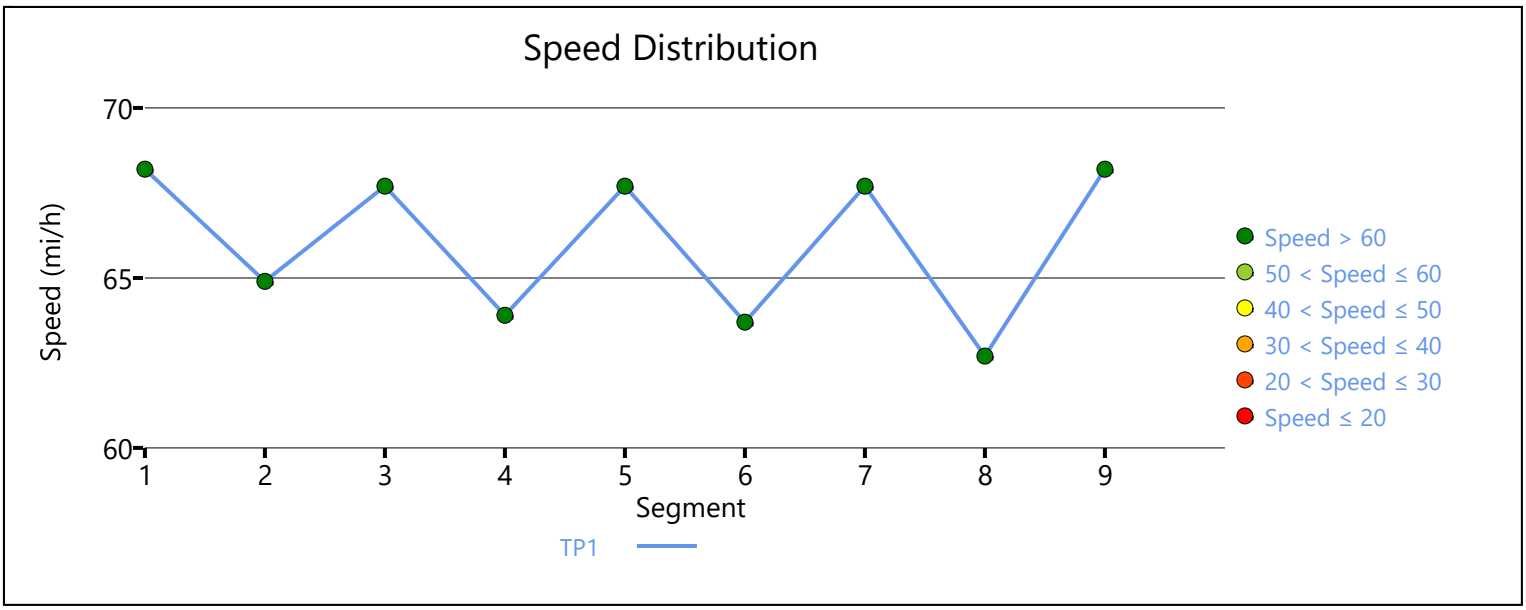
Facility Time Period Results

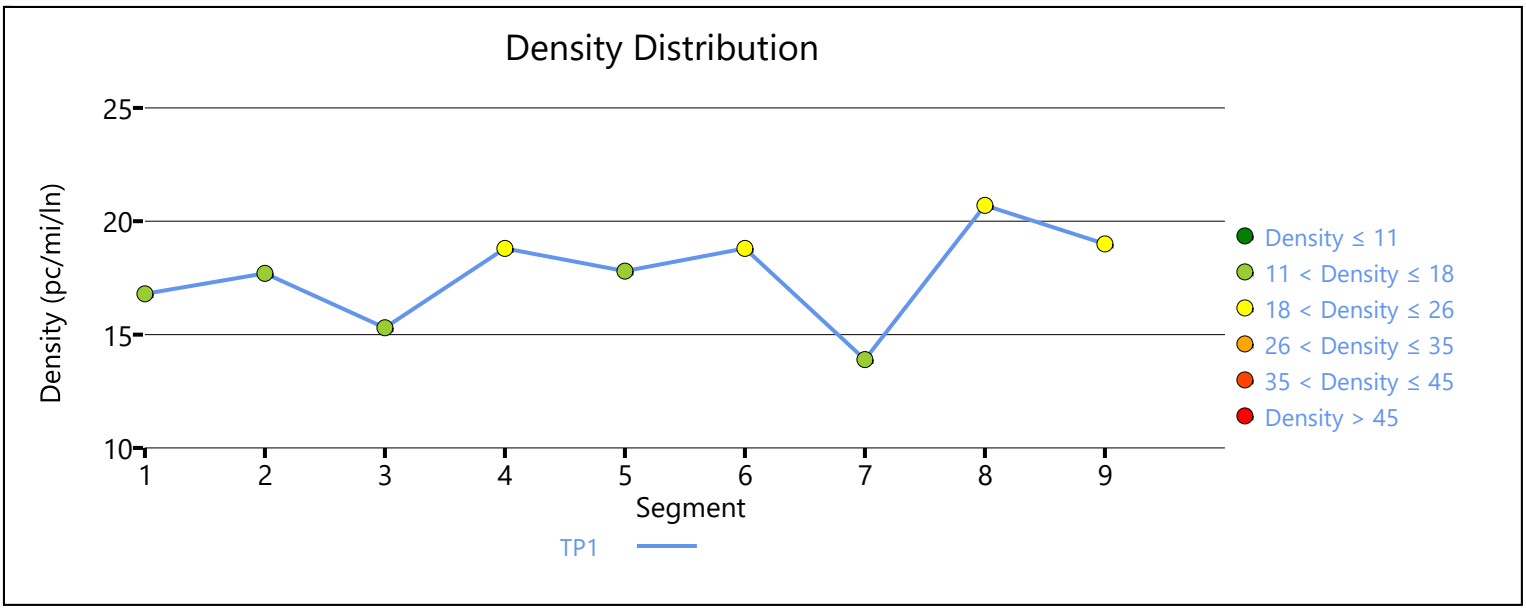
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.9	17.6	16.8	4.5	B

Facility Overall Results

Space Mean Speed, mi/h	66.9	Density, veh/mi/ln	16.8
Average Travel Time, min	4.5	Density, pc/mi/ln	17.6







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APPENDIX 6.5:

EAPC (2025) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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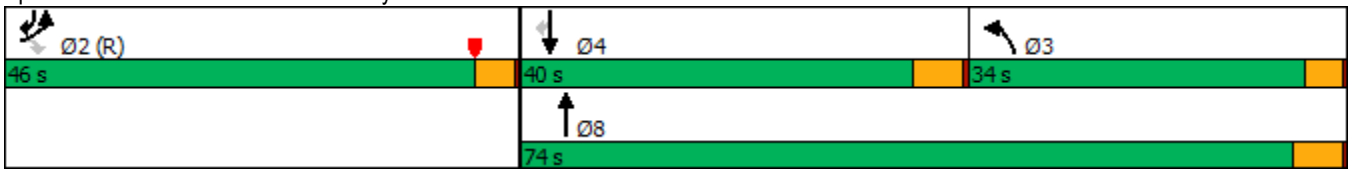
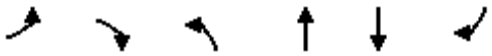
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	724	312	257	162	37	422
Future Volume (vph)	724	312	257	162	37	422
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov
Protected Phases	2		3	8	4	2
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	20.0
Total Split (s)	46.0	46.0	34.0	74.0	40.0	46.0
Total Split (%)	38.3%	38.3%	28.3%	61.7%	33.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	C-Max	C-Max	None	None	None	C-Max
Act Effct Green (s)	72.9	72.9	23.6	38.1	12.5	85.2
Actuated g/C Ratio	0.61	0.61	0.20	0.32	0.10	0.71
v/c Ratio	0.37	0.32	0.79	0.29	0.21	0.39
Control Delay	15.7	2.9	62.2	29.1	47.0	3.8
Queue Delay	0.4	0.4	0.0	0.0	0.0	0.1
Total Delay	16.1	3.3	62.2	29.1	47.0	3.8
LOS	B	A	E	C	D	A
Approach Delay	12.3			49.4	7.3	
Approach LOS	B			D	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBL and 6:, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 19.2	Intersection LOS: B
Intersection Capacity Utilization 49.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	724	312	257	162	37	422
Future Volume (veh/h)	724	312	257	162	37	422
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	787	225	279	176	40	323
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2114	940	311	607	204	1107
Arrive On Green	0.60	0.60	0.17	0.32	0.11	0.11
Sat Flow, veh/h	3510	1562	1791	1900	1900	1547
Grp Volume(v), veh/h	787	225	279	176	40	323
Grp Sat Flow(s),veh/h/ln	1755	1562	1791	1881	1900	1547
Q Serve(g_s), s	13.8	8.0	18.3	8.4	2.3	9.2
Cycle Q Clear(g_c), s	13.8	8.0	18.3	8.4	2.3	9.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	2114	940	311	607	204	1107
V/C Ratio(X)	0.37	0.24	0.90	0.29	0.20	0.29
Avail Cap(c_a), veh/h	2114	940	448	1082	554	1392
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.2	11.1	48.5	30.3	48.8	6.4
Incr Delay (d2), s/veh	0.5	0.6	15.4	0.2	0.3	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	5.1	0.1	9.3	3.8	1.1	9.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.7	11.7	63.9	30.5	49.2	6.5
LnGrp LOS	B	B	E	C	D	A
Approach Vol, veh/h	1012			455	363	
Approach Delay, s/veh	12.5			51.0	11.2	
Approach LOS	B			D	B	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	76.2	25.8	17.9	43.8
Change Period (Y+Rc), s	4.0	5.0	* 5	5.0
Max Green Setting (Gmax), s	42.0	30.0	* 35	69.0
Max Q Clear Time (g_c+I1), s	15.8	20.3	11.2	10.4
Green Ext Time (p_c), s	3.8	0.6	0.9	0.8

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

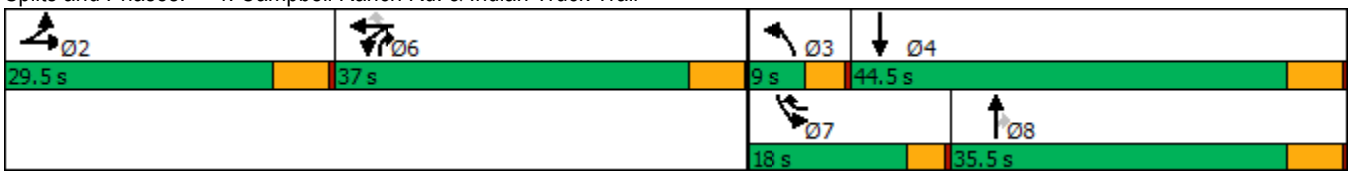
Notes

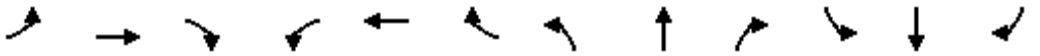
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	486	0	308	427	511	250	340		
Future Volume (vph)	486	0	308	427	511	250	340		
Turn Type	Split	NA	pm+ov	NA	pm+ov	Prot	NA		
Protected Phases	6	6	7	8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	7	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	9.0	35.5	36.5	9.0	10.5	27.5	9.0
Total Split (s)	37.0	37.0	18.0	35.5	37.0	18.0	44.5	29.5	9.0
Total Split (%)	30.8%	30.8%	15.0%	29.6%	30.8%	15.0%	37.1%	25%	8%
Yellow Time (s)	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	4.0	5.5	5.5	4.0	5.5		
Lead/Lag			Lead	Lag		Lead	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Max	None	None	Max	None	None
Act Effct Green (s)	20.5	20.5	33.7	31.3	56.7	11.6	47.1		
Actuated g/C Ratio	0.25	0.25	0.41	0.38	0.68	0.14	0.57		
v/c Ratio	0.62	0.62	0.25	0.34	0.43	0.56	0.18		
Control Delay	36.1	36.1	2.4	23.0	1.7	40.7	11.9		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	36.1	36.1	2.4	23.0	1.7	40.7	11.9		
LOS	D	D	A	C	A	D	B		
Approach Delay		23.0		11.4			24.1		
Approach LOS		C		B			C		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 82.9	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 18.6	Intersection LOS: B
Intersection Capacity Utilization 46.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	486	0	308	0	427	511	250	340	0
Future Volume (veh/h)	0	0	0	486	0	308	0	427	511	250	340	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	528	0	199	0	464	365	272	370	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	3	0	744	0	1006	3	1643	1064	393	2266	0
Arrive On Green	0.00	0.00	0.00	0.21	0.00	0.21	0.00	0.46	0.46	0.11	0.63	0.00
Sat Flow, veh/h	0	1900	0	3619	0	3144	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	528	0	199	0	464	365	272	370	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1572	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	8.9	0.0	3.0	0.0	5.3	6.6	4.9	2.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	8.9	0.0	3.0	0.0	5.3	6.6	4.9	2.8	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	3	0	744	0	1006	3	1643	1064	393	2266	0
V/C Ratio(X)	0.00	0.00	0.00	0.71	0.00	0.20	0.00	0.28	0.34	0.69	0.16	0.00
Avail Cap(c_a), veh/h	0	692	0	1729	0	1863	137	1643	1064	746	2266	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	24.4	0.0	16.4	0.0	11.2	4.9	28.2	5.1	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	0.1	0.0	0.4	0.9	2.2	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	3.5	0.0	1.0	0.0	1.8	3.3	2.0	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	25.6	0.0	16.5	0.0	11.7	5.8	30.4	5.2	0.0
LnGrp LOS	A	A	A	C	A	B	A	B	A	C	A	A
Approach Vol, veh/h		0			727			829			642	
Approach Delay, s/veh		0.0			23.1			9.1			15.9	
Approach LOS					C			A			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	0.0	0.0	46.9	19.0	11.4	35.5
Change Period (Y+Rc), s	5.5	4.0	5.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	24.0	5.0	39.0	31.5	14.0	30.0
Max Q Clear Time (g_c+I1), s	0.0	0.0	4.8	10.9	6.9	8.6
Green Ext Time (p_c), s	0.0	0.0	2.3	2.6	0.5	4.0

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

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	0	13	4	0	98	4	464	15	334	171	13
Future Vol, veh/h	39	0	13	4	0	98	4	464	15	334	171	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	41	0	14	4	0	103	4	488	16	352	180	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1143	1403	97	1298	1402	252	194	0	0	504	0	0
Stage 1	891	891	-	504	504	-	-	-	-	-	-	-
Stage 2	252	512	-	794	898	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	179	151	*1029	135	152	754	1507	-	-	1071	-	-
Stage 1	345	391	-	524	544	-	-	-	-	-	-	-
Stage 2	736	540	-	397	388	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	115	101	*1029	99	102	754	1507	-	-	1071	-	-
Mov Cap-2 Maneuver	193	143	-	196	198	-	-	-	-	-	-	-
Stage 1	344	262	-	522	542	-	-	-	-	-	-	-
Stage 2	634	538	-	263	261	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.2	11.3	0.1	6.4
HCM LOS	C	B		

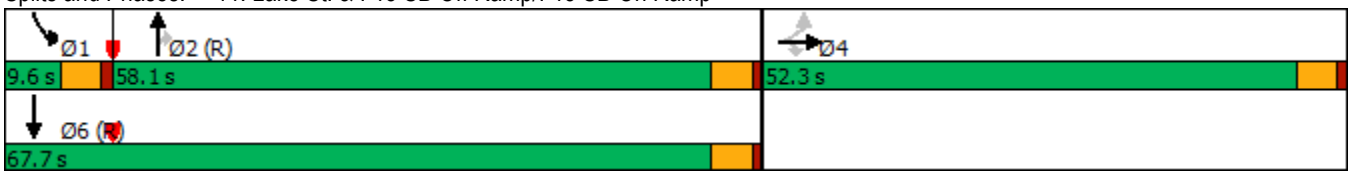
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1507	-	-	242	678	1071	-	-
HCM Lane V/C Ratio	0.003	-	-	0.226	0.158	0.328	-	-
HCM Control Delay (s)	7.4	-	-	24.2	11.3	10	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.6	1.4	-	-

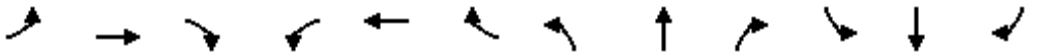
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	354	737	408	3	420
Future Volume (vph)	9	354	737	408	3	420
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	52.3	52.3	58.1	58.1	9.6	67.7
Total Split (%)	43.6%	43.6%	48.4%	48.4%	8.0%	56.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	12.3	12.3	96.3	96.3	5.1	98.3
Actuated g/C Ratio	0.10	0.10	0.80	0.80	0.04	0.82
v/c Ratio	0.05	0.75	0.27	0.31	0.04	0.15
Control Delay	46.5	15.7	4.0	1.3	34.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	15.7	4.0	1.3	34.0	4.4
LOS	D	B	A	A	C	A
Approach Delay	16.5		3.0			4.6
Approach LOS	B		A			A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 5.9	Intersection LOS: A
Intersection Capacity Utilization 64.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	9	354	0	0	0	0	737	408	3	420	0
Future Volume (veh/h)	1	9	354	0	0	0	0	737	408	3	420	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	1	9	373				0	776	192	3	442	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	48	430	407				0	2262	1009	7	2415	0
Arrive On Green	0.25	0.25	0.25				0.00	0.63	0.63	0.00	0.45	0.00
Sat Flow, veh/h	189	1701	1610				0	3705	1610	1810	3705	0
Grp Volume(v), veh/h	10	0	373				0	776	192	3	442	0
Grp Sat Flow(s),veh/h/ln	1891	0	1610				0	1805	1610	1810	1805	0
Q Serve(g_s), s	0.5	0.0	27.0				0.0	12.3	6.1	0.2	8.8	0.0
Cycle Q Clear(g_c), s	0.5	0.0	27.0				0.0	12.3	6.1	0.2	8.8	0.0
Prop In Lane	0.10		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	478	0	407				0	2262	1009	7	2415	0
V/C Ratio(X)	0.02	0.00	0.92				0.00	0.34	0.19	0.42	0.18	0.00
Avail Cap(c_a), veh/h	750	0	639				0	2262	1009	75	2415	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	0.91	0.91	0.50	0.50	0.00
Uniform Delay (d), s/veh	33.7	0.0	43.6				0.0	10.7	9.5	59.7	13.4	0.0
Incr Delay (d2), s/veh	0.0	0.0	12.6				0.0	0.4	0.4	7.0	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	0.2	0.0	12.1				0.0	4.9	2.2	0.1	3.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.7	0.0	56.2				0.0	11.0	9.9	66.7	13.5	0.0
LnGrp LOS	C	A	E				A	B	A	E	B	A
Approach Vol, veh/h		383						968			445	
Approach Delay, s/veh		55.6						10.8			13.8	
Approach LOS		E						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.1	79.9		35.0		85.0
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	5.0	* 53		* 48		* 63
Max Q Clear Time (g_c+I1), s	2.2	14.3		29.0		10.8
Green Ext Time (p_c), s	0.0	7.3		1.3		3.3

Intersection Summary		
HCM 6th Ctrl Delay		21.1
HCM 6th LOS		C

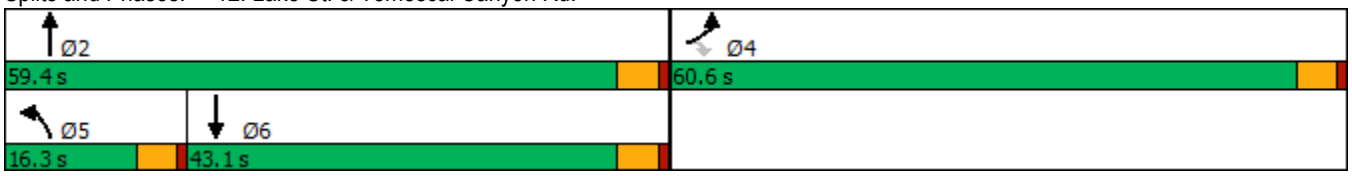
Notes

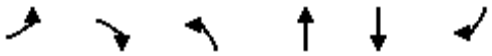
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	404	75	240	740	326
Future Volume (vph)	404	75	240	740	326
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	60.6	60.6	16.3	59.4	43.1
Total Split (%)	50.5%	50.5%	13.6%	49.5%	35.9%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	13.5	13.5	9.1	31.1	17.2
Actuated g/C Ratio	0.25	0.25	0.17	0.57	0.32
v/c Ratio	0.49	0.17	0.43	0.38	0.65
Control Delay	20.7	6.5	24.6	7.0	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.7	6.5	24.6	7.0	12.5
LOS	C	A	C	A	B
Approach Delay	18.4			11.3	12.5
Approach LOS	B			B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 54.3	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 53.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	404	75	240	740	326	448
Future Volume (veh/h)	404	75	240	740	326	448
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	425	-174	253	779	343	319
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	790	362	408	1992	589	525
Arrive On Green	0.22	0.00	0.12	0.55	0.33	0.33
Sat Flow, veh/h	3510	1610	3510	3705	1900	1610
Grp Volume(v), veh/h	425	-174	253	779	343	319
Grp Sat Flow(s),veh/h/ln	1755	1610	1755	1805	1805	1610
Q Serve(g_s), s	4.5	0.0	2.9	5.2	6.7	7.0
Cycle Q Clear(g_c), s	4.5	0.0	2.9	5.2	6.7	7.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	790	362	408	1992	589	525
V/C Ratio(X)	0.54	-0.48	0.62	0.39	0.58	0.61
Avail Cap(c_a), veh/h	4662	2138	976	4691	1647	1469
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	14.4	0.0	17.7	5.4	11.8	11.9
Incr Delay (d2), s/veh	0.6	0.0	0.6	0.1	0.9	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.0	1.2	2.3	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.0	0.0	18.3	5.5	12.7	13.1
LnGrp LOS	B	A	B	A	B	B
Approach Vol, veh/h	251			1032	662	
Approach Delay, s/veh	25.3			8.6	12.9	
Approach LOS	C			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		27.9		14.2	9.5	18.4
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 55		* 56	11.7	* 38
Max Q Clear Time (g_c+I1), s		7.2		6.5	4.9	9.0
Green Ext Time (p_c), s		6.6		1.6	0.3	4.7

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

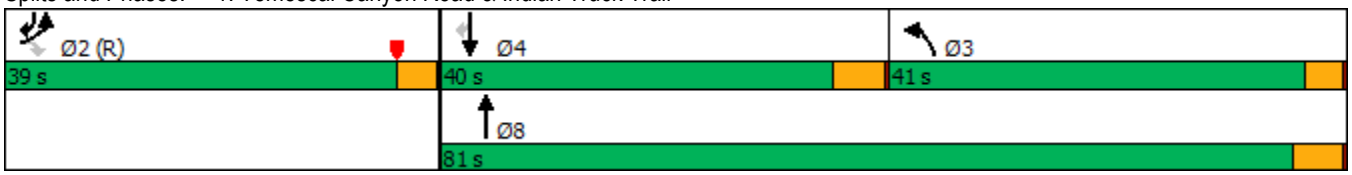
Notes

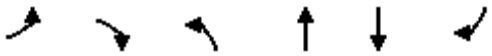
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	781	148	311	50	65	551
Future Volume (vph)	781	148	311	50	65	551
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov
Protected Phases	2		3	8	4	2
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	20.0
Total Split (s)	39.0	39.0	41.0	81.0	40.0	39.0
Total Split (%)	32.5%	32.5%	34.2%	67.5%	33.3%	32.5%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	C-Max	C-Max	None	None	None	C-Max
Act Effct Green (s)	67.6	67.6	27.8	43.4	13.8	81.0
Actuated g/C Ratio	0.56	0.56	0.23	0.36	0.12	0.68
v/c Ratio	0.43	0.17	0.81	0.08	0.33	0.51
Control Delay	28.7	12.9	58.5	19.6	49.3	6.6
Queue Delay	0.7	0.4	0.0	0.0	0.0	0.0
Total Delay	29.3	13.3	58.5	19.6	49.3	6.6
LOS	C	B	E	B	D	A
Approach Delay	26.8			53.1	11.1	
Approach LOS	C			D	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 68 (57%), Referenced to phase 2:EBL and 6:, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 26.7	Intersection LOS: C
Intersection Capacity Utilization 58.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	781	148	311	50	65	551
Future Volume (veh/h)	781	148	311	50	65	551
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	849	134	338	54	71	563
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1650	757	373	864	394	1089
Arrive On Green	0.47	0.47	0.21	0.45	0.21	0.21
Sat Flow, veh/h	3510	1610	1810	1900	1900	1602
Grp Volume(v), veh/h	849	134	338	54	71	563
Grp Sat Flow(s),veh/h/ln	1755	1610	1810	1900	1900	1602
Q Serve(g_s), s	20.3	5.8	21.9	1.9	3.7	21.0
Cycle Q Clear(g_c), s	20.3	5.8	21.9	1.9	3.7	21.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1650	757	373	864	394	1089
V/C Ratio(X)	0.51	0.18	0.91	0.06	0.18	0.52
Avail Cap(c_a), veh/h	1650	757	558	1203	554	1224
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	18.4	46.5	18.3	39.2	9.6
Incr Delay (d2), s/veh	1.1	0.5	13.6	0.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	2.2	11.0	0.8	1.7	17.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.3	18.9	60.1	18.4	39.3	9.9
LnGrp LOS	C	B	E	B	D	A
Approach Vol, veh/h	983			392	634	
Approach Delay, s/veh	22.7			54.4	13.2	
Approach LOS	C			D	B	

Timer - Assigned Phs		2	3	4			8
Phs Duration (G+Y+Rc), s		60.4	29.7	29.9			59.6
Change Period (Y+Rc), s		4.0	5.0	* 5			5.0
Max Green Setting (Gmax), s		35.0	37.0	* 35			76.0
Max Q Clear Time (g_c+I1), s		22.3	23.9	23.0			3.9
Green Ext Time (p_c), s		3.1	0.8	1.6			0.2

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

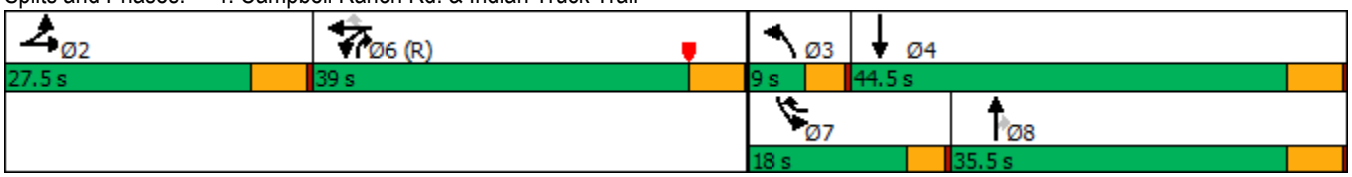
Notes

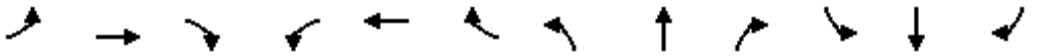
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	848	0	438	399	636	358	416		
Future Volume (vph)	848	0	438	399	636	358	416		
Turn Type	Split	NA	pm+ov	NA	pm+ov	Prot	NA		
Protected Phases	6	6	7	8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	7	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	9.0	35.5	36.5	9.0	10.5	27.5	9.0
Total Split (s)	39.0	39.0	18.0	35.5	39.0	18.0	44.5	27.5	9.0
Total Split (%)	32.5%	32.5%	15.0%	29.6%	32.5%	15.0%	37.1%	23%	8%
Yellow Time (s)	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	4.0	5.5	5.5	4.0	5.5		
Lead/Lag			Lead	Lag		Lead	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None	None	None
Act Effct Green (s)	70.7	70.7	86.2	20.3	96.5	14.0	38.3		
Actuated g/C Ratio	0.59	0.59	0.72	0.17	0.80	0.12	0.32		
v/c Ratio	0.43	0.43	0.20	0.68	0.48	0.92	0.39		
Control Delay	15.4	15.4	0.3	51.7	1.4	81.1	32.2		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	15.4	15.4	0.3	51.7	1.4	81.1	32.2		
LOS	B	B	A	D	A	F	C		
Approach Delay		10.2		20.8			54.8		
Approach LOS		B		C			D		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 6:WBTL, Start of Yellow	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 24.9	Intersection LOS: C
Intersection Capacity Utilization 57.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	848	0	438	0	399	636	358	416	0
Future Volume (veh/h)	0	0	0	848	0	438	0	399	636	358	416	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	922	0	340	0	434	474	389	452	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	379	0	1010	0	1254	2	889	826	422	1386	0
Arrive On Green	0.00	0.00	0.00	0.28	0.00	0.28	0.00	0.23	0.23	0.12	0.38	0.00
Sat Flow, veh/h	0	1900	0	3619	0	3147	1810	3800	1610	3619	3705	0
Grp Volume(v), veh/h	0	0	0	922	0	340	0	434	474	389	452	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1574	1810	1900	1610	1810	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	29.6	0.0	8.8	0.0	11.9	24.4	12.8	10.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	29.6	0.0	8.8	0.0	11.9	24.4	12.8	10.6	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	379	0	1010	0	1254	2	889	826	422	1386	0
V/C Ratio(X)	0.00	0.00	0.00	0.91	0.00	0.27	0.00	0.49	0.57	0.92	0.33	0.00
Avail Cap(c_a), veh/h	0	379	0	1010	0	1254	75	950	852	422	1386	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.91	0.00	0.91	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	41.8	0.0	24.6	0.0	39.8	20.2	52.5	26.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	12.8	0.0	0.5	0.0	0.4	0.9	25.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	14.4	0.0	3.2	0.0	5.4	14.3	7.1	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	54.6	0.0	25.0	0.0	40.2	21.0	77.9	26.2	0.0
LnGrp LOS	A	A	A	D	A	C	A	D	C	E	C	A
Approach Vol, veh/h		0			1262			908			841	
Approach Delay, s/veh		0.0			46.6			30.2			50.1	
Approach LOS					D			C			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.4	0.0	51.6		39.0	18.0	33.6				
Change Period (Y+Rc), s		5.5	4.0	5.5		5.5	4.0	5.5				
Max Green Setting (Gmax), s		22.0	5.0	39.0		33.5	14.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	12.6		31.6	14.8	26.4				
Green Ext Time (p_c), s		0.0	0.0	2.8		1.1	0.0	1.6				

Intersection Summary												
HCM 6th Ctrl Delay			42.6									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	0	9	16	0	344	14	295	6	129	513	43
Future Vol, veh/h	26	0	9	16	0	344	14	295	6	129	513	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	27	0	9	17	0	362	15	311	6	136	540	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1021	1182	293	886	1201	159	585	0	0	317	0	0
Stage 1	835	835	-	344	344	-	-	-	-	-	-	-
Stage 2	186	347	-	542	857	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	351	282	*872	*461	273	892	*1309	-	-	1255	-	-
Stage 1	556	538	-	*650	640	-	-	-	-	-	-	-
Stage 2	804	638	-	*822	524	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	189	249	*872	*415	241	892	*1309	-	-	1255	-	-
Mov Cap-2 Maneuver	268	336	-	*496	345	-	-	-	-	-	-	-
Stage 1	550	480	-	*643	633	-	-	-	-	-	-	-
Stage 2	472	631	-	*725	467	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.4	12.4	0.3	1.5
HCM LOS	C	B		

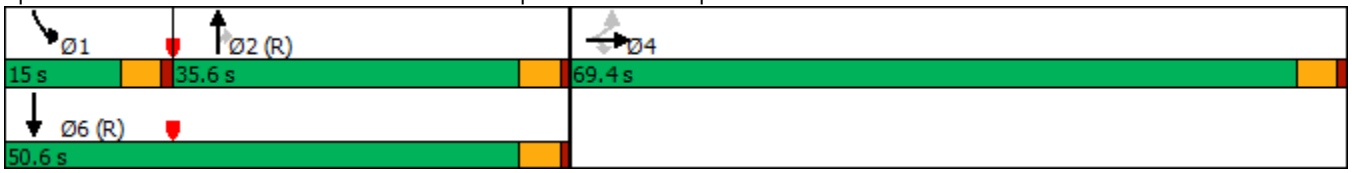
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 1309	-	-	326	861	1255	-	-
HCM Lane V/C Ratio	0.011	-	-	0.113	0.44	0.108	-	-
HCM Control Delay (s)	7.8	-	-	17.4	12.4	8.2	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	2.3	0.4	-	-

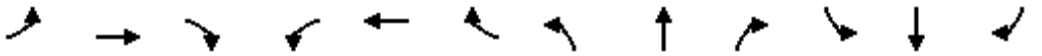
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	981	437	332	3	303
Future Volume (vph)	6	981	437	332	3	303
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	69.4	69.4	35.6	35.6	15.0	50.6
Total Split (%)	57.8%	57.8%	29.7%	29.7%	12.5%	42.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	64.7	64.7	43.9	43.9	5.1	45.9
Actuated g/C Ratio	0.54	0.54	0.37	0.37	0.04	0.38
v/c Ratio	0.01	0.99	0.35	0.43	0.04	0.23
Control Delay	12.9	44.5	29.3	4.9	57.3	57.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	44.5	29.3	4.9	57.3	57.2
LOS	B	D	C	A	E	E
Approach Delay	44.3		18.7			57.2
Approach LOS	D		B			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 36.7	Intersection LOS: D
Intersection Capacity Utilization 77.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	6	981	0	0	0	0	437	332	3	303	0
Future Volume (veh/h)	2	6	981	0	0	0	0	437	332	3	303	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	2	6	244				0	460	86	3	319	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	81	242	277				0	2553	1139	7	2706	0
Arrive On Green	0.17	0.17	0.17				0.00	0.71	0.71	0.01	1.00	0.00
Sat Flow, veh/h	469	1407	1610				0	3705	1610	1810	3705	0
Grp Volume(v), veh/h	8	0	244				0	460	86	3	319	0
Grp Sat Flow(s),veh/h/ln	1877	0	1610				0	1805	1610	1810	1805	0
Q Serve(g_s), s	0.4	0.0	17.7				0.0	5.1	2.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	17.7				0.0	5.1	2.0	0.2	0.0	0.0
Prop In Lane	0.25		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	323	0	277				0	2553	1139	7	2706	0
V/C Ratio(X)	0.02	0.00	0.88				0.00	0.18	0.08	0.42	0.12	0.00
Avail Cap(c_a), veh/h	1012	0	868				0	2553	1139	157	2706	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.95	0.95	0.61	0.61	0.00
Uniform Delay (d), s/veh	41.3	0.0	48.5				0.0	5.9	5.4	59.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	8.9				0.0	0.1	0.1	8.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	7.8				0.0	1.9	0.7	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	0.0	57.4				0.0	6.0	5.6	67.9	0.1	0.0
LnGrp LOS	D	A	E				A	A	A	E	A	A
Approach Vol, veh/h		252						546			322	
Approach Delay, s/veh		56.9						6.0			0.7	
Approach LOS		E						A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.1	89.6		25.3		94.7
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	10.4	* 31		* 65		* 46
Max Q Clear Time (g_c+I1), s	2.2	7.1		19.7		2.0
Green Ext Time (p_c), s	0.0	3.4		0.9		2.3

Intersection Summary	
HCM 6th Ctrl Delay	15.9
HCM 6th LOS	B

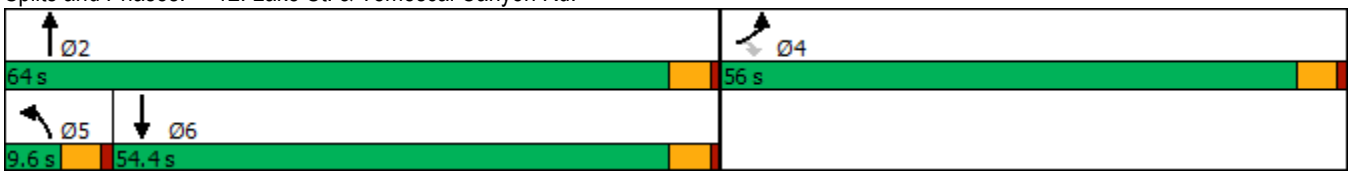
Notes

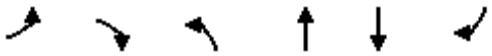
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	343	121	94	426	952
Future Volume (vph)	343	121	94	426	952
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	56.0	56.0	9.6	64.0	54.4
Total Split (%)	46.7%	46.7%	8.0%	53.3%	45.3%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	13.6	13.6	5.1	48.4	38.6
Actuated g/C Ratio	0.19	0.19	0.07	0.68	0.54
v/c Ratio	0.54	0.31	0.40	0.18	0.71
Control Delay	30.8	8.2	40.3	4.5	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	8.2	40.3	4.5	14.2
LOS	C	A	D	A	B
Approach Delay	24.9			11.0	14.2
Approach LOS	C			B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 71.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 15.7	Intersection LOS: B
Intersection Capacity Utilization 57.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	343	121	94	426	952	332
Future Volume (veh/h)	343	121	94	426	952	332
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	361	-136	99	448	1002	138
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	653	299	258	2281	1496	206
Arrive On Green	0.19	0.00	0.07	0.63	0.47	0.47
Sat Flow, veh/h	3510	1610	3510	3705	3282	439
Grp Volume(v), veh/h	361	-136	99	448	567	573
Grp Sat Flow(s),veh/h/ln	1755	1610	1755	1805	1805	1821
Q Serve(g_s), s	4.8	0.0	1.4	2.7	12.6	12.6
Cycle Q Clear(g_c), s	4.8	0.0	1.4	2.7	12.6	12.6
Prop In Lane	1.00	1.00	1.00			0.24
Lane Grp Cap(c), veh/h	653	299	258	2281	847	855
V/C Ratio(X)	0.55	-0.45	0.38	0.20	0.67	0.67
Avail Cap(c_a), veh/h	3488	1600	340	4146	1737	1753
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	19.1	0.0	22.8	4.0	10.6	10.6
Incr Delay (d2), s/veh	0.7	0.0	0.3	0.0	0.9	0.9
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	0.5	0.6	4.1	4.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.8	0.0	23.2	4.0	11.5	11.5
LnGrp LOS	B	A	C	A	B	B
Approach Vol, veh/h	225			547	1140	
Approach Delay, s/veh	31.8			7.5	11.5	
Approach LOS	C			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		37.3		14.3	8.4	28.9
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 59		* 51	5.0	* 50
Max Q Clear Time (g_c+I1), s		4.7		6.8	3.4	14.6
Green Ext Time (p_c), s		3.4		1.3	0.0	9.7

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Notes

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

APPENDIX 7.1:

HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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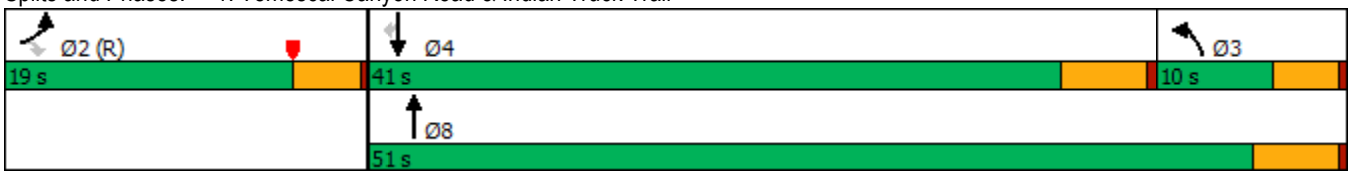
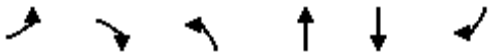
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	797	343	283	460	40	463
Future Volume (vph)	797	343	283	460	40	463
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	40.0
Total Split (s)	19.0	19.0	10.0	51.0	41.0	41.0
Total Split (%)	27.1%	27.1%	14.3%	72.9%	58.6%	58.6%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:EBL and 6:, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	797	343	283	460	40	463
Future Volume (veh/h)	797	343	283	460	40	463
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	866	373	308	500	43	503
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1255	558	154	967	678	556
Arrive On Green	0.36	0.36	0.09	0.51	0.36	0.36
Sat Flow, veh/h	3510	1562	1791	1900	1900	1557
Grp Volume(v), veh/h	866	373	308	500	43	503
Grp Sat Flow(s),veh/h/ln	1755	1562	1791	1881	1900	1557
Q Serve(g_s), s	14.7	14.1	6.0	12.3	1.0	21.5
Cycle Q Clear(g_c), s	14.7	14.1	6.0	12.3	1.0	21.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1255	558	154	967	678	556
V/C Ratio(X)	0.69	0.67	2.01	0.52	0.06	0.90
Avail Cap(c_a), veh/h	1255	558	154	1236	977	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.2	19.0	32.0	11.3	14.8	21.4
Incr Delay (d2), s/veh	2.9	5.8	474.9	0.3	0.0	9.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	5.4	22.7	4.3	0.4	8.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.1	24.7	506.9	11.6	14.8	30.9
LnGrp LOS	C	C	F	B	B	C
Approach Vol, veh/h	1239			808	546	
Approach Delay, s/veh	22.9			200.4	29.6	
Approach LOS	C			F	C	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		29.0	11.0	30.0		41.0
Change Period (Y+Rc), s		4.0	5.0	* 5		5.0
Max Green Setting (Gmax), s		15.0	6.0	* 36		46.0
Max Q Clear Time (g_c+I1), s		16.7	8.0	23.5		14.3
Green Ext Time (p_c), s		0.0	0.0	1.3		2.5

Intersection Summary	
HCM 6th Ctrl Delay	79.6
HCM 6th LOS	E

Notes

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

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	432	493	451	295	259	4	647
Future Volume (vph)	432	493	451	295	259	4	647
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	30.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	32.0	70.0	38.0	38.0	50.0	50.0	50.0
Total Split (%)	26.7%	58.3%	31.7%	31.7%	41.7%	41.7%	41.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-15 NB Ramps & Indian Truck Trail

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	432	493	0	0	451	295	259	4	647	0	0	0
Future Volume (veh/h)	432	493	0	0	451	295	259	4	647	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1678	0	0	981	1811	1841	1900	1678			
Adj Flow Rate, veh/h	470	536	0	0	490	291	189	0	644			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	3	15	0	0	62	6	4	0	15			
Cap, veh/h	771	1727	0	0	513	422	657	0	1066			
Arrive On Green	0.07	0.18	0.00	0.00	0.28	0.28	0.38	0.00	0.38			
Sat Flow, veh/h	3428	3272	0	0	1913	1535	1753	0	2844			
Grp Volume(v), veh/h	470	536	0	0	490	291	189	0	644			
Grp Sat Flow(s),veh/h/ln	1714	1594	0	0	932	1535	1753	0	1422			
Q Serve(g_s), s	16.0	17.5	0.0	0.0	31.0	20.4	9.1	0.0	22.0			
Cycle Q Clear(g_c), s	16.0	17.5	0.0	0.0	31.0	20.4	9.1	0.0	22.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	771	1727	0	0	513	422	657	0	1066			
V/C Ratio(X)	0.61	0.31	0.00	0.00	0.96	0.69	0.29	0.00	0.60			
Avail Cap(c_a), veh/h	771	1727	0	0	513	422	657	0	1066			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.85	0.85	0.00	0.00	0.72	0.72	1.00	0.00	1.00			
Uniform Delay (d), s/veh	50.4	29.8	0.0	0.0	42.8	38.9	26.3	0.0	30.3			
Incr Delay (d2), s/veh	1.2	0.4	0.0	0.0	24.5	6.5	1.1	0.0	2.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.4	7.5	0.0	0.0	8.6	8.2	3.9	0.0	7.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	30.2	0.0	0.0	67.3	45.4	27.4	0.0	32.8			
LnGrp LOS	D	C	A	A	E	D	C	A	C			
Approach Vol, veh/h		1006			781			833				
Approach Delay, s/veh		40.2			59.1			31.6				
Approach LOS		D			E			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		70.0			32.0	38.0		50.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		65.0			27.0	33.0		45.0				
Max Q Clear Time (g_c+I1), s		19.5			18.0	33.0		24.0				
Green Ext Time (p_c), s		2.2			1.2	0.0		2.4				
Intersection Summary												
HCM 6th Ctrl Delay			43.1									
HCM 6th LOS			D									

Notes

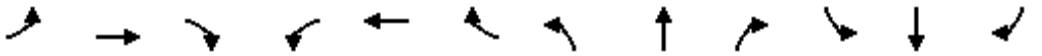
User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	615	222	204	507	311	9	373
Future Volume (vph)	615	222	204	507	311	9	373
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	9.5	25.0	10.0	10.0	10.0
Total Split (s)	54.0	54.0	32.0	86.0	34.0	34.0	34.0
Total Split (%)	45.0%	45.0%	26.7%	71.7%	28.3%	28.3%	28.3%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	4.5	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 3: I-15 SB Ramps & Indian Truck Trail



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	615	222	204	507	0	0	0	0	311	9	373
Future Volume (veh/h)	0	615	222	204	507	0	0	0	0	311	9	373
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1870	1278	1870	0				1663	1900	1781
Adj Flow Rate, veh/h	0	668	236	222	551	0				338	0	406
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	2	42	2	0				16	0	8
Cap, veh/h	0	2227	702	236	2399	0				383	0	730
Arrive On Green	0.00	0.44	0.44	0.39	1.00	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	5191	1585	1217	3647	0				1584	0	3019
Grp Volume(v), veh/h	0	668	236	222	551	0				338	0	406
Grp Sat Flow(s),veh/h/ln	0	1675	1585	1217	1777	0				1584	0	1510
Q Serve(g_s), s	0.0	10.2	11.7	21.1	0.0	0.0				24.7	0.0	14.1
Cycle Q Clear(g_c), s	0.0	10.2	11.7	21.1	0.0	0.0				24.7	0.0	14.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2227	702	236	2399	0				383	0	730
V/C Ratio(X)	0.00	0.30	0.34	0.94	0.23	0.00				0.88	0.00	0.56
Avail Cap(c_a), veh/h	0	2227	702	279	2399	0				383	0	730
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.58	0.58	0.69	0.69	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.5	21.9	36.0	0.0	0.0				43.9	0.0	39.9
Incr Delay (d2), s/veh	0.0	0.2	0.7	27.5	0.2	0.0				24.3	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.9	4.3	6.4	0.1	0.0				11.9	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.7	22.6	63.5	0.2	0.0				68.2	0.0	42.9
LnGrp LOS	A	C	C	E	A	A				E	A	D
Approach Vol, veh/h		904			773						744	
Approach Delay, s/veh		21.9			18.3						54.4	
Approach LOS		C			B						D	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	27.8	58.2		34.0		86.0						
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0						
Max Green Setting (Gmax), s	27.5	49.0		29.0		81.0						
Max Q Clear Time (g_c+I1), s	23.1	13.7		26.7		2.0						
Green Ext Time (p_c), s	0.3	3.3		0.6		2.3						

Intersection Summary												
HCM 6th Ctrl Delay			30.8									
HCM 6th LOS			C									

Notes

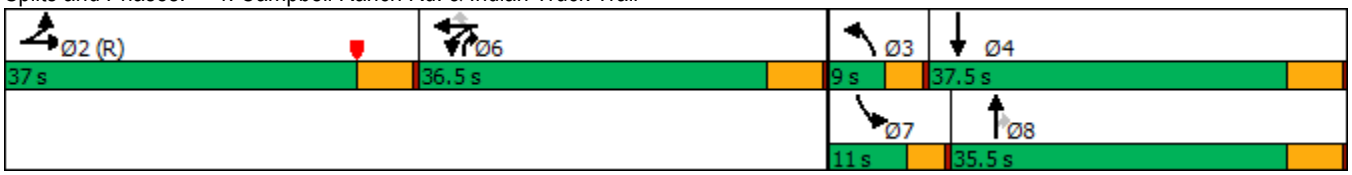
User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	535	0	345	470	562	275	374		
Future Volume (vph)	535	0	345	470	562	275	374		
Turn Type	Split	NA	Perm	NA	pm+ov	Prot	NA		
Protected Phases	6	6		8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	6	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	36.5	35.5	36.5	9.0	10.5	36.5	9.0
Total Split (s)	36.5	36.5	36.5	35.5	36.5	11.0	37.5	37.0	9.0
Total Split (%)	30.4%	30.4%	30.4%	29.6%	30.4%	9.2%	31.3%	31%	8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5		
Lead/Lag				Lag		Lead	Lag		Lead
Lead-Lag Optimize?				Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Max	None	None	Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	535	0	345	0	470	562	275	374	0
Future Volume (veh/h)	0	0	0	535	0	345	0	470	562	275	374	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	674	0	196	0	511	490	299	407	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	583	0	774	0	339	2	902	747	205	1233	0
Arrive On Green	0.00	0.00	0.00	0.21	0.00	0.21	0.00	0.25	0.25	0.06	0.34	0.00
Sat Flow, veh/h	0	1900	0	3619	0	1587	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	674	0	196	0	511	490	299	407	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1587	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	21.6	0.0	13.3	0.0	14.8	28.1	7.0	10.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	21.6	0.0	13.3	0.0	14.8	28.1	7.0	10.0	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	583	0	774	0	339	2	903	747	205	1233	0
V/C Ratio(X)	0.00	0.00	0.00	0.87	0.00	0.58	0.00	0.57	0.66	1.46	0.33	0.00
Avail Cap(c_a), veh/h	0	583	0	935	0	410	75	903	747	205	1233	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.97	0.00	0.97	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	45.6	0.0	42.3	0.0	39.3	24.8	56.5	29.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	7.6	0.0	1.5	0.0	2.6	4.5	232.0	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	10.2	0.0	5.2	0.0	6.7	15.5	9.6	4.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	53.2	0.0	43.8	0.0	41.9	29.3	288.5	30.0	0.0
LnGrp LOS	A	A	A	D	A	D	A	D	C	F	C	A
Approach Vol, veh/h		0			870			1001			706	
Approach Delay, s/veh		0.0			51.1			35.7			139.5	
Approach LOS					D			D			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	42.4	0.0	46.5	31.1	11.0	35.5
Change Period (Y+Rc), s	5.5	4.0	5.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	31.5	5.0	32.0	31.0	7.0	30.0
Max Q Clear Time (g_c+I1), s	0.0	0.0	12.0	23.6	9.0	30.1
Green Ext Time (p_c), s	0.0	0.0	2.3	2.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	69.3
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	16.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	62	205	225	359	175	185
Future Vol, veh/h	62	205	225	359	175	185
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	65	216	237	378	184	195

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	281	0	1025	173
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	852	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1293	-	263	876
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	421	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1293	-	202	876
Mov Cap-2 Maneuver	-	-	-	-	202	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	323	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.2	49.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	202	876	-	-	1293	-
HCM Lane V/C Ratio	0.912	0.222	-	-	0.183	-
HCM Control Delay (s)	90.8	10.3	-	-	8.4	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	7.3	0.8	-	-	0.7	-

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	189	344	321	381	49
Future Vol, veh/h	38	189	344	321	381	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	41	205	374	349	414	53
Number of Lanes	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	13.3	18.6	21.9
HCM LOS	B	C	C

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	100%	0%	17%	0%
Vol Thru, %	0%	100%	0%	89%
Vol Right, %	0%	0%	83%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	344	321	227	430
LT Vol	344	0	38	0
Through Vol	0	321	0	381
RT Vol	0	0	189	49
Lane Flow Rate	374	349	247	467
Geometry Grp	7	7	2	5
Degree of Util (X)	0.663	0.57	0.413	0.723
Departure Headway (Hd)	6.388	5.881	6.025	5.57
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	565	614	597	650
Service Time	4.134	3.626	4.076	3.611
HCM Lane V/C Ratio	0.662	0.568	0.414	0.718
HCM Control Delay	20.9	16.2	13.3	21.9
HCM Lane LOS	C	C	B	C
HCM 95th-tile Q	4.9	3.6	2	6.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	0	14	0	0	0	4	665	0	0	570	14
Future Vol, veh/h	43	0	14	0	0	0	4	665	0	0	570	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	45	0	15	0	0	0	4	700	0	0	600	15

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1316	1316	608	615	0	-	-	-	0
Stage 1	608	608	-	-	-	-	-	-	-
Stage 2	708	708	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	176	159	499	974	-	0	0	-	-
Stage 1	547	489	-	-	-	0	0	-	-
Stage 2	492	441	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	175	0	499	974	-	-	-	-	-
Mov Cap-2 Maneuver	316	0	-	-	-	-	-	-	-
Stage 1	545	0	-	-	-	-	-	-	-
Stage 2	492	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.5	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	974	-	347	-	-
HCM Lane V/C Ratio	0.004	-	0.173	-	-
HCM Control Delay (s)	8.7	-	17.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	17	92	0	0	43	68	0	0	0	19	0	6
Future Vol, veh/h	17	92	0	0	43	68	0	0	0	19	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	22	116	0	0	54	86	0	0	0	24	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	140	0	0	116	0	0	261	300	116	257	257	97
Stage 1	-	-	-	-	-	-	160	160	-	97	97	-
Stage 2	-	-	-	-	-	-	101	140	-	160	160	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1456	-	-	1485	-	-	696	616	942	700	651	965
Stage 1	-	-	-	-	-	-	847	769	-	914	819	-
Stage 2	-	-	-	-	-	-	910	785	-	847	769	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1456	-	-	1485	-	-	682	606	942	692	641	965
Mov Cap-2 Maneuver	-	-	-	-	-	-	682	606	-	692	641	-
Stage 1	-	-	-	-	-	-	833	757	-	899	819	-
Stage 2	-	-	-	-	-	-	903	785	-	833	757	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	0	10.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1456	-	-	1485	-	-	742
HCM Lane V/C Ratio	-	0.015	-	-	-	-	-	0.043
HCM Control Delay (s)	0	7.5	0	-	0	-	-	10.1
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	181	124	312	241	14
Future Vol, veh/h	25	181	124	312	241	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	208	143	359	277	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	930	285	293	0	-	0
Stage 1	285	-	-	-	-	-
Stage 2	645	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	299	759	1280	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	266	759	1280	-	-	-
Mov Cap-2 Maneuver	389	-	-	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	526	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	2.3	0
HCM LOS	B		

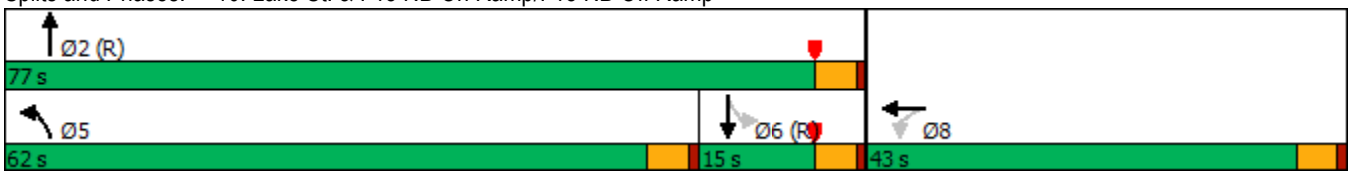
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1280	-	680	-	-
HCM Lane V/C Ratio	0.111	-	0.348	-	-
HCM Control Delay (s)	8.2	-	13.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	1.6	-	-

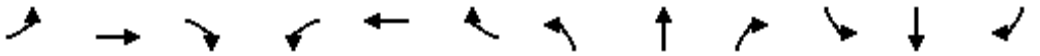
Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	463	14	813	2	7
Future Volume (vph)	463	14	813	2	7
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	43.0	43.0	62.0	77.0	15.0
Total Split (%)	35.8%	35.8%	51.7%	64.2%	12.5%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10.3 (9%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	463	14	2	813	2	0	0	7	3
Future Volume (veh/h)	0	0	0	463	14	2	813	2	0	0	7	3
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				487	15	2	856	2	0	0	7	3
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				515	468	62	866	1210	0	0	152	65
Arrive On Green				0.36	0.36	0.28	0.48	0.64	0.00	0.00	0.12	0.12
Sat Flow, veh/h				1810	1642	219	1810	1900	0	0	1262	541
Grp Volume(v), veh/h				487	0	17	856	2	0	0	0	10
Grp Sat Flow(s),veh/h/ln				1810	0	1861	1810	1900	0	0	0	1803
Q Serve(g_s), s				31.3	0.0	0.7	56.2	0.0	0.0	0.0	0.0	0.6
Cycle Q Clear(g_c), s				31.3	0.0	0.7	56.2	0.0	0.0	0.0	0.0	0.6
Prop In Lane				1.00		0.12	1.00		0.00	0.00		0.30
Lane Grp Cap(c), veh/h				515	0	530	866	1210	0	0	0	217
V/C Ratio(X)				0.94	0.00	0.03	0.99	0.00	0.00	0.00	0.00	0.05
Avail Cap(c_a), veh/h				578	0	594	866	1210	0	0	0	217
HCM Platoon Ratio				1.25	1.25	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.80	0.80	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				37.7	0.0	28.2	31.0	7.9	0.0	0.0	0.0	46.7
Incr Delay (d2), s/veh				23.3	0.0	0.0	24.6	0.0	0.0	0.0	0.0	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				16.4	0.0	0.3	29.4	0.0	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				61.0	0.0	28.3	55.5	7.9	0.0	0.0	0.0	47.1
LnGrp LOS				E	A	C	E	A	A	A	A	D
Approach Vol, veh/h					504			858			10	
Approach Delay, s/veh					59.9			55.4			47.1	
Approach LOS					E			E			D	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	81.1		62.0	19.1		38.9						
Change Period (Y+Rc), s	* 4.7		4.6	* 4.7		4.7						
Max Green Setting (Gmax), s	* 72		57.4	* 10		38.3						
Max Q Clear Time (g_c+I1), s	2.0		58.2	2.6		33.3						
Green Ext Time (p_c), s	0.0		0.0	0.0		0.8						

Intersection Summary		
HCM 6th Ctrl Delay	57.0	
HCM 6th LOS	E	

Notes

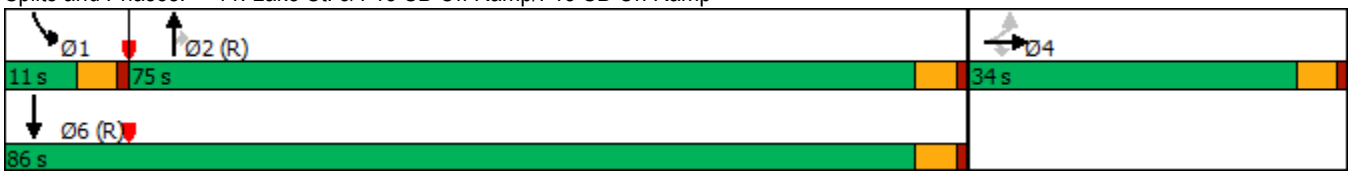
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

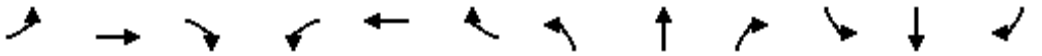
Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	32	390	811	449	8	462
Future Volume (vph)	32	390	811	449	8	462
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	34.0	34.0	75.0	75.0	11.0	86.0
Total Split (%)	28.3%	28.3%	62.5%	62.5%	9.2%	71.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	32	390	0	0	0	0	811	449	8	462	0
Future Volume (veh/h)	4	32	390	0	0	0	0	811	449	8	462	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	4	34	411				0	854	473	8	486	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	49	413	393				0	1196	1013	18	1287	0
Arrive On Green	0.24	0.24	0.24				0.00	0.63	0.63	0.01	0.45	0.00
Sat Flow, veh/h	199	1691	1610				0	1900	1610	1810	1900	0
Grp Volume(v), veh/h	38	0	411				0	854	473	8	486	0
Grp Sat Flow(s),veh/h/ln	1890	0	1610				0	1900	1610	1810	1900	0
Q Serve(g_s), s	1.9	0.0	29.3				0.0	36.3	18.5	0.5	20.2	0.0
Cycle Q Clear(g_c), s	1.9	0.0	29.3				0.0	36.3	18.5	0.5	20.2	0.0
Prop In Lane	0.11		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	461	0	393				0	1196	1013	18	1287	0
V/C Ratio(X)	0.08	0.00	1.05				0.00	0.71	0.47	0.45	0.38	0.00
Avail Cap(c_a), veh/h	461	0	393				0	1196	1013	97	1287	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	0.48	0.48	0.33	0.33	0.00
Uniform Delay (d), s/veh	35.0	0.0	45.3				0.0	15.0	11.7	59.3	16.1	0.0
Incr Delay (d2), s/veh	0.1	0.0	57.7				0.0	1.8	0.7	2.2	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	0.9	0.0	17.9				0.0	15.3	6.5	0.3	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	0.0	103.1				0.0	16.7	12.4	61.5	16.4	0.0
LnGrp LOS	D	A	F				A	B	B	E	B	A
Approach Vol, veh/h		449						1327			494	
Approach Delay, s/veh		97.3						15.2			17.1	
Approach LOS		F						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.8	80.2		34.0		86.0
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	6.4	* 70		* 29		* 81
Max Q Clear Time (g_c+I1), s	2.5	38.3		31.3		22.2
Green Ext Time (p_c), s	0.0	10.2		0.0		3.6

Intersection Summary	
HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

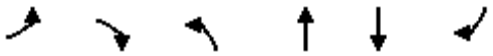
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	445	178	624	814	359
Future Volume (vph)	445	178	624	814	359
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	33.0	33.0	27.0	87.0	60.0
Total Split (%)	27.5%	27.5%	22.5%	72.5%	50.0%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min

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

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	445	178	624	814	359	493
Future Volume (veh/h)	445	178	624	814	359	493
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	468	145	657	857	378	472
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	427	380	338	1303	354	442
Arrive On Green	0.24	0.24	0.19	0.69	0.46	0.46
Sat Flow, veh/h	1810	1610	1810	1900	768	959
Grp Volume(v), veh/h	468	145	657	857	0	850
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1900	0	1727
Q Serve(g_s), s	28.3	9.1	22.4	31.0	0.0	55.3
Cycle Q Clear(g_c), s	28.3	9.1	22.4	31.0	0.0	55.3
Prop In Lane	1.00	1.00	1.00			0.56
Lane Grp Cap(c), veh/h	427	380	338	1303	0	796
V/C Ratio(X)	1.10	0.38	1.95	0.66	0.00	1.07
Avail Cap(c_a), veh/h	427	380	338	1303	0	796
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	0.00	1.00
Uniform Delay (d), s/veh	45.8	38.5	48.8	10.8	0.0	32.4
Incr Delay (d2), s/veh	72.3	0.6	436.0	1.2	0.0	51.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.2	8.6	51.0	12.3	0.0	33.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	118.1	39.1	484.8	12.0	0.0	83.9
LnGrp LOS	F	D	F	B	A	F
Approach Vol, veh/h	613			1514	850	
Approach Delay, s/veh	99.5			217.2	83.9	
Approach LOS	F			F	F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		87.0		33.0	27.0	60.0
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 82		* 28	22.4	* 55
Max Q Clear Time (g_c+I1), s		33.0		30.3	24.4	57.3
Green Ext Time (p_c), s		8.4		0.0	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		154.9
HCM 6th LOS		F

Notes

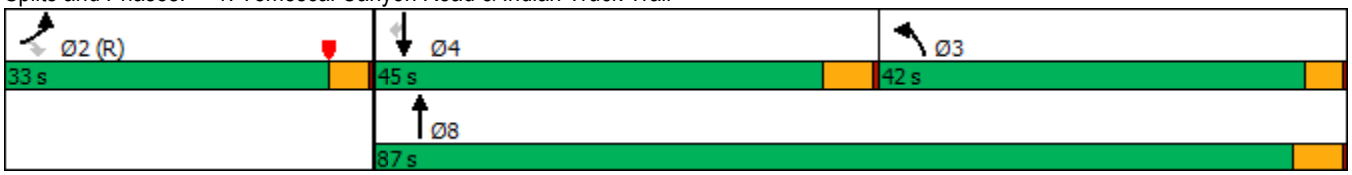
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

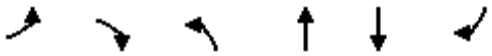
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	859	162	343	141	320	606
Future Volume (vph)	859	162	343	141	320	606
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	40.0
Total Split (s)	33.0	33.0	42.0	87.0	45.0	45.0
Total Split (%)	27.5%	27.5%	35.0%	72.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 68 (57%), Referenced to phase 2:EBL and 6:, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	859	162	343	141	320	606
Future Volume (veh/h)	859	162	343	141	320	606
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	934	149	373	153	348	623
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1140	523	408	1140	633	535
Arrive On Green	0.32	0.32	0.23	0.60	0.33	0.33
Sat Flow, veh/h	3510	1610	1810	1900	1900	1605
Grp Volume(v), veh/h	934	149	373	153	348	623
Grp Sat Flow(s),veh/h/ln	1755	1610	1810	1900	1900	1605
Q Serve(g_s), s	29.4	8.3	24.1	4.2	17.9	40.0
Cycle Q Clear(g_c), s	29.4	8.3	24.1	4.2	17.9	40.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1140	523	408	1140	633	535
V/C Ratio(X)	0.82	0.28	0.92	0.13	0.55	1.16
Avail Cap(c_a), veh/h	1140	523	573	1298	633	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.3	30.1	45.4	10.4	32.6	40.0
Incr Delay (d2), s/veh	6.2	1.3	15.4	0.0	0.8	92.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	3.3	12.3	1.7	8.2	28.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.5	31.4	60.7	10.5	33.5	132.9
LnGrp LOS	D	C	E	B	C	F
Approach Vol, veh/h	1083			526	971	
Approach Delay, s/veh	41.8			46.1	97.3	
Approach LOS	D			D	F	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		43.0	32.0	45.0		77.0
Change Period (Y+Rc), s		4.0	5.0	* 5		5.0
Max Green Setting (Gmax), s		29.0	38.0	* 40		82.0
Max Q Clear Time (g_c+I1), s		31.4	26.1	42.0		6.2
Green Ext Time (p_c), s		0.0	0.9	0.0		0.7

Intersection Summary	
HCM 6th Ctrl Delay	63.6
HCM 6th LOS	E

Notes

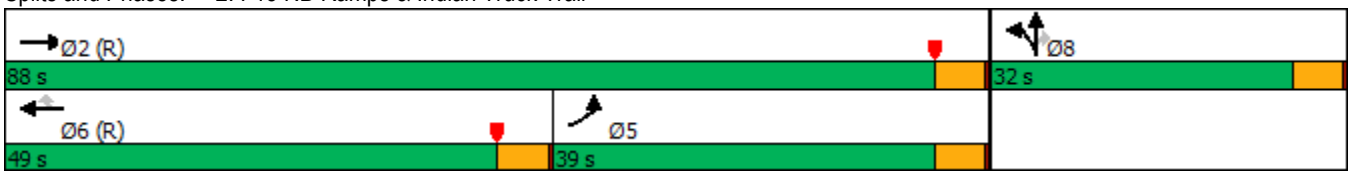
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	503	604	350	599	388	1	417
Future Volume (vph)	503	604	350	599	388	1	417
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	30.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	39.0	88.0	49.0	49.0	32.0	32.0	32.0
Total Split (%)	32.5%	73.3%	40.8%	40.8%	26.7%	26.7%	26.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 55
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-15 NB Ramps & Indian Truck Trail



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	503	604	0	0	350	599	388	1	417	0	0	0
Future Volume (veh/h)	503	604	0	0	350	599	388	1	417	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1678	0	0	981	1811	1841	1900	1678			
Adj Flow Rate, veh/h	547	657	0	0	380	608	554	0	281			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	3	15	0	0	62	6	4	0	15			
Cap, veh/h	971	2205	0	0	684	563	789	0	320			
Arrive On Green	0.19	0.46	0.00	0.00	0.37	0.37	0.22	0.00	0.22			
Sat Flow, veh/h	3428	3272	0	0	1913	1535	3506	0	1422			
Grp Volume(v), veh/h	547	657	0	0	380	608	554	0	281			
Grp Sat Flow(s),veh/h/ln	1714	1594	0	0	932	1535	1753	0	1422			
Q Serve(g_s), s	17.4	15.4	0.0	0.0	19.5	44.0	17.5	0.0	22.9			
Cycle Q Clear(g_c), s	17.4	15.4	0.0	0.0	19.5	44.0	17.5	0.0	22.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	971	2205	0	0	684	563	789	0	320			
V/C Ratio(X)	0.56	0.30	0.00	0.00	0.56	1.08	0.70	0.00	0.88			
Avail Cap(c_a), veh/h	971	2205	0	0	684	563	789	0	320			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.85	0.85	0.00	0.00	0.51	0.51	1.00	0.00	1.00			
Uniform Delay (d), s/veh	41.9	14.1	0.0	0.0	30.2	38.0	42.8	0.0	44.9			
Incr Delay (d2), s/veh	0.6	0.3	0.0	0.0	1.7	51.6	5.2	0.0	27.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.6	6.0	0.0	0.0	4.3	23.6	7.9	0.0	10.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	14.4	0.0	0.0	31.9	89.6	48.0	0.0	72.1			
LnGrp LOS	D	B	A	A	C	F	D	A	E			
Approach Vol, veh/h		1204			988			835				
Approach Delay, s/veh		27.1			67.4			56.1				
Approach LOS		C			E			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		88.0			39.0	49.0		32.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		83.0			34.0	44.0		27.0				
Max Q Clear Time (g_c+I1), s		17.4			19.4	46.0		24.9				
Green Ext Time (p_c), s		2.9			1.7	0.0		0.6				

Intersection Summary	
HCM 6th Ctrl Delay	48.3
HCM 6th LOS	D

Notes

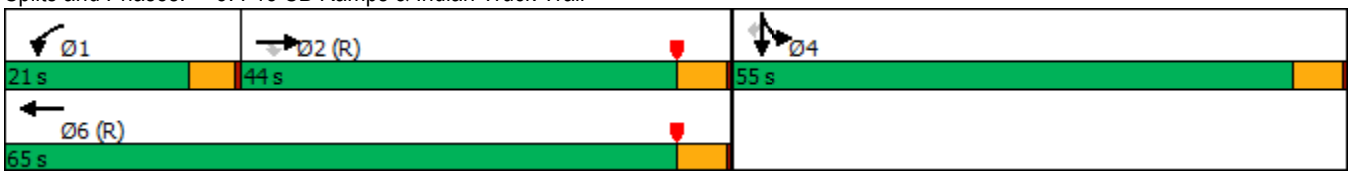
User approved volume balancing among the lanes for turning movement.

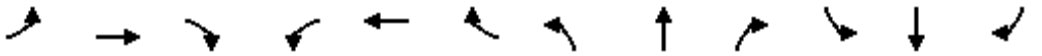
Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	852	242	91	647	255	9	768
Future Volume (vph)	852	242	91	647	255	9	768
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	9.5	25.0	10.0	10.0	10.0
Total Split (s)	44.0	44.0	21.0	65.0	55.0	55.0	55.0
Total Split (%)	36.7%	36.7%	17.5%	54.2%	45.8%	45.8%	45.8%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	4.5	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 3: I-15 SB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	852	242	91	647	0	0	0	0	255	9	768
Future Volume (veh/h)	0	852	242	91	647	0	0	0	0	255	9	768
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1870	1278	1870	0				1663	1900	1781
Adj Flow Rate, veh/h	0	926	185	99	703	0				277	0	698
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	2	42	2	0				16	0	8
Cap, veh/h	0	1857	586	113	1777	0				660	0	1258
Arrive On Green	0.00	0.37	0.37	0.19	1.00	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	5191	1585	1217	3647	0				1584	0	3019
Grp Volume(v), veh/h	0	926	185	99	703	0				277	0	698
Grp Sat Flow(s),veh/h/ln	0	1675	1585	1217	1777	0				1584	0	1510
Q Serve(g_s), s	0.0	17.1	10.0	9.5	0.0	0.0				14.8	0.0	21.0
Cycle Q Clear(g_c), s	0.0	17.1	10.0	9.5	0.0	0.0				14.8	0.0	21.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1857	586	113	1777	0				660	0	1258
V/C Ratio(X)	0.00	0.50	0.32	0.88	0.40	0.00				0.42	0.00	0.55
Avail Cap(c_a), veh/h	0	1857	586	167	1777	0				660	0	1258
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.74	0.74	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.2	27.0	48.2	0.0	0.0				24.7	0.0	26.6
Incr Delay (d2), s/veh	0.0	0.1	0.1	21.5	0.5	0.0				2.0	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.6	3.7	3.2	0.1	0.0				5.7	0.0	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	29.3	27.1	69.7	0.5	0.0				26.7	0.0	28.3
LnGrp LOS	A	C	C	E	A	A				C	A	C
Approach Vol, veh/h		1111			802						975	
Approach Delay, s/veh		29.0			9.0						27.9	
Approach LOS		C			A						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.7	49.3		55.0		65.0
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0
Max Green Setting (Gmax), s	16.5	39.0		50.0		60.0
Max Q Clear Time (g_c+I1), s	11.5	19.1		23.0		2.0
Green Ext Time (p_c), s	0.1	4.2		2.9		3.0

Intersection Summary		
HCM 6th Ctrl Delay		23.1
HCM 6th LOS		C

Notes

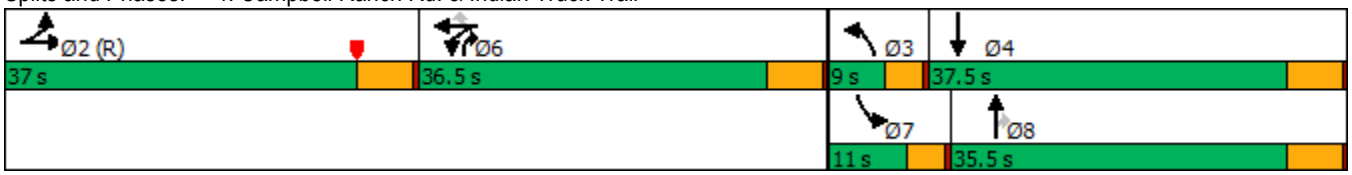
User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	932	0	482	439	700	394	458		
Future Volume (vph)	932	0	482	439	700	394	458		
Turn Type	Split	NA	Perm	NA	pm+ov	Prot	NA		
Protected Phases	6	6		8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	6	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	36.5	35.5	36.5	9.0	10.5	36.5	9.0
Total Split (s)	36.5	36.5	36.5	35.5	36.5	11.0	37.5	37.0	9.0
Total Split (%)	30.4%	30.4%	30.4%	29.6%	30.4%	9.2%	31.3%	31%	8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5		
Lead/Lag				Lag		Lead	Lag		Lead
Lead-Lag Optimize?				Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Max	None	None	Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	932	0	482	0	439	700	394	458	0
Future Volume (veh/h)	0	0	0	932	0	482	0	439	700	394	458	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	1157	0	309	0	477	629	428	498	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	499	0	935	0	410	2	902	819	205	1233	0
Arrive On Green	0.00	0.00	0.00	0.26	0.00	0.26	0.00	0.25	0.25	0.06	0.34	0.00
Sat Flow, veh/h	0	1900	0	3619	0	1588	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	1157	0	309	0	477	629	428	498	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1588	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	31.0	0.0	21.5	0.0	13.7	30.0	7.0	12.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	31.0	0.0	21.5	0.0	13.7	30.0	7.0	12.6	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	499	0	935	0	410	2	903	819	205	1233	0
V/C Ratio(X)	0.00	0.00	0.00	1.24	0.00	0.75	0.00	0.53	0.77	2.09	0.40	0.00
Avail Cap(c_a), veh/h	0	499	0	935	0	410	75	903	819	205	1233	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.87	0.00	0.87	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	44.5	0.0	41.0	0.0	38.9	21.9	56.5	30.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	115.0	0.0	6.7	0.0	2.2	6.8	506.8	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	28.3	0.0	8.9	0.0	6.2	20.3	17.4	5.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	159.5	0.0	47.7	0.0	41.1	28.7	563.3	31.2	0.0
LnGrp LOS	A	A	A	F	A	D	A	D	C	F	C	A
Approach Vol, veh/h		0			1466			1106			926	
Approach Delay, s/veh		0.0			135.9			34.1			277.1	
Approach LOS					F			C			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		37.0	0.0	46.5		36.5	11.0	35.5				
Change Period (Y+Rc), s		5.5	4.0	5.5		5.5	4.0	5.5				
Max Green Setting (Gmax), s		31.5	5.0	32.0		31.0	7.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	14.6		33.0	9.0	32.0				
Green Ext Time (p_c), s		0.0	0.0	2.7		0.0	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		141.1
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	78.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	267	155	217	58	358	277
Future Vol, veh/h	267	155	217	58	358	277
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	281	163	228	61	377	292

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	444	0	880	363
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	517	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1127	-	~ 320	686
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	603	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1127	-	~ 253	686
Mov Cap-2 Maneuver	-	-	-	-	~ 253	-
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	477	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.1	162.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	253	686	-	-	1127	-
HCM Lane V/C Ratio	1.489	0.425	-	-	0.203	-
HCM Control Delay (s)	276.6	14.1	-	-	9	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	21.9	2.1	-	-	0.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	135.8
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	147	697	284	488	287	85
Future Vol, veh/h	147	697	284	488	287	85
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	150	711	290	498	293	87
Number of Lanes	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	254	57.2	30.6
HCM LOS	F	F	D

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	100%	0%	17%	0%
Vol Thru, %	0%	100%	0%	77%
Vol Right, %	0%	0%	83%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	284	488	844	372
LT Vol	284	0	147	0
Through Vol	0	488	0	287
RT Vol	0	0	697	85
Lane Flow Rate	290	498	861	380
Geometry Grp	7	7	2	5
Degree of Util (X)	0.625	1.006	1.505	0.727
Departure Headway (Hd)	9.195	8.674	6.293	8.346
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	397	423	586	437
Service Time	6.895	6.374	4.302	6.346
HCM Lane V/C Ratio	0.73	1.177	1.469	0.87
HCM Control Delay	26	75.4	254	30.6
HCM Lane LOS	D	F	F	D
HCM 95th-tile Q	4.1	12.7	43.5	5.7

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	0	10	0	0	0	15	772	0	0	984	47
Future Vol, veh/h	29	0	10	0	0	0	15	772	0	0	984	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	31	0	11	0	0	0	16	813	0	0	1036	49

Major/Minor	Minor2				Major1			Major2		
Conflicting Flow All	1906	1906	1061		1085	0	-	-	-	0
Stage 1	1061	1061	-		-	-	-	-	-	-
Stage 2	845	845	-		-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2		4.1	-	-	-	-	-
Critical Hdwy Stg 1	5.4	5.5	-		-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-		-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3		2.2	-	-	-	-	-
Pot Cap-1 Maneuver	76	69	274		651	-	0	0	-	-
Stage 1	336	303	-		-	-	0	0	-	-
Stage 2	425	382	-		-	-	0	0	-	-
Platoon blocked, %						-			-	-
Mov Cap-1 Maneuver	74	0	274		651	-	-	-	-	-
Mov Cap-2 Maneuver	202	0	-		-	-	-	-	-	-
Stage 1	328	0	-		-	-	-	-	-	-
Stage 2	425	0	-		-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.4	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	651	-	217	-	-
HCM Lane V/C Ratio	0.024	-	0.189	-	-
HCM Control Delay (s)	10.7	-	25.4	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	7	71	0	1	153	29	0	0	1	73	0	18
Future Vol, veh/h	7	71	0	1	153	29	0	0	1	73	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	81	0	1	174	33	0	0	1	83	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	207	0	0	81	0	0	300	306	81	291	290	191
Stage 1	-	-	-	-	-	-	97	97	-	193	193	-
Stage 2	-	-	-	-	-	-	203	209	-	98	97	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1376	-	-	1529	-	-	656	611	985	665	624	856
Stage 1	-	-	-	-	-	-	914	819	-	813	745	-
Stage 2	-	-	-	-	-	-	804	733	-	913	819	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1376	-	-	1529	-	-	637	607	985	661	620	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	637	607	-	661	620	-
Stage 1	-	-	-	-	-	-	909	814	-	808	744	-
Stage 2	-	-	-	-	-	-	784	732	-	906	814	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	8.7	11.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	985	1376	-	-	1529	-	-	692
HCM Lane V/C Ratio	0.001	0.006	-	-	0.001	-	-	0.149
HCM Control Delay (s)	8.7	7.6	0	-	7.4	0	-	11.1
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	131	137	212	292	29
Future Vol, veh/h	13	131	137	212	292	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	154	161	249	344	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	932	361	378	0	-	0
Stage 1	361	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	298	688	1192	-	-	-
Stage 1	710	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	258	688	1192	-	-	-
Mov Cap-2 Maneuver	387	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	569	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	3.3	0
HCM LOS	B		

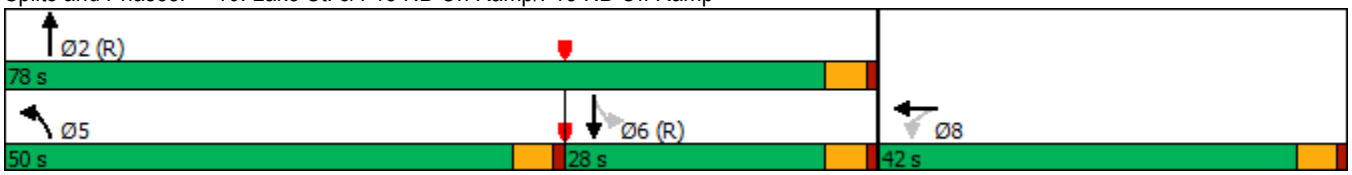
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1192	-	643	-	-
HCM Lane V/C Ratio	0.135	-	0.263	-	-
HCM Control Delay (s)	8.5	-	12.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	1.1	-	-

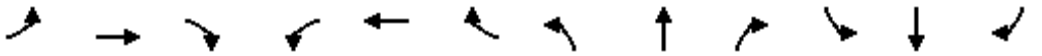
Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	327	4	472	18	12
Future Volume (vph)	327	4	472	18	12
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	42.0	42.0	50.0	78.0	28.0
Total Split (%)	35.0%	35.0%	41.7%	65.0%	23.3%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	327	4	12	472	18	0	0	12	9
Future Volume (veh/h)	0	0	0	327	4	12	472	18	0	0	12	9
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				344	4	13	497	19	0	0	13	9
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				380	83	268	526	1352	0	0	400	277
Arrive On Green				0.21	0.21	0.21	0.29	0.71	0.00	0.00	0.38	0.38
Sat Flow, veh/h				1810	393	1277	1810	1900	0	0	1046	724
Grp Volume(v), veh/h				344	0	17	497	19	0	0	0	22
Grp Sat Flow(s),veh/h/ln				1810	0	1670	1810	1900	0	0	0	1770
Q Serve(g_s), s				22.3	0.0	1.0	32.2	0.3	0.0	0.0	0.0	0.9
Cycle Q Clear(g_c), s				22.3	0.0	1.0	32.2	0.3	0.0	0.0	0.0	0.9
Prop In Lane				1.00		0.76	1.00		0.00	0.00		0.41
Lane Grp Cap(c), veh/h				380	0	351	526	1352	0	0	0	677
V/C Ratio(X)				0.90	0.00	0.05	0.94	0.01	0.00	0.00	0.00	0.03
Avail Cap(c_a), veh/h				562	0	519	685	1352	0	0	0	677
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.58	0.58	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				46.2	0.0	37.8	41.6	5.0	0.0	0.0	0.0	23.2
Incr Delay (d2), s/veh				13.4	0.0	0.1	11.5	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.4	0.0	0.4	15.9	0.1	0.0	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				59.6	0.0	37.9	53.1	5.1	0.0	0.0	0.0	23.3
LnGrp LOS				E	A	D	D	A	A	A	A	C
Approach Vol, veh/h					361			516			22	
Approach Delay, s/veh					58.6			51.3			23.3	
Approach LOS					E			D			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	90.1		39.5	50.6		29.9						
Change Period (Y+Rc), s	* 4.7		4.6	* 4.7		4.7						
Max Green Setting (Gmax), s	* 73		45.4	* 23		37.3						
Max Q Clear Time (g_c+I1), s	2.3		34.2	2.9		24.3						
Green Ext Time (p_c), s	0.1		0.7	0.0		1.0						

Intersection Summary		
HCM 6th Ctrl Delay	53.6	
HCM 6th LOS	D	

Notes

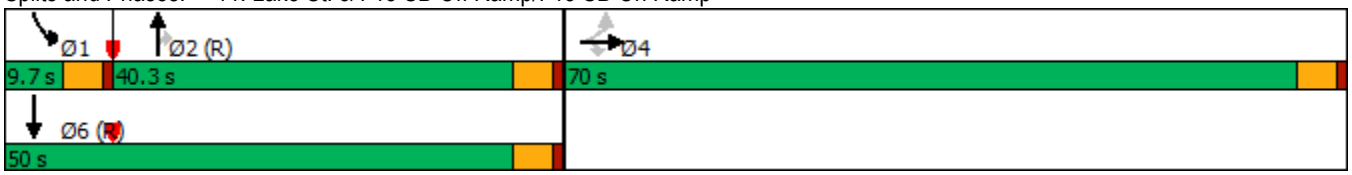
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

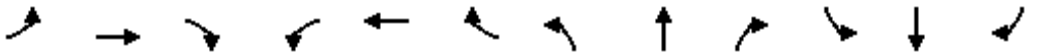
Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	1079	486	366	6	333
Future Volume (vph)	10	1079	486	366	6	333
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	70.0	70.0	40.3	40.3	9.7	50.0
Total Split (%)	58.3%	58.3%	33.6%	33.6%	8.1%	41.7%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	10	1079	0	0	0	0	486	366	6	333	0
Future Volume (veh/h)	4	10	1079	0	0	0	0	486	366	6	333	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	4	11	1136				0	512	385	6	351	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	272	748	876				0	630	534	14	717	0
Arrive On Green	0.54	0.54	0.54				0.00	0.33	0.33	0.00	0.12	0.00
Sat Flow, veh/h	500	1375	1610				0	1900	1610	1810	1900	0
Grp Volume(v), veh/h	15	0	1136				0	512	385	6	351	0
Grp Sat Flow(s),veh/h/ln	1875	0	1610				0	1900	1610	1810	1900	0
Q Serve(g_s), s	0.4	0.0	65.3				0.0	29.6	25.2	0.4	20.7	0.0
Cycle Q Clear(g_c), s	0.4	0.0	65.3				0.0	29.6	25.2	0.4	20.7	0.0
Prop In Lane	0.27		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1020	0	876				0	630	534	14	717	0
V/C Ratio(X)	0.01	0.00	1.30				0.00	0.81	0.72	0.44	0.49	0.00
Avail Cap(c_a), veh/h	1020	0	876				0	630	534	77	717	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	0.62	0.62	0.56	0.56	0.00
Uniform Delay (d), s/veh	12.6	0.0	27.3				0.0	36.7	35.2	59.6	41.7	0.0
Incr Delay (d2), s/veh	0.0	0.0	141.9				0.0	7.1	5.2	4.5	1.3	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	0.2	0.0	58.2				0.0	14.8	10.6	0.2	10.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	0.0	169.2				0.0	43.8	40.4	64.1	43.1	0.0
LnGrp LOS	B	A	F				A	D	D	E	D	A
Approach Vol, veh/h		1151						897			357	
Approach Delay, s/veh		167.2						42.3			43.4	
Approach LOS		F						D			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.5	44.5		70.0		50.0
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	5.1	* 36		* 65		* 45
Max Q Clear Time (g_c+I1), s	2.4	31.6		67.3		22.7
Green Ext Time (p_c), s	0.0	1.8		0.0		2.1

Intersection Summary		
HCM 6th Ctrl Delay		102.2
HCM 6th LOS		F

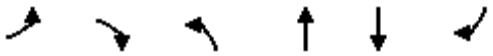
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	383	484	322	469	1047
Future Volume (vph)	383	484	322	469	1047
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	27.6	27.6	12.6	92.4	79.8
Total Split (%)	23.0%	23.0%	10.5%	77.0%	66.5%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min

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

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	383	484	322	469	1047	365
Future Volume (veh/h)	383	484	322	469	1047	365
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	403	466	339	494	1102	359
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	345	307	121	1389	859	280
Arrive On Green	0.19	0.19	0.07	0.73	0.63	0.63
Sat Flow, veh/h	1810	1610	1810	1900	1372	447
Grp Volume(v), veh/h	403	466	339	494	0	1461
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1900	0	1820
Q Serve(g_s), s	22.9	22.9	8.0	11.3	0.0	75.1
Cycle Q Clear(g_c), s	22.9	22.9	8.0	11.3	0.0	75.1
Prop In Lane	1.00	1.00	1.00			0.25
Lane Grp Cap(c), veh/h	345	307	121	1389	0	1139
V/C Ratio(X)	1.17	1.52	2.81	0.36	0.00	1.28
Avail Cap(c_a), veh/h	345	307	121	1389	0	1139
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	0.00	1.00
Uniform Delay (d), s/veh	48.5	48.5	56.0	5.9	0.0	22.5
Incr Delay (d2), s/veh	102.0	248.5	837.1	0.2	0.0	134.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.1	39.7	31.7	4.1	0.0	71.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	150.6	297.1	893.1	6.0	0.0	156.6
LnGrp LOS	F	F	F	A	A	F
Approach Vol, veh/h	869			833	1461	
Approach Delay, s/veh	229.1			367.0	156.6	
Approach LOS	F			F	F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		92.4		27.6	12.6	79.8
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 88		* 23	8.0	* 75
Max Q Clear Time (g_c+I1), s		13.3		24.9	10.0	77.1
Green Ext Time (p_c), s		3.6		0.0	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		232.0
HCM 6th LOS		F

Notes

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

APPENDIX 7.2:

HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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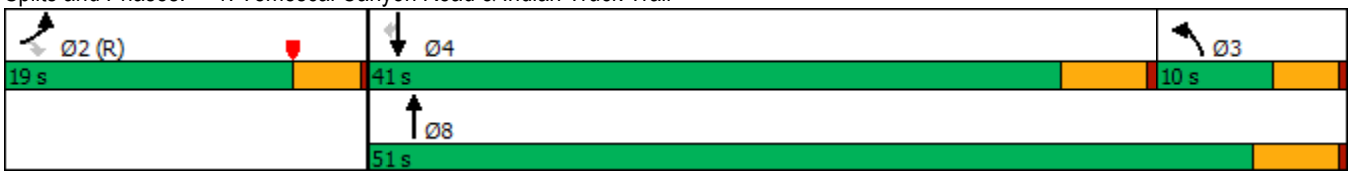
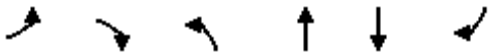
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	797	484	325	469	70	463
Future Volume (vph)	797	484	325	469	70	463
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	40.0
Total Split (s)	19.0	19.0	10.0	51.0	41.0	41.0
Total Split (%)	27.1%	27.1%	14.3%	72.9%	58.6%	58.6%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	18.9	18.9	25.0	42.1	13.2	13.2
Actuated g/C Ratio	0.27	0.27	0.36	0.60	0.19	0.19
v/c Ratio	0.92	0.66	0.55	0.45	0.22	0.72
Control Delay	42.3	7.0	29.7	9.4	21.7	8.1
Queue Delay	46.6	0.6	0.0	0.0	0.0	0.0
Total Delay	88.9	7.6	29.7	9.4	21.7	8.1
LOS	F	A	C	A	C	A
Approach Delay	58.2			17.7	9.9	
Approach LOS	E			B	A	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 2:EBL and 6:, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 36.0	Intersection LOS: D
Intersection Capacity Utilization 54.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	797	484	325	469	70	463
Future Volume (veh/h)	797	484	325	469	70	463
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	866	526	353	510	76	503
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1251	556	154	969	680	558
Arrive On Green	0.36	0.36	0.09	0.52	0.36	0.36
Sat Flow, veh/h	3510	1562	1791	1900	1900	1558
Grp Volume(v), veh/h	866	526	353	510	76	503
Grp Sat Flow(s),veh/h/ln	1755	1562	1791	1881	1900	1558
Q Serve(g_s), s	14.8	22.9	6.0	12.6	1.9	21.4
Cycle Q Clear(g_c), s	14.8	22.9	6.0	12.6	1.9	21.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1251	556	154	969	680	558
V/C Ratio(X)	0.69	0.95	2.30	0.53	0.11	0.90
Avail Cap(c_a), veh/h	1251	556	154	1236	977	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	21.9	32.0	11.3	15.0	21.3
Incr Delay (d2), s/veh	2.8	24.6	604.6	0.3	0.1	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	11.1	28.2	4.4	0.7	8.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.1	46.5	636.6	11.6	15.1	30.5
LnGrp LOS	C	D	F	B	B	C
Approach Vol, veh/h	1392			863	579	
Approach Delay, s/veh	31.3			267.2	28.5	
Approach LOS	C			F	C	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		28.9	11.0	30.1		41.1
Change Period (Y+Rc), s		4.0	5.0	* 5		5.0
Max Green Setting (Gmax), s		15.0	6.0	* 36		46.0
Max Q Clear Time (g_c+I1), s		24.9	8.0	23.4		14.6
Green Ext Time (p_c), s		0.0	0.0	1.4		2.6

Intersection Summary	
HCM 6th Ctrl Delay	102.6
HCM 6th LOS	F

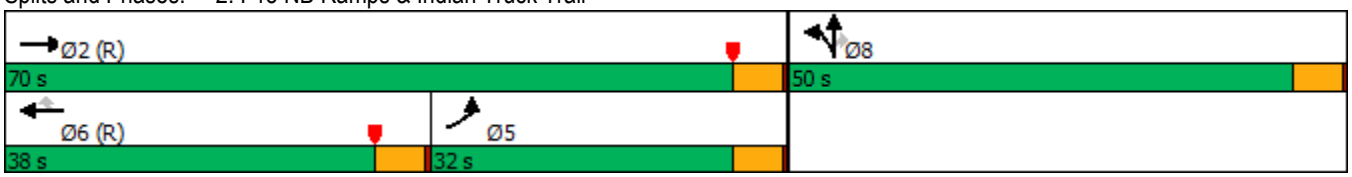
Notes

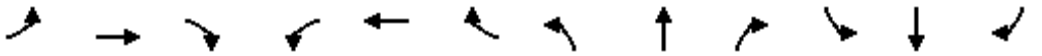
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	441	634	451	337	259	4	647
Future Volume (vph)	441	634	451	337	259	4	647
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	30.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	32.0	70.0	38.0	38.0	50.0	50.0	50.0
Total Split (%)	26.7%	58.3%	31.7%	31.7%	41.7%	41.7%	41.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max
Act Effct Green (s)	27.0	65.0	33.0	33.0	45.0	45.0	45.0
Actuated g/C Ratio	0.22	0.54	0.28	0.28	0.38	0.38	0.38
v/c Ratio	0.63	0.41	0.80	0.54	0.41	0.60	0.58
Control Delay	36.9	11.3	51.6	6.6	30.2	17.1	16.5
Queue Delay	0.0	0.0	34.3	1.3	0.0	0.0	0.0
Total Delay	36.9	11.3	85.9	7.9	30.2	17.1	16.5
LOS	D	B	F	A	C	B	B
Approach Delay		21.8	52.6			20.3	
Approach LOS		C	D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 30.0	Intersection LOS: C
Intersection Capacity Utilization 62.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: I-15 NB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	441	634	0	0	451	337	259	4	647	0	0	0
Future Volume (veh/h)	441	634	0	0	451	337	259	4	647	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1678	0	0	981	1811	1841	1900	1678			
Adj Flow Rate, veh/h	479	689	0	0	490	336	189	0	644			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	3	15	0	0	62	6	4	0	15			
Cap, veh/h	771	1727	0	0	513	422	657	0	1066			
Arrive On Green	0.07	0.18	0.00	0.00	0.28	0.28	0.38	0.00	0.38			
Sat Flow, veh/h	3428	3272	0	0	1913	1535	1753	0	2844			
Grp Volume(v), veh/h	479	689	0	0	490	336	189	0	644			
Grp Sat Flow(s),veh/h/ln	1714	1594	0	0	932	1535	1753	0	1422			
Q Serve(g_s), s	16.3	22.9	0.0	0.0	31.0	24.4	9.1	0.0	22.0			
Cycle Q Clear(g_c), s	16.3	22.9	0.0	0.0	31.0	24.4	9.1	0.0	22.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	771	1727	0	0	513	422	657	0	1066			
V/C Ratio(X)	0.62	0.40	0.00	0.00	0.96	0.80	0.29	0.00	0.60			
Avail Cap(c_a), veh/h	771	1727	0	0	513	422	657	0	1066			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.66	0.66	0.00	0.00	0.71	0.71	1.00	0.00	1.00			
Uniform Delay (d), s/veh	50.6	32.0	0.0	0.0	42.8	40.4	26.3	0.0	30.3			
Incr Delay (d2), s/veh	1.0	0.5	0.0	0.0	24.3	10.6	1.1	0.0	2.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.6	9.8	0.0	0.0	8.6	10.1	3.9	0.0	7.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	32.5	0.0	0.0	67.1	51.0	27.4	0.0	32.8			
LnGrp LOS	D	C	A	A	E	D	C	A	C			
Approach Vol, veh/h		1168			826			833				
Approach Delay, s/veh		40.3			60.5			31.6				
Approach LOS		D			E			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		70.0			32.0	38.0		50.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		65.0			27.0	33.0		45.0				
Max Q Clear Time (g_c+I1), s		24.9			18.3	33.0		24.0				
Green Ext Time (p_c), s		3.0			1.2	0.0		2.4				

Intersection Summary	
HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

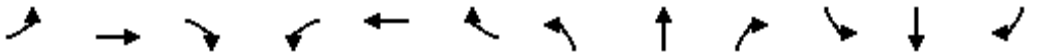
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	624	222	204	507	452	9	403
Future Volume (vph)	624	222	204	507	452	9	403
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	9.5	25.0	10.0	10.0	10.0
Total Split (s)	51.0	51.0	32.0	83.0	37.0	37.0	37.0
Total Split (%)	42.5%	42.5%	26.7%	69.2%	30.8%	30.8%	30.8%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	4.5	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max
Act Effct Green (s)	49.1	49.1	24.4	78.0	32.0	32.0	32.0
Actuated g/C Ratio	0.41	0.41	0.20	0.65	0.27	0.27	0.27
v/c Ratio	0.33	0.31	0.86	0.24	1.19	0.42	0.41
Control Delay	25.4	4.1	79.2	18.4	145.0	7.9	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.4	4.1	79.2	18.4	145.0	7.9	6.9
LOS	C	A	E	B	F	A	A
Approach Delay	19.8			35.9		79.3	
Approach LOS	B			D		E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 102 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.19	
Intersection Signal Delay: 45.8	Intersection LOS: D
Intersection Capacity Utilization 62.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: I-15 SB Ramps & Indian Truck Trail



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	624	222	204	507	0	0	0	0	452	9	403
Future Volume (veh/h)	0	624	222	204	507	0	0	0	0	452	9	403
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1870	1278	1870	0				1663	1900	1781
Adj Flow Rate, veh/h	0	678	236	222	551	0				491	0	439
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	2	42	2	0				16	0	8
Cap, veh/h	0	2102	663	236	2310	0				422	0	805
Arrive On Green	0.00	0.42	0.42	0.39	1.00	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	5191	1585	1217	3647	0				1584	0	3019
Grp Volume(v), veh/h	0	678	236	222	551	0				491	0	439
Grp Sat Flow(s),veh/h/ln	0	1675	1585	1217	1777	0				1584	0	1510
Q Serve(g_s), s	0.0	10.9	12.2	21.1	0.0	0.0				32.0	0.0	15.0
Cycle Q Clear(g_c), s	0.0	10.9	12.2	21.1	0.0	0.0				32.0	0.0	15.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2102	663	236	2310	0				422	0	805
V/C Ratio(X)	0.00	0.32	0.36	0.94	0.24	0.00				1.16	0.00	0.55
Avail Cap(c_a), veh/h	0	2102	663	279	2310	0				422	0	805
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.79	0.79	0.69	0.69	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	23.5	23.9	36.0	0.0	0.0				44.0	0.0	37.8
Incr Delay (d2), s/veh	0.0	0.3	1.2	27.5	0.2	0.0				96.3	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.2	4.6	6.4	0.1	0.0				23.3	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.8	25.0	63.5	0.2	0.0				140.3	0.0	40.4
LnGrp LOS	A	C	C	E	A	A				F	A	D
Approach Vol, veh/h		914			773						930	
Approach Delay, s/veh		24.1			18.4						93.2	
Approach LOS		C			B						F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	27.8	55.2		37.0		83.0
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0
Max Green Setting (Gmax), s	27.5	46.0		32.0		78.0
Max Q Clear Time (g_c+I1), s	23.1	14.2		34.0		2.0
Green Ext Time (p_c), s	0.3	3.3		0.0		2.3

Intersection Summary		
HCM 6th Ctrl Delay		47.0
HCM 6th LOS		D

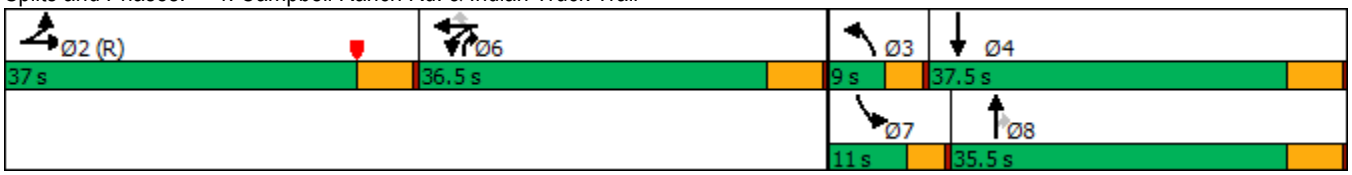
Notes

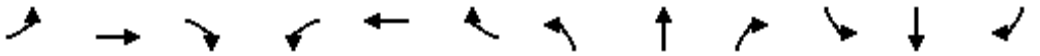
User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	565	0	345	479	571	275	404		
Future Volume (vph)	565	0	345	479	571	275	404		
Turn Type	Split	NA	Perm	NA	pm+ov	Prot	NA		
Protected Phases	6	6		8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	6	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	36.5	35.5	36.5	9.0	10.5	36.5	9.0
Total Split (s)	36.5	36.5	36.5	35.5	36.5	11.0	37.5	37.0	9.0
Total Split (%)	30.4%	30.4%	30.4%	29.6%	30.4%	9.2%	31.3%	31%	8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5		
Lead/Lag				Lag		Lead	Lag		Lead
Lead-Lag Optimize?				Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Min	None	None	Min	C-Max	None
Act Effct Green (s)	29.2	29.2	29.2	23.2	52.4	8.8	35.9		
Actuated g/C Ratio	0.24	0.24	0.24	0.19	0.44	0.07	0.30		
v/c Ratio	0.81	0.72	0.52	0.75	0.59	1.17	0.41		
Control Delay	49.5	28.1	5.2	52.4	3.3	159.1	34.6		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	49.5	28.1	5.2	52.4	3.3	159.1	34.6		
LOS	D	C	A	D	A	F	C		
Approach Delay		28.2		25.7			85.0		
Approach LOS		C		C			F		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 31.5 (26%), Referenced to phase 2:EBTL, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.17	
Intersection Signal Delay: 41.8	Intersection LOS: D
Intersection Capacity Utilization 52.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	565	0	345	0	479	571	275	404	0
Future Volume (veh/h)	0	0	0	565	0	345	0	479	571	275	404	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	688	0	159	0	521	431	299	439	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	609	0	784	0	344	2	843	725	205	1174	0
Arrive On Green	0.00	0.00	0.00	0.22	0.00	0.22	0.00	0.23	0.23	0.06	0.33	0.00
Sat Flow, veh/h	0	1900	0	3619	0	1588	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	688	0	159	0	521	431	299	439	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1588	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	22.1	0.0	10.5	0.0	15.5	24.1	7.0	11.2	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	22.1	0.0	10.5	0.0	15.5	24.1	7.0	11.2	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	609	0	784	0	344	2	843	725	205	1174	0
V/C Ratio(X)	0.00	0.00	0.00	0.88	0.00	0.46	0.00	0.62	0.59	1.46	0.37	0.00
Avail Cap(c_a), veh/h	0	609	0	935	0	410	75	903	751	205	1174	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.97	0.00	0.97	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	45.5	0.0	40.9	0.0	41.2	24.8	56.5	31.1	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	8.2	0.0	0.9	0.0	1.2	1.2	232.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	10.5	0.0	4.1	0.0	6.8	13.1	9.6	4.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	53.6	0.0	41.9	0.0	42.4	26.0	288.5	31.3	0.0
LnGrp LOS	A	A	A	D	A	D	A	D	C	F	C	A
Approach Vol, veh/h		0			847			952			738	
Approach Delay, s/veh		0.0			51.4			34.9			135.5	
Approach LOS					D			C			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.0	0.0	44.5		31.5	11.0	33.5				
Change Period (Y+Rc), s		5.5	4.0	5.5		5.5	4.0	5.5				
Max Green Setting (Gmax), s		31.5	5.0	32.0		31.0	7.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	13.2		24.1	9.0	26.1				
Green Ext Time (p_c), s		0.0	0.0	2.4		1.9	0.0	1.8				

Intersection Summary		
HCM 6th Ctrl Delay		69.7
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	101

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	62	376	328	359	226	216
Future Vol, veh/h	62	376	328	359	226	216
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	65	396	345	378	238	227

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	461	0	1331	263
Stage 1	-	-	-	-	263	-
Stage 2	-	-	-	-	1068	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1111	-	~ 172	781
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	333	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1111	-	~ 104	781
Mov Cap-2 Maneuver	-	-	-	-	~ 104	-
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	~ 202	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.6	$ 350.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	104	781	-	-	1111	-
HCM Lane V/C Ratio	2.287	0.291	-	-	0.311	-
HCM Control Delay (s)	$ 675	11.5	-	-	9.7	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	21	1.2	-	-	1.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	80.5
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	249	361	402	655	49
Future Vol, veh/h	38	249	361	402	655	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	41	271	392	437	712	53
Number of Lanes	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	18.1	29.5	161.3
HCM LOS	C	D	F

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	100%	0%	13%	0%
Vol Thru, %	0%	100%	0%	93%
Vol Right, %	0%	0%	87%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	361	402	287	704
LT Vol	361	0	38	0
Through Vol	0	402	0	655
RT Vol	0	0	249	49
Lane Flow Rate	392	437	312	765
Geometry Grp	7	7	2	5
Degree of Util (X)	0.756	0.781	0.552	1.287
Departure Headway (Hd)	7.318	6.805	6.926	6.055
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	498	537	524	605
Service Time	5.018	4.505	4.926	4.065
HCM Lane V/C Ratio	0.787	0.814	0.595	1.264
HCM Control Delay	29.3	29.7	18.1	161.3
HCM Lane LOS	D	D	C	F
HCM 95th-tile Q	6.5	7.2	3.3	30.6

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	98	665	15	334	570
Future Vol, veh/h	4	98	665	15	334	570
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	103	700	16	352	600

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2012	708	0	0	716	0
Stage 1	708	-	-	-	-	-
Stage 2	1304	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	66	438	-	-	894	-
Stage 1	492	-	-	-	-	-
Stage 2	257	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	40	438	-	-	894	-
Mov Cap-2 Maneuver	143	-	-	-	-	-
Stage 1	492	-	-	-	-	-
Stage 2	156	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.1	0	4.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	405	894	-
HCM Lane V/C Ratio	-	-	0.265	0.393	-
HCM Control Delay (s)	-	-	17.1	11.6	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	1.1	1.9	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	32	92	0	0	43	128	0	0	0	36	0	10
Future Vol, veh/h	32	92	0	0	43	128	0	0	0	36	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	41	116	0	0	54	162	0	0	0	46	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	216	0	0	116	0	0	340	414	116	333	333	135
Stage 1	-	-	-	-	-	-	198	198	-	135	135	-
Stage 2	-	-	-	-	-	-	142	216	-	198	198	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1366	-	-	1485	-	-	618	532	942	624	590	919
Stage 1	-	-	-	-	-	-	808	741	-	873	789	-
Stage 2	-	-	-	-	-	-	866	728	-	808	741	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1366	-	-	1485	-	-	595	515	942	609	571	919
Mov Cap-2 Maneuver	-	-	-	-	-	-	595	515	-	609	571	-
Stage 1	-	-	-	-	-	-	782	717	-	845	789	-
Stage 2	-	-	-	-	-	-	854	728	-	782	717	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0	0	11
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1366	-	-	1485	-	-	657
HCM Lane V/C Ratio	-	0.03	-	-	-	-	-	0.089
HCM Control Delay (s)	0	7.7	0	-	0	-	-	11
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	198	184	415	272	14
Future Vol, veh/h	25	198	184	415	272	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	228	211	477	313	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1220	321	329	0	-	0
Stage 1	321	-	-	-	-	-
Stage 2	899	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	201	724	1242	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	167	724	1242	-	-	-
Mov Cap-2 Maneuver	293	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	401	-	-	-	-	-

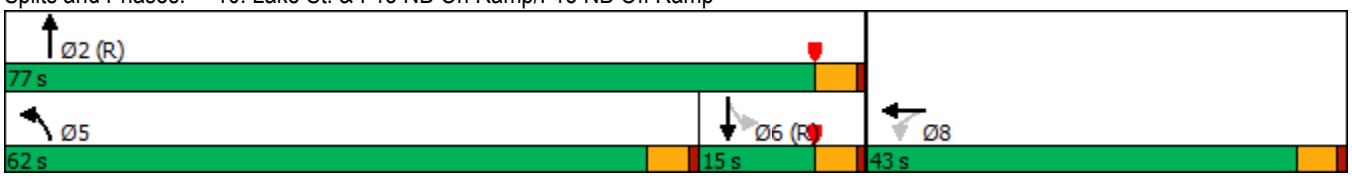
Approach	EB	NB	SB
HCM Control Delay, s	14.8	2.6	0
HCM LOS	B		

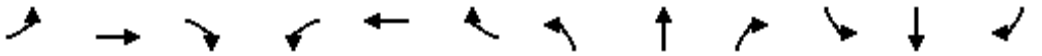
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1242	-	622	-	-
HCM Lane V/C Ratio	0.17	-	0.412	-	-
HCM Control Delay (s)	8.5	-	14.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	2	-	-

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	596	14	813	2	7
Future Volume (vph)	596	14	813	2	7
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	43.0	43.0	62.0	77.0	15.0
Total Split (%)	35.8%	35.8%	51.7%	64.2%	12.5%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	38.3	38.3	57.4	72.3	10.3
Actuated g/C Ratio	0.32	0.32	0.48	0.60	0.09
v/c Ratio	1.09	0.03	0.99	0.00	0.06
Control Delay	103.0	26.1	65.9	16.5	43.3
Queue Delay	0.0	0.0	37.2	0.0	0.0
Total Delay	103.0	26.1	103.1	16.5	43.3
LOS	F	C	F	B	D
Approach Delay		100.9		102.9	43.3
Approach LOS		F		F	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 10.3 (9%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 101.7	Intersection LOS: F
Intersection Capacity Utilization 100.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	596	14	2	813	2	0	0	7	3
Future Volume (veh/h)	0	0	0	596	14	2	813	2	0	0	7	3
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				627	15	2	856	2	0	0	7	3
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				578	524	70	866	1145	0	0	108	46
Arrive On Green				0.40	0.40	0.32	0.48	0.60	0.00	0.00	0.09	0.09
Sat Flow, veh/h				1810	1642	219	1810	1900	0	0	1262	541
Grp Volume(v), veh/h				627	0	17	856	2	0	0	0	10
Grp Sat Flow(s),veh/h/ln				1810	0	1861	1810	1900	0	0	0	1803
Q Serve(g_s), s				38.3	0.0	0.7	56.2	0.1	0.0	0.0	0.0	0.6
Cycle Q Clear(g_c), s				38.3	0.0	0.7	56.2	0.1	0.0	0.0	0.0	0.6
Prop In Lane				1.00		0.12	1.00		0.00	0.00		0.30
Lane Grp Cap(c), veh/h				578	0	594	866	1145	0	0	0	155
V/C Ratio(X)				1.09	0.00	0.03	0.99	0.00	0.00	0.00	0.00	0.06
Avail Cap(c_a), veh/h				578	0	594	866	1145	0	0	0	155
HCM Platoon Ratio				1.25	1.25	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.79	0.79	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				36.1	0.0	25.1	31.0	9.5	0.0	0.0	0.0	50.4
Incr Delay (d2), s/veh				62.8	0.0	0.0	24.4	0.0	0.0	0.0	0.0	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				25.8	0.0	0.3	29.4	0.0	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				98.9	0.0	25.2	55.4	9.5	0.0	0.0	0.0	51.2
LnGrp LOS				F	A	C	E	A	A	A	A	D
Approach Vol, veh/h					644			858			10	
Approach Delay, s/veh					96.9			55.3			51.2	
Approach LOS					F			E			D	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	77.0		62.0	15.0		43.0						
Change Period (Y+Rc), s	* 4.7		4.6	* 4.7		4.7						
Max Green Setting (Gmax), s	* 72		57.4	* 10		38.3						
Max Q Clear Time (g_c+I1), s	2.1		58.2	2.6		40.3						
Green Ext Time (p_c), s	0.0		0.0	0.0		0.0						

Intersection Summary		
HCM 6th Ctrl Delay	73.0	
HCM 6th LOS	E	

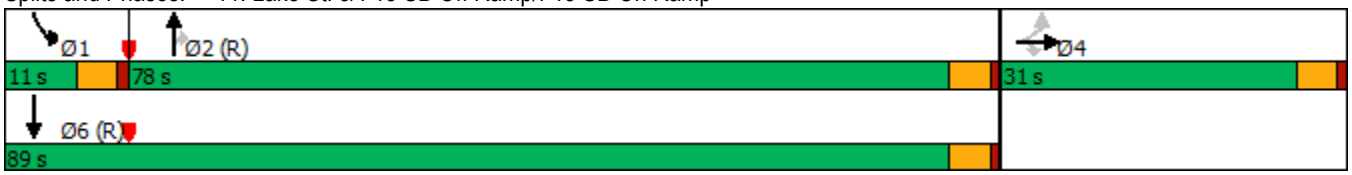
Notes

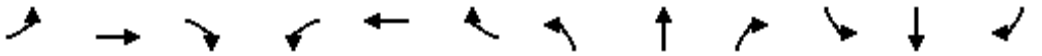
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	32	390	811	488	8	595
Future Volume (vph)	32	390	811	488	8	595
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	31.0	31.0	78.0	78.0	11.0	89.0
Total Split (%)	25.8%	25.8%	65.0%	65.0%	9.2%	74.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	15.2	15.2	93.2	93.2	5.4	95.4
Actuated g/C Ratio	0.13	0.13	0.78	0.78	0.04	0.80
v/c Ratio	0.16	0.82	0.58	0.39	0.10	0.41
Control Delay	45.1	22.8	9.6	3.2	58.4	3.3
Queue Delay	0.0	0.0	1.0	0.0	0.0	0.2
Total Delay	45.1	22.8	10.6	3.2	58.4	3.5
LOS	D	C	B	A	E	A
Approach Delay	24.7		7.8			4.2
Approach LOS	C		A			A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 10.0	Intersection LOS: A
Intersection Capacity Utilization 100.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	32	390	0	0	0	0	811	488	8	595	0
Future Volume (veh/h)	4	32	390	0	0	0	0	811	488	8	595	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	4	34	411				0	854	514	8	626	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	44	371	353				0	1243	1054	18	1335	0
Arrive On Green	0.22	0.22	0.22				0.00	0.65	0.65	0.01	0.70	0.00
Sat Flow, veh/h	199	1691	1610				0	1900	1610	1810	1900	0
Grp Volume(v), veh/h	38	0	411				0	854	514	8	626	0
Grp Sat Flow(s),veh/h/ln	1890	0	1610				0	1900	1610	1810	1900	0
Q Serve(g_s), s	1.9	0.0	26.3				0.0	33.9	19.4	0.5	17.5	0.0
Cycle Q Clear(g_c), s	1.9	0.0	26.3				0.0	33.9	19.4	0.5	17.5	0.0
Prop In Lane	0.11		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	414	0	353				0	1243	1054	18	1335	0
V/C Ratio(X)	0.09	0.00	1.16				0.00	0.69	0.49	0.45	0.47	0.00
Avail Cap(c_a), veh/h	414	0	353				0	1243	1054	97	1335	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.39	0.39	0.09	0.09	0.00
Uniform Delay (d), s/veh	37.3	0.0	46.8				0.0	13.0	10.5	59.1	7.9	0.0
Incr Delay (d2), s/veh	0.1	0.0	100.7				0.0	1.2	0.6	0.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	20.3				0.0	13.8	6.7	0.2	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	0.0	147.5				0.0	14.2	11.2	59.7	8.0	0.0
LnGrp LOS	D	A	F				A	B	B	E	A	A
Approach Vol, veh/h		449						1368			634	
Approach Delay, s/veh		138.2						13.1			8.7	
Approach LOS		F						B			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.8	83.2		31.0		89.0
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	6.4	* 73		* 26		* 84
Max Q Clear Time (g_c+I1), s	2.5	35.9		28.3		19.5
Green Ext Time (p_c), s	0.0	11.0		0.0		5.1

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

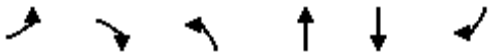
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	484	187	654	814	359
Future Volume (vph)	484	187	654	814	359
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	33.0	33.0	27.0	87.0	60.0
Total Split (%)	27.5%	27.5%	22.5%	72.5%	50.0%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	28.3	28.3	22.4	82.3	55.3
Actuated g/C Ratio	0.24	0.24	0.19	0.69	0.46
v/c Ratio	1.20	0.39	2.05	0.66	1.22
Control Delay	150.0	11.0	508.3	13.8	136.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	150.0	11.0	508.3	13.8	136.5
LOS	F	B	F	B	F
Approach Delay	111.2			234.0	136.5
Approach LOS	F			F	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.05	
Intersection Signal Delay: 176.9	Intersection LOS: F
Intersection Capacity Utilization 132.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	484	187	654	814	359	626
Future Volume (veh/h)	484	187	654	814	359	626
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	509	155	688	857	378	612
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	427	380	338	1303	301	487
Arrive On Green	0.24	0.24	0.19	0.69	0.46	0.46
Sat Flow, veh/h	1810	1610	1810	1900	653	1057
Grp Volume(v), veh/h	509	155	688	857	0	990
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1900	0	1710
Q Serve(g_s), s	28.3	9.8	22.4	31.0	0.0	55.3
Cycle Q Clear(g_c), s	28.3	9.8	22.4	31.0	0.0	55.3
Prop In Lane	1.00	1.00	1.00			0.62
Lane Grp Cap(c), veh/h	427	380	338	1303	0	788
V/C Ratio(X)	1.19	0.41	2.04	0.66	0.00	1.26
Avail Cap(c_a), veh/h	427	380	338	1303	0	788
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	0.00	1.00
Uniform Delay (d), s/veh	45.8	38.8	48.8	10.8	0.0	32.4
Incr Delay (d2), s/veh	107.7	0.7	476.8	1.2	0.0	125.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.4	9.2	54.8	12.3	0.0	49.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	153.6	39.5	525.6	12.0	0.0	158.0
LnGrp LOS	F	D	F	B	A	F
Approach Vol, veh/h	664			1545	990	
Approach Delay, s/veh	127.0			240.7	158.0	
Approach LOS	F			F	F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		87.0		33.0	27.0	60.0
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 82		* 28	22.4	* 55
Max Q Clear Time (g_c+I1), s		33.0		30.3	24.4	57.3
Green Ext Time (p_c), s		8.4		0.0	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		191.5
HCM 6th LOS		F

Notes

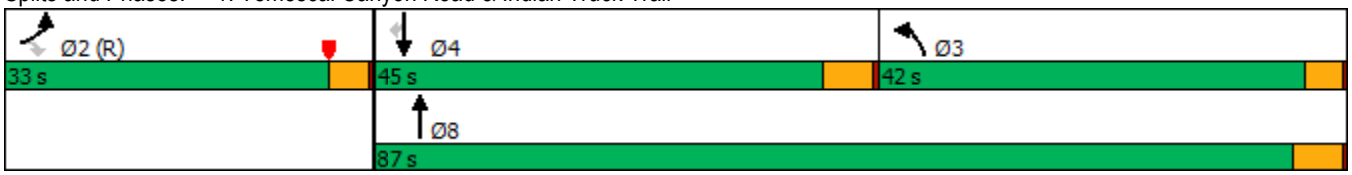
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

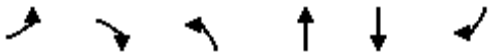
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	859	214	483	174	332	606
Future Volume (vph)	859	214	483	174	332	606
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	2		3	8	4	
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	40.0
Total Split (s)	33.0	33.0	42.0	87.0	45.0	45.0
Total Split (%)	27.5%	27.5%	35.0%	72.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	5.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	C-Max	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 68 (57%), Referenced to phase 2:EBL and 6:, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	859	214	483	174	332	606
Future Volume (veh/h)	859	214	483	174	332	606
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	934	206	525	189	361	623
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	863	396	551	1291	633	535
Arrive On Green	0.25	0.25	0.30	0.68	0.33	0.33
Sat Flow, veh/h	3510	1610	1810	1900	1900	1605
Grp Volume(v), veh/h	934	206	525	189	361	623
Grp Sat Flow(s),veh/h/ln	1755	1610	1810	1900	1900	1605
Q Serve(g_s), s	29.5	13.3	34.1	4.3	18.8	40.0
Cycle Q Clear(g_c), s	29.5	13.3	34.1	4.3	18.8	40.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	863	396	551	1291	633	535
V/C Ratio(X)	1.08	0.52	0.95	0.15	0.57	1.16
Avail Cap(c_a), veh/h	863	396	573	1298	633	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	39.1	40.9	6.9	32.9	40.0
Incr Delay (d2), s/veh	54.6	4.5	26.0	0.0	1.0	92.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.9	5.6	18.7	1.6	8.6	28.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	99.8	43.6	66.9	6.9	34.0	132.9
LnGrp LOS	F	D	E	A	C	F
Approach Vol, veh/h	1140			714	984	
Approach Delay, s/veh	89.7			51.0	96.6	
Approach LOS	F			D	F	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	33.5	41.5	45.0	86.5
Change Period (Y+Rc), s	4.0	5.0	* 5	5.0
Max Green Setting (Gmax), s	29.0	38.0	* 40	82.0
Max Q Clear Time (g_c+I1), s	31.5	36.1	42.0	6.3
Green Ext Time (p_c), s	0.0	0.4	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	82.3
HCM 6th LOS	F

Notes

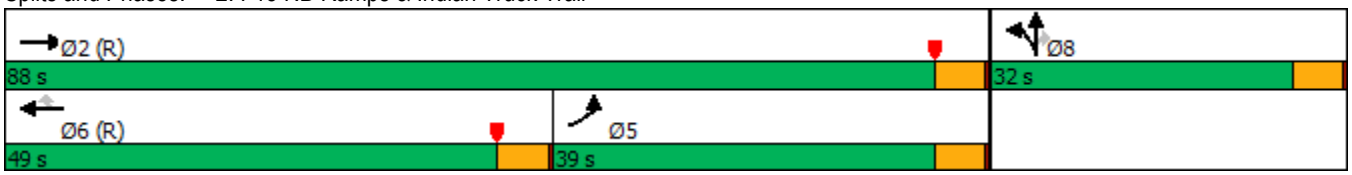
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

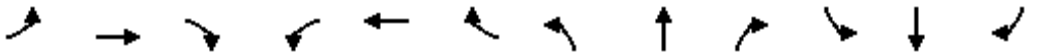
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	536	656	350	739	388	1	417
Future Volume (vph)	536	656	350	739	388	1	417
Turn Type	Prot	NA	NA	Perm	Split	NA	Perm
Protected Phases	5	2	6		8	8	
Permitted Phases				6			8
Detector Phase	5	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	30.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	39.0	88.0	49.0	49.0	32.0	32.0	32.0
Total Split (%)	32.5%	73.3%	40.8%	40.8%	26.7%	26.7%	26.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	5.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead	Lead			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: I-15 NB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	536	656	0	0	350	739	388	1	417	0	0	0
Future Volume (veh/h)	536	656	0	0	350	739	388	1	417	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1856	1678	0	0	981	1811	1841	1900	1678			
Adj Flow Rate, veh/h	583	713	0	0	380	640	554	0	281			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	3	15	0	0	62	6	4	0	15			
Cap, veh/h	971	2205	0	0	684	563	789	0	320			
Arrive On Green	0.19	0.46	0.00	0.00	0.37	0.37	0.22	0.00	0.22			
Sat Flow, veh/h	3428	3272	0	0	1913	1535	3506	0	1422			
Grp Volume(v), veh/h	583	713	0	0	380	640	554	0	281			
Grp Sat Flow(s),veh/h/ln	1714	1594	0	0	932	1535	1753	0	1422			
Q Serve(g_s), s	18.7	16.9	0.0	0.0	19.5	44.0	17.5	0.0	22.9			
Cycle Q Clear(g_c), s	18.7	16.9	0.0	0.0	19.5	44.0	17.5	0.0	22.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	971	2205	0	0	684	563	789	0	320			
V/C Ratio(X)	0.60	0.32	0.00	0.00	0.56	1.14	0.70	0.00	0.88			
Avail Cap(c_a), veh/h	971	2205	0	0	684	563	789	0	320			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.82	0.82	0.00	0.00	0.41	0.41	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.4	14.5	0.0	0.0	30.2	38.0	42.8	0.0	44.9			
Incr Delay (d2), s/veh	0.8	0.3	0.0	0.0	1.3	71.2	5.2	0.0	27.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.2	6.6	0.0	0.0	4.3	26.7	7.9	0.0	10.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	14.8	0.0	0.0	31.6	109.2	48.0	0.0	72.1			
LnGrp LOS	D	B	A	A	C	F	D	A	E			
Approach Vol, veh/h		1296			1020			835				
Approach Delay, s/veh		27.6			80.3			56.1				
Approach LOS		C			F			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		88.0			39.0	49.0		32.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		83.0			34.0	44.0		27.0				
Max Q Clear Time (g_c+I1), s		18.9			20.7	46.0		24.9				
Green Ext Time (p_c), s		3.1			1.8	0.0		0.6				
Intersection Summary												
HCM 6th Ctrl Delay			52.2									
HCM 6th LOS			D									

Notes

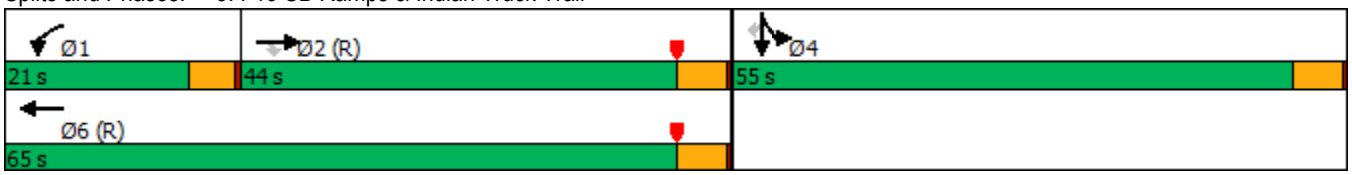
User approved volume balancing among the lanes for turning movement.

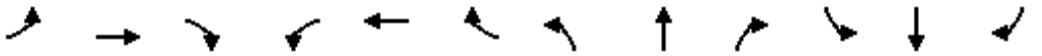
Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	885	242	91	647	307	9	780
Future Volume (vph)	885	242	91	647	307	9	780
Turn Type	NA	Perm	Prot	NA	Split	NA	Perm
Protected Phases	2		1	6	4	4	
Permitted Phases		2					4
Detector Phase	2	2	1	6	4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	9.5	25.0	10.0	10.0	10.0
Total Split (s)	44.0	44.0	21.0	65.0	55.0	55.0	55.0
Total Split (%)	36.7%	36.7%	17.5%	54.2%	45.8%	45.8%	45.8%
Yellow Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	4.5	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes				
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 3: I-15 SB Ramps & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	885	242	91	647	0	0	0	0	307	9	780
Future Volume (veh/h)	0	885	242	91	647	0	0	0	0	307	9	780
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1870	1278	1870	0				1663	1900	1781
Adj Flow Rate, veh/h	0	962	185	99	703	0				334	0	711
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	4	2	42	2	0				16	0	8
Cap, veh/h	0	1857	586	113	1777	0				660	0	1258
Arrive On Green	0.00	0.37	0.37	0.19	1.00	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	5191	1585	1217	3647	0				1584	0	3019
Grp Volume(v), veh/h	0	962	185	99	703	0				334	0	711
Grp Sat Flow(s),veh/h/ln	0	1675	1585	1217	1777	0				1584	0	1510
Q Serve(g_s), s	0.0	17.9	10.0	9.5	0.0	0.0				18.7	0.0	21.6
Cycle Q Clear(g_c), s	0.0	17.9	10.0	9.5	0.0	0.0				18.7	0.0	21.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1857	586	113	1777	0				660	0	1258
V/C Ratio(X)	0.00	0.52	0.32	0.88	0.40	0.00				0.51	0.00	0.57
Avail Cap(c_a), veh/h	0	1857	586	167	1777	0				660	0	1258
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.74	0.74	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.5	27.0	48.2	0.0	0.0				25.9	0.0	26.7
Incr Delay (d2), s/veh	0.0	0.1	0.1	21.5	0.5	0.0				2.8	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.9	3.7	3.2	0.1	0.0				7.2	0.0	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	29.6	27.1	69.7	0.5	0.0				28.6	0.0	28.5
LnGrp LOS	A	C	C	E	A	A				C	A	C
Approach Vol, veh/h		1147			802						1045	
Approach Delay, s/veh		29.2			9.0						28.6	
Approach LOS		C			A						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.7	49.3		55.0		65.0
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0
Max Green Setting (Gmax), s	16.5	39.0		50.0		60.0
Max Q Clear Time (g_c+I1), s	11.5	19.9		23.6		2.0
Green Ext Time (p_c), s	0.1	4.3		3.1		3.0

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

Notes

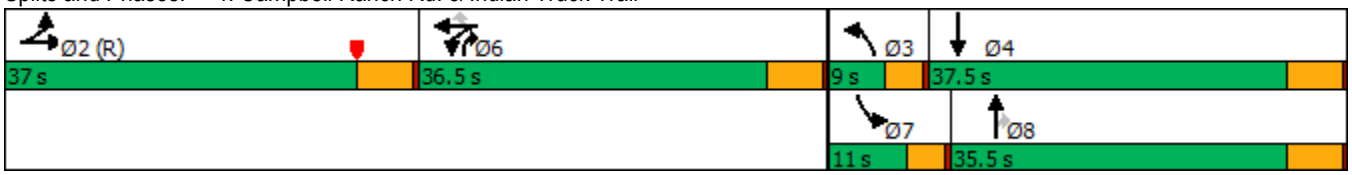
User approved volume balancing among the lanes for turning movement.

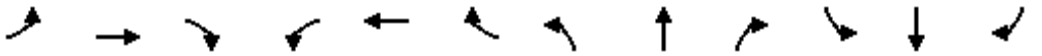
Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	944	0	482	472	733	394	470		
Future Volume (vph)	944	0	482	472	733	394	470		
Turn Type	Split	NA	Perm	NA	pm+ov	Prot	NA		
Protected Phases	6	6		8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	6	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	36.5	35.5	36.5	9.0	10.5	36.5	9.0
Total Split (s)	36.5	36.5	36.5	35.5	36.5	11.0	37.5	37.0	9.0
Total Split (%)	30.4%	30.4%	30.4%	29.6%	30.4%	9.2%	31.3%	31%	8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5		
Lead/Lag				Lag		Lead	Lag		Lead
Lead-Lag Optimize?				Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Max	None	None	Max	C-Max	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	944	0	482	0	472	733	394	470	0
Future Volume (veh/h)	0	0	0	944	0	482	0	472	733	394	470	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	1172	0	313	0	513	665	428	511	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	499	0	935	0	410	2	902	819	205	1233	0
Arrive On Green	0.00	0.00	0.00	0.26	0.00	0.26	0.00	0.25	0.25	0.06	0.34	0.00
Sat Flow, veh/h	0	1900	0	3619	0	1588	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	1172	0	313	0	513	665	428	511	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1588	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	31.0	0.0	21.8	0.0	14.9	30.0	7.0	13.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	31.0	0.0	21.8	0.0	14.9	30.0	7.0	13.0	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	499	0	935	0	410	2	903	819	205	1233	0
V/C Ratio(X)	0.00	0.00	0.00	1.25	0.00	0.76	0.00	0.57	0.81	2.09	0.41	0.00
Avail Cap(c_a), veh/h	0	499	0	935	0	410	75	903	819	205	1233	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.87	0.00	0.87	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	44.5	0.0	41.1	0.0	39.3	21.9	56.5	30.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	121.9	0.0	7.2	0.0	2.6	8.6	506.8	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	29.2	0.0	9.1	0.0	6.7	21.7	17.4	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	166.4	0.0	48.3	0.0	41.9	30.5	563.3	31.3	0.0
LnGrp LOS	A	A	A	F	A	D	A	D	C	F	C	A
Approach Vol, veh/h		0			1485			1178			939	
Approach Delay, s/veh		0.0			141.5			35.5			273.8	
Approach LOS					F			D			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		37.0	0.0	46.5		36.5	11.0	35.5				
Change Period (Y+Rc), s		5.5	4.0	5.5		5.5	4.0	5.5				
Max Green Setting (Gmax), s		31.5	5.0	32.0		31.0	7.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	15.0		33.0	9.0	32.0				
Green Ext Time (p_c), s		0.0	0.0	2.8		0.0	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		141.3
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	271.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	267	220	257	58	531	383
Future Vol, veh/h	267	220	257	58	531	383
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	281	232	271	61	559	403

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	513	0	1000	397
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	603	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1063	-	~ 272	657
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	~ 550	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1063	-	~ 200	657
Mov Cap-2 Maneuver	-	-	-	-	~ 200	-
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	~ 405	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.8	$ 506.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	200	657	-	-	1063	-
HCM Lane V/C Ratio	2.795	0.614	-	-	0.254	-
HCM Control Delay (s)	$ 857.8	18.8	-	-	9.5	0
HCM Lane LOS	F	C	-	-	A	A
HCM 95th %tile Q(veh)	49.1	4.2	-	-	1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	214.5
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	147	722	349	767	391	85
Future Vol, veh/h	147	722	349	767	391	85
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	150	737	356	783	399	87
Number of Lanes	1	0	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	283.2	226.5	61.1
HCM LOS	F	F	F

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	100%	0%	17%	0%
Vol Thru, %	0%	100%	0%	82%
Vol Right, %	0%	0%	83%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	349	767	869	476
LT Vol	349	0	147	0
Through Vol	0	767	0	391
RT Vol	0	0	722	85
Lane Flow Rate	356	783	887	486
Geometry Grp	7	7	2	5
Degree of Util (X)	0.785	1.616	1.569	0.943
Departure Headway (Hd)	9.722	9.198	6.748	8.732
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	374	407	550	418
Service Time	7.422	6.898	4.748	6.732
HCM Lane V/C Ratio	0.952	1.924	1.613	1.163
HCM Control Delay	40	311.4	283.2	61.1
HCM Lane LOS	E	F	F	F
HCM 95th-tile Q	6.6	36.6	44.9	10.7

Intersection	
Int Delay, s/veh	15.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	344	772	6	129	984
Future Vol, veh/h	16	344	772	6	129	984
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	362	813	6	136	1036

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2124	816	0	0	819	0
Stage 1	816	-	-	-	-	-
Stage 2	1308	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	56	380	-	-	818	-
Stage 1	438	-	-	-	-	-
Stage 2	256	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	47	380	-	-	818	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	438	-	-	-	-	-
Stage 2	214	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	93.8	0	1.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	363	818	-
HCM Lane V/C Ratio	-	-	1.044	0.166	-
HCM Control Delay (s)	-	-	93.8	10.3	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	13	0.6	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	71	0	1	153	54	0	0	1	138	0	34
Future Vol, veh/h	13	71	0	1	153	54	0	0	1	138	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	15	81	0	1	174	61	0	0	1	157	0	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	235	0	0	81	0	0	337	348	81	319	318	205
Stage 1	-	-	-	-	-	-	111	111	-	207	207	-
Stage 2	-	-	-	-	-	-	226	237	-	112	111	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1344	-	-	1529	-	-	621	579	985	638	602	841
Stage 1	-	-	-	-	-	-	899	807	-	800	734	-
Stage 2	-	-	-	-	-	-	781	713	-	898	807	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1344	-	-	1529	-	-	587	571	985	631	594	841
Mov Cap-2 Maneuver	-	-	-	-	-	-	587	571	-	631	594	-
Stage 1	-	-	-	-	-	-	888	797	-	790	733	-
Stage 2	-	-	-	-	-	-	744	712	-	886	797	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	8.7	12.7
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	985	1344	-	-	1529	-	-	664
HCM Lane V/C Ratio	0.001	0.011	-	-	0.001	-	-	0.294
HCM Control Delay (s)	8.7	7.7	0	-	7.4	0	-	12.7
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	1.2

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	196	162	252	398	29
Future Vol, veh/h	13	196	162	252	398	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	231	191	296	468	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1163	485	502	0	-	0
Stage 1	485	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	217	586	1073	-	-	-
Stage 1	623	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	178	586	1073	-	-	-
Mov Cap-2 Maneuver	314	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	508	-	-	-	-	-

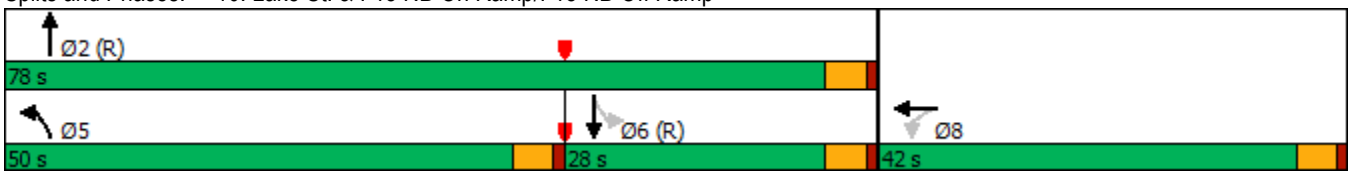
Approach	EB	NB	SB
HCM Control Delay, s	16.5	3.6	0
HCM LOS	C		

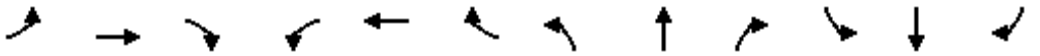
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1073	-	556	-	-
HCM Lane V/C Ratio	0.178	-	0.442	-	-
HCM Control Delay (s)	9.1	-	16.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.6	-	2.2	-	-

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	379	4	472	18	12
Future Volume (vph)	379	4	472	18	12
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	42.0	42.0	50.0	78.0	28.0
Total Split (%)	35.0%	35.0%	41.7%	65.0%	23.3%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	379	4	12	472	18	0	0	12	9
Future Volume (veh/h)	0	0	0	379	4	12	472	18	0	0	12	9
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				399	4	13	497	19	0	0	13	9
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				434	94	306	526	1295	0	0	369	255
Arrive On Green				0.24	0.24	0.24	0.29	0.68	0.00	0.00	0.35	0.35
Sat Flow, veh/h				1810	393	1277	1810	1900	0	0	1046	724
Grp Volume(v), veh/h				399	0	17	497	19	0	0	0	22
Grp Sat Flow(s),veh/h/ln				1810	0	1670	1810	1900	0	0	0	1770
Q Serve(g_s), s				25.8	0.0	0.9	32.2	0.4	0.0	0.0	0.0	1.0
Cycle Q Clear(g_c), s				25.8	0.0	0.9	32.2	0.4	0.0	0.0	0.0	1.0
Prop In Lane				1.00		0.76	1.00		0.00	0.00		0.41
Lane Grp Cap(c), veh/h				434	0	401	526	1295	0	0	0	624
V/C Ratio(X)				0.92	0.00	0.04	0.94	0.01	0.00	0.00	0.00	0.04
Avail Cap(c_a), veh/h				562	0	519	685	1295	0	0	0	624
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.58	0.58	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				44.5	0.0	35.0	41.6	6.1	0.0	0.0	0.0	25.5
Incr Delay (d2), s/veh				17.4	0.0	0.0	11.5	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				13.6	0.0	0.4	15.9	0.2	0.0	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				61.8	0.0	35.1	53.1	6.1	0.0	0.0	0.0	25.6
LnGrp LOS				E	A	D	D	A	A	A	A	C
Approach Vol, veh/h					416			516			22	
Approach Delay, s/veh					60.7			51.4			25.6	
Approach LOS					E			D			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		86.5			39.5	47.0		33.5				
Change Period (Y+Rc), s		* 4.7			4.6	* 4.7		4.7				
Max Green Setting (Gmax), s		* 73			45.4	* 23		37.3				
Max Q Clear Time (g_c+I1), s		2.4			34.2	3.0		27.8				
Green Ext Time (p_c), s		0.1			0.7	0.0		1.0				

Intersection Summary		
HCM 6th Ctrl Delay	54.9	
HCM 6th LOS	D	

Notes

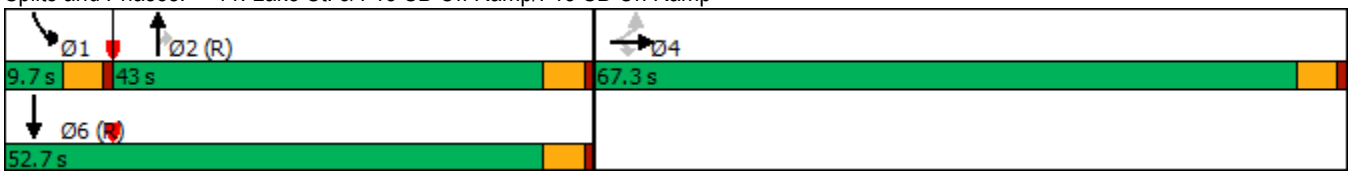
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

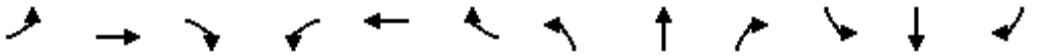
Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	1079	486	504	6	385
Future Volume (vph)	10	1079	486	504	6	385
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	67.3	67.3	43.0	43.0	9.7	52.7
Total Split (%)	56.1%	56.1%	35.8%	35.8%	8.1%	43.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	10	1079	0	0	0	0	486	504	6	385	0
Future Volume (veh/h)	4	10	1079	0	0	0	0	486	504	6	385	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	4	11	1136				0	512	531	6	405	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	261	717	840				0	673	570	14	760	0
Arrive On Green	0.52	0.52	0.52				0.00	0.35	0.35	0.01	0.27	0.00
Sat Flow, veh/h	500	1375	1610				0	1900	1610	1810	1900	0
Grp Volume(v), veh/h	15	0	1136				0	512	531	6	405	0
Grp Sat Flow(s),veh/h/ln	1875	0	1610				0	1900	1610	1810	1900	0
Q Serve(g_s), s	0.5	0.0	62.6				0.0	28.6	38.1	0.4	21.8	0.0
Cycle Q Clear(g_c), s	0.5	0.0	62.6				0.0	28.6	38.1	0.4	21.8	0.0
Prop In Lane	0.27		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	978	0	840				0	673	570	14	760	0
V/C Ratio(X)	0.02	0.00	1.35				0.00	0.76	0.93	0.44	0.53	0.00
Avail Cap(c_a), veh/h	978	0	840				0	673	570	77	760	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	0.09	0.09	0.48	0.48	0.00
Uniform Delay (d), s/veh	13.8	0.0	28.7				0.0	34.3	37.3	59.4	34.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	166.4				0.0	0.8	3.5	3.9	1.3	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	0.2	0.0	61.8				0.0	13.2	15.3	0.2	10.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	0.0	195.1				0.0	35.0	40.8	63.4	35.6	0.0
LnGrp LOS	B	A	F				A	D	D	E	D	A
Approach Vol, veh/h		1151						1043			411	
Approach Delay, s/veh		192.8						38.0			36.0	
Approach LOS		F						D			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.5	47.2		67.3		52.7
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	5.1	* 38		* 63		* 48
Max Q Clear Time (g_c+I1), s	2.4	40.1		64.6		23.8
Green Ext Time (p_c), s	0.0	0.0		0.0		2.6

Intersection Summary		
HCM 6th Ctrl Delay		106.1
HCM 6th LOS		F

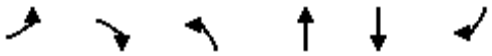
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	521	517	334	469	1047
Future Volume (vph)	521	517	334	469	1047
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	27.6	27.6	12.6	92.4	79.8
Total Split (%)	23.0%	23.0%	10.5%	77.0%	66.5%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min

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

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	521	517	334	469	1047	417
Future Volume (veh/h)	521	517	334	469	1047	417
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	548	501	352	494	1102	414
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	345	307	121	1389	824	310
Arrive On Green	0.19	0.19	0.07	0.73	0.63	0.63
Sat Flow, veh/h	1810	1610	1810	1900	1316	495
Grp Volume(v), veh/h	548	501	352	494	0	1516
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1900	0	1811
Q Serve(g_s), s	22.9	22.9	8.0	11.3	0.0	75.1
Cycle Q Clear(g_c), s	22.9	22.9	8.0	11.3	0.0	75.1
Prop In Lane	1.00	1.00	1.00			0.27
Lane Grp Cap(c), veh/h	345	307	121	1389	0	1133
V/C Ratio(X)	1.59	1.63	2.92	0.36	0.00	1.34
Avail Cap(c_a), veh/h	345	307	121	1389	0	1133
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	0.00	1.00
Uniform Delay (d), s/veh	48.5	48.5	56.0	5.9	0.0	22.5
Incr Delay (d2), s/veh	277.5	298.1	885.2	0.2	0.0	158.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	36.9	44.0	33.3	4.1	0.0	78.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	326.1	346.7	941.2	6.0	0.0	180.4
LnGrp LOS	F	F	F	A	A	F
Approach Vol, veh/h	1049			846	1516	
Approach Delay, s/veh	335.9			395.1	180.4	
Approach LOS	F			F	F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		92.4		27.6	12.6	79.8
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 88		* 23	8.0	* 75
Max Q Clear Time (g_c+I1), s		13.3		24.9	10.0	77.1
Green Ext Time (p_c), s		3.6		0.0	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		281.5
HCM 6th LOS		F

Notes

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

APPENDIX 7.3:

HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

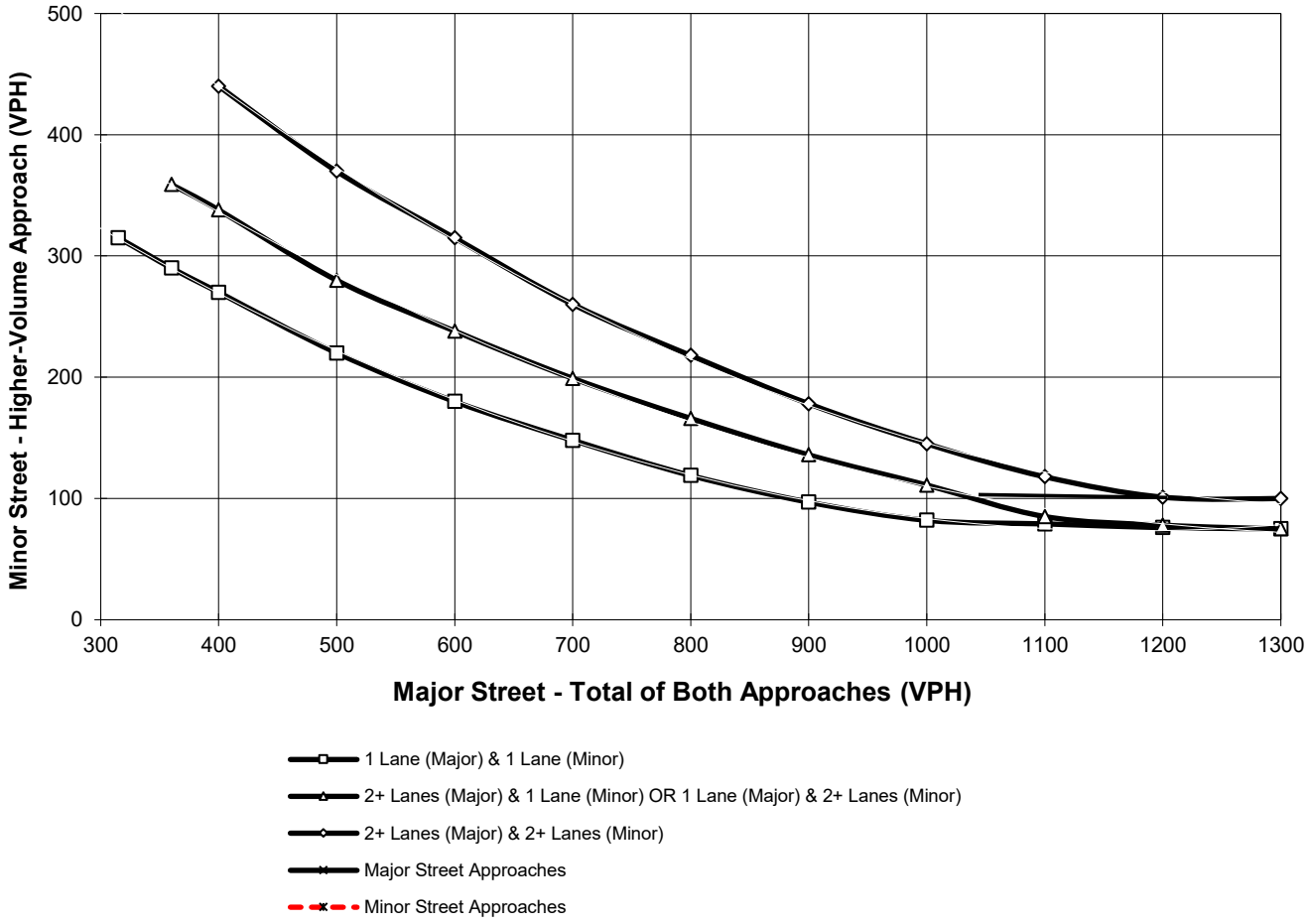
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **HY NP (2040) Conditions - Weekday PM Peak Hour**

Major Street Name = **Hostettler Rd.**
Total of Both Approaches (VPH) = **261**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bolo Ct.**
High Volume Approach (VPH) = **91**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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

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APPENDIX 7.4:

HORIZON YEAR (2040) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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APPENDIX 7.4:

HORIZON YEAR (2040) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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

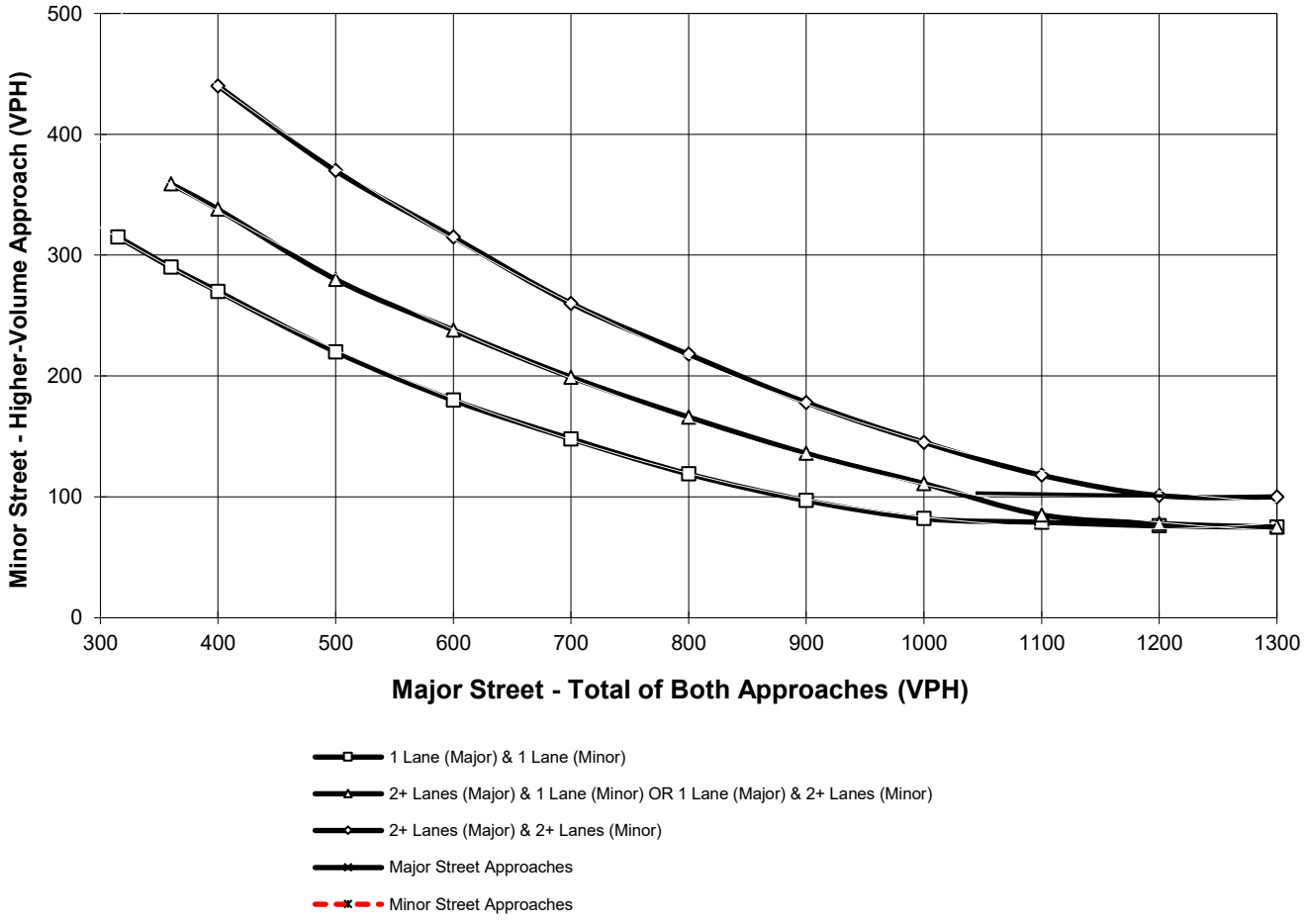
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **HY NP (2040) Conditions - Weekday PM Peak Hour**

Major Street Name = **Hostettler Rd.**
Total of Both Approaches (VPH) = **292**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bolo Ct.**
High Volume Approach (VPH) = **172**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



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

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APPENDIX 7.5:

HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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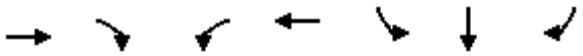
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	470	536	490	321	254	369	366
v/c Ratio	0.61	0.32	0.80	0.49	0.41	0.55	0.53
Control Delay	45.4	15.1	51.6	6.5	30.2	9.2	8.8
Queue Delay	0.0	0.0	34.3	1.2	0.0	0.0	0.0
Total Delay	45.4	15.1	85.9	7.7	30.2	9.2	8.8
Queue Length 50th (ft)	178	140	185	0	151	37	33
Queue Length 95th (ft)	m223	m175	#258	70	230	134	123
Internal Link Dist (ft)		562	178			1295	
Turn Bay Length (ft)					415		415
Base Capacity (vph)	765	1700	612	651	618	677	689
Starvation Cap Reductn	0	0	146	160	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	0.32	1.05	0.65	0.41	0.55	0.53

Intersection Summary

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



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	668	241	222	551	338	208	207
v/c Ratio	0.31	0.29	0.86	0.23	0.90	0.42	0.41
Control Delay	18.4	2.7	80.0	16.9	71.6	8.7	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	2.7	80.0	16.9	71.6	8.7	7.6
Queue Length 50th (ft)	154	0	181	125	255	6	0
Queue Length 95th (ft)	m175	m4	m#239	163	#429	72	64
Internal Link Dist (ft)	559			562		1381	
Turn Bay Length (ft)		210	270		670		500
Base Capacity (vph)	2166	823	291	2388	376	497	500
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	0.31	0.29	0.76	0.23	0.90	0.42	0.41

Intersection Summary

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

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	487	17	856	2	10
v/c Ratio	0.91	0.03	0.98	0.00	0.05
Control Delay	62.7	26.1	61.1	16.5	43.1
Queue Delay	0.0	0.0	39.9	0.0	0.0
Total Delay	62.7	26.1	101.0	16.5	43.1
Queue Length 50th (ft)	351	8	568	1	5
Queue Length 95th (ft)	#530	25	#962	m2	23
Internal Link Dist (ft)		766		542	382
Turn Bay Length (ft)	790		300		
Base Capacity (vph)	576	596	877	1187	186
Starvation Cap Reductn	0	0	117	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.85	0.03	1.13	0.00	0.05

Intersection Summary

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

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	411	854	473	8	486
v/c Ratio	0.19	0.76	0.56	0.35	0.10	0.31
Control Delay	49.4	14.6	7.8	2.7	52.1	0.5
Queue Delay	0.0	0.0	0.5	0.0	0.0	0.1
Total Delay	49.4	14.6	8.3	2.7	52.1	0.6
Queue Length 50th (ft)	28	0	145	20	7	0
Queue Length 95th (ft)	57	94	527	108	m8	m0
Internal Link Dist (ft)	813		838			542
Turn Bay Length (ft)		160		150	95	
Base Capacity (vph)	461	704	1515	1345	96	1550
Starvation Cap Reductn	0	0	258	0	0	326
Spillback Cap Reductn	0	0	280	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.58	0.69	0.35	0.08	0.40

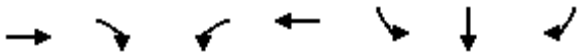
Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	547	657	380	651	304	291	281
v/c Ratio	0.57	0.30	0.47	0.73	0.82	0.82	0.54
Control Delay	45.0	4.1	34.4	15.6	63.0	54.5	8.8
Queue Delay	0.0	0.6	2.0	4.8	0.0	4.7	1.7
Total Delay	45.0	4.7	36.5	20.4	63.0	59.2	10.4
Queue Length 50th (ft)	225	4	112	113	236	194	0
Queue Length 95th (ft)	284	5	177	304	#389	#354	80
Internal Link Dist (ft)		562	178			1295	
Turn Bay Length (ft)					415		415
Base Capacity (vph)	963	2171	816	892	371	357	517
Starvation Cap Reductn	0	0	289	175	0	0	0
Spillback Cap Reductn	0	1082	0	0	0	30	110
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.60	0.72	0.91	0.82	0.89	0.69

Intersection Summary

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



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	926	263	99	703	277	419	426
v/c Ratio	0.53	0.36	0.69	0.40	0.43	0.60	0.62
Control Delay	28.0	5.3	95.3	9.6	27.4	19.5	20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	5.3	95.3	9.6	27.4	19.5	20.1
Queue Length 50th (ft)	241	76	77	45	150	153	158
Queue Length 95th (ft)	m226	m80	m110	77	227	267	276
Internal Link Dist (ft)	559			562		1381	
Turn Bay Length (ft)		210	270		670		500
Base Capacity (vph)	1745	724	174	1769	648	696	692
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	0.53	0.36	0.57	0.40	0.43	0.60	0.62

Intersection Summary

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

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	344	17	497	19	22
v/c Ratio	0.81	0.04	0.88	0.01	0.04
Control Delay	57.7	17.0	68.2	19.7	25.2
Queue Delay	0.0	0.0	0.3	0.0	0.0
Total Delay	57.7	17.0	68.5	19.7	25.2
Queue Length 50th (ft)	253	2	414	7	7
Queue Length 95th (ft)	330	20	524	m15	32
Internal Link Dist (ft)		766		542	382
Turn Bay Length (ft)	790		300		
Base Capacity (vph)	561	531	683	1303	607
Starvation Cap Reductn	0	0	19	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.03	0.75	0.01	0.04

Intersection Summary

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

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	15	1136	512	385	6	351
v/c Ratio	0.01	1.11	0.75	0.53	0.08	0.49
Control Delay	12.7	82.5	42.2	15.5	58.7	67.6
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	12.7	82.5	42.3	15.5	58.7	67.6
Queue Length 50th (ft)	5	~881	334	88	5	291
Queue Length 95th (ft)	16	#1144	#584	209	m8	378
Internal Link Dist (ft)	813		838			542
Turn Bay Length (ft)		160		150	95	
Base Capacity (vph)	1020	1027	686	727	76	717
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	6	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	1.11	0.75	0.53	0.08	0.49

Intersection Summary

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

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

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

APPENDIX 7.6:

HORIZON YEAR (2040) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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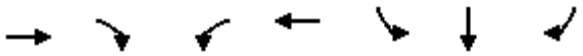
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	479	689	490	366	254	369	366
v/c Ratio	0.63	0.41	0.80	0.54	0.41	0.60	0.58
Control Delay	36.9	11.3	51.6	6.6	30.2	17.1	16.5
Queue Delay	0.0	0.0	34.3	1.3	0.0	0.0	0.0
Total Delay	36.9	11.3	85.9	7.9	30.2	17.1	16.5
Queue Length 50th (ft)	161	149	185	0	151	105	97
Queue Length 95th (ft)	m181	m158	#258	75	230	220	205
Internal Link Dist (ft)		562	178			1295	
Turn Bay Length (ft)					415		415
Base Capacity (vph)	765	1700	612	684	618	618	629
Starvation Cap Reductn	0	0	146	152	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	0.63	0.41	1.05	0.69	0.41	0.60	0.58

Intersection Summary

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



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	678	241	222	551	491	225	223
v/c Ratio	0.33	0.31	0.86	0.24	1.19	0.42	0.41
Control Delay	25.4	4.1	79.2	18.4	145.0	7.9	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.4	4.1	79.2	18.4	145.0	7.9	6.9
Queue Length 50th (ft)	134	0	170	124	~457	6	0
Queue Length 95th (ft)	170	52	m#230	162	#668	72	64
Internal Link Dist (ft)	559			562		1381	
Turn Bay Length (ft)		210	270		670		500
Base Capacity (vph)	2042	790	291	2300	414	540	542
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	0.33	0.31	0.76	0.24	1.19	0.42	0.41

Intersection Summary

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

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

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

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	627	17	856	2	10
v/c Ratio	1.09	0.03	0.99	0.00	0.06
Control Delay	103.0	26.1	65.9	16.5	43.3
Queue Delay	0.0	0.0	37.2	0.0	0.0
Total Delay	103.0	26.1	103.1	16.5	43.3
Queue Length 50th (ft)	~546	8	612	1	5
Queue Length 95th (ft)	#774	25	#963	m1	23
Internal Link Dist (ft)		766		542	382
Turn Bay Length (ft)	790		300		
Base Capacity (vph)	576	596	863	1144	159
Starvation Cap Reductn	0	0	151	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.09	0.03	1.20	0.00	0.06

Intersection Summary

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

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

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

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	411	854	514	8	626
v/c Ratio	0.15	0.82	0.58	0.39	0.10	0.42
Control Delay	44.3	24.1	10.0	3.4	57.2	3.9
Queue Delay	0.0	0.0	0.9	0.0	0.0	0.2
Total Delay	44.3	24.1	10.8	3.4	57.2	4.1
Queue Length 50th (ft)	27	57	172	26	7	10
Queue Length 95th (ft)	54	161	615	139	m6	m0
Internal Link Dist (ft)	813		838			542
Turn Bay Length (ft)		160		150	95	
Base Capacity (vph)	445	636	1467	1318	96	1502
Starvation Cap Reductn	0	0	230	0	0	267
Spillback Cap Reductn	0	0	325	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.65	0.75	0.39	0.08	0.51

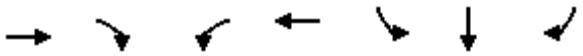
Intersection Summary

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

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	583	713	380	803	304	291	281
v/c Ratio	0.61	0.33	0.47	0.91	0.82	0.82	0.54
Control Delay	44.2	4.1	37.3	29.8	63.0	54.5	8.8
Queue Delay	0.0	1.1	2.4	46.9	0.0	6.1	2.1
Total Delay	44.2	5.3	39.8	76.7	63.0	60.6	10.9
Queue Length 50th (ft)	239	5	121	251	236	194	0
Queue Length 95th (ft)	294	6	m165	m#424	#389	#354	80
Internal Link Dist (ft)		562	178			1295	
Turn Bay Length (ft)					415		415
Base Capacity (vph)	963	2171	816	887	371	357	517
Starvation Cap Reductn	0	0	305	160	0	0	0
Spillback Cap Reductn	0	1158	0	0	0	35	124
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.70	0.74	1.10	0.82	0.90	0.72

Intersection Summary

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



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	962	263	99	703	334	426	432
v/c Ratio	0.55	0.36	0.69	0.40	0.52	0.61	0.62
Control Delay	28.4	5.2	95.5	9.0	29.5	20.0	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.4	5.2	95.5	9.0	29.5	20.0	20.5
Queue Length 50th (ft)	250	73	77	37	189	158	164
Queue Length 95th (ft)	m236	m78	m110	77	281	276	284
Internal Link Dist (ft)	559			562		1381	
Turn Bay Length (ft)		210	270		670		500
Base Capacity (vph)	1745	724	174	1769	648	696	692
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	0.55	0.36	0.57	0.40	0.52	0.61	0.62

Intersection Summary

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

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	399	17	497	19	22
v/c Ratio	0.85	0.04	0.88	0.02	0.04
Control Delay	59.3	16.3	71.0	20.7	26.2
Queue Delay	0.0	0.0	0.3	0.0	0.0
Total Delay	59.3	16.3	71.3	20.7	26.2
Queue Length 50th (ft)	292	2	414	7	7
Queue Length 95th (ft)	390	20	524	m15	32
Internal Link Dist (ft)		766		542	382
Turn Bay Length (ft)	790		300		
Base Capacity (vph)	561	531	682	1257	565
Starvation Cap Reductn	0	0	17	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.71	0.03	0.75	0.02	0.04

Intersection Summary

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

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	15	1136	512	531	6	405
v/c Ratio	0.01	1.13	0.75	0.68	0.08	0.56
Control Delay	12.7	95.1	42.2	18.4	57.2	68.2
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	12.7	95.1	42.3	18.4	57.2	68.2
Queue Length 50th (ft)	5	~925	334	138	5	336
Queue Length 95th (ft)	16	#1187	#584	307	m7	438
Internal Link Dist (ft)	813		838			542
Turn Bay Length (ft)		160		150	95	
Base Capacity (vph)	1020	1001	686	781	76	717
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	6	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	1.13	0.75	0.68	0.08	0.56

Intersection Summary

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

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

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

APPENDIX 7.7:

HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS FREEWAY FACILITY ANALYSIS WORKSHEETS

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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	HY NP (2040) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 SB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	North of Indian Truck	5280	3
2	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
3	Basic	Basic	Between	2250	3
4	Merge	Merge	On-Ramp at Indian Truck	1500	3
5	Basic	Basic	Indian Truck to Lake	5280	3
6	Diverge	Diverge	Off-Ramp at Lake	1500	3
7	Basic	Basic	Between	2330	3
8	Merge	Merge	On-Ramp at Lake	1500	3
9	Basic	Basic	South of Lake	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	4602	7146	0.64	67.3	22.8	C

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.885	4602	497	7200	2100	0.64	0.24	64.5	60.4	23.8	23.6	C

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4097	7131	0.57	67.6	20.2	C

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.806	4510	413	7200	2000	0.63	0.21	66.2	63.6	22.7	24.4	C

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	4532	7131	0.64	67.1	22.5	C

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.943	0.855	4532	428	7200	2100	0.63	0.20	64.7	60.6	23.3	23.5	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	4105	7131	0.58	67.6	20.2	C

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.917	4567	462	7200	2000	0.63	0.23	63.0	61.4	24.2	20.4	C

Segment 9: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	4550	7146	0.64	67.5	22.5	C

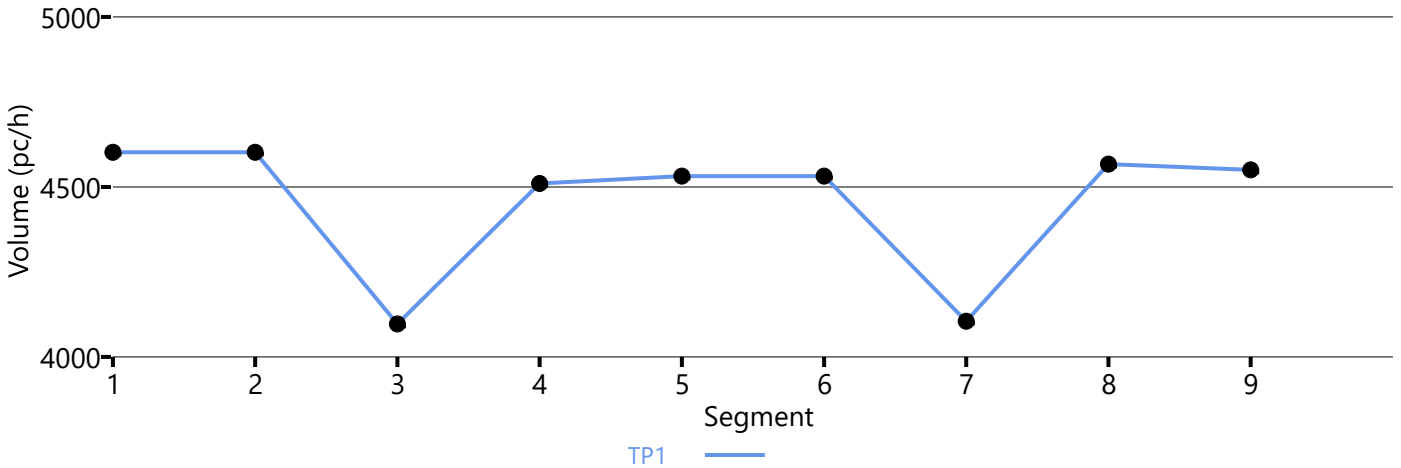
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.7	22.4	21.3	4.5	C

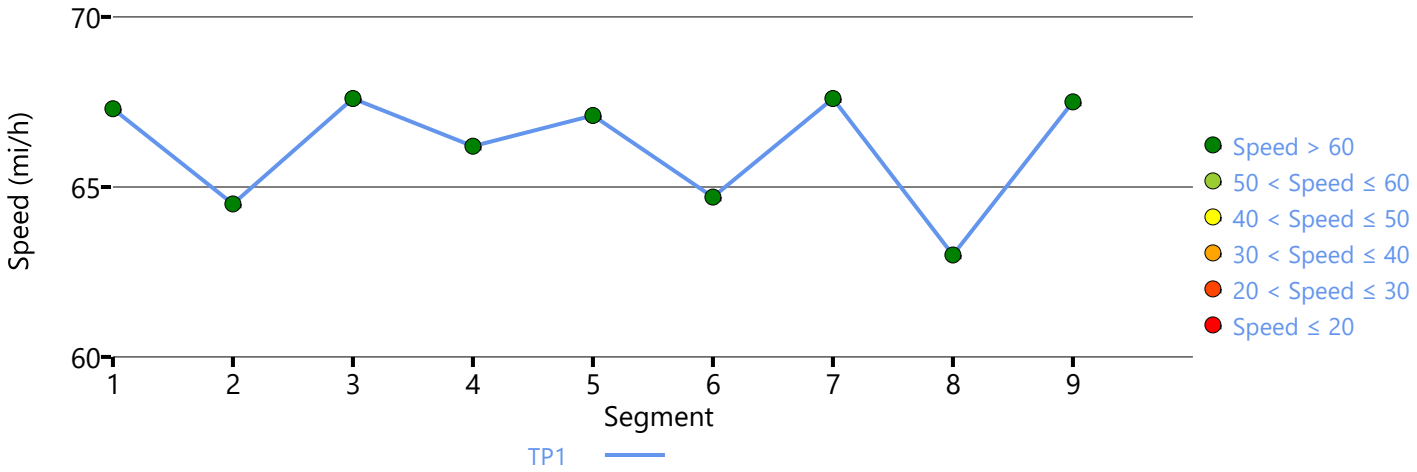
Facility Overall Results

Space Mean Speed, mi/h	66.7	Density, veh/mi/ln	21.3
Average Travel Time, min	4.5	Density, pc/mi/ln	22.4

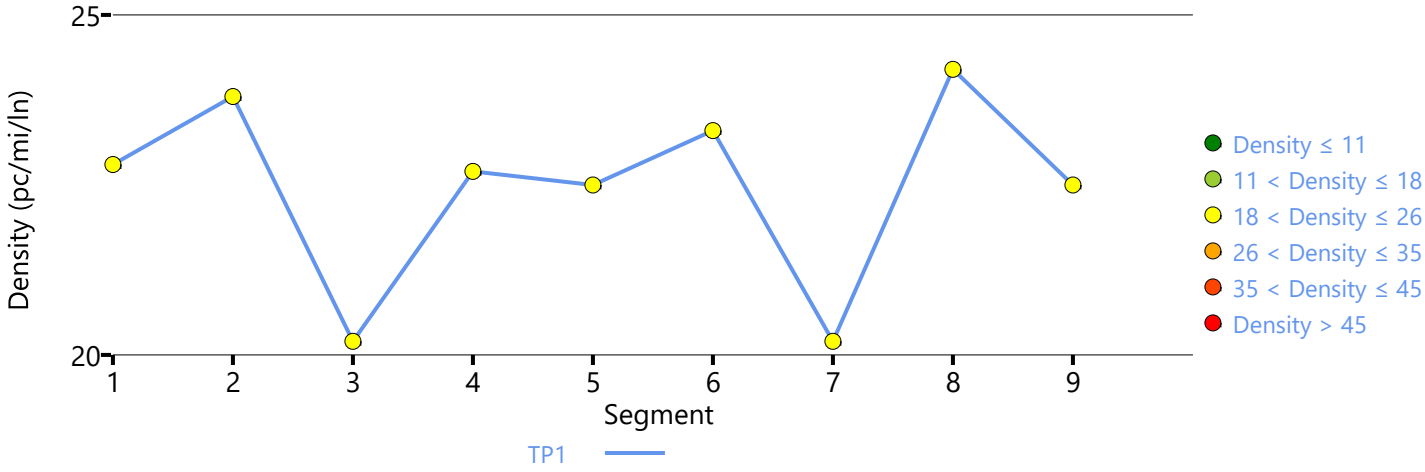
Volume Distribution



Speed Distribution



Density Distribution



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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	HY NP (2040) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 NB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South of Lake	5280	3
2	Diverge	Diverge	Off-Ramp at Lake	1500	3
3	Basic	Basic	Between	2370	3
4	Merge	Merge	On-Ramp at Lake	1500	3
5	Basic	Basic	Lake to Indian Truck	5280	3
6	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
7	Basic	Basic	Between	2175	3
8	Merge	Merge	On-Ramp at Indian Truck	1500	3
9	Basic	Basic	North of Indian Truck	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4530	7146	0.63	67.5	22.4	C

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.901	4530	380	7200	2100	0.63	0.18	64.8	60.7	23.3	23.5	C

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4135	7131	0.58	67.6	20.4	C

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.943	5011	876	7200	2100	0.70	0.42	62.0	60.2	26.9	25.6	C

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	5033	7131	0.71	65.8	25.5	C

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.917	5033	558	7200	2100	0.70	0.27	64.4	60.3	26.1	28.0	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4459	7131	0.63	67.2	22.1	C

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.885	5270	811	7200	2100	0.73	0.39	61.1	59.1	28.8	28.4	D

Segment 9: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	5301	7146	0.74	65.2	27.1	D

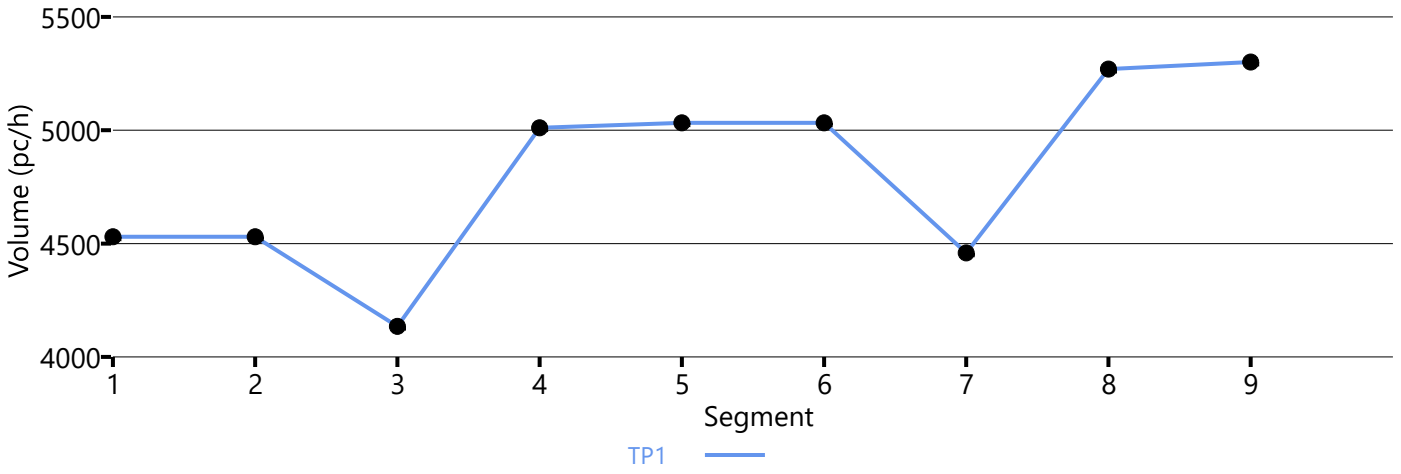
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	65.5	24.6	23.7	4.6	C

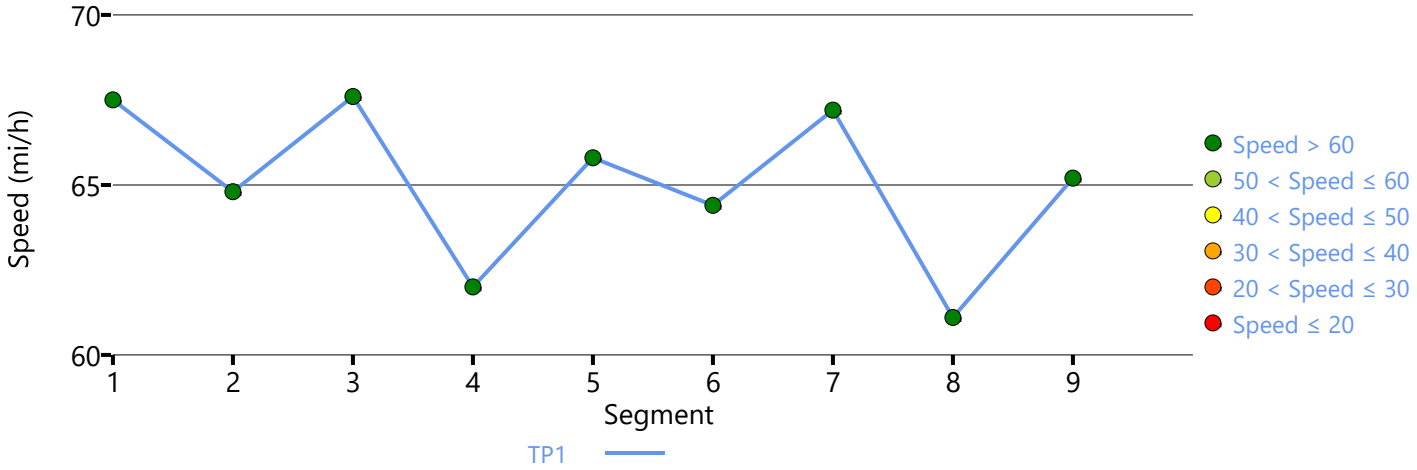
Facility Overall Results

Space Mean Speed, mi/h	65.5	Density, veh/mi/ln	23.7
Average Travel Time, min	4.6	Density, pc/mi/ln	24.6

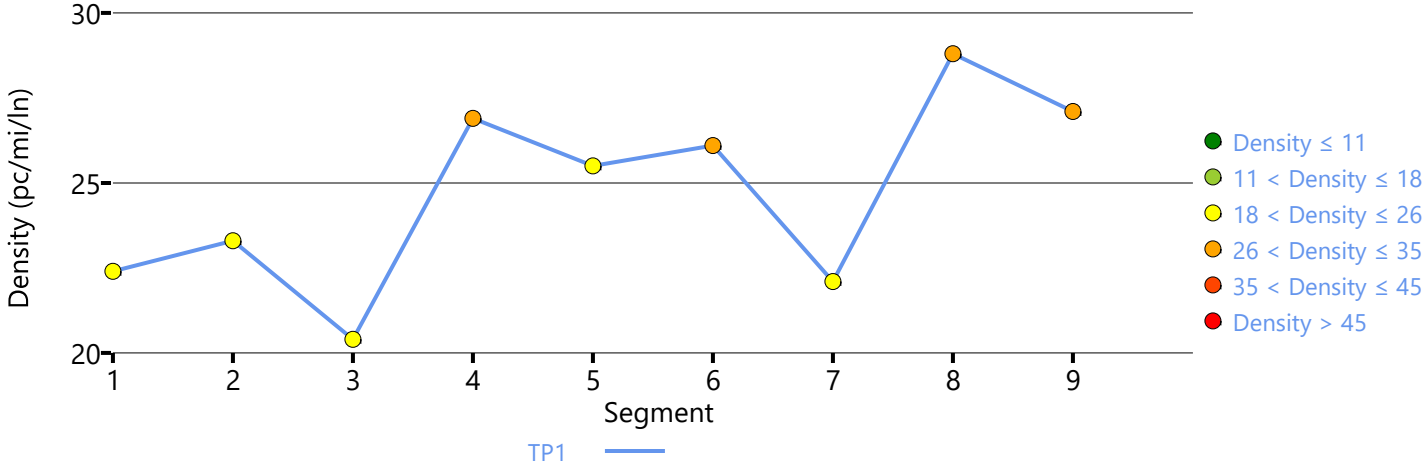
Volume Distribution



Speed Distribution



Density Distribution



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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	HY NP (2040) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 SB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	North of Indian Truck	5280	3
2	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
3	Basic	Basic	Between	2250	3
4	Merge	Merge	On-Ramp at Indian Truck	1500	3
5	Basic	Basic	Indian Truck to Lake	5280	3
6	Diverge	Diverge	Off-Ramp at Lake	1500	3
7	Basic	Basic	Between	2330	3
8	Merge	Merge	On-Ramp at Lake	1500	3
9	Basic	Basic	South of Lake	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	7971	7146	1.12	52.9	45.0	F

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.741	7146	1198	7200	2100	1.11	0.57	62.5	58.6	38.1	35.6	F

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	5948	7131	0.94	62.9	31.5	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.952	6270	322	7200	2000	0.98	0.16	62.8	59.8	33.3	32.3	D

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	6270	7131	0.99	60.8	34.4	D

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.990	0.962	6270	1184	7200	2100	0.98	0.56	62.9	58.7	33.2	31.9	D

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	5086	7131	0.82	67.2	25.2	C

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.962	5335	249	7200	2000	0.85	0.12	61.9	60.4	28.7	23.6	C

Segment 9: Basic

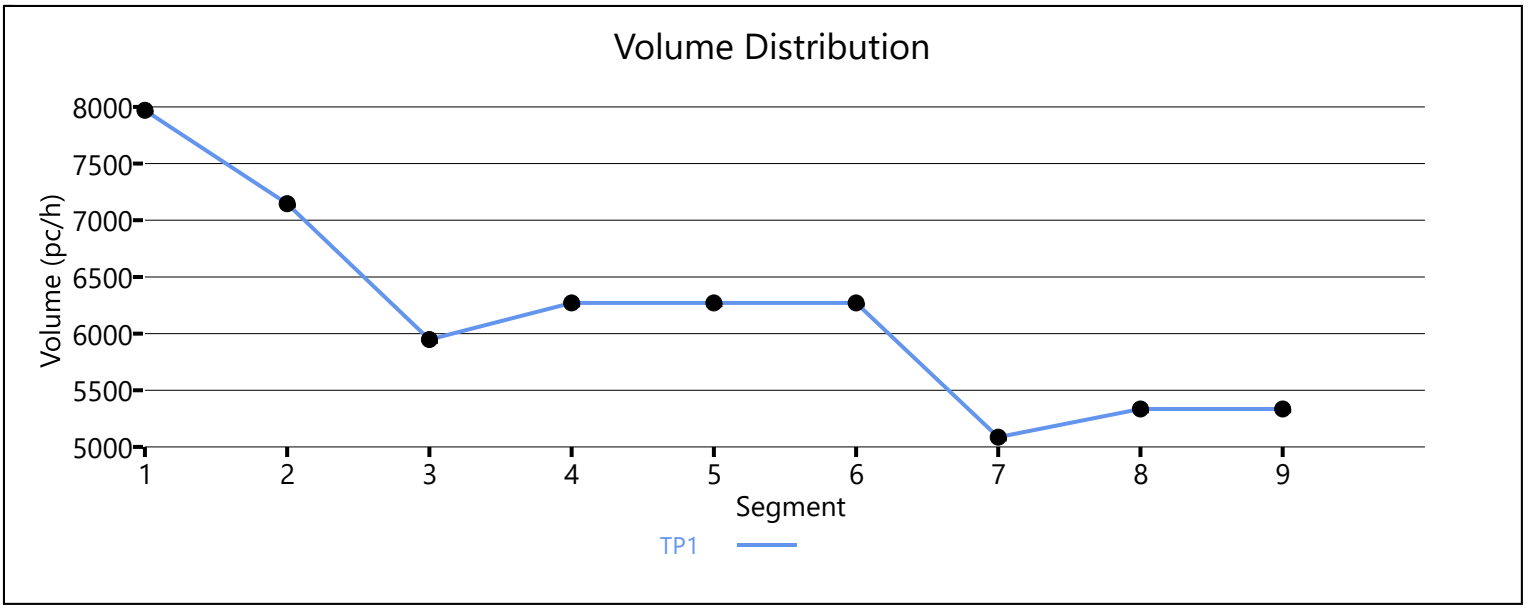
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	5335	7146	0.85	66.1	26.9	D

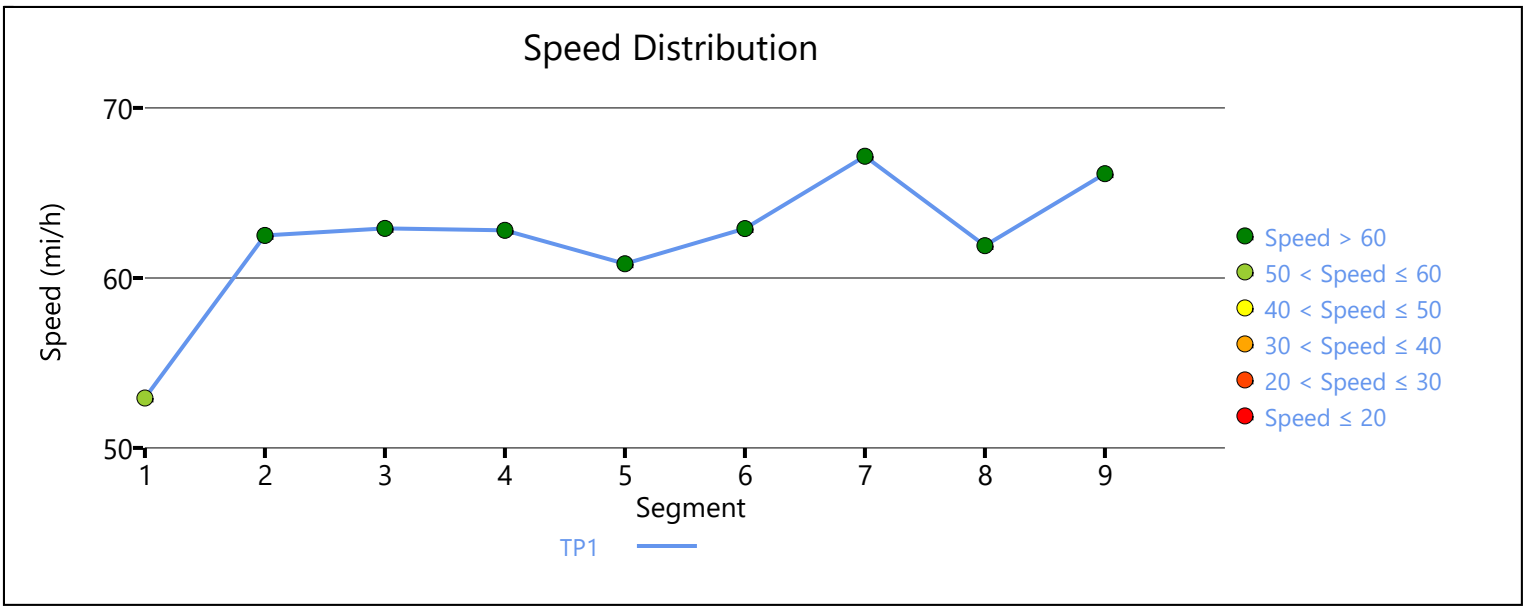
Facility Time Period Results

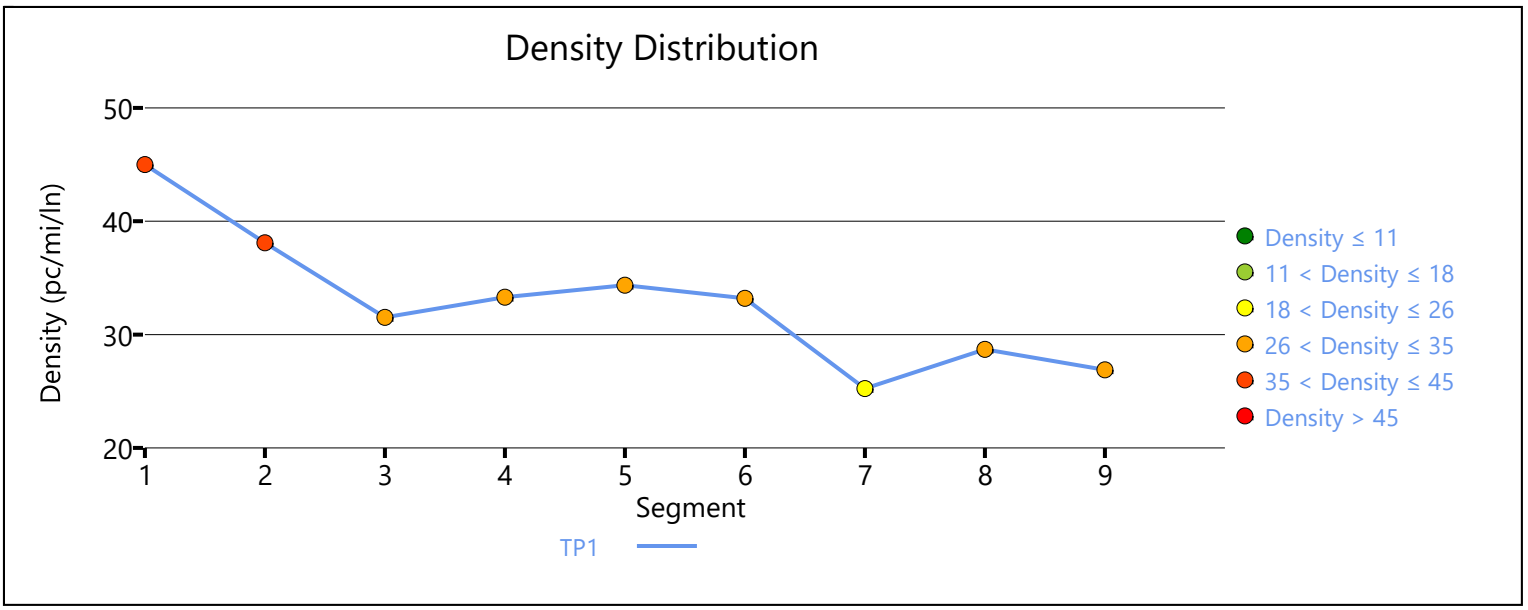
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	60.9	33.6	33.0	4.9	F

Facility Overall Results

Space Mean Speed, mi/h	60.9	Density, veh/mi/ln	33.0
Average Travel Time, min	4.9	Density, pc/mi/ln	33.6







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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	HY NP (2040) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 NB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South of Lake	5280	3
2	Diverge	Diverge	Off-Ramp at Lake	1500	3
3	Basic	Basic	Between	2370	3
4	Merge	Merge	On-Ramp at Lake	1500	3
5	Basic	Basic	Lake to Indian Truck	5280	3
6	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
7	Basic	Basic	Between	2175	3
8	Merge	Merge	On-Ramp at Indian Truck	1500	3
9	Basic	Basic	North of Indian Truck	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3484	7146	0.49	68.2	17.0	B

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.962	3484	299	7200	2100	0.48	0.14	65.0	60.9	17.9	18.4	B

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3181	7131	0.45	67.7	15.7	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.926	3678	497	7200	2100	0.51	0.24	63.9	62.2	19.2	18.3	B

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3664	7131	0.51	67.7	18.0	B

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.901	3664	263	7200	2100	0.51	0.13	65.1	61.0	18.8	21.2	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3415	7131	0.48	67.7	16.8	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.952	4051	636	7200	2100	0.56	0.30	62.9	61.0	21.5	22.3	C

Segment 9: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	4051	7146	0.57	68.1	19.8	C

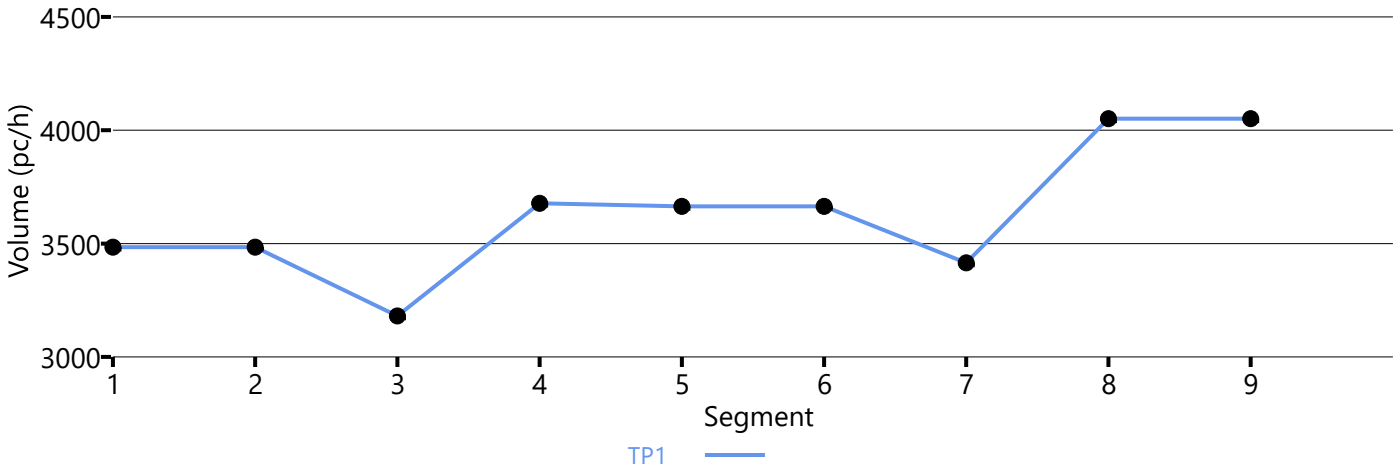
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.0	18.2	17.3	4.5	C

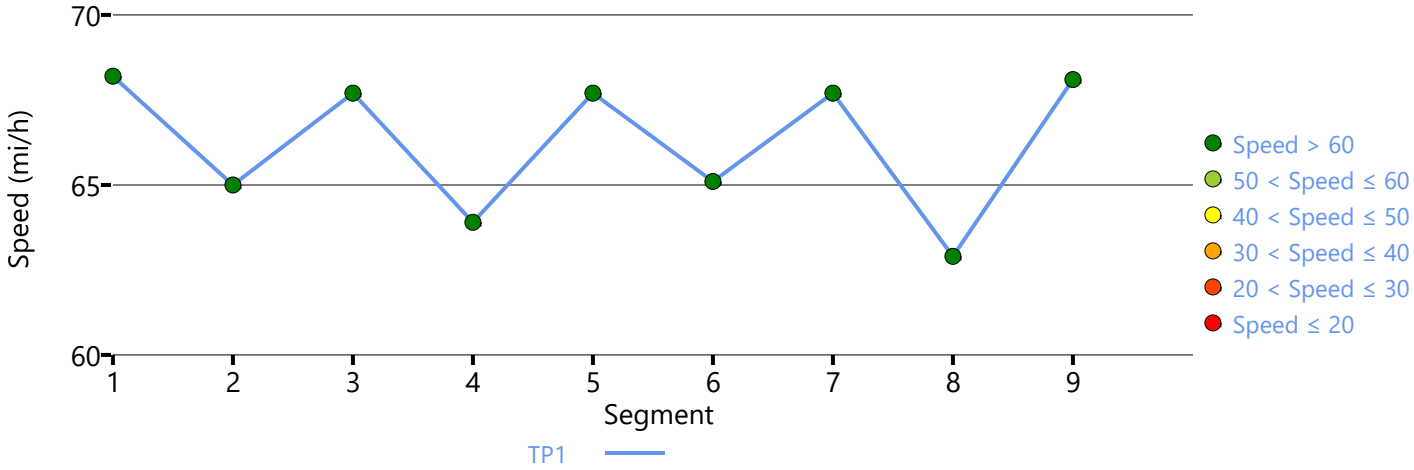
Facility Overall Results

Space Mean Speed, mi/h	67.0	Density, veh/mi/ln	17.3
Average Travel Time, min	4.5	Density, pc/mi/ln	18.2

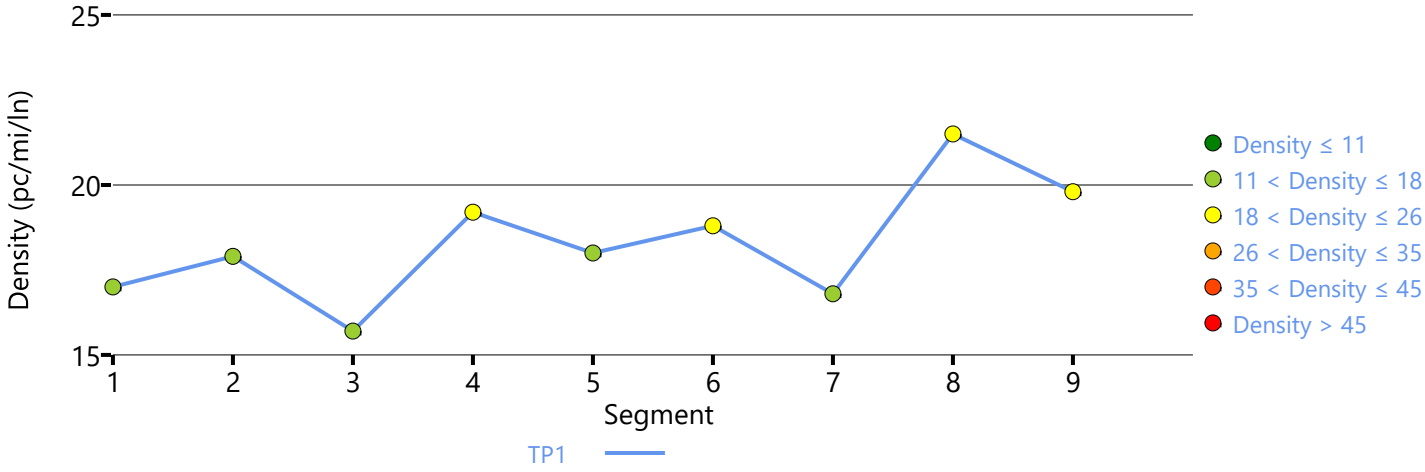
Volume Distribution



Speed Distribution



Density Distribution



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APPENDIX 7.8:

HORIZON YEAR (2040) WITH PROJECT CONDITIONS FREEWAY FACILITY ANALYSIS WORKSHEETS

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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	HY WP (2040) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 SB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	North of Indian Truck	5280	3
2	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
3	Basic	Basic	Between	2250	3
4	Merge	Merge	On-Ramp at Indian Truck	1500	3
5	Basic	Basic	Indian Truck to Lake	5280	3
6	Diverge	Diverge	Off-Ramp at Lake	1500	3
7	Basic	Basic	Between	2330	3
8	Merge	Merge	On-Ramp at Lake	1500	3
9	Basic	Basic	South of Lake	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	4788	7146	0.67	66.9	23.9	C

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.943	0.862	4788	666	7200	2100	0.67	0.32	64.2	60.0	24.9	24.7	C

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4097	7131	0.57	67.6	20.2	C

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.806	4510	413	7200	2000	0.63	0.21	66.2	63.6	22.7	24.4	C

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	4532	7131	0.64	67.1	22.5	C

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.943	0.855	4532	428	7200	2100	0.63	0.20	64.7	60.6	23.3	23.5	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	4105	7131	0.58	67.6	20.2	C

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.909	4607	502	7200	2000	0.64	0.25	62.9	61.3	24.4	20.7	C

Segment 9: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	4584	7146	0.64	67.4	22.7	C

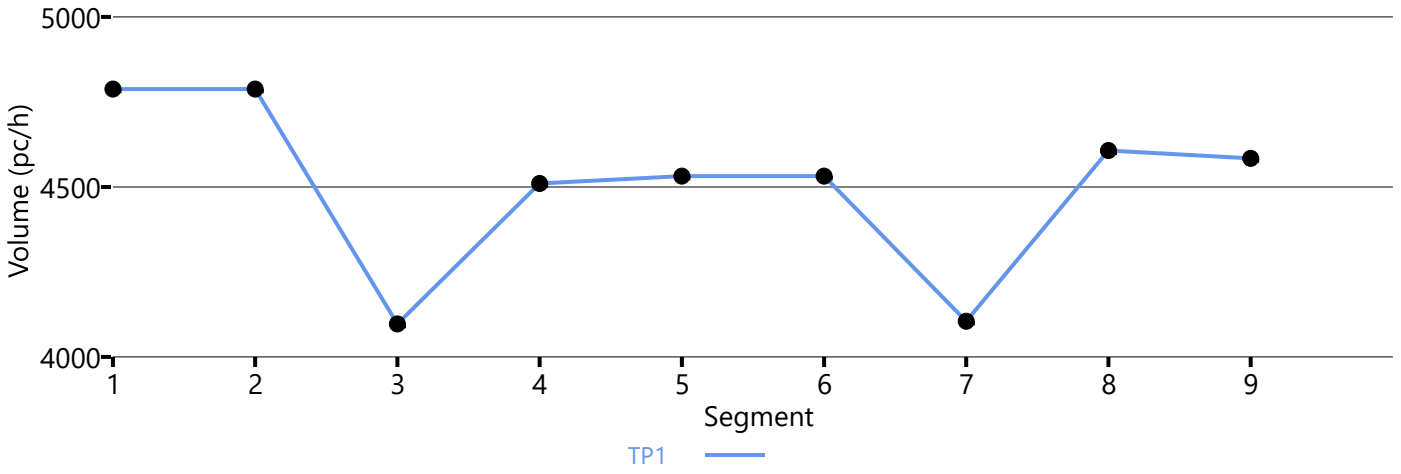
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.6	22.7	21.5	4.5	C

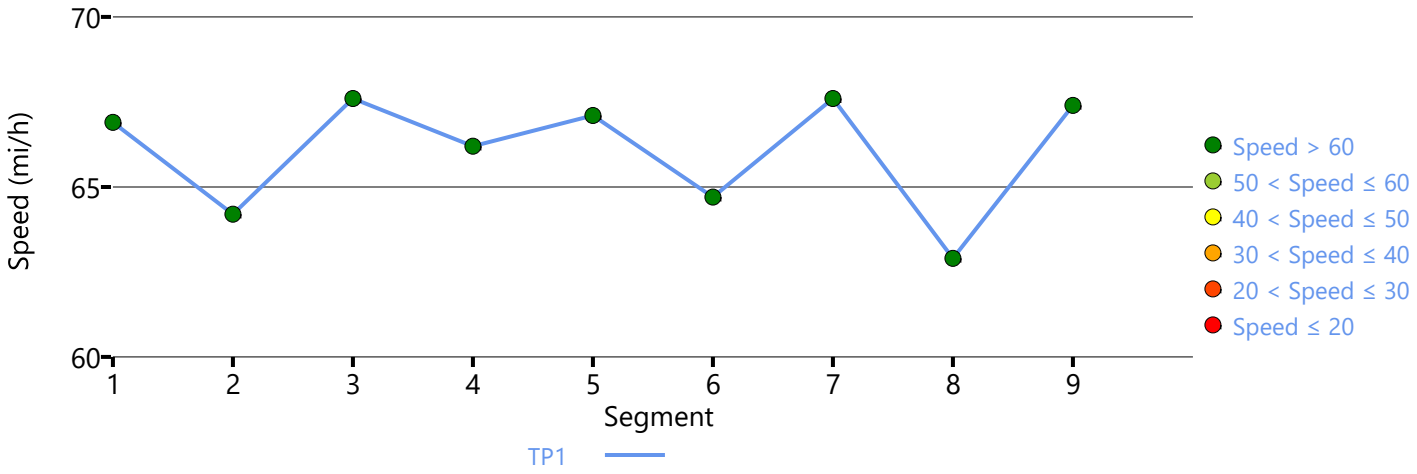
Facility Overall Results

Space Mean Speed, mi/h	66.6	Density, veh/mi/ln	21.5
Average Travel Time, min	4.5	Density, pc/mi/ln	22.7

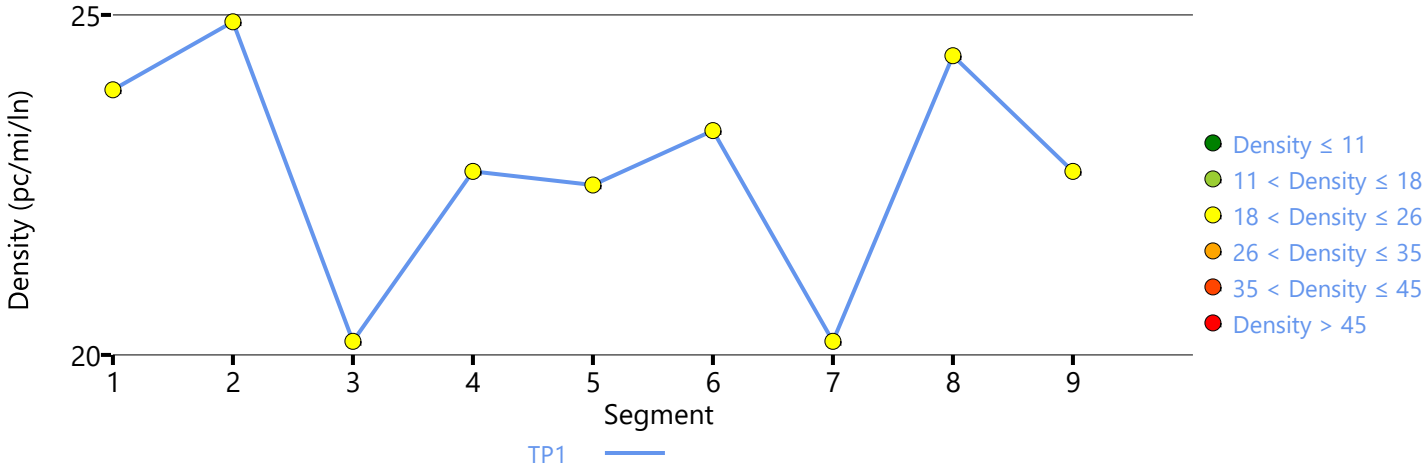
Volume Distribution



Speed Distribution



Density Distribution



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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	HY WP (2040) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 NB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South of Lake	5280	3
2	Diverge	Diverge	Off-Ramp at Lake	1500	3
3	Basic	Basic	Between	2370	3
4	Merge	Merge	On-Ramp at Lake	1500	3
5	Basic	Basic	Lake to Indian Truck	5280	3
6	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
7	Basic	Basic	Between	2175	3
8	Merge	Merge	On-Ramp at Indian Truck	1500	3
9	Basic	Basic	North of Indian Truck	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4652	7146	0.65	67.2	23.1	C

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.885	4652	520	7200	2100	0.65	0.25	64.5	60.3	24.0	24.3	C

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4135	7131	0.58	67.6	20.4	C

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.943	5011	876	7200	2100	0.70	0.42	62.0	60.2	26.9	25.6	C

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	5033	7131	0.71	65.8	25.5	C

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.962	0.917	5033	558	7200	2100	0.70	0.27	64.4	60.3	26.1	28.0	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4459	7131	0.63	67.2	22.1	C

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.971	0.885	5311	852	7200	2100	0.74	0.41	60.9	58.9	29.1	28.7	D

Segment 9: Basic

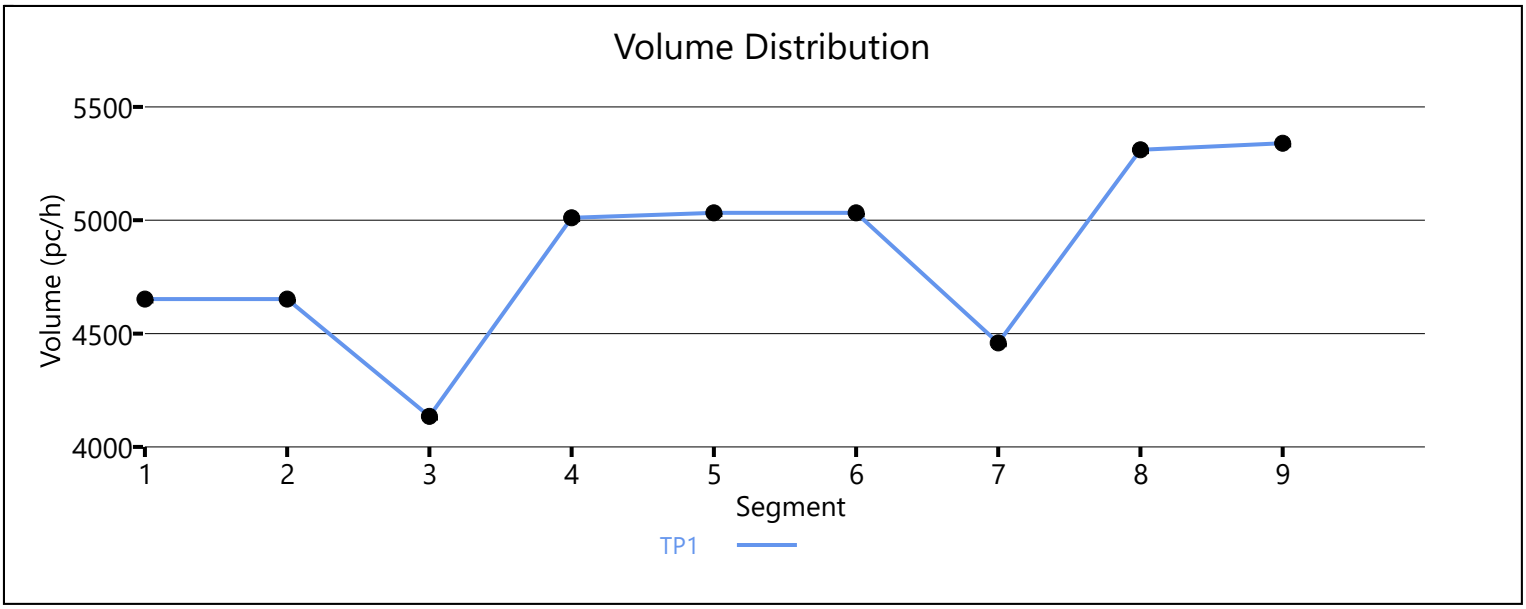
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	5340	7146	0.75	65.0	27.4	D

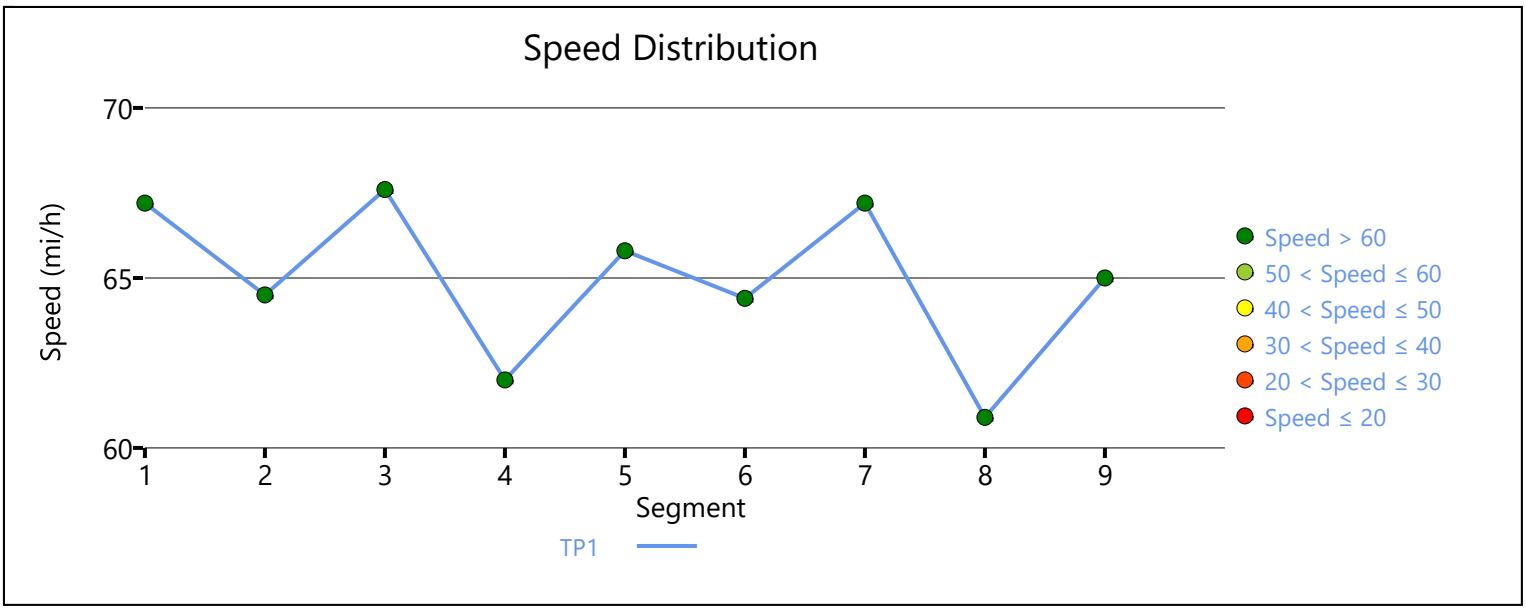
Facility Time Period Results

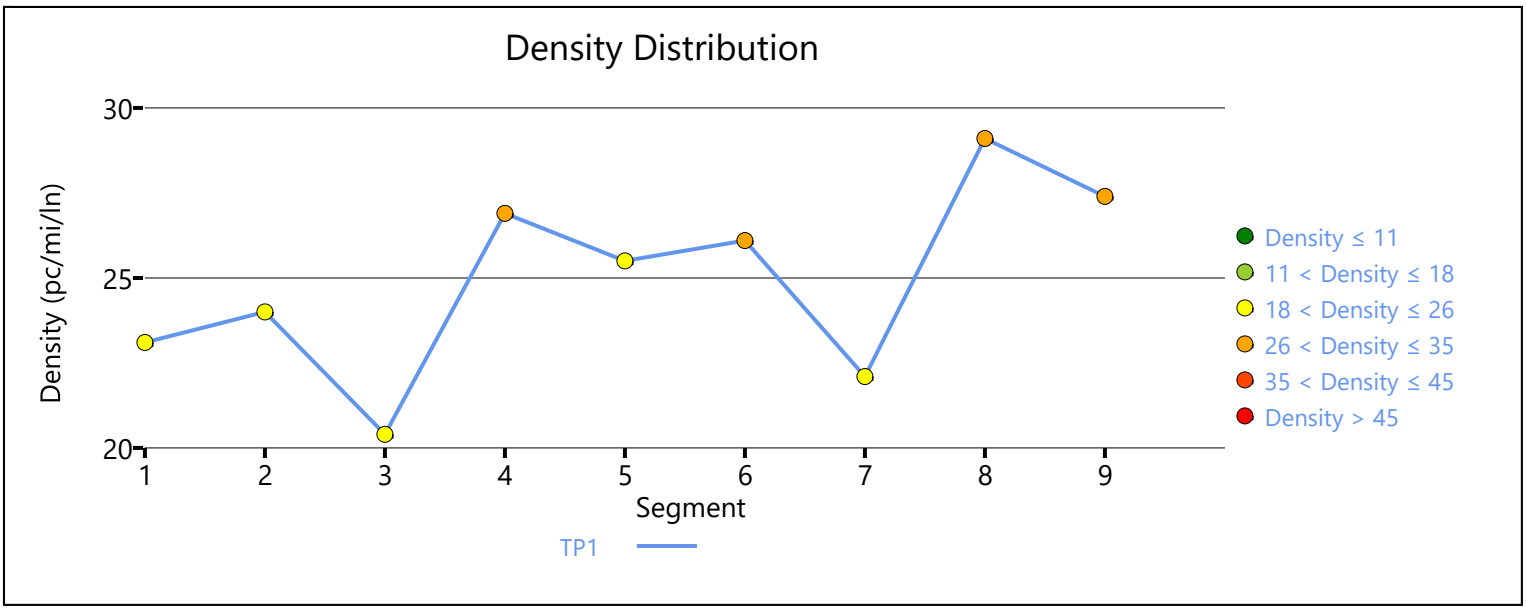
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	65.4	24.9	24.0	4.6	C

Facility Overall Results

Space Mean Speed, mi/h	65.4	Density, veh/mi/ln	24.0
Average Travel Time, min	4.6	Density, pc/mi/ln	24.9







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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	HY WP (2040) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 SB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	North of Indian Truck	5280	3
2	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
3	Basic	Basic	Between	2250	3
4	Merge	Merge	On-Ramp at Indian Truck	1500	3
5	Basic	Basic	Indian Truck to Lake	5280	3
6	Diverge	Diverge	Off-Ramp at Lake	1500	3
7	Basic	Basic	Between	2330	3
8	Merge	Merge	On-Ramp at Lake	1500	3
9	Basic	Basic	South of Lake	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	8025	7146	1.12	52.9	45.0	F

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.741	7146	1269	7200	2100	1.11	0.60	62.4	58.5	38.2	35.6	F

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	5877	7131	0.94	63.3	30.9	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.952	6199	322	7200	2000	0.98	0.16	62.9	60.0	32.9	32.0	D

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	6199	7131	0.99	61.3	33.7	D

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.990	0.962	6199	1184	7200	2100	0.98	0.56	62.9	58.7	32.9	31.6	D

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	5015	7131	0.82	67.4	24.8	C

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.935	5403	388	7200	2000	0.87	0.19	61.7	60.1	29.2	24.3	C

Segment 9: Basic

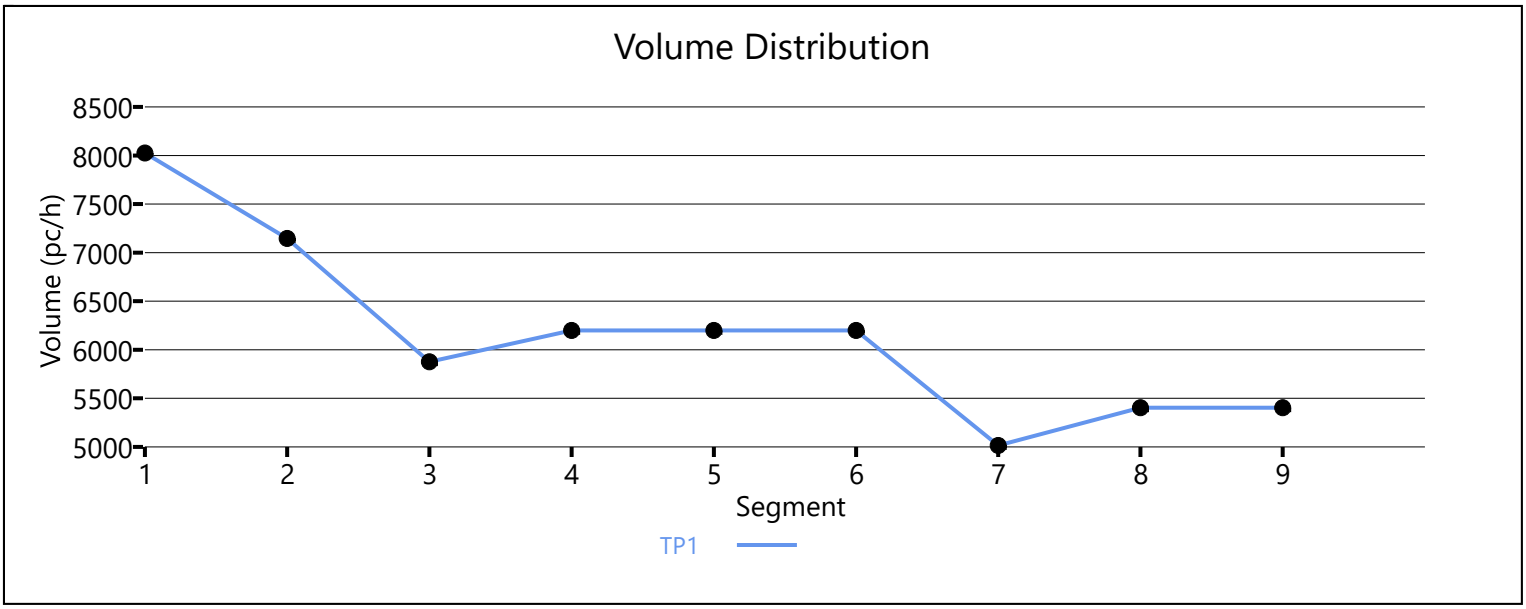
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	5403	7146	0.87	65.8	27.4	D

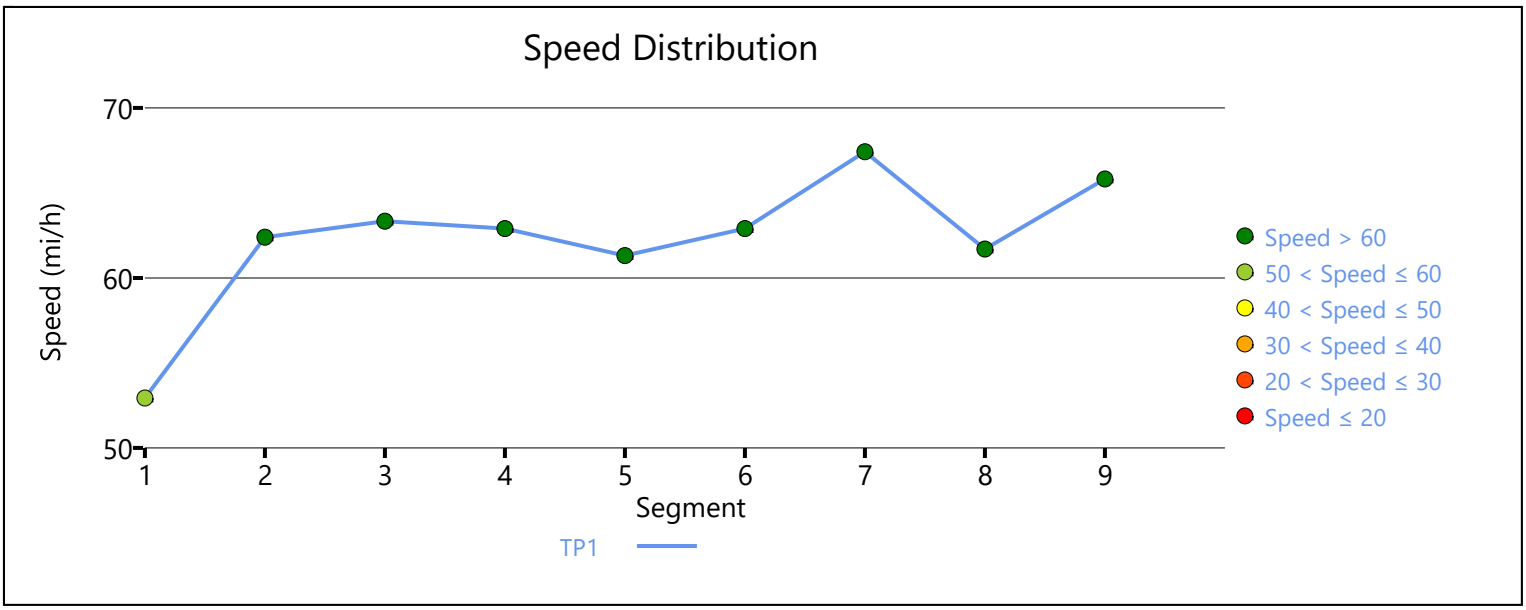
Facility Time Period Results

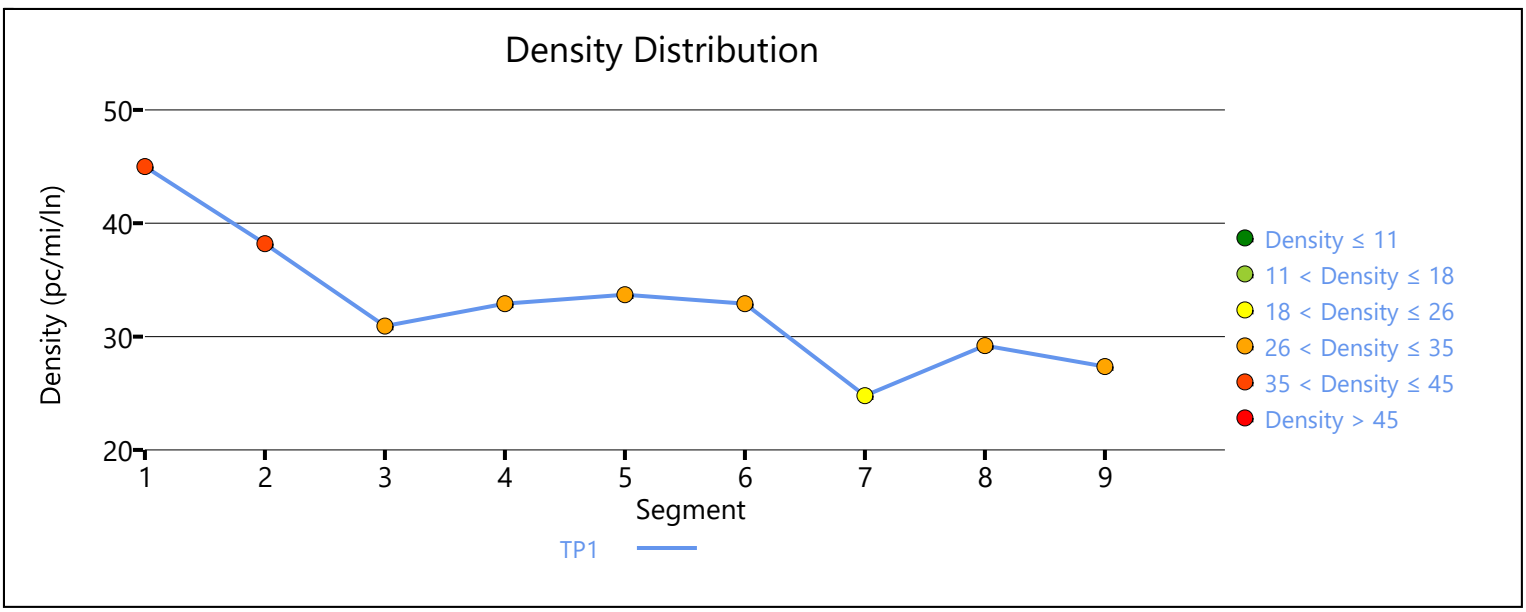
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	61.0	33.4	32.8	4.9	F

Facility Overall Results

Space Mean Speed, mi/h	61.0	Density, veh/mi/ln	32.8
Average Travel Time, min	4.9	Density, pc/mi/ln	33.4







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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	HY WP (2040) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 NB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South of Lake	5280	3
2	Diverge	Diverge	Off-Ramp at Lake	1500	3
3	Basic	Basic	Between	2370	3
4	Merge	Merge	On-Ramp at Lake	1500	3
5	Basic	Basic	Lake to Indian Truck	5280	3
6	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
7	Basic	Basic	Between	2175	3
8	Merge	Merge	On-Ramp at Indian Truck	1500	3
9	Basic	Basic	North of Indian Truck	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3533	7146	0.49	68.2	17.3	B

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.943	3533	355	7200	2100	0.49	0.17	64.9	60.8	18.1	18.7	B

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3181	7131	0.45	67.7	15.7	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.926	3678	497	7200	2100	0.51	0.24	63.9	62.2	19.2	18.3	B

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3664	7131	0.51	67.7	18.0	B

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.901	3664	263	7200	2100	0.51	0.13	65.1	61.0	18.8	21.2	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3415	7131	0.48	67.7	16.8	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.917	4227	812	7200	2100	0.59	0.39	62.5	60.6	22.5	23.6	C

Segment 9: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	4237	7146	0.59	68.0	20.8	C

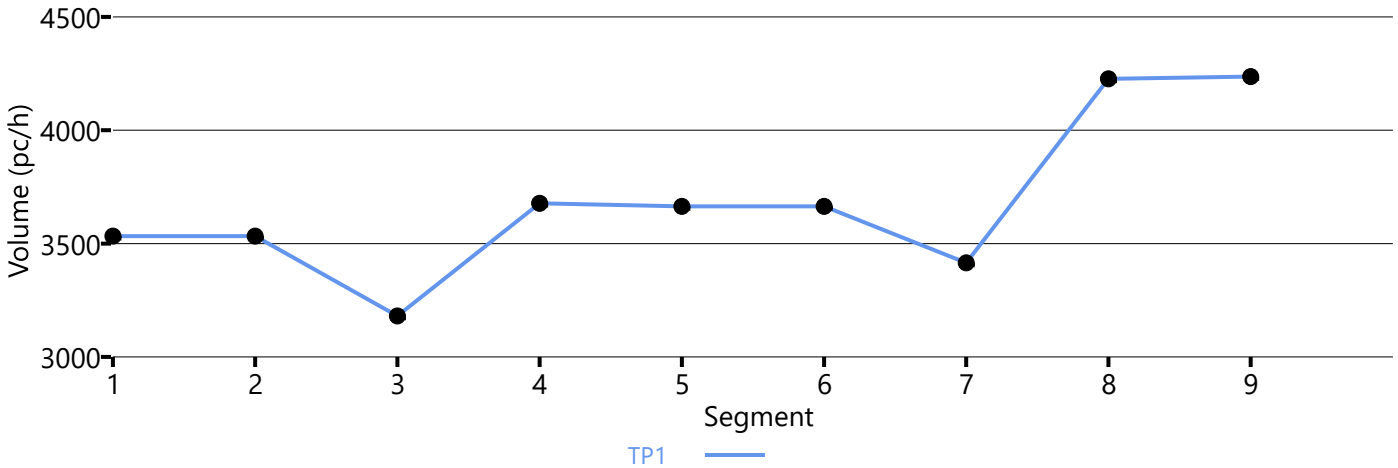
Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.0	18.5	17.6	4.5	C

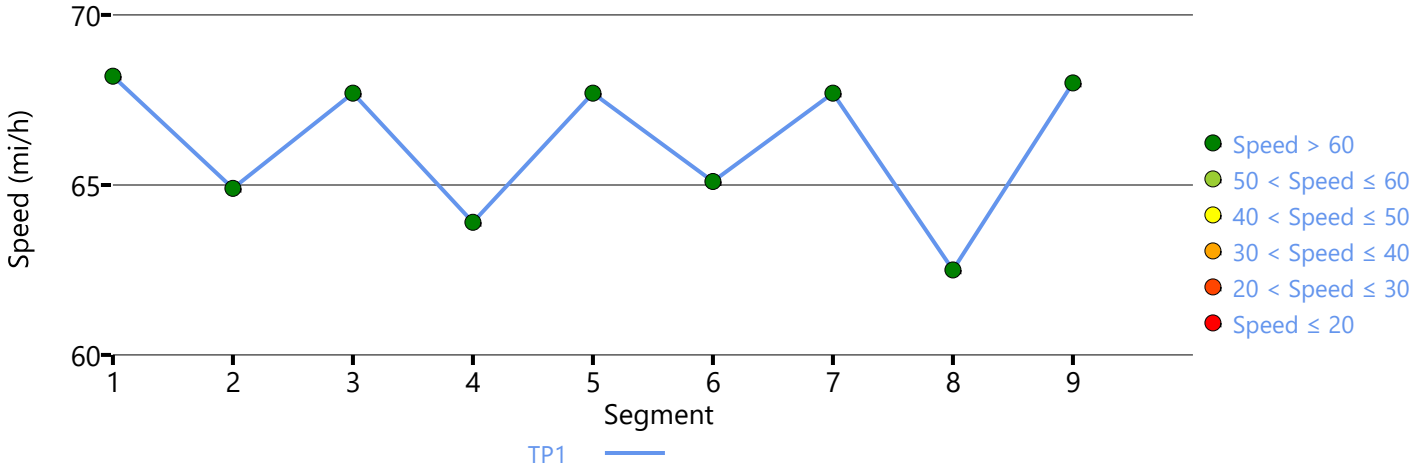
Facility Overall Results

Space Mean Speed, mi/h	67.0	Density, veh/mi/ln	17.6
Average Travel Time, min	4.5	Density, pc/mi/ln	18.5

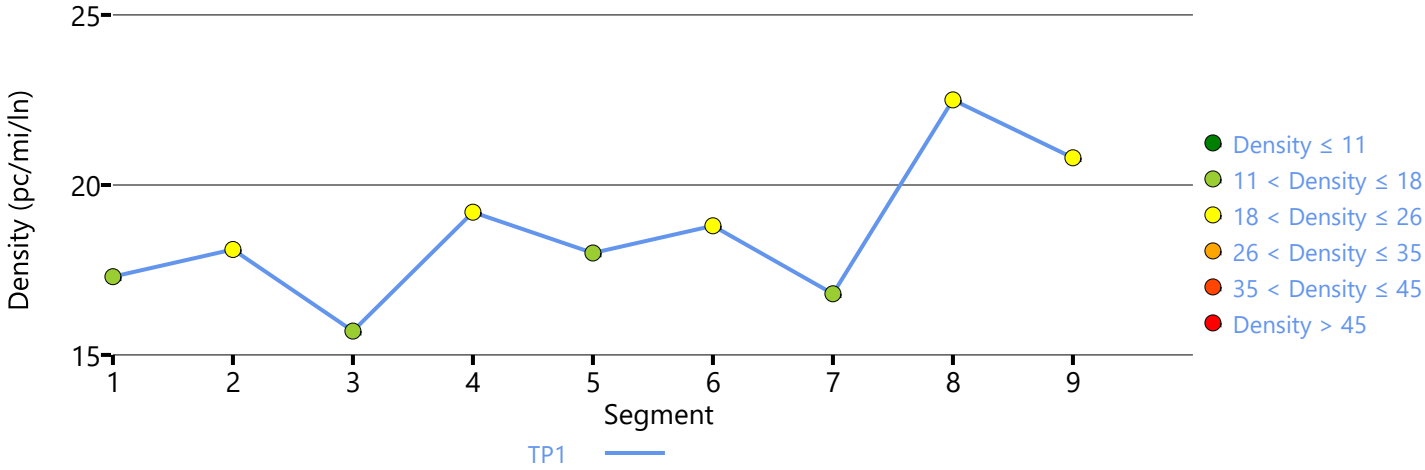
Volume Distribution



Speed Distribution



Density Distribution



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APPENDIX 7.9:

HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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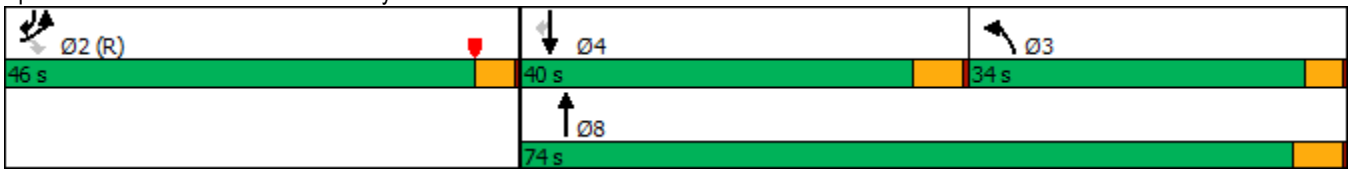
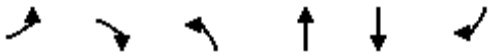
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	797	343	283	460	40	463
Future Volume (vph)	797	343	283	460	40	463
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov
Protected Phases	2		3	8	4	2
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	20.0
Total Split (s)	46.0	46.0	34.0	74.0	40.0	46.0
Total Split (%)	38.3%	38.3%	28.3%	61.7%	33.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	C-Max	C-Max	None	None	None	C-Max
Act Effct Green (s)	68.5	68.5	27.9	42.5	12.6	80.9
Actuated g/C Ratio	0.57	0.57	0.23	0.35	0.10	0.67
v/c Ratio	0.43	0.36	0.74	0.75	0.22	0.45
Control Delay	17.4	2.6	54.8	40.5	47.3	5.5
Queue Delay	0.7	0.5	0.2	0.0	0.0	0.3
Total Delay	18.1	3.1	54.9	40.5	47.3	5.7
LOS	B	A	D	D	D	A
Approach Delay	13.6			46.0	9.0	
Approach LOS	B			D	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBL and 6:, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 22.8	Intersection LOS: C
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	797	343	283	460	40	463
Future Volume (veh/h)	797	343	283	460	40	463
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	866	259	308	500	43	367
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1992	886	340	673	240	1082
Arrive On Green	0.57	0.57	0.19	0.36	0.13	0.13
Sat Flow, veh/h	3510	1562	1791	1900	1900	1550
Grp Volume(v), veh/h	866	259	308	500	43	367
Grp Sat Flow(s),veh/h/ln	1755	1562	1791	1881	1900	1550
Q Serve(g_s), s	17.0	10.3	20.2	27.9	2.4	11.4
Cycle Q Clear(g_c), s	17.0	10.3	20.2	27.9	2.4	11.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1992	886	340	673	240	1082
V/C Ratio(X)	0.43	0.29	0.91	0.74	0.18	0.34
Avail Cap(c_a), veh/h	1992	886	448	1082	554	1338
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	13.5	47.6	33.7	46.9	7.4
Incr Delay (d2), s/veh	0.6	0.8	18.3	1.2	0.3	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	6.4	3.6	10.5	12.5	1.2	11.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.5	14.2	65.9	35.0	47.1	7.5
LnGrp LOS	B	B	E	C	D	A
Approach Vol, veh/h	1125			808	410	
Approach Delay, s/veh	15.2			46.8	11.7	
Approach LOS	B			D	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		72.1	27.8	20.2		47.9
Change Period (Y+Rc), s		4.0	5.0	* 5		5.0
Max Green Setting (Gmax), s		42.0	30.0	* 35		69.0
Max Q Clear Time (g_c+I1), s		19.0	22.2	13.4		29.9
Green Ext Time (p_c), s		4.3	0.6	1.1		2.5

Intersection Summary	
HCM 6th Ctrl Delay	25.5
HCM 6th LOS	C

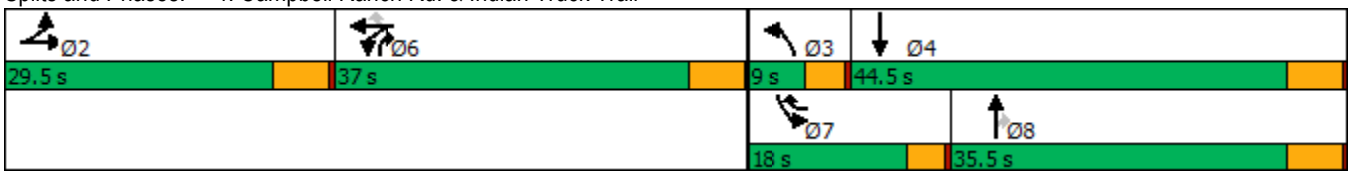
Notes

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

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	535	0	345	470	562	275	374		
Future Volume (vph)	535	0	345	470	562	275	374		
Turn Type	Split	NA	pm+ov	NA	pm+ov	Prot	NA		
Protected Phases	6	6	7	8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	7	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	9.0	35.5	36.5	9.0	10.5	27.5	9.0
Total Split (s)	37.0	37.0	18.0	35.5	37.0	18.0	44.5	29.5	9.0
Total Split (%)	30.8%	30.8%	15.0%	29.6%	30.8%	15.0%	37.1%	25%	8%
Yellow Time (s)	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	4.0	5.5	5.5	4.0	5.5		
Lead/Lag			Lead	Lag		Lead	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Max	None	None	Max	None	None
Act Effct Green (s)	22.5	22.5	36.3	31.1	58.5	12.3	47.5		
Actuated g/C Ratio	0.26	0.26	0.43	0.36	0.69	0.14	0.56		
v/c Ratio	0.65	0.65	0.27	0.39	0.47	0.59	0.20		
Control Delay	36.6	36.6	2.3	24.5	1.8	42.1	12.6		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	36.6	36.6	2.3	24.5	1.8	42.1	12.6		
LOS	D	D	A	C	A	D	B		
Approach Delay		23.2		12.2			25.1		
Approach LOS		C		B			C		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 85.4	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 19.2	Intersection LOS: B
Intersection Capacity Utilization 50.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	535	0	345	0	470	562	275	374	0
Future Volume (veh/h)	0	0	0	535	0	345	0	470	562	275	374	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	582	0	239	0	511	421	299	407	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	3	0	803	0	1080	3	1587	1065	417	2227	0
Arrive On Green	0.00	0.00	0.00	0.22	0.00	0.22	0.00	0.44	0.44	0.12	0.62	0.00
Sat Flow, veh/h	0	1900	0	3619	0	3145	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	582	0	239	0	511	421	299	407	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1573	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	10.2	0.0	3.7	0.0	6.3	8.2	5.6	3.3	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	10.2	0.0	3.7	0.0	6.3	8.2	5.6	3.3	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	3	0	803	0	1080	3	1587	1065	417	2227	0
V/C Ratio(X)	0.00	0.00	0.00	0.73	0.00	0.22	0.00	0.32	0.40	0.72	0.18	0.00
Avail Cap(c_a), veh/h	0	668	0	1671	0	1834	133	1587	1065	720	2227	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	24.6	0.0	16.1	0.0	12.5	5.3	29.0	5.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	0.1	0.0	0.5	1.1	2.3	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	4.0	0.0	1.2	0.0	2.2	4.3	2.3	0.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	25.9	0.0	16.2	0.0	13.0	6.4	31.3	5.8	0.0
LnGrp LOS	A	A	A	C	A	B	A	B	A	C	A	A
Approach Vol, veh/h		0			821			932			706	
Approach Delay, s/veh		0.0			23.1			10.0			16.6	
Approach LOS					C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		0.0	0.0	47.6		20.6	12.1	35.5				
Change Period (Y+Rc), s		5.5	4.0	5.5		5.5	4.0	5.5				
Max Green Setting (Gmax), s		24.0	5.0	39.0		31.5	14.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	5.3		12.2	7.6	10.2				
Green Ext Time (p_c), s		0.0	0.0	2.6		3.0	0.5	4.5				

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

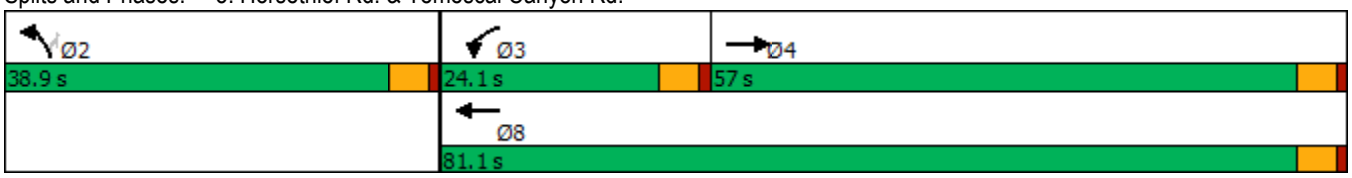
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	62	225	359	175	185
Future Volume (vph)	62	225	359	175	185
Turn Type	NA	Prot	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases					2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.7	9.6	14.7	26.7	26.7
Total Split (s)	57.0	24.1	81.1	38.9	38.9
Total Split (%)	47.5%	20.1%	67.6%	32.4%	32.4%
Yellow Time (s)	3.7	3.6	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.6	4.7	4.7	4.7
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	Min	None	None
Act Effct Green (s)	10.0	7.2	21.8	10.0	10.0
Actuated g/C Ratio	0.24	0.17	0.53	0.24	0.24
v/c Ratio	0.30	0.39	0.20	0.22	0.36
Control Delay	5.3	17.0	5.4	13.6	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.3	17.0	5.4	13.6	5.2
LOS	A	B	A	B	A
Approach Delay	5.3		9.9	9.3	
Approach LOS	A		A	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 41.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay: 8.7	Intersection LOS: A
Intersection Capacity Utilization 34.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: Horsethief Rd. & Temescal Canyon Rd.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	62	205	225	359	175	185
Future Volume (veh/h)	62	205	225	359	175	185
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	65	111	237	378	184	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	473	422	422	1815	881	404
Arrive On Green	0.26	0.26	0.12	0.50	0.25	0.25
Sat Flow, veh/h	1900	1610	3510	3705	3510	1610
Grp Volume(v), veh/h	65	111	237	378	184	116
Grp Sat Flow(s),veh/h/ln	1805	1610	1755	1805	1755	1610
Q Serve(g_s), s	1.1	2.1	2.4	2.2	1.6	2.2
Cycle Q Clear(g_c), s	1.1	2.1	2.4	2.2	1.6	2.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	473	422	422	1815	881	404
V/C Ratio(X)	0.14	0.26	0.56	0.21	0.21	0.29
Avail Cap(c_a), veh/h	2473	2206	1793	7224	3145	1442
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	10.8	11.2	15.8	5.3	11.3	11.5
Incr Delay (d2), s/veh	0.1	0.3	0.4	0.1	0.1	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	0.3	0.6	0.8	0.5	0.5	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.9	11.5	16.3	5.3	11.4	11.9
LnGrp LOS	B	B	B	A	B	B
Approach Vol, veh/h	176			615	300	
Approach Delay, s/veh	11.3			9.5	11.6	
Approach LOS	B			A	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		14.3	9.2	14.7		23.9
Change Period (Y+Rc), s		* 4.7	4.6	* 4.7		* 4.7
Max Green Setting (Gmax), s		* 34	19.5	* 52		* 76
Max Q Clear Time (g_c+I1), s		4.2	4.4	4.1		4.2
Green Ext Time (p_c), s		1.0	0.4	1.2		2.8

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

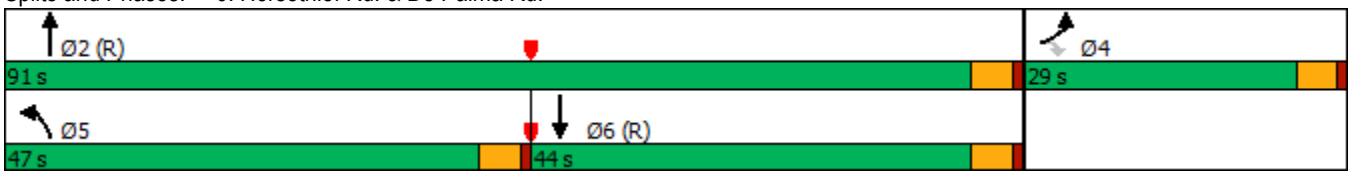
Notes

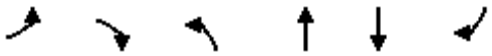
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	38	189	344	321	381
Future Volume (vph)	38	189	344	321	381
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	26.7	26.7	9.6	14.7	26.7
Total Split (s)	29.0	29.0	47.0	91.0	44.0
Total Split (%)	24.2%	24.2%	39.2%	75.8%	36.7%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min
Act Effct Green (s)	10.8	10.8	29.7	99.8	65.6
Actuated g/C Ratio	0.09	0.09	0.25	0.83	0.55
v/c Ratio	0.25	0.62	0.84	0.12	0.24
Control Delay	54.4	15.5	59.1	2.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	15.5	59.1	2.0	15.5
LOS	D	B	E	A	B
Approach Delay	22.0			31.6	15.5
Approach LOS	C			C	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 24.7	Intersection LOS: C
Intersection Capacity Utilization 51.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Horsethief Rd. & De Palma Rd.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	189	344	321	381	49
Future Volume (veh/h)	38	189	344	321	381	49
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	41	205	374	349	414	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	263	234	404	2803	1659	211
Arrive On Green	0.15	0.15	0.22	0.78	0.51	0.51
Sat Flow, veh/h	1810	1610	1810	3705	3316	410
Grp Volume(v), veh/h	41	205	374	349	231	236
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1805	1805	1826
Q Serve(g_s), s	2.4	15.0	24.3	2.9	8.5	8.6
Cycle Q Clear(g_c), s	2.4	15.0	24.3	2.9	8.5	8.6
Prop In Lane	1.00	1.00	1.00			0.22
Lane Grp Cap(c), veh/h	263	234	404	2803	929	940
V/C Ratio(X)	0.16	0.88	0.93	0.12	0.25	0.25
Avail Cap(c_a), veh/h	366	326	639	2803	929	940
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	0.93	0.93
Uniform Delay (d), s/veh	44.9	50.2	45.6	3.3	16.2	16.2
Incr Delay (d2), s/veh	0.3	17.5	10.1	0.1	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	13.8	12.0	0.9	3.7	3.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.1	67.7	55.7	3.4	16.8	16.8
LnGrp LOS	D	E	E	A	B	B
Approach Vol, veh/h	246			723	467	
Approach Delay, s/veh	64.0			30.5	16.8	
Approach LOS	E			C	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		97.9		22.1	31.4	66.5
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 86		* 24	42.4	* 39
Max Q Clear Time (g_c+I1), s		4.9		17.0	26.3	10.6
Green Ext Time (p_c), s		2.6		0.5	0.5	3.0

Intersection Summary		
HCM 6th Ctrl Delay		31.8
HCM 6th LOS		C

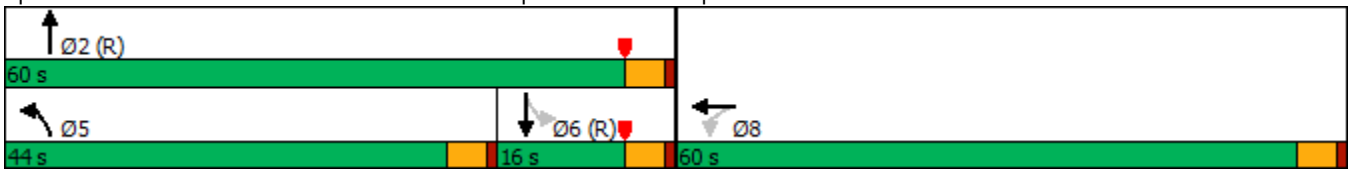
Notes

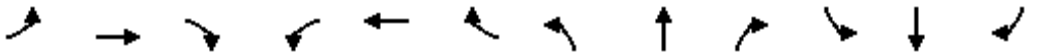
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	463	14	813	2	7
Future Volume (vph)	463	14	813	2	7
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	60.0	60.0	44.0	60.0	16.0
Total Split (%)	50.0%	50.0%	36.7%	50.0%	13.3%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	39.7	39.7	33.9	70.9	32.4
Actuated g/C Ratio	0.33	0.33	0.28	0.59	0.27
v/c Ratio	0.82	0.03	0.87	0.00	0.02
Control Delay	47.7	21.2	65.8	20.0	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	21.2	65.8	20.0	35.4
LOS	D	C	E	B	D
Approach Delay		46.8		65.7	35.4
Approach LOS		D		E	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 10.3 (9%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 58.5	Intersection LOS: E
Intersection Capacity Utilization 68.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	463	14	2	813	2	0	0	7	3
Future Volume (veh/h)	0	0	0	463	14	2	813	2	0	0	7	3
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				487	15	2	856	2	0	0	7	3
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				527	478	64	932	1198	0	0	412	177
Arrive On Green				0.29	0.29	0.29	0.27	0.63	0.00	0.00	0.33	0.33
Sat Flow, veh/h				1810	1642	219	3510	1900	0	0	1262	541
Grp Volume(v), veh/h				487	0	17	856	2	0	0	0	10
Grp Sat Flow(s),veh/h/ln				1810	0	1861	1755	1900	0	0	0	1803
Q Serve(g_s), s				31.3	0.0	0.8	28.4	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear(g_c), s				31.3	0.0	0.8	28.4	0.0	0.0	0.0	0.0	0.5
Prop In Lane				1.00		0.12	1.00		0.00	0.00		0.30
Lane Grp Cap(c), veh/h				527	0	542	932	1198	0	0	0	588
V/C Ratio(X)				0.92	0.00	0.03	0.92	0.00	0.00	0.00	0.00	0.02
Avail Cap(c_a), veh/h				834	0	857	1153	1198	0	0	0	588
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.96	0.96	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				41.2	0.0	30.4	42.8	8.2	0.0	0.0	0.0	27.4
Incr Delay (d2), s/veh				10.9	0.0	0.0	8.9	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				15.4	0.0	0.4	13.4	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				52.1	0.0	30.4	51.7	8.2	0.0	0.0	0.0	27.4
LnGrp LOS				D	A	C	D	A	A	A	A	C
Approach Vol, veh/h					504			858			10	
Approach Delay, s/veh					51.4			51.6			27.4	
Approach LOS					D			D			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	80.3		36.5	43.9		39.7						
Change Period (Y+Rc), s	* 4.7		4.6	* 4.7		4.7						
Max Green Setting (Gmax), s	* 55		39.4	* 11		55.3						
Max Q Clear Time (g_c+I1), s	2.0		30.4	2.5		33.3						
Green Ext Time (p_c), s	0.0		1.4	0.0		1.7						

Intersection Summary		
HCM 6th Ctrl Delay	51.3	
HCM 6th LOS	D	

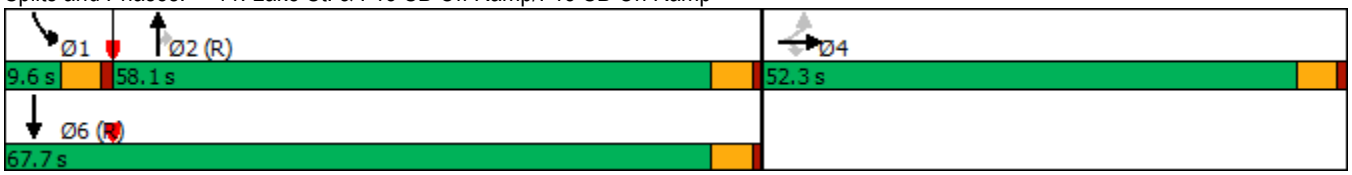
Notes

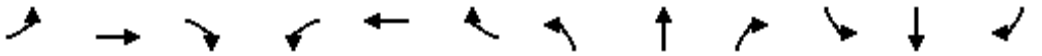
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	32	390	811	449	8	462
Future Volume (vph)	32	390	811	449	8	462
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	52.3	52.3	58.1	58.1	9.6	67.7
Total Split (%)	43.6%	43.6%	48.4%	48.4%	8.0%	56.4%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	16.2	16.2	92.2	92.2	5.4	94.4
Actuated g/C Ratio	0.14	0.14	0.77	0.77	0.04	0.79
v/c Ratio	0.15	0.82	0.31	0.35	0.10	0.17
Control Delay	43.5	24.3	6.0	2.2	40.9	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	24.3	6.0	2.2	40.9	7.0
LOS	D	C	A	A	D	A
Approach Delay	25.9		4.6			7.5
Approach LOS	C		A			A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 9.5	Intersection LOS: A
Intersection Capacity Utilization 68.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	32	390	0	0	0	0	811	449	8	462	0
Future Volume (veh/h)	4	32	390	0	0	0	0	811	449	8	462	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	4	34	411				0	854	236	8	486	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	55	469	446				0	2153	960	18	2327	0
Arrive On Green	0.28	0.28	0.28				0.00	0.60	0.60	0.01	0.43	0.00
Sat Flow, veh/h	199	1691	1610				0	3705	1610	1810	3705	0
Grp Volume(v), veh/h	38	0	411				0	854	236	8	486	0
Grp Sat Flow(s),veh/h/ln	1890	0	1610				0	1805	1610	1810	1805	0
Q Serve(g_s), s	1.8	0.0	29.7				0.0	15.0	8.3	0.5	10.1	0.0
Cycle Q Clear(g_c), s	1.8	0.0	29.7				0.0	15.0	8.3	0.5	10.1	0.0
Prop In Lane	0.11		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	524	0	446				0	2153	960	18	2327	0
V/C Ratio(X)	0.07	0.00	0.92				0.00	0.40	0.25	0.45	0.21	0.00
Avail Cap(c_a), veh/h	750	0	639				0	2153	960	75	2327	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	0.94	0.94	0.50	0.50	0.00
Uniform Delay (d), s/veh	32.0	0.0	42.1				0.0	12.8	11.5	59.3	15.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	14.7				0.0	0.5	0.6	3.3	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	0.8	0.0	13.5				0.0	6.1	3.1	0.3	4.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	0.0	56.7				0.0	13.3	12.0	62.6	15.1	0.0
LnGrp LOS	C	A	E				A	B	B	E	B	A
Approach Vol, veh/h		449						1090			494	
Approach Delay, s/veh		54.7						13.0			15.9	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.8	76.3		38.0		82.0
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	5.0	* 53		* 48		* 63
Max Q Clear Time (g_c+I1), s	2.5	17.0		31.7		12.1
Green Ext Time (p_c), s	0.0	8.3		1.5		3.7

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

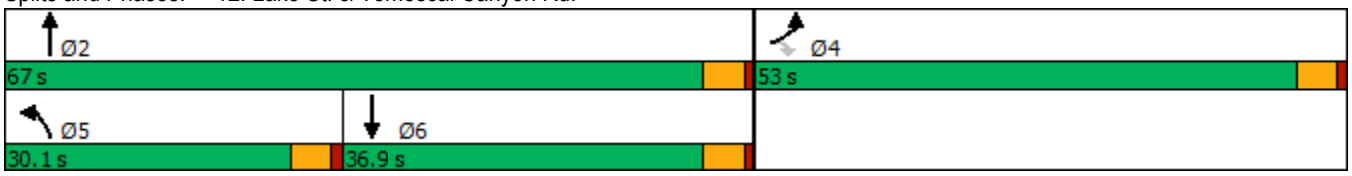
Notes

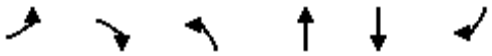
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	445	178	624	814	359
Future Volume (vph)	445	178	624	814	359
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	53.0	53.0	30.1	67.0	36.9
Total Split (%)	44.2%	44.2%	25.1%	55.8%	30.8%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	16.0	16.0	18.8	42.2	18.7
Actuated g/C Ratio	0.24	0.24	0.28	0.62	0.28
v/c Ratio	0.57	0.36	0.68	0.27	0.60
Control Delay	27.2	6.5	26.9	6.2	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.2	6.5	26.9	6.2	16.7
LOS	C	A	C	A	B
Approach Delay	21.3			15.2	16.7
Approach LOS	C			B	B

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 68			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 60.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	445	178	624	814	359	493
Future Volume (veh/h)	445	178	624	814	359	493
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	468	-66	657	857	378	366
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	672	308	821	3320	1120	521
Arrive On Green	0.19	0.00	0.23	0.64	0.32	0.32
Sat Flow, veh/h	3510	1610	3510	5358	3629	1610
Grp Volume(v), veh/h	468	-66	657	857	378	366
Grp Sat Flow(s),veh/h/ln	1755	1610	1755	1729	1729	1610
Q Serve(g_s), s	6.9	0.0	9.8	4.0	4.6	11.1
Cycle Q Clear(g_c), s	6.9	0.0	9.8	4.0	4.6	11.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	672	308	821	3320	1120	521
V/C Ratio(X)	0.70	-0.21	0.80	0.26	0.34	0.70
Avail Cap(c_a), veh/h	3039	1394	1604	5791	1996	929
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	21.0	0.0	20.1	4.3	14.3	16.5
Incr Delay (d2), s/veh	1.3	0.0	0.7	0.0	0.2	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	3.7	0.9	1.6	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.4	0.0	20.8	4.4	14.5	18.2
LnGrp LOS	C	A	C	A	B	B
Approach Vol, veh/h	402			1514	744	
Approach Delay, s/veh	26.0			11.5	16.3	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		40.4		15.4	17.6	22.8
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 62		* 48	25.5	* 32
Max Q Clear Time (g_c+I1), s		6.0		8.9	11.8	13.1
Green Ext Time (p_c), s		7.5		1.8	1.2	5.0

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

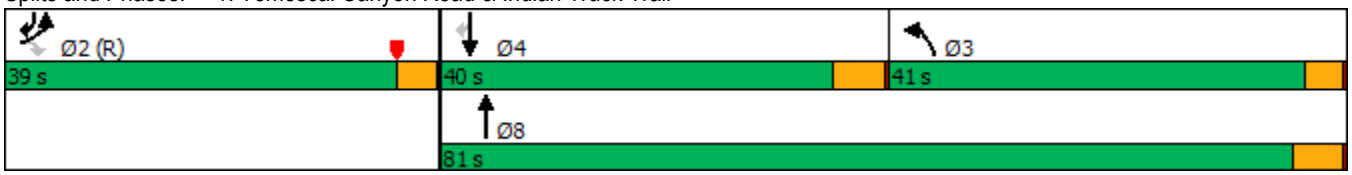
Notes

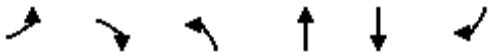
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	859	162	343	141	320	606
Future Volume (vph)	859	162	343	141	320	606
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov
Protected Phases	2		3	8	4	2
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	20.0
Total Split (s)	39.0	39.0	41.0	81.0	40.0	39.0
Total Split (%)	32.5%	32.5%	34.2%	67.5%	33.3%	32.5%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	C-Max	C-Max	None	None	None	C-Max
Act Effct Green (s)	50.5	50.5	29.7	60.5	26.9	78.3
Actuated g/C Ratio	0.42	0.42	0.25	0.50	0.22	0.65
v/c Ratio	0.63	0.23	0.84	0.16	0.82	0.59
Control Delay	42.6	16.1	59.1	14.6	59.5	9.1
Queue Delay	6.8	0.5	0.0	0.0	0.0	0.1
Total Delay	49.3	16.7	59.1	14.6	59.5	9.2
LOS	D	B	E	B	E	A
Approach Delay	44.1			46.1	26.6	
Approach LOS	D			D	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 68 (57%), Referenced to phase 2:EBL and 6:, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 37.8	Intersection LOS: D
Intersection Capacity Utilization 72.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	859	162	343	141	320	606
Future Volume (veh/h)	859	162	343	141	320	606
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	934	149	373	153	348	623
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1423	652	407	988	481	1058
Arrive On Green	0.41	0.41	0.23	0.52	0.25	0.25
Sat Flow, veh/h	3510	1610	1810	1900	1900	1604
Grp Volume(v), veh/h	934	149	373	153	348	623
Grp Sat Flow(s),veh/h/ln	1755	1610	1810	1900	1900	1604
Q Serve(g_s), s	25.9	7.3	24.1	5.0	20.1	26.0
Cycle Q Clear(g_c), s	25.9	7.3	24.1	5.0	20.1	26.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1423	652	407	988	481	1058
V/C Ratio(X)	0.66	0.23	0.92	0.15	0.72	0.59
Avail Cap(c_a), veh/h	1423	652	558	1203	554	1120
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	23.4	45.4	15.0	41.0	11.5
Incr Delay (d2), s/veh	2.2	0.8	16.2	0.1	3.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	0.1	12.4	2.1	9.7	18.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.1	24.1	61.6	15.1	44.6	12.1
LnGrp LOS	C	C	E	B	D	B
Approach Vol, veh/h	1083			526	971	
Approach Delay, s/veh	30.2			48.1	23.7	
Approach LOS	C			D	C	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		52.6	32.0	35.4		67.4
Change Period (Y+Rc), s		4.0	5.0	* 5		5.0
Max Green Setting (Gmax), s		35.0	37.0	* 35		76.0
Max Q Clear Time (g_c+I1), s		27.9	26.1	28.0		7.0
Green Ext Time (p_c), s		2.6	0.9	2.2		0.7

Intersection Summary	
HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

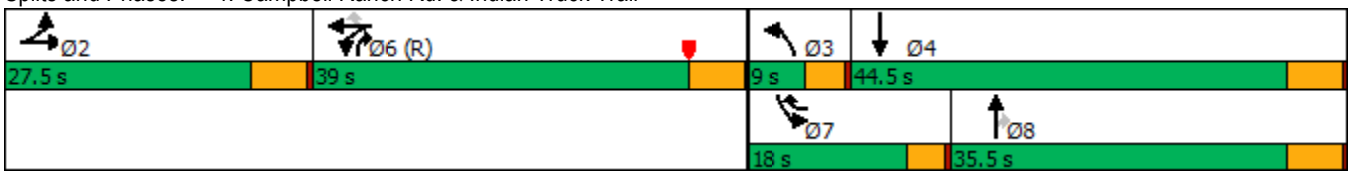
Notes

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

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	932	0	482	439	700	394	458		
Future Volume (vph)	932	0	482	439	700	394	458		
Turn Type	Split	NA	pm+ov	NA	pm+ov	Prot	NA		
Protected Phases	6	6	7	8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	7	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	9.0	35.5	36.5	9.0	10.5	27.5	9.0
Total Split (s)	39.0	39.0	18.0	35.5	39.0	18.0	44.5	27.5	9.0
Total Split (%)	32.5%	32.5%	15.0%	29.6%	32.5%	15.0%	37.1%	23%	8%
Yellow Time (s)	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	4.0	5.5	5.5	4.0	5.5		
Lead/Lag			Lead	Lag		Lead	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None	None	None
Act Effct Green (s)	69.7	69.7	85.2	21.3	96.5	14.0	39.3		
Actuated g/C Ratio	0.58	0.58	0.71	0.18	0.80	0.12	0.33		
v/c Ratio	0.48	0.48	0.22	0.71	0.53	1.02	0.42		
Control Delay	18.5	18.5	0.5	51.9	1.6	100.5	32.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	18.5	18.5	0.5	51.9	1.6	100.5	32.0		
LOS	B	B	A	D	A	F	C		
Approach Delay		12.4		21.0			63.7		
Approach LOS		B		C			E		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 6:WBTL, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 28.1	Intersection LOS: C
Intersection Capacity Utilization 62.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	932	0	482	0	439	700	394	458	0
Future Volume (veh/h)	0	0	0	932	0	482	0	439	700	394	458	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	1013	0	388	0	477	544	428	498	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	348	0	1010	0	1254	2	950	852	422	1444	0
Arrive On Green	0.00	0.00	0.00	0.28	0.00	0.28	0.00	0.25	0.25	0.12	0.40	0.00
Sat Flow, veh/h	0	1900	0	3619	0	3147	1810	3800	1610	3619	3705	0
Grp Volume(v), veh/h	0	0	0	1013	0	388	0	477	544	428	498	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1574	1810	1900	1610	1810	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	33.5	0.0	10.2	0.0	12.9	28.8	14.0	11.5	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	33.5	0.0	10.2	0.0	12.9	28.8	14.0	11.5	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	348	0	1010	0	1254	2	950	852	422	1444	0
V/C Ratio(X)	0.00	0.00	0.00	1.00	0.00	0.31	0.00	0.50	0.64	1.01	0.34	0.00
Avail Cap(c_a), veh/h	0	348	0	1010	0	1254	75	950	852	422	1444	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.87	0.00	0.87	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	43.3	0.0	25.0	0.0	38.6	20.1	53.0	25.1	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	27.0	0.0	0.6	0.0	0.4	1.6	47.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	18.1	0.0	3.8	0.0	5.9	16.6	9.0	4.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	70.3	0.0	25.5	0.0	39.0	21.7	100.3	25.2	0.0
LnGrp LOS	A	A	A	F	A	C	A	D	C	F	C	A
Approach Vol, veh/h		0			1401			1021			926	
Approach Delay, s/veh		0.0			57.9			29.8			59.9	
Approach LOS					E			C			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.5	0.0	53.5		39.0	18.0	35.5				
Change Period (Y+Rc), s		5.5	4.0	5.5		5.5	4.0	5.5				
Max Green Setting (Gmax), s		22.0	5.0	39.0		33.5	14.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	13.5		35.5	16.0	30.8				
Green Ext Time (p_c), s		0.0	0.0	3.1		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			49.9									
HCM 6th LOS			D									

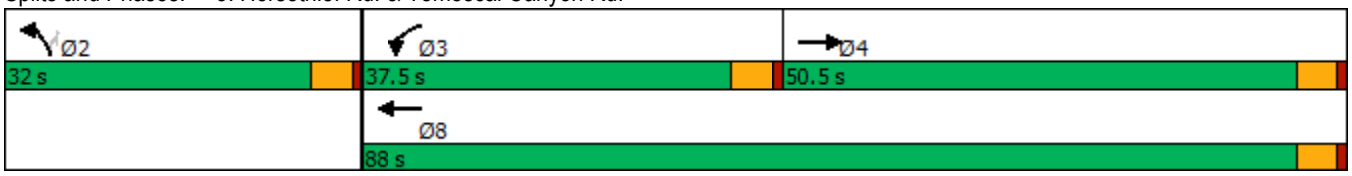
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	267	217	58	358	277
Future Volume (vph)	267	217	58	358	277
Turn Type	NA	Prot	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases					2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.7	9.6	14.7	26.7	26.7
Total Split (s)	50.5	37.5	88.0	32.0	32.0
Total Split (%)	42.1%	31.3%	73.3%	26.7%	26.7%
Yellow Time (s)	3.7	3.6	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.6	4.7	4.7	4.7
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	Min	None	None
Act Effct Green (s)	11.3	7.8	23.8	11.6	11.6
Actuated g/C Ratio	0.25	0.17	0.53	0.26	0.26
v/c Ratio	0.44	0.36	0.03	0.41	0.53
Control Delay	11.7	19.0	5.4	15.8	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.7	19.0	5.4	15.8	10.5
LOS	B	B	A	B	B
Approach Delay	11.7		16.1	13.5	
Approach LOS	B		B	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 44.9	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 40.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: Horsethief Rd. & Temescal Canyon Rd.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	267	155	217	58	358	277
Future Volume (veh/h)	267	155	217	58	358	277
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	281	-105	228	61	377	81
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2751	0	429	1892	933	415
Arrive On Green	0.26	0.00	0.12	0.50	0.26	0.26
Sat Flow, veh/h	3800	0	3619	3800	3619	1610
Grp Volume(v), veh/h	176	0	228	61	377	81
Grp Sat Flow(s),veh/h/ln	1900	0	1810	1900	1810	1610
Q Serve(g_s), s	0.0	0.0	2.3	0.3	3.3	1.5
Cycle Q Clear(g_c), s	0.0	0.0	2.3	0.3	3.3	1.5
Prop In Lane		0.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	0	429	1892	933	415
V/C Ratio(X)	0.00	0.00	0.53	0.03	0.40	0.20
Avail Cap(c_a), veh/h	0	0	3094	8224	2567	1142
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	0.0	0.0	16.0	4.9	11.8	11.2
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.0	0.3	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	0.0	0.0	0.8	0.1	1.1	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	16.3	4.9	12.1	11.4
LnGrp LOS	A	A	B	A	B	B
Approach Vol, veh/h	176			289	458	
Approach Delay, s/veh	0.0			13.9	12.0	
Approach LOS	A			B	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		14.6	9.2	14.7		23.9
Change Period (Y+Rc), s		* 4.7	4.6	* 4.7		* 4.7
Max Green Setting (Gmax), s		* 27	32.9	* 46		* 83
Max Q Clear Time (g_c+I1), s		5.3	4.3	2.0		2.3
Green Ext Time (p_c), s		1.6	0.4	1.3		0.4

Intersection Summary	
HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

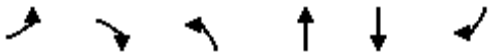
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	147	697	284	488	287
Future Volume (vph)	147	697	284	488	287
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	26.7	26.7	9.6	14.7	26.7
Total Split (s)	37.2	37.2	28.2	82.8	54.6
Total Split (%)	31.0%	31.0%	23.5%	69.0%	45.5%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min
Act Effct Green (s)	20.0	20.0	24.0	90.6	62.0
Actuated g/C Ratio	0.17	0.17	0.20	0.76	0.52
v/c Ratio	0.50	0.88	0.81	0.18	0.21
Control Delay	48.9	18.3	62.3	5.5	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	18.3	62.3	5.5	17.2
LOS	D	B	E	A	B
Approach Delay	23.6			26.4	17.2
Approach LOS	C			C	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 23.5	Intersection LOS: C
Intersection Capacity Utilization 61.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Horsethief Rd. & De Palma Rd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	147	697	284	488	287	85
Future Volume (veh/h)	147	697	284	488	287	85
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	150	430	290	498	293	56
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	490	436	317	2350	1325	250
Arrive On Green	0.27	0.27	0.18	0.65	0.44	0.44
Sat Flow, veh/h	1810	1610	1810	3705	3126	572
Grp Volume(v), veh/h	150	430	290	498	173	176
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1805	1805	1797
Q Serve(g_s), s	7.9	31.9	18.9	6.7	7.2	7.3
Cycle Q Clear(g_c), s	7.9	31.9	18.9	6.7	7.2	7.3
Prop In Lane	1.00	1.00	1.00			0.32
Lane Grp Cap(c), veh/h	490	436	317	2350	789	786
V/C Ratio(X)	0.31	0.99	0.91	0.21	0.22	0.22
Avail Cap(c_a), veh/h	490	436	356	2350	789	786
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	0.94	0.94
Uniform Delay (d), s/veh	34.8	43.5	48.6	8.5	21.0	21.1
Incr Delay (d2), s/veh	0.3	39.3	24.5	0.2	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	29.5	10.7	2.6	3.2	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.1	82.8	73.1	8.7	21.6	21.7
LnGrp LOS	D	F	E	A	C	C
Approach Vol, veh/h	580			788	349	
Approach Delay, s/veh	70.5			32.4	21.6	
Approach LOS	E			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		82.8		37.2	25.6	57.2
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 78		* 33	23.6	* 50
Max Q Clear Time (g_c+I1), s		8.7		33.9	20.9	9.3
Green Ext Time (p_c), s		3.8		0.0	0.1	2.2

Intersection Summary		
HCM 6th Ctrl Delay		43.1
HCM 6th LOS		D

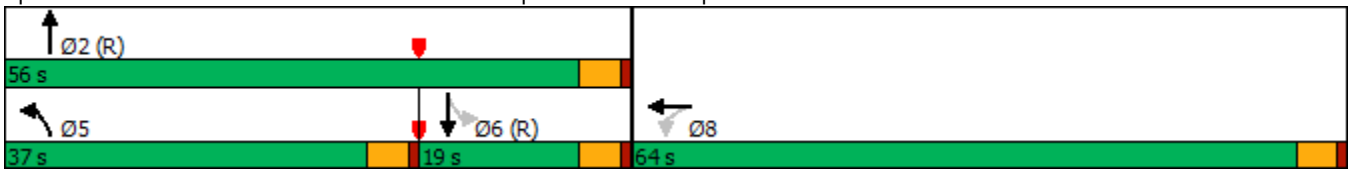
Notes

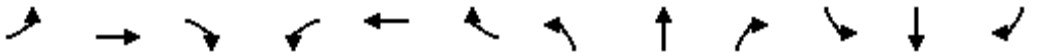
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	327	4	472	18	12
Future Volume (vph)	327	4	472	18	12
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	64.0	64.0	37.0	56.0	19.0
Total Split (%)	53.3%	53.3%	30.8%	46.7%	15.8%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	29.6	29.6	21.5	81.0	54.9
Actuated g/C Ratio	0.25	0.25	0.18	0.68	0.46
v/c Ratio	0.77	0.04	0.79	0.01	0.03
Control Delay	53.3	16.1	59.0	19.1	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	16.1	59.0	19.1	17.1
LOS	D	B	E	B	B
Approach Delay		51.6		57.5	17.1
Approach LOS		D		E	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 54.1	Intersection LOS: D
Intersection Capacity Utilization 83.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	327	4	12	472	18	0	0	12	9
Future Volume (veh/h)	0	0	0	327	4	12	472	18	0	0	12	9
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				344	4	13	497	19	0	0	13	9
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				383	83	270	569	1349	0	0	533	369
Arrive On Green				0.21	0.21	0.21	0.16	0.71	0.00	0.00	0.51	0.51
Sat Flow, veh/h				1810	393	1277	3510	1900	0	0	1046	724
Grp Volume(v), veh/h				344	0	17	497	19	0	0	0	22
Grp Sat Flow(s),veh/h/ln				1810	0	1670	1755	1900	0	0	0	1770
Q Serve(g_s), s				22.2	0.0	1.0	16.6	0.4	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s				22.2	0.0	1.0	16.6	0.4	0.0	0.0	0.0	0.7
Prop In Lane				1.00		0.76	1.00		0.00	0.00		0.41
Lane Grp Cap(c), veh/h				383	0	353	569	1349	0	0	0	902
V/C Ratio(X)				0.90	0.00	0.05	0.87	0.01	0.00	0.00	0.00	0.02
Avail Cap(c_a), veh/h				894	0	825	948	1349	0	0	0	902
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.93	0.93	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				46.1	0.0	37.7	49.1	5.1	0.0	0.0	0.0	14.6
Incr Delay (d2), s/veh				7.7	0.0	0.1	2.4	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				10.8	0.0	0.4	7.4	0.1	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				53.8	0.0	37.7	51.5	5.1	0.0	0.0	0.0	14.7
LnGrp LOS				D	A	D	D	A	A	A	A	B
Approach Vol, veh/h					361			516			22	
Approach Delay, s/veh					53.0			49.8			14.7	
Approach LOS					D			D			B	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		89.9			24.1	65.9		30.1				
Change Period (Y+Rc), s		* 4.7			4.6	* 4.7		4.7				
Max Green Setting (Gmax), s		* 51			32.4	* 14		59.3				
Max Q Clear Time (g_c+I1), s		2.4			18.6	2.7		24.2				
Green Ext Time (p_c), s		0.1			0.9	0.0		1.2				

Intersection Summary		
HCM 6th Ctrl Delay		50.2
HCM 6th LOS		D

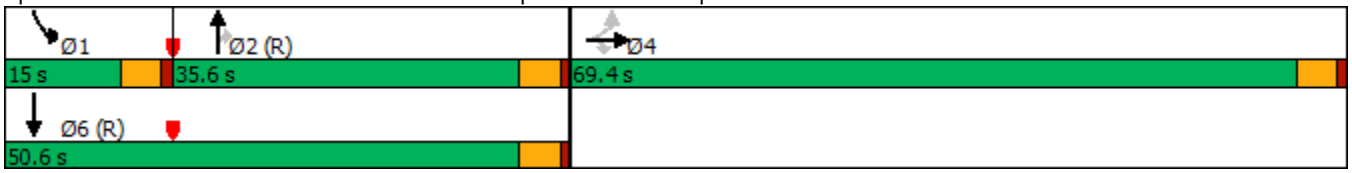
Notes

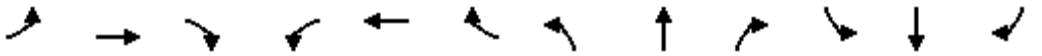
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	1079	486	366	6	333
Future Volume (vph)	10	1079	486	366	6	333
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	69.4	69.4	35.6	35.6	15.0	50.6
Total Split (%)	57.8%	57.8%	29.7%	29.7%	12.5%	42.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	64.7	64.7	43.8	43.8	5.3	45.9
Actuated g/C Ratio	0.54	0.54	0.36	0.36	0.04	0.38
v/c Ratio	0.01	1.11	0.39	0.46	0.08	0.25
Control Delay	13.0	84.2	30.0	5.0	61.2	64.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	84.2	30.0	5.0	61.2	64.3
LOS	B	F	C	A	E	E
Approach Delay	83.3		19.2			64.2
Approach LOS	F		B			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.11	
Intersection Signal Delay: 56.6	Intersection LOS: E
Intersection Capacity Utilization 83.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	10	1079	0	0	0	0	486	366	6	333	0
Future Volume (veh/h)	4	10	1079	0	0	0	0	486	366	6	333	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	4	11	347				0	512	122	6	351	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	119	326	382				0	2304	1028	14	2470	0
Arrive On Green	0.24	0.24	0.24				0.00	0.64	0.64	0.02	1.00	0.00
Sat Flow, veh/h	500	1375	1610				0	3705	1610	1810	3705	0
Grp Volume(v), veh/h	15	0	347				0	512	122	6	351	0
Grp Sat Flow(s),veh/h/ln	1875	0	1610				0	1805	1610	1810	1805	0
Q Serve(g_s), s	0.7	0.0	25.1				0.0	7.2	3.6	0.4	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	25.1				0.0	7.2	3.6	0.4	0.0	0.0
Prop In Lane	0.27		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	445	0	382				0	2304	1028	14	2470	0
V/C Ratio(X)	0.03	0.00	0.91				0.00	0.22	0.12	0.44	0.14	0.00
Avail Cap(c_a), veh/h	1011	0	868				0	2304	1028	157	2470	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.97	0.97	0.61	0.61	0.00
Uniform Delay (d), s/veh	35.2	0.0	44.5				0.0	9.1	8.5	58.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	8.3				0.0	0.2	0.2	4.9	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	0.3	0.0	10.9				0.0	2.8	1.3	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	0.0	52.8				0.0	9.4	8.7	63.8	0.1	0.0
LnGrp LOS	D	A	D				A	A	A	E	A	A
Approach Vol, veh/h		362						634			357	
Approach Delay, s/veh		52.1						9.2			1.1	
Approach LOS		D						A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.5	81.3		33.2		86.8
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	10.4	* 31		* 65		* 46
Max Q Clear Time (g_c+I1), s	2.4	9.2		27.1		2.0
Green Ext Time (p_c), s	0.0	3.9		1.4		2.5

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

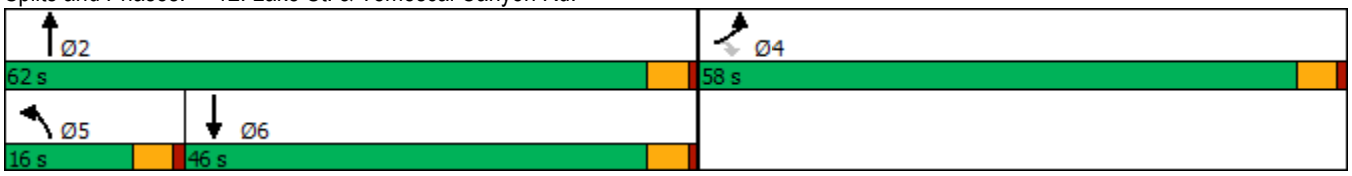
Notes

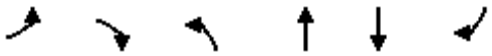
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	383	484	322	469	1047
Future Volume (vph)	383	484	322	469	1047
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	58.0	58.0	16.0	62.0	46.0
Total Split (%)	48.3%	48.3%	13.3%	51.7%	38.3%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	22.8	22.8	11.8	51.9	35.3
Actuated g/C Ratio	0.27	0.27	0.14	0.61	0.42
v/c Ratio	0.43	0.83	0.69	0.16	0.70
Control Delay	26.6	26.7	46.6	8.2	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.6	26.7	46.6	8.2	21.9
LOS	C	C	D	A	C
Approach Delay	26.7			23.8	21.9
Approach LOS	C			C	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 84.5	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 23.8	Intersection LOS: C
Intersection Capacity Utilization 66.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	383	484	322	469	1047	365
Future Volume (veh/h)	383	484	322	469	1047	365
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	403	246	339	494	1102	173
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	765	351	463	3213	1845	289
Arrive On Green	0.22	0.22	0.13	0.62	0.41	0.41
Sat Flow, veh/h	3510	1610	3510	5358	4692	709
Grp Volume(v), veh/h	403	246	339	494	843	432
Grp Sat Flow(s),veh/h/ln	1755	1610	1755	1729	1729	1772
Q Serve(g_s), s	5.9	8.1	5.4	2.3	11.0	11.0
Cycle Q Clear(g_c), s	5.9	8.1	5.4	2.3	11.0	11.0
Prop In Lane	1.00	1.00	1.00			0.40
Lane Grp Cap(c), veh/h	765	351	463	3213	1411	723
V/C Ratio(X)	0.53	0.70	0.73	0.15	0.60	0.60
Avail Cap(c_a), veh/h	3239	1486	693	5145	2472	1267
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	20.0	20.9	24.1	4.6	13.4	13.4
Incr Delay (d2), s/veh	0.6	2.6	0.9	0.0	0.4	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	2.3	7.3	2.1	0.6	3.8	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.5	23.4	25.0	4.6	13.8	14.2
LnGrp LOS	C	C	C	A	B	B
Approach Vol, veh/h	649			833	1275	
Approach Delay, s/veh	21.6			12.9	13.9	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		40.5		17.3	12.2	28.3
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 57		* 53	11.4	* 41
Max Q Clear Time (g_c+I1), s		4.3		10.1	7.4	13.0
Green Ext Time (p_c), s		3.9		2.4	0.3	10.5

Intersection Summary		
HCM 6th Ctrl Delay	15.4	
HCM 6th LOS	B	

Notes

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

APPENDIX 7.10:

HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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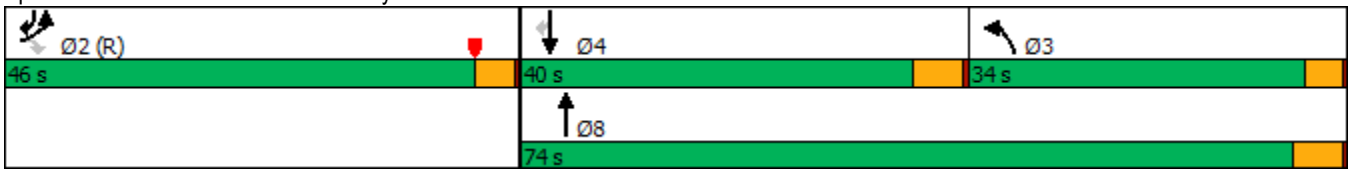
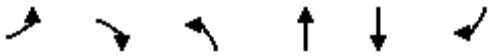
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	797	484	325	469	70	463
Future Volume (vph)	797	484	325	469	70	463
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov
Protected Phases	2		3	8	4	2
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	20.0
Total Split (s)	46.0	46.0	34.0	74.0	40.0	46.0
Total Split (%)	38.3%	38.3%	28.3%	61.7%	33.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	C-Max	C-Max	None	None	None	C-Max
Act Effct Green (s)	65.6	65.6	29.5	45.4	14.1	79.3
Actuated g/C Ratio	0.55	0.55	0.25	0.38	0.12	0.66
v/c Ratio	0.45	0.49	0.80	0.72	0.35	0.46
Control Delay	20.1	3.5	57.6	36.5	49.9	6.9
Queue Delay	0.9	0.5	0.2	0.0	0.0	0.3
Total Delay	21.0	3.9	57.7	36.5	49.9	7.2
LOS	C	A	E	D	D	A
Approach Delay	14.5			45.2	12.8	
Approach LOS	B			D	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBL and 6:, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 23.5	Intersection LOS: C
Intersection Capacity Utilization 54.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	797	484	325	469	70	463
Future Volume (veh/h)	797	484	325	469	70	463
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	866	412	353	510	76	367
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1878	836	383	733	256	1044
Arrive On Green	0.54	0.54	0.21	0.39	0.13	0.13
Sat Flow, veh/h	3510	1562	1791	1900	1900	1550
Grp Volume(v), veh/h	866	412	353	510	76	367
Grp Sat Flow(s),veh/h/ln	1755	1562	1791	1881	1900	1550
Q Serve(g_s), s	18.3	20.0	23.2	27.2	4.3	12.3
Cycle Q Clear(g_c), s	18.3	20.0	23.2	27.2	4.3	12.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1878	836	383	733	256	1044
V/C Ratio(X)	0.46	0.49	0.92	0.70	0.30	0.35
Avail Cap(c_a), veh/h	1878	836	448	1082	554	1288
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	17.6	46.2	30.6	46.8	8.6
Incr Delay (d2), s/veh	0.7	1.8	22.6	0.9	0.5	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	7.0	7.2	12.5	12.1	2.1	11.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.9	19.4	68.8	31.5	47.3	8.7
LnGrp LOS	B	B	E	C	D	A
Approach Vol, veh/h	1278			863	443	
Approach Delay, s/veh	18.4			46.8	15.3	
Approach LOS	B			D	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		68.2	30.6	21.1		51.8
Change Period (Y+Rc), s		4.0	5.0	* 5		5.0
Max Green Setting (Gmax), s		42.0	30.0	* 35		69.0
Max Q Clear Time (g_c+I1), s		22.0	25.2	14.3		29.2
Green Ext Time (p_c), s		4.8	0.5	1.2		2.6

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

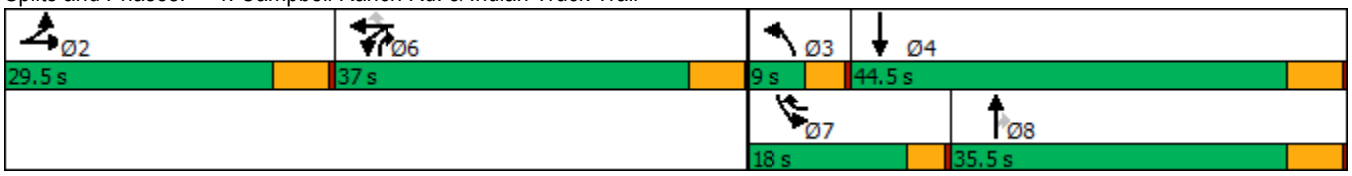
Notes

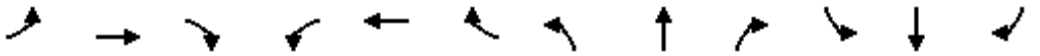
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	565	0	345	479	571	275	404		
Future Volume (vph)	565	0	345	479	571	275	404		
Turn Type	Split	NA	pm+ov	NA	pm+ov	Prot	NA		
Protected Phases	6	6	7	8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	7	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	9.0	35.5	36.5	9.0	10.5	27.5	9.0
Total Split (s)	37.0	37.0	18.0	35.5	37.0	18.0	44.5	29.5	9.0
Total Split (%)	30.8%	30.8%	15.0%	29.6%	30.8%	15.0%	37.1%	25%	8%
Yellow Time (s)	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	4.0	5.5	5.5	4.0	5.5		
Lead/Lag			Lead	Lag		Lead	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes	Yes		Yes
Recall Mode	None	None	None	Max	None	None	Max	None	None
Act Effct Green (s)	23.4	23.4	37.3	31.1	59.3	12.3	47.5		
Actuated g/C Ratio	0.27	0.27	0.43	0.36	0.69	0.14	0.55		
v/c Ratio	0.66	0.66	0.26	0.40	0.48	0.60	0.22		
Control Delay	37.0	37.0	2.3	25.1	1.8	42.6	13.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	37.0	37.0	2.3	25.1	1.8	42.6	13.0		
LOS	D	D	A	C	A	D	B		
Approach Delay		23.9		12.4			25.0		
Approach LOS		C		B			C		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 86.3	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 19.6	Intersection LOS: B
Intersection Capacity Utilization 51.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	565	0	345	0	479	571	275	404	0
Future Volume (veh/h)	0	0	0	565	0	345	0	479	571	275	404	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	614	0	239	0	521	431	299	439	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	3	0	834	0	1106	3	1567	1070	415	2203	0
Arrive On Green	0.00	0.00	0.00	0.23	0.00	0.23	0.00	0.43	0.43	0.12	0.61	0.00
Sat Flow, veh/h	0	1900	0	3619	0	3146	1810	3610	1610	3510	3705	0
Grp Volume(v), veh/h	0	0	0	614	0	239	0	521	431	299	439	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1573	1810	1805	1610	1755	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	10.9	0.0	3.7	0.0	6.6	8.5	5.7	3.7	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	10.9	0.0	3.7	0.0	6.6	8.5	5.7	3.7	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	3	0	834	0	1106	3	1567	1070	415	2203	0
V/C Ratio(X)	0.00	0.00	0.00	0.74	0.00	0.22	0.00	0.33	0.40	0.72	0.20	0.00
Avail Cap(c_a), veh/h	0	660	0	1650	0	1815	131	1567	1070	711	2203	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	24.6	0.0	15.9	0.0	12.9	5.3	29.4	6.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	0.1	0.0	0.6	1.1	2.4	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	4.3	0.0	1.2	0.0	2.3	4.6	2.3	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	25.9	0.0	16.0	0.0	13.5	6.4	31.7	6.2	0.0
LnGrp LOS	A	A	A	C	A	B	A	B	A	C	A	A
Approach Vol, veh/h		0			853			952			738	
Approach Delay, s/veh		0.0			23.1			10.3			16.5	
Approach LOS					C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		0.0	0.0	47.7		21.4	12.2	35.5				
Change Period (Y+Rc), s		5.5	4.0	5.5		5.5	4.0	5.5				
Max Green Setting (Gmax), s		24.0	5.0	39.0		31.5	14.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	5.7		12.9	7.7	10.5				
Green Ext Time (p_c), s		0.0	0.0	2.8		3.1	0.5	4.6				

Intersection Summary		
HCM 6th Ctrl Delay		16.4
HCM 6th LOS		B

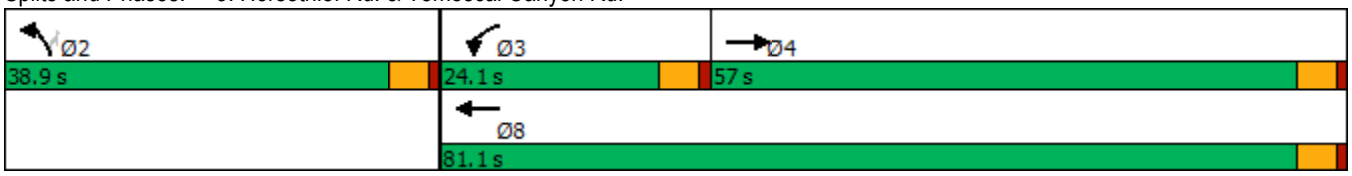
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	62	328	359	226	216
Future Volume (vph)	62	328	359	226	216
Turn Type	NA	Prot	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases					2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.7	9.6	14.7	26.7	26.7
Total Split (s)	57.0	24.1	81.1	38.9	38.9
Total Split (%)	47.5%	20.1%	67.6%	32.4%	32.4%
Yellow Time (s)	3.7	3.6	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.6	4.7	4.7	4.7
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	Min	None	None
Act Effct Green (s)	10.2	8.8	23.5	10.2	10.2
Actuated g/C Ratio	0.24	0.20	0.55	0.24	0.24
v/c Ratio	0.44	0.49	0.19	0.29	0.41
Control Delay	4.8	17.7	5.2	15.1	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	17.7	5.2	15.1	5.5
LOS	A	B	A	B	A
Approach Delay	4.8		11.2	10.4	
Approach LOS	A		B	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 43.1	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 9.2	Intersection LOS: A
Intersection Capacity Utilization 43.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: Horsethief Rd. & Temescal Canyon Rd.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	62	376	328	359	226	216
Future Volume (veh/h)	62	376	328	359	226	216
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	65	291	345	378	238	148
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	490	437	532	1929	838	384
Arrive On Green	0.27	0.27	0.15	0.53	0.24	0.24
Sat Flow, veh/h	1900	1610	3510	3705	3510	1610
Grp Volume(v), veh/h	65	291	345	378	238	148
Grp Sat Flow(s),veh/h/ln	1805	1610	1755	1805	1755	1610
Q Serve(g_s), s	1.1	6.7	3.8	2.3	2.3	3.2
Cycle Q Clear(g_c), s	1.1	6.7	3.8	2.3	2.3	3.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	490	437	532	1929	838	384
V/C Ratio(X)	0.13	0.67	0.65	0.20	0.28	0.39
Avail Cap(c_a), veh/h	2280	2034	1654	6662	2900	1330
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	11.4	13.4	16.5	5.0	12.9	13.2
Incr Delay (d2), s/veh	0.1	1.7	0.5	0.0	0.2	0.6
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	2.2	1.4	0.5	0.8	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.5	15.2	17.0	5.1	13.1	13.8
LnGrp LOS	B	B	B	A	B	B
Approach Vol, veh/h	356			723	386	
Approach Delay, s/veh	14.5			10.8	13.4	
Approach LOS	B			B	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		14.6	10.9	15.9		26.8
Change Period (Y+Rc), s		* 4.7	4.6	* 4.7		* 4.7
Max Green Setting (Gmax), s		* 34	19.5	* 52		* 76
Max Q Clear Time (g_c+I1), s		5.2	5.8	8.7		4.3
Green Ext Time (p_c), s		1.3	0.6	2.6		2.8

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

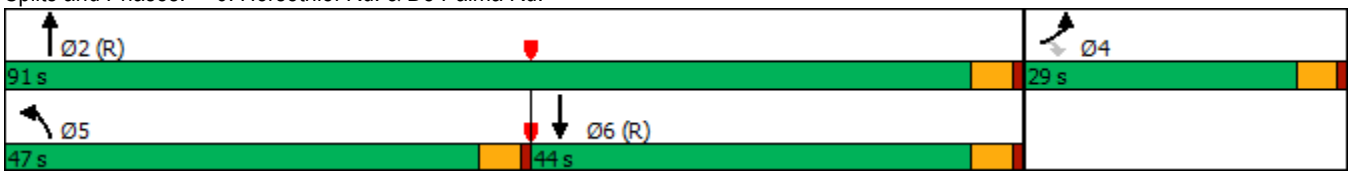
Notes

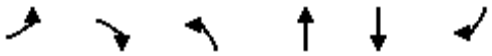
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	38	249	361	402	655
Future Volume (vph)	38	249	361	402	655
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	26.7	26.7	9.6	14.7	26.7
Total Split (s)	29.0	29.0	47.0	91.0	44.0
Total Split (%)	24.2%	24.2%	39.2%	75.8%	36.7%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min
Act Effct Green (s)	11.1	11.1	30.9	99.5	64.0
Actuated g/C Ratio	0.09	0.09	0.26	0.83	0.53
v/c Ratio	0.25	0.69	0.84	0.15	0.40
Control Delay	53.6	15.4	58.6	2.2	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	53.6	15.4	58.6	2.2	18.6
LOS	D	B	E	A	B
Approach Delay	20.4			28.9	18.6
Approach LOS	C			C	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 23.4	Intersection LOS: C
Intersection Capacity Utilization 59.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Horsethief Rd. & De Palma Rd.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	249	361	402	655	49
Future Volume (veh/h)	38	249	361	402	655	49
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	41	271	392	437	712	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	333	296	422	2663	1588	118
Arrive On Green	0.18	0.18	0.23	0.74	0.47	0.47
Sat Flow, veh/h	1810	1610	1810	3705	3501	253
Grp Volume(v), veh/h	41	271	392	437	377	388
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1805	1805	1854
Q Serve(g_s), s	2.3	19.8	25.4	4.3	16.9	16.9
Cycle Q Clear(g_c), s	2.3	19.8	25.4	4.3	16.9	16.9
Prop In Lane	1.00	1.00	1.00			0.14
Lane Grp Cap(c), veh/h	333	296	422	2663	841	864
V/C Ratio(X)	0.12	0.91	0.93	0.16	0.45	0.45
Avail Cap(c_a), veh/h	366	326	639	2663	841	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.79	0.79	0.87	0.87
Uniform Delay (d), s/veh	40.9	48.0	45.0	4.7	21.6	21.6
Incr Delay (d2), s/veh	0.2	27.7	9.7	0.1	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	18.7	12.5	1.5	7.5	7.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.0	75.8	54.8	4.8	23.1	23.1
LnGrp LOS	D	E	D	A	C	C
Approach Vol, veh/h	312			829	765	
Approach Delay, s/veh	71.2			28.4	23.1	
Approach LOS	E			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		93.2		26.8	32.6	60.6
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 86		* 24	42.4	* 39
Max Q Clear Time (g_c+I1), s		6.3		21.8	27.4	18.9
Green Ext Time (p_c), s		3.3		0.3	0.5	4.8

Intersection Summary		
HCM 6th Ctrl Delay		33.3
HCM 6th LOS		C

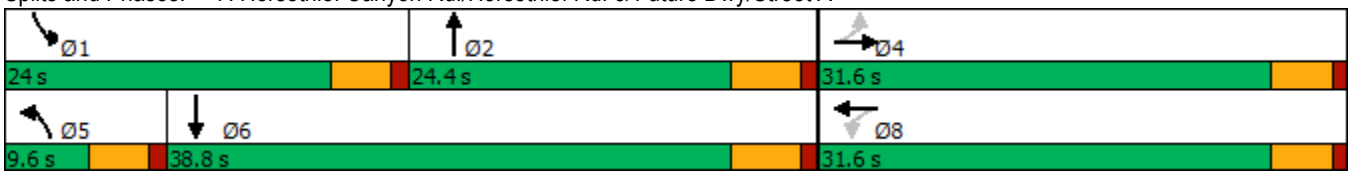
Notes

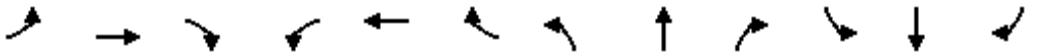
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	43	0	4	0	4	665	334	570
Future Volume (vph)	43	0	4	0	4	665	334	570
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	31.6	31.6	31.6	31.6	9.6	22.7	9.6	22.7
Total Split (s)	31.6	31.6	31.6	31.6	9.6	24.4	24.0	38.8
Total Split (%)	39.5%	39.5%	39.5%	39.5%	12.0%	30.5%	30.0%	48.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	4.2	3.6	4.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		4.6	4.6	5.2	4.6	5.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	None	Max
Act Effct Green (s)		13.1		13.1	5.3	20.5	15.7	41.2
Actuated g/C Ratio		0.22		0.22	0.09	0.34	0.26	0.69
v/c Ratio		0.14		0.22	0.03	0.58	0.75	0.25
Control Delay		0.7		2.5	32.0	22.4	34.0	7.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		0.7		2.5	32.0	22.4	34.0	7.5
LOS		A		A	C	C	C	A
Approach Delay		0.7		2.5		22.4		17.1
Approach LOS		A		A		C		B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 60	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 17.8	Intersection LOS: B
Intersection Capacity Utilization 59.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: Horsethief Canyon Rd./Horsethief Rd. & Future Dwy/Street A





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	14	4	0	98	4	665	15	334	570	14
Future Volume (veh/h)	43	0	14	4	0	98	4	665	15	334	570	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	45	0	15	4	0	103	4	700	16	352	600	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	280	16	62	68	6	251	10	1306	30	410	2099	52
Arrive On Green	0.16	0.00	0.16	0.16	0.00	0.16	0.01	0.36	0.36	0.23	0.58	0.58
Sat Flow, veh/h	1059	98	385	21	39	1553	1810	3608	82	1810	3599	90
Grp Volume(v), veh/h	60	0	0	107	0	0	4	350	366	352	301	314
Grp Sat Flow(s),veh/h/ln	1542	0	0	1613	0	0	1810	1805	1885	1810	1805	1884
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.1	8.8	8.9	10.8	4.8	4.8
Cycle Q Clear(g_c), s	1.6	0.0	0.0	3.4	0.0	0.0	0.1	8.8	8.9	10.8	4.8	4.8
Prop In Lane	0.75		0.25	0.04		0.96	1.00		0.04	1.00		0.05
Lane Grp Cap(c), veh/h	358	0	0	325	0	0	10	653	682	410	1053	1099
V/C Ratio(X)	0.17	0.00	0.00	0.33	0.00	0.00	0.41	0.54	0.54	0.86	0.29	0.29
Avail Cap(c_a), veh/h	781	0	0	817	0	0	157	653	682	609	1053	1099
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	0.0	0.0	21.7	0.0	0.0	28.6	14.5	14.6	21.4	6.0	6.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.0	10.0	3.1	3.0	5.5	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	1.3	0.0	0.0	0.1	3.7	3.9	4.8	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	0.0	0.0	22.3	0.0	0.0	38.5	17.7	17.6	26.9	6.7	6.7
LnGrp LOS	C	A	A	C	A	A	D	B	B	C	A	A
Approach Vol, veh/h		60			107			720			967	
Approach Delay, s/veh		21.2			22.3			17.7			14.0	
Approach LOS		C			C			B			B	

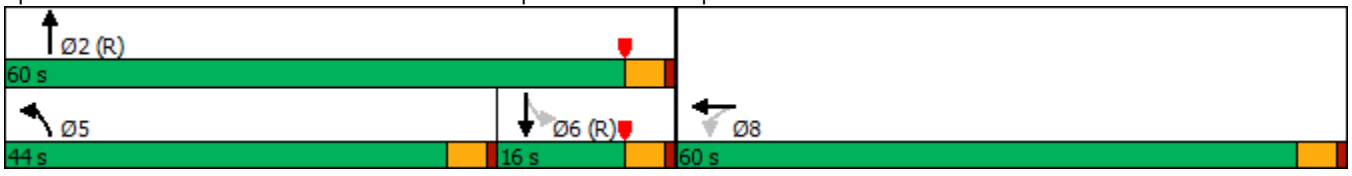
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.7	26.1		13.9	4.9	38.8		13.9				
Change Period (Y+Rc), s	4.6	5.2		4.6	4.6	5.2		4.6				
Max Green Setting (Gmax), s	19.4	19.2		27.0	5.0	33.6		27.0				
Max Q Clear Time (g_c+I1), s	12.8	10.9		3.6	2.1	6.8		5.4				
Green Ext Time (p_c), s	0.3	2.8		0.3	0.0	4.0		0.6				

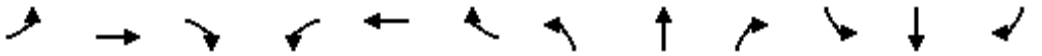
Intersection Summary			
HCM 6th Ctrl Delay		16.2	
HCM 6th LOS		B	

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	596	14	813	2	7
Future Volume (vph)	596	14	813	2	7
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	60.0	60.0	44.0	60.0	16.0
Total Split (%)	50.0%	50.0%	36.7%	50.0%	13.3%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	48.0	48.0	33.7	62.6	24.3
Actuated g/C Ratio	0.40	0.40	0.28	0.52	0.20
v/c Ratio	0.87	0.02	0.87	0.00	0.03
Control Delay	46.1	17.3	68.0	31.0	39.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	17.3	68.0	31.0	39.7
LOS	D	B	E	C	D
Approach Delay		45.4		67.9	39.7
Approach LOS		D		E	D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 10.3 (9%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 58.1	Intersection LOS: E
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	596	14	2	813	2	0	0	7	3
Future Volume (veh/h)	0	0	0	596	14	2	813	2	0	0	7	3
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				627	15	2	856	2	0	0	7	3
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				666	604	81	932	1052	0	0	315	135
Arrive On Green				0.37	0.37	0.37	0.27	0.55	0.00	0.00	0.25	0.25
Sat Flow, veh/h				1810	1642	219	3510	1900	0	0	1262	541
Grp Volume(v), veh/h				627	0	17	856	2	0	0	0	10
Grp Sat Flow(s),veh/h/ln				1810	0	1861	1755	1900	0	0	0	1803
Q Serve(g_s), s				40.2	0.0	0.7	28.4	0.1	0.0	0.0	0.0	0.5
Cycle Q Clear(g_c), s				40.2	0.0	0.7	28.4	0.1	0.0	0.0	0.0	0.5
Prop In Lane				1.00		0.12	1.00		0.00	0.00		0.30
Lane Grp Cap(c), veh/h				666	0	685	932	1052	0	0	0	450
V/C Ratio(X)				0.94	0.00	0.02	0.92	0.00	0.00	0.00	0.00	0.02
Avail Cap(c_a), veh/h				834	0	857	1153	1052	0	0	0	450
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.95	0.95	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				36.7	0.0	24.2	42.8	12.0	0.0	0.0	0.0	34.0
Incr Delay (d2), s/veh				16.3	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				20.5	0.0	0.3	13.4	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				53.0	0.0	24.2	51.6	12.0	0.0	0.0	0.0	34.1
LnGrp LOS				D	A	C	D	B	A	A	A	C
Approach Vol, veh/h					644			858			10	
Approach Delay, s/veh					52.2			51.5			34.1	
Approach LOS					D			D			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	71.1		36.5	34.7		48.9						
Change Period (Y+Rc), s	* 4.7		4.6	* 4.7		4.7						
Max Green Setting (Gmax), s	* 55		39.4	* 11		55.3						
Max Q Clear Time (g_c+I1), s	2.1		30.4	2.5		42.2						
Green Ext Time (p_c), s	0.0		1.4	0.0		2.0						

Intersection Summary		
HCM 6th Ctrl Delay	51.7	
HCM 6th LOS	D	

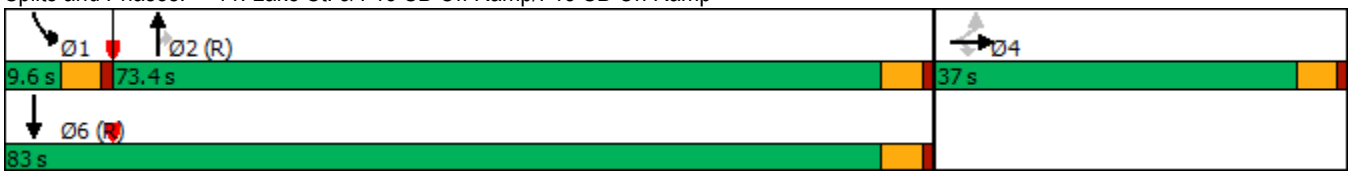
Notes

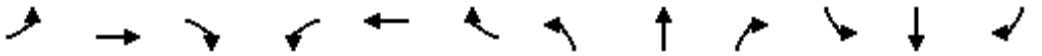
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	32	390	811	488	8	595
Future Volume (vph)	32	390	811	488	8	595
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	37.0	37.0	73.4	73.4	9.6	83.0
Total Split (%)	30.8%	30.8%	61.2%	61.2%	8.0%	69.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	16.7	16.7	91.7	91.7	5.4	93.9
Actuated g/C Ratio	0.14	0.14	0.76	0.76	0.04	0.78
v/c Ratio	0.14	0.83	0.31	0.38	0.10	0.22
Control Delay	42.9	26.7	6.2	1.6	51.6	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	26.7	6.2	1.6	51.6	3.7
LOS	D	C	A	A	D	A
Approach Delay	28.1		4.5			4.3
Approach LOS	C		A			A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 8.7	Intersection LOS: A
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	32	390	0	0	0	0	811	488	8	595	0
Future Volume (veh/h)	4	32	390	0	0	0	0	811	488	8	595	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	4	34	411				0	854	277	8	626	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	53	453	431				0	2186	975	18	2360	0
Arrive On Green	0.27	0.27	0.27				0.00	0.61	0.61	0.01	0.65	0.00
Sat Flow, veh/h	199	1691	1610				0	3705	1610	1810	3705	0
Grp Volume(v), veh/h	38	0	411				0	854	277	8	626	0
Grp Sat Flow(s),veh/h/ln	1890	0	1610				0	1805	1610	1810	1805	0
Q Serve(g_s), s	1.8	0.0	30.1				0.0	14.7	9.8	0.5	8.7	0.0
Cycle Q Clear(g_c), s	1.8	0.0	30.1				0.0	14.7	9.8	0.5	8.7	0.0
Prop In Lane	0.11		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	506	0	431				0	2186	975	18	2360	0
V/C Ratio(X)	0.08	0.00	0.95				0.00	0.39	0.28	0.45	0.27	0.00
Avail Cap(c_a), veh/h	509	0	433				0	2186	975	75	2360	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.92	0.92	0.40	0.40	0.00
Uniform Delay (d), s/veh	32.8	0.0	43.2				0.0	12.2	11.3	59.1	8.7	0.0
Incr Delay (d2), s/veh	0.1	0.0	31.3				0.0	0.5	0.7	2.7	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	0.8	0.0	15.6				0.0	5.9	3.6	0.3	3.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	0.0	74.5				0.0	12.7	11.9	61.8	8.8	0.0
LnGrp LOS	C	A	E				A	B	B	E	A	A
Approach Vol, veh/h		449						1131			634	
Approach Delay, s/veh		70.9						12.5			9.5	
Approach LOS		E						B			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.8	77.4		36.9		83.1
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	5.0	* 69		* 32		* 78
Max Q Clear Time (g_c+I1), s	2.5	16.7		32.1		10.7
Green Ext Time (p_c), s	0.0	8.9		0.0		5.0

Intersection Summary	
HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

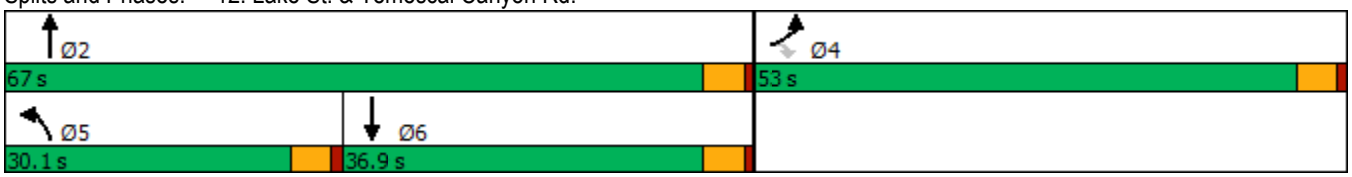
Notes

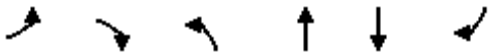
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	484	187	654	814	359
Future Volume (vph)	484	187	654	814	359
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	53.0	53.0	30.1	67.0	36.9
Total Split (%)	44.2%	44.2%	25.1%	55.8%	30.8%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	17.6	17.6	21.0	47.6	21.8
Actuated g/C Ratio	0.23	0.23	0.28	0.64	0.29
v/c Ratio	0.62	0.37	0.70	0.26	0.90dr
Control Delay	30.5	6.6	29.9	6.3	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.5	6.6	29.9	6.3	17.0
LOS	C	A	C	A	B
Approach Delay	23.8			16.8	17.0
Approach LOS	C			B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 74.9	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 65.2%	ICU Level of Service C
Analysis Period (min) 15	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	484	187	654	814	359	626
Future Volume (veh/h)	484	187	654	814	359	626
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	509	-56	688	857	378	506
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	677	311	815	3494	1300	605
Arrive On Green	0.19	0.00	0.23	0.67	0.38	0.38
Sat Flow, veh/h	3510	1610	3510	5358	3629	1610
Grp Volume(v), veh/h	509	-56	688	857	378	506
Grp Sat Flow(s),veh/h/ln	1755	1610	1755	1729	1729	1610
Q Serve(g_s), s	9.6	0.0	13.2	4.5	5.4	20.1
Cycle Q Clear(g_c), s	9.6	0.0	13.2	4.5	5.4	20.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	677	311	815	3494	1300	605
V/C Ratio(X)	0.75	-0.18	0.84	0.25	0.29	0.84
Avail Cap(c_a), veh/h	2411	1106	1273	4594	1583	737
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	26.8	0.0	25.8	4.5	15.4	20.0
Incr Delay (d2), s/veh	1.7	0.0	1.8	0.0	0.1	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	5.4	1.2	2.0	8.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.5	0.0	27.6	4.5	15.5	27.0
LnGrp LOS	C	A	C	A	B	C
Approach Vol, veh/h	453			1545	884	
Approach Delay, s/veh	32.0			14.8	22.1	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		52.1		18.3	20.9	31.1
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 62		* 48	25.5	* 32
Max Q Clear Time (g_c+I1), s		6.5		11.6	15.2	22.1
Green Ext Time (p_c), s		7.5		1.9	1.2	4.3

Intersection Summary	
HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

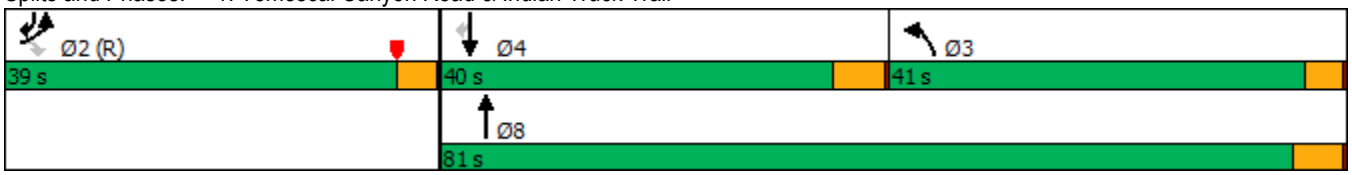
Notes

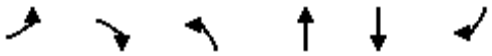
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	859	214	483	174	332	606
Future Volume (vph)	859	214	483	174	332	606
Turn Type	Prot	Perm	Prot	NA	NA	pm+ov
Protected Phases	2		3	8	4	2
Permitted Phases		2				4
Detector Phase	2	2	3	8	4	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	9.0	20.0	40.0	20.0
Total Split (s)	39.0	39.0	41.0	81.0	40.0	39.0
Total Split (%)	32.5%	32.5%	34.2%	67.5%	33.3%	32.5%
Yellow Time (s)	3.5	3.5	3.5	4.5	4.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	C-Max	C-Max	None	None	None	C-Max
Act Effct Green (s)	40.9	40.9	38.6	70.1	27.5	69.4
Actuated g/C Ratio	0.34	0.34	0.32	0.58	0.23	0.58
v/c Ratio	0.78	0.34	0.90	0.17	0.83	0.68
Control Delay	52.7	17.3	59.3	11.0	60.1	16.4
Queue Delay	49.7	0.6	0.8	0.0	0.0	0.4
Total Delay	102.3	17.9	60.1	11.0	60.1	16.8
LOS	F	B	E	B	E	B
Approach Delay	85.5			47.1	32.1	
Approach LOS	F			D	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 68 (57%), Referenced to phase 2:EBL and 6:, Start of Yellow	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 57.3	Intersection LOS: E
Intersection Capacity Utilization 80.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Temescal Canyon Road & Indian Truck Trail





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	859	214	483	174	332	606
Future Volume (veh/h)	859	214	483	174	332	606
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	934	206	525	189	361	623
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1029	472	548	1200	545	933
Arrive On Green	0.29	0.29	0.30	0.63	0.29	0.29
Sat Flow, veh/h	3510	1610	1810	1900	1900	1605
Grp Volume(v), veh/h	934	206	525	189	361	623
Grp Sat Flow(s),veh/h/ln	1755	1610	1810	1900	1900	1605
Q Serve(g_s), s	30.7	12.4	34.2	4.9	20.1	32.0
Cycle Q Clear(g_c), s	30.7	12.4	34.2	4.9	20.1	32.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1029	472	548	1200	545	933
V/C Ratio(X)	0.91	0.44	0.96	0.16	0.66	0.67
Avail Cap(c_a), veh/h	1029	472	558	1203	554	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	34.4	41.1	9.0	37.6	17.3
Incr Delay (d2), s/veh	12.3	2.7	27.5	0.0	2.6	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	5.1	18.9	1.9	9.5	19.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.2	37.1	68.6	9.1	40.3	18.9
LnGrp LOS	D	D	E	A	D	B
Approach Vol, veh/h	1140			714	984	
Approach Delay, s/veh	50.2			52.8	26.8	
Approach LOS	D			D	C	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		39.2	41.4	39.5		80.8
Change Period (Y+Rc), s		4.0	5.0	* 5		5.0
Max Green Setting (Gmax), s		35.0	37.0	* 35		76.0
Max Q Clear Time (g_c+I1), s		32.7	36.2	34.0		6.9
Green Ext Time (p_c), s		1.1	0.2	0.5		0.8

Intersection Summary	
HCM 6th Ctrl Delay	42.8
HCM 6th LOS	D

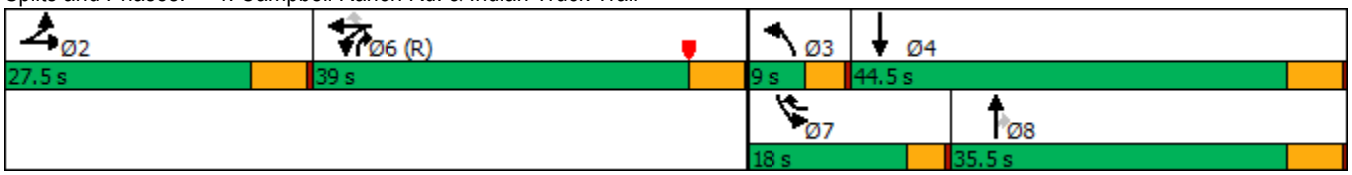
Notes

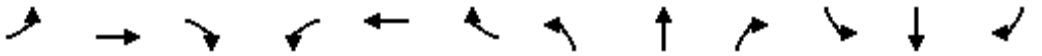
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø2	Ø3
Lane Configurations									
Traffic Volume (vph)	944	0	482	472	733	394	470		
Future Volume (vph)	944	0	482	472	733	394	470		
Turn Type	Split	NA	pm+ov	NA	pm+ov	Prot	NA		
Protected Phases	6	6	7	8	6	7	4	2	3
Permitted Phases			6		8				
Detector Phase	6	6	7	8	6	7	4		
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.5	36.5	9.0	35.5	36.5	9.0	10.5	27.5	9.0
Total Split (s)	39.0	39.0	18.0	35.5	39.0	18.0	44.5	27.5	9.0
Total Split (%)	32.5%	32.5%	15.0%	29.6%	32.5%	15.0%	37.1%	23%	8%
Yellow Time (s)	5.0	5.0	3.5	5.0	5.0	3.5	5.0	5.0	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	5.5	5.5	4.0	5.5	5.5	4.0	5.5		
Lead/Lag			Lead	Lag		Lead	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes	Yes		Yes
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None	None	None
Act Effct Green (s)	68.7	68.7	84.2	22.3	96.5	14.0	40.3		
Actuated g/C Ratio	0.57	0.57	0.70	0.19	0.80	0.12	0.34		
v/c Ratio	0.50	0.50	0.22	0.73	0.55	1.02	0.42		
Control Delay	19.4	19.4	0.6	51.8	1.8	100.5	31.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	19.4	19.4	0.6	51.8	1.8	100.5	31.4		
LOS	B	B	A	D	A	F	C		
Approach Delay		13.0		21.4			62.9		
Approach LOS		B		C			E		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 6:WBTL, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 28.2	Intersection LOS: C
Intersection Capacity Utilization 64.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Campbell Ranch Rd. & Indian Truck Trail





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	944	0	482	0	472	733	394	470	0
Future Volume (veh/h)	0	0	0	944	0	482	0	472	733	394	470	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	0	0	1026	0	388	0	513	580	428	511	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	348	0	1010	0	1254	2	950	852	422	1444	0
Arrive On Green	0.00	0.00	0.00	0.28	0.00	0.28	0.00	0.25	0.25	0.12	0.40	0.00
Sat Flow, veh/h	0	1900	0	3619	0	3147	1810	3800	1610	3619	3705	0
Grp Volume(v), veh/h	0	0	0	1026	0	388	0	513	580	428	511	0
Grp Sat Flow(s),veh/h/ln	0	1900	0	1810	0	1574	1810	1900	1610	1810	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	33.5	0.0	10.2	0.0	14.0	30.0	14.0	11.9	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	33.5	0.0	10.2	0.0	14.0	30.0	14.0	11.9	0.0
Prop In Lane	0.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	348	0	1010	0	1254	2	950	852	422	1444	0
V/C Ratio(X)	0.00	0.00	0.00	1.02	0.00	0.31	0.00	0.54	0.68	1.01	0.35	0.00
Avail Cap(c_a), veh/h	0	348	0	1010	0	1254	75	950	852	422	1444	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.87	0.00	0.87	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	43.3	0.0	25.0	0.0	39.0	20.4	53.0	25.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	30.3	0.0	0.6	0.0	0.6	2.2	47.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	18.6	0.0	3.8	0.0	6.4	17.8	9.0	4.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	73.6	0.0	25.5	0.0	39.6	22.6	100.3	25.3	0.0
LnGrp LOS	A	A	A	F	A	C	A	D	C	F	C	A
Approach Vol, veh/h		0			1414			1093			939	
Approach Delay, s/veh		0.0			60.4			30.6			59.5	
Approach LOS					E			C			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.5	0.0	53.5		39.0	18.0	35.5				
Change Period (Y+Rc), s		5.5	4.0	5.5		5.5	4.0	5.5				
Max Green Setting (Gmax), s		22.0	5.0	39.0		33.5	14.0	30.0				
Max Q Clear Time (g_c+I1), s		0.0	0.0	13.9		35.5	16.0	32.0				
Green Ext Time (p_c), s		0.0	0.0	3.1		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			50.7									
HCM 6th LOS			D									

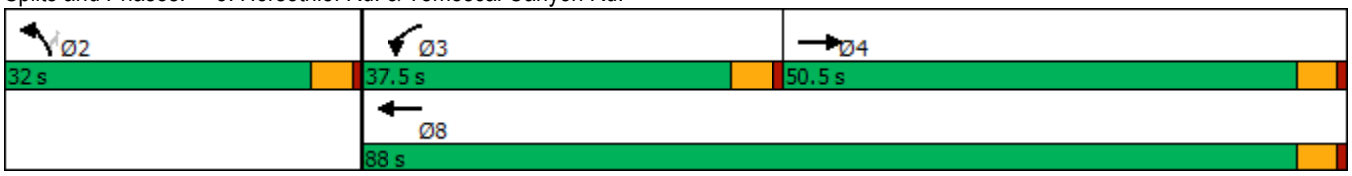
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	267	257	58	531	383
Future Volume (vph)	267	257	58	531	383
Turn Type	NA	Prot	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases					2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	26.7	9.6	14.7	26.7	26.7
Total Split (s)	50.5	37.5	88.0	32.0	32.0
Total Split (%)	42.1%	31.3%	73.3%	26.7%	26.7%
Yellow Time (s)	3.7	3.6	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.6	4.7	4.7	4.7
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	Min	None	Min	None	None
Act Effct Green (s)	12.5	9.1	26.4	16.7	16.7
Actuated g/C Ratio	0.24	0.17	0.50	0.32	0.32
v/c Ratio	0.52	0.44	0.03	0.49	0.65
Control Delay	13.4	23.8	8.1	16.3	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.4	23.8	8.1	16.3	14.4
LOS	B	C	A	B	B
Approach Delay	13.4		20.9	15.5	
Approach LOS	B		C	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 52.8	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 15.9	Intersection LOS: B
Intersection Capacity Utilization 48.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: Horsethief Rd. & Temescal Canyon Rd.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	267	220	257	58	531	383
Future Volume (veh/h)	267	220	257	58	531	383
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	281	-36	271	61	559	192
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1716	0	461	1908	929	413
Arrive On Green	0.26	0.00	0.13	0.50	0.26	0.26
Sat Flow, veh/h	3800	0	3619	3800	3619	1610
Grp Volume(v), veh/h	245	0	271	61	559	192
Grp Sat Flow(s),veh/h/ln	1900	0	1810	1900	1810	1610
Q Serve(g_s), s	0.0	0.0	2.8	0.3	5.3	3.9
Cycle Q Clear(g_c), s	0.0	0.0	2.8	0.3	5.3	3.9
Prop In Lane		0.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	0	461	1908	929	413
V/C Ratio(X)	0.00	0.00	0.59	0.03	0.60	0.46
Avail Cap(c_a), veh/h	0	0	3056	8123	2535	1128
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	0.0	0.0	16.0	4.9	12.7	12.2
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.0	0.6	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	0.0	0.0	1.0	0.1	1.8	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	16.5	4.9	13.4	13.0
LnGrp LOS	A	A	B	A	B	B
Approach Vol, veh/h	245			332	751	
Approach Delay, s/veh	0.0			14.4	13.3	
Approach LOS	A			B	B	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		14.7	9.6	14.7		24.3
Change Period (Y+Rc), s		* 4.7	4.6	* 4.7		* 4.7
Max Green Setting (Gmax), s		* 27	32.9	* 46		* 83
Max Q Clear Time (g_c+I1), s		7.3	4.8	2.0		2.3
Green Ext Time (p_c), s		2.7	0.5	1.8		0.4

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

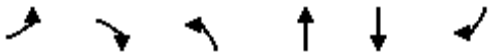
Notes

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	147	722	349	767	391
Future Volume (vph)	147	722	349	767	391
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	26.7	26.7	9.6	14.7	26.7
Total Split (s)	37.2	37.2	28.2	82.8	54.6
Total Split (%)	31.0%	31.0%	23.5%	69.0%	45.5%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min
Act Effct Green (s)	27.5	27.5	31.3	83.1	47.1
Actuated g/C Ratio	0.23	0.23	0.26	0.69	0.39
v/c Ratio	0.36	0.92	0.76	0.31	0.35
Control Delay	38.3	26.5	51.9	9.4	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	26.5	51.9	9.4	28.3
LOS	D	C	D	A	C
Approach Delay	28.5			22.7	28.3
Approach LOS	C			C	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 25.8	Intersection LOS: C
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Horsethief Rd. & De Palma Rd.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	147	722	349	767	391	85
Future Volume (veh/h)	147	722	349	767	391	85
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	150	456	356	783	399	56
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	490	436	356	2350	1323	184
Arrive On Green	0.27	0.27	0.20	0.65	0.42	0.42
Sat Flow, veh/h	1810	1610	1810	3705	3277	444
Grp Volume(v), veh/h	150	456	356	783	225	230
Grp Sat Flow(s),veh/h/ln	1810	1610	1810	1805	1805	1820
Q Serve(g_s), s	7.9	32.5	23.6	11.6	10.0	10.1
Cycle Q Clear(g_c), s	7.9	32.5	23.6	11.6	10.0	10.1
Prop In Lane	1.00	1.00	1.00			0.24
Lane Grp Cap(c), veh/h	490	436	356	2350	751	757
V/C Ratio(X)	0.31	1.05	1.00	0.33	0.30	0.30
Avail Cap(c_a), veh/h	490	436	356	2350	751	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.69	0.69	0.90	0.90
Uniform Delay (d), s/veh	34.8	43.8	48.2	9.3	23.4	23.4
Incr Delay (d2), s/veh	0.3	55.5	39.7	0.3	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	31.8	14.5	4.5	4.5	4.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.1	99.3	87.9	9.6	24.3	24.4
LnGrp LOS	D	F	F	A	C	C
Approach Vol, veh/h	606			1139	455	
Approach Delay, s/veh	83.4			34.1	24.3	
Approach LOS	F			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		82.8		37.2	28.2	54.6
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 78		* 33	23.6	* 50
Max Q Clear Time (g_c+I1), s		13.6		34.5	25.6	12.1
Green Ext Time (p_c), s		6.7		0.0	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	45.7
HCM 6th LOS	D

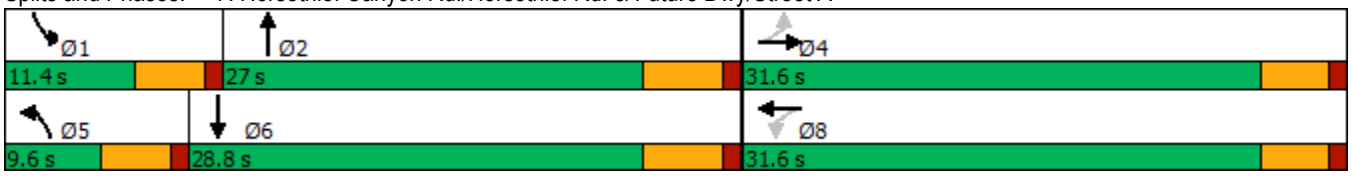
Notes

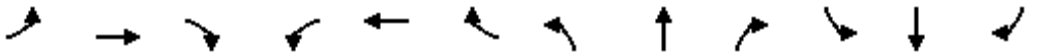
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	29	0	16	0	15	772	129	984
Future Volume (vph)	29	0	16	0	15	772	129	984
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	31.6	31.6	31.6	31.6	9.6	22.2	9.6	22.2
Total Split (s)	31.6	31.6	31.6	31.6	9.6	27.0	11.4	28.8
Total Split (%)	45.1%	45.1%	45.1%	45.1%	13.7%	38.6%	16.3%	41.1%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	4.2	3.6	4.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6		4.6	4.6	5.2	4.6	5.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)		13.8		13.8	5.1	18.1	6.8	28.1
Actuated g/C Ratio		0.26		0.26	0.10	0.34	0.13	0.53
v/c Ratio		0.12		0.64	0.09	0.67	0.59	0.57
Control Delay		0.7		12.6	28.3	19.2	39.2	13.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		0.7		12.6	28.3	19.2	39.2	13.1
LOS		A		B	C	B	D	B
Approach Delay		0.7		12.6		19.3		16.0
Approach LOS		A		B		B		B

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 53.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 16.4	Intersection LOS: B
Intersection Capacity Utilization 66.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Horsethief Canyon Rd./Horsethief Rd. & Future Dwy/Street A





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	0	10	16	0	344	15	772	6	129	984	47
Future Volume (veh/h)	29	0	10	16	0	344	15	772	6	129	984	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	31	0	11	17	0	362	16	813	6	136	1036	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	325	19	77	85	12	460	36	1149	8	175	1367	65
Arrive On Green	0.30	0.00	0.30	0.30	0.00	0.30	0.02	0.31	0.31	0.10	0.39	0.39
Sat Flow, veh/h	663	65	258	31	42	1540	1810	3673	27	1810	3509	166
Grp Volume(v), veh/h	42	0	0	379	0	0	16	400	419	136	533	552
Grp Sat Flow(s),veh/h/ln	985	0	0	1613	0	0	1810	1805	1895	1810	1805	1870
Q Serve(g_s), s	0.0	0.0	0.0	2.1	0.0	0.0	0.4	9.6	9.6	3.6	12.6	12.6
Cycle Q Clear(g_c), s	0.9	0.0	0.0	10.6	0.0	0.0	0.4	9.6	9.6	3.6	12.6	12.6
Prop In Lane	0.74		0.26	0.04		0.96	1.00		0.01	1.00		0.09
Lane Grp Cap(c), veh/h	421	0	0	558	0	0	36	565	593	175	703	728
V/C Ratio(X)	0.10	0.00	0.00	0.68	0.00	0.00	0.44	0.71	0.71	0.78	0.76	0.76
Avail Cap(c_a), veh/h	705	0	0	956	0	0	183	798	837	249	863	895
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	15.8	0.0	0.0	23.9	15.0	15.0	21.8	13.0	13.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.5	0.0	0.0	3.1	1.7	1.6	5.6	3.1	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	3.6	0.0	0.0	0.2	3.6	3.8	1.7	4.8	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	0.0	0.0	17.3	0.0	0.0	27.0	16.6	16.5	27.4	16.2	16.1
LnGrp LOS	B	A	A	B	A	A	C	B	B	C	B	B
Approach Vol, veh/h		42			379			835			1221	
Approach Delay, s/veh		12.5			17.3			16.8			17.4	
Approach LOS		B			B			B			B	

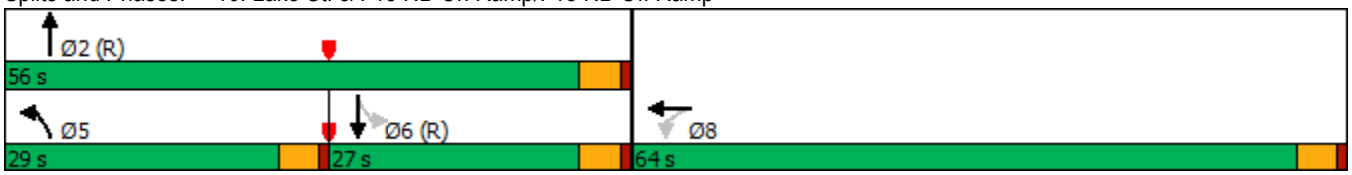
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	20.6		19.3	5.6	24.4		19.3				
Change Period (Y+Rc), s	4.6	5.2		4.6	4.6	5.2		4.6				
Max Green Setting (Gmax), s	6.8	21.8		27.0	5.0	23.6		27.0				
Max Q Clear Time (g_c+I1), s	5.6	11.6		2.9	2.4	14.6		12.6				
Green Ext Time (p_c), s	0.0	3.7		0.2	0.0	4.6		2.2				

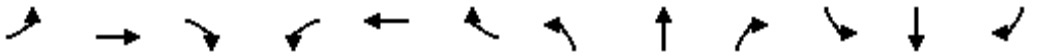
Intersection Summary												
HCM 6th Ctrl Delay			17.1									
HCM 6th LOS			B									

Lane Group	WBL	WBT	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	379	4	472	18	12
Future Volume (vph)	379	4	472	18	12
Turn Type	Perm	NA	Prot	NA	NA
Protected Phases		8	5	2	6
Permitted Phases	8				
Detector Phase	8	8	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	64.0	64.0	29.0	56.0	27.0
Total Split (%)	53.3%	53.3%	24.2%	46.7%	22.5%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	33.8	33.8	21.3	76.8	50.9
Actuated g/C Ratio	0.28	0.28	0.18	0.64	0.42
v/c Ratio	0.78	0.04	0.80	0.02	0.03
Control Delay	50.3	14.3	71.8	13.6	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.3	14.3	71.8	13.6	19.1
LOS	D	B	E	B	B
Approach Delay		48.8		69.6	19.1
Approach LOS		D		E	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 59.4	Intersection LOS: E
Intersection Capacity Utilization 85.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 10: Lake St. & I-15 NB On Ramp/I-15 NB Off Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	379	4	12	472	18	0	0	12	9
Future Volume (veh/h)	0	0	0	379	4	12	472	18	0	0	12	9
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	1900	1900	1900
Adj Flow Rate, veh/h				399	4	13	497	19	0	0	13	9
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				439	95	310	562	1291	0	0	503	348
Arrive On Green				0.24	0.24	0.24	0.16	0.68	0.00	0.00	0.48	0.48
Sat Flow, veh/h				1810	393	1277	3510	1900	0	0	1046	724
Grp Volume(v), veh/h				399	0	17	497	19	0	0	0	22
Grp Sat Flow(s),veh/h/ln				1810	0	1670	1755	1900	0	0	0	1770
Q Serve(g_s), s				25.7	0.0	0.9	16.6	0.4	0.0	0.0	0.0	0.8
Cycle Q Clear(g_c), s				25.7	0.0	0.9	16.6	0.4	0.0	0.0	0.0	0.8
Prop In Lane				1.00		0.76	1.00		0.00	0.00		0.41
Lane Grp Cap(c), veh/h				439	0	405	562	1291	0	0	0	851
V/C Ratio(X)				0.91	0.00	0.04	0.88	0.01	0.00	0.00	0.00	0.03
Avail Cap(c_a), veh/h				894	0	825	714	1291	0	0	0	851
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.93	0.93	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				44.2	0.0	34.8	49.3	6.2	0.0	0.0	0.0	16.4
Incr Delay (d2), s/veh				7.5	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				12.4	0.0	0.4	7.9	0.2	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				51.7	0.0	34.8	57.9	6.3	0.0	0.0	0.0	16.4
LnGrp LOS				D	A	C	E	A	A	A	A	B
Approach Vol, veh/h					416			516			22	
Approach Delay, s/veh					51.0			56.0			16.4	
Approach LOS					D			E			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	86.2		23.8	62.4		33.8						
Change Period (Y+Rc), s	* 4.7		4.6	* 4.7		4.7						
Max Green Setting (Gmax), s	* 51		24.4	* 22		59.3						
Max Q Clear Time (g_c+I1), s	2.4		18.6	2.8		27.7						
Green Ext Time (p_c), s	0.1		0.6	0.0		1.4						

Intersection Summary		
HCM 6th Ctrl Delay	52.9	
HCM 6th LOS	D	

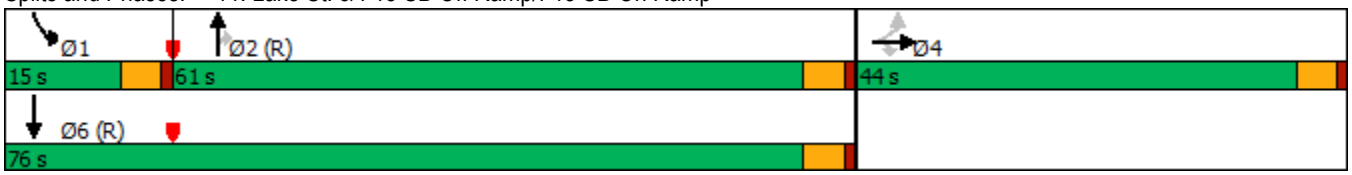
Notes

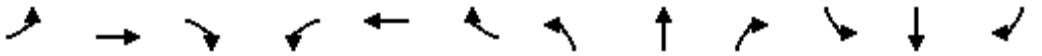
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	1079	486	504	6	385
Future Volume (vph)	10	1079	486	504	6	385
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	14.7	14.7	14.7	14.7	9.6	14.7
Total Split (s)	44.0	44.0	61.0	61.0	15.0	76.0
Total Split (%)	36.7%	36.7%	50.8%	50.8%	12.5%	63.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.6	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.7	4.7	4.6	4.7
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	39.3	39.3	69.2	69.2	5.3	71.3
Actuated g/C Ratio	0.33	0.33	0.58	0.58	0.04	0.59
v/c Ratio	0.02	1.36	0.25	0.46	0.08	0.19
Control Delay	27.6	193.0	13.4	2.6	52.5	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	193.0	13.4	2.6	52.5	18.6
LOS	C	F	B	A	D	B
Approach Delay	190.9		7.9			19.1
Approach LOS	F		A			B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.36	
Intersection Signal Delay: 90.5	Intersection LOS: F
Intersection Capacity Utilization 85.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 11: Lake St. & I-15 SB Off Ramp/I-15 SB On Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	10	1079	0	0	0	0	486	504	6	385	0
Future Volume (veh/h)	4	10	1079	0	0	0	0	486	504	6	385	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	4	11	347				0	512	268	6	405	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	118	324	379				0	2312	1031	14	2477	0
Arrive On Green	0.24	0.24	0.24				0.00	0.64	0.64	0.02	1.00	0.00
Sat Flow, veh/h	500	1375	1610				0	3705	1610	1810	3705	0
Grp Volume(v), veh/h	15	0	347				0	512	268	6	405	0
Grp Sat Flow(s),veh/h/ln	1875	0	1610				0	1805	1610	1810	1805	0
Q Serve(g_s), s	0.7	0.0	25.2				0.0	7.1	8.6	0.4	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	25.2				0.0	7.1	8.6	0.4	0.0	0.0
Prop In Lane	0.27		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	441	0	379				0	2312	1031	14	2477	0
V/C Ratio(X)	0.03	0.00	0.92				0.00	0.22	0.26	0.44	0.16	0.00
Avail Cap(c_a), veh/h	614	0	527				0	2312	1031	157	2477	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.94	0.94	0.59	0.59	0.00
Uniform Delay (d), s/veh	35.4	0.0	44.7				0.0	9.0	9.3	58.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	16.6				0.0	0.2	0.6	4.8	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	0.3	0.0	11.7				0.0	2.8	3.1	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	0.0	61.3				0.0	9.3	9.9	63.6	0.1	0.0
LnGrp LOS	D	A	E				A	A	A	E	A	A
Approach Vol, veh/h		362						780			411	
Approach Delay, s/veh		60.2						9.5			1.0	
Approach LOS		E						A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.5	81.5		32.9		87.1
Change Period (Y+Rc), s	4.6	* 4.7		* 4.7		* 4.7
Max Green Setting (Gmax), s	10.4	* 56		* 39		* 71
Max Q Clear Time (g_c+I1), s	2.4	10.6		27.2		2.0
Green Ext Time (p_c), s	0.0	5.0		1.0		3.0

Intersection Summary	
HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

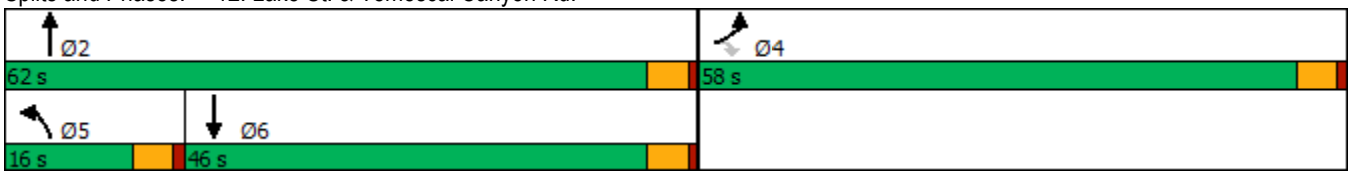
Notes

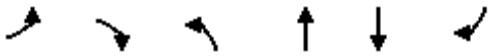
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	521	517	334	469	1047
Future Volume (vph)	521	517	334	469	1047
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	14.7	14.7	9.6	14.7	14.7
Total Split (s)	58.0	58.0	16.0	62.0	46.0
Total Split (%)	48.3%	48.3%	13.3%	51.7%	38.3%
Yellow Time (s)	3.7	3.7	3.6	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	4.6	4.7	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	27.0	27.0	11.7	54.0	37.5
Actuated g/C Ratio	0.30	0.30	0.13	0.60	0.41
v/c Ratio	0.52	0.83	0.78	0.16	0.73
Control Delay	28.0	27.5	54.2	9.7	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	27.5	54.2	9.7	24.5
LOS	C	C	D	A	C
Approach Delay	27.7			28.2	24.5
Approach LOS	C			C	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 90.7	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 26.4	Intersection LOS: C
Intersection Capacity Utilization 69.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: Lake St. & Temescal Canyon Rd.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	521	517	334	469	1047	417
Future Volume (veh/h)	521	517	334	469	1047	417
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	548	281	352	494	1102	228
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	851	390	463	3164	1749	362
Arrive On Green	0.24	0.24	0.13	0.61	0.41	0.41
Sat Flow, veh/h	3510	1610	3510	5358	4478	891
Grp Volume(v), veh/h	548	281	352	494	885	445
Grp Sat Flow(s),veh/h/ln	1755	1610	1755	1729	1729	1740
Q Serve(g_s), s	8.9	10.2	6.2	2.6	13.0	13.0
Cycle Q Clear(g_c), s	8.9	10.2	6.2	2.6	13.0	13.0
Prop In Lane	1.00	1.00	1.00			0.51
Lane Grp Cap(c), veh/h	851	390	463	3164	1404	706
V/C Ratio(X)	0.64	0.72	0.76	0.16	0.63	0.63
Avail Cap(c_a), veh/h	2936	1347	628	4664	2241	1127
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	21.7	22.1	26.7	5.4	15.1	15.1
Incr Delay (d2), s/veh	0.8	2.5	2.3	0.0	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.3	2.6	0.7	4.6	4.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.5	24.7	29.0	5.4	15.6	16.0
LnGrp LOS	C	C	C	A	B	B
Approach Vol, veh/h	829			846	1330	
Approach Delay, s/veh	23.2			15.2	15.7	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		43.6		20.2	13.0	30.6
Change Period (Y+Rc), s		* 4.7		* 4.7	4.6	* 4.7
Max Green Setting (Gmax), s		* 57		* 53	11.4	* 41
Max Q Clear Time (g_c+I1), s		4.6		12.2	8.2	15.0
Green Ext Time (p_c), s		3.9		3.2	0.3	10.8

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Notes

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

APPENDIX 7.11:

HORIZON YEAR (2040) WITH PROJECT CONDITIONS FREEWAY FACILITY ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	HY WP with Improvements (2040) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 SB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	North of Indian Truck	5280	3
2	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
3	Basic	Basic	Between	2250	3
4	Merge	Merge	On-Ramp at Indian Truck	1500	3
5	Basic	Basic	Indian Truck to Lake	5280	3
6	Diverge	Diverge	Off-Ramp at Lake	1500	3
7	Basic	Basic	Between	2330	3
8	Merge	Merge	On-Ramp at Lake	1500	3
9	Basic	Basic	South of Lake	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.926	3511	7146	0.49	68.2	17.2	B

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.943	0.862	3448	666	7200	2100	0.48	0.32	64.0	60.0	18.0	18.4	B

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	2839	7131	0.40	67.7	14.0	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	

1	0.92	0.92	0.943	0.806	3252	413	7200	2000	0.45	0.21	67.4	64.7	16.1	18.6	B

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.926	3250	7131	0.46	67.7	16.0	B

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.943	0.855	3192	428	7200	2100	0.44	0.20	64.6	60.6	16.5	17.1	B

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.935	2827	7131	0.40	67.7	13.9	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.909	3279	502	7200	2000	0.46	0.25	64.2	62.6	17.0	14.4	B

Segment 9: Basic

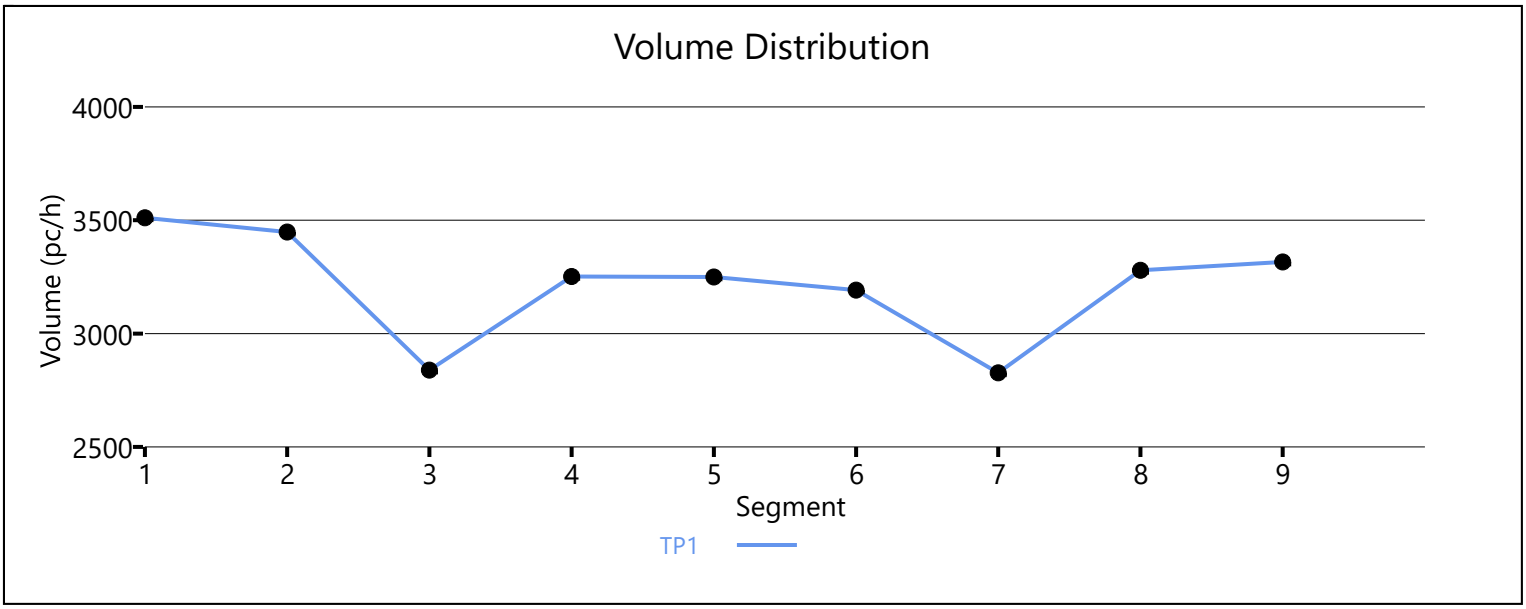
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.935	3316	7146	0.46	68.2	16.2	B

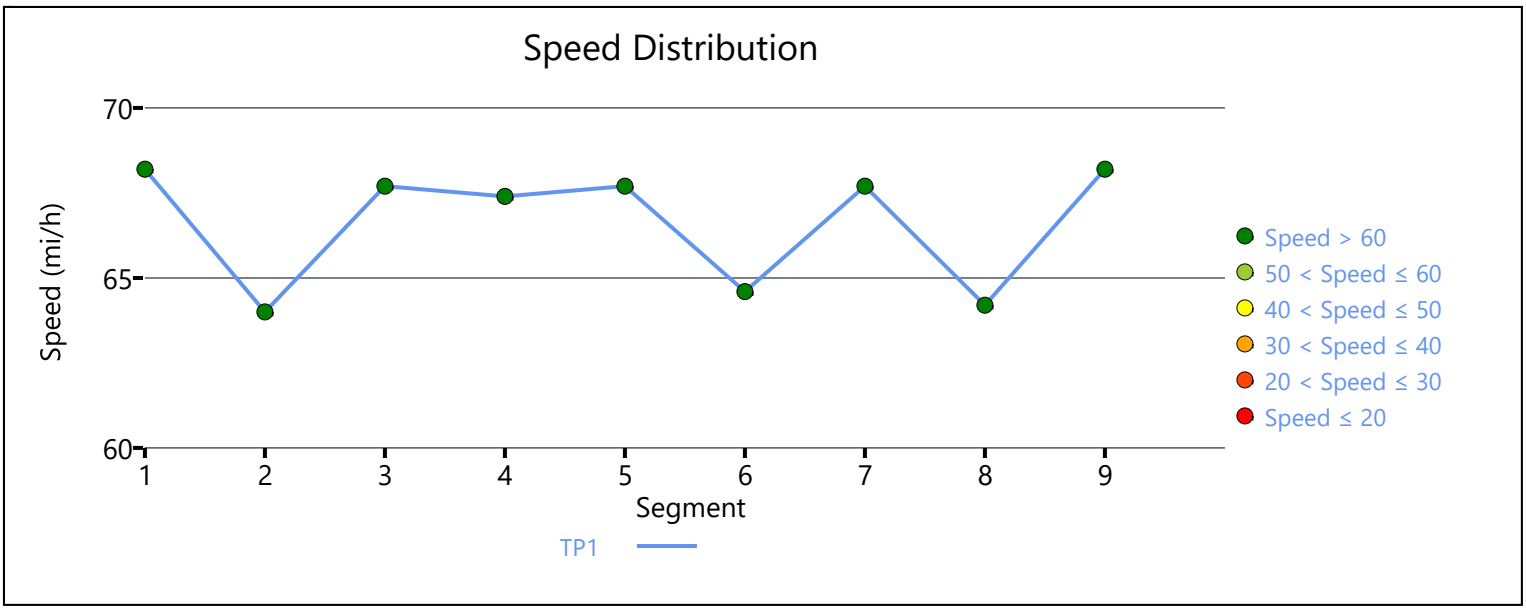
Facility Time Period Results

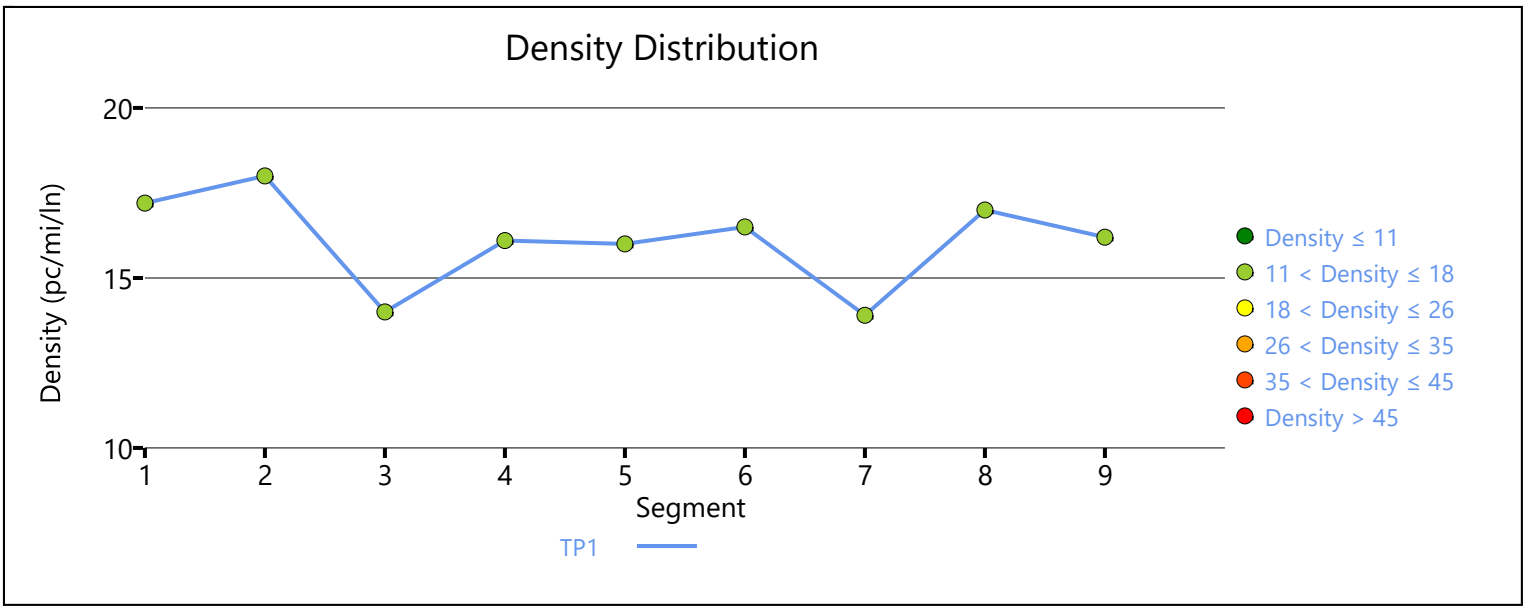
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.3	16.1	15.1	4.5	B

Facility Overall Results

Space Mean Speed, mi/h	67.3	Density, veh/mi/ln	15.1
Average Travel Time, min	4.5	Density, pc/mi/ln	16.1







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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	HY WP with Improvements (2040) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 NB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South of Lake	5280	3
2	Diverge	Diverge	Off-Ramp at Lake	1500	3
3	Basic	Basic	Between	2370	3
4	Merge	Merge	On-Ramp at Lake	1500	3
5	Basic	Basic	Lake to Indian Truck	5280	3
6	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
7	Basic	Basic	Between	2175	3
8	Merge	Merge	On-Ramp at Indian Truck	1500	3
9	Basic	Basic	North of Indian Truck	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	3237	7146	0.45	68.2	15.8	B

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.943	0.885	3237	520	7200	2100	0.45	0.25	64.3	60.3	16.8	17.6	B

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	2723	7131	0.38	67.7	13.4	B

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	

1	0.92	0.92	0.952	0.943	3599	876	7200	2100	0.50	0.42	63.7	62.0	18.8	18.9	B

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3591	7131	0.50	67.7	17.7	B

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.917	3591	558	7200	2100	0.50	0.27	64.4	60.3	18.6	21.4	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.952	3053	7131	0.43	67.7	15.0	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.885	3905	852	7200	2100	0.54	0.41	62.9	61.0	20.7	22.2	C

Segment 9: Basic

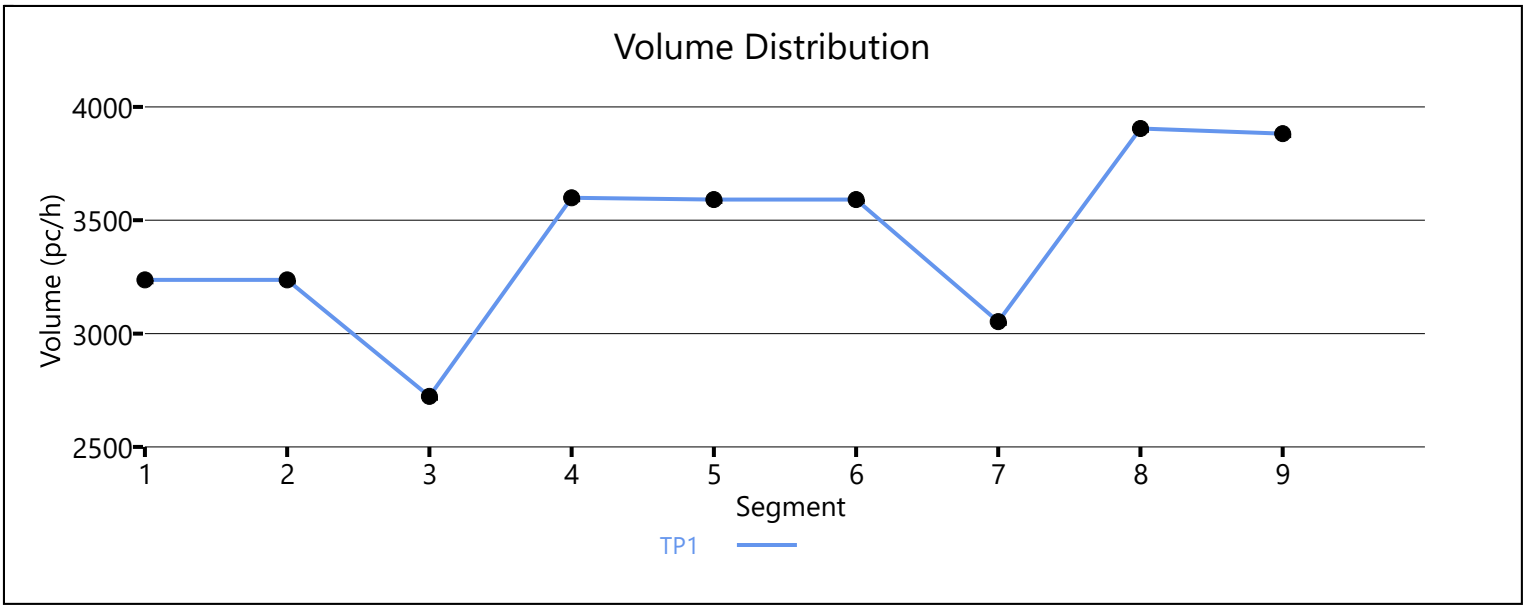
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.943	3882	7146	0.54	68.2	19.0	C

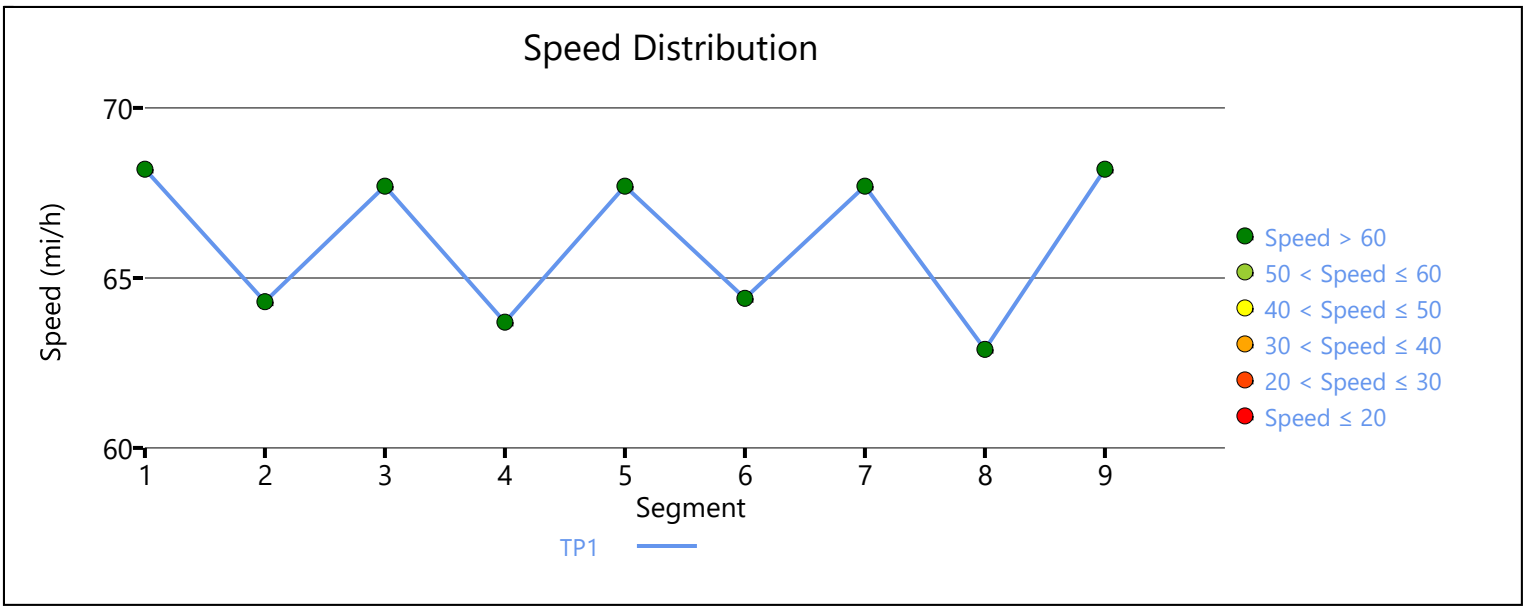
Facility Time Period Results

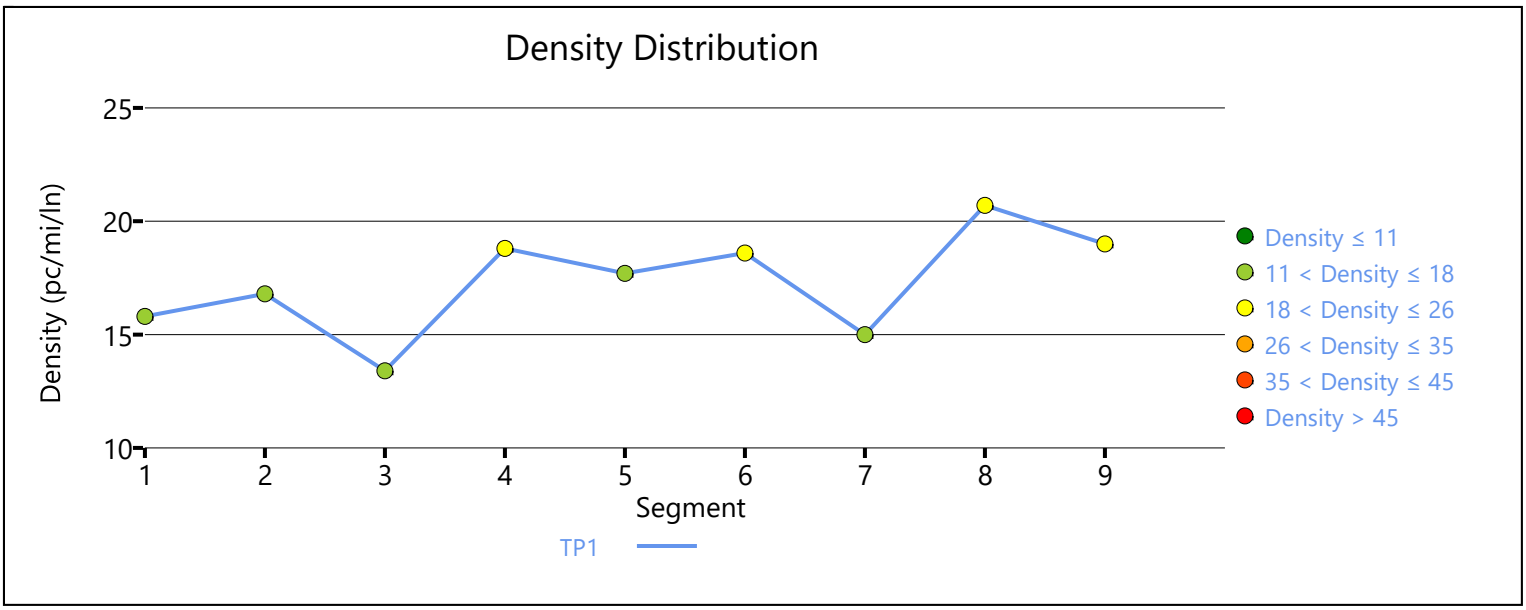
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	66.9	17.2	16.3	4.5	B

Facility Overall Results

Space Mean Speed, mi/h	66.9	Density, veh/mi/ln	16.3
Average Travel Time, min	4.5	Density, pc/mi/ln	17.2







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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	HY WP with Improvements (2040) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 SB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	North of Indian Truck	5280	3
2	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
3	Basic	Basic	Between	2250	3
4	Merge	Merge	On-Ramp at Indian Truck	1500	3
5	Basic	Basic	Indian Truck to Lake	5280	3
6	Diverge	Diverge	Off-Ramp at Lake	1500	3
7	Basic	Basic	Between	2330	3
8	Merge	Merge	On-Ramp at Lake	1500	3
9	Basic	Basic	South of Lake	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.935	5884	7146	0.82	62.3	31.5	D

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.935	0.741	5884	1269	7200	2100	0.82	0.60	62.8	58.5	31.2	30.3	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	4607	7131	0.65	66.9	23.0	C

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	

1	0.92	0.92	1.000	0.952	4883	322	7200	2000	0.68	0.16	65.7	63.1	24.8	25.9	C

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	4917	7131	0.69	66.2	24.8	C

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.990	0.962	4917	1184	7200	2100	0.68	0.56	62.9	58.7	26.1	26.6	C

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	3728	7131	0.52	67.7	18.4	C

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	1.000	0.935	4116	388	7200	2000	0.57	0.19	63.5	62.0	21.6	18.1	B

Segment 9: Basic

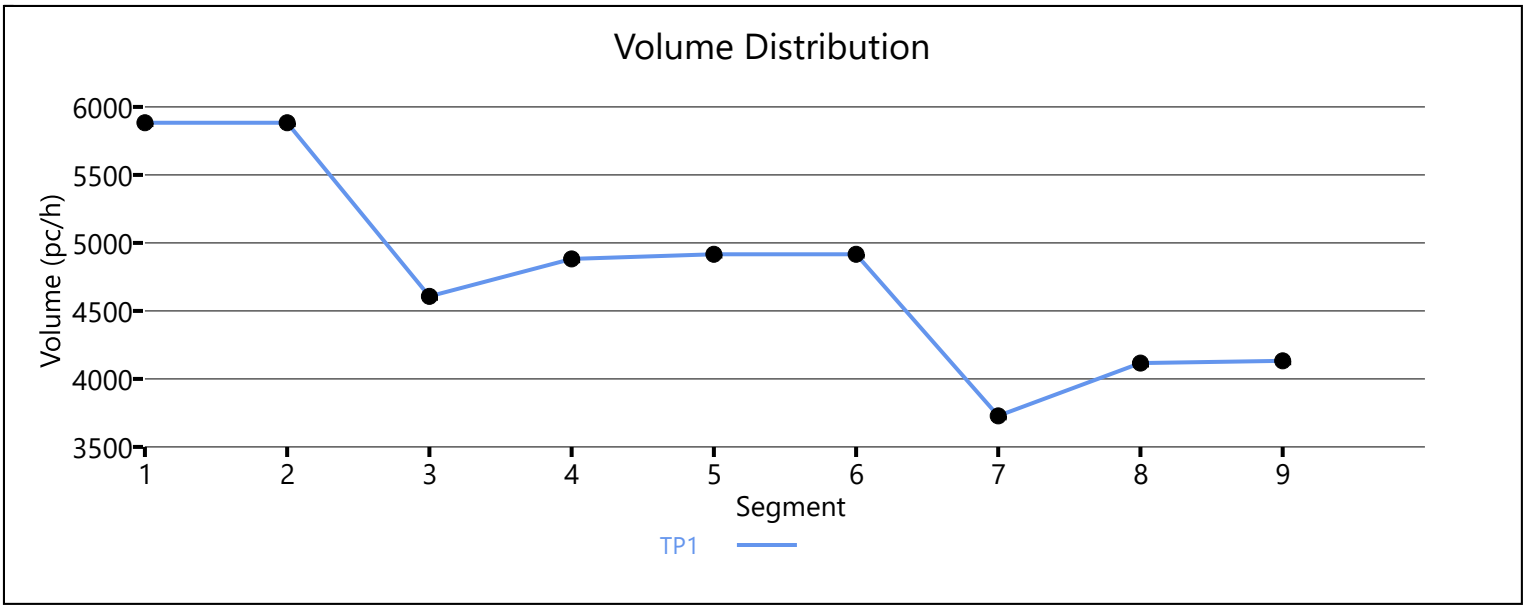
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.990	4133	7146	0.58	68.1	20.2	C

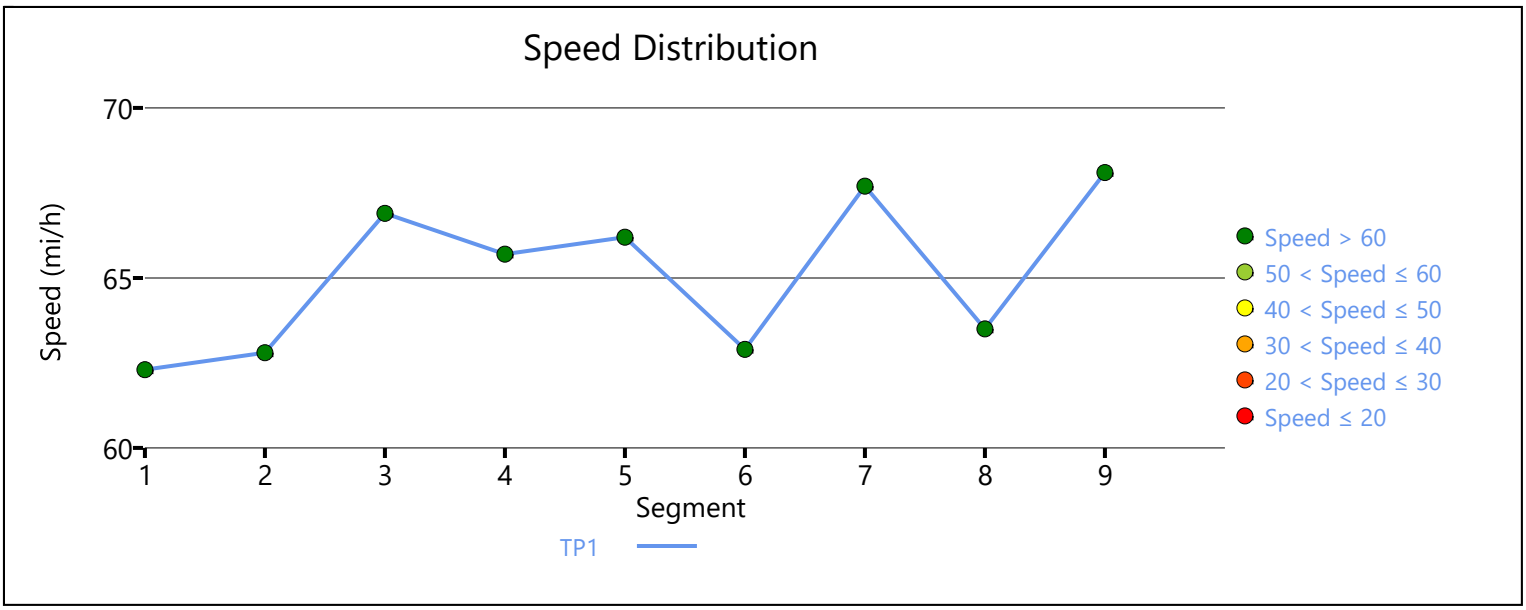
Facility Time Period Results

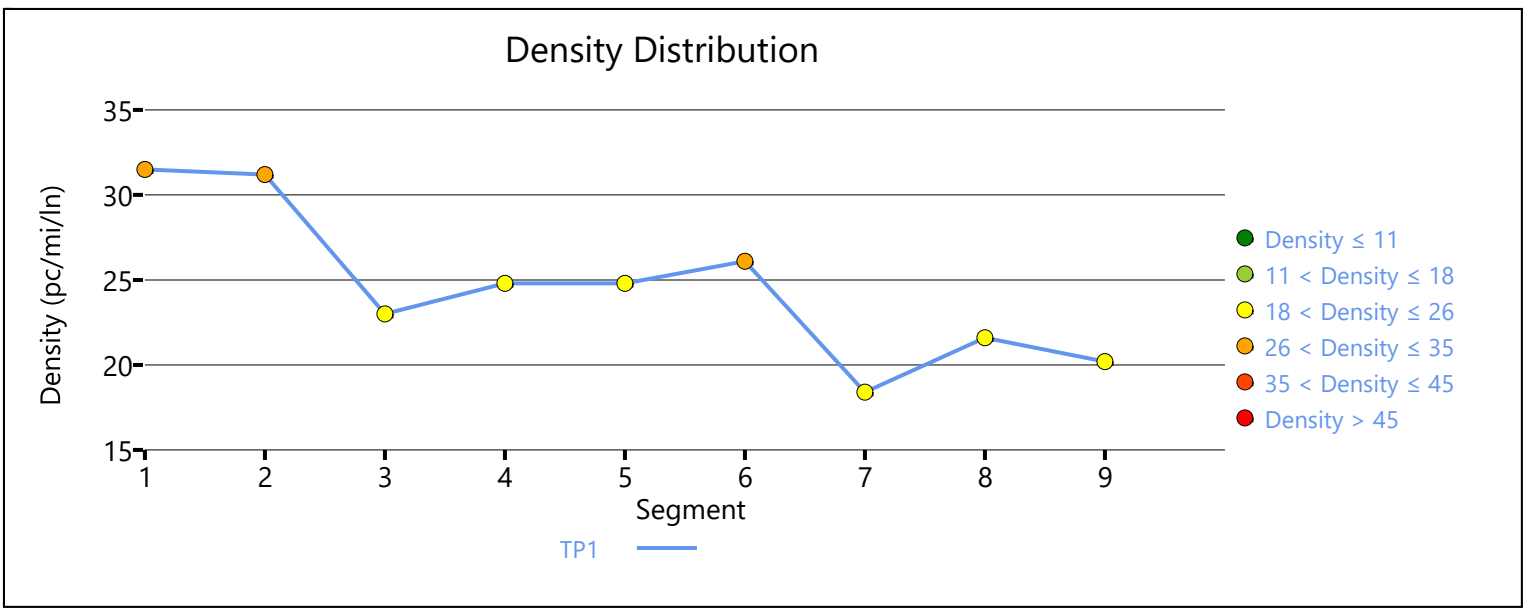
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	65.1	24.8	24.1	4.6	C

Facility Overall Results

Space Mean Speed, mi/h	65.1	Density, veh/mi/ln	24.1
Average Travel Time, min	4.6	Density, pc/mi/ln	24.8







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HCS7 Freeway Facilities Report

Project Information

Analyst	JB	Date	10/7/2020
Agency	Urban Crossroads, Inc.	Analysis Year	HY WP with Improvements (2040) Conditions
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	Renaissance Ranch (JN:13266) - I-15 NB		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Time Periods	1	Time Period Duration, min	15

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South of Lake	5280	3
2	Diverge	Diverge	Off-Ramp at Lake	1500	3
3	Basic	Basic	Between	2370	3
4	Merge	Merge	On-Ramp at Lake	1500	3
5	Basic	Basic	Lake to Indian Truck	5280	3
6	Diverge	Diverge	Off-Ramp at Indian Truck	1500	3
7	Basic	Basic	Between	2175	3
8	Merge	Merge	On-Ramp at Indian Truck	1500	3
9	Basic	Basic	North of Indian Truck	5280	3

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.935	2399	7146	0.34	68.2	11.7	B

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.935	0.943	2399	355	7200	2100	0.33	0.17	64.4	60.8	12.4	12.8	B

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.926	2061	7131	0.29	67.7	10.1	A

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	

1	0.92	0.92	0.926	0.926	2558	497	7200	2100	0.36	0.24	64.6	62.7	13.2	13.0	B

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.926	2558	7131	0.36	67.7	12.6	B

Segment 6: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.952	0.901	2488	263	7200	2100	0.35	0.13	64.7	61.0	12.8	15.1	B

Segment 7: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.935	2280	7131	0.32	67.7	11.2	B

Segment 8: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.92	0.92	0.935	0.917	3092	812	7200	2100	0.43	0.39	63.5	61.6	16.2	18.3	B

Segment 9: Basic

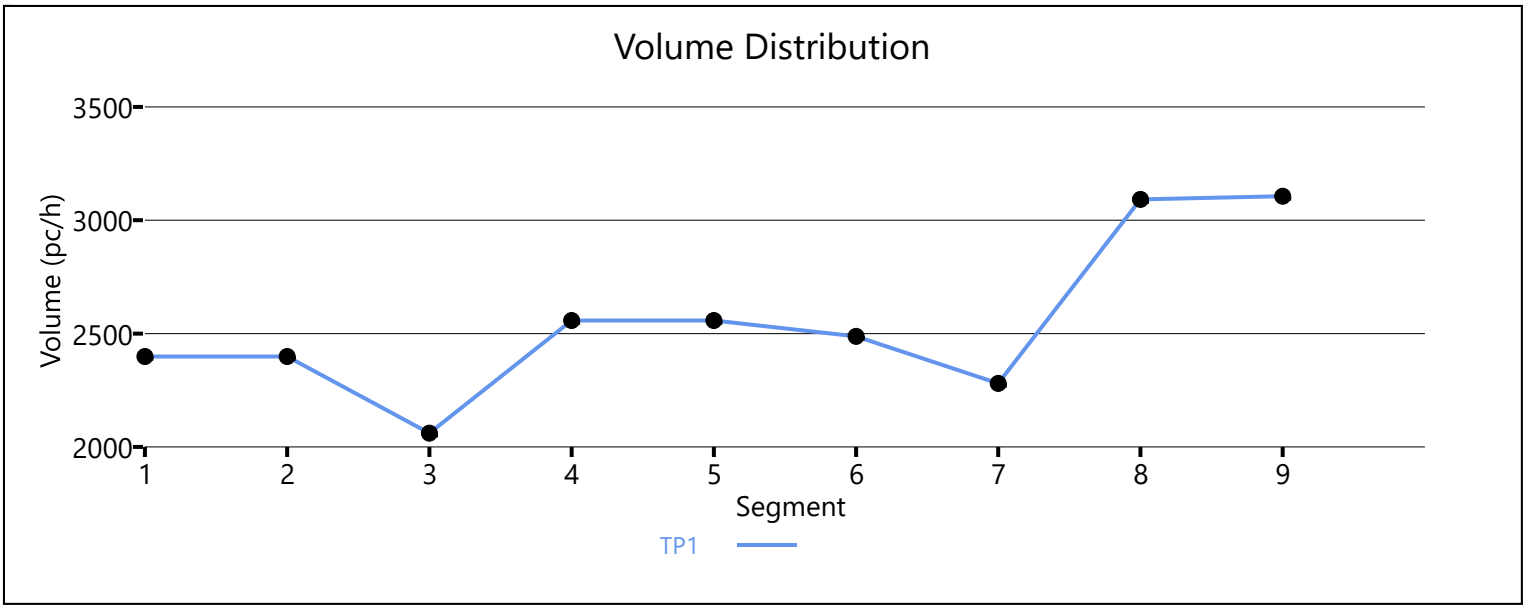
Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.926	3106	7146	0.43	68.2	15.2	B

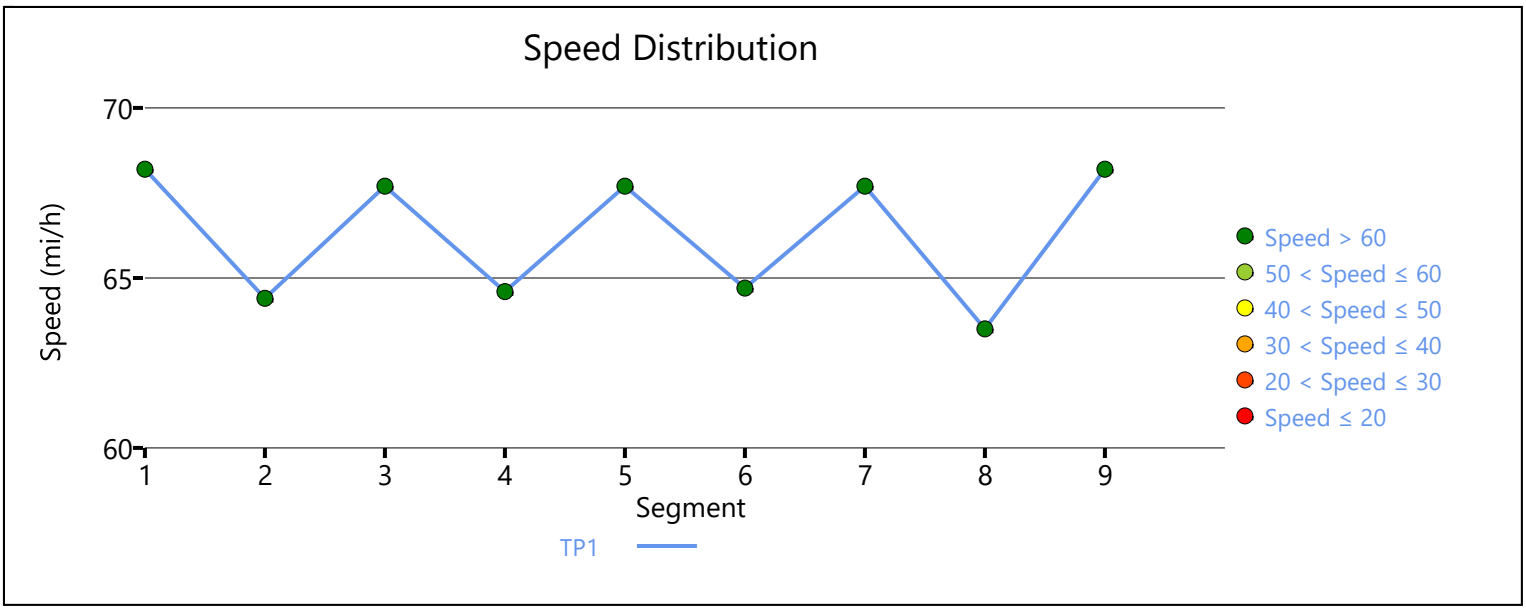
Facility Time Period Results

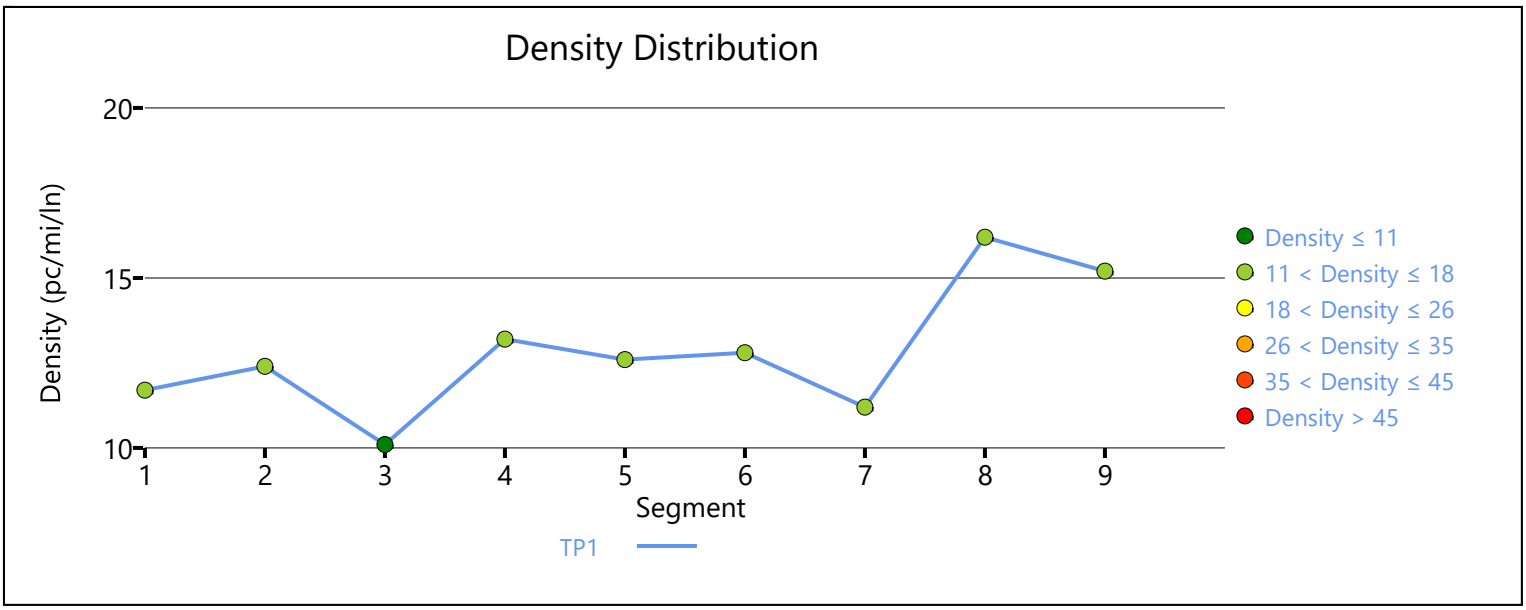
T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	67.1	12.8	12.0	4.5	B

Facility Overall Results

Space Mean Speed, mi/h	67.1	Density, veh/mi/ln	12.0
Average Travel Time, min	4.5	Density, pc/mi/ln	12.8







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